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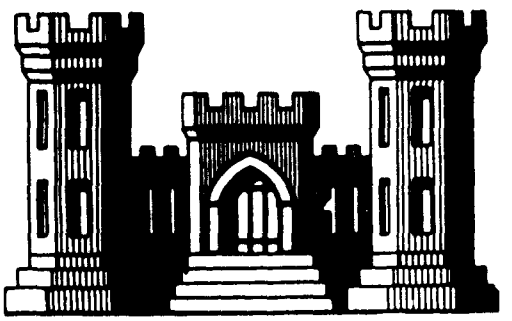
TRINITY RIVER PROJECT, TEXAS

AD A097128

STATUS REPORT OF ENVIRONMENTAL EVALUATIONS

APPENDIX B

BIOLOGICAL INVENTORY WITH EFFECT EVALUATION



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U.S. ARMY ENGINEER DISTRICT, FORT WORTH
CORPS OF ENGINEERS
FORT WORTH, TEXAS

JUNE 1975

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REPORT DOCUMENTATION PAGE

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1. REPORT NUMBER	2. GOVT ACCESSION NO. AD-AC97128
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18. SUPPLEMENTARY NOTES

19. KEY WORDS (Continue on reverse side if necessary and identify by block number)

Environmental status report
Trinity River Authority
Trinity River Project, Texas

20. ABSTRACT (Continue on reverse side if necessary and identify by block number) Three volume status report of environmental evaluation of Trinity River Project. This includes (1) Authorized Project Plan that provides for flood control, recreation, water supply, navigation, fish and wildlife programs, hydroelectric power and the Multiple-purpose Channel (2) National Economic Development Plan that is similar to the Authorized Project Plan, but has many features that delete adverse effects to natural resources to reduce cost. (3) Environmental Quality Plan that is a nonstructural multiple-purpose plan of no action in regard to navigation and hydroelectric power for the Corps of Engineers. It

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20. proposes land use regulations for the entire Trinity River flood plain and proposes water conservation in lieu of added development for increasing the water supply. (4) No Action Plan (5) Authorized Project Plan Without Navigation that includes flood control, reservoir regulation channel, strengthen existing agricultural levees, and enlarge Tennessee Colony Lake. This plan reduces some of the adverse effects on natural resources. (6) Authorized Project Plan Without Navigation, Provisions for Future Navigation. This is the same as the previous plan except providing for navigation in the initial stages of design and construction. (7) Authorized Project Plan, Navigation Terminated Downstream from Dallas. Similar to Authorized Project Plan except for the flood control channel. Tax and bond issues were rejected by voters. Congress directed Corps of Engineers to cease further planning for fiscal year 1974 and 1975.

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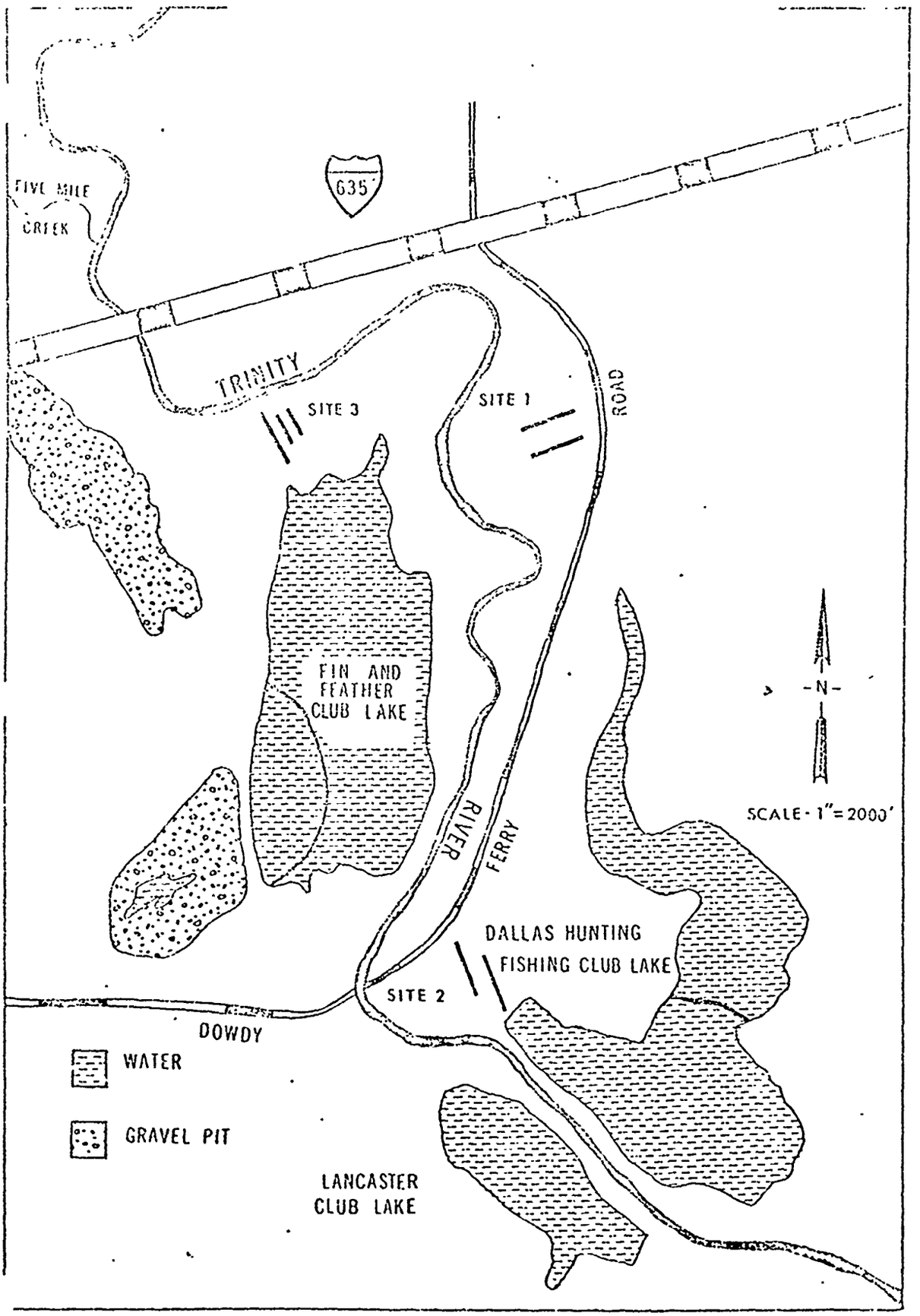
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Vegetation of Trinity River Drainage



Area I

Appendix B-1 Showing sites 1, 2, and 3 and the position of transects within these sites.

Appendix B-1 . Frequency, density and dominance data for plant species located in Site 1, Area 1

Species	Frequency %	Relative Frequency %	Density No./Plot	Relative Density %	Relative Dominance %	Importance Value*
Texas Sugarberry	58.0	29.9	3.19	49.4	19.6	98.9
Cedar Elm	47.5	24.5	1.27	19.7	33.6	77.8
Swamp Privet	42.5	21.9	1.24	19.2	12.4	53.5
Green Ash	30.0	15.5	0.48	7.4	24.8	47.7
Osage Orange	7.0	3.6	0.09	1.3	8.1	13.0
Soap Berry	5.0	2.6	0.14	2.2	0.4	5.2
Honey Locust	2.0	1.0	0.03	0.5	1.0	2.5
Red Mulberry	1.0	0.5	0.01	0.2	0.1	0.8
Elm**	0.5	0.3	0.01	0.1	***	0.4
White Mulberry	0.5	0.3	0.01	0.1	***	0.4
Total	----	100.1	6.47	100.1	100.0	300.2

* Sum of relative frequency, relative density, and relative dominance.

** May include American Elm and Slippery Elm.

*** Value less than 0.1%.

Appendix B-1 . Size classes (dbh) of plant species located in Site 1, Area 1.

Species	Size Classes (cm)									
	1-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	>90
Texas Sugarberry	579	42	16							
Cedar Elm	176	53	13	9	2	1				
Swamp Privet	218	19	2							
Green Ash	53	22	17		1	1	1			
Osage Orange	4	5	6	2						
Soap Berry	27	1								
Honey Locust	3	2	1							
Red Mulberry	1	1								
Elm*	1									
White Mulberry	1									
Total	1063	145	55	11	3	2	1			

* May include American Elm and Slippery Elm.

Appendix B-1 Frequency, density and dominance data for plant species located in Site 2, Area 1

Species	Frequency %	Relative Frequency %	Density No./Plot	Relative Density %	Relative Dominance %	Importance Value*
Green Ash	29.5	8.3	2.70	26.7	6.3	41.3
Cedar Elm	42.0	11.8	0.83	8.2	16.9	36.9
Deciduous Holly	51.5	14.5	1.68	16.6	2.0	33.1
Roughleaf Dogwood	43.5	12.2	1.98	19.7	0.9	32.8
Shumard Oak	6.5	1.8	0.08	0.7	14.1	16.6
Pecan	8.5	2.4	0.10	1.0	11.3	14.7
Eastern Red Cedar	23.0	6.5	0.34	3.3	3.8	13.6
Elm spp.**	9.0	2.5	0.12	1.1	7.5	11.1
Osage Orange	8.0	2.3	0.12	1.2	6.0	9.5
Texas Sugarberry	17.5	4.9	0.25	2.5	2.0	9.4
Others***		32.8	1.95	18.5	29.2	80.5
Total	----	100.0	10.15	99.5	100.0	299.5

* Sum of relative frequency, relative density, and relative dominance.

** May include American Elm and Slippery Elm.

*** Other species present listed in order of decreasing importance values: Box Elder, Redbud, Eastern Cottonwood, Oak spp., (includes Post Oak and Bottomland Post Oak), White Ash, Red Mulberry, Bur Oak, Soap Berry, Winged Elm, American Beautyberry, Persimmon, Southern Blackhaw, Black Hickory, Gum Bumelia, Honey Locust, Bastard Indigo, Mexican Plum, Chaste Lamb-Tree, Hercules Club, Buckthorn.

Appendix B-1 Size classes (dbh) of plant species located in Site 2, Area 1 .

Species	Size Classes (cm)									
	1-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	>90
Green Ash	531		4	2	2					
Cedar Elm	107	40	15	3	1					
Deciduous Holly	335									
Roughleaf Dogwood	397									
Shumard Oak	1		4	4	5		1			
Pecan		1	13	6						
Eastern Red Cedar	54	9	3		1					
Elm spp.*	9	7	2	3	1	1				
Osage Orange	12	7	3	1		1				
Texas Sugarberry	41	7	2							
Others**	336	19	12	7	2	2	1		1	
Total	1823	90	58	26	12	4	2		1	

* May include American Elm and Slippery Elm.

** See previous page for a list of other species present.

Appendix B-1 Frequency, density and dominance data for plant species located in Site 3, Area 1

Species	Frequency %	Relative Frequency %	Density No./Plot	Relative Density %	Relative Dominance %	Importance Value*
Pecan	34.0	9.6	0.40	6.4	38.3	54.3
Cedar Elm	43.0	12.2	0.67	10.8	15.0	38.0
Deciduous Holly	57.0	16.1	1.14	18.4	2.4	36.9
Texas Sugarberry	48.5	13.7	0.80	12.8	8.6	35.2
Roughleaf Dogwood	39.0	11.0	1.39	22.4	0.8	34.2
Elm spp.**	17.5	5.0	0.18	2.9	6.7	14.6
Bur Oak	5.5	1.6	0.06	0.9	8.5	11.0
Eastern Red Cedar	18.5	5.2	0.23	3.7	1.4	10.3
Green Ash	12.0	3.4	0.30	4.9	1.7	10.0
Red Mulberry	12.5	3.5	0.15	2.3	1.8	7.6
Others***		18.5	0.94	14.3	14.8	47.6
Total	----	99.8	6.26	99.9	100.0	299.7

* Sum of relative frequency, relative density, and relative dominance.

** May include American Elm and Slippery Elm.

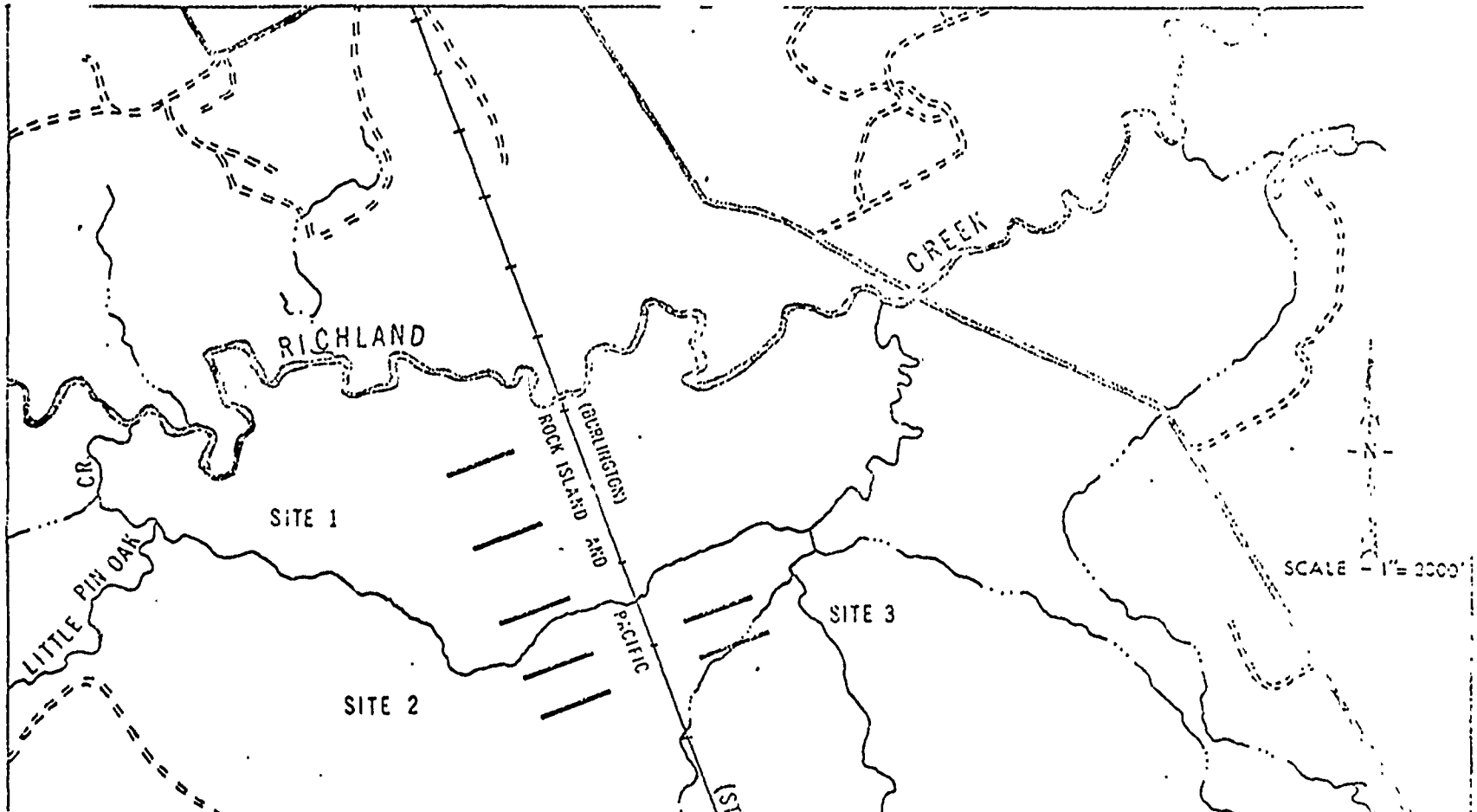
*** Other species present listed in order of decreasing importance values: Shumard Oak, Soap Berry, Osage Orange, Gum Bumelia, Box Elder, White Ash, Southern Blackhaw, Mexican Plum, Bastard Indigo, Persimmon, Honey Locust, Redbud, Wax-leaf Ligustrum, Swamp Privet, Eastern Cottonwood.

Appendix B-1 . Size classes (dbh) of plant species located in Site 3, Area 1.

Species	Size Classes (cm)								
	1-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90
Pecan	6	11	35	18	5	5			
Cedar Elm	77	38	13	5	1				
Deciduous Holly	227								
Texas Sugarberry	107	48	4						
Roughleaf Dogwood	277								
Elm spp.*	12	18	2	2	2				
Bur Oak	1	2	1	2	4		1		
Eastern Red Cedar	42	2		2					
Green Ash	52	5	3						
Red Mulberry	16	13							
Others**	142	25	9	1	1		1	1	
Total	959	162	68	30	13	3	2	1	

* May include American Elm and Slippery Elm.

** See previous page for a list of other species present.



Area 2

Appendix B-1 Showing sites 1, 2, and 3 and the position of transects within these sites.

Appendix B-1 Frequency, density and dominance data for plant species located at Site 1, Area 2

Species	Frequency %	Relative Frequency %	Density No./Plot	Relative Density %	Relative Dominance %	Importance Value*
Texas Sugarberry	61.3	62.0	1.00	60.4	65.8	188.2
Cedar Elm	11.7	11.8	0.13	7.8	20.2	39.8
Forestiera	4.3	4.4	0.24	14.5	1.1	20.0
Green Ash	5.0	5.1	0.08	4.6	4.7	14.4
Gum Bumelia	5.7	5.7	0.08	5.0	2.8	13.5
Soap Berry	3.3	3.4	0.04	2.6	1.3	7.3
Hawthorn spp.	3.7	3.7	0.04	2.2	0.5	6.4
White Ash	2.3	2.4	0.02	1.4	1.8	5.6
Bur Oak	0.7	0.7	0.01	0.4	1.6	2.7
Red Mulberry	0.7	0.7	0.01	0.4	0.1	1.2
Honey Locust	0.3	0.3	**	0.2	***	0.5
Total	----	100.2	1.65	99.5	99.9	299.6

* Sum of relative frequency, relative density, and relative dominance.

** Value less than 0.01.

*** Value less than 0.1.

Appendix B-1 Size classes (dbh) of plant species located at Site 1, Area 2.

	Size Classes (cm)									
	1-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	>90
Texas Sugarberry	24	154	107	17						
Cedar Elm	2	4	12	16	5					
Forestiera	71	1								
Green Ash	6	11	4	1	1					
Gum Bumelia	12	7	6							
Soap Berry	4	7	2							
Hawthorn spp.	6	5								
White Ash		3	3	1						
Bur Oak				1	1					
Red Mulberry	1	1								
Honey Locust	1									
Total	127	193	134	36	7					

Appendix B-1 Frequency, density and dominance data for plant species located at Site 2, Area 2

Species	Frequency %	Relative Frequency %	Density No./Plot	Relative Density %	Relative Dominance %	Importance Value*
Texas Sugarberry	68.0	55.1	1.40	58.9	61.4	175.4
Green Ash	24.5	19.8	0.44	18.4	21.4	59.6
Cedar Elm	12.5	10.1	0.17	7.2	10.4	27.7
Forestiera	6.5	5.3	0.25	10.3	0.8	16.4
Gum Bumelia	5.5	4.5	0.06	2.5	1.4	8.4
Bur Oak	2.5	2.0	0.03	1.1	3.6	6.7
Soap Berry	2.0	1.6	0.02	0.8	0.6	3.0
Hawthorn spp.	1.5	1.2	0.02	0.6	0.4	2.2
Honey Locust	0.5	0.4	0.01	0.2	**	0.6
Total	----	100.0	2.40	100.0	100.0	300.0

* Sum of relative frequency, relative density, and relative dominance.

** Value less than 0.1.

Appendix B-1 Size classes (dbh) of plant species located at Site 2, Area 2.

Species	Size Classes (cm)									
	1-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	>90
Texas Sugarberry	24	160	81	14						
Green Ash	34	19	21	11	2					
Cedar Elm	6	12	10	6						
Forestiera	47	2								
Gum Bumelia	4	7	1							
Bur Oak				5						
Soap Berry	1	2	1							
Hawthorn spp.	1	2								
Honey Locust	1									
Total	118	204	114	36	2					

Appendix B-1 Frequency, density and dominance data for plant species located at Site 3, Area 2

Species	Frequency %	Relative Frequency %	Density No./Plot	Relative Density %	Relative Dominance %	Importance Value*
Texas Sugarberry	30.0	34.7	0.45	39.8	37.3	111.8
Cedar Elm	20.0	23.1	0.23	19.9	29.7	72.7
Green Ash	16.5	19.1	0.22	19.5	17.6	56.2
Gum Bumelia	6.5	7.5	0.08	7.1	4.5	19.1
Bur Oak	2.0	2.3	0.02	1.8	7.7	11.8
Hawthorn spp.	3.5	4.0	0.05	4.4	1.9	10.3
Honey Locust	3.5	4.0	0.04	3.5	0.1	7.6
Red Mulberry	1.5	1.7	0.02	1.3	0.8	3.8
Osage Orange	1.5	1.7	0.02	1.3	0.4	3.4
Soap Berry	0.5	0.6	0.01	0.4	**	1.0
Others***		1.2	0.02	0.8	**	2.0
Total	----	99.9	1.16	99.8	100.0	299.7

* Sum of relative frequency, relative density, and relative dominance.

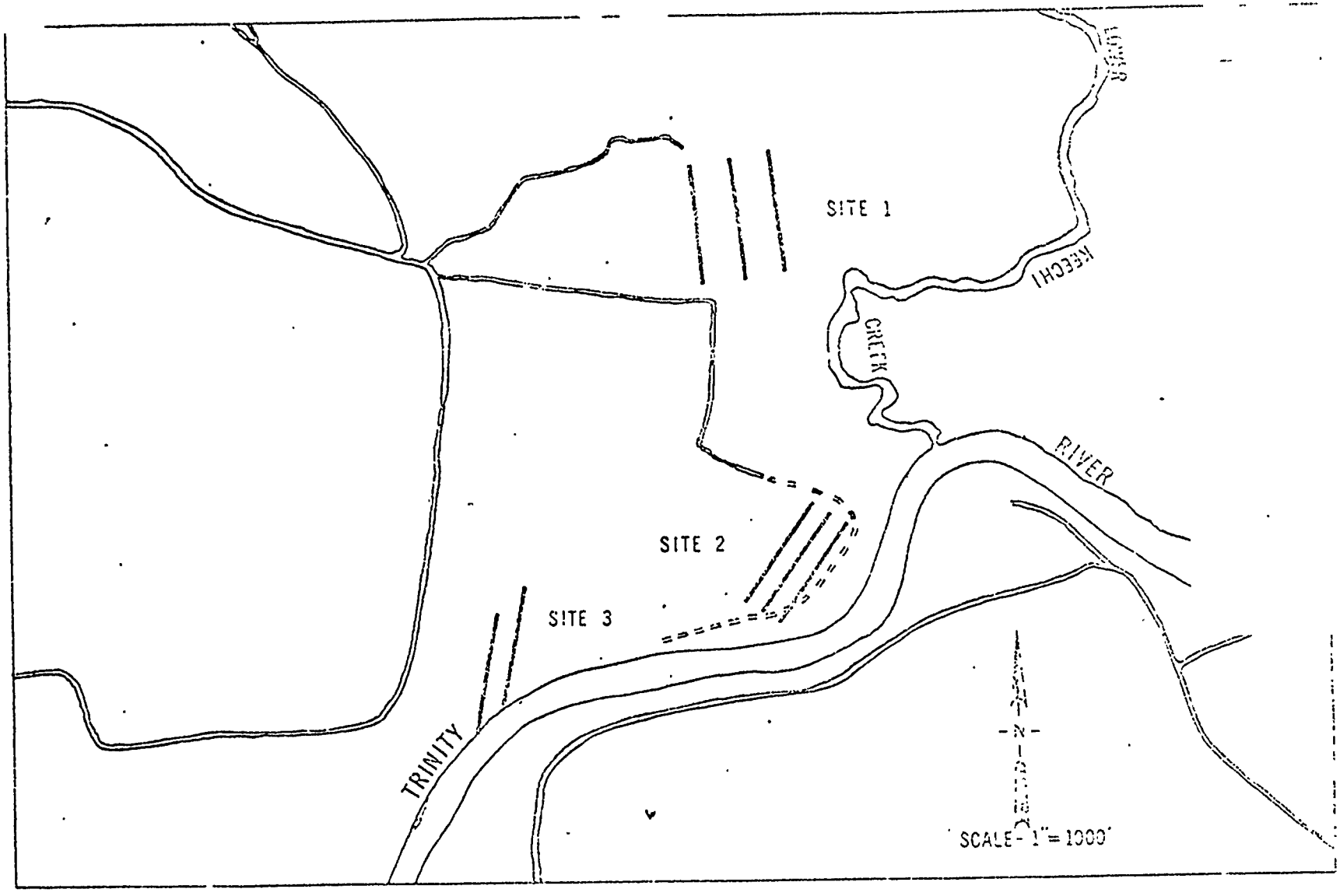
** Value less than 0.1.

*** Other species present listed in order of decreasing importance values: Deciduous Holly, Swamp Privet.

Appendix B-1 Size classes (dbh) of plant species located at Site 3, Area 2.

Species	Size Classes (cm)									
	1-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	>90
Texas Sugarberry	5	48	27	10						
Cedar Elm	2	15	12	13	3					
Green Ash	2	21	20	1						
Gum Bumelia	6	4	6							
Bur Oak		1		1		2				
Hawthorn spp.	6	3	1							
Honey Locust	8									
Red Mulberry	1	1	1							
Osage Orange	1	2								
Soap Berry	1									
Others*	2									
Total	34	95	67	25	3	2				

* See previous page for a list of other species present.



Area 3

Appendix B-1 Showing sites 1, 2, and 3 and the position of transects within these sites.

Appendix B-1 Frequency, density and dominance data for plant species located in Site 1, Area 3

Species	Frequency %	Relative Frequency %	Density No./Plot	Relative Density %	Relative Dominance	Importance Value*
American Beautyberry	84.0	31.4	2.41	48.2	1.9	81.5
Post Oak	14.7	5.5	0.18	3.5	29.4	38.4
Black Hickory	13.7	5.1	0.15	3.0	12.7	20.8
Sweetgum	9.3	3.5	0.12	2.5	12.5	18.5
Black Walnut	15.0	5.6	0.17	3.4	6.9	15.9
Farkleberry	15.7	5.9	0.29	5.9	1.2	13.0
Redbud	14.0	5.2	0.24	4.9	1.5	11.6
Forestiera	17.3	6.5	0.22	4.5	0.6	11.6
Winged Elm	10.7	4.0	0.20	3.9	2.0	9.9
Southern Red Oak	7.0	2.6	0.11	2.2	4.6	9.4
Others**		24.5	0.90	18.1	26.8	69.4
Total	----	99.8	4.99	100.1	100.1	300.0

* Sum of relative frequency, relative density, and relative dominance.

** Other species present listed in order of decreasing importance value: Flowering Dogwood, Cedar Elm, White Ash, Indian Cherry, Blackjack Oak, Sassafras, Texas Sugarberry, Elm spp. (includes American Elm and Slippery Elm), Gum Bumelia, American Basswood, (Carolina Basswood and Florida Basswood), Bitternut Hickory, Deciduous Holly, Tupelo, Green Ash, Yaupon, Red Mulberry, Water Oak, Sycamore, Wax Myrtle, Pasture Haw, Hawthorn spp., Hercules Club, Parsley Hawthorn, Persimmon.

Appendix B-1 Size classes (dbh) of plant species located at Site 1, Area 3.

Species	Size Classes (cm)									
	1-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	>90
American Beautyberry	722									
Post Oak	10	13	8	19	1	2				
Black Hickory	16	9	16	4						
Sweetgum	21	4	5	5	1	1				
Black Walnut	36	9	4	2						
Farkleberry	87		1							
Redbud	69	4								
Forestiera	65	2								
Winged Elm	54	4	1							
Southern Red Oak	27	2	1	1	2					
Others*	198	50	14	8	1					
Total	1305	97	50	39	5	3				

* See previous page for a list of other species present.

Appendix B-1 Frequency, density and dominance data for plant species located in Site 2, Area 3

Species	Frequency %	Relative Frequency %	Density No./Plot	Relative Density %	Relative Dominance %	Importance Value*
Cedar Elm	23.0	29.2	0.30	22.1	60.5	111.8
Deciduous Holly	21.3	27.1	0.50	37.0	3.2	67.3
Willow Oak	2.3	3.0	0.02	1.7	13.3	18.0
Honey Locust	5.7	7.2	0.10	7.6	2.3	17.1
Hawthorn spp.	7.3	9.3	0.08	6.1	1.5	16.9
Forestiera	2.3	3.0	0.18	13.0	0.8	16.8
Overcup Oak	2.7	3.4	0.03	2.0	6.0	11.4
Green Ash	3.0	3.8	0.03	2.5	4.1	10.4
Texas Sugarberry	2.3	3.0	0.02	1.7	3.1	7.8
Water Locust	2.3	3.0	0.02	1.7	2.5	7.2
Others**		7.9	0.07	4.6	2.7	15.2
Total	----	99.9	1.35	100.0	100.0	299.9

* Sum of relative frequency, relative density, and relative dominance.

** Other species present listed in order of decreasing importance values: Gum Bumelia, Persimmon, Pecan, Eve's Necklace, Water Elm, Pasture Haw, Palmetto, not included in column totals, had a density of 0.01 individuals per plot.

Appendix B-1 . Size classes (dbh) of plant species located at Site 2, Area 3.

Species	Size Classes (cm)									
	1-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	> 90
Cedar Elm	11	10	37	29	3					
Deciduous Holly	151									
Willow Oak		1	1	1	1	2	1			
Honey Locust	26	5								
Hawthorn spp.	20	5								
Forestiera	53									
Overcup Oak	3		1	3	1					
Green Ash	5	2	1	2						
Texas Sugarberry	4		1	2						
Water Locust	2	2	2	1						
Others*	16	1	1	1						
Total	291	26	44	39	5	2	1			

*See previous page for a list of other species present.

Appendix B-1 Frequency, density and dominance data for plant species located at Site 3, Area 3

Species	Frequency %	Relative Frequency %	Density No./Plot	Relative Density %	Relative Dominance %	Importance Value*
Texas Sugarberry	30.5	31.0	0.61	33.3	17.7	82.0
Cedar Elm	18.5	18.8	0.29	15.8	33.2	67.8
Pecan	5.5	5.6	0.07	3.8	25.3	34.7
Forestiera	7.5	7.6	0.39	21.3	3.1	32.0
Deciduous Holly	15.5	15.7	0.23	12.3	2.1	30.1
Green Ash	4.0	4.1	0.04	2.2	11.0	17.3
Water Locust	7.0	7.1	0.08	4.1	3.5	14.7
Hawthorn spp.	4.0	4.1	0.05	2.5	0.6	7.2
Honey Locust	2.5	2.5	0.04	1.9	0.6	5.0
Gum Bumelia	1.0	1.0	0.02	1.1	2.3	4.4
Others**		2.5	0.05	1.7	0.6	4.8
Total	----	100.0	1.87	100.0	100.0	300.0

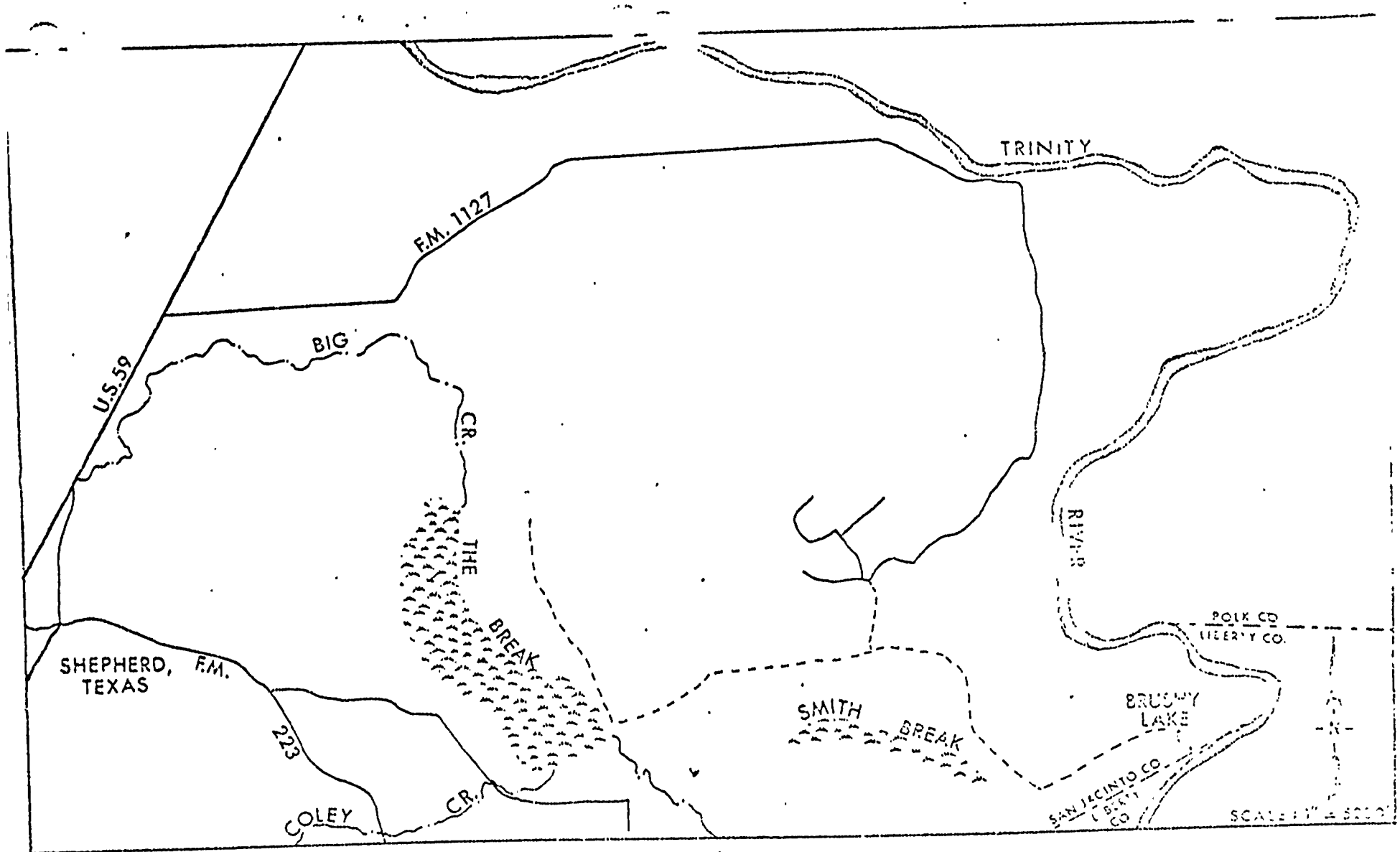
* Sum of relative frequency, relative density, and relative dominance.

** Other species present listed in order of decreasing importance values: Elm spp. (includes American Elm and Slippery Elm), Eve's Necklace, Box Elder, Farkleberry.

Appendix B-1 Size classes (dbh) of plant species located at Site 3, Area 3.

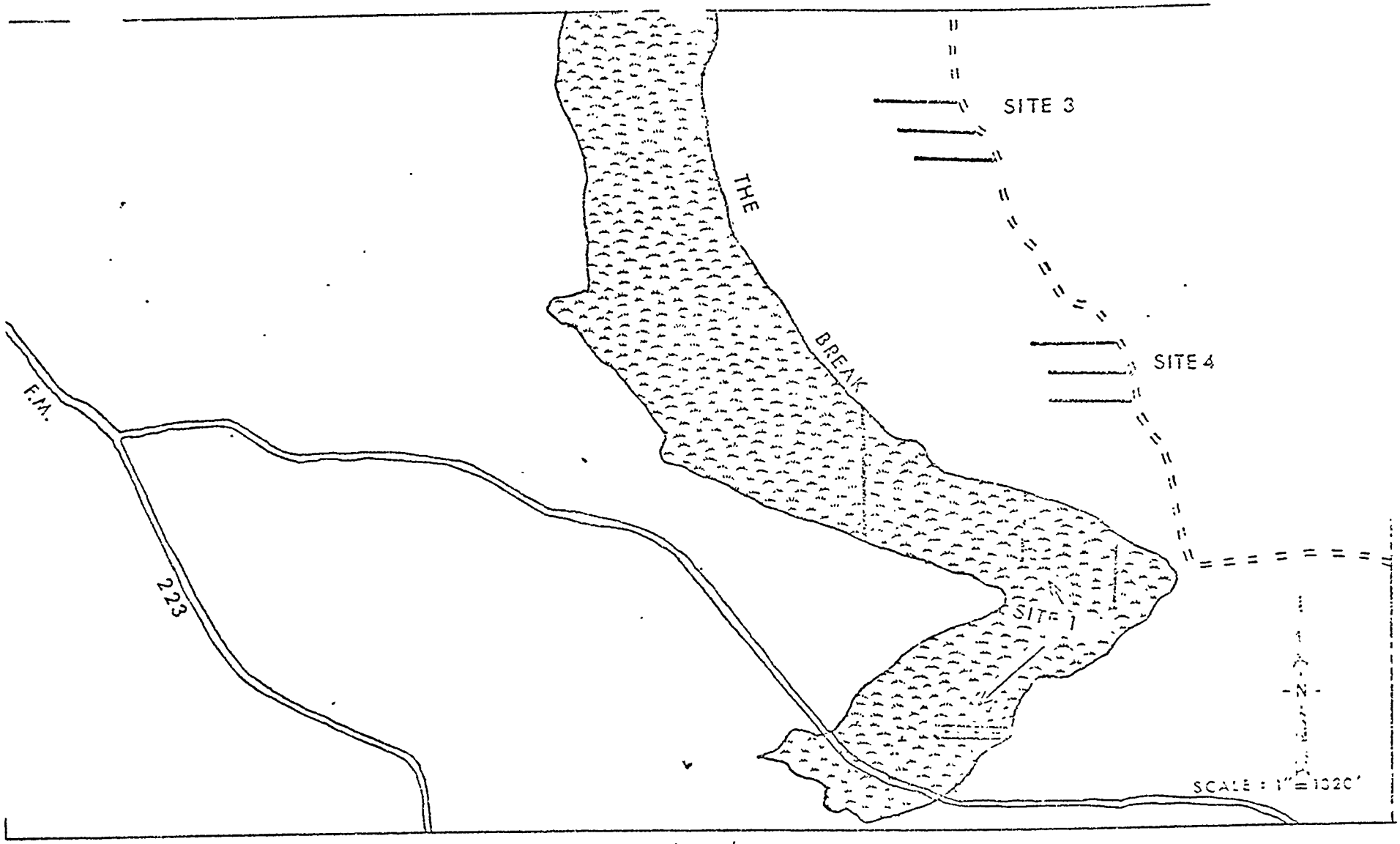
Species	Size Classes (cm)									
	1-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	>90
Texas Sugarberry	97	17	3	4	1					
Cedar Elm	26	8	9	13	2					
Pecan	7	3		1			1		2	
Forestiera	74	4								
Deciduous Holly	45									
Green Ash	2	1	1	1	2	1				
Water Locust	5	2								
Hawthorn spp.	8	1								
Honey Locust	5	2								
Gum Bumelia	3				1					
Others*	8	2	4							
Total	280	40	17	19	6	1	1		2	

*See previous page for a list of other species present.



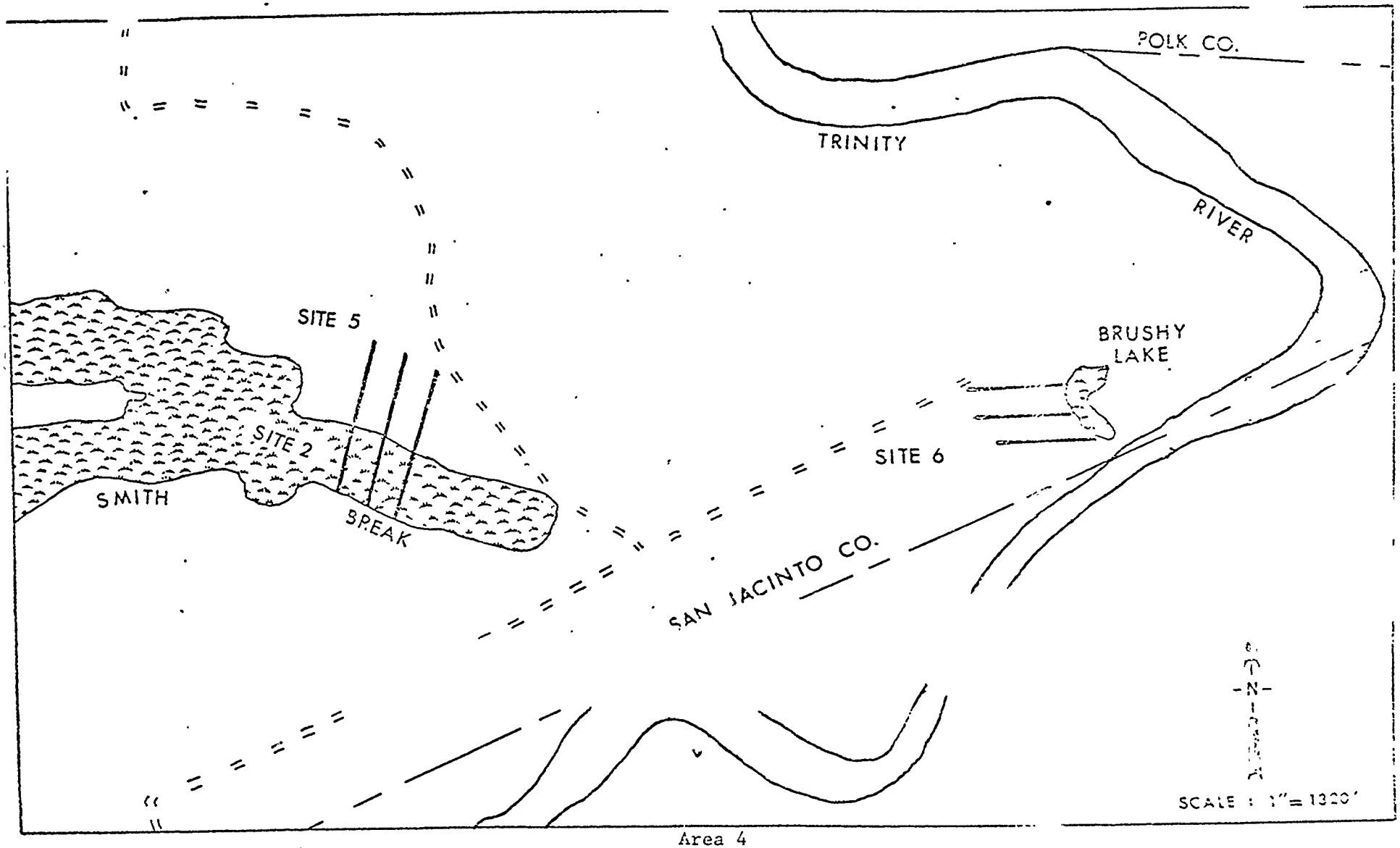
Area 4

Appendix B-1 Showing the study area in relation to the Trinity River.



Area 4

Appendix B-1 Showing sites 1, 3, and 4 and the position of transects within these sites.



Area 4

Appendix B-1 Showing sites 2, 5, and 6 and the position of transects within these sites.

Appendix B-1 Frequency, density and dominance data for plant species located in Site 1 (The Break).

Species	Frequency %	Relative Frequency %	Density No./Plot	Relative Density %	Relative Dominance %	Importance Value*
Tupelo	81.3	36.7	2.43	49.6	72.6	158.9
Bald Cypress	34.9	15.8	0.51	10.3	24.0	50.1
Carolina Ash	31.3	14.1	0.53	10.8	0.6	25.5
Tassel-white	24.2	10.9	0.61	12.3	0.1	23.3
Red Maple	15.1	6.8	0.38	7.7	0.9	15.4
Water Elm	10.0	4.5	0.13	2.6	0.2	7.3
Sweetgum	3.5	1.6	0.04	0.9	1.1	3.6
Green Ash	4.2	1.9	0.07	1.4	0.2	3.5
Water Hickory	2.9	1.3	0.06	1.2	0.1	2.6
Overcup Oak	3.6	1.6	0.04	0.8	0.2	2.6
Others**		4.9	0.17	2.0	0.1	7.0
Total	----	100.1	4.97	99.6	100.1	299.8

* Sum of relative frequency, relative density, and relative dominance.

** Other species present listed in order of decreasing importance values: Elm spp. (Includes American Elm and Slippery Elm), Mock Orange, Common Buttonbush, Texas Sugarberry, Willow Oak, Dogwood, Persimmon, Overcup Oak, American Beautyberry, Blue Beech, Water Locust, Deciduous Holly, American Holly, Yaupon, Water Oak, Shumard Oak, Cedar Elm. Palmetto, not included in column totals, had a density of 0.07 individuals per plot.

Appendix B-1 Size classes (dbh) of plant species located at Site 1 (The Break).

Species	Size Classes (cm)									
	1-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	>90
Tupelo	679	318	122	74	54	34	19	14	6	19
Bald Cypress	83	63	41	28	24	16	12	9	1	1
Carolina Ash	283	7								
Tassel-white	333									
Red Maple	188	12	6	2						
Water Elm	66	2	1							
Sweetgum	12	2	4	2	2	2				
Green Ash	33	5		1						
Water Hickory	31	1								
Overcup Oak	18	2		1						
Others*	61	3								
Total	1787	415	174	109	80	52	31	23	7	20

*See previous page for a list of other species present.

Appendix B-1 Frequency, density and dominance data for plant species located in Site 2 (Smith Break). Area 4

Species	Frequency %	Relative Frequency %	Density No./Plot	Relative Density %	Relative Dominance %	Importance Value*
Tupelo	20.3	19.4	0.32	21.0	70.9	111.3
Bald Cypress	25.3	24.2	0.32	20.6	26.7	71.5
Water Elm	25.9	24.8	0.38	24.9	1.3	51.0
Common Buttonbush	16.9	16.1	0.28	18.6	0.3	35.0
Green Ash	5.0	4.8	0.06	3.9	0.2	8.9
Rattlebush	4.7	4.5	0.07	4.3	**	8.8
Forestiera	3.8	3.6	0.07	4.3	0.3	8.2
Water Locust	2.2	2.1	0.03	2.0	0.2	4.3
Overcup Oak	0.3	0.3	***	0.2	**	0.5
Willow Oak	0.3	0.3	***	0.2	**	0.5
Total	----	100.1	1.53	100.0	99.9	300.0

* Sum of relative frequency, relative density, and relative dominance.

** Value less than 0.1

*** Value less than 0.01.

Appendix B-1 Size classes (dbh) of plant species located in Site 2 (Smith Break), Area 4.

Species	Size Classes (cm)									
	1-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	>90
Tupelo	6	10	9	11	10	10	17	9	5	16
Bald Cypress	8	14	27	18	12	11	6	3		2
Water Elm	108	13	1							
Common Buttonbush	91									
Green Ash	13	6								
Rattlebush	21									
Forestiera	21									
Water Locust	8		2							
Overcup Oak	1									
Willow Oak	1									
Total	278	43	39	29	22	21	23	12	5	18

Appendix B-1 Frequency, density and dominance data for plant species located in a palmetto area about one-half mile east of The Break (Site 3), Area 4

Species	Frequency %	Relative Frequency %	Density No./Plot	Relative Density %	Relative Dominance %	Importance Value*
Water Oak	12.0	6.1	0.13	5.3	21.6	33.0
Sweetgum	13.3	6.8	0.18	7.2	16.4	30.4
Southern Red Oak	11.3	5.8	0.17	5.5	11.3	22.6
Deciduous Holly	17.3	8.8	0.22	8.9	1.0	18.7
Texas Sugarberry	9.7	4.9	0.17	5.5	7.9	18.3
Pecan	13.7	7.0	0.15	6.1	4.7	17.8
Snowdrop-tree	14.3	7.3	0.20	8.0	0.6	15.9
Honey Locust	12.7	6.5	0.15	6.0	2.9	15.4
Winged Elm	11.7	5.9	0.15	6.1	2.7	14.7
Elm spp.**	7.0	3.6	0.07	3.0	7.4	14.0
Others***		37.3	0.87	38.3	23.7	99.5
Total	----	100.2	2.46	99.9	100.2	300.3

* Sum of relative frequency, relative density, and relative dominance.

** Includes American Elm and Slippery Elm.

*** Other species present listed in decreasing order of importance values: Chestnut Oak, American Beautyberry, Black Oak, Yaupon, Blue Beech, American Holly, Southern Arrow-wood, Green Ash, American Elder, Persimmon, Hawthorn spp., Dogwood, Red Mulberry, Tupelo, Red Maple, Pasture Haw, Parsley Hawthorn, Redbud, O'possum-wood, Bitternut Hickory, Devil's Walking Stick, Gum Bumelia, White Ash, Mexican Plum, Overcup Oak, Shumard Oak, Cedar Elm, Hercules Club. Palmetto, not included in column totals had a density of 4.76 individuals per plot and a frequency of 81.7%.

Appendix B-1 Size classes (dbh) of plant species located in a palmetto area about one-half mile east of The Break (Site 3), Area 4.

Species	Size Classes (cm)									
	1-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	> 90
Water Oak	21	6	2	3	2	1	1	1	2	
Sweetgum	21	12	11	5	1	2	1			
Southern Red Oak	22	11	3	2			3			
Deciduous Holly	66									
Texas Sugarberry	25	6	3	6		1				
Pecan	24	13	7	1						
Snowdrop-tree	58	1								
Honey Locust	35	5	2	2						
Winged Elm	31	12	2							
Elm spp.*	13		2	5	2					
Others**	235	26	14	4	2	1		1	1	
Total	551	92	46	28	7	5	5	2	3	

* Includes American Elm and Slippery Elm.

** See previous page for a list of other species present.

Appendix 6.1 Summary of frequency, density, and dominance data for plant species located in Sites 1 and 2 (The Break and Smith Break).

Species	Frequency %	Relative Frequency %	Density No./Plot	Relative Density %	Relative Dominance %	Importance Value*
Tupelo	58.9	32.9	1.66	45.2	72.1	150.2
Bald Cypress	31.4	17.6	0.44	11.9	24.8	54.3
Carolina Ash	19.8	11.1	0.33	9.1	0.4	20.6
Tassel-white	15.3	8.6	0.38	10.4	**	19.0
Water Elm	15.9	8.9	0.22	6.0	0.5	15.4
Red Maple	9.5	5.3	0.24	6.5	0.6	12.4
Common Buttonbush	7.0	3.9	0.11	3.1	0.1	7.1
Green Ash	4.5	2.5	0.07	1.8	0.2	4.5
Sweetgum	2.2	1.2	0.03	0.8	0.8	2.8
Overcup Oak	2.4	1.4	0.03	0.7	0.1	2.2
Others***		6.8	0.14	4.2	0.3	11.3
Total	----	100.2	3.65	99.7	99.9	299.8

* Sum of relative frequency, relative density, and relative dominance.

** Value less than 0.1%

*** Other species present listed in order of decreasing importance value: Water Hickory, Rattlebush, Swamp Privet, Ilex spp. (includes American Holly and Slippery Elm), Water Locust, Texas Sugarberry, Willow Oak, Boxwood, Southern Red Oak, Persimmon, American Sycamore, Blue Beech, Deciduous Holly, American Holly, Yaupon, Water Oak, Shumard Oak, and Cedar Elm. Palmetto, not included in column totals, had a density of 0.05 individuals per plot.

Appendix B-1 Frequency, density and dominance data for plant species located east of the southern end of The Break (Site 4).

Species	Frequency %	Relative Frequency %	Density No./Plot	Relative Density %	Relative Dominance %	Importance Value*
Hawthorn spp.	51.7	21.8	1.22	30.5	2.7	55.0
Cedar Elm	32.0	13.5	0.42	10.4	27.3	51.2
Deciduous Holly	33.3	14.0	0.60	15.1	1.3	30.4
Honey Locust	29.3	12.4	0.52	13.1	4.3	29.8
Willow Oak	8.0	3.4	0.10	2.5	18.8	24.7
Texas Sugarberry	11.7	4.9	0.13	3.3	12.8	21.0
Persimmon	20.7	8.7	0.39	9.8	1.0	19.5
Black Oak	4.0	1.7	0.04	1.1	12.0	14.8
Overcup Oak	3.7	1.5	0.04	0.9	9.8	12.2
Others**		18.0	0.54	13.3	9.8	41.1
Total	----	99.9	4.00	100.0	99.8	299.7

* Sum of relative frequency, relative density, and relative dominance.

** Other species present listed in order of decreasing importance values: Water Hickory, Yaupon, Elm spp. (Includes American Elm and Slippery Elm), Red Mulberry, Pasture Haw, Water Oak, Sweetgum, Snow-drop tree, Pecan, Parsley Hawthorn, Red Maple, Gum Bumelia, Blue Beech, Soap Berry, Bitter Orange, Bald Cypress, Loblolly Pine, and Southern Red Oak. Palmetto, not included in column totals, had a density of 1.74 individuals per plot.

Appendix B-1 Summary of frequency, density, and dominance data for plant species located in Sites 3, 4, 5, and 6 (land areas associated with The Break, Smith Break, and Brushy Lake).

Species	Frequency %	Relative Frequency %	Density No./Plot	Relative Density %	Relative Dominance %	Importance Value*
Hawthorn spp.	27.0	14.1	0.56	20.3	1.2	35.6
Cedar Elm	20.6	10.8	0.29	10.3	13.4	34.5
Honey Locust	21.5	11.3	0.34	12.2	2.9	26.4
Willow Oak	5.8	3.0	0.06	2.3	14.7	20.0
Deciduous Holly	17.0	8.9	0.26	9.5	0.9	19.3
Texas Sugarberry	10.8	5.6	0.13	4.6	8.9	19.1
Water Oak	6.0	3.1	0.06	2.3	11.1	16.5
Southern Red Oak	5.2	2.7	0.06	2.1	10.3	15.1
Green Ash	5.8	3.1	0.06	2.2	4.4	9.7
Winged Elm	7.3	3.8	0.10	3.8	1.9	9.5
Others**		33.1	0.84	30.0	29.8	92.9
Total	----	99.5	2.76	99.6	99.5	298.6

* Sum of relative frequency, relative density, and relative dominance.

** Other species present listed in order of decreasing importance values: Persimmon, Black Oak, Overcup Oak, Sweetgum, Elm spp. (includes American Elm, Slippery Elm), Pecan, Pasture Haw, Water Hickory, Chestnut Oak, Snow-drop tree, Yaupon, Parsley Hawthorn, American Beautyberry, Blue Beech, Bottomland Post Oak, Red Mulberry, American Holly, American Elder, Southern Arrow-wood, Dogwood, White Ash, American Basswood, Red Maple, Tupelo, Water Elm, Water Locust, Gum Bumelia, Common Buttonbush, Hercules Club, Redbud, O'possum-wood, Bald Cypress, Soap Berry, Devil's Walking Stick, Bitternut Hickory, Bitter Orange, Swamp Privet, Loblolly Pine, Mexican Plum, Shumard Oak, and Rattlebush. Palmetto, not included in column totals, had a density of 1.33 individuals per plot.

Appendix B-1 Size classes (dbh) of plant species located east of the southern end of The Break (Site 4).

Species	Size Classes (cm)									
	1-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	>90
Hawthorn spp.	364	2								
Cedar Elm	44	40	25	16						
Deciduous Holly	181									
Honey Locust	141	13	2	1						
Willow Oak	20		1		2	4	2	1		
Texas Sugarberry	16		18	4	2					
Persimmon	117	1								
Black Oak	6	1			2	3	1			
Green Ash	32	1		7						
Overcup Oak	2	1		3	2	3				
Others*	108	5	2	3						
Total	1031	64	48	34	8	10	3	1		

* See previous page for a list of other species present.

Appendix B-1 . Frequency, density and dominance data for plant species located at Site 5 adjacent to and north of Smith Break.

Species	Frequency %	Relative Frequency %	Density No./Plot	Relative Density %	Relative Dominance %	Importance Value*
Cedar Elm	26.3	18.5	0.36	18.5	23.8	60.8
Willow Oak	14.0	9.9	0.14	7.2	41.3	58.4
Hawthorn spp.	25.0	17.6	0.46	23.6	1.2	42.4
Honey Locust	20.0	14.1	0.32	16.6	2.8	33.5
Overcup Oak	6.7	4.7	0.08	3.9	11.4	20.0
Texas Sugarberry	9.3	6.6	0.10	5.0	4.7	16.3
Deciduous Holly	9.7	6.8	0.13	6.5	0.5	13.8
Water Hickory	6.7	4.7	0.07	3.6	2.6	10.9
Green Ash	4.3	3.1	0.05	2.4	4.4	9.9
Persimmon	5.0	3.5	0.06	2.9	0.1	6.5
Others**		10.3	0.18	9.6	7.3	27.2
Total	----	99.8	1.95	99.8	100.1	299.7

* Sum of relative frequency, relative density, and relative dominance.

** Other species present listed in decreasing order of importance values: Parsley Hawthorn, Southern Red Oak, Pecan, Water Locust, Water Oak, Elm spp. (includes American Elm and Slippery Elm), Red Mulberry, Winged Elm, Pasture Haw, Sweetgum, Chestnut Oak, Swamp Privet, Water Elm, and Rattlebush.

Appendix B-1 Size classes (dbh) of plant species located at Site 5 adjacent to and north of Smith Break.

Species	Size Classes (cm)									
	1-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	> 90
Cedar Elm	50	22	23	10	3					
Willow Oak	1	5	9	14	3	6	3	1		
Hawthorn spp.	135	2	1							
Honey Locust	87	7	2	1						
Overcup Oak	2	11	3	4	1	1	1			
Texas Sugarberry	13	6	10							
Deciduous Holly	38									
Water Hickory	9	11	1							
Green Ash	6	3	2	2		1				
Persimmon	16	1								
Others*	41	10	1	2	3					
Total	398	78	52	33	10	8	4	1		

* See previous page for a list of other species present.

Appendix B-1 Frequency, density and dominance data for plant species located at Site 6 near the Trinity River west of Brushy Lake.

Species	Frequency %	Relative Frequency %	Density No./Plot	Relative Density %	Relative Dominance %	Importance Value*
Hawthorn spp.	27.0	14.4	0.50	19.2	0.7	34.3
Southern Red Oak	8.0	4.3	0.09	3.3	24.3	31.9
Cedar Elm	23.7	12.6	0.36	13.7	4.5	30.8
Water Oak	9.7	5.2	0.10	3.9	19.3	28.4
Honey Locust	24.0	12.8	0.35	13.5	1.6	27.9
Winged Elm	16.7	8.9	0.26	9.9	4.5	23.3
Texas Sugarberry	12.3	6.6	0.14	5.2	9.9	21.7
Pasture Haw	15.7	8.3	0.22	8.3	0.2	16.8
Black Oak	4.0	2.1	0.06	2.2	6.4	10.7
Deciduous Holly	7.7	4.1	0.10	3.8	0.6	8.5
Others**		20.9	0.44	17.0	28.0	65.9
Total	----	100.2	2.62	100.0	100.0	300.2

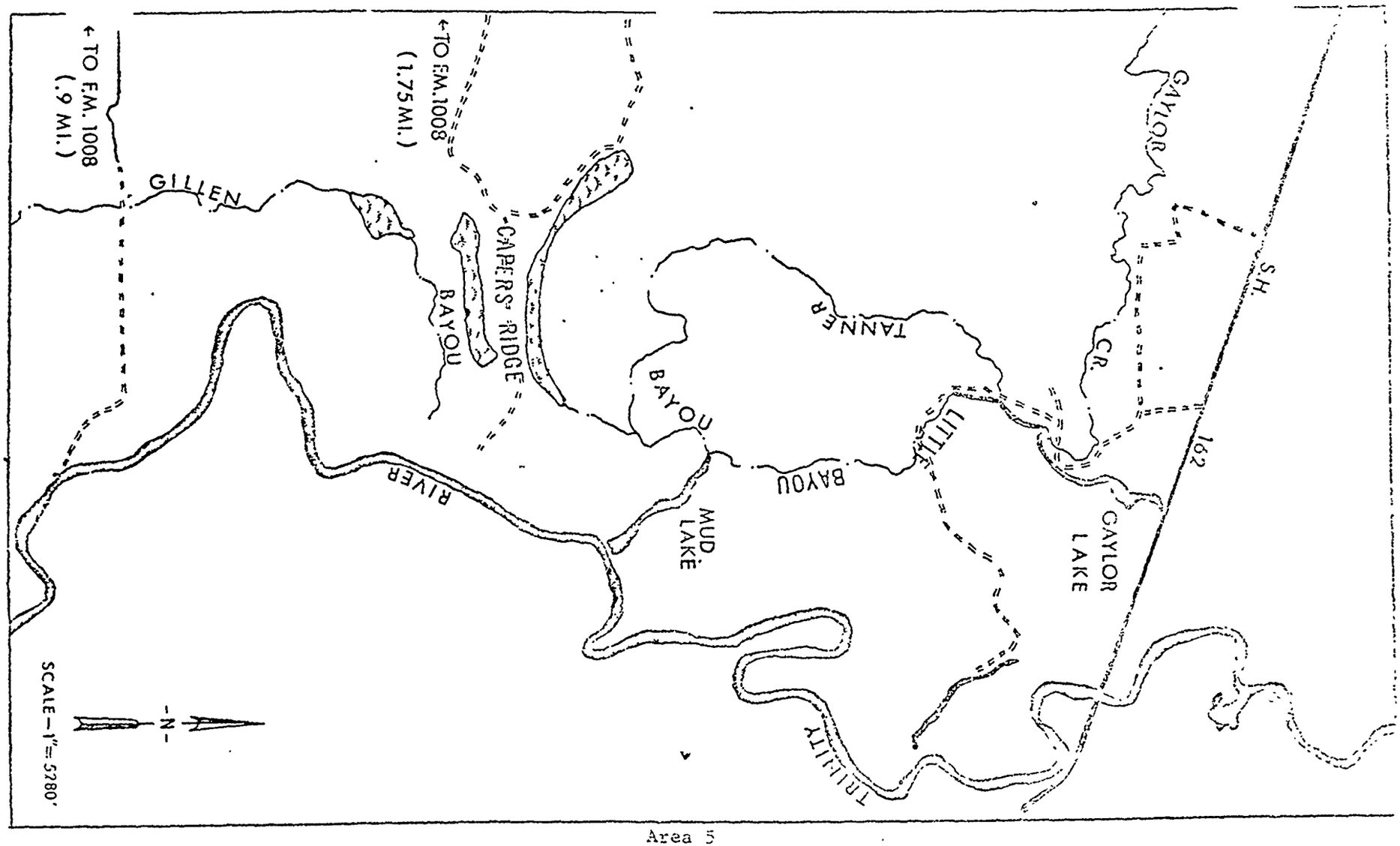
* Sum of relative frequency, relative density, and relative dominance.

** Other species present listed in decreasing order of importance values: Bottomland Post Oak, Green Ash, Elm spp. (includes American Elm and Slippery Elm), Chestnut Oak, Parsley Hawthorn, Overcup Oak, White Ash, American Basswood (includes Carolina Basswood and Florida Basswood), Willow Oak, Water Elm, Common Buttonbush, Hercules Club, Gum Bumelia, Sweetgum, Dogwood, Persimmon, Pecan, Water Hickory, Red Mulberry and Yaupon.

Appendix B-1 Size classes (dbh) of plant species located at Site 6 near the Trinity River west of Brushy Lake.

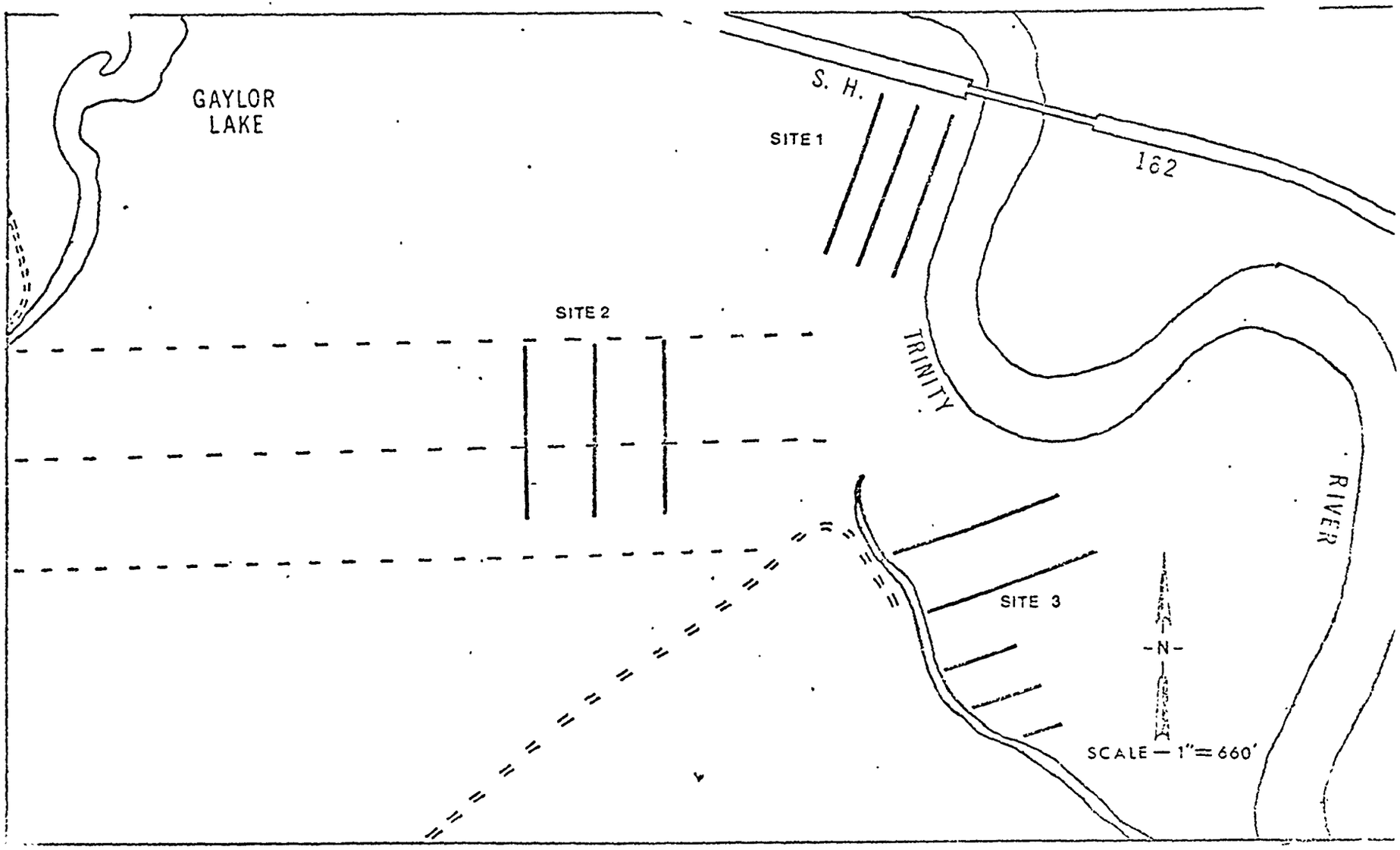
Species	Size Classes (cm)									
	1-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	>90
Hawthorn spp.	150	1								
Southern Red Oak	1	4	2	7	6	3	1	2		
Cedar Elm	91	10	6	1						
Water Oak		3	11	7	8	2				
Honey Locust	99	6	1							
Winged Elm	52	25	1							
Texas Sugarberry	6	16	16	3						
Pasture Haw	65									
Black Oak		4	8	4	1					
Deciduous Holly	27	1	2							
Others*	65	27	29	8	4					
Total	556	97	76	30	19	5	1	2		

* See previous page for a list of other species present.



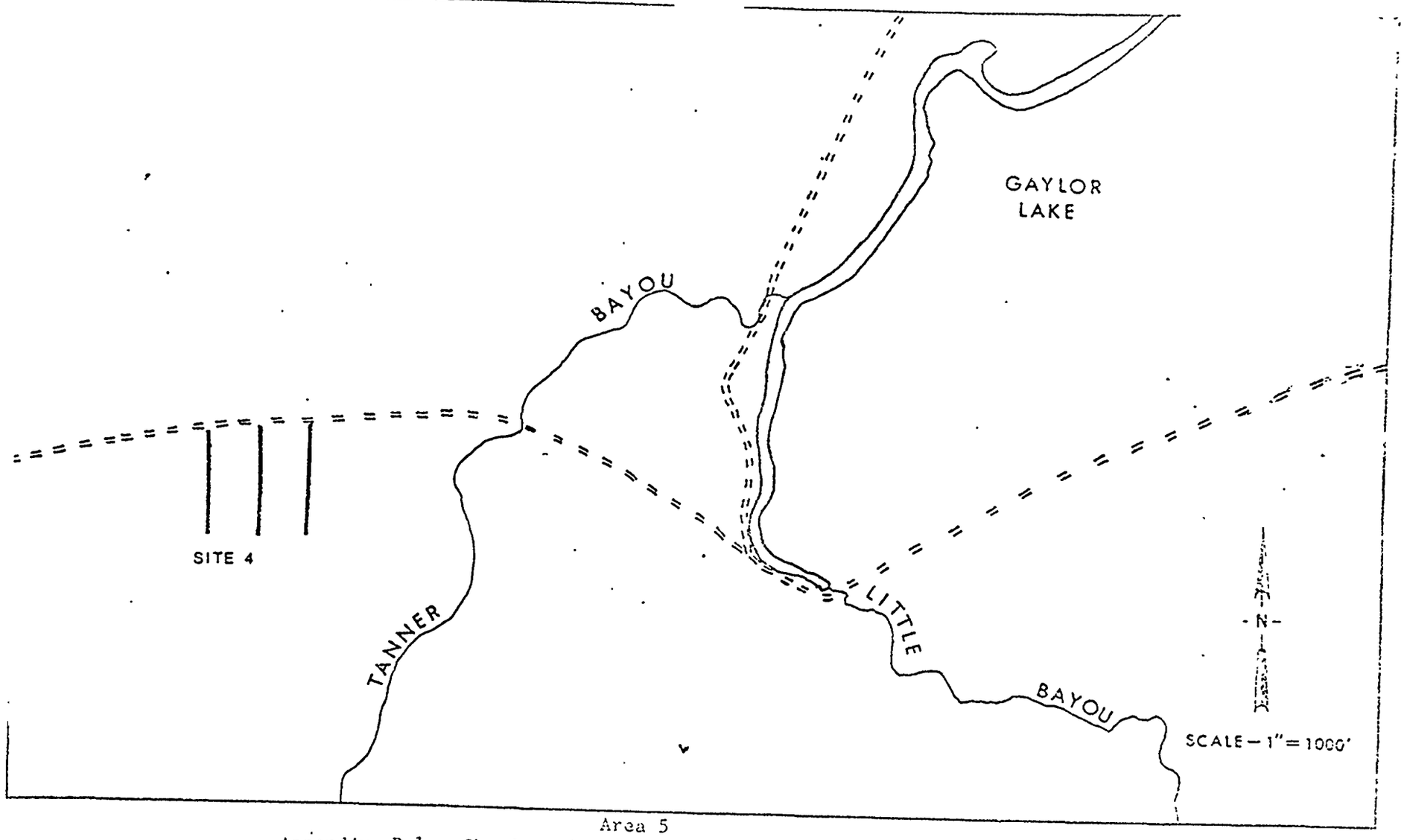
Area 5

Appendix B-1 Showing the study area in relation to the Trinity River



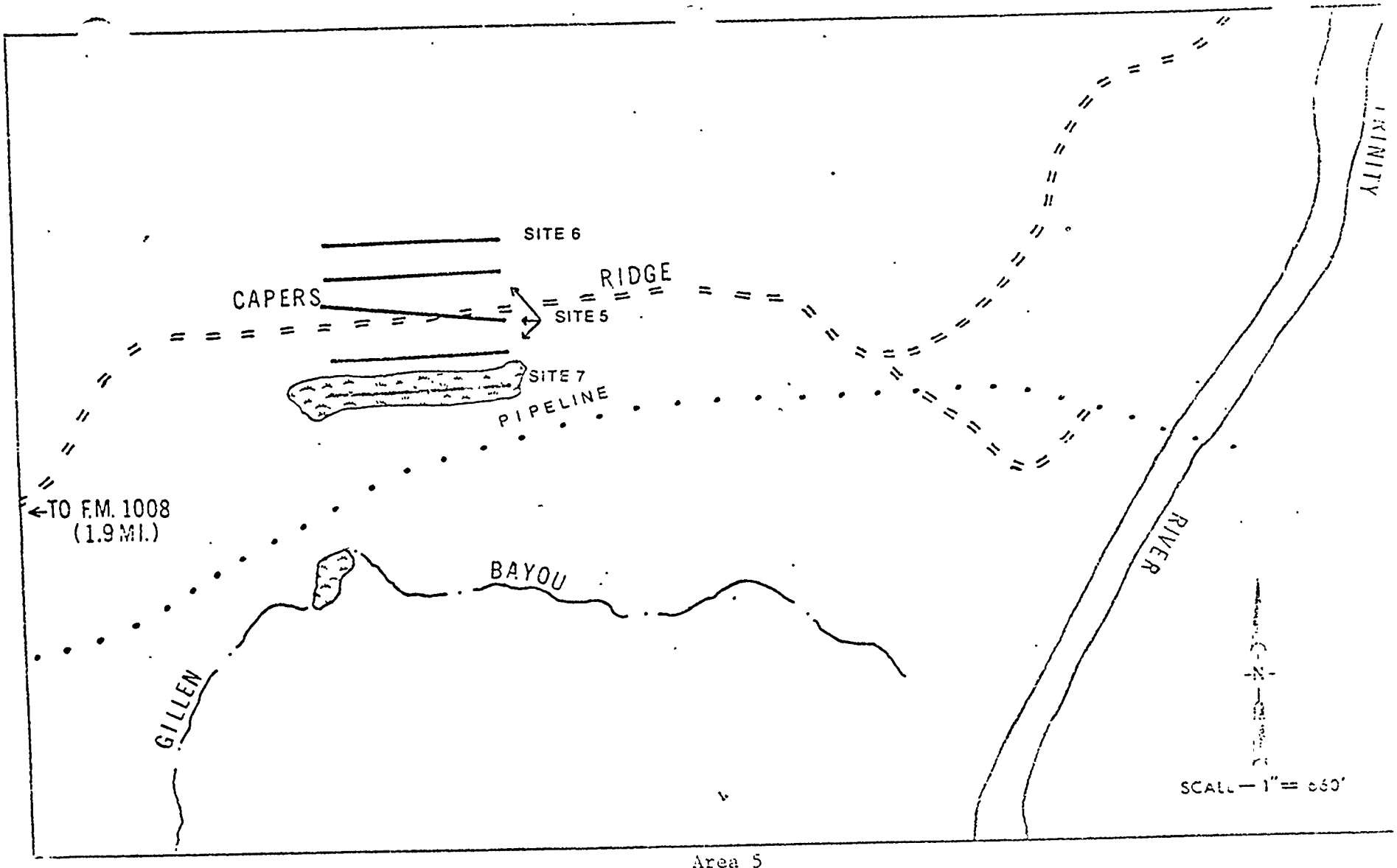
Area 5

Appendix B-1 Showing sites 1, 2, and 3 and the position of transects within these sites.



Area 5

Appendix B-1 Showing site 4 and position of transects within that site.



Area 5

Appendix B-1 Showing sites 5, 6, and 7 and the position of transects within these sites.

Appendix B-1 Frequency, density and dominance data for plant species located in the Tanner Bayou area near Highway 162, Site 1. Area 5

Species	Frequency %	Relative Frequency %	Density No./Plot	Relative Density %	Relative Dominance %	Importance Value*
Texas Sugarberry	35.3	21.9	0.53	19.7	22.2	63.8
Pecan	26.3	16.4	0.32	11.9	34.2	62.5
Dogwood	15.0	9.3	0.30	11.1	2.4	22.8
Swamp Privet	12.0	7.5	0.27	10.2	2.8	20.8
Water Elm	7.7	4.8	0.31	11.5	2.0	18.3
Sweetgum	6.0	3.7	0.09	3.5	9.5	16.7
Deciduous Holly	10.7	6.6	0.19	7.1	1.0	14.7
Hawthorn spp.	11.0	6.8	0.15	5.5	0.5	12.8
Cedar Elm	10.0	6.2	0.14	5.1	1.5	12.8
Sycamore	2.7	1.7	0.03	1.2	8.8	11.7
Others**		15.1	0.34	12.6	15.0	42.7
Total	----	100.0	2.67	99.4	99.9	299.3

* Sum of relative frequency, relative density and relative dominance.

** Other species present listed in order of decreasing importance value: Green Ash, Elm spp. (includes American Elm and Slippery Elm), American Elder, Box Elder, Persimmon, Black Oak, Honey Locust, Overcup Oak, Water Oak, Southern Red Oak, Winged Elm, Bald Cypress, Common Buttonbush, American Basswood (may include Carolina Basswood and Florida Basswood), American Hophornbeam, Gum Bumelia, and Red Mulberry.

Appendix B-1 Size classes (dbh) of plant species located in the Tanner Bayou area near Highway 162, Site 1, Area 5.

Species	Size Classes (cm)									
	1-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	>90
Texas Sugarberry	29	89	33	6	1					
Pecan	8	28	25	22	10	2				
Dogwood	75	13	1							
Swamp Privet	73	9								
Water Elm	84	8								
Sweetgum	5	5	11	3	2	2				
Deciduous Holly	55	2								
Hawthorn spp.	40	4								
Cedar Elm	32	7	2							
Sycamore		1		4	3		2			
Others*	80	13	2	3	4	1	1	1		
Total	481	179	74	38	20	5	3	1		

* See previous page for a list of other species present.

Appendix B-1 Frequency, density and dominance data for plant species located in the Tanner Bayou area near Highway 162, Site 2, Area 5

Species	Frequency %	Relative Frequency %	Density No./Plot	Relative Density %	Relative Dominance %	Importance Value*
Cedar Elm	55.7	15.0	1.28	18.8	8.2	42.0
Texas Sugarberry	40.3	10.8	0.76	11.1	18.3	40.2
Water Oak	23.7	6.4	0.34	5.0	23.8	35.2
Winged Elm	36.7	9.9	0.60	8.8	5.0	23.7
Deciduous Holly	32.7	8.8	0.64	9.4	2.4	20.6
Bottomland Post Oak	13.7	3.7	0.22	3.3	9.6	16.6
Hawthorn spp.	22.0	5.9	0.50	7.4	0.7	14.0
Southern Red Oak	12.0	3.2	0.18	2.7	8.0	13.9
Honey Locust	19.0	5.1	0.28	4.1	3.1	12.3
Parsley Hawthorn	21.0	5.6	0.37	5.5	0.5	11.6
Others**		25.4	1.64	23.8	20.2	69.4
Total	----	99.8	6.81	99.9	99.8	299.5

* Sum of relative frequency, relative density and relative dominance.

** Other species present listed in order of decreasing importance value: Giant Cane, White Ash, Green Ash, Elm spp. (includes American Elm and Slippery Elm), Soap Berry, Yaupon, Gum Bumelia, Willow Oak, Overcup Oak, Persimmon, Dogwood, Black Oak, Pecan, Red Mulberry, Black Hickory, American Basswood (may include Carolina Basswood and Florida Basswood), and Pasture Haw.

Appendix B-1 . Size classes (dbh) of plant species located in the Tanner Bayou area near Highway 162, Site 2, Area 5.

Species	Size Classes (cm)									
	1-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	>90
Cedar Elm	352	19	8	4		1				
Texas Sugarberry	162	27	29	8		1				
Water Oak	35	30	15	15	5					
Winged Elm	148	26	5							
Deciduous Holly	189	2								
Bottomland Post Oak	45	11	5	4		1		1		
Hawthorn spp.	148	2								
Southern Red Oak	35	7	6	5	2					
Honey Locust	73	5	5	1						
Parsley Hawthorn	112									
Others**	423	35	18	11	4					
Total	1722	164	91	48	11	3		1		

** See previous page for a list of other species present.

Appendix B-1 Frequency, density and dominance data for plant species located in the Tanner Bayou area near Highway 162, Site 3, Area 5

Species	Frequency %	Relative Frequency %	Density No./Plot	Relative Density %	Relative Dominance %	Importance Value*
Texas Sugarberry	33.3	16.8	0.44	15.5	24.6	56.9
Sweetgum	27.3	13.8	0.47	16.5	16.8	47.1
Pecan	17.3	8.7	0.22	7.7	13.7	30.1
Deciduous Holly	25.3	12.8	0.33	11.8	0.8	25.4
Water Oak	6.0	3.0	0.06	2.1	12.6	17.7
Dogwood	10.0	5.0	0.19	6.7	1.1	12.8
Bald Cypress	4.0	2.0	0.07	2.4	7.4	11.8
Cedar Elm	10.3	5.2	0.12	4.1	1.0	10.3
Elm spp.**	8.7	4.4	0.11	4.0	1.5	9.9
Winged Elm	9.0	4.5	0.13	4.5	0.8	9.8
Others ***		23.8	0.68	24.7	19.8	68.3
Total	----	100.0	2.82	100.0	100.1	300.1

* Sum of relative frequency, relative density and relative dominance.

** Includes American Elm and Slippery Elm.

*** Other species present listed in order of decreasing importance values: Hawthorn spp., Green Ash, Water , Black Oak, Persimmon, Common Buttonbush, Giant Cane, American Holly, Overcup Oak, American Basswood (may de Carolina Basswood and Florida Basswood), Water Hickory, Southern Red Oak, White Ash, Red Mulberry, Camellia, Bottomland Post Oak, Water Locust, Box Elder, Chestnut Oak, Black Willow, Water Locust, Swamp , Tupelo, Hercules Club, Pasture Haw, American Beautyberry, and American Elder.

Appendix B-1 Size classes (dbh) of plant species located in the Tanner Bayou area near Highway 162, Site 3, Area 5.

Species	Size Classes (cm)									
	1-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	>90
Texas Sugarberry	49	38	34	11	7	2				
Sweetgum	67	36	26	9	2					
Pecan	21	22	10	6	4	2				
Deciduous Holly	100									
Water Oak	9	2	2	1		1	1		2	
Dogwood	52	5								
Bald Cypress	5	4	3	5	1	2				
Cedar Elm	34				1					
Elm spp.*	33					1				
Winged Elm	32	5	1							
Others**	156	22	14	10	5	3				
Total	558	134	90	42	20	11	1		2	

* Includes American Elm and Slippery Elm.

** See previous page for a list of other species present.

Appendix B-1 • • Frequency, density and dominance data for plant species located in the Tanner Bayou area near Highway 162, Site 4, Area 5.

Species	Frequency %	Relative Frequency %	Density No./Plot	Relative Density %	Relative Dominance %	Importance Value*
Blue Beech	59.0	13.6	1.61	18.7	10.7	43.0
Sweetgum	34.7	8.0	0.57	6.7	17.7	32.4
Yaupon	40.0	9.2	1.24	14.4	1.3	24.9
Southern Magnolia	6.0	1.4	0.07	0.9	18.6	20.9
American Hophornbeam	26.3	6.1	0.54	6.2	3.7	16.0
American Beautyberry	31.0	7.1	0.60	7.0	0.2	14.3
Cedar Elm	22.3	5.1	0.62	7.2	0.6	12.9
Southern Red Oak	15.7	3.6	0.21	2.4	5.9	11.9
Texas Sugarberry	24.0	5.5	0.51	6.0	0.4	11.9
Chestnut Oak	7.3	1.7	0.08	0.9	9.1	11.7
Others**		38.7	2.56	29.6	31.9	100.2
Total	----	100.0	8.61	100.0	100.1	300.1

* Sum of relative frequency, relative density, and relative dominance.

** Other species present listed in order of decreasing importance values: Winged Elm, Water Oak, Loblolly Pine, Giant Cane, Hawthorn spp., American Elder, Deciduous Holly, Black Walnut, Elm spp. (Includes American Elm and Slippery Elm), Green Ash, American Holly, White Ash, Sassafras, Parsley Haw, Water Hickory, Red Mulberry, Honey Locust, Black Oak, White Oak, American Basswood (may include Carolina Basswood and Florida Basswood), Tupelo, Flowering Dogwood, Persimmon, Mockernut Hickory, Overcup Oak, Willow Oak, Hercules Club, Prickly Ash, Pasture Haw, Southern Arrow-wood, Parkleberry, Dogwood, Gum Bumelia, Devil's Walking Stick, Sycamore, Bottomland Post Oak, Bald Cypress, Shining Sumac, Swamp Privet, Roughleaf Dogwood, Pecan, Red Bay, Red Maple and Sweetleaf.

Appendix B-1 Size classes (dbh) of plant species located in the Tanner Bayou area west of Gaylor Lake, Site 4, Area 5.

Species	Size Classes (cm)									
	1-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	>90
Blue Beech	426	34	21	1						
Sweetgum	109	28	18	10	7					
Yaupon	351									
Southern Magnolia	3		7	3	5	2	2			
American Hophornbeam	136	19	5	1						
American Beautyberry	180									
Cedar Elm	182	4								
Southern Red Oak	48	7	2	1	2	2				
Texas Sugarberry	154									
Chestnut Oak	18				1	2	2	1		
Others**	727	23	14	12	6	6	2		1	
Total	2334	115	67	28	21	12	6	1	1	

** See previous page for a list of other species present.

Appendix B-1 Frequency, density and dominance data for plant species located on Capers Ridge, Site 5, Area 5.

Species	Frequency %	Relative Frequency %	Density No./Plot	Relative Density %	Relative Dominance %	Importance Value*
Yaupon	66.0	14.1	2.32	20.6	9.1	43.8
Sweetgum	34.3	7.3	0.63	5.6	28.9	41.8
Giant Cane	24.0	5.1	2.48	22.1	1.0	28.2
Texas Sugarberry	47.3	10.1	0.89	7.9	8.8	26.8
Winged Elm	42.3	9.0	0.88	7.9	2.5	19.4
Water Oak	22.0	4.7	0.34	3.0	10.4	18.1
American Beautyberry	43.3	9.2	0.85	7.6	0.4	17.2
Black Walnut	10.0	2.1	0.12	1.1	5.9	9.1
Elm spp.**	20.0	4.3	0.25	2.2	1.6	8.1
Devil's Walking Stick	14.7	3.1	0.39	3.4	1.4	7.9
Others***		30.7	2.07	18.6	30.2	79.5
Total	----	99.7	11.22	100.0	100.2	299.9

* Sum of relative frequency, relative density, and relative dominance.

** Includes American Elm and Slippery Elm.

*** Other species present listed in order of decreasing importance values: White Ash, American Elder, American Holly, Gum Bumelia, Southern Red Oak, American Basswood (may include Carolina Basswood and Florida Basswood), Black Oak, Chestnut Oak, Sycamore, Red Mulberry, Southern Magnolia, Honey Locust, Laurel Cherry, Deciduous Holly, Flowering Dogwood, Cedar Elm, Bottomland Post Oak, Tupelo, Red Bay, Persimmon, Green Ash, Pecan, Hawthorn spp., Sassafras, Water Hickory, Black Cherry, Pasture Haw, Mexican Plum, Shining Sumac, Chinaberry and Fringe-tree.

Appendix B-1 . Size classes (dbh) of plant species located on Capers Ridge, Site 5, Area 5.

Species	Size Classes (cm)									
	1-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	>90
Yaupon	687	9								
Sweetgum	111	45	11	11	7	2	2			
Giant Cane	745									
Texas Sugarberry	252	3	2	5	3	1				
Winged Elm	258	3	3	1						
Water Oak	70	18	5	5	2		1			
American Beautyberry	256									
Black Walnut	16	7	10	2	1					
Elm spp.*	69	4		2						
Devil's Walking Stick	113	3								
Others**	538	53	22	7	4	4	1			
Total	3115	145	53	33	17	7	4			

* Includes American Elm and Slippery Elm.
** See previous page for a list of other species present.

Appendix B-1 Frequency, density and dominance data for plant species located in a bottomland area north of Capers Ridge, Site 6, Area 5.

Species	Frequency %	Relative Frequency %	Density No./Plot	Relative Density %	Relative Dominance %	Importance Value*
Overcup Oak	40.0	10.2	0.54	7.2	26.1	43.5
Green Ash	44.0	11.2	1.27	16.8	11.4	39.4
Hawthorn spp.	46.0	11.7	1.27	16.8	4.1	32.6
Water Hickory	21.0	5.4	0.24	3.2	22.4	31.0
Deciduous Holly	49.0	12.5	0.94	12.5	1.5	26.5
Cedar Elm	29.0	7.4	0.61	8.1	4.3	19.8
Water Locust	13.0	3.3	0.34	4.5	7.2	15.0
Black Oak	18.0	4.6	0.27	3.6	5.9	14.1
Common Buttonbush	21.0	5.4	0.47	6.2	2.3	13.9
Persimmon	22.0	5.6	0.35	4.6	3.3	13.5
Others**		23.1	1.24	16.2	11.7	51.0
Total	----	100.4	7.54	99.7	100.2	300.3

* Sum of relative frequency, relative density, and relative dominance.

** Other species present listed in order of decreasing importance values: Texas Sugarberry, Water Elm, Bastard Indigo, Elm spp. (includes American Elm and Slippery Elm), Bald Cypress, Honey Locust, Willow Oak, Swamp Privet, Loblolly Pine, Sweetgum, Winged Elm, Gum Bumelia, and Red Mulberry.

Appendix B-1 .Size classes (dbh) of plant species located in a bottomland area north of Capers Ridge, Site 6, Area 5.

Species	Size Classes (cm)									
	1-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	> 90
Overcup Oak	35	5	9	3			2			
Green Ash	121	1		3	2					
Hawthorn spp.	126	1								
Water Hickory	4	4	6	10						
Deciduous Holly	94									
Cedar Elm	58		1	2						
Water Locust	19	13	2							
Black Oak	20	5		1	1					
Common Buttonbush	46	1								
Persimmon	26	9								
Others*	110	9	4		1					
Total	659	48	22	19	4		2			

* See previous page for a list of other species present.

Appendix B-1 Frequency, density and dominance data for plant species located in a swamp south of Capers Ridge, Site 7, Area 5.

Species	Frequency %	Relative Frequency %	Density No./Plot	Relative Density %	Relative Dominance %	Importance Value*
Green Ash	56.0	21.0	1.42	32.8	55.8	109.6
Overcup Oak	46.0	17.2	0.73	16.9	12.1	46.2
Water Elm	50.0	18.7	0.84	19.4	3.3	41.4
Bald Cypress	19.0	7.1	0.20	4.6	10.4	22.1
Water Locust	22.0	8.2	0.26	6.0	6.9	21.1
Black Oak	25.0	9.4	0.34	7.9	2.3	19.6
Water Hickory	11.0	4.1	0.12	2.8	7.5	14.4
Common Buttonbush	15.0	5.6	0.17	3.9	0.1	9.6
Elm spp.**	10.0	3.7	0.11	2.5	0.2	6.4
Persimmon	4.0	1.5	0.05	1.2	0.2	2.9
Others***		3.5	0.09	1.9	1.1	6.5
Total	----	100.0	4.33	99.9	99.9	299.8

* Sum of relative frequency, relative density, and relative dominance.

** Includes American Elm and Slippery Elm.

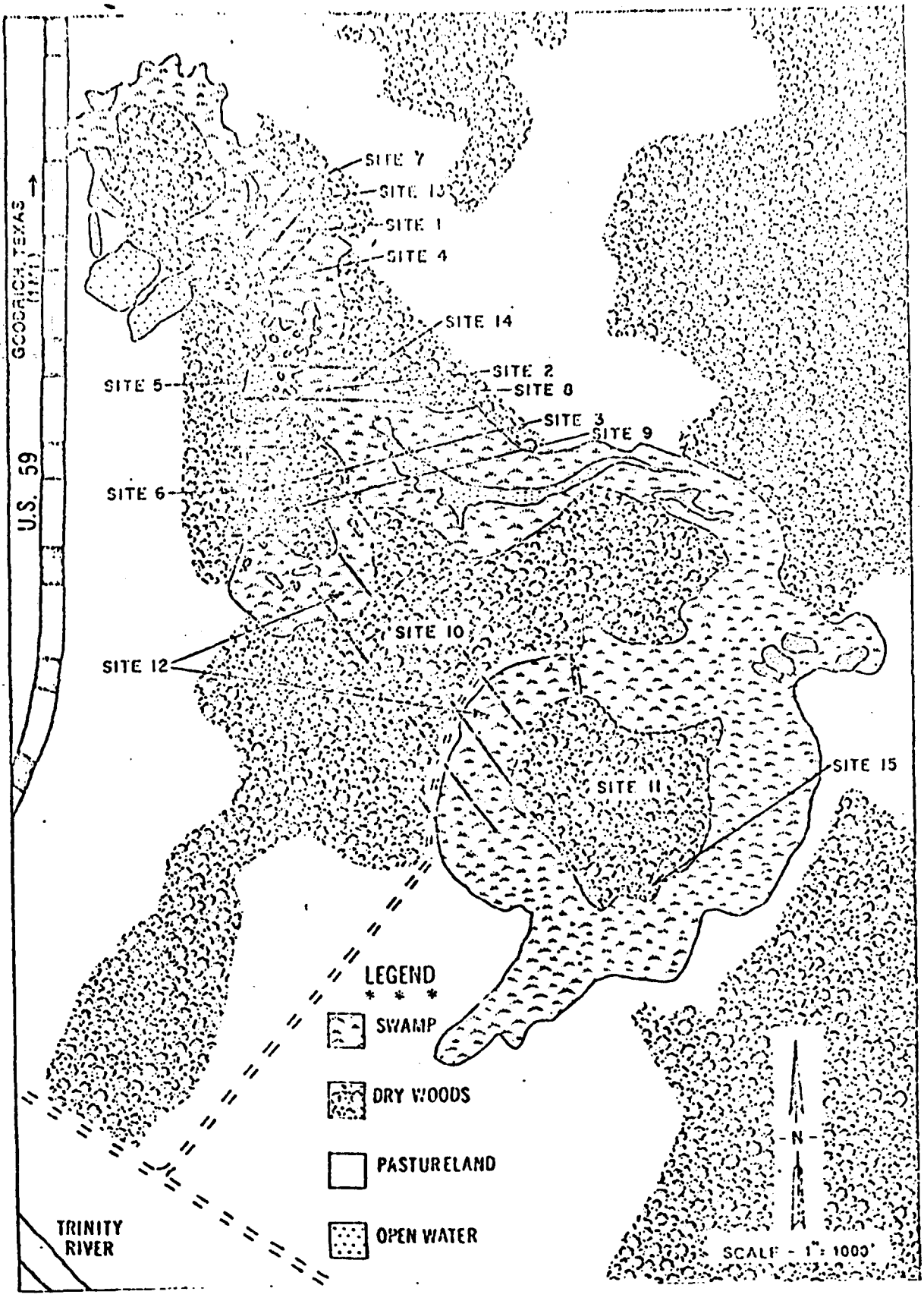
*** Other species present listed in order of decreasing importance values: Mock-orange, Sweetgum, Bastard Indigo, Deciduous Holly, Southern Red Oak, and Texas Sugarberry.

Appendix B-1 Size classes (dbh) of plant species located in a swamp south of Capers Ridge, Site 7, Area 5.

Species	Size Classes (cm)									
	1-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	>90
Green Ash	118	2	3	6	10	2	1			
Overcup Oak	63	5	2	2		1				
Water Elm	80	4								
Bald Cypress	12	6	1					1		
Water Locust	13	8	5							
Black Oak	28	6								
Water Hickory	3	6	1	2						
Common Buttonbush	17									
Elm spp.*	11									
Persimmon	5									
Others**	8		1							
Total	358	37	13	10	10	3	1	1		

* Includes American Elm and Slippery Elm.

** See previous page for a list of other species present.



Area 6

Appendix B-1 . Showing study area in relation to Trinity River and U.S. Highway 59 and showing location of sites and transects within study area.

Appendix B-1 Area 6. Frequency, density and dominance data for plant species located in Site 1 (Nesting area of northern-most heronry).

Species	Frequency %	Relative Frequency %	Density No./Plot	Relative Density %	Relative Dominance %	Importance Value*
Buttonbush	72.6	37.3	3.78	57.1	36.4	130.8
Tupelo	15.5	8.0	.39	5.8	24.1	37.9
Green ash	25.0	12.8	.79	12.0	10.9	35.7
Water elm	28.6	14.7	.57	8.6	9.4	32.7
Rattlebush	16.1	8.3	.48	7.2	1.9	17.4
Water locust	11.9	6.1	.26	3.9	5.6	15.6
Black willow	4.8	2.4	.08	1.2	3.9	7.5
Overcup oak	2.4	1.2	.02	.4	2.7	4.3
Water hickory	2.4	1.2	.03	.4	2.1	3.7
Forestiera	1.2	.6	.05	.8	2.0	3.4
Others**		7.2	.18	2.7	.8	10.7
Total	---	99.8	6.63	100.1	99.8	299.7

* Sum or relative frequency, relative density and relative dominance

** Other species present listed in order of decreasing importance values: Elm spp. (Includes American elm, Slippery elm) Deciduous holly, Texas sugarberry, hawthorn spp., persimmon, winged elm, willow oak, Chinese tallow tree, Pasture haw, and pecan.

Appendix B-1 Area 6. Size classes (dbh) of plant species located in Site 1 (Nesting area of northern-most heronry).

Species	Size Classes (cm)									
	1-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	90
Buttonbush	635									
Tupelo	37	26	2							
Green ash	124	8	1							
Water elm	94	2								
Rattlebush	80									
Water locust	39	4								
Black willow	11		2							
Overcup oak	2	1	1							
Water hickory	2	3								
Forestiera	8	1								
Others*	29									
Total	1061	45	6							

* See previous page for other species present

Appendix B-1 Area 6. Size classes (dbh) of plant species located at Site 2 (nesting area-middle heronry).

Species	Size Classes (cm)									
	1-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	90
Tupelo	36	63	25	3						
Buttonbush	277									
Green ash	102	9								
Water elm	76	2								
Rattlebush	83									
Overcup oak	4	1		1						
Water locust	13	1								
Deciduous holly	18									
Hawthorn	12									
Water hickory	1	1	1							
Others*	16	1								
Total	638	78	26	4						

* See previous page for other species present

Appendix B-1 Area 6. Frequency, density and dominance data for plant species located in Site 2 (nesting area-middle heronry).

Species	Frequency %	Relative Frequency %	Density No./Plot	Relative Density %	Relative Dominance %	Importance Value*
Tupelo	22.4	16.4	0.84	17.0	69.9	103.3
Buttonbush	42.8	31.4	1.82	37.1	8.4	76.9
Green ash	20.4	15.0	0.73	14.9	6.7	36.6
Water elm	19.1	14.0	0.51	10.5	7.5	32.0
Rattlebush	5.3	3.9	0.55	11.1	0.3	15.3
Overcup oak	3.9	2.9	0.04	0.8	3.5	7.2
Water locust	4.6	3.4	0.09	1.9	0.8	6.1
Deciduous holly	3.3	2.4	0.12	2.4	0.1	4.9
Hawthorn	2.6	1.9	0.08	1.6	0.1	3.6
Water hickory	1.3	1.0	0.02	0.4	2.0	3.4
Others**		7.8	0.11	2.3	0.5	10.6
Total	---	100.1	4.91	100.0	99.8	299.9

* Sum of relative frequency, relative density, and relative dominance.

** Other species present listed in order of decreasing importance values: Persimmon, Cedar elm, forestiera, Elm spp., American elm, and Slippery elm, Pasture haw, Black willow, Honey Locust.

Appendix B-1 Area 6. Frequency, density, and dominance data for plant species located in Site 3 (nesting area, south-most heronry).

Species	Frequency %	Relative Frequency %	Density No./Plot %	Relative Density %	Relative Dominance %	Importance Value* %
Buttonbush	57.3	35.3	2.69	52.4	21.4	109.1
Green ash	33.2	20.5	1.16	22.5	32.2	75.2
Water elm	19.9	12.3	.42	8.1	12.7	33.1
Tupelo	7.0	4.3	.09	1.8	10.3	16.4
Black willow	8.5	5.3	.16	3.1	7.6	16.0
Willow oak	2.5	1.6	.04	.8	4.9	7.3
Elm spp.	5.1	3.1	.09	1.7	1.9	6.7
Rattlebush	4.1	2.5	.10	2.0	.2	4.7
Persimmon	4.1	2.5	.07	1.4	.7	4.6
Water locust	3.8	2.3	.07	1.3	.8	4.4
Others***		10.3	.24	4.9	7.5	22.7
Total		100.0	5.13	100.0	100.2	300.2

* Sum of relative frequency, relative density, and relative dominance.

** Includes American Elm and Slippery elm.

***Other species present listed in order of decreasing importance value are: Overcup oak, Cedar elm, Texas sugarberry, Pecan, Deciduous holly, Parsley hawthorn, Red maple, Winged elm, and Pasture haw.

Appendix B-1 Area 6. Size classes (dbh) plant species located in Site 3 (nesting area, south-most heronry).

Species	Size classes (cm)									
	1-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	90
Buttonbush	85									
Green ash	303	59	4							
Water elm	118	13	1							
Tupelo	17	7	4	2						
Black willow	36	12	3							
Willow oak	9	2		2						
Elm	24	4								
Rattlebush	32									
Persimmon	21	1								
Water locust	21									
Others**	71	4	3							
Totals	1503	102	15	4						

* Includes American elm and Slippery elm

** See previous page for other species present

Appendix B-1 Area 6. Frequency, density and dominance data for plant species located in Site 4 (northern-most west bank).

Species	Frequency %	Relative Frequency %	Density No./Plot %	Relative Density %	Relative Dominance %	Importance Value*
Water oak	25.0	7.7	0.28	5.4	46.8	59.9
Cedar elm	43.4	13.4	0.80	15.6	2.9	31.9
Texas sugarberry	39.5	12.2	0.89	17.4	0.4	30.0
Hawthorn	35.5	11.0	0.67	13.1	1.0	25.1
Sweetgum	15.8	4.9	0.21	4.1	16.0	25.0
Blue beech	23.7	7.3	0.39	7.7	4.9	19.9
Pasture haw	23.7	7.3	0.45	8.7	0.7	16.7
Winged elm	22.4	6.9	0.29	5.6	3.3	15.8
Deciduous holly	22.4	6.9	0.23	5.4	0.6	12.9
Southern red oak	3.9	1.2	0.04	0.8	9.9	11.9
Others**		20.8	0.83	16.4	13.8	51.0
Total		99.6	5.13	100.2	100.3	300.1

* Sum of relative frequency, relative density, and relative dominances.

** Other species present listed in order of decreasing importance values: Elm, American elm, Slippery elm, Locust, Willow oak, Hawthorn, Persimmon, Yaupon, Green ash, White ash, Overcup oak, Farkleberry, Pecan, Gum Bumelia, Honey locust, Water elm, Hercules club, chinaberry, Dogwood, Red mulberry, Water locust.

Appendix B-1 Area 6. Size classes (dbh) of plant species located in Site 4 (northern-most west bank).

Species	Size classes (cm) 1-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	90
Water oak	1	2	13	2	1		1	1		
Cedar elm	57	3	1							
Texas sugarberry	68									
Hawthorn spp.	51									
Sweetgum	6	5	2	1	1	1				
Blue beech	19	11								
Pasture haw	33	1								
Winged elm	19	2		1						
Deciouous holly	21									
Southern Red oak			1		2					
Others*	56	2	3	1	1					
Total	331	26	20	5	5	1	1	1		

* See previous page for other species present

Appendix B-1 Area 6. Frequency, density and dominance data for plant species located in Site 5 (middle west bank).

Species	Frequency %	Relative Frequency %	Density No./Plot	Relative Density %	Relative Dominance %	Importance Value*
Cedar elm	37.5	14.1	.92	21.4	6.0	41.5
Water oak	12.5	4.7	.13	2.9	30.4	38.0
White ash	25.	9.4	.38	8.7	17.5	35.6
Texas sugarberry	33.3	12.5	.38	8.7	8.2	29.4
Green ash	20.8	7.8	.54	12.6	1.2	21.6
Pasture haw	20.8	7.8	.42	9.7	.9	18.4
Pecan	8.3	3.1	.08	1.9	13.0	18.0
Winged elm	20.8	7.8	.21	4.9	2.8	15.5
Hawthorn spp.	20.8	7.8	.29	6.8	.8	15.4
Deciduous holly	16.7	6.3	.29	6.8	.3	13.4
Others**		18.9	.66	15.6	18.9	53.4
Total		100.2	4.30	100.0	100.0	300.2

* Sum of relative frequency, relative density and relative dominance.

** Other species present listed in order of decreasing importance values: Parsley haw, southern Red oak, Elm spp. (includes American and Slippery elm) Persimmon, Sweetgum, Dogwood.

Appendix B-1 Area 6. Size classes (dbh) of plant species located in Site 5 (middle west bank).

Species	Size Classes (cm)									
	1-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	90
Cedar elm	17	5								
Water oak				2		1				
White ash	3	4	1	1						
Texas sugarberry	5	3	1							
Green ash	12	1								
Pasture haw	9	1								
Pecan			1		1					
Winged elm	3	2								
Hawthorn	6	1								
Deciduous holly	7									
Others**	10	3	2	1						
Total	72	20	5	4	1	1				

** See previous page for other species present

Appendix B-1 Area 6. Frequency, density and dominance data for plant species located in Site 6 (southern-most west bank).

Species	Frequency %	Relative Frequence %	Density No./Plot %	Relative Density %	Relative Dominance %	Importance Value * %
Water oak	23.9	6.8	.30	4.3	37.6	48.7
Texas sugarberry	38.6	11.0	1.22	17.3	4.3	32.6
Honey Locust	32.4	9.2	1.16	16.5	.6	26.3
Southern red oak	10.2	2.9	.12	1.7	16.7	21.3
Green ash	19.3	5.5	.86	12.2	1.4	19.1
Deciduous holly	33.0	9.3	.60	8.5	.6	18.4
Pasture haw	31.8	9.0	.56	8.0	.2	17.2
Pecan	8.5	2.4	.10	1.5	8.1	12.0
Chestnut oak	10.2	2.9	.11	1.5	7.5	11.9
Cedar elm	22.7	6.4	.31	4.4	.3	11.1
Others**		34.8	1.74	24.4	22.7	81.9
Totals		100.2	7.08	100.3	100.0	300.5

* Sum of relative frequency, relative density, and relative dominance.

** Other species present listed in order of decreasing importance values: Red mulberry, Elm spp., (American and Slippery elm), Blue beech, Sweetgum, (White ash, Persimmon, Loblolly pine, Winged elm, Shumard oak, Hercules club, Parsley hawthorn, American beautyberry, Laurel oak, Water locuts, Dogwood, Black willow, Overcup oak, Buttonbush, Bitternut hickory, Yaupon, American holly, Mexican plum, Water elm, Gum bumelia.

Appendix B-1 Area 6. Size classes (dbh) of plant species located in Site 6 (southern most west bank)

Species	Size classes (cm)									
	1-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	90
Water oak	9	11	15	9	5	3		1		
Texas sugarberry	207	3	3	2						
Honey locust	203	1								
Southern red oak	2	3	6	6	3	1				
Green asn	149		2							
Deciduous holly	105									
Pasture haw	99									
Pecan	7	4	4	2			1			
Chestnut oak	4	9	4	1		1				
Cedar elm	55									
Others**	255	34	5	1		2	1	1		
Totals	1096	65	39	21	8	7	2	2		

* See previous page for other species present

Appendix B-1 Area 6. Frequency, density, and dominance data for plant species located in Site 7. (East bank of North heronry)

Species	Frequency	Relative Frequency %	Density No./Plot	Relative Density %	Relative Dominance %	Importance Value*
Green ash	25.0	8.6	.44	9.1	13.3	31.0
Sweetgum	27.1	9.3	.38	7.8	11.4	28.5
Water oak	10.4	3.6	.10	2.2	16.0	21.8
Eastern cottonwood	4.2	1.4	.04	.9	19.4	21.7
Texas sugarberry	22.9	7.9	.44	9.1	1.7	18.7
Box elder	12.5	4.3	.54	11.3	1.7	17.3
White ash	4.2	1.4	.04	.9	13.5	15.8
Yaupon	16.7	5.7	.38	7.8	1.1	14.6
Elm**	16.7	5.7	.31	6.5	2.3	14.5
Persimmon	18.8	6.4	.33	6.9	.9	14.2
Others***		45.7	1.82	37.6	18.6	101.9
Total		100.0	4.82	100.1	99.9	300.0

* Sum of relative frequency, relative density and relative dominance.

** Includes American elm and Slippery elm.

*** Other species present listed in order of decreasing importance values: American beautyberry, Dogwood, Pecan, Winged elm, Sassafras, Blue beech, Deciduous holly, Water hickory, Southern red oak, willow oak, Pasture haw, White oak, Overcup oak, Cedar elm, Devil's walking stick, Gum bumelia, Privet.

Appendix B-1 Area 6. Size classes of plant species located in Site 7. (East Bank of North heronry)

Species	Size classes (cm)									
	1-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	90
Green ash	12	5	4							
Sweetgum	10	5	3							
Water oak	1	2		1		1				
Eastern cottonwood						2				
Texas sugarberry	20	1								
Box elder	24	2								
White ash	1						1			
Yaupon	18									
Elm spp.*	13	2								
Persimmon	15	1								
Others**	73	12	2							
Total	187	30	9	1	0	3	1			

* Includes American elm and Slippery elm.

** See previous page for other species present.

Appendix B-1 Area 6. Frequency, density and dominance data for plant species located in Site 8, (east bank of middle heronry)

Species	Frequency %	Relative Frequency %	Density No./Plot	Relative Density %	Relative Dominance %	Importance Value*
Green ash	68.8	30.6	9.25	78.7	19.7	129.0
Texas sugarberry	16.7	7.4	0.19	1.6	22.2	31.2
Elm spp.	14.6	6.5	0.15	1.2	16.4	24.1
Pasture haw	29.2	13.0	0.85	7.3	.9	21.2
Sweetgum	2.1	.9	0.02	0.2	19.6	20.7
Cedar elm	18.8	8.3	0.31	2.7	2.2	13.2
Persimmon	16.7	7.4	0.25	2.1	2.5	12.0
Southern red oak	2.1	0.9	0.02	0.2	10.3	11.4
Yaupon	18.8	8.3	0.21	1.8	0.1	10.2
Black willow	6.3	2.8	0.06	0.5	3.9	7.2
Others**		13.8	0.43	3.7	2.3	19.8
Total		99.9	11.74	100.0	100.1	300.0

* Sum of relative frequency, relative density, and relative dominance.

** Other species present listed in order of decreasing importance values: Parsley haw, Honey locust, Hawthorn, Deciduous holly, Dogwood

Appendix B-1 Area 6. Size classes (dbh) of plant species located in Site 8 (east bank of middle heronry)

Species	Size classes (cm)									
	1-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	90
Green ash	483	6								
Texas sugarberry	4	2	2	1						
Elm spp.	5			2						
Pasture haw	41									
Sweetgum						1				
Cedar elm	14	1								
Persimmon	11	1								
Southern red oak				1						
Yaupon	10									
Black willow	1	2								
Others*	21									
Total	545	12	2	4		1				

See previous page for other species present

Appendix B-1 Area 6. Frequency, density and dominance data for plant species located in Site 9. (east bank of south heronry)

Species	Frequency %	Relative Frequency %	Density No./Plot	Relative Density %	Relative Dominance	Importance Value*
Cedar elm	64.8	12.3	1.41	14.3	13.4	40.0
Willow oak	24.6	4.7	0.37	3.7	24.1	32.5
Pasture haw	63.1	12.0	1.45	14.7	3.6	30.3
Winged elm	64.2	12.2	1.34	13.5	3.0	28.7
Water oak	24.6	4.7	0.31	3.2	17.9	25.8
Hawthorn	37.4	7.1	0.74	7.5	1.9	16.5
Texas sugarberry	32.4	6.2	0.71	7.2	1.1	14.5
Deciduous holly	30.7	5.8	0.61	6.2	0.4	12.4
Southern red oak	11.7	2.2	0.15	1.5	8.4	12 1
White ash	22.9	4.4	0.47	4.8	2.3	11.5
Others**		28.3	2.37	23.7	23.8	75.8
Total		99.9	9.93	100.3	99.9	300.1

* Sum of relative frequency, relative density, and relative dominance.

** Other species present listed in order of decreasing importance values: Elm (American elm and Slippery elm), Blue beech, Parsley hawthorn, Sweetgum, Red mulberry, Overcup oak, Green ash, Chestnut oak, Loblolly pine, Honey locust, Dogwood, Black tupelo, Yaupon, Bitternut hickory, Hercules club, Pecan, Forestiera, Water hickory, Laurel oak, Roughleaf dogwood, Gum bumelia, Arrowwood, Black willow, Redbird, American holly, Buttonbush, and Downy viburnum.

Appendix B-1 Area 6. Size classes (dbh) of plant species located in Site 9 (east bank of south heronry)

Species	Size classes (cm) 1-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	90
Cedar elm	255	18	7	3						
Willow oak	30	14	14	6	2					
Pasture haw	260									
Winged elm	232	7								
Water oak	28	15	8	4	1					
Hawthorn spp.	131	1								
Texas sugarberry	127									
Deciduous holly	110									
Southern red oak	14	4	4	3	1					
White ash	84				1					
Others*	379	21	10	4	3					
Totals	1620	80	43	20	8					

* See previous page for other species present.

Appendix B-1 Area 6. Frequency, density and dominance data for plant species located in Site 10, (peninsula forest)

Species	Frequency %	Relative Frequency %	Density No./Plot	Relative Density %	Relative Dominance %	Importance Value**
American beautyberry	15.2	14.3	.24	17.2	.1	31.6
Southern red oak	5.7	5.3	.06	4.5	14.3	24.1
Sweetgum	6.4	6.0	.07	5.3	11.3	22.6
Chestnut oak	4.5	4.3	.05	3.3	10.5	18.1
Blue beech	8.0	7.5	.11	7.6	2.1	17.2
Yaupon	4.1	3.9	.17	11.9	.2	16.0
Willow oak	3.4	3.2	.04	2.6	9.6	15.4
Water oak	2.6	2.4	.03	1.9	10.4	14.7
Winged elm	6.7	6.3	.08	5.6	2.1	14.0
Elm spp.*	4.1	3.9	.05	3.8	4.4	12.1
Others***		42.7	.47	35.8	35.1	113.6
Total	---	99.8	1.37	99.5	100.1	299.4

** Sum of relative frequency, relative density, and relative dominance.

*** Other species present listed in order of decreasing importance values: White oak, Texas sugarberry, Eastern hophornbeam, Bitternut hickory, Black gum, Pecan, American beech, American holly, American basswood (may include carolina baswood and Florida basswood), Parsley hawthorn, Deciduous holly, Pasture haw, Green ash, Sassafras, White ash, Red mulberry, Hawthorn spp., Loblolly pine, Cedar elm, Persimmon, Overcup oak, Shumard oak, Forestiera, Water hickory, Mexican plum, Arrowood viburnum, Devil's walking stick, English dogwood, Laural oak, Privet forestiera, Honey locust, Boxelder, Flowering dogwood, Buttonbush, Redbud, Strawberry bush, American sycamore, and Farkleberry.

Appendix B-1 . Area 6. Size classes (dbh) of plant species located in Site 10 (peninsula forest)

Species	Size classes (cm)									
	1-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	90
American beautyberry	170									
Southern red oak	3	8	11	8	5	4	2	3		
Sweetgum	18	9	5	5	6	5	4			
Chestnut oak	2	7	9	5	3	2	3	1	1	
Blue beech	44	27	4							
Yaupon	116	1								
Willow oak	2	5	5	5	1	2	6			
Water oak		1	3	4	4	2	3	1	1	
Winged elm	37	10	6	1	1					
Elm spp.	16	9	2	5	4	1				
Others										
Total										

See previous page for other species present.

Appendix B-1 Area 6. Frequency, density, and dominance data for plant species located in Site 11. (Island)

Species	Frequency % %	Relative Frequency %	Density No./Plot	Relative Density %	Relative Dominance %	Importance Value*
Willow oak	40.6	26.6	0.72	31.5	51.3	109.4
Cedar elm	30.0	19.7	0.47	20.7	20.2	60.6
Hawthorn	21.7	14.2	0.28	12.2	2.5	28.9
Pasture haw	13.3	8.7	0.20	8.9	1.9	19.5
Deciduous holly	13.1	8.6	0.19	8.4	0.5	17.5
Winged elm	7.5	4.9	0.09	3.8	3.9	12.6
Water oak	5.8	3.8	0.09	3.9	4.2	11.9
Southern red oak	1.4	0.9	0.01	0.6	5.1	6.6
Honey locust	3.6	2.4	0.04	2.0	1.9	6.3
Parsley hawthorn	3.1	2.0	0.04	1.8	0.2	4.0
Others**		8.1	.14	6.2	8.4	22.7
Totals		99.9	2.27	100.0	100.1	300.0

* Sum of relative frequency, relative density and relative dominance.

** Other species present listed in order decreasing importance values: Yaupon, Chestnut oak, Persimmon, Overcup oak, Blue beech, Loblolly pine, Green ash, Texas sugarberry, White ash, Elm, (Includes American Elm, and Slippery elm), Pecan, Sweetgum, Gum bumelia, Water hickory.

Appendix B-1 Area 6. Size classes of plant species located in Site 11 (the island)

Species	Size classes (cm)									
	0-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	90
Willow oak	105	107	26	9	3	4	3	1		
Cedar elm	77	60	29	3						
Hawthorn	95	5								
Pasture haw	65	8								
Deciduous holly	69									
Winged elm	12	12	7							
Water oak	12	17	2		1					
Southern red oak	1				4					
Honey locust	5	8	3							
Parsley hawthorn	15									
Others*	31	10	4	2	2	1				
Total	487	227	71	14	10	5	3	1		

* See previous page for other species present.

Appendix B-1 Area 6. Frequency, density, and dominance data for plant species located in Site 12 (tupelo swamp).

Species	Frequency %	Relative Frequency %	Density No./Plot	Relative Density %	Relative Dominance %	Importance Value*
Tupelo	75.0	60.8	2.53	74.0	98.1	232.9
Button bush	24.0	19.5	0.50	14.6	0.1	34.2
Green ash	9.7	7.8	0.16	4.6	0.7	13.1
Water elm	3.3	2.7	0.05	1.4	0.1	4.2
Red maple	2.0	1.6	0.03	1.0	T**	2.6
Deciduous holly	1.7	1.4	0.04	1.2	T	2.6
Persimmon	2.0	1.6	0.03	0.8	0.1	2.5
Water hickory	1.7	1.4	0.03	0.8	0.2	2.4
Sweetgum	1.0	0.8	0.01	0.4	0.2	1.4
Texas sugarberry	0.7	0.5	0.01	0.3	0.1	0.9
Others***		1.9	.03	1.0	0.3	3.2
Total		100.0	3.41	100.1	99.9	300.0

* Sum of relative frequency, relative density, and importance value.

** Value less than 0.1%

*** Other species present in order of decreasing importance values: Overcup oak, Water oak, Cedar elm, Elm spp. (includes American elm and Slippery elm), Willow oak.

Appendix B-1, Area 6. Size classes of plant species located in Site 12 (tupelo swamp)

Species	Size classes (cm)									
	0-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	90
Tupelo	238	181	121	89	68	38	18	2	2	1
Buttonbush	150									
Green ash	29	18								
Water elm	12	2								
Red maple	10									
Deciduous holly	12									
Persimmon	7	1								
Water hickory	5	1	2							
Sweetgum	1	1	2							
Texas sugarberry	1		1							
Others*	7	1	1	1						
Total	472	205	128	90	68	38	18	2	2	1

* See previous page for other species present.

Appendix B-1 Area 6. Frequency, density and dominance data for plant species located in Site 13 (shallow swamp cast of north heronry)

Species	Frequency %	Relative Frequency %	Density No./Plot	Relative Density %	Relative Dominance %	Importance Value*
Green ash	64.3	25.4	2.29	37.2	12.4	75.0
Button bush	75.0	29.6	2.04	33.1	9.1	71.8
Eastern cottonwood	3.6	1.4	.04	.6	47.9	49.9
Black willow	28.6	11.3	.39	6.4	3.3	21.0
Water locust	21.4	8.5	.29	4.7	7.4	20.6
Water elm	21.4	8.5	.39	6.4	1.4	16.3
Tupelo	3.6	1.4	.07	1.2	13.4	16.0
Rattlebush	14.3	5.6	.39	6.4	.3	12.3
**Elm spp.	7.2	2.8	.08	1.2	3.5	7.5
Overcup oak	3.6	1.4	.04	.6	.8	2.8
Others**		4.2	.15	2.4	.5	7.1
Total		100.1	6.17	100.2	100.0	300.3

* Sum of relative frequency, relative density and relative dominance.

** Includes American elm and Slippery elm.
Other species present listed in order of decreasing importance values: Deciduous holly, Red maple, Texas sugarberry.

Appendix B-1 Area 6. Size classes (dbh) of plant species located in Site 13 (shallow swamp east of north heronry)

Species	Size classes (cm)									
	1-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	90
Green ash	62	2								
Cottonbush	57									
Eastern cottonwood							1			
Black willow	11									
Water locust	6	1	1							
Water elm	11									
Tupelo	1			1						
Roughleaf dogwood	11									
Elm spp.*	2	1								
Overcup oak	1									
Others**	4									
Total	166	4	1	1			1			

* Includes American and Slippery elm.

** See previous page for other species present.

Appendix B-1 . Area 6. Frequency, density and dominance data for plant species located in Site 14 (shallow swamp-east of middle heronry).

Species	Frequency	Relative Frequency	Density No./Plot	Relative Density	Relative Dominance	Importance Value*
Green ash	69.2	28.7	6.85	70.4	36.1	135.2
Black willow	29.5	12.2	.29	3.0	27.5	42.7
Button bush	47.4	19.7	1.18	12.1	3.3	35.1
Water elm	25.6	10.6	.49	5.0	11.4	27.0
Tupelo	12.8	5.3	.21	2.1	6.0	13.4
Water hickory	9.0	3.7	.13	1.3	7.9	12.9
Persimmon	14.1	5.9	.18	1.8	.4	8.1
Sweetgum	3.8	1.6	.04	.4	3.2	5.2
Texas sugarberry	3.8	1.6	.05	.5	3.5	4.6
Elm spp.	6.4	2.7	.09	.9	.1	3.7
Other**	--	7.9	.22	2.2	1.6	11.7
Totals		99.9	9.73	99.7	100.0	299.6

* Sum of relative frequency, relative density,and relative dominance.

** Other species present listed in order of decreasing importance values: Water locust, Rattlebush, Deciduous holly, Foresteria, Willow oak, Chinese sallow tree, Overcup oak, Cedar elm.

Appendix B-1 Area 6. Size classes (dbh) of plant species located in Site 14 (shallow swamp - east of middle heronry)

Species	Size classes (cm)									
	1-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	90
Green ash	513	17	3	1						
Black willow	4	12	5	1	1					
Buttonbush	92									
Water elm	26	11	1							
Tupelo	7	9								
Water hickory	5	3	1	1						
Persimmon	14									
Sweetgum	2			1						
Texas sugarberry	3		1							
Elm spp.	7									
Other*	15	2								
Total	688	54	11	4	1					

* See previous page for other species present.

Appendix B-1 Area 6. Frequency, density and dominance data for plant species located in Site 15 (shallow swamp south of island)

Species	Frequency	Relative Frequency %	Density No./Plot	Relative Density %	Relative Dominance %	Importance Value*
Willow oak	29.2	25.7	0.57	26.0	37.3	89.0
Button bush	27.9	24.6	0.84	38.5	3.5	66.6
Cedar elm	16.9	14.9	0.24	10.9	23.0	48.8
Water hickory	5.8	5.1	0.06	3.0	20.3	28.4
Green ash	12.3	10.9	0.22	10.1	1.7	22.7
Overcup oak	2.6	2.3	0.03	1.2	7.0	10.5
Black willow	3.2	2.9	0.05	2.1	5.3	10.3
Deciduous holly	5.2	4.6	0.07	3.3	0.5	8.4
Persimmon	3.9	3.4	0.05	2.1	0.6	6.1
Hawthorn	3.2	2.9	0.03	1.5	0.3	4.7
Others**		2.7				
Total	---	100.2	2.20	100.2	100.0	300.4

* Sum of relative frequency, relative density, and relative dominance.

** Other species present listed in order of decreasing importance values: Pecan, Southern red oak, Texas sugarberry.

Appendix B-1 Area 6. Size classes (dbh) of plant species located in Site 15 (shallow swamp south of island)

Species	Size classes (cm) 1-10	11-20	21-30	31-40	41-50	51-60	61-70	71-80	81-90	90
Willow oak	55	27	5		1					
Buttonbush	130									
Cedar elm	7	28	2							
Water hickory	3	3	2		1	1				
Green ash	33	1								
Overcup oak	1		3							
Black willow	4	2	1							
Deciduous holly	11									
Persimmon	6	1								
Hawthorn	5									
Others*	5									
Total	260	62	13		2	1				

* See previous page for other species present.

Appendix B-2

CHAMPION BIG TREES IN TEXAS*
(within the Trinity River Basin)

WHITE ASH (Fraxinus americana) 1968 Location: Polk Co.
Circumference 150" Height 116' Crown Spread 66' Index 282½
Owner: Alabama-Coushatta Indian Reservation, Livingston, Texas

RIVER BIRCH (Betula nigra) 1967 Location: Polk Co.
Circumference 113" Height 84' Crown Spread 56' Index 211
Owner: Robert Willis, Livingston, Texas

RUSTY BLACKHAW (Viburnum rufidulum) 1965 Location: Leon Co.
Circumference 26" Height 28' Crown Spread 24' Index 60
Owner: O.C. Shaw, Star Route, Buffalo, Texas

OHIO BUCKEYE (Aesculus glabra) 1970 Location: Houston Co.
Circumference 21" Height 20' Crown Spread 22' Index 46½
Owner: Mrs. Ruth Ballew, Avenue 2, Huntsville, Texas

GUM BUMELIA (Bumelia lanuginosa) 1964 Location: Freestone Co.
Circumference 70" Height 51' Crown Spread 41' Index 131½
Owner: Homer P. Bonner, Streetman, Texas

ALLEGHENY CHINKAPIN (Castanea pumila) 1970 Location: Houston Co.
Circumference 228" Height 46' Crown Spread 72' Index 292
Owner: S. D. Anderson, Rt. 1, Crockett, Texas

HACKBERRY (Celtis occidentalis) 1972 Location: Liberty Co.
Circumference 172" Height 55' Crown Spread 81' Index 247½
Owner: Mr. A. W. Waldman, 2495 McFaddin, Beaumont, Texas

BLACK HICKORY (Carya texana) 1964 Location: Hardin Co.
Circumference 112" Height 90' Crown Spread 86' Index 223½
Owner: Kirby Lumber Corp., Houston, Texas

WATER HICKORY (Carya aquatica) 1967 Location: Polk Co.
Circumference 106" Height 130' Crown Spread 69' Index 253½
Owner: Alabama-Coushatta Indian Reservation, Livingston, Texas

AMERICAN HOLLY (Ilex opaca) 1964 Location: Liberty Co.
Circumference 160" Height 53' Crown Spread 61' Index 228½
Owner: A. L. Rives, Hardin, Texas

TEXAS HONEYLOCUST (Gleditsia texana) 1972 Location: Henderson Co.
Circumference ? Height ? Crown Spread ? Index ?
Owner: Stevens Lake Ranch

EASTERN COTTONWOOD (Populus deltoides) 1970 Location: Houston Co.
Circumference 273" Height 130' Crown Spread 93' Index 426½
Owner: W. G. Breazeale, College Station, Texas

* Texas Forest Service. 1972. Registry of Champion Big Trees in Texas. Texas Forest Service, College Station, Texas.

Appendix B-2 (cont.)

DEVIL'S WALKINGSTICK (Aralia spinosa) 1970 Location: Houston Co.
Circumference 10" Height 36' Crown Spread 15' Index 49 3/4
Owner: Dr. John Wootters, 405 E. Bell St., Crockett, Texas

CEDAR ELM (Ulmus crassifolia) 1971 Location: Limestone Co.
Circumference 98" Height 94' Crown Spread 50' Index 204½
Owner: Glen R. Henderson, Rockdale, Texas

WINGED ELM (Ulmus alata) 1964 Location: Leon Co.
Circumference 120" Height 64' Crown Spread 91' Index 206½
Owner: Charles McMichen, Centerville, Texas

SUGAR MAPLE (Acer saccharum) 1969 Location: Polk Co.
Circumference 80" Height 98' Crown Spread 60' Index 193
Owner: Alabama-Coushatta Indian Reservation, Livingston, Texas

SOUTHERN MAGNOLIA (Magnolia grandiflora) 1969 Location: San Jacinto Co.
Circumference 198" Height 91' Crown Spread 69' Index 306½
Owner. U. S. Forest Service, Box 817, Cleveland, Texas

WHITE MULBERRY (Morus alba) 1969 Location: Tarrant Co.
Circumference 110" Height 45' Crown Spread 55' Index 168 3/4
Owner: Mrs. John F. Utter, Rt. 3, Box 392, Arlington, Texas

BLUEJACK OAK (Quercus incana) 1972 Location: Freestone Co.
Circumference ? Height ? Crown Spread ? Index ?
Owner: W. L. Lott, Fairfaild, Texas

LAUREL OAK (Quercus laurifolia) 1969 Location: Polk Co.
Circumference 93" Height 124' Crown Spread 76' Index 236
Owner: Alabama-Coushatta Indian Reservation, Livingston, Texas

SHUMARD OAK (Quercus shumardii) 1968 Location: Polk Co.
Circumference 182" Height 120' Crown Spread 92' Index 324 3/4
Owner: Alabama-Coushatta Indian Reservation, Livingston, Texas

PECAN (Carya illinoensis) 1967 Location: Parker Co.
Circumference 221" Height 110' Crown Spread 110' Index 358.8
OWner: Malbrey Oglesby, Weatherford, Texas

COMMON PERSIMMON (Diospyros virginiana) 1964 Location: Leon Co.
Circumference 140" Height 58' Crown Spread 57' Index 212½
Owner: C. L. Cadenhead, Buffalo, Texas

PLANTERTREE (Planera aquatica) 1969 Location: Houston Co.
Circumference 85.2" Height 38' Crown Spread 32' Index 131
Owner: U.S. F.S.--Davy Crockett National Forest, P.O. Box 969, Lufkin, Texas

FLAMELEAF SUMAC (Rhus copallina) 1964 Location: Freestone Co.
Circumference 24" Height 27' Crown Spread 21' Index 56½
Owner: T. R. Childs, Fairfield, Texas

CHINESE TALLOWTREE (Sapium sebiferum) 1967 Location: Polk Co.
Circumference 103" Height 40' Crown Spread 66' Index 159½
Owner: Goodrich Independent School District, Goodrich, Texas

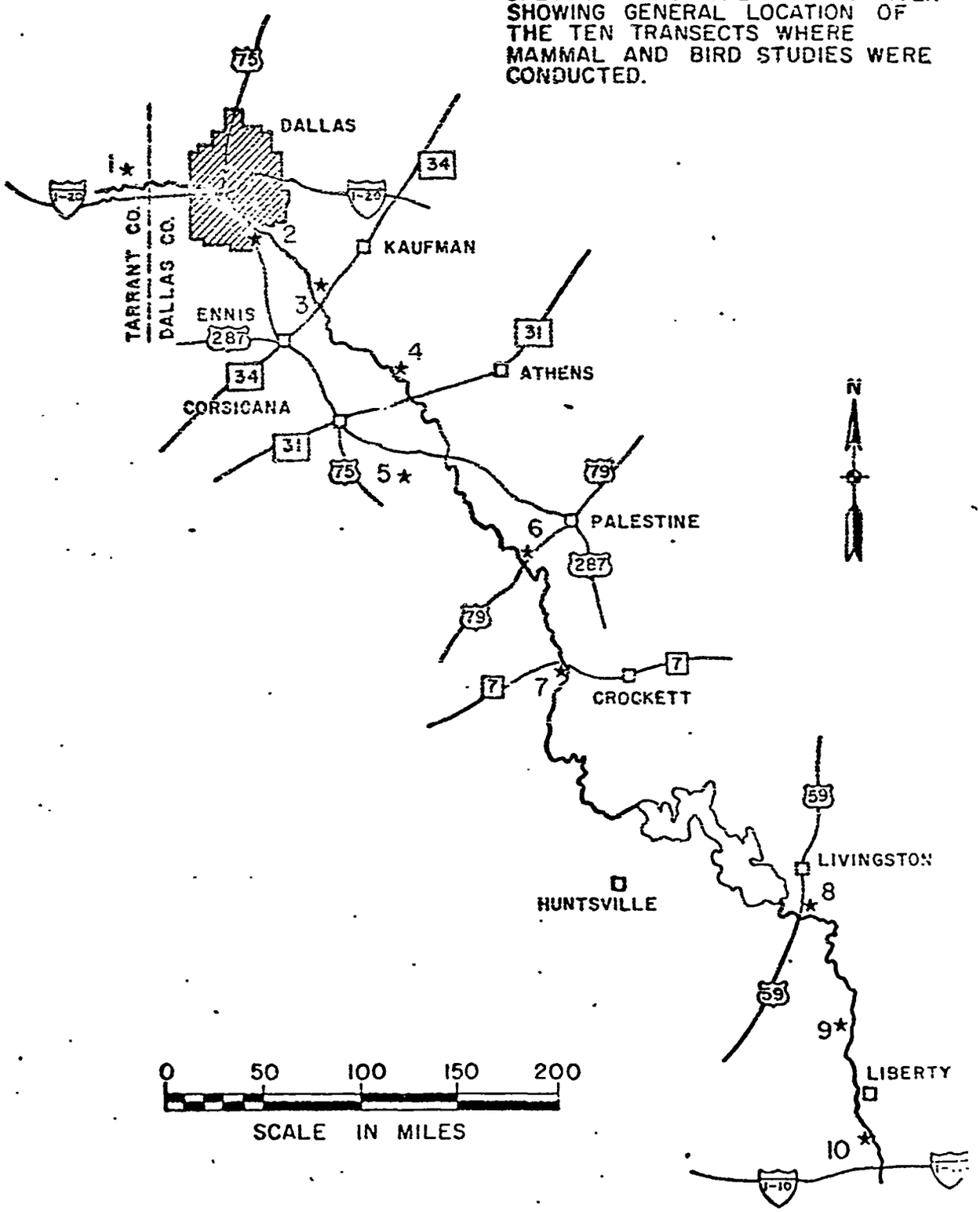
Appendix B-2 (cont.)

WATERLOCUST (Gleditsia aquatica) 1972 (new champion) Location: Madison Co
Circumference ? Height ? Crown Spread ? Index ?
Owner: R. Clint Wakefield; 1624 E. Main, Madisonville, Texas

YAUPON (Ilex vomitoria) 1964 Location: Liberty Co.
Circumference 46" Height 32' Crown Spread 37' Index 87½
Owner: B. H. Whittington, Devers, Texas

APPENDIX B-3

SKETCH MAP OF THE TRINITY RIVER SHOWING GENERAL LOCATION OF THE TEN TRANSECTS WHERE MAMMAL AND BIRD STUDIES WERE CONDUCTED.



Transect No. 1

Location: extreme eastern Tarrant County, just south of the Greater Southwest International Airport, on the north side of the Trinity River and on the east side of Highway 360. Starting point: about 200 meters east of Highway 360 and 30 meters south of a railroad track. Habitat description: rather hilly topography; scrub oaks and scattered mesquite on upland sites; open cedar elm forests on the narrow river floodplain; large cottonwoods and willows along the river; frequent grassy or scrubby clearings. General comments: very heavy human use, principally motorbike riding and horseback riding; much noise disturbance from railroad trains and from airplanes landing and taking off at the airport; light livestock grazing by horses in the eastern part of the study area; frequent target shooting and "pot-shooting along the river; the transect runs in a general eastward direction between the river (touching it at one point) and the main E-W railroad track.

Transect No. 2

Location: Dallas County, Fin and Feather Club on the southeast side of Dallas on the west side of the river just north of the Dowdy Ferry Road bridge. Starting point: north side of the Fin and Feather Club lake, about one mile north of the main clubhouse. Habitat description: open, heavily cutover floodplain forest dominated by cedar elms and oaks; many large cottonwoods were recently removed; frequent piles of brush; little ground cover; very homogeneous habitat. General comments: the transect parallels the river for most of its length, following rather closely a bulldozed track which lies between the river and a dike along the shore of the Fin and Feather Club lake; for the first ten stations the transect proceeds northerly toward the river, crossing the dike; the transect then turns right and follows the river downstream (touching the river bank at two points), curving gradually almost 180° around to the right; there is no livestock grazing; during the open season squirrels and waterfowl are extensively hunted.

Transect No. 3

Location: Kaufman County, "Flying A" Ranch just west of Rosser on the east side of the river about 1 mile downriver from the mouth of the East Fork of the Trinity River. Starting point: top of the river levee about 1-1/2 miles west of a new ranch house owned by Fred Alford, Jr. The starting point lies on the levee about 300 meters NW of where a farm road climbs up on the levee. Habitat description: principally cedar-elm forest on the river floodplain; the first 30 stations follow the top of the levee, which is cleared and is grown up in grasses and weeds; large open fields and pastures lie within 100 meters of the northeast side of the levee (away from the river), although the levee

itself on this side is bordered by a narrow strip of forest (about 75-100 meters wide); within the study area all of the land lying between the levee and the river (a rather wide area of about 1,200 meters) is forested. General comments: overall quality of the forest rather poor, but fairly good woody understory and grass ground cover; no livestock grazing during the duration of this study; scattered wet depressions and sloughs present on the floodplain; heavy black clay soil; no Spanish moss.

Transect No. 4

Location: Henderson County, Bruce Smith Ranch about nine miles northwest of Trinidad, approximately three miles upriver from the mouth of the outflow from Cedar Creek Reservoir. Starting point: about 50 meters from the river bank near a small hayshed where a vehicle track comes down to the river along a cleared strip through an extensively wooded area; there is a small clearing adjacent to the river bank at this site, which is the only non-forested area on the bank itself for several miles in either direction on this side of the river; just above the starting point the river makes a right angle bend from east to south, and then 3/4 of a mile downriver the river makes a wide bend to the left and flows in a northeasterly direction briefly before turning again, to the southeast. Habitat description: except for the small clearing at the beginning, the whole transect line traverses an extensive floodplain woodland dominated by cedar-elm. General comments: rather open forest with fairly mature trees (but no Spanish moss); many sloughs and wet depressions; heavy grazing by cattle except when too wet; sticky black clay soil; the transect parallels the river for most of its length, touching the bank at one point.

Transect No. 5

Location: extreme northern Freestone County; Neal farm one mile south of the New Hope Church (on FM Road 416), approximately nine miles ENE of Streetman and 8-1/2 miles WSW of Highway 287 bridge over the Trinity River. Starting point: near a small intermittent stream about 100 meters west of the Neal trailer home; to get to the Neal farm go SSE on a gravel road which leads off FM 416 just east of the New Hope Church (there is a very short jog initially and another access to FM 416); in about 1/2 mile turn right (the gravel road continues on SSE) on another gravel road; this road will angle to the left (south) in less than 1/2 mile, and immediately thereafter the Neal trailer home will be on the right. Habitat description: upland farmland lying on a low rise between Tehuacana and Richland creeks (the study areas lies above the flood pool elevation of the proposed Tennessee Colony Reservoir); predominantly pastures and cropland; a narrow belt of cutover riverine woodland borders a small intermittent stream; scattered junipers in old neglected fields. General comments: banks of the intermittent stream rather steep in places; numerous small eroded gulleys along the upper portions of the stream; a few large mature trees (elm,

pecan, hickory, and oak) remain in the woodland belt along the creek; scattered trees and thickets along the fencerows; all areas lightly to heavily grazed by cattle (except one large plowed field adjacent to the transect).

Transect No. 6

Location: Anderson County just north of Highway 79/84 bridge over the Trinity River, on the east side of the river approximately nine miles southwest of Palestine. Starting point: about 700 meters north of the highway and 250 meters east of the river, at a point in an old weedy field 150 meters south of a small (5 acre) isolated patch of forest on the river floodplain. Habitat description: old neglected, ungrazed weedy field and thickets on the river floodplain; two small isolated patches of cutover bottomland forest, each about 5 acres. General comments: this area has apparently had no human use for several years; presently there is no grazing and therefore a relatively good ground voere of grasses, vines, and Rubus exists (except in the two patches of forest where there is very little ground cover); there is a narrow border of trees along some of the fences; the river itself (about 250 meters away) has a narrow belt of woodlands along the near bank; adjacent to the north side of the study area is a pasture heavily grazed by cattle; a small low wet marshy depression and drainage borders the transect area to the east.

Transect No. 7

Location: Leon County, just south of Highway 7 bridge over the Trinity River, on the west side of the river. Starting point: about 250 meters south of the highway and 500 meters west of the river, at a point on the north edge of a small woody slough. Habitat description: principally heavily cutover and grazed floodplain forest dominated by cedar elm; Spanish moss abundant; the forest at the beginning of the transect has been more heavily cleared and is now a scrubby clearing with scattered trees on a low rise in the topography between the slough and river floodplain; between the highway and the start of the transect is a small open heavily grazed pasture with a very small stock pond; an old weedy field borders this pasture to the west. General comments: the forest has only a few large trees and little ground cover; all of the study area is grazed by cattle; much Crataegus in the forest clearings; the transect in general parallels the river for most of the way, touching it at two points; several low wet depressions on the floodplain.

Transect No. 8

Location: southern Polk County; Jones farm on the north side of the Trinity River and east side of Highway 59. Starting point: about one mile east of Highway 59 and 1-1/2 miles north of the Trinity River, on

the east side of McCardell's Lake at a point where a small intermittent stream leaves the lake. Habitat description: cutover woodlands mixed with open pastureland; a large swamp (McCardell's Lake) with some open water and many large tupelo gums borders the transect on the west; at the outlet of this swamp and for about 50 meters downstream (along the transect) is a small marshy area. General comments: all forests are heavily cutover with only a few scattered mature trees and sometimes with a dense thickety woody undergrowth; two cleared pipeline right-of-ways parallel or cross the transect line; all areas are heavily grazed by cattle.

Transect No. 9

Location: upper Liberty County, just south of Highway 162 bridge, about 50 meters from the river bank at a point approximately 100 meters south of a small stream flowing east into the river. Habitat description: mature cutover bottomland hardwood forest on the river floodplain; many scattered large mature oaks; bald cypresses numerous along the edge of a long slough. General comments: forest relatively open with little ground cover; at station 30 the transect line intersects a long water-filled slough bordered by cypresses, then turns left and parallels the near (to the river) edge of the slough for the rest of its length, finishing about 50 meters from the river bank; extremely heavy disturbance by wild pigs throughout the transect area but no cattle grazing during this study; by the end of the study a bulldozed track had been made into the area in preparation for a new housing development; shallow wet depressions and drainageways are common throughout the forest.

Transect No. 10

Location: extreme southern Liberty County, two miles east of the community of Old River (on FM Road 1409), just north of the Chambers County line and about two miles west of the Trinity River. Starting point: about two miles east of FM Road 1409 and 200 meters north of the east end of hard-surfaced road running east (parallel to the county line) from the community of Old River, at a point on a pipeline right-of-way. Habitat description: mostly open bottomland forest with much palmetto, and one large grassy neglected field; two large bayous bordered by cypresses; an open grassy scrubby upland area at the start of the transect (along and adjacent to the pipeline right-of-way). General comments: transect starts in an old field above the wide river floodplain but soon drops down onto the floodplain and runs in a northerly direction, paralleling the west bank of a prominent bayou; eventually the transect crosses this bayou (on an old small concrete bridge) and then shortly thereafter turns southward and runs between this bayou and another major bayou just to the east; all of the bottomland area is very heavily disturbed by wild pigs but no cattle were present during the study period; a good grassy ground cover was present

in parts of the forest.

All habitats at every study area were classified into one of four major categories as shown in Table V-02. At each of the ten transects an estimate was made of the percent contribution of each of the four major habitats to the total study area (study area being defined as that area within 150 meters of all points along the transect line). Habitat percentages were also calculated for each of three arbitrarily designated river sections defined as follows: upper river--transects 1, 2, and 3; middle river--transects 4, 5, 6, and 7; lower river--transects 8, 9, and 10.

Appendix B-3-1 Results of electrofishing samples July 12, September 13, and December 6, 1972 Trinity River at Highway 21 bridge near Midway, Texas [1]

Common Name	Number	% of Number	Weight (pounds)	% Weight	Average Weight (Pounds)
longnose gar	1	.25	.06	.06	.06
gizzard shad	174	44.96	20.16	22.63	.11
river carpsucker	1	.26	.56	.62	.56
spotted sucker	1	.26	.25	.29	.25
carp	4	1.04	13.19	14.80	3.30
red shiner	50	12.91	.14	.15	<.01
yellow bullhead	1	.26	.06	.07	.06
flathead catfish	2	.52	.07	.08	.04
blackstripe topminnow	3	.78	.01	.01	<.01
brook silverside	2	.51	.01	.01	<.01
white bass	6	1.55	6.25	7.02	1.04
largemouth black bass	18	4.65	18.20	20.42	1.01
warmouth	2	.52	.34	.38	.17
redear sunfish	3	.78	.30	.34	.10
bluegill sunfish	22	5.68	1.89	2.12	.09
longear sunfish	67	17.31	2.56	2.87	.04
black crappie	19	4.91	10.96	12.30	.58
white crappie	11	2.85	14.10	15.83	1.28
TOTAL: (18 species)	387	100.00	89.11	100.00	-
Game Fish	56	14.48	49.58	55.65	-
Other Species	331	85.52	39.53	44.35	-

[1] Data supplied by Texas Parks and Wildlife Department personnel.

Appendix B-3-2 Results of electrofishing samples July 11, September 12, and December 5, 1972 Trinity River at Highway 19 bridge crossing[1]

Common Name	Number	% of Number	Weight (pounds)	% Weight	Average Weight (Pounds)
gizzard shad	563	54.88	70.38	46.20	.13
threadfin shad	312	30.40	2.18	1.43	.01
river carpsucker	1	.10	1.38	.90	1.38
carp	10	.97	57.52	34.51	5.26
golden shiner	1	.10	.03	.02	.03
red shiner	2	.19	.01	.01	.10
bullhead minnow	1	.10	.02	.01	
channel catfish	3	.29	8.13	5.34	2.71
black bullhead catfish	2	.20	2.19	1.43	1.10
flathead catfish	1	.10	.50	.33	.50
tidewater silverside	1	.10	.01	.01	.01
brook silverside	30	2.93	.11	.07	<.01
white bass	2	.19	2.56	1.68	1.28
yellow bass	3	.29	.59	.39	.20
largemouth black bass	6	.59	2.99	1.96	.50
warmouth	3	.29	.31	.20	.10
redear sunfish	2	.20	.06	.04	.03
bluegill sunfish	54	5.26	4.85	3.19	.09
longear sunfish	27	2.63	1.69	1.11	.06
white crappie	2	.20	1.78	1.17	.89
TOTAL: (20 species)	1026	100.00	152.34	100.00	-
Game Fish	14	1.36	15.96	10.48	-
Other Species	1012	98.64	136.38	89.52	-

1 Data supplied by Texas Parks and Wildlife Department personnel.

Appendix B-3-3 Results of seine sampling, October 28, 1972 at the Loop 12 and Trinity River bridge

Common Name	Number	% of Number	Total Wt. (grams)	% Weight	Average Wt. (grams)	Average Length (mm)
mosquitofish	11	91.63	4.51	40.60	0.41	27.27
gizzard shad	1	8.37	6.60	59.40	6.60	89.00
TOTAL: (2 species)	12	100.00	11.11	100.00	-	-
Game Fish	0	0	0	0	-	-
Other Species	12	100.00	11.11	100.00	-	-

Appendix B-3-4 Results of seine sampling, October 28,1972 at the Post and Paddock Riding Club

Common Name	Number	% of Number	Total Wt. (grams)	% Weight	Average Wt. (grams)	Average Length (mm)
mosquitofish	3211	99.66	2215.59	98.68	0.69	32.4
red shiner	7	.22	7.49	984	1.07	44.0
black bullhead catfish	2	.06	14.20	.24	7.10	79.5
gizzard shad	2	.06	8.20	.24	4.10	78.5
TOTAL: (4 species)	3222	100.00	2245.48	100.00	-	-
Game Fish	0	0	0	0	-	-
Other Species	3222	100.00	2245.48	100.00	-	-

Appendix B-3-5 Results of seine sampling, February 2, 1972 at the Lake Livingston Dam and the Trinity River

Common Name	Number	% of Number	Total Wt. (grams)	% Weight	Average Wt. (grams)	Average Length (mm)
golden shiner	3	1.58	5.70	<.55	1.90	53.00
threadfin shad	43	21.94	78.26	7.55	1.82	45.60
gizzard shad	16	8.12	741.60	71.51	46.35	127.60
bullhead minnow	1	.51	970	<.11	.70	32.00
mosquitofish	15	7.65	2.70	<.25	.18	20.10
tidewater silverside	118	60.20	207.68	20.03	1.76	57.70
TOTAL: (6 species)	196	100.00	1036.64	100.00	-	-
Game Fish	0	0	0	0	-	-
Other Species	196	100.00	1036.64	100.00	-	-

Appendix B-3-6 **Results of gill net sampling, February 3,1973 at Lake Livingston Dam and the Trinity River**

Common Name	Number	% of Number	Total Wt. (grams)	% Weight	Average Wt. (grams)	Average Length (mm)
gizzard shad	101	77.96	4529.78	84.52	451.78	258.96
river carpsucker	19	14.62	5674.92	10.51	298.68	220.25
yellow bullhead catfish	1	.77	681.00	1.26	681.00	298.45
black bullhead catfish	1	.77	227.00	<.50	227.00	203.20
black crappie	1	.77	567.50	1.05	567.50	254.00
yellow bass	4	3.08	789.60	1.46	197.40	176.25
golden shiner	1	.77	75.02	<.50	75.02	133.35
bluegill sunfish	1	.77	113.50	<.50	113.50	127.00
lake chubsucker	1	.77	227.00	<.50	227.00	203.20
TOTAL: (9 species)	130	100.00	53985.32	100.00	-	-
Game Fish	1	.77	567.50	1.05	-	-
Other Species	129	99.23	53417.82	98.95	-	-

Appendix B-3-7 Results of seine sampling, February 24,1973, Richland Creek at Texas State Highway 488 bridge

Common Name	Number	% of Number	Total Wt. (grams)	% Weight	Average Wt. (grams)	Average Length (mm)
red shiner	161	100.00	84.4	100.00	.52	249
TOTAL: (1 species)	161	100.00	84.8	100.00	-	-
Game Fish	0	0	0	0	-	-
Other Species	161	100.00	84.4	100.00	-	-

Appendix B-3-8 **Results of seine sampling, February 24, 1973, Trinity River at Texas State Highway 287 bridge**

Common Name	Number	% of Number	Total Wt. (grams)	% Weight	Average Wt. (grams)	Average Length (mm)
golden shiner	1	100.00	.30	100.00	.30	340
TOTAL: (1 species)	1	100.00	.30	100.00	-	-
Game Fish	0	0	0	0	-	-
Other Species	1	100.00	.30	100.00	-	-

Appendix B-3-9 Results of seine sampling, March 4, 1973, approximately 6 miles upstream from Texas State Highway 21 bridge near Hidway, Texas

Common Name	Number	% of Number	Total Wt. (grams)	% Weight	Average Wt. (grams)	Average Length (mm)
mosquitofish	1	<1.0	.30	.30	<1.0	220.00
blackspotted topminnow	1	<1.0	.10	.10	<1.0	210.00
gizzard shad	16	2.7	653.44	40.84	71.7	1300.00
red shiner	356	61.0	174.54	.49	19.1	194.00
mimic shiner	1	<1.0	.10	.10	<1.0	270.00
emerald shiner	1	<1.0	.10	.10	<1.0	240.00
ghost shiner	16	2.7	3.36	.21	<1.0	229.00
bluegill sunfish	5	<1.0	3.60	.72	<1.0	282.00
longear sunfish	5	<1.0	6.70	1.34	<1.0	338.00
bullhead minnow	183	31.0	69.54	.38	7.6	265.00
TOTAL: (10 species)	585	100.00	911.78	-	100.00	-
Game Fish	0	0	0	-	0	-
Other Species	585	100.00	911.78	-	100.00	-

Appendix B-3-10 Results of seine sampling, March 4, 1973, approximately 8 miles upstream from Texas State Highway 21 bridge near Midway, Texas

Common Name	Number	% of Number	Total Wt. (grams)	% Weight	Average Wt. (grams)	Average Length (mm)
red shiner	1338	57.2	307.74	.23	60.8	199.00
bullhead minnow	995	42.5	189.05	.19	37.4	234.00
bluegill sunfish	3	<1.0	1.59	.53	<1.0	253.00
ghost shiner	2	<1.0	.26	.13	<1.0	250.00
white crappie	1	<1.0	7.20	7.20	1.4	680.00
TOTAL: (5 species)	2339	100.00	505.84	-	100.00	-
Game Fish	1	<1.0	7.20	-	1.5	-
Other Species	2338	99.0	498.64	-	98.5	-

Appendix B-3-11 Logarithmic partial correlation of nine environmental variables with the standing crop (pounds per acre) of various species and species groups in reservoirs at the 0.20 confidence level, 0.05 level=*, and 0.01 level=**. Number of reservoirs is listed in parentheses (slightly modified from Jenkins, 1970)

Environmental Variables	Effect Of Standing Crop Positive	Negative
Surface Area (in acres)	pickerel** (40)	bullhead catfishes (87) sunfishes (136) black basses (135)
Mean Depth (in feet)	spotted sucker (48) bluegill (129) longear sunfish** (69) redear sunfish (68) sunfishes	longnose gar** (44) carp (100) buffalofishes** (47) channel catfish (109) largemouth bass (134) white crappie* (102) all sport fishes (139) freshwater drum (57)
Outlet Depth (in feet)	gizzard shad (116) carp carpsuckers (55) buffalofishes* bullhead catfishes catfishes** (124) green sunfish** (74)	spotted sucker**

Appendix B-3-11 (continued)

	largemouth bass white crappie all sport fishes**	
Water Level Fluctuation (mean annual, in feet)	spotted gar (31) flathead catfish (76) black basses white crappie*	gizzard shad* pickerel* carpsuckers redear sunfish* sunfishes
Storage Ratio (mean annual)	bullhead catfishes* channel catfish** redear sunfish largemouth bass white crappie all sport fishes	threadfin shad (61) spotted sucker* flathead catfish* bluegill longear sunfish
Shore Development (at mean pool level)	buffalofishes** carp channel catfish* white bass (73) bluegill all sport fishes*	redear sunfish black crappie (98)
Total Dissolved Solids (in ppm)	longnose gar gizzard shad** threadfin shad carp** carpsuckers** catfishes** white bass**	spotted gar pickerel spotted sucker buffalofishes bluegill warmouth (99) black crappie*

Appendix B-3-11 (continued)

	green sunfish**	
	largemouth bass*	
	white crappie	
Growing Season (frost-free, in days)	threadfin shad**	pickerel*
	channel catfish*	spotted sucker$
	white bass	buffalofishes
	bluegill*	
	redear sunfish**	
	black basses**	
	black crappie$	
Age of Reservoir (in years)	buffalo fishes	pickerel
	channel catfish**	carp
	white bass	cullhead catfishes**
	freshwater drum**	flatheat catfish
		bluegill**
		sunfishes*
		spotted bass* (59)

FISH SPECIES PROFILE #1

Common Name: Largemouth Black Bass

Habitat Preference: This species is widely distributed in rivers and lakes of East Texas and prefers areas of submerged aquatic vegetation, logs, stumps, brush, and underwater rock formations. It is typically found in relatively deep, quiet, soft-bottomed areas. Upper and lower lethal temperatures for this species acclimated at 20°C are 32.5°C and 5.5°C, respectively (Brett, 1956).

Reproduction: This species normally begins spawning in Texas in early spring (February-May) when water temperatures approach 60°F. Circular nests are usually constructed in water 2-8 feet deep on practically any substrate other than soft mud bottoms. In heavily wooded lakes this species has been known to spawn on the top of submerged logs. Females deposit 2000-25,000 eggs in the nest and are then driven away by the male. Fry hatch in 5-10 days, depending upon water temperature, and are then guarded, in a school, by the male for several days. This species may reach sexual maturity and spawn at one year. Life expectancy is estimated to be 6-10 years. Aveaage size is 2-6 pounds.

Food habits:
Young: plankton, small insect larvae, small fish, insects, crayfish, frogs
Adults: larger fish, frogs, crayfish, snakes, etc.

Specializations (Morphological, Physiological, Behavioral, etc.): Protective coloration consisting of bars, blotches, and generally dark color pattern provides concealment; streamlined body for speed in swimming and large mouth for ingestion of large prey; adults may form schools which feed en masse on schools of gizzard and threadfin shad; highly predaceous.

Economic Value: This is the most popular and most sought-after game fish in Texas. This species is also quite edible. More time and money are spent in quest of this fish than any other species of freshwater fish in the state. No commercial fishery exists for this species.

Probable Response to Channelization: This species is adaptable to lake-type sluggish water habitats and probably will not be extremely adversely affected by the

impoundments and canal if suitable spawning substrates are made available or if sufficient numbers of young can be reared and stocked in the system by Texas Parks and Wildlife Department hatcheries located throughout the state. Like most other game fish species the population size will decline as the canal-impoundment system ages. Therefore, short-term effects will probably be positive, while long-term effects will be negative.

FISH SPECIES PROFILE #2

Common Name: Spotted Bass

Habitat Prefere.: This species prefers much the same type environment as the largemouth bass, but is generally considered to be a more riverine species. In addition, it seems to prefer clearer lakes and streams than the largemouth black bass. This fish is native to rivers, natural lakes, and streams of East Texas. From previous work (Hall, 1972) this species appears to be far less numerous than the largemouth bass in the Trinity River drainage system.

Reproduction: Little is known regarding the spawning habits of this species other than the fact that it is a nest-builder. Data from McCune (1971) indicate that this species migrates upstream in the spring to spawn in small tributaries of lakes and rivers. Spawning probably occurs at an earlier date than for the closely related largemouth bass. Average size is usually 1-2 pounds with a maximum of about 5-6 pounds.

Food Habits: Young feed on plankton, insect larvae, small fish, and insects, whereas adults feed primarily on larger fish, crayfish, and frogs.

Specializations (Morphological, Physiological, Behavioral, etc.): Same as for largemouth bass in regard to color pattern, speed, and large mouth, but no data are available on schooling habits in this species.

Economic Value: Highly valued as a food and game fish. No commerical fishery exists for this species.

Probable Response to Channelization: The initial impact on this species will probably be negative since it, presumably, prefers flowing, clear water for day-to-day living and spawning. Locks and dams may impede migration and the lentic nature of the canal and its impoundments may not be conducive to adequate spawning in this species. As with the largemouth bass, the long-term effects will probably be negative.

FISH SPECIES PROFILE #3

Common Name: Bluegill

Habitat Preference: This fish prefers shallow, weedy areas, but will thrive in a variety of habitats. It is widely distributed in the U.S. And is native to the Trinity River system. Adults usually show a preference for deep water, while the young frequent shallower areas. Upper and lower lethal temperatures for this fish acclimated at 20°C, are approximately 31.5°C and 5.0°C, respectively (Brett, 1956).

Reproduction: This species spawns over an extended period of time, beginning when water temperatures reach 65°F and continuing on into the fall. It is quite prolific and overpopulation and stunting may result from the high reproductive potential of this species. Nests are typical "sunfish-type" circular nests and are built on sand or gravel shoals. It is a colonial nester with beds of 100 or more in some areas. A mature female may spawn 100,000 eggs per spawning season. This fish may attain a length of 12 inches and a weight of 1 pound, although the average size is much smaller.

Food Habits: Young normally feed on plankton, small insects, and algae, while adults take insects, crayfish, small fish, and various types of aquatic vegetation.

Specializations (Morphological, Physiological, Behavioral, etc.): One of the most advantageous traits of this species is its high reproductive potential. In addition, males may mate with several females over the extended spawning period. Protective coloration of dark vertical bars on the sides of the body provides for concealment in aquatic vegetation. This species also utilizes many types of food items in its diet.

Economic Value: Highly valued as a food and game fish by many anglers. This is a sporty, but small fish with firm, tasty flesh. No commercial value because of its small size.

Probable Response to Channelization: Probably negative since sand and gravel substrates normally used in spawning may be lacking. The demersal ("heavier than water") eggs produced by this species are not suited for development in mud or silt substrates. Also, if shoreline aquatic vegetation is removed from the canal, little or no protection will be available for this species. High

reproductive potential may partially compensate for some of the handicaps above.

FISH SPECIES PROFILE #4

Common Name: Redear Sunfish

Habitat Preference: The redear sunfish generally prefers deep waters of lakes and streams. This fish also apparently prefers areas of lakes and streams with limited amounts of vegetation. This species is common the Trinity River system (Hall, 1972).

Reproduction: This fish generally spawns in early spring in deeper water than the bluegill and probably does not spawn over a prolonged period of time as does the bluegill. It is a colonial nester and congregates in large schools for spawning. The redear does not overpopulate as readily as the bluegill. Redears may attain a length of 12 inches and a weight of 2 pounds.

Food Habits: Young feed on plankton and adults take snails, bottom organisms, and small fishes.

Specializations (Morphological, Physiological, Behavioral, etc.): This is one of the larger "panfishes" so it is probably not as susceptible to predation as many of the smaller sunfishes. Colonial nesting facilitates reproduction.

Economic Value: Highly desirable food and sport fish. Relatively large size and firm, tasty flesh make this fish one of the most sought after species of the "cane pole" crowd. No commerical value.

Probable Response to Channelization: Probably negative because of the spawning habitat requirements and lower reproductive potential than the bluegill.

FISH SPECIES PROFILE #5

Common Name: Black Crappie

Habitat Preference: This fish is predominately limited to the clear acid waters of East Texas and is typically found around submerged logs, brush, stumps, and aquatic vegetation. It is common in the Trinity River drainage system, although it is less numerous than the closely related white crappie.

Reproduction: Black crappie readily overpopulate waters resulting in large numbers of stunted fish. Spawning occurs in March-April in East Texas waters. Nests are typical circular "sunfish-type". A 10-inch female may spawn 14,000 eggs per spawning season. Water temperatures of approximately 58-64°F are required for spawning. Sexual maturity is usually attained at 2-3 years. Black crappie may nest in gravel areas or on bottom materials muddier than those acceptable to other sunfishes (Eddy and Surber, 1947).

Food Habits: Young usually feed on plankton, small fish, and insects while aquatic and land insects, larger fishes, and crustaceans normally are taken by adults (Harlan and Speaker, 1956; Sigler, 1959). This species is highly predaceous and apparently competes more with the largemouth and spotted basses than with other sunfishes.

Specializations (Morphological, Physiological, Behavioral, etc.): Probably a colonial nester (although data are lacking); adaptable in its food habits; normally found in large schools; quite prolific; dark color and blotches on the sides of the body also provide concealment.

Economic Value: Highly valued as a food and game fish. Crappies are the largest of the so-called "panfishes" and are readily taken by the angler during the spring spawning season. No commercial value.

Probable Response to Channelization: This species adapts well to a lake-type environment and probably would not, initially, be extremely adversely affected by channelization if suitable spawning substrates were made available. Removal of all shoreline brush and vegetation would be detrimental to this species. The long-term effect is negative, as with most other game and sport species.

FISH SPECIES PROFILE #6

Common Name: White Crappie

Habitat Preference: White crappie tolerate turbid conditions better than black crappie (Neal, 1963). They are also generally more tolerant of warm, sluggish waters than black crappie. White crappie usually predominate in waters with pH values over 7.0 (Toole, 1950). They are fond of cover such as aquatic vegetation, logs, brush, etc. They are found in both flowing and still waters. This species is quite common in the Trinity River system.

Reproduction: This fish usually spawns in East Texas from March-July beginning when water temperatures reach 64-68°F. White crappie often spawn near brush piles, stumps, or rock outcroppings (Toole, 1950), but they seem to prefer to deposit their eggs on plant materials (Hansen, 1951; Whiteside, 1964). Sexual maturity is usually attained in 2-3 years. A 10-inch female may produce 25,000 eggs per spawning season. This species has a tendency to overpopulate and become stunted (Goodson, 1966).

Food Habits: Zooplankton, crustaceans, insects and fishes are commonly eaten by both young and adults (Harland and Speaker, 1956; Sigler, 1959). Growth rates of white crappie are significantly reduced in turbid waters (Hall, et al., 1954).

Specializations (Morphological, Physiological, Behavioral, etc.): This species is very prolific and adapts well to alkaline lake waters. They also form schools and are able to remain active and feed at low temperatures (Goodson, 1966). This species is also able to tolerate high water temperatures in southern latitudes. This fish is also adaptable in its food habits and is highly predaceous.

Economic Value: Highly valued as a food and game fish. Easily caught by anglers during the spring spawning season and at night, during summer, under lanterns and floodlights. No commercial fishery exists for this species.

Probable Response to Channelization: A sustained white crappie yield can be expected only if adequate cover is retained in the canal system. If this requirement is met

and if a large forage fish population (e.g., threadfin shad) is present in the system this species should thrive. High turbidity will favor this species to the exclusion of the black crappie. The long-term effect, as for the other game fish species, appears to be negative.

FISH SPECIES PROFILE #7

Common Name: White Bass

Habitat Preference: This species thrives in rivers and larger lakes of East Texas and is common in the Trinity River system. It prefers open water of lakes over sandy shoal areas and ridges. Young are often found in shallow inshore areas. The white bass was originally found in Texas only in Caddo Lake, but has been widely distributed and is now found statewide (McCune, 1971).

Reproduction: The white bass is very prolific and a mature female may produce up to 1 million eggs at one spawning (Moore, 1963). When flowing tributaries are available this species prefers to migrate upstream to spawn. It does, however, spawn over windswept sand and gravel areas of lakes. Fry hatch in 2-3 days and usually reach a size of 8-9 inches the first year.

Food Habits: Adults feed primarily on forage fishes such as gizzard and threadfin shad. Fry feed on plankton, gradually changing to a diet of insects, crustaceans, and fish as they mature. Life expectancy is usually 3-6 years. Average size usually ranges from 1-1-1/2 pounds with a maximum of approximately 5 pounds.

Specializations (Morphological, Physiological, Behavioral, etc.): This species is well-known for its schooling behavior. Schools often feed en masse on schools of forage fishes. The white bass is not easily reared in hatcheries, but stocking is usually unnecessary because of the high reproductive potential. This is a voracious, fast-swimming, fast-growing species.

Economic Value: This species is highly valued as a game and food fish by the fisherman. The flesh is firm and edible. It is readily taken by the sport fisherman on jigs, spoons, spinner baits, minnows, etc. No commercial value.

Probable Response to Channelization: This species adapts well to lake-type habitats, especially when numerous tributaries are present which allow spawning. If access to such tributaries is allowed in the construction of the canal-impoundment system this species will probably thrive

since it is not highly dependent upon shoreline vegetation or other underwater cover. This is an open-water fish with an extremely high reproductive potential, both of which attributes will be advantageous in adapting to a non-flowing or moderately-flowing canal-impoundment system.

FISH SPECIES PROFILE #8

Common Name: Striped Bass

Habitat Preference: This species is an anadromous saltwater fish native to the Atlantic coast of the U.S. There it normally migrates upriver during the spawning season. Striped bass are now present in the Trinity River system where they have been stocked by the Texas Parks and Wildlife Department. This is an open-water, deep-water species of lakes and large rivers.

Reproduction: Spawning occurs in spring in flowing water of streams. Flowing water is necessary to keep the eggs in motion until they hatch, therefore this species requires a flowing river length of approximately 50 miles for successful reproduction. Water temperature of 60°F or slightly higher is required for spawning. Eggs are broadcast in areas with considerable current (Raney, 1952). Sixty hours after fertilization, at 64°F, the eggs hatch. The young reach a length of 9mm ten days after fertilization (Pearson, 1938).

Food Habits: Young striped bass normally feed on small fish and crustaceans while adults feed primarlly upon clupeid (shad-like) fishes (Goodson, 1964; Stevens, 1958).

Specializations (Morphological, Physiological, Behavioral, etc.): This species adapts well to freshwater environments and is able to feed on large forage fishes (e.g., gizzard shad) thus occupying an otherwise vacant niche in most inland freshwater lakes. It is tolerant of a wide range of temperatures. Like the white bass, it forms schools and members of a school normally feed en masse on schools of forage fishes. This is a large (30-40 pounds), fast-growing, fast-swimming, highly predaceous fish.

Economic Value: The striped bass is a highly valued food and game fish in areas where a sufficiently large population density permits a fishery. This species currently is of limited value in the Trinity River system because of its scarcity. No commercial fishery exists in the Trinity River, at present, for this fish.

Probable Response to Channelization: Debatable. Spawning is probably impossible now, before channelization, and further impoundment and consequent reduction of flowing water will further reduce the possibility of spawning. The only method for developing a striped bass fishery in the Trinity River system is by periodic stocking. A high mortality rate in fingerlings is common, therefore it will be difficult to establish this fish within the system. Since the striped bass is an open-water species it may adapt well to the larger lakes of the system and may survive in the deeper waters.

FISH SPECIES PROFILE #9

Common Name: Channel Catfish

Habitat Preference: The channel catfish prefers flowing water of rivers and streams but also adapts well to lake-type environments. It may migrate upstream in swift water since it tends to seek out channels and reacts positively toward currents (Moore, 1963). This fish is common in the Trinity River system.

Reproduction: Spawning usually occurs from May-July in Texas as the water temperature reaches 75°F (McCune, 1971). Spawning areas are sought under large rocks and ledges, in hollow logs, or in holes swept out in mud banks. Artificial containers have also been used with success in fish hatcheries. The number of eggs spawned by a sexually mature female usually ranges upward from 10,000. The male cares for the eggs after spawning.

Food Habits: Omnivorous. The channel catfish feeds on practically any type of organic matter, dead or alive. Common food items taken include fish, freshwater mussels, algae, pondweeds, snails, insects, crayfish, mice, cotton rats, toads, frogs, etc.

Specializations (morphological, Physiological, Behavioral, etc.): The diverse diet is advantageous to this species. The body is streamlined and, thus, well-adapted to fast-flowing waters. Care of the eggs by the male insures a high hatch rate. This species is also quite tolerant of high temperatures and low oxygen levels.

Economic Value: This is one of the most important food and game fishes of the Trinity River system. It is taken year-round by sport and commerical fishermen.

Probable Response To Channelization: As with the other game fish populations there should be a positive effect initially, but a gradual decline in numbers as the impoundments age. Reduction in the number of possible spawning sites in the canal proper may be partially alleviated by the increased number of sites in the larger reservoirs of the system. Migratory habits of this fish will probably assure dispersal throughout the system. The fish is common in the system now and no stocking will be necessary to establish it in the impoundments.

FISH SPECIES PROFILE #10

Common Name: Blue Catfish

Habitat Preference: This species seems to prefer deeper waters of rivers and lakes, coming into the shallower backwaters in the spring (Moore, 1963). It is relatively common in the lower Trinity River, but is rarer upstream. This fish is native to the larger rivers of Texas and has been stocked in many Texas lakes (McCune, 1971).

Reproduction: Little is known regarding the spawning habits of the blue catfish, but it is supposedly similar to the channel catfish in regard to nest site selection, care of eggs by male, etc. This species spawns in Texas in May and June.

Food Habits: The blue catfish feeds primarily on fish, crustaceans, insects, aquatic insect larvae, fresh water mussels, and other living or dead materials. This fish may reach a size of 100 pounds or more.

Specializations (morphological, Physiological, Behavioral, etc.): Same as for channel catfish.

Economic Value: This is a highly valued food and game fish, but is less abundant than the closely-related channel catfish. This fish is taken by sport and commercial fishermen in the Trinity River basin.

Probable Response To Channelization: The effects on this fish are debatable due to the lack of data regarding spawning habits, etc., but presumably it will follow the pattern outlined previously for the channel catfish.

FISH SPECIES PROFILE #11

Common Name: Flathead Catfish

Habitat Preference: this large catfish is commonly found in the large rivers and lakes of Texas and is very common in the Trinity River system. Flatheads generally prefer sluggish, deep waters which have an abundance of logs, undercut banks, brush, etc.

Reproduction: the spawning period of this species, in Texas, usually begins in late May and may extend through August. Males select hollow logs, underwater caves, or rock crevices as nesting sites. The female then deposits her eggs and the male actively defends them until the fry hatch (usually 4-6 days, depending upon water temperature). The fry disperse almost immediately after hatching (McCune, 1971).

Food Habits: fingerlings feed on insect larvae for approximately the first year with a gradual transition to a fish diet. Adults feed almost exclusively on small fish. Adults reach 100 pounds or more and may live 15-20 years or longer.

Specializations (morphological, Physiological, Behavioral, etc.): care of the eggs by the male reduces predation and insures a high hatch rate. The mottled color pattern, particularly in the young, also provides concealment from predators. This species adapts well to large lakes.

Economic Value: this is a highly valued food fish because of its large size, excellent table qualities, and ease of capture (via trotline, hoop net, gill net, rod and reel, etc.). This is one of the most important commercial fishes of the Trinity River system.

Probable Response To Channelization: possibly few adverse effects will accrue to this species since it is adaptable insofar as diet and type of aquatic habitat are concerned. Possible adverse effects may result, however, if suitable nesting sites are not available in the canal-impoundment system. Complete clearing of all timber, removal of shoreline vegetation, and elimination of undercut banks may significantly reduce possible spawning sites for this

species. Some progress has been made in rearing this species in fish hatcheries, therefore an adequate population could, perhaps, be maintained by a stocking program if necessary.

FISH SPECIES PROFILE #12

Common Name: Common Carp

Habitat Preference: This species is found throughout the Trinity River system. It may be found in the mainstream, tributaries, lakes, and oxbows. It was introduced in Texas in the late 1800's (McCune, 1971). This is primarily a warm-water, pollution-tolerant fish. Some preference is shown for sluggish water over fast-flowing streams.

Reproduction: This fish is very prolific. Small (3-5 pound) females may spawn up to 700,000 eggs per spawning season (Moore, 1963). Eggs are strewn about in shallow weedy water. The eggs stick to aquatic vegetation and no care is provided for eggs or young.

Food Habits: The fry feed on plankton while adults are ominvorous. Organic detritus and small bottom organisms are commonly taken as well as small fish and other small, free-swimming aquatic organisms. Growth is usually quite rapid with weights of 50 pounds or more attainable. This species may live up to 47 years in captivity (McCune, 1971).

Specializations (morphological, Physiological, Behavioral, etc.): Omnivorous food habits, high reproductive potential, and the ability to live in practically any kind of aquatic habitat (including even brackish water along the Texas coast) make this one of the hardiest and most widespread fishes in the Trinity River system.

Economic Value: This species is generally held in low esteem, but sport and commercial fishermen do frequently take this species. The numerous sharp intermuscular bones and "muddy taste" usually deter the would-be consumer, but it is eaten by some. This fish is large; easily taken in gill, hoop, and trammel nets; and is marketed by commercial fishermen along the lower Trinity River.

Probable Response To Channelization: This species will probably thrive in a canal-impoundment system, since it is highly adaptable to nearly all aquatic habitats.

FISH SPECIES PROFILE #13

Common Name: Smallmouth Buffalo

Habitat Preference: This species normally prefers deeper waters of rivers and lakes, but generally shows a preference for flowing water (Moore, 1963). This fish is common in the mainstream and oxbow lakes of the lower Trinity River.

Reproduction: Spawning occurs in the spring at water temperatures of 60-65°F. The eggs are randomly strewn in shallow water over aquatic vegetation or mud bottoms. The eggs hatch in 7-14 days. No parental care is provided during or after the incubation period. Large numbers of eggs are produced by mature females.

Food Habits: The diet includes algae, seeds of aquatic plants, small mollusks, insect larvae, and numerous species of bottom organisms. Maximum size for this fish is approximately 15-20 pounds.

Specializations (morphological, Physiological, Behavioral, etc.): The diverse diet is beneficial to this species as is the high reproductive potential.

Economic Value: his is one of the most important commercial fishes of the lower Trinity River. It is occasionally taken by anglers, but more often is taken by commercial fishermen using gill, hoop, and trammel nets. This fish has numerous intermuscular bones, but the flesh is firm and tasty.

Probable Response To Channelization: rthe overall impact upon this species will probably be negative since it seems to prefer deep, flowing water rather than sluggish, shallow waters. It apparently does not adapt well to large impoundments. This species is currently neither propagated nor stocked by the Texas Parks and Wildlife Department, therefore natural stocks may not be able to establish and maintain large populations in the canal-impoundment system.

FISH SPECIES PROFILE #14

Common Name: Freshwater Drum

Habitat Preference: Ubiquitous. This fish adapts well to impoundments and is found in all major rivers of Texas, including the Trinity. This fish is usually found in medium to shallow depth water with soft bottoms (Minckley, 1963).

Reproduction: No nest is constructed by this species. The pelagic (free-floating) eggs are broadcast over gravel or clay bottoms. Drum usually spawn in large schools during May and June. No care is provided for eggs or fry.

Food Habits: The fry normally feed on plankton while adults feed upon aquatic insects, crustaceans, snails, clams, small fish, etc. (Moore, 1963). This fish may attain a weight of 40 pounds or more.

Specializations (morphological, Physiological, Behavioral, etc.): This fish is highly adaptable to diverse aquatic environments. The diverse diet and high reproductive potential are also advantageous traits.

Economic Value: Firm, white flesh with few bones makes the demand for this fish quite high. This is one of the top commercial species taken from the Trinity River and is marketed under the names of "gou", "gasper-gou", "rockfish", etc. This fish is also taken by sport fishermen on live baits, such as minnows and worms. The large size and ease of capture make the freshwater drum one of the highly sought commercial fishes of the river.

Probable Response To Channelization: Probably positive. This fish adapts well to impounded water and is found from the headwaters of the Trinity to the Gulf. The diverse diet, tolerance of turbid water, and high reproductive potential are factors which should favor this species in a canal system.

FISH SPECIES PROFILE #15,16

Common Name: Longnose Gar & Alligator Gar

Habitat Preference: Gars, in general, prefer warm lakes and slow-moving streams. During the summer they frequent the surface waters and lie motionless for minutes at a time (Suttkus, 1963). In streams below barriers (such as Lake Livingston Dam) large numbers of longnose gar can be seen basking or surfacing for air on warm sunny days. Alligator gars may winter in deep holes of the lower Trinity River or Trinity Bay (Lloyd Brannen, pers. Comm.). Both species are very common in the Trinity River.

Reproduction: Spawning takes place in fresh water from April to mid-July. Gar move into the shallows to spawn with each female accompanied by 1-4 males. Eggs are strewn about and fertilization is external. Both eggs and milt are poisonous. The eggs are adhesive and adhere to the substratum. No care is provided for the eggs or young.

Food Habits: Gar feed primarily on other fishes, most of which are forage fishes such as gizzard shad. In the lower Trinity River blue crabs and striped mullet are common food items. Garbage has also been reported as part of the diet by Suttkus (1963). Alligator gars weighing over 300 pounds have been reported and longnose gars over 100 pounds are commonly taken from the lower Trinity River.

Specializations (morphological, Physiological, Behavioral, etc.): Gars are ancient fishes which show a multitude of advantageous traits such as thick, ganoid scales which completely cover the body; an air-breathing, highly vascularized swimbladder; numerous large, sharp teeth; high reproductive potential; poisonous sex products; diverse diet; etc.

Economic Value: Both longnose and alligator gars are commonly taken and marketed by commercial fishermen along the lower Trinity River. These are very important commercial fishes and many are processed into fish sticks, fish cakes, etc., by various seafood processors (Hall, 1972).

Probable Response To Channelization: The longnose gar thrives in a shallow lake-type environment, therefore its response should be positive. The alligator gar, however, does not appear to be quite as adaptable to large impoundments and thus may not fare quite as well as the longnose and spotted gars. Both the longnose and alligator gar, however, should establish large populations within the confines of the canal-impoundment system.

FISH SPECIES PROFILE #17.18

Common Name: Gizzard Shad & Threadfin Shad

Habitat Preference: Both these species are commonly found in flowing, as well as sluggish waters and both abound in the Trinity River system. Both appear to favor open, deep, clear water; and abrupt shoreline, little or no shoreline vegetation, and waters which contain large plankton populations (Miller, 1960).

Reproduction: Spawning season for both species is from April-July at temperatures ranging from 50-70°F (Jester and Jensen, 1972). Various substrates such as sandy, gravel-covered bars; silt beds; etc, are utilized. Water depths used for spawning range from 6 inches to 50 feet. Eggs are adhesive and some sink to the bottom while others float. Spawning normally occurs in large schools with much rolling and tumbling in evidence. No parental care is provided for eggs or fry. Mature females may spawn up to 70,000 eggs per season.

Food Habits: Numerous food items are taken by these filter-feeding fishes, such as algae, cladocerans, plant debris, water mites, aquatic insect larvae, small mollusks, small fish, etc., (Jester and Jensen, 1972). Gizzard shad may attain a length of 18 inches while threadfin shad seldom exceed 12 inches.

Specializations (morphological, Physiological, Behavioral, Etc.): The tremendous reproductive potential and diverse diet are the major factors which assure the success of these two species. Schooling may also be advantageous.

Economic Value: These small, bony fishes are not usually eaten by humans, but they do serve as a basic link in the aquatic food chain. Both are excellent forage fishes and serve in the diets of most, if not all, game fishes (and some rough fishes) in the Trinity River system. No commercial fishery or sport fishery exists for these two species.

Probable Response To Channelization: Probably positive. Fluctuating water levels favor gizzard shad production and and increase in total dissolved solids favors both species

(Jenkins, 1970). Both species should flourish in a canal-impoundment system. The richness (high organic content) of the waters of this system should assure good growth conditions for both species.

Appendix B-4 Large mammals and mammal signs along a 1,500 meter transect on censuses at Study Areas 1-10

Study Area 1*	Maximum and Total Numbers									
	Individuals Seen or Heard		Tracks		Feces		Nests		Other[1]	
Species	Max.	Tot.	Max.	Tot.	Max.	Tot.	Max.	Tot.	Max.	Tot.
opossum *Didelphis marsupialis*	1	2			2	2				
armadillo *Dasypus novemcinctus*	2	3	5	13			7	16	14	34
swamp rabbit *Sylvilagus aquaticus*	7	10			4	13				
cottontail rabbit *Sylvilagus floridanus*	1	2			4	6				
fox squirrel *Sciurus niger*	2	6								
fox and/or gray squirrel							6	11		
southern flying squirrel *Glaucomys volans*							3	8		
beaver *Castor canadensis*			1	2					1	2
nutria *Myocastor coypus*			1	1						
coyote *Canis latrans*	1	1			1	3				
coyote and/or dog			7	15						
gray fox *Urocyon cinereoargenteus*	1	2	2	2	1	1				

[1] Diggings, gnawings, or food remains.

* Censused on December 3, January 15, March 17, and May 12 1972-1973.

Appendix B-4 (cont.)

Study Area 1 (Cont.) Species	Maximum and Total Numbers									
	Individuals Seen or Heard		Tracks		Feces		Nests		Other[1]	
	Max.	Tot.	Max.	Tot.	Max.	Tot.	Max.	Tot.	Max.	Tot.
raccoon *Procyon lotor*			7	19						
striped skunk *Mephitis mephitis*	2	3								
Total		29		60		25		35		28
Average Number Per Census	7.2		15.0		6.2		8.8		7.0	

[1] Diggings, gnawings, or food remains.

Appendix B-4 (cont.)

Study Area 2* Species	Maximum and Total Numbers									
	Individuals Seen or Heard		Tracks		Feces		Nests		Other[1]	
	Max.	Tot.	Max.	Tot.	Max.	Tot.	Max.	Tot.	Max.	Tot.
opossum *Didelphis marsupialis*			2	3						
armadillo *Lasypus novemcinctus*	1	1	3	5			1	2	5	8
swamp rabbit *Sylvilagus aquaticus*	2	3	5	13	18	37				
fox squirrel *Sciurus niger*	2	3								
fox and/or gray squirrel			5	12			5	11	11	29
beaver *Castor canadensis*			4	5	1	1			2	4
nutria *Myocastor coypus*									2	3
coyote *Canis latrans*					3	4				
coyote and/or dog			5	13						
gray fox *Urocyon cinereoargenteus*			1	2						
raccoon *Procyon lotor*			7	10	1	1				
Total		7		63		43		13		44
Average Number Per Census	2.3		21.0		14.3		4.3		14.7	

[1] Diggings, gnawings, or food remains.

* Censused on February 24, March 18, and April 7, 1973.

Appendix B-4 (cont.)

Study Area 3* Species	Maximum and Total Numbers									
	Individuals Seen or Heard		Tracks		Feces		Nests		Other[1]	
	Max.	Tot.	Max.	Tot.	Max.	Tot.	Max.	Tot.	Max.	Tot.
opossum *Didelphis marsupialis*			3	6	3	3				
armadillo *Dasypus novemcinctus*	4	7	7	19			4	11	13	37
swamp rabbit *Sylvilagus aquaticus*	1	3	5	7	7	24				
cottontail rabbit *Sylvilagus floridanus*	2	2	2	3	2	9				
fox squirrel *Sciurus niger*	5	8								
fox and/or gray squirrel							11	30	8	12
beaver *Castor canadensis*			4	8			3	7	10	25
eastern woodrat *Neotoma floridana*							2	3		
coyote *Canis latrans*	6	11			3	8				
coyote and/or dog			14	35						
gray fox *Urocyon cinereoargenteus*			2	2						
raccoon *Procyon lotor*			9	22	1	1				

[1] Diggings, gnawings, or food remains.

* Censused on October 13, December 2, January 28, March 3, and May 12, 1972-1973.

Appendix B-4 (cont.)

Study Area 3 (Cont.) Species	Maximum and Total Numbers									
	Individuals Seen or Heard		Tracks		Feces		Nests		Other[1]	
	Max.	Tot.	Max.	Tot.	Max.	Tot.	Max.	Tot.	Max.	Tot.
striped skunk *Mephitis mephitis*	1	2	7	12						
bobcat *Lynx rufus*			1	2						
white-tailed deer *Odocoileus virginianus*			2	4						
Total		33		120		45		51		74
Average Number Per Census	6.6		24.0		9.0		10.2		14.8	

[1] Diggings, gnawings, or food remains.

Appendix B-4 (cont.)

Study Area 4*	Maximum and Total Numbers									
	Individuals Seen or Heard		Tracks		Feces		Nests		Other[1]	
Species	Max.	Tot.	Max.	Tot.	Max.	Tot.	Max.	Tot.	Max.	Tot.
opossum *Didelphis marsupialis*			2	3						
armadillo *Dasypus novemcinctus*			7	17					10	31
swamp rabbit *Sylvilagus aquaticus*	4	7			8	25				
cottontail rabbit *Sylvilagus floridanus*	2	3								
fox squirrel *Sciurus niger*	6	10								
fox and/or gray squirrel							6	15		
beaver *Castor canadensis*			1	1					7	15
eastern woodrat *Neotoma floridana*							1	3		
coyote *Canis latrans*	3	4			1	2				
coyote and/or dog			4	10						
gray fox *Urocyon cinereoargenteus*			1	1						
raccoon *Procyon lotor*			12	29	1	1				

[1] Diggings, ganwings, or food remains.

* Censused on October 8, November 11, April 8, and May 13, 1972-1973.

Appendix B-4 (cont.)

Study Area 4 (Cont.) Species	Maximum and Total Numbers									
	Individuals Seen or Heard		Tracks		Feces		Nests		Other[1]	
	Max.	Tot.	Max.	Tot.	Max.	Tot.	Max.	Tot.	Max.	Tot.
striped skunk *Mephitis mephitis*			1	2						
mink *Mustela vison*			1	1						
bobcat *Lynx rufus*			1	1						
white-tailed deer *Odocoileus virginianus*	8	19	11	33	3	9				
Total		43		98		37		18		46
Average Number Per Census	10.8		24.5		9.2		4.5		11.5	

[1] Diggings, gnawings, or food remains.

Appendix B-4 . (cont.)

Study Area 5*	Maximum and Total Numbers									
	Individuals Seen or Heard		Tracks		Feces		Nests		Other[1]	
Species	Max.	Tot.	Max.	Tot.	Max.	Tot.	Max.	Tot.	Max.	Tot.
eastern mole *Scalopus aquaticus*			1	1						
armadillo *Dasypus novemcinctus*	6	8	3	6			6	13	7	17
swamp rabbit *Sylvilagus aquaticus*	1	1			3	6				
cottontail rabbit *Sylvilagus floridanus*	4	5			2	2				
fox and/or gray squirrel							7	15		
plains pocket gopher *Geomys bursarius*							12	31		
coyote *Canis latrans*	1	1				1	3			
coyote and/or dog			6	17						
raccoon *Procyon lotor*			4	9	1	1				
striped skunk *Mephitis mephitis*			1	1						
white-tailed deer *Odocoileus virginianus*	8	12	21	53						
Total		27		87		12		59		17
Average Number Per Census	6.8		21.8		3.0		14.8		4.2	

[1] Diggings, gnawings, or food remains

* Censused on January 14, February 25, March 25, and April 19, 1973.

Appendix B-4 (cont.)

Study Area 6*	Maximum and Total Numbers									
	Individuals Seen or Heard		Tracks		Feces		Nests		Other[1]	
Species	Max.	Tot.	Max.	Tot.	Max.	Tot.	Max.	Tot.	Max.	Tot.
opossum *Didelphis marsupialis*			1	1						
armadillo *Dasypus novemcinctus*	1	1	3	5			3	7	5	10
swamp rabbit *Sylvilagus aquaticus*	2	4			7	18				
cottontail rabbit *Sylvilagus floridanus*	2	3			2	5				
fox and/or gray squirrel							6	13	2	2
southern flying squirrel *Glaucomys volans*									3	4
coyote *Canis latrans*					2	2				
coyote and/or dog			9	19						
raccoon *Procyon lotor*			6	14						
striped skunk *Mephitis mephitis*	2	2	2	2						
white-tailed deer *Odocoileus virginianus*			8	22	4	7				
Total		10		63		32		20		16
Average Number Per Census	2.5		15.8		8.0		5.0		4.0	

[1] Diggings, gnawings, or food remains.

* Censused on November 12, January 27, March 4, and March 30, 1972-1973.

Appendix B-4 (cont.)

Study Area 7*	Maximum and Total Numbers									
	Individuals Seen or Heard		Tracks		Feces		Nests		Other[1]	
Species	Max.	Tot.	Max.	Tot.	Max.	Tot.	Max.	Tot.	Max.	Tot.
opossum *Didelphis marsupialis*	2	2	2	2	1	1				
armadillo *Dasypus novemcinctus*	7	8	3	7			7	19	13	30
swamp rabbit *Sylvilagus aquaticus*	4	9	1	2	27	62				
cottontail rabbit *Sylvilagus floridanus*					4	6				
fox and/or gray squirrel	2	3	1	1			8	25	3	3
beaver *Castor canadensis*									1	1
coyote *Canis latrans*	3	3								
coyote and/or dog			9	15						
gray fox *Urocyon cinereoargenteus*			1	2						
raccoon *Procyon lotor*			11	22						
striped skunk *Mephitis mephitis*			2	3						
white-tailed deer *Odocoileus virginianus*			12	21						
Total		25		75		69		44		34
Average Number Per Census	6.2		18.8		17.2		11.0		8.5	

[1] Diggings, gnawings, or food remains.

* Censused on November 4, November 17, January 20, and March 24, 1972-1973.

Appendix B-4 cont.)

Study Area 8* Species	Maximum and Total Numbers									
	Individuals Seen or Heard		Tracks		Feces		Nests		Other[1]	
	Max.	Tot.	Max.	Tot.	Max.	Tot.	Max.	Tot.	Max.	Tot.
opossum *Didelphis marsupialis*			1	1						
armadillo *Dasypus novemcinctus*	4	6					2	4	7	17
swamp rabbit *Sylvilagus aquaticus*	2	4			6	12				
cottontail rabbit *Sylvilagus floridanus*	1	2			1	2				
fox squirrel *Sciurus niger*	2	2								
fox and/or gray squirrel	1	1					5	12		
nutria *Myocastor coypus*	3	3	4	4						
coyote *Canis latrans*	1	1			1	1				
coyote and/or dog			8	22						
raccoon *Procyon lotor*			8	17						
white-tailed deer *Odocoileus virginianus*	1	2	2	3						
Total		21		47		15		16		17
Average Number Per Census	5.2		14.8		3.8		4.0		4.2	

[1] Diggings, gnawings, or food remains.

* Censused on October 21, December 9, April 1, and April 29, 1972-1973.

Appendix B-. (cont.)

Study Area 9* Species	Maximum and Total Numbers									
	Individuals Seen or Heard		Tracks		Feces		Nests		Other[1]	
	Max.	Tot.	Max.	Tot.	Max.	Tot.	Max.	Tot.	Max.	Tot.
opossum *Didelphis marsupialis*			2	2						
armadillo *Dasypus novemcinctus*			1	1	2	2	2	2	2	3
swamp rabbit *Sylvilagus aquaticus*	5	7			4	13				
gray squirrel *Sciurus carolinensis*	1	1								
fox and/or gray squirrel	3	3	1	1			3	8		
beaver *Castor canadensis*									1	1
eastern woodrat *Neotoma floridana*					1	1	2	4		
coyote *Canis latrans*					1	1				
coyote and/or dog			6	7						
gray fox *Urocyon cinereoargenteus*			1							
raccoon *Procyon lotor*			5	16						
striped skunk *Mephitis mephitis*			1	2						

[1] Diggings, gnawings, or food remains (note: wild pigs abundant)

* Censused on October 28, February 10, March 10, and April 28, 1972-1973.

Appendix B-4 (cont.)

Study Area 9 (Cont.) Species	Maximum and Total Numbers									
	Individuals Seen or Heard		Tracks		Feces		Nests		Other[1]	
	Max.	Tot.	Max.	Tot.	Max.	Tot.	Max.	Tot.	Max.	Tot.
white-tailed deer *Odocoileus virginianus*			4	6						
Total		11		36		17		14		4
Average Number Per Census	2.8		9.0		4.2		3.5		1.0	

[1] Diggings, gnawings, or food remains.

Appendix B-4 (cont.)

Study Area 10*	Maximum and Total Numbers									
	Individuals Seen or Heard		Tracks		Feces		Nests		Other[1]	
Species	Max.	Tot.	Max.	Tot.	Max.	Tot.	Max.	Tot.	Max.	Tot.
opossum *Didelphis marsupialis*	1	1								
armadillo *Dasypus novemcinctus*	1	2	2	3			2	3	6	13
swamp rabbit *Sylvilagus aquaticus*	1	1	2	2	2	6				
cottontail rabbit *Sylvilagus floridanus*					2	2				
gray squirrel *Sciurus carolinensis*	1	1								
fox squirrel *Sciurus niger*	2	2								
fox and/or gray squirrel							8	17		
eastern woodrat *Neotoma floridana*							1	1		
coyote and/or dog			6	9						
gray fox *Urocyon cinereoargenteus*			1	1						
raccoon *Procyon lotor*			3	6	1	1				
striped skunk *Mephitis mephitis*			2	3						

[1] Diggings, ganwings, or food remains.

* Censused on December 10, February 11, March 11, and May 13, 1972-1973.

Appendix B-4 (cont.)

Study Area 10 (Cont.) Species	Maximum and Total Numbers									
	Individuals Seen or Heard		Tracks		Feces		Nests		Other[1]	
	Max.	Tot.	Max.	Tot.	Max.	Tot.	Max.	Tot.	Max.	Tot.
white-tailed deer *Odocoileus virginianus*			3	4						
Total		7		28		9		21		13
Average Number Per Census	1.8		7.0		2.2		5.2		3.2	

[1] Diggings, gnawings, or food remains (note: wild pigs abundant).

Appendix B-4 . Species and numbers of small mammals caught in snap traps along a 1,500 meter transect on different dates at Study Areas 1-10

Species	Study Area 1 Date (1972-1973)					Total		Habitat [1]		
	Sept 23	Dec 3	Jan 15	Mar 17	May 12			Wd	Th	Gr
cotton rat *Sigmodon hispidus*	0	1	0	0	0	1		1	0	0
Total Individuals Caught	0	1	0	0	0	1		1	0	0
Total Traps Set	100	100	100	100	50	450		200	105	145
Percent Success	0.0	1.0	0.0	0.0	0.0	0.2		0.5	0.0	0.0

[1] Wd: hardwood forests and woodlands; Th: thickets, scrub, and forest edge; Gr: grasslands, croplands, pastures, and weedy fields.

Appendix B-4 (cont.)

Species	Study Area 2 Date (1972-1973)					Total		Habitat [1]		
	Feb 24	Mar 18	Apr 7					Wd	Th	Gr
cotton mouse *Peromyscus gossypinus*	0	1	0			1		1	---	---
Total Individuals Caught	0	1	0			1		1	---	---
Total Traps Set	100	100	100			300		300	0	0
Percent Success	0.0	1.0	0.0			0.3		0.3	---	---

[1] Wd: hardwood forests and woodlands; Th: thickets, scrub, and forest edge; Gr: grasslands, croplands, pastures, and weedy fields.

Appendix B-4 (cont.)

Species	Study Area 3 Date (1972-1973)					Total	Habitat [1]		
	Oct 13	Dec 2	Jan 28	Mar 3	May 12		Wd	Th	Gr
hispid pocket mouse *Perognathus hispidus*	0	0	0	1	0	1	0	1	---
fulvous harvest mouse *Reithrodontomys fulvescens*	0	1	3	0	0	4	0	4	---
white-footed mouse *Peromyscus leucopus*	0	1	0	0	0	1	1	0	---
cotton mouse *Peromyscus gossypinus*	0	0	3	2	1	6	6	0	---
Total Individuals Caught	0	2	6	3	1	12	7	5	---
Total Traps Set	60	100	100	100	33	393	263	130	0
Percent Success	0.0	2.0	6.0	3.0	3.0	3.1	2.7	3.8	---

[1] Wd: hardwood forests and woodlands; Th: thickets, scrub, and forest edge; Gr: grasslands, croplands, pastures, and weedy fields.

Appendix B-4 (cont.)

Species	Study Area 4 Date (1972-1973) Oct 8	Nov 11	Apr 8			Total		Habitat [1] Wd	Th	Gr
deer mouse *Peromyscus maniculatus*	0	1	0			1		0	1	---
cotton mouse *Peromyscus gossypinus*	13	3	3			19		17	2	---
eastern woodrat *Neotoma floridana*	0	0	1			1		1	0	---
Total Individuals Caught	13	4	4			21		18	3	---
Total Traps Set	100	100	100			300		270	30	0
Percent Success	13.0	4.0	4.0			7.0		6.7	10.0	---

[1] Wd: hardwood forests and woodlands; Th: thickets, scrub, and forest edge; Gr: grasslands, croplands, pastures, and weedy fields.

Appendix B-4 (cont.)

Species	Study Area 5 Date (1972-1973)					Total		Habitat [1]		
	Oct 22	Jan 14	Feb 25	Mar 25	Apr 19			Wd	Th	Gr
cotton mouse *Peromyscus gossypinus*	0	0	0	1	0	1		0	1	0
Total Individuals Caught	0	0	0	1	0	1		0	1	0
Total Traps Set	100	100	100	100	100	500		100	225	175
Percent Success	0.0	0.0	0.0	1.0	0.0	0.2		0.0	0.4	0.0

[1] hardwood forests and woodlands; Th: thickets, scrub, and forest edge; Gr: grasslands, croplands, pastures, and weedy fields.

Appendix B-4 (cont.)

Species	Study Area 6 Date (1972-1973)					Total		Habitat [1]		
	Nov 12	Jan 27	Mar 4	Mar 30				Wd	Th	Gr
least shrew *Cryptotis parva*	1	0	0	0		1		0	0	1
fulvous harvest mouse *Reithrodontomys fulvescens*	0	7	11	0		18		1	11	6
deer mouse *Peromyscus maniculatus*	1	1	1	0		3		1	1	1
cotton mouse *Peromyscus gossypinus*	1	2	15	5		23		6	8	9
cotton rat *Sigmodon hispidus*	2	0	1	0		3		0	0	3
Total Individuals Caught	5	10	28	5		48		8	20	20
Total Traps Set	100	100	100	100		400		60	160	180
Percent Success	5.0	10.0	28.0	5.0		12.0		13.3	12.5	11.1

[1] Wd: hardwood forests and woodlands; Th: thickets, scrub, and forest edge; Gr: grasslands, croplands, pastures, and weedy fields.

Appendix B-4 (cont.)

Species	Study Area 7 Date (1972-1973)					Total	Habitat[1]		
	Nov 4	Nov 17	Jan 20	Mar 24	Apr 20		Wd	Th	Gr
fulvous harvest mouse *Reithrodontomys fulvescens*	2	0	0	1	0	3	1	2	---
deer mouse *Peromyscus maniculatus*	1	0	0	0	0	1	1	0	---
cotton mouse *Peromyscus gossypinus*	0	4	1	3	0	8	8	0	---
cotton rat *Sigmodon hispidus*	1	0	0	0	0	1	0	1	---
Total Individuals Caught	4	4	1	4	0	13	10	3	---
Total Traps Set	100	100	100	100	100	500	375	125	0
Percent Success	4.0	4.0	1.0	4.0	0.0	2.6	2.7	2.4	---

[1] Wd: hardwood forests and woodlands; Th: thickets, scrub, and forest edge; Gr: grasslands, croplands, pastures, and weedy fields.

Appendix B-4 (cont.)

Species	Study Area 8 Dave (1972-1973)					Total		Habitat[1]		
	Oct 21	Dec 9	Apr 1	Apr 29				Wd	Th	Gr
short-tailed shrew *Blarina brevicauda*	1	0	0	0		1		1	0	0
fulvous harvest mouse *Reithrodontomys fulvescens*	0	1	0	0		1		0	1	0
cotton mouse *Peromyscus gossypinus*	0	0	0	1		1		1	0	0
Total Individuals Caught	1	1	0	1		3		2	1	0
Total Traps Set	100	100	80	100		380		210	110	60
Percent Success	1.0	1.0	0.0	1.0		0.8		1.0	0.9	0.0

[1] Wd: hardwood forests and woodlands; Th: thickets, scrub, and forest edge; Gr: grasslands, croplands, pastures, and weedy fields.

Appendix B-4 (cont.)

Species	Study Area 9 Date (1972-1973)					Total		Habitat[1]		
	Sept 16	Oct 28	Feb 10	Mar 10	Apr 28			Wd	Th	Gr
cotton mouse *Peromyscus gossypinus*	0	0	0	5	2	7		7	---	---
Total Individuals Caught	0	0	0	5	2	7		7	---	---
Total Traps Set	65	100	100	100	100	465		465	0	0
Percent Success	0.0	0.0	0.0	5.0	2.0	1.5		1.5	---	---

[1] Wd: hardwood forests and woodlands; Th: thickets, scrub, and forest edge; Gr: grasslands, croplands, pastures, and weedy fields.

Appendix B-4 (cont.)

Species	Study Area 10 Date (1972-1973) Dec 10	Feb 11	Mar 11	May 13		Total		Habitat[1] Wd	Th	Gr
fulvous harvest mouse *Reithrodontomys fulvescens*	0	0	3	0		3		0	3	0
cotton mouse *Peromyscus gossypinus*	2	0	1	0		3		3	0	0
pgymy mouse *Baiomys taylori*	0	0	1	0		1		0	0	1
Total Individuals Caught	2	0	5	0		7		3	3	1
Total Traps Set	100	100	100	50		350		180	75	95
Percent Success	2.0	0.0	5.0	0.0		2.0		1.7	4.0	1.1

[1] Wd: hardwood forests and woodlands; Th: thickets, scrub, and forest edge; Gr: grasslands, croplands, pastures, and weedy fields.

Appendix B-5 . Species and numbers of birds recorded on censuses at Study Areas 1-10. An "x" indicates the species was seen on or near the transect at some time other than the census period.

Study Area 1 Species	Census Dates						
	9/23	10/1	12/3	1/15	3/24	4/22	5/12
green heron		x					
little blue heron	1						
cattle egret		1				2	
snowy egret	1						
yellow-cr night heron						1	
wood duck	2					2	
turkey vulture			1				1
red-tailed hawk		1	1		1	2	
Swainson's hawk						x	1
rough-legged hawk			1				
marsh hawk					1		
American kestrel		1				x	
bobwhite	20	1				x	3
killdeer		3	1	3	2		
upland sandpiper						5	
spotted sandpiper							1
solitary sandpiper						1	
Franklin's gull						14	14
mourning dove	2	3	6	4	4	14	6
great horned owl		x					
barred owl					2	2	

Appendix B-5 .(cont.)

Study Area 1 (Cont.) Species	Census Dates						
	9/23	10/1	12/3	1/15	3/24	4/22	5/12
chuck-will's widow						x	
chimney swift	7	32				9	7
ruby-throated hummingbird						1	
black-chinned hummingbird							2
belted kingfisher		x				1	
common flicker		18	8				
red-bellied woodpecker	2	7	3	2	1	1	
red-headed woodpecker		1					
yellow-bellied sapsucker		1	1				
hairy woodpecker	2					1	
downy woodpecker	1	1	3	1			4
ladder-backed woodpecker				1			
eastern kingbird						1	1
scissor-tailed flycatcher						1	1
great crested flycatcher						3	2
eastern phoebe	1				1		
least flycatcher	2						1
eastern wood pewee						1	
tree swallow		15					
bank swallow							1
rough-winged swallow						3	

Appendix B-5 . (cont.)

Study Area 1 (Cont.) Species	Census Dates						
	9/23	10/1	12/3	1/15	3/24	4/22	5/12
barn swallow		38					9
cliff swallow		1					14
blue jay	28	37	10	8	7	6	1
common crow	11	23	21	9	16	31	4
Carolina chickadee	14	27	15	7	9	15	14
tufted titmouse	2	5	3	5	10	18	12
brown creeper			1	1			
house wren		2			1		
Bewick's wren		5	5	2	1	2	
Carolina wren	8	4	3	6	9	5	3
mockingbird		7	5	3	x	1	
gray catbird		x					
brown thrasher		7		4	2	4	
robin				218	12		
hermit thrush			1	3	3		
Swainson's thrush						-	1
eastern bluebird			6	14			
blue-gray gnatcatcher						4	2
golden-crowned kinglet			4				
ruby-crowned kinglet		2	13	2	5	11	
cedar waxwing			55	18		84	35

Appendix B-5 . (cont.)

Study Area 1 (Cont.) Species	Census Dates						
	9/23	10/1	12/3	1/15	3/24	4/22	5/12
redwinged blackbird		36				3	
orchard oriole						1	
great-tailed grackle	10	18			1	15	8
common grackle				1	40	24	
brown-headed cowbird	12	51		14	35	65	13
cardinal	19	60	73	58	43	47	26
indigo · nting						8	9
painted bunting						3	19
dickcissel						21	
purple finch			16				
pine siskin			4				
American goldfinch			6	2			
rufous-sided towhee			8	7	5		
grasshopper sparrow						x	
vesper sparrow					x		
slate-colored junco			27	16	10		
chipping sparrow							4
clay-colored sparrow						x	
field sparrow		31	2	17			
Harris' sparrow			44	x		10	
white-throated sparrow			48	12	29	31	

Appendix B-5 .(cont.)

Study Area 1 (Cont.) Species	Census Dates						
	9/23	10/1	12/3	1/15	3/24	4/22	5/12
loggerhead shrike	4	3		2			
starling	15	18	5	84	10	2	
white-eyed vireo						1	2
solitary vireo	3				x		
red-eyed vireo						4	1
black & white warbler							1
prothonotary warbler	2						
Tennessee warbler						2	2
orange-crowned warbler	4	1				1	
Nashville warbler	25					35	
northern parula warbler					1		
yellow warbler	8						
myrtle warbler			1	3	4	2	
black-throated green warbler						2	
chestnut-sided warbler							1
common yellowthroat	3	1				2	
yellow-breasted chat						6	
Wilson's warbler	10						
American redstart	3						
house sparrow	3	30			15	12	
eastern meadowlark		4			x	1	

Appendix B-5 . (cont.)

Study Area 1 (Cont.) Species	Census Dates						
	9/23	10/1	12/3	1/15	3/24	4/22	5/12
fox sparrow			15	18			
Lincoln's sparrow			8	9	3	10	
song sparrow			26	32	1		
Total Individuals	225	465	479	569	300	557	226
Total Census Species	30	35	36	33	31	56	35

Total Species all Censuses: 101 (plus 7 non-census species=108)
Total Individuals all Censuses: 2,821 (avg. 403 per census)

Appendix B-5 . (cont.)

Study Area 2 Species	Census Dates						
	2/20	2/24	3/25	4/7	4/27		
pied-billed grebe	x		x	x	x		
double-crested cormorant		x	x	x	x		
great blue heron	2	4	4				
little blue heron	.			6			
cattle egret					9		
yellow-cr night heron					1		
Canada goose		x					
mallard	x		x				
gadwall	x	x	4				
pintail	x	x					
green-winged teal	x	x					
blue-winged teal		x	21	x	x		
northern shoveler		x		x			
wood duck		6	4	5	3		
ring-necked duck	x	x					
canvasback		x					
lesser scaup		x					
ruddy duck		x					
turkey vulture			1				
red-tailed hawk	1	1	1				
Swainson's hawk					1		

Appendix B-5 (cont.)

Study Area 2 (Cont.) Species	Census Dates						
	2/20	2/24	3/25	4/7	4/27		
marsh hawk	x						
osprey					x		
American kestrel	x		x				
bobwhite					x		
American coot	x	x	x	x	x		
killdeer	x	1			x		
ring-billed gull			1				
Franklin's gull			x	x	1		
mourning dove	x				4		
barred owl			1				
chimney swift			15		17		
ruby-throated hummingbird					1		
common flicker	2	4	1	1			
red-bellied woodpecker	11	14	12	6	8		
red-headed woodpecker					x		
pileated woodpecker	x						
hairy woodpecker		1			1		
yellow-bellied sapsucker	1	1					
downy woodpecker	13	9	3	2	4		
western kingbird					x		
scissor-tailed flycatcher				x	x		

Appendix B-5 (cont.)

Study Area 2 (Cont.) Species	Census Dates						
	2/20	2/24	3/25	4/7	4/27		
great crested flycatcher					6		
eastern phoebe	1			x			
least flycatcher					1		
horned lark	2						
rough-winged swallow			1		2		
barn swallow			x		x		
cliff swallow					x		
purple martin			x				
blue jay	27	11	4	2	14		
common crow	30	14	17	8	19		
Carolina chickadee	13	15	17	7	10		
tufted titmouse	24	8	16	11	13		
brown creeper	1	1	1				
Bewick's wren	x	x					
Carolina wren	25	20	16	9	11		
mockingbird	x	1	x		x		
brown thrasher	1	3	1		3		
robin	36	74	12	3			
hermit thrush	1	x					
Swainson's thrush					1		
eastern bluebird	3		x				

Appendix B-5 . (cont.)

Study Area 2 (Cont.) Species	Census Dates						
	2/20	2/24	3/25	4/7	4/27		
blue-gray gnatcatcher			6	2			
ruby-crowned kinglet	1	3	2	4	8		
cedar waxwing			2	32			
loggerhead shrike			x				
starling	21	68	2		12		
white-eyed vireo				1	2		
solitary vireo					1		
warbling vireo					2		
black & white warbler					1		
Tennessee warbler					5		
Nashville warbler					19		
yellow warbler					2		
myrtle warbler	24	19	10	15	3		
northern waterthrush					1		
common yellowthroat				x	2		
house sparrow	x	x	x	x	x		
eastern meadowlark	x	x	x	x	x		
western meadowlark	x	x	x				
redwinged blackbird	115	210	7	18	11		
Baltimore oriole					1		
rusty blackbird	4	9					

Appendix B-5 (cont.)

Study Area 2 (Cont.) Species	Census Dates						
	2/20	2/24	3/25	4/7	4/27		
great-tailed grackle		33	x		2		
common grackle		4	2	155	13		
brown-headed cowbird		14	2	9	10		
cardinal	33	89	30	52	37		
indigo bunting					1		
dickcissel					x		
purple finch	8	19	1				
American goldfinch	1	7	1				
rufous-sided towhee	4	8	1	2			
lark sparrow					x		
slate-colored junco	10	27	3				
chipping sparrow			x				
field sparrow			x				
Harris' sparrow	x	x			x		
white-crowned sparrow					x		
white-throated sparrow	48	153	41	38	14		
fox sparrow	1	1					
Lincoln's sparrow		2	2	11	6		
swamp sparrow			1				
song sparrow	2	7	1	x			
Total Individuals	466	861	267	399	283		
Total Census Species	31	35	38	23	42		

Total Species All Censuses: 70 (plus 34 non-census species= 104)
Total Individuals All Censuses: 2,276 (avg. 455 per census)

Appendix B-5 . (cont.)

Study Area 3 Species	Census Dates						
	9/30	12/2	1/28	3/3	5/12		
white pelican	33						
double-crested cormorant	x						
great blue heron	x						
little blue heron					10		
cattle egret	x				3		
snowy egret					x		
wood stork	140						
mallard				2	x		
blue-winged teal					x		
turkey vulture	7	7	23	4	5		
sharp-shinned hawk	x	1					
Cooper's hawk	x			x			
red-tailed hawk	2		1				
red-shouldered hawk	1	1		4	2		
broad-winged hawk	21						
Swainson's hawk	2				1		
marsh hawk	x		x	x			
peregrine falcon	x						
American kestrel	3		x	x			
bobwhite	x		14		2		
semipalmated plover					x		

Appendix B-5 . (cont.)

Study Area 3 (Cont.) Species	Census Dates						
	9/30	12/2	1/28	3/3	5/12		
piping plover					x		
killdeer	2	1		x	2		
golden plover	x						
American woodcock		1	1				
whimbrel					x		
upland sandpiper	x				x		
spotted sandpiper					x		
solitary sandpiper	1						
greater yellowlegs					x		
lesser yellowlegs					x		
willet					x		
pectoral sandpiper					x		
white-rumped sandpiper					x		
Baird's sandpiper					x		
least sandpiper					x		
semipalmated sandpiper					x		
dunlin					x		
long-billed dowitcher					x		
stilt sandpiper					x		
buff-breasted sandpiper	x				x		
Hudsonian godwit					x		

Appendix B-5 (cont.)

Study Area 3 (Cont.) Species	Census Dates						
	9/30	12/2	1/28	3/3	5/12		
Wilson's phalarope					x		
Franklin'g gull	4				x		
black tern					x		
mourning dove	5	2	1		1		
yellow-billed cuckoo					4		
great horned owl	1	1					
barred owl	2	1		x	4		
common nighthawk					2		
chimney swift	15				10		
ruby-throated hummingbird					2		
common flicker	22	17	3	1			
pileated woodpecker	1	2	1		2		
red-bellied woodpecker	6	12	9	7	4		
yellow-bellied sapsucker		3	3	3			
hairy woodpecker	1			1	2		
downy woodpecker	5	7	6	10	5		
eastern kingbird					2		
western kingbird					x		
scissor-tailed flycatcher	24				4		
great crested flycatcher					3		
eastern phoebe	2	1					

Appendix B-5 . (cont.)

Study Area 3 (Cont.) Species	Census Dates						
	9/30	12/2	1/28	3/3	5/12		
acadian flycatcher					2		
least flycatcher					1		
eastern wood pewee					1		
olive-sided flycatcher	1				2		
horned lark					x		
tree swallow	25						
rough-winged swallow	2						
barn swallow	120				15		
cliff swallow	3				2		
blue jay	85	11	2	8	1		
common crow	20	10	15	7	11		
Carolina chickadee	18	39	16	17	18		
tufted titmouse	7	10	5	9	17		
brown creeper		1	1				
house wren	1						
Bewick's wren			1				
Carolina wren	4	8	5	6	3		
mockingbird	2		3	2	1		
gray catbird					3		
brown thrasher	2	5	2	2			
robin		155	181	25			

Appendix B-5 (cont.)

Study Area 3 (Cont.) Species	Census Dates						
	9/30	12/2	1/28	3/3	5/12		
hermit thrush		6	3	3			
Swainson's thrush					6		
eastern bluebird		2					
blue-gray gnatcatcher					4		
golden-crowned kinglet		6	3	6			
ruby-crowned kinglet	2	7	4	11			
water pipit			x		x		
Sprague's pipit			x				
cedar waxwing		152			x		
loggerhead shrike	8	4	2				
starling			7	3	x		
white-eyed vireo					5		
red-eyed vireo					9		
Philadelphia vireo					1		
warbling vireo					2		
black & white warbler	1				3		
Tennessee warbler					2		
orange-crowned warbler	1	1					
Nashville warbler	3						
northern parula warbler	1						
magnolia warbler					1		

Appendix B-5 (cont.)

Study Area 3 (Cont.) Species	Census Dates						
	9/30	12/2	1/28	3/3	5/12		
[illegible] warbler		15	13	3			
bay-breasted warbler					2		
ovenbird					1		
Kentucky warbler					4		
common yellowthroat	1				1		
yellow-breasted chat					1		
American redstart					1		
house sparrow	x	x	x	x	x		
bobolink					x		
eastern meadowlark	3		x	2	4		
yellow-headed blackbird					x		
redwinged blackbird	15	40	x	7	2		
orchard oriole					3		
Baltimore oriole					1		
rusty blackbird				11			
common grackle	28	45		2	10		
brown-headed cowbird	75			11	5		
summer tanager					4		
cardinal	25	77	63	76	68		
indigo bunting	5				25		
painted bunting					8		

Appendix B-5 .(cont.)

Study Area 3 (Cont.) Species	Census Dates						
	9/30	12/2	1/28	3/3	5/12		
dickcissel					75		
purple finch		1					
American goldfinch					1		
rufous-sided towhee		2		2			
savannah sparrow			x	x	x		
grasshopper sparrow					x		
vesper sparrow				x			
lark sparrow				x			
slate-colored junco		13	11	1			
Harris' sparrow			x	2			
white-throated sparrow		32	19	28			
fox sparrow		21	20	5			
Lincoln's sparrow	4			1			
song sparrow		6	4				
Total Individuals	759	726	442	282	396		
Total Census Species	49	39	31	33	60		

Total Species All Censuses: 101 (plus 39 non-census species- 140).
Total Individuals All Censuses: 2,605 (avg. 521 per census).

Appendix B-5 . (cont.)

Study Area 4 Species	Census Dates						
	10/8	11/11	2/4	4/8	5/13		
great blue heron					1		
green heron					x		
little blue heron				2	28		
cattle egret	2				30		
great egret					x		
snowy egret					x		
American bittern					1		
Canada goose	x						
mallard		8	1				
blue-winged teal				x	x		
wood duck	3	4			2		
hooded merganser			1				
turkey vulture	2	7	7	9	2		
black vulture			x	6			
sharp-shinned hawk		1	2				
red-tailed hawk		x	2	1			
red-shouldered hawk	1			1	1		
Swainson's hawk				1			
bald eagle		2					
American kestrel	x	1					
killdeer	2	7	x	x	2		

Appendix B-5 (cont.)

Study Area 4 (Cont.) Species	Census Dates						
	10/8	11/11	2/4	4/8	5/13		
solitary sandpiper				x	x		
white-rumped sandpiper					x		
least sandpiper					x		
semipalmated sandpiper					x		
ring-billed gull		1					
Franklin's gull		20					
mourning dove	1	7	5		x		
yellow-billed cuckoo					2		
roadrunner		x	x				
screech owl		1					
great horned owl		2					
barred owl	1	1	1	1	4		
chuck-will's-widow					x		
common nighthawk					x		
chimney swift	1						
ruby-throated hummingbird					1		
belted kingfisher				1			
common flicker	8	28	8				
pileated woodpecker	2	4	2	1	2		
red-bellied woodpecker	1	13	9	8	6		
red-headed woodpecker	x		x	1	2		

Appendix B-5 (cont.)

Study Area 4 (Cont.) Species	Census Dates						
	10/8	11/11	2/4	4/8	5/13		
yellow bellied sapsucker	1	9	4				
hairy woodpecker		4					
downy woodpecker	6	12	4	3	5		
eastern kingbird					2		
scissor-tailed flycatcher	x				1		
great crested flycatcher					5		
eastern pheobe	3	1					
acadian flycatcher					2		
least flycatcher					1		
eastern wood pewee					4		
barn swallow	1			1			
blue jay	3	4	2	6	1		
common crow	6	36	24	7	15		
Carolina chicadee	27	43	43	26	28		
tufted titmouse	7	17	19	16	34		
white-breasted nuthatch	5	6	3	2	6		
brown creeper		7	2				
winter wren		5					
Bewick's wren		1					
Carolina wren	3	8	3	5	1		
mockingbird		4	1	1	x		

Appendix B-5 . (cont.)

Study Area 4 (Cont.) Species	Census Dates						
	10/8	11/11	2/4	4/8	5/13		
brown thrasher	3	4	1	4	1		
robin			68				
hermit thrush		8	2	1			
Swainson's thrush							
eastern bluebird	1	18	3	3	x		
blue-gray gnatcatcher				8	3		
golden-crowned kinglet		14	3				
ruby-crowned kinglet	3	22	5	4			
water pipit			x				
cedar waxwing		3		28			
loggerhead shrike	2	1	2	1	x		
starling		575	90				
white-eyed vireo				3	2		
yellow-throated vireo				1	2		
solitary vireo			1				
red-eyed vireo					5		
warbling vireo					1		
Tennessee warbler					3		
Nashville warbler				1			
yellow warbler					2		
magnolia warbler					1		
myrtle warbler		4		6			

Appendix B-5 (cont.)

Study Area 4 (Cont.) Species	Census Dates						
	10/8	11/11	2/4	4/8	5/13		
blackburnian warbler					3		
yellow-throated warbler				1	3		
ovenbird					1		
house sparrow			x				
eastern meadowlark			x	3	x		
redwinged blackbird		72	1750				
common grackle	22	108	15		3		
brown-headed cowbird	1	22	6	2	3		
summer tanager				1	7		
cardinal	51	103	72	51	55		
indigo bunting					3		
painted bunting					13		
purple finch		29	85				
pine siskin			8				
American goldfinch		36	195				
rufous-sided towhee		1	3				
savannah sparrow				6			
vesper sparrow		x					
lark sparrow					2		
slate-colored junco		10	28				
field sparrow		3	x				

Appendix B-5 (cont.)

Study Area 4 (Cont.) Species	Census Dates						
	10/8	11/11	2/4	4/8	5/13		
Harris' sparrow		2	12				
white-crowned sparrow			1				
white-throated sparrow		162	254	78			
fox sparrow		10	10				
Lincoln's sparrow		1		5			
song sparrow		1	1				
Total Individuals	169	1473	2757	306	303		
Total Census Species	28	53	43	39	47		

Total Species All Censuses: 97 (plus 15 non-census species= 112).
Total Individuals All Censuses: 5,009 (avg. 1,002 per census).

Appendix B-5 (cont.)

Study Area 5 (Cont.) Species	Census Dates						
	10/22	1/14	2/3	2/25	3/25	4/21	
red-bellied woodpecker		1	1	1	1	3	
yellow-bellied sapsucker			1				
hairy woodpecker			1				
downy woodpecker		4	7	3	2		
eastern kingbird						2	
scissor-tailed flycatcher	4					4	
great crested flycatcher						1	
eastern phoebe	1						
eastern wood pewee						2	
horned lark			3			3	
barn swallow						3	
blue jay	6	5	5	7	1		
common crow	24	15	16	10	3	10	
Carolina chickadee	9	7	9	11	8	9	
tufted titmouse	4	4	2	3	7	15	
brown creeper		1					
house wren	1						
Bewick's wren		2	2	1			
Carolina wren	8	5	9	6	3	8	
mockingbird	7	8	4	5	5	16	
brown thrasher	5	1	1	1		1	

Appendix B-5 (cont.)

Study Area 5 (Cont.) Species	Census Dates						
	10/22	1/14	2/3	2/25	3/25	4/21	
robin		41	23	19			
hermit thrush		2	6	1			
Swainson's thrush						1	
eastern bluebird		5	2		3		
golden-crowned kinglet		1					
ruby-crowned kinglet	6	2	1			2	
Sprague's pipit			1				
cedar waxwing					25	14	
loggerhead shrike	2	2	1	2	1	1	
starling	x	140	x	x	x	x	
black & white warbler						1	
orange-crowned warbler						1	
Nashville warbler						9	
myrtle warbler		8	8	8	4	4	
house sparrow	x	x	x	x	x	x	
eastern meadowlark	32	3	80	34	33	31	
redwinged blackbird		1000	20		1	10	
orchard oriole						4	
common grackle		6	1		4	4	
brown-headed cowbird		20	1	44	11	5	
cardinal	48	41	37	42	24	34	

Appendix B-5 (cont.)

Study Area 5 (Cont.) Species	Census Dates						
	10/22	1/14	2/3	2/25	3/25	4/21	
indigo bunting						1	
dickcissel						2	
purple finch		6	16	17			
pine siskin		x					
American goldfinch		1	11	1			
rufous-sided towhee		1	4	2			
savannah sparrow	13	19	11	22	2	21	
grasshopper sparrow			1		2		
LeConte's sparrow			3				
vester sparrow		71	15	38			
lark sparrow		1				21	
slate-colored junco		18	10	80	4		
clay-colored sparrow						1	
field sparrow		12	12	9	5	1	
Harris' sparrow		36		8			
white-crowned sparrow						1	
white-throated sparrow	5	49	30	45	22	10	
fox sparrow		1	1	1			
Lincoln's sparrow	1			2		1	
song sparrow		11	5	6			
Smith's longspur		140	x				

Appendix B-5 . (cont.)

Study Area 5 (Cont.) Species	Census Dates						
	10/22	1/14	2/3	2/25	3/25	4/21	
Total Individuals	229	1769	383	453	214	340	
Total Census Species	24	43	44	34	28	48	

Total Species All Censuses: 81 (plus 3 non-census species= 84).
Total Individuals All Censuses: 3,388 (avg. 565 per census).

Appendix B-5 (cont.)

Study Area 6 Species	Census Dates						
	11/12	1/27	2/18	3/4	3/31	5/27	
great blue heron			1			2	
green heron						1	
little blue heron						9	
cattle egret						81	
great egret					1	1	
wood duck	x						
hooded merganser			2				
turkey vulture	14		1	4	7	1	
sharp-shinned hawk	x						
red-tailed hawk	4	4	3	5	2	1	
red-shouldered hawk	1			1		1	
marsh hawk	1	2	1	1	1		
American kestrel	1	1	1	1			
bobwhite	x	18					
killdeer	3	2	2	2		1	
common snipe	1						
greater yellowlegs	2						
mourning dove	7		1	1		2	
yellow-billed cuckoo						5	
barn owl					1		
barred owl	1	2					

Appendix B-5 (cont.)

Study Area 6 (Cont.) Species	Census Data						
	11/12	1/27	2/18	3/4	3/31	5/27	
ruby-throated hummingbird						2	
common flicker	17	7	8	2			
red-bellied woodpecker	9	3	4	1	1	1	
red-headed woodpecker						1	
yellow-bellied sapsucker	2	1	1	1			
downy woodpecker	3	2	2	3	1	7	
great crested flycatcher						1	
scissor-tailed flycatcher						2	
eastern phoebe	3			1			
willow flycatcher						3	
eastern wood pewee						x	
barn swallow						2	
purple martin						3	
blue jay	20	5	7	5	4	3	
common crow	72	9	12	10	7	10	
Carolina chickadee	14	15	11	15	6	16	
tufted titmouse	5	7	4	3	4	10	
brown creeper	2						
house wren		1					
winter wren	2						
Bewick's wren	1	1		1			

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Appendix B-5 (cont.)

Study Area 6 (Cont.) Species	Census Dates						
	11/12	1/27	2/18	3/4	3/31	5/27	
Carolina wren	5	1	1	4	2	1	
mockingbird	6	6	3	5	5	x	
brown thrasher		9	4	4	1		
robin	65	6	31	3			
hermit thrush	3	1	2		1		
eastern bluebird	17	6					
blue-gray gnatcatcher					4		
golden-crowned kinglet	6	1					
ruby-crowned kinglet	9	4	1	4	3		
cedar waxwing				16	7		
loggerhead shrike	7	2	1	3	1		
starling			6	1			
white-eyed vireo					1	3	
orange-crowned warbler	1						
myrtle warbler	2		1	13	24		
common yellowthroat						4	
yellow-breasted chat						9	
eastern meadowlark	125	11	31	24	7	2	
western meadowlark	1						
redwinged blackbird	1600	1425	2315	92	x	1	
rusty blackbird			20				

Appendix B-5 (cont.)

Study Area 6 (Cont.) Species	Census Dates						
	11/12	1/27	2/18	3/4	3/31	5/27	
common grackle	350	285	335	33	31	33	
brown-headed cowbird	30	110	535	11	8	20	
cardinal	31	53	18	36	23	38	
blue grosbeak						1	
indigo bunting						11	
painted bunting						17	
dickcissel						1	
purple finch	6		1				
American goldfinch	36	1					
rufous-sided towhee	2			1			
savannah sparrow	15	11	1	3	4		
LeConte's sparrow		3	1				
vesper sparrow	6	5					
slate-colored junco	2						
field sparrow	1		2	2			
white-crowned sparrow	12		3	2	7		
white-throated sparrow	20	5	2	8	13		
fox sparrow	10	20	8	3			
Lincoln's sparrow	5			4	4		
swamp sparrow	24	2	5	6	3		
song sparrow	35	16	13	9			

Appendix B-5 (cont.)

Study Area 6 (Cont.) Species	Census Dates						
	11/12	1/27	2/18	3/4	3/31	5/27	
Total Individuals	2617	2063	3401	344	183	307	
Total Census Species	51	38	40	40	30	37	

Total Species All Censuses: 81 (plus 3 non-census species= 84).
Total Individuals All Censuses: 8,915 (avg. 1,486 per census).

Appendix B-5 . (cont.)

Study Area 7 Species	Census Dates						
	11/4	11/17	1/20	2/17	3/24	4/20	
great blue heron	1	x		2		1	
green heron						1	
little blue heron						1	
cattle egret						2	
snowy egret						1	
yellow-cr night heron						2	
white-fronted goose	5						
mallard			5	10			
pintail				2			
blue-winged teal						3	
wood duck	2	x	6	4	2	2	
turkey vulture	6	15		4	10	6	
black vulture		29		4	5		
white-tailed kite					2	2	
Mississippi kite						1	
sharp-shinned hawk		1				x	
Cooper's hawk						x	
red-tailed hawk	1	3					
red-shouldered hawk	1		1	2		2	
broad-winged hawk						x	
marsh hawk	2	2		1	1	2	

Appendix B-5 (cont.)

Study Area 7 (Cont.) Species	Census Dates						
	11/4	11/17	1/20	2/17	3/24	4/20	
American kestrel	x	2				x	
bobwhite						x	
killdeer	7	27	1	2	2	3	
common snipe	5					x	
upland sandpiper						x	
solitary sandpiper						x	
greater yellowlegs						1	
lesser yellowlegs						3	
mourning dove	6	12		3		3	
barn owl					x		
great horned owl						x	
barred owl	2	1	1	2		2	
common nighthawk						3	
chimney swift						8	
ruby-throated hummingbird						1	
belted kingfisher	1					1	
common flicker	7	22	3	11	1		
pileated woodpecker		1	1	1	1	1	
red-bellied woodpecker	7	13	7	11	5	7	
red-headed woodpecker	x					x	
yellow-bellied sapsucker	1	6	4	6			

Appendix B-5 (cont.)

Study Area 7 (Cont.) Species	Census Dates					
	11/4	11/17	1/20	2/17	3/24	4/20
hairy woodpecker		2				
downy woodpecker	2	3	7	5	2	4
eastern kingbird						x
scissor-tailed flycatcher						1
great crested flycatcher						1
eastern phoebe	2	3	1	2		
tree swallow						1
rough-winged swallow						5
barn swallow						3
purple martin					5	2
blue jay	11	14	9	3	1	1
common crow	22	57	19	25	12	29
Carolina chickadee	15	39	31	23	13	13
tufted titmouse	6	25	8	6	16	17
white-breasted nuthatch	1					
brown creeper		8	1	2		
house wren		1				
winter wren	2	4	1	1		
Bewick's wren	3	3		1		
Carolina wren	12	29	23	33	12	17
mockingbird	1	1	3	4	3	2

Appendix B-5 (cont.)

Study Area 7 (Cont.) Species	Census Dates						
	11/4	11/17	1/20	2/17	3/24	4/20	
gray catbird	2						
brown thrasher	9	5	12	15		2	
robin	42	4	122	36			
hermit thrush	1	4	7	4	1		
eastern bluebird	1	8				x	
blue-gray gnatcatcher					6	2	
golden-crowned kinglet	6	10		2			
ruby-crowned kinglet	9	33	5	3	5	2	
water pipit	7	1	1				
cedar waxwing			32				
loggerhead shrike	3	1	1	1		x	
starling				2		2	
white-eyed vireo					5	6	
solitary vireo			1				
red-eyed vireo						2	
prothonotary warbler						2	
Swainson's warbler						2	
Tennessee warbler						1	
orange-crowned warbler	4	1	3	1			
Nashville warbler						1	
northern parula warbler					18	21	

Appendix B-5 (cont.)

Study Area 7 (Cont.) Species	Census Dates						
	11/4	11/17	1/20	2/17	3/24	4/20	
myrtle warbler	9	24	4	4			
pine warbler		1	2				
Kentucky warbler						3	
common yellowthroat						1	
house sparrow	x	x	x	x	x	x	
eastern meadowlark	23	35	3	6	6	7	
western meadowlark		1					
redwinged blackbird	2	240	13	35		5	
Brewer's blackbird		20					
common grackle	43	25	73	3	1	2	
brown-headed cowbird	400	x			2	32	
cardinal	48	58	97	71	44	92	
blue grosbeak						1	
indigo bunting						2	
painted bunting						2	
dickcissel						4	
purple finch		2					
pine siskin			10				
American goldfinch	12	18	4	3			
rufous-sided towhee		1					
savannah sparrow	1	20		11		2	

Appendix B-5 (cont.)

Study Area 7 (Cont.) Species	Census Dates						
	11/4	11/17	1/20	2/17	3/24	4/20	
grasshopper sparrow						x	
vesper sparrow	2	20		1			
lark sparrow						2	
slate-colored junco		6	7	4	2		
white-crowned sparrow		1		3		x	
white-throated sparrow	78	55	173	70	40	6	
fox sparrow			16	11			
Lincoln's sparrow		4			3	x	
swamp sparrow			1		1		
song sparrow		6	2	6	1		
Total Individuals	833	927	721	462	228	361	
Total Census Species	46	53	41	47	31	63	

Total Species All Censuses: 105 (plus 10 non-census species= 115).
Total Individuals All Censuses: 3,532 (avg. 589 per census).

Appendix B-5 (cont.)

Study Area 8 Species	Census Dates						
	10/21	11/7	12/9	1/3	3/23	4/1	4/2[illegible]
pied-billed grebe	1		2		1	2	
double-crested cormorant						x	
anhinga	x				8	27	6
great blue heron		1	1	3	26	37	6
green heron							1
little blue heron	x	1			13	21	31
cattle egret	32	23		1			117
great egret					65	58	7
snowy egret					1	2	x
Louisiana heron						x	
black-cr night heron						x	
yellow-cr night heron					3	1	10
white ibis	1				1	x	129
snow/blue goose	x						
mallard	1	7	5	14	5	3	
gadwall			15	13	17	3	
pintail			4				
green-winged teal	3	5	7	23	5	2	
blue-winged teal	1				50	24	14
American wigeon	7	2	8	32	3		
northern shoveler	1	1	3				

Appendix B-5 (cont.)

Study Area 8 (Cont.) Species	Census Dates						
	10/21	11/7	12/9	1/3	3/23	4/1	4/29
wood duck	5	9	12	4	19	7	2
ring-necked duck			x				
turkey vulture	4	5	11	12		1	1
black vulture	2	3	5	9	61	39	45
Mississippi kite							x
sharp-shinned hawk	1						
Cooper's hawk		1				1	
red-tailed hawk	1	1	1	2			
red-shouldered hawk		2	1	4	2	1	x
broad-winged hawk						2	
marsh hawk	1						
American kestrel	x	2	2				
sora rail					1	1	
purple gallinule							2
common gallinule	1						3
American coot	2		7		x	15	x
killdeer	6	14	11	14			x
common snipe	12	1	6				
solitary sandpiper				1	1	2	4
ring-billed gull						x	
mourning dove	4	22	4	25	4	1	2

Appendix B-5 (cont.)

Study Area 8 (Cont.) Species	Census Dates						
	10/21	11/7	12/9	1/3	3/23	4/1	4/29
yellow-billed cuckoo							1
roadrunner							x
barred owl	2	1			3	1	1
chimney swift	1				65	12	30
ruby-throated hummingbird						2	2
belted kingfisher	1	1			1		
common flicker	4	11	11	18	1	1	
pileated woodpecker	2	4	2	3	1		2
red-bellied woodpecker	3	9	1	8	8	5	5
red-headed woodpecker	x	1					3
yellow-bellied sapsucker	1	1	1	5		1	
downy woodpecker	1	1	2	2	7	5	3
scissor-tailed flycatcher	14					1	x
eastern kingbird						1	6
great crested flycatcher							7
eastern phoebe	4	7	4	5			
acadian flycatcher							10
vermillion flycatcher	1						
rough-winged swallow					1		2
barn swallow	1						x
purple martin					2		x

Appendix B-5 (cont.)

Study Area 8 (Cont.) Species	Census Dates						
	10/21	11/7	12/9	1/3	3/23	4/1	4/29
blue jay	31	13	11	22	12	13	5
common crow	25	35	13	56	20	8	5
Carolina chickadee	6	7	9	17	20	10	14
tufted titmouse	2	4	5	2	23	9	12
white-breasted nuthatch							x
brown creeper		1	1				
house wren	2			1			
winter wren	x	1	1	1			
Carolina wren	4	2	11	18	21	5	7
long-billed marsh wren	3						
short-billed marsh wren	1		2				
mockingbird	3	2	3	7	2	3	
gray catbird	2						
brown thrasher	4	3	8	12	1	2	1
robin		5	169	340	24	1	
hermit thrush				2		1	
eastern bluebird		4	2				
blue-gray gnatcatcher	1		1		10	20	6
golden-crowned kinglet		5	4	3			
ruby-crowned kinglet	3	2	17	14	2	7	
water pipit			26	2			
cedar waxwing				12		12	

Appendix B-5 . (cont.)

Study Area 8 (Cont.) Species	Census Dates						
	10/21	11/7	12/9	1/3	3/23	4/1	4/29
loggerhead shrike	2	6		3	1		x
starling	x	9			7	6	1
white-eyed vireo					3	14	7
yellow-throated vireo					1	1	2
solitary vireo			1	1			
red-eyed vireo							8
prothonotary warbler						2	6
Swainson's warbler							2
Tennessee warbler							6
orange-crowned warbler			4	2	1	2	
northern parula warbler					17	20	14
myrtle warbler			9	17	54	17	
yellow-throated warbler					2	2	1
pine warbler			1				
northern waterthrush							1
Louisiana waterthrush					1		
Kentucky warbler							3
common yellowthroat	3	1		2		2	3
yellow-breasted chat							1
hooded warbler						3	2
Wilson's warbler	1						

Appendix B-5 (cont.)

Study Area 8 (Cont.) Species	Census Dates						
	10/21	11/7	12/9	1/3	3/23	4/1	4/29
eastern meadowlark	1	40		32	3	1	x
redwinged blackbird	1	4	48	290	40	8	5
Baltimore oriole							1
rusty blackbird			5	25	1		
Brewer's blackbird				x	x		
brown-headed cowbird	6	10		15	4	16	6
summer tanager							4
cardinal	24	21	61	42	31	64	34
indigo bunting	3						2
painted bunting							7
evening grosbeak				2			
purple finch			2	23			
American goldfinch			24	13		11	1
rufous-sided towhee			6	2			
savannah sparrow		4	2	7	11		1
vesper sparrow			12	2			
slate-colored junco			5				
chipping sparrow					2		
field sparrow			2			1	
white-crowned sparrow		x					
white-throated sparrow	2	6	91	43	17	17	6

Appendix B-5 (cont.)

Study Area 8 (Cont.) Species	Census Dates						
	10/21	11/7	12/9	1/3	3/23	4/1	4/29
fox sparrow				1			
Lincoln's sparrow	2						
swamp sparrow	4	2	3	9	9	1	
song sparrow		2	3	7	2		
Total Individuals	257	325	688	1245	717	558	628
Total Census Species	55	50	57	55	57	60	59

Total Species All Censuses: 120 (plus 12 non-census species= 132).
Total Individuals All Censuses: 4,418 (avg. 631 per census).

Appendix B-5 (cont.)

Study Area 9 Species	Census Dates						
	9/16	10/28	2/10	2/24	3/10	4/14	4/28
double-crested cormorant			x		1	x	
anhinga	1		x			2	17
great blue heron			2	x	x	x	4
little blue heron	x		x		x	2	1
cattle egret	x						10
great egret			x	x	1	x	11
snowy egret	x					x	
yellow-cr night heron					1	1	1
white ibis			x				
mallard			x		x		
green-winged teal			x				
American wigeon			x				
wood duck			2	4			2
turkey vulture	2	6		4	4	4	
black vulture	1		12		x	x	
sharp-shinned hawk			x				
Cooper's hawk		x					x
red-tailed hawk	1						
red-shouldered hawk	2		1	2	2	3	1
broad-winged hawk	36						
American kestrel				x	x		

Appendix B-5 (cont.)

Study Area 9 (Cont.) Species	Census Dates						
	9/16	10/28	2/10	2/24	3/10	4/14	4/28
killdeer	x			x	1		
spotted sandpiper	x		x			x	x
Caspian tern					x		
yellow-billed cuckoo	3						4
barred owl	1		2	5		1	2
chimney swift							6
ruby-throated himmingbird	1					2	2
belted kingfisher	2		x		x	x	
common flicker		5	2	8	6		
pileated woodpecker	4	4	3	5	2	2	3
red-bellied woodpecker	4	6	10	17	5	5	7
red-headed woodpecker			x	2			
yellow-bellied sapsucker		14	13	14	4		
hairy woodpecker	1						
downy woodpecker	3	5	3	12	1	5	3
eastern kingbird						x	x
scissor-tailed flycatcher		x					
great crested flycatcher	5						5
eastern phoebe		11	1	2	1		
acadian flycatcher	13						9
eastern wood pewee	1	1					

Appendix B-5 (cont.)

Study Area 9 (Cont.) Species	Census Dates						
	9/16	10/28	2/10	2/24	3/10	4/14	4/28
tree swallow					15		
rough-winged swallow	x	x			2	x	x
barn swallow					2		
purple martin					7		
blue jay		31	11	17	17	8	8
common crow	10	9	11	9	5	5	7
Carolina chickadee	31	24	27	16	20	18	18
tufted titmouse	14	25	24	24	13	13	20
brown creeper		4	3	1			
winter wren		1	1	1			
Carolina wren	23	8	17	35	13	6	11
mockingbird				x	1		
gray catbird	1						3
brown thrasher		16	19	12	4	4	3
robin			10	2	3		
wood thrush		3					1
hermit thrush		1	4	8	1		
Swainson's thrush	1						3
eastern bluebird			x	x			
blue-gray gnatcatcher	7	5				12	2
golden-crowned kinglet		13	5	1			

Appendix B-5 (cont.)

Study Area 9 (Cont.) Species	Census Dates						
	9/16	10/28	2/10	2/24	3/10	4/14	4/28
ruby-crowned kinglet		36	3	4	2	1	
cedar waxwin						26	
loggerhead shrike	x			x			
white-eyed vireo	78	2	1		1	27	16
yellow-throated vireo	1					2	1
solitary vireo			1	1			
red-eyed vireo						7	9
black & white warbler	1	1	1				1
prothonotary warbler	3					12	11
Swainson's warbler	1						3
worm-eating warbler	1						1
Tennessee warbler							12
orange-crowned warbler		3	5	2			
northern parula warbler	4				12	39	16
myrtle warbler		9	18	17	4	8	1
black-throated green warbler		2					1
yellow-throated warbler							1
chestnut-sided warbler							1
ovenbird	1						
northern waterthrush	4						1
Kentucky warbler						4	
common yellowthroat						x	

Appendix B-5 (cont.)

Study Area 9 (Cont.) Species	Census Dates						
	9/16	10/28	2/10	2/24	3/10	4/14	4/28
yellow-breasted chat	2						6
hooded warbler	6					9	4
Canada warbler	1						
American redstart							12
redwinged blackbird				x	1	1	
Baltimore oriole							1
brown-headed cowbird						2	13
summer tanager	1						2
cardinal	54	78	69	53	49	72	63
indigo bunting						1	24
painted bunting							6
purple finch				5			
American goldfinch			3	16	25		3
rufous-sided towhee			6		1		
savannah sparrow						x	
slate-colored junco			x	x			
white-throated sparrow		11	335	36	78	31	5
fox sparrow			3				
Total Individuals	326	334	628	325	305	[illegible]	[illegible]
Total Census Species	39	28	33	30	34	32	[illegible]

Total Species All Censuses: 86 (plus 17 non-census species= 103).
Total Individuals All Censuses: 2,637 (avg. 377 per census).

Appendix B-5 (cont.)

Study Area 10 Species	Census Dates						
	12/10	2/11	3/11	4/15	5/13		
double-crested cormorant		585	14	3			
anhinga		1	3		2		
great blue heron		1	6	3	1		
little blue heron			1	1	2		
cattle egret				14	2		
great egret	2		5	6			
snowy egret			2		7		
Louisiana heron			1	1	4		
yellow-cr night heron					1		
white ibis			360		48		
Canada goose			x				
wood duck		8	3				
turkey vulture	3	8					
black vulture	9	11	3	1	1		
Mississippi kite					1		
red-tailed hawk	1		1				
red-shouldered hawk		2	2	2	1		
marsh hawk		1					
American kestrel		1					
ring-billed gull			1				
mourning dove			?				

Appendix B-5 (cont.)

Study Area 10 (Cont.) Species	Census Dates						
	12/10	2/11	3/11	4/15	5/13		
yellow-billed cuckoo					6		
barred owl		2	1	2	1		
chimney swift				4	1		
ruby-throated hummingbird				2			
belted kingfisher		1					
common flicker	4	4					
pileated woodpecker	1	1	3	1			
red-bellied woodpecker		6	8	4	4		
red-headed woodpecker		4	3				
yellow-bellied sapsucker	1	3	3				
hairy woodpecker		1					
downy woodpecker	2	3	5	5	3		
great crested flycatcher					4		
eastern phoebe	4	1	1				
yellow-bellied flycatcher					1		
eastern wood pewee				2	1		
tree swallow			7				
bank swallow					11		
barn swallow				2	27		
cliff swallow					2		
purple martin			5	6			

Appendix B-5 (cont.)

Study Area 10 (Cont.) Species	Census Dates						
	12/10	2/11	3/11	4/15	5/13		
blue jay	11	15	29	6	5		
common crow	10	9	6	3	6		
Carolina chickadee	15	24	21	13	16		
tufted titmouse	2	4	4	11	13		
brown creeper	1	1					
house wren	1	4					
Carolina wren	6	11	15	6	7		
mockingbird	8	17	7	7	2		
brown thrasher	3	17	8	3			
robin	65	28	2				
wood thrush				4			
hermit thrush	3	3					
eastern bluebird	34	10	4				
blue-gray gnatcatcher	2			3			
ruby-crowned kinglet	24	8	12	2			
loggerhead shrike	2	1	1				
white-eyed vireo			3	14	7		
solitary vireo	1						
red-eyed vireo				2	5		
black & white warbler				5			
prothonotary warbler				3	3		

Appendix B-5 (cont.)

Study Area 10 (Cont.) Species	Census Dates						
	12/10	2/11	3/11	4/15	5/13		
Swainson's warbler				1	2		
worm-eating warbler				1			
blue-winged warbler				1			
Tennessee warbler				13			
orange-crowned warbler	2	4	2				
northern parula warbler			6	8	8		
magnolia warbler					1		
myrtle warbler	13	9	4				
cerulean warbler				2			
blackburnian warbler				1			
yellow-throated warbler			1				
chestnut-sided warbler				1			
pine warbler	4	2	1	1	1		
Kentucky warbler				5	3		
common yellowthroat			1	6	2		
hooded warbler				5			
American redstart				1			
redwinged blackbird	2	5	6				
orchard oriole				36			
Baltimore oriole				2			
common grackle	30	1	3				

Appendix B-5 (cont.)

Study Area 10 (Cont.) Species	Census Dates						
	12/10	2/11	3/11	4/15	5/13		
brown-headed cowbird			1	4	20		
scarlet tanager				1			
summer tanager				1	2		
cardinal	44	69	82	38	41		
indigo bunting	1			12	13		
painted bunting				1	10		
American goldfinch	31	53	14				
rufous-sided towhee	1	2	1	1			
savannah sparrow		5					
Henslow's sparrow		2					
LeConte's sparrow		1					
slate-colored junco		36					
field sparrow	4	2	2				
white-throated sparrow	87	276	55	26			
fox sparrow		3					
Lincoln's sparrow		5		2			
swamp sparrow	3	11	1				
song sparrow	1	2					
Total Individuals	438	1284	732	311	298		
Total Census Species	38	51	50	55	42		

Total Species All Censuses: 101 (plus 1 non-census species= 102).
Total Individuals All Censuses: 3,063 (avg. 613 per census).

In the subsequent tables where relative impact assessments are given, they have been assigned the following range of subjective values:

Very adverse
Moderately adverse
Slightly adverse
None
Slightly beneficial
Moderately beneficial
Very beneficial

LIST OF INVERTEBRATES REPORTED FROM THE
TRINITY RIVER BASIN

Species	Habitat
PHYLUM PROTOZOA (one-celled animals)	
Superclass Mastigophora	
Class Phytomastigophora	
Order Chrysomonodida	
Dinobryon spp.	Fresh water
Order Dinoflagellida	
Ceratium spp.	Estuarine
Peridinium spp.	Upper estuary
Order Euglenida	
Euglena spp.	Fresh water
Phacus spp.	Fresh water
Order Volvocida	
Pandorina spp.	Fresh water
Eudorina spp.	Fresh water
Volvox spp.	Fresh water
Class Zoomastigophora	
Order Kinestoplastida	
Bobo spp.	Fresh water
Monas spp.	Fresh water
Superclass Sarcodina	
Class Hyraulea	
Order Amoebida	
Amoeba spp.	Fresh water
Order Arcinellinida	
Arcella spp.	Fresh water
Centropyxis spp.	Fresh water
Difflugia spp.	Fresh water
Class Autotractea	
Order Heliozoida	
Actinophyrys spp.	Fresh water
Actinosphaerium spp.	Fresh water

Species	Habitat
Superclass Ciliata	
Class Holotrichea	
Order Gymonostomatida	
Coleps hirtus	Fresh water
Didinium spp.	Fresh water
Loxophyllum spp.	Fresh water
Procodon spp.	Fresh water
Holophyra spp.	Fresh water
Order Hymenostomatida	
Paramecium spp.	Fresh water
Order Trichostomatida	
Colpoda spp.	Fresh water
Class Peritrichea	
Order Peritrichida	
Vorticella campanula	Fresh water
Class Spirotrichea	
Order Heterotrichida	
Stentor styloninchia	Fresh water
Blepharisma lateritia	Fresh water
Order Hypotrichida	
Euplotes charon	Fresh water
Order Oligotrichida	
Halteria spp.	Fresh water
PHYLUM PORIFERA (sponges)	
Class Desmosongia	
Subclass Monaxonida	
Family Spongillidae (fresh water sponges)	
Spongilla fragilis	Standing fresh water
Spongilla lacustris	Running fresh water
Ephydatia crateriformis	Rapid freshwater streams
Family Clionida (boring sponges)	
Cliona spp.	Estuarine oyster reefs

Species	Habitat
PHYLUM CNIDARIA (COELENTERATA) (jellyfishes, corals, etc.)	
Class Hydrozoa	
Order Hydroida (hydra)	
Hydra viridis	Fresh water
Class Scyphozoa (jellyfish)	
Order Semaeostomaeae	
Aurelia aurita	Estuary and marine
Crespedacusta sowerbyi	Freshwater lakes
PHYLUM CTENOPHORA (comb jellyfish)	
Class Tentaculata	
Mnemiopsis leidyi	Lower estuary
Class Nuda	
Beröe ovata	Lower estuary
PHYLUM PLATYHELMINTHES (flatworms)	
Class Turbellaria (free-living)	
Order Alloecoela	
Stylochus ellipticus	Oyster reefs
Class Trematoda (parasites)	
Order Monogenea	
Urocleidus attentuatus	Ectoparasite on fish, turtles and amphibians
Urocleidus chrysops	do.
Urocleidus grandis	do.
Urocleidus principalis	do.
Cleidodiscus pricei	do.
Cleidodiscus robustus	do.
Actinocleidus longus	do.
Actinocleidus fergusoni	do.
Dactylogyris perlus	Found on gills of freshwater fish
Order Aspidobothrea	
Cotylaspis insignis	Found in pericardial cavity of freshwater fish
Aspidogaster conchicola	do.

Species	Habitat
Order Digenea	
Posthodiplostomum minimum	Freshwater areas
Paramphistomomum stunkardi	Freshwater areas
Phyllodistomum lohrenzi	Freshwater areas
Bucephalus elegans	Freshwater areas
Cercaria ambelmae	Endemic to Garza Little Elm Lake
Strigeid metacercariae	Freshwater areas
Class Cestoda (parasites)	
Order Proteocephalidea	
Proteocephalus ambloplites	Fresh water
PHYLUM ROTIFERA (wheel animalcules)	
Brachionus angularis	Fresh water
Brachionus urceolares	Fresh water
Brachionus calyciflorus	Fresh water
Asplanchuna spp.	Fresh water
Monostyla spp.	Fresh water
Conochilus spp.	Fresh water
Synchaeta spp.	Fresh water
Platyias patulus	Fresh water
Platyias quadricornis	Fresh water
Trichocerca sp.	Fresh water
PHYLUM ACANTHOCEPHALA (spiny-headed worms)	
Order Eoacanthocephala	
Neoechinohynchus cylindratum	Parasite of freshwater fish
PHYLUM RHYNCHOCOELA (nemerteans)	
Class Anopla	
Order Heteronermertini	
Cerebratulus spp.	Lower estuary
Class Enopla	
Order Bdellonemertini	
Malacobdella sp.	Mantle cavity of salt water clams, oysters

Species	Habitat
PHYLUM NEMATODA (nematodes)	
Order Enoploidea	
Many species and most common organism in bottom samples of Trinity Bay and Estuary.	
PHYLUM ECTOPROCTA (moss animals)	
Order Cheilostomata	
Membranipora spp.	Oyster reefs
Bugula spp.	Oyster reefs, pilings
PHYLUM ANNELIDA (common worms)	
Class Polychaeta (marine worms)	
Family Glyceridae	
Glycera americana	Middle estuary
Family Lumbrineridae	
Lumbrineris tenuis	Middle estuary
Family Nephytidae	
Nephtys spp.	Middle and lower estuary
Family Nereidae	
Nereis succinea	Estuary and oyster reefs
Family Onophidae	
Diopatra cuprea	Lower . tuary
Family Capitellidae	
Mediomastis californiensis	Middle to lower estuary
Family Spionidae	
Polydora ligni	Oyster reefs
Streblospio benedicti	Middle estuary and reefs
Family Indeterminate	
Loandalia fauveli	Estuary
Amphicties gunneri floridus	Estuary
Class Oligochaeta (earthworms)	
Order Plesiospora	
Tubifex tubifex	Polluted fresh waters

Species	Habitat
Limnodrilis sp.	Fresh water
Nais sp.	Fresh water, in algae
Parascolex gabriellae	Estuary
Order Opisthopora	
Diplocardia sandersi	Terrestrial
Class Hirudinea (leeches)	
Order Rhynchobdellida	
Helobdella elongata	Fresh water
Helobdella lineata	Fresh water
Glossiphonia sp.	Fresh water
PHYLUM MOLLUSCA (mollusks)	
Class Pelecypoda (clams)	
Order Nuculacea (nut clams)	
Nuculana eborea	Middle and lower estuary
Order Arcaea (arks)	
Anadara transversa	Lower estuary, oyster reefs
Order Mytiliacea (mussels)	
Brachidontes recurvus	Oyster reefs
Order Anomiidea (jingle shells)	
Anomia simplex	Oyster reefs
Order Ostreacea (oysters)	
Crassostrea virginica	Oyster reefs
Order Carditacea (freshwater clams)	
Anodonta corpulenta	Fresh water
Anodonta imbecillis	Fresh water
Anodonta grandis	Fresh water
Anodonta ohionsis	Fresh water
Lampsilis tampicoensis	Fresh water
Lampsilis anodontoides	Fresh water
Lampsilis fasciata hydiana	Fresh water
Lampsilis ventricosa	Fresh water, larger lakes
Lampsilis teres	Fresh water
Lampsilis lienosa	Fresh water
Lampsilis cardium satura	Fresh water

Species	Habitat
Quadrula nodulata	Fresh water
Quadrula quadrula aspera	Fresh water
Quadrula quadrula apiculata	Fresh water
Quadrula quadrula speciosa	Fresh water
Quadrula quadrula forsheyi	Fresh water
Quadrula quadrula mortoni	Fresh water
Quadrula petrina	Fresh water
Quadrula houstonensis	Fresh water
Quadrula pustulosa	Fresh water
Quadrula ridelli	Fresh water
Quadrula flava nasuta	Fresh water
Quadrula undata chunis	Fresh water
Quadrula askervi	Fresh water
Strophitus subvexus	Fresh water
Strophitus undulatus	Fresh water
Leptodea fragilis	Fresh water, mud bottom
Leptodea laevissima	Fresh water
Lasmigona costata	Fresh water
Amblema perplicata	Fresh water
Amblema plicata costata	Fresh water
Amblema plicata perplicata	Fresh water
Amblema gigantea	Fresh water
Amblema dambeyana (plectomerus)	Fresh water
Sphaerium sp.	Fresh water
Order Mactracea	
Mulinia lateralis	Entire estuary
Rangia cuneata	Upper estuary
Abra aequalis	Lower estuary
Macoma mitchelli	Upper to middle estuary
Class Gastropoda (snails)	
Subclass Prosobranchia	
Order Mesogastropoda	
Viviparus sp.	Fresh water
Littorina irrorata	Brackish marshes
Littoridina sphinctostoma	Upper estuary, mud bottom
Crepidula plana	Oyster reefs
Polinices duplicatus	Lower estuary
Order Neogastropoda	
Thais haemastoma floridana	Oyster reefs
Mitrella lunata	Oyster reefs, middle bay
Nassarius acutus	Middle and lower estuary

Species	Habitat
Subclass Opisthobranchia	
Order Pyramidellacea	
Turbonilla interrupta	Middle and lower estuary
Order Cephalaspidea	
Retusa canaliculata	Upper to middle estuary
Subclass Pulmonata (land and freshwater snails)	
Order Basommatophora	
Physa virgata	Fresh water
Physa integra	Fresh water
Ferrissia rivularis	Fresh water
Helisoma trivolis	Terrestrial
Helisoma anceps	Terrestrial
Gyraulus parvus	Terrestrial
Order Stylommatophora	
Polygyra texasiana	Moist woodlands
Polygyra leporina	Moist woodlands
Polygyra mooreana	Moist woodlands
Polygyra dorfeuilliana	Moist woodlands
Polygyra septemvolva volvovis	Moist woodlands
Triodopsis henriettae	Moist woodlands
Triodopsis vultuosa	Moist woodlands
Triodopsis cragini	Moist woodlands
Mesodon thyroidus	Moist woodlands
Stenotrema leai aliciae	Moist woodlands
Class Cephalopoda (squid, octopus)	
Order Decapoda	
Loliguncula brevis	Lower estuary
PHYLUM ARTHROPODA	
Class Crustacea	
Subclass Branchiopoda	
Order Cladocera (waterfleas)	
Diaphanosoma brachyurum	Upper Trinity Lakes
Polyphemus spp.	Upper Trinity Lakes
Daphnia longispina	Upper Trinity Lakes
Daphnia pulex	Pools and lakes
Daphnia obtusa	Pools and Lakes
Daphnia arcuata	Lake Arlington
Bosmina spp.	Upper Trinity Lakes
Pleuroxus hamulatus	Lake Worth

Species	Habitat
Pleuroxus aduncus	Lake Worth
Pleuroxus denticulatus	Lake Worth
Chydorus sphaericus	Tarrant County, Trinity River
Chydorus globosus	Tarrant County, Trinity River
Alonella diaphana	Dallas County
Alona costata	Tarrant and Dallas Counties
Moina rectirostris	Denton and Tarrant Counties
Moina paradoxa	Denton and Tarrant Counties
Ceriodaphnia pulchella	Tarrant County
Ceriodaphnia laticaudata	Tarrant County
Ceriodaphnia rotunda	Tarrant County
Scapholeberis mucronata	All north Texas
Simocephalus vetulus	All north Texas
Simocephalus exspinosus	Tarrant County
Simocephalus serrulatus	Tarrant and Denton Counties
Macrothrix laticornis	Denton County
Macrothrix borysthenica	Dallas County
Macrothrix rosea	Denton County
Subclass Copepoda	
Order Calanoida	
Diaptomus spp.	Fresh water
Calanus spp.	Estuary
Pseudocalanus spp.	Estuary
Centropages spp.	Estuary
Acartia tonsa	Estuary
Order Harpacticoida	
Canthocamptus sp.	Fresh water
Harpacticus spp.	Middle and lower estuary
Order Cyclopoida	
Cyclops bicuspidatus thomasii	Freshwater lakes
Cyclops vernalis	Freshwater lakes
Order Branchiura	
Argulus sp.	Parasitic on fish
Subclass Cirripedia (barnacles)	
Order Thoracica	
Balanus eburneus	Whole estuary
Balanus improvisus	Lower estuary
Subclass Malacostraca	
Order Mysidacea	
Mysis relicta	Lower estuary

Species	Habitat
Gastrosaccus dissimilis	Lower estuary
Mysidopsis bigelowi	Lower estuary
Order Cumacea	
Cyclaspis varians	Lower estuary
Oxyurostylis salinoi	Lower estuary
Order Tanaidacea	
Leptochelia rapax	Lower estuary
Order Isopoda	
Edotea montosa	Lower estuary
Ligia exotica	Estuary pilings
Order Amphipoda	
Ampelisca sp.	Estuary
Cymadusa compta	Lower estuary
Corophium louisianum	Lower estuary
Microprotopus raneyi	Lower estuary
Caprella equilibra	Lower estuary, oyster reef
Paracaprella pusilla	Lower estuary, oyster reef
Order Decapoda	
Penaeus aztecus	Lower estuary
Penaeus duoarum	Middle to lower estuary
Penaeus setiferus	Whole estuary
Macrobrachium ohione	Lower river
Palaemonetes pugio	Lower estuary
Palaemonetes vulgaris	Lower estuary
Clibinarius vittatus	Middle and lower estuary
Pagurus longicarpus	Middle and lower estuary
Callinectes sapidus	Whole estuary
Neopanope texana sayi	Middle and lower estuary
Rhithropanopeus harrissi	Middle estuary
Procambarus blandingi acutus	Flowing streams
Procambarus clarki	Clear permanent freshwater
Procambarus dupratzi	Flowing water, clear and turbid
Procambarus simulans	Freshwater lakes
Cambarus hedgpethi	Moist banks, fresh water
Cambarellus shufeldti	Shallow freshwater bodies
Cambarellus puer	Fresh water
Orconectes palmeri longimanus	Flowing fresh waters
Uca pugnax	Estuarine marshes

Species	Habitat
Class Insecta (aquatic forms in Trinity River Basin)	
Order Odonata (dragonflies and damselflies)	
Family Libellulidae (skimmers)	Moist areas, near streams
Family Gomphidae (clubtails)	Rocks in streams
Family Agrionidae (broad-winged damselflies)	Rocks in swift waters
Family Coenagrionidae (narrow-winged damselflies)	Vegetated marshlands
Order Hemiptera (bugs)	
Family Gelasticoridae (toad bugs)	Wet areas, along shore
Family Corixidae (water boatmen)	Ponds, slow streams
Family Notonectidae (back swimmers)	Standing or running water
Family Gerridae (water striders)	Ponds or lakes, surface
Family Veliidae (broad-shouldered water striders)	Streams
Family Saldidae (water treaders)	Wet areas in debris
Order Coleoptera (beetles)	
Family Haliplidae (crawling water beetles)	Shallow still water
Family Dytiscidae (predaceous diving beetles)	Shallow still water
Family Gyrinidae (whirligig beetles)	Among aquatic plants
Family Hydrophilidae (water scavenger beetles)	Quiet waters, ponds
Family Dryopidae (riffle beetles)	Stones in flowing waters

Species	Habitat
Order Diptera (flies, gnats, mosquitoes)	
Family Culicidae (mosquitoes)	Calm stagnant waters
Family Simulidae (black flies)	Streams and ponds
Family Chironomidae (midges)	Ponds, rivers, and lakes
Family Tabanidae (horseflies, deerflies)	Subaquatic, lowlands
Family Ceratopogonidae (biting midges)	Fresh, brackish, salt water
Family Tipulidae (crane flies)	Margins of water bodies
Order Neuroptera (lacewing flies)	
Family Corydalidae (Dobson flies)	Fast flowing streams
Order Trichoptera (caddisflies)	
Family Hydroptidae (caddisflies)	Running water
Family Rhyacophilidae (primitive caddisflies)	Cool clear streams
Family Leptoceridae (long-horned caddisflies)	Still or running water
Family Phyganeidae (caddisflies)	Rocks in streams
Order Plecoptera (stoneflies)	
Family Perlidae (stoneflies)	Rapid streams
Family Perlodidae (stoneflies)	Margins of rapid streams
Order Ephemeroptera (mayflies)	
Family Ephemeridae (mayflies)	Muddy bottoms, quiet water
Family Baetidae (mayflies)	Slow moving streams

Species	Habitat
Family Caenidae (mayflies)	Freshwater, sandy bottom
Family Heptageniidae (mayflies)	Rapidly flowing waters
PHYLUM CHAETOGNATHA (arrow worms)	
Sagitta elegans	Lower estuary

Classification follows: Wass and others (1972)

References used: Ubelaker (1971); Fisher, Hall, Jones, McCullough, and Nixon (1973); Solomon and Smith (1973); and Ryckman/Edgerley/Tomlinson & Associates, Inc. (1974)

FISH OF TRINITY RIVER DRAINAGE

Species	Habitat and/or Seasonal Status	Range in Texas and North America	Abundance in Region	Values	Project Impact
FAMILY PETROMYZONTIDAE (lampreys)					
Ichthyomyzon gagei Southern brook lamprey	Fresh water rivers, streams	East Texas North America range: lower Mississippi drainage from eastern Texas to western Florida	Unknown	Serious pest on sports fish	None
FAMILY CARCHARHINIDAE (requiem sharks)					
Carcharhinus leucas Bull shark	Coastal (marine invader)	Occasional marine invader to main channel in lower Trinity basin North America range: Atlantic and Pacific north to North Carolina, rarely to New York	Uncommon	Economic (skin sometimes used as leather), low food, low	None
FAMILY DASYATIDAE (stingrays)					
Dasyatis sabina Atlantic stingray	Coastal (marine invader)	Occasional marine invader to main channel in lower Trinity basin North America range: Atlantic, Chesapeake Bay and south	Uncommon	Food, low	None
FAMILY POLYODONTIDAE (paddlefishes)					
Polyodon spathula Paddlefish	Silty rivers, oxbows and flood-plain lakes	East Texas North America range: Great Lakes, Mississippi River system	Rare	Food value, moderate	None
FAMILY LEPISOSTEIDAE (gars)					
Lepisosteus oculatus Spotted gar	Small rivers, oxbows, swamps, flood-plain sloughs, borrow pits, dark-stained acid streams	Statewide except in Trans-Pecos and western plains North America range: southeastern United States	Abundant	Medium food value, low economic in volume	Slightly beneficial

Species	Habitat and/or Seasonal Status	Range in Texas and North America	Abundance in Region	Values	Project Impact
Lepisosteus osseus Longnose gar	Large and small rivers, oxbows, swamps, flood-plain sloughs, borrow pits, dark-stained acid streams	Statewide North America range: Montana and Vermont, south to Mexico and Florida	Abundant	Low food value	Moderately beneficial
Lepisosteus platostomus Shortnose gar	Large rivers, oxbows, swamps, flood-plains sloughs, borrow pits	Northern portions of east Texas, blackland prairie, cross timbers, plains North America range: muddy rivers of Mississippi drainage system	Abundant	Low food value	Moderately beneficial
Lepisosteus spatula Alligator gar	Large river channels, oxbows, swamps, flood-plain sloughs, borrow pits	Eastern Texas, coastal prairie, southern Texas, northern part blackland prairie North America range: larger rivers of the Mississippi River drainage and Gulf tributaries	Abundant	Medium food value, high economic in volume	Slightly beneficial
Lepisosteus spatula x (presumably) Lepisosteus osseus Hybrid	River channel, oxbows, flood-plain sloughs	Lower Trinity basin North America range: unknown	Abundant	Low food value	Slightly beneficial
FAMILY AMIIDAE (bowfins)					
Amia calva Bowfins	Large river channels, oxbow lakes, swamps, flood-plain sloughs, borrow pits, dark-stained acid streams	Eastern Texas and coastal prairie North America range: Minnesota to Quebec south, west of Appalachians, to Texas and Florida	Abundant	Economic, none; biological, low	Slightly beneficial
FAMILY ELOPIDAE (tarpons)					
Elops saurus Ladyfish	Estuaries, coast	Coastal (marine invader) North America range: coastal Atlantic, Maine and south	Uncommon	Economic, none; biological, intermediate	None

Species	Habitat and/or Seasonal Status	Range in Texas and North America	Abundance in Region	Values	Project Impact
FAMILY ANGUILLIDAE (freshwater eels)					
Anguilla rostrata American eel	Large and small river channels, oxbows, swamps, flood-plain sloughs, borrow pits, dark-stained acid streams, hibernates in mud	Eastern one-third North America range: Atlantic and Gulf coast	Uncommon	Economic (food) low biological, low	None
FAMILY OPHICHTHIDAE (snake eels)					
Myrophis punctatus Speckled worm eel	Occasional marine invader	Unknown North America range: Atlantic and Gulf coast	Uncommon	Biological, low	None
FAMILY CLUPEIDAE (herrings)					
Alosa chrysochloris Skipjack herring	Large river channels, uncommon in small rivers, oxbows, swamps, sloughs and borrow pits	Eastern part of Texas North America range: south-central United States, Mississippi drainage system	Uncommon	None	None
Brevoortia patronus Gulf menhaden	Estuarine invader near shore shelf, seasonally abundant October through December	Coastal to Freeport North America range: Atlantic and Gulf coast	Abundant	Economic, very high; biological, high	None
Dorosoma cepedianum Gizzard shad	Large river channels, small river, oxbows, swamps, flood-plain sloughs, borrow pits	Statewide North America range: eastern half United States, Atlantic and Gulf coast	Abundant	Economic low; biological, high	Moderately beneficial
Dorosoma petenese Threadfin shad	Large river channels, small rivers, oxbows, swamps, flood-plain sloughs, borrow pits	Eastern half North America range: Gulf of Mexico entering streams from Florida to Mexico, penetrating far up-stream	Abundant	Economic, low; biological, high	Moderately beneficial

Species	Habitat and/or Seasonal Status	Range in Texas and North America	Abundance in Region	Values	Project Impact
FAMILY ENGRAULIDAE (anchovies)					
Anchoa mitchilli Bay anchovy	Marine invader to main channel, sandy shores, estuaries	Coastal North America range: Atlantic and Gulf coast, Maine to Texas	Uncommon	Economic, moderate bait, high biological, high	None
FAMILY ESOCIDAE (pikes)					
Esox americanus vermiculatus Grass pickerel	Flood-plain sloughs, oxbows and tributary streams	Eastern Texas North America range: Iowa southeast through Ohio Valley and southward to Gulf states from Texas to Florida	Abundant	Sports value moderate	Moderately beneficial
FAMILY CHARACIDAE (tetra)					
Astyanax mexicanus Mexican tetra	Fresh-water streams (introduced species)	Western to south-western and south-central Texas North America range: Texas, lower Colorado River drainage system of Arizona and New Mexico	Rare	Aesthetic	None
FAMILY CYPRINIDAE (minnows and carps)					
Campostoma anomalum Stoneroller	Clear creeks and small rivers	Central Texas from north South Texas to the Red River North America range: From Minnesota to Texas and eastward	Uncommon	Bait, low biological, low	Moderately adverse
Carassius auratus Goldfish	Dense aquatic vegetation	Introduced central Texas North America range: widely introduced in United States, native to Asia	Abundant	Aesthetic	Moderately beneficial

Species	Habitat and/or Seasonal Status	Range in Texas and North America	Abundance in Region	Values	Project Impact
Cyprinus carpio Carp	Warm often shallow waters	Statewide North America range: widely introduced in United States from Europe, native to Asia	Abundant	Food, moderate biological, high	Moderately beneficial
Hybognathus nuchalis Silvery minnow	Large and small river channels, oxbows, swamps flood-plain sloughs, borrow pits	Eastern Texas and blackland prairie North America range: Missouri drainage from Montana to lower Champlain and south to Gulf along Atlantic coastal states, absent from Great Lakes	Abundant	Biological, low; bait	Moderately beneficial
Hybopsis aestivalis Speckled chub	Large river channels, small rivers, large tributary creeks	Statewide North America range: Missouri River drainage to the Rio Grande and to western Florida	Common	Biological, moderate	Moderately beneficial
Notemigonus crysoleucas Golden shiner	Large river channels, small rivers, creeks, oxbows, swamps, flood-plain sloughs, borrow pits, dark-stained acid streams	Eastern two-thirds North America range: eastern half United States	Abundant	Biological, moderate	Moderately beneficial
Notropis amnis Pallid shiner	Large river channels, small rivers, large tributary creeks	South-central to eastern Texas North America range: southeastern Minnesota and Indiana to eastern Texas	Common	Bait, high	Moderately beneficial
Notropis atherinoides Emerald shiner	Large river channels, small rivers, large tributary creeks, oxbows, swamps, flood-plain sloughs, borrow pits	Eastern third North America range: Canada and Great Lakes to Gulf coast	Uncommon	Bait, low	Slightly beneficial

Species	Habitat and/or Seasonal Status	Range in Texas and North America	Abundance in Region	Values	Project Impact
Notropis atrocaudalis Blackspot shiner	Upper tributary streams	Eastern one-third North America range: eastern Texas, Oklahoma and Louisiana	Uncommon	Bait, low	Unknown
Notropis buchanani Ghost shiner	Large river channels, uncommon in small rivers	Eastern two-thirds North America range: southern Minnesota through the Ohio River drainage system and south to Texas and Mexico	Abundant	Bait, high	Slightly adverse
Notropis emiliae Pugnose minnow	Small rivers, large tributary creeks, oxbows, swamps, flood-plain sloughs, borrow pits and dark-stained acid streams	Eastern half North America range: southern Minnesota to Michigan and south to Florida and Texas	Abundant	Biological, low bait, high	Moderately beneficial
Notropis fumeus Ribbon shiner	Uncommon in large river channels, common in small rivers, large tributary creeks, oxbows, swamps, flood-plain sloughs, borrow pits, dark-stained acid streams	Eastern one-third North America range: Missouri and Tennessee drainage system south to Texas	Abundant	Bait, high	Slightly adverse
Notropis lutrensis Red shiner	Large river channels, small rivers, large tributary creeks	Statewide North America range: Wyoming to southern Minnesota and Illinois and southward to Mexico	Abundant	Bait, high biological, moderate	Slightly beneficial
Notropis potteri Chub shiner	Large river channels	North central Texas North America range: central Texas and part of Oklahoma	Uncommon	Bait, low	Slightly beneficial

Species	Habitat and/or Seasonal Status	Range in Texas and North America	Abundance in Region	Values	Project Impact
Notropis shumardi Silverband shiner	Large river channels	North-central Texas North America range: Iowa southward to Texas	Abundant	Bait, high	Slightly beneficial
Notropis stramineus Sand shiner	Unknown	Central Texas North America range: North Dakota to the St. Lawrence and Ohio River drainage south to Mexico	Uncommon	Bait, low	Unknown
Notropis texanus Weed shiner	Small rivers, large tributary creeks, oxbows, swamps, flood-plain sloughs, borrow pits, dark-stained acid streams	Eastern and south-eastern Texas North America range: Minnesota and Michagan into Iowa and Illinois	Abundant	Economic, high bait, high biological, low	Slightly beneficial
Notropis umbratilis Redfin shiner	Large river channels, small rivers and larger tributary creeks	Eastern Texas North America range: Minnesota and eastern Kansas, eastward to Lake Ontario, parts of eastern Texas, Kentucky and West Virginia	Abundant	Bait, high	Slightly beneficial
Notropis venustus Blacktail shiner	Large river channels, small rivers and large tributary creeks, oxbows, swamps, flood-plain sloughs, borrow pits, dark-stained acid streams	Eastern two-thirds North America range: southern Missouri to Texas, northern New Mexico to Florida	Abundant	Bait, high biological, low	Slightly adverse
Notropis volucellus Mimic shiner	Large river channels, small rivers and large tributary creeks	Eastern two-thirds North America range: Minnesota to Texas	Uncommon	Bait, low	Slightly adverse
Notropis lutrensis x Notropis venustus Hybrid	Large river channels, small rivers and large tributary creeks	Lower Trinity basin and tributaries North America range: unknown	Abundant	Bait, high	Slightly beneficial

Species	Habitat and/or Seasonal Status	Range in Texas and North America	Abundance in Region	Values	Project Impact
Phenacobius mirabilis Suckermouth minnow	Small rivers and large tributary creeks	Eastern third North America range: Colorado and South Dakota to western Ohio, Louisiana and Texas	Uncommon	None	Slightly adverse
Pimephales promelas Fathead minnow	Oxbows, swamps, flood-plain sloughs, borrow pits	From north South Texas through central Texas to Red River North America range: Appalachians west to Rocky Mountains	Abundant	Bait, high	Slightly beneficial
Pimephales vigilax Bullhead minnow	Large river channels, small rivers and large tributary creeks	Statewide except Trans-Pecos North America range: South Minnesota to West Virginia, northern Alabama and Oklahoma, Texas	Abundant	Biological, moderate bait, high	Slightly beneficial
Semotilus atromaculatus Creek chub	Headwater creeks	Eastern East Texas, rare in tributary streams North America range: Montana, Manitoba to eastern Canada, south to Gulf	Rare	[illegible], low	Slightly adverse
FAMILY CATOSTOMIDAE (suckers)					
Carpiodes carpio River carpsucker	Large river channels, small rivers and large tributary creeks	Statewide North America range: eastern Montana to western Pennsylvania, south to Mexico and Tennessee	Abundant	Economic, low biological, low	Moderately beneficial
Cycleptus elongatus Blue sucker	Large river channels	Statewide except northern Edwards Plateau and plains North America range: Mississippi drainage, south from southern Minnesota, Wisconsin	Abundant	Biological, low	Slightly adverse

Species	Habitat and/or Seasonal Status	Range in Texas and North America	Abundance in Region	Values	Project Impact
Erimyzon oblongus Creek chubsucker	Small rivers and large tributary creeks, headwater creeks, dark-stained acid streams	East Texas, eastern coastal prairie North America range: Minnesota to Connecticut and southward	Uncommon	None	Slightly beneficial
Erimyzon sucetta Lake chubsucker	Small rivers and large tributary creeks, oxbows, swamps, floodplain sloughs, borrow pits, headwater creeks, dark-stained acid streams	Eastern Texas and coastal prairie North America range: Minnesota to Connecticut and southward	Uncommon	Low, biological	Moderately beneficial
Ictiobus bubalus Smallmouth buffalo	Large river channels, oxbows, swamps, floodplain sloughs, borrow pits	Statewide except western plains North America range: southern Wisconson to West Virginia south to eastern Texas and Louisiana	Common	Sport and food, moderate; biological, moderate	Moderately beneficial
Ictiobus niger Black buffalo	Large river channels, oxbows, swamps, floodplain sloughs, borrow pits	Northeast Texas North America range: southern Wisconson to West Virginia south to eastern Texas and Louisiana	Common	Economic, moderate sport and food, moderate	Slightly adverse
Minytrema melanops Spotted sucker	Small rivers and large tributary creeks, oxbows, swamps, floodplain sloughs, borrow pits, headwater creeks, dark-stained acid streams	Eastern one-third North America range: Great Lakes south to North Carolina and Texas	Uncommon	None	Slightly adverse
Moxostoma congestum Gray redhorse	Streams, creeks, oxbows, sloughs	Central Texas through northern Texas North America range: southern Mississippi Valley drainage	Uncommon	Biological, low	Slightly beneficial

Species	Habitat and/or Seasonal Status	Range in Texas and North America	Abundance in Region	Values	Project Impact
Moxostoma poecilurum Blacktail redhorse	Small rivers and large tributary creeks, headwater creeks and dark-stained acid streams	East Texas and eastern coastal prairies North America range: southern Mississippi Valley drainage	Uncommon	Biological, low	Slightly adverse
FAMILY ICTALURIDAE (freshwater catfishes)					
Icalurus furcatus Blue catfish	Large river channels, oxbows, swamps, floodplain sloughs	Statewide except Edwards Plateau and southwest plains North America range: large rivers of Mississippi River valley and impoundments	Abundant	Economic, high biological, moderate	Slightly beneficial
Ictalurus melas Black bullhead	Small rivers and large tributary creeks, oxbows, swamps, floodplain sloughs, borrow pits, headwater creeks, dark-stained acid streams	Statewide except western Edwards Plateau, rare in Trans-Pecos North America range: Montana to western New York, south to Mexico and Florida	Common	Low sport and food value	Moderately beneficial
Ictalurus natalis Yellow bullhead	Small rivers, large tributary creeks, oxbows, swamps, flood plain sloughs, borrow pits, headwater creeks dark-stained acid streams	Eastern half except in southern South Texas North America range: North Dakota to Vermont, south to Mexico and Florida	Common	Economic, high biological, moderate	Moderately beneficial
Ictalurus punctatus Channel catfish	Large river channels, small rivers and large tributary creeks, oxbows, swamps, floodplain sloughs, borrow pits	Statewide North America range: widely distributed in central and eastern United States	Abundant	Economic, high as food and sport; biological, moderate	Moderately beneficial

Species	Habitat and/or Seasonal Status	Range in Texas and North America	Abundance in Region	Values	Project Impact
Noturus flavus Stonecat	Fast-water streams and riffles, weedy lake-shore waters	May not occur North America range: northern Montana, southeast to north Arkansas and east	Rare	Biological, low	None
Noturus gyrinus Tadpole madtom	Small rivers, large tributary creeks, oxbows, swamps, flood-plain sloughs, borrow pits, headwater creeks, dark-stained acid streams	Eastern one-third North America range: northern Wisconsin to Vermont and south to Gulf	Uncommon	Biological, low	Slightly beneficial
Noturus nocturnus Freckled madtom	Small rivers, large tributary creeks, headwater creeks, dark-stained acid creeks	Eastern and north-east North America range: Mississippi Valley drainage system to Gulf	Rare	Biological, low	Slightly beneficial
Pylodictis olivaris Flathead catfish	Large river channels, oxbows, swamps, flood-plain sloughs, borrow pits	Statewide North America range: South Dakota to western Pennsylvania, south to Gulf	Common	Economic, moderate biological, moderate	Moderately beneficial
FAMILY ARIIDAE (sea catfishes)					
Arius felis Sea catfish	Marine, nearshore shelf, clay bottom	Coastal marine invader North America range: Atlantic coast from North Carolina to Gulf of Mexico	Abundant in Gulf, few in waterway	Nuisance to sports fishing, some food value	None
FAMILY APHREDODERIDAE (pirate perches)					
Aphredoderus sayanus Pirate perch	Small rivers, large tributary creeks, oxbows, flood-plain sloughs, borrow pits, headwater creeks, dark-stained acid streams	Eastern one-third North America range: Minnesota to western Ohio, south to East Texas and Gulf coast states	Uncommon	Low	Moderately beneficial

Species	Habitat and/or Seasonal Status	Range in Texas and North America	Abundance in Pegion	Values	Project Impact
FAMILY BELONIDAE (needlefishes)					
Strongylura marina Atlantic needlefish	Marine, frequently ascending rivers	Extending through and slightly north and southwest of coastal plain North America range: rarely north of Cape Cod to Gulf of Mexico	Common	None	None
FAMILY CYPRINODONTIDAE (killifishes)					
Adinia xenica Diamond killifish	Marine, estuarine ascending rivers	Coastal North America range: Gulf coast	Uncommon	Biological, low	None
Cyprinodon variegatus Sheepshead minnow	Fresh water bayous and marshes	Coastal plain and southern South Texas North America range: Cape Cod to Texas coast	Common	Bait, moderate biological, moderate	None
Fundulus chrysotus Golden topminnow	Oxbows, swamps, flood-plain sloughs, borrow pits, dark-stained acid streams	Eastern one-third North America range: Mississippi Valley drainage	Uncommon	Biological, low	Moderately beneficial
Fundulus grandis Gulf killifish	Marine, estuarine	Coastal North America range: Gulf coast	Abundant	Bait, high biological, high	None
Fundulus jenkinsi Saltmarsh topminnow	Marine frequently occurring in estuarine and fresh waters	Coastal plains North America range: Texas coast	Uncommon	Biological, low	None
Fundulus kansae Plains killifish	Streams, creeks	Central Texas North America range: plains states, central United States	Common	Aesthetic, excellent aquarium fish	Slightly adverse

Species	Habitat and/or Seasonal Status	Range in Tex. and North America	Abundance in Region	Values	Project Impact
Fundulus notatus Blackstripe topminnow	Small rivers, large tributary creeks, oxbows, swamps, flood-plain sloughs, borrow pits, dark-stained acid streams	Eastern Texas North America range: eastern Iowa to southern Michigan and Ohio, south to eastern Texas, Mississippi and Tennessee	Common	Biological, moderate	Slightly benefi
Fundulus notti Starhead topminnow	Oxbows, swamps, flood-plain sloughs, borrow pits, dark-stained acid streams	Eastern Texas North America range: Lake Michigan drainage, Mississippi Valley to western Tennesse	Uncommon	Biological, low	Slightly beneficial
Fundulus olivaceus Blackspotted topminnow	Small streams, large tributary creeks, oxbows, swamps, flood-plain sloughs, borrow pits, headwater creeks dark-stained acid creeks	Eastern Texas North America range: Mississippi Valley drainage	Common	Biological, low	Moderately beneficial
Fundulus pulvereus Bayou killifish	Marine frequently found in estuarine and fresh waters	Coastal plains North America range: Atlantic and Gulf coastal waters	Uncommon	Biological, low	None
Fundulus similis Longnose killifish	Marine, estuarine	Coastal Trinity Bay North America range: Gulf coast from Florida to Texas	Abundant	Bait, high biological, high	None
Lucania parva Rainwater killifish	Marine frequently occurring in estuarine and fresh water	Coastal plains North America range: Atlantic coast from Connecticut to Gulf	Uncommon	Bait, low	None
FAMILY POECILIIDAE (livebearers)					
Gambusia affinis Mosquitofish	Large river channels, small rivers and larger tributary creeks, oxbows, swamps, flood-plain sloughs, borrow pits, headwater creeks, dark-stained acid streams	Statewide North America range: south and south-eastern United States	Abundant	High as mosquito control; biological, high	Moderately beneficial

Species	Habitat and/or Seasonal Status	Range in Texas and North America	Abundance in Region	Values	Project Impact
Poecilia latipinna Sailfin molly	Fresh, brackish and sea water, oxbows, swamps, flood-plain sloughs, borrow pits, dark-stained acid streams	Coastal waters North America range: Atlantic from South Carolina to Gulf of Mexico	Common	Mosquito control, tropical fish sales	None
FAMILY ATHERINIDAE (silversides)					
Labidesthes sicculus Brook silverside	Oxbows, swamps, flood-plain sloughs, borrow pits	Northeast Texas coast North America range: Minnesota to the Appalachians, south to eastern Texas and Florida	Uncommon	Low	Moderately beneficial
Membras martinica Rough silverside	Salt bayous and lake shore, coastal	Coastal Texas bays North America range: Atlantic coast from New York to Gulf of Mexico	Abundant	Bait, high	None
Menidia audens Mississippi silverside	Large river channels, oxbows, sloughs, swamps, borrow pits	Northeast Texas North America range: Gulf coast	Uncommon	Bait, low	Moderately beneficial
Menidia beryllina Tidewater silverside	Coastal, bayous and marshes, estuaries	Southeast Texas coast North America range: Atlantic coast from Massachusetts to Gulf of Mexico	Common	Bait, high	None
FAMILY SYNGNATHIDAE (pipefishes and seahorses)					
Syngnathus scovelli Gulf pipefish	Coastal, bayous and marshes, estuaries	Coastal Texas grass flats and passes North America range: Gulf of Mexico	Rare	Low, aesthetic	None
FAMILY PERCICHTHYIDAE (temperate basses)					
Morone chrysops White bass	Large river channels, oxbows, flood-plain sloughs, swamps, borrow pits	Statewide excent in Trans-Pecos North America range: southern Minnesota to western New York, south to Mexico and Gulf	Uncommon	Sport and food, moderate	Very beneficial

Species	Habitat and/or Seasonal Status	Range in Texas and North America	Abundance in Region	Values	Project Impact
Morone mississippiensis Yellow bass	Large river channels, oxbows, swamps, flood-plain sloughs, borrow pits	East Texas North America range: Minnesota to Indiana, south to eastern Texas and Alabama	Uncommon	Sport and food, moderate	Very beneficial
Morone saxatilis Striped bass	Large river channels, (introduced in lakes) anadromous	Coastal (introduced inland) North America range: Gulf of St. Lawrence to Gulf of Mexico	Uncommon	Sport and food, moderate	Very beneficial
FAMILY CENTRARCHIDAE (sunfishes) Centrarchus macropterus Flier	Oxbows, swamps, flood-plain sloughs, borrow pits, dark-stained acid streams	Eastern Texas North America range: Virginia southward near coast to Florida to Louisiana and Texas, northward sparingly in the Mississippi Valley	Common	Sports and food, high	Slightly beneficial
Elassoma zonatum Banded pygmy sunfish	Small rivers, large creeks, oxbows, sloughs, borrow pits	Eastern Texas North America range: introduced in southern United States	Uncommon	Low	Slightly beneficial
Lepomis auritus Redbreast sunfish	Rivers, streams, creeks	Central Texas and Edwards Plateau North America range: New Brunswick to Florida and introduced in southwest	Uncommon	Low sport and food value	None
Lepomis cyanellus Green sunfish	Samll rivers and large tributary creeks, headwater creeks and dark-stained acid streams	Statewide North America range: South Dakota to New York and south to New Mexico and Texas	Common	Low sport and food value	Moderately adverse
Lepomis gulosus Warmouth	Large river channels, small rivers and large tributary creeks, oxbows, swamps, flood-plain sloughs, borrow pits, dark-stained acid streams	Statewide North America range: Kansas, Michigan and New York south to the Gulf	Common	Sport and food, high	Moderately beneficial

Species	Habitat and/or Seasonal Status	Range in Texas and North America	Abundance in Region	Values	Project Impact
Lepomis humilis Orangespotted sunfish	Large river channels	Eastern third of state North America range: Dakotas to Ohio, south to New Mexico, Mississippi	Common	Sport and food, moderate	Slightly adverse
Lepomis macrochirus Bluegill	Large river channels, small rivers, large tributary creeks, oxbows, swamps, sloughs, borrow pits, and dark-stained acid stream	Statewide North America range: eastern half of United States, Great Lakes, north to New Jersey	Abundant	Sport and food, high	Moderately beneficial
Lepomis marginatus Dollar sunfish	Oxbows, swamps, sloughs, borrow pits	Eastern Texas North America range: southern Mississippi basin	Uncommon	Sport, low	Slightly beneficial
Lepomis megalotis Longear sunfish	Rivers, creeks, oxbows, swamps, sloughs, borrow pits	Statewide North America range: Great Lakes southwest to Nebraska, and south to Texas and Florida	Common	Sport and food, high	Moderately beneficial
Lepomis microlophus Redear sunfish	Small rivers, large creeks, oxbows, swamps, sloughs, borrow pits	Statewide, rare in Trans-Pecos North America range: Mississippi Valley, Iowa to Indiana and south to Gulf	Common	Sport and food, high	Slightly beneficial
Lepomis punctatus Spotted sunfish	Small rivers, creeks, oxbows, swamps, sloughs, borrow pits	Eastern Texas, rare in central third of state North America range: Mississippi Basin from southern Indiana south	Rare	Low	Slightly beneficial
Lepomis symmetricus Bantam sunfish	Oxbows, swamps, sloughs, borrow pits	Eastern Texas North America range: Mississippi Valley from southern Illinois	Rare	Low value, except as rarity	None

Species	Habitat and/or Seasonal Status	Range in Texas and North America	Abundance in Region	Values	Project Impact
Lepomis cyanellus x Lepomis macrochirus Hybrids	Streams, creeks, oxbows, swamps, sloughs, borrow pits	Statewide North America range: unknown	Common	Sport and food, high	Slightly beneficial
Lepomis cyanellus x Lepomis microlophus Hybrids	Streams, creeks, oxbows, swamps, sloughs, borrow pits	Statewide except Trans-Pecos North America range: unknown	Common	Sport and food, moderate	Slightly beneficial
Micropterus punctulatus Spotted bass	Small rivers, large tributary creeks, acid streams	Eastern third North America range: northern West Virginia to central Kansas and south to Gulf of Mexico	Uncommon	Sport, high	Slightly adverse
Micropterus salmoides Largemouth bass	Small rivers, large tributary creeks, oxbows, swamps, sloughs, borrow pits	Statewide North America range: eastern half of United States, widely introduced	Common	Sport, high	Moderately beneficial
Pomoxis annularis White crappie	Large river channels, oxbows, swamps, floodplair sloughs, borrow pits	Statewide except Trans-Pecos North America range: eastern South Dakota to southwestern New York and south to Gulf	Common	Sport and food, high	Moderately beneficial
Pomoxis nigromaculatus Black crappie	Large river channels, oxbows, swamps, floodplain sloughs, borrow pits	Eastern third state North America range: eastern half of United States	Common	Sport and food, high	Moderately beneficial
FAMILY PERCIDAE (perches)					
Ammocrypta vivax Scaly sand darter	Small rivers, large tributary creeks	Eastern Texas North America range: temperate waters, eastern United States	Uncommon	None	Slightly adverse

Species	Habitat and/or Seasonal Status	Range in Texas and North America	Abundance in Region	Values	Project Impact
Etheostoma chlorosomum Bluntnose darter	Small rivers, creeks, oxbows, swamps, sloughs, borrow pits	Eastern third North America range: temperate waters, eastern half of United States	Uncommon	Biological, low	Moderately beneficial
Etheostoma gracile Slough darter	Small rivers, creeks, oxbows, swamps, sloughs, borrow pits	Southern and eastern third of state North America range: temperate waters, eastern half of United States	Uncommon	Biological, low	Moderately beneficial
Etheostoma parvipinne Goldstripe darter	Small rivers, creeks, headwater creeks	Eastern Texas North America range: temperate waters, eastern half of United States	Uncommon	Biological, low	Moderately adverse
Etheostoma proeliare Cypress darter	Small rivers, creeks, oxbows, swamps, sloughs, borrow pits	Eastern Texas North America range: temperate waters, eastern half of United States	Uncommon	Biological, low	Slightly adverse
Etheostoma spectabile Orangethroat darter	Streams, rivers, creeks	Central Texas North America range: reported from Colorado and Texas	Uncommon	Biological, low	None
Percina caprodes Logperch	Large and small rivers, and large creeks	Coastal prairie and central Texas North America range: Alberta to Quebec, south to east Texas, west of Appalachians	Rare	Aesthetic, biological, low	Slightly adverse
Percina sciera Dusky darter	Large and small rivers, large creeks	Eastern half of State North America range: temperate waters of eastern United States	Uncommon	Biological, low	Slightly adverse

Species	Habitat and/or Seasonal Status	Range in Texas and North America	Abundance in Region	Values	Project Impact
FAMILY SPARIDAE (porgies)					
Lagodon rhomboides Pinfish	Bays and vegetated areas in warm weather, migrates to deep water in cold months	Coastal North America range: south Atlantic and Gulf coast	Common	"Nuisance" scrap fish	None
FAMILY SCIAENIDAE (drums)					
Aplodinotus grunniens Freshwater drum	Large rivers, lakes, oxbows, sloughs, borrow pits	Statewide except western plains North America range: Texas to Alabama, north to southern Manitoba and northern New York	Common	Sport and food, high biological, moderate	Very beneficial
Cynoscion arenarius Sand seatrout	Migrates to Texas bays in cold weather	Coastal North America range: southeastern Atlantic and Gulf coast	Abundant	Sport, moderate biological, moderate	None
Cynoscion nebulosus Spotted seatrout	Bays, beaches, frequents vegetated areas	Coastal North America range: southeastern Atlantic and Gulf coast	Uncommon	Sport and food, high biological, high	None
Leiostomus xanthurus Spot	Bays, estuarine, marine waters	Coastal North America range: Gulf of Maine to Texas coast	Abundant	Scrap and sport fish, moderate	None
Micropogon undulatus Atlantic croaker	Shallow bays, beaches	Coastal North America range: Massachusetts coast to Gulf	Abundant	Scrap and sport fish, high; biological, high	None
Pogonias cromis Black drum	Shallow bays	Coastal North America range: coastal from Long Island to Mexico	Common	Sport, high biological, high	None

Species	Habitat and/or Seasonal Status	Range in Texas and North America	Abundance in Region	Values	Project Impact
Sciaenops ocellata Red drum	Bays, channels, passes	Coastal North America range: coastal waters from New York to Mexico	Common	Sport, high biological, high	None
FAMILY CICHLIDAE (cichlids)					
Tilapia mossambica Mozambique mouthbrooder	Freshwater	Exotic introduced species North America range: unknown	Unknown	Aesthetic	Unknown
FAMILY MUGILIDAE (mullets)					
Agonostomus monticola Mountain mullet	Bays, estuaries, river mouths	Coastal marine invader North America range: Atlantic and Gulf coast	Uncommon	Food, moderate biological, high	None
Mugil cephalus Striped mullet	Schools, frequents bays, harbors, river mouths	Eastern half of state, coastal marine invader North America range: New York Atlantic coast to Gulf of Mexico, Pacific coast	Abundant	Food, low biological, high	None
Mugil curema White mullet	Schools, frequents bays, harbors, river mouths	Coastal marine invader North America range: Cape Cod to Gulf of Mexico	Uncommon	Food,low biological, high	None
FAMILY ELEOTRIDAE (sleepers)					
Dormitator maculatus Fat sleeper	Marine, frequently occurring in estuarine and fresh water	Coastal estuarine North America range: from South Carolina south to Gulf	Rare	None	None
Eleotris pisonis Spinycheek sleeper	Freshwater, estuarine waters	Coastal estuarine North America range: Florida to Texas coast	Rare	None	None

Species	Habitat and/or Seasonal Status	Range in Texas and North America	Abundance in Region	Values	Project Impact
FAMILY GOBIIDAE (gobies)					
Gobionellus boleosoma Darter goby	Shallow waters, usually among debris	Coastal estuarine North America range: Florida to Texas coast	Rare	None	None
Gobionellus shufeldti Freshwater goby	Fresh and brackish waters	Coastal estuarine North America range: Gulf coast	Uncommon	None	None
Gobiosoma bosci Naked goby	Frequent vegetated estuarine areas	Coastal estuarine North America range: Cape Cod to Gulf	Common	Biological, low	None
FAMILY BOTHIDAE (lefteye flounders)					
Citharichthys spilopterus Bay whiff	Bays, estuarine, occurring in fresh water	Coastal marine invader North America range: New Jersey coast to Gulf of Mexico	Uncommon	None	None
Paralichthys lethostigma Southern flounder	Bays, estuarine, occurring in fresh water	Coastal marine invader North America range: Cape Hatteras to Gulf of Mexico	Common	Sport and food, high biological, moderate	None
FAMILY SOLEIDAE (soles)					
Achirus lineatus Lined sole	Bays, estuaries, river mouths	Coastal marine invader North America range: West Indies to Gulf coast	Uncommon	None	None
Trinectes maculatus Hogchoker	Marine, frequently occurring in estuarine and fresh water	Coastal estuarine North America range: Cape Ann to Gulf coast	Common	None	None
FAMILY CYNOGLOSSIDAE (tonguefishes)					
Symphurus plagiusa Blackcheek tonguefish	Estuaries, bays	Coastal estuarine North America range: south Atlantic and Gulf coast	Abundant	None (scrap fish)	None

SOURCE: Bailey, Fitch, Herald, Lachner, Lindsey, Robins, and Scott (1970); and McCune, Kemp, McGowan (1971)

AMPHIBIANS IN TRINITY RIVER DRAINAGE

Species	Habitat and/or Seasonal Status	Range in Texas and North America	Abundance in Pegion	Values	Project Impact
FAMILY SIRENIDAE (sirens)					
Siren intermedia Lesser siren	Water: bodies of shallow water, ditches, ponds	Eastern third, southern North America range: southeastern United States	Common	Aesthetic	Moderately adverse
FAMILY AMBYSTOMIDAE (mole salamanders)					
Ambystoma texanum Small-mouthed salamander	Under logs, boards, etc. near ponds or swamps, in river bottoms	Eastern third North America range: south-central United States	Abundant	Aesthetic	Moderately adverse
Ambystoma opacum Marbled salamander	Moist sandy areas, under logs, debris	Eastern fourth North America range: southeastern United States	Common	Aesthetic	Moderately adverse
Ambystoma tigrinum Tiger salamander	Burrowing, breeds in shallow bodies of water	Statewide North America range: most of United States except northeastern and western coast	Uncommon	Aesthetic	Slightly adverse
FAMILY SALAMANDRIDAE (newts)					
Notophthalmus viridescens Central newt	Water: swales and swampland, wooded ponds, ditches	Eastern third North America range: eastern third United States	Common	Aesthetic	Slightly adverse
FAMILY AMPHIUMIDAE (amphiumas)					
Amphiuma means tridactylum Three-toed amphiuma	Water: ditches, sloughs, pools, ponds, rice fields, swamps, streams	Eastern fourth North America range: southeastern coastal plain	Common	Aesthetic	Slightly beneficial
FAMILY PLETHODONTIDAE (lungless salamanders)					
Desmognathus fuscus auriculatus Dusky salamander	Near cypress ponds, stagnant or nearly stagnant ponds, streams	Eastern fourth North America range: southeastern coastal plain	Common	Aesthetic	Slightly beneficial

Species	Habitat and/or Seasonal Status	Range in Texas and North America	Abundance in Region	Values	Project Impact
Plethodon glutinosus Slimy salamander	Moist wooded ravines or hillsides	Isolated patches: northeast, southeast, central North America range: southeastern and eastern United States	Common	Aesthetic	None
Manculus quadridigitatus Dwarf salamander	Under debris, low swampy areas	Eastern fourth North America range: coastal southeastern United States	Common	Aesthetic	None
FAMILY PELOBATIDAE (spadefoot toads)					
Scaphiopus holbrooki Eastern spadefoot	Wooded and savanna areas	Eastern half North America range: eastern Texas and Oklahoma, western Arkansas and Louisiana	Abundant	Aesthetic	None
Scaphiopus couchi Couch's spadefoot	Arid and semiarid country, shortgrass plains and mesquite savannas	Western two-thirds except Panhandle North America range: western Texas, southern New Mexico and Arizona	Abundant	Aesthetic	None
FAMILY BUFONIDAE (toads)					
Bufo houstonensis Houston toad	Sandy and moist areas	Southeastern North America range: southeastern Texas	Endangered (Federal, Texas)	Aesthetic, scientific, insectivorous	None
Bufo woodhousei woodhousei Rocky mountain toad	Marshes, river bottoms, irrigated areas, cities, towns	Statewide North America range: United States except for north and west	Abundant	Aesthetic, insectivorous	Slightly adverse
Bufo valliceps Gulf coast toad	Ditches, coastal prairies, barrier beaches, cities, dumps	Southeastern half North America range: southern Texas and Louisiana	Abundant	Aesthetic, insectivorous	None

Species	Habitat and/or Seasonal Status	Range in Texas and North America	Abundance in Region	Values	Project Impact
Bufo speciosus Texas toad	Grasslands, cultivated areas, mesquite savannas	Western three-fourths North America range: western Texas and Oklahoma	Common	Aesthetic, insectivorous	None
Bufo punctatus Red-spotted toad	Rocky regions, open grassland, near springs and creeks	Western two-thirds except south North America range: southwestern United States	Common	Aesthetic, insectivorous	None
Bufo debilis Green toad	Arid regions, often beneath rocks	Western three-fourths North America range: western Texas, Kansas, Oklahoma, eastern New Mexico	Common	Aesthetic, insectivorous	None
FAMILY HYLIDAE (treefrogs and their allies)					
Acris crepitans blanchardi Blanchard's cricket frog	Near permanent bodies of shallow water: streams, ponds, lakes, marshes	Statewide North America range: eastern half United States except New England and far north	Abundant	Aesthetic, food source for many aquatic organisms	Slightly beneficial
Hyla crucifer Spring peeper	Woodlands, bushy second growth of cutover woods, near semipermanent ponds, swamps	Eastern fourth North America range: eastern half United States	Abundant	Aesthetic	Slightly adverse
Hyla cinerea Green treefrog	Swamps, borders of lakes and streams, ponds	Eastern third, southern tip North America range: southern coastal plain	Abundant	Aesthetic	Slightly adverse
Hyla squirella Squirrel treefrog	Moist weed and brush tangles, woods, trees, gardens	Coastal plain North America range: southern coastal plain	Abundant	Aesthetic	None
Hyla versicolor Gray treefrog	Arboreal: in small bushes and trees near water	Eastern third North America range: eastern half United States	Abundant	Aesthetic, scientific	Moderately adverse

Species	Habitat and/or Seasonal Status	Range in Texas and North America	Abundance in Region	Values	Project Impact
Pseudacris triseriata feriarum Upland chorus frog	Grassy swales, moist woodlands, river-bottom swamps, ponds, bogs, marshes	Eastern third North America range: eastern, north-central United States	Abundant	Aesthetic	Moderately adverse
Pseudacris clarki Spotted chorus frog	Grassland prairies	Southern, central, north-central North America range: southern Texas to south-central Kansas	Common	Aesthetic	Slightly adverse
Pseudacris streckeri Strecker's chorus frog	Moist, shaded woods; rocky ravines; streams; sandy prairies	Eastern third except southeastern corner North America range: eastern Texas, Oklahoma, and western Arkansas	Common	Aesthetic	Slightly adverse
FAMILY MICROHYLIDAE (narrow-mouthed toads)					
Gastrophryne carolinensis Eastern narrow-mouthed toad	Borders of swamps and small streams, under logs, trash, etc.	Eastern third North America range: southeastern coastal plain	Common	Aesthetic	Moderately adverse
Gastrophryne olivacea Great Plains narrow-mouthed toad	Grassland, marshy slough, rocky open-wooded slopes, beneath rocks, boards, etc.	Statewide except for east and Panhandle North America range: southern and eastern Oklahoma, Kansas	Common	Aesthetic	None
FAMILY RANIDAE (true frogs)					
Rana catesbeiana Bullfrog	Water: lakes, ponds, bogs, streams, cattle tanks	Statewide North America range: eastern half United States, introduced in many localities in western United States	Abundant	Economic, insectivorous	Moderately beneficial
Rana clamitans Bronze frog	Swamps, bayheads, wet hammocks, streams	Eastern fourth North America range: eastern United States	Common	Aesthetic, insectivorous	Slightly adverse
Rana pipiens Leopard frog	All types shallow fresh-water habitats, brackish marshes	Statewide North America range: most of United States	Abundant	Aesthetic, economic, insectivorous	Slightly beneficial

Species	Habitat and/or Seasonal Status	Range in Texas and North America	Abundance in Region	Values	Project Impact
Rana palustris Pickerel frog	Sphagnum bogs, rocky ravines, meadow streams	Southeastern North America range: eastern half except southeastern coastal plain	Common	Aesthetic, insectivorous	None
Rana areolata areolata Southern crawfish frog	Crawfish holes, mammal burrows, holes in banks near water	Southeastern North America range: southeastern coastal plain, Indiana to northeastern Oklahoma and Mississippi	Common	Aesthetic, insectivorous	Slightly adverse

SOURCE: Conant (1958), Raun and Gehlback (1972), and Thomas (1974)

REPTILES IN TRINITY RIVER DRAINAGE

Species	Habitat and/or Seasonal Status	Range in Texas and North America	Abundance in Region	Values	Project Impact
FAMILY CROCODYLIDAE (crocodilians)					
Subfamily Alligatorinae (alligator and caiman)					
Alligator mississipiensis American alligator	Great river swamps, lakes, bayous, marshes	Eastern third North America range: southeastern coastal plain	Uncommon	Scientific, aesthetic economic	Slightly beneficial
FAMILY CHELYDRIDAE (turtles)					
Subfamily Chelycrinae (snapping turtles)					
Chelydra serpentina Snapping turtle	Water: permanent bodies of fresh water, large and small	Statewide except for far south and west North America range: central and eastern	Common	High economic, aesthetic	Slightly beneficial
Macroclemys temmincki Alligator snapping turtle	Water: large permanent bodies of water, lakes, rivers	Eastern third North America range: south-central United States	Uncommon	High economic, preys on ducklings	Moderately beneficial
Subfamily Kinosterninae (musk and mud turtles)					
Sternothaerus odoratus Stinkpot	Water: wide variety--lakes, ponds, rivers	Eastern half, central North America range: most of eastern half United States	Abundant	Aesthetic	Moderately beneficial
Sternothaerus carinatus Razor-backed musk turtle	Water: streams and rivers, especially larger rivers	Eastern third, north-central North America range: east Texas and Oklahoma, south Arkansas, west Mississippi, Louisiana	Abundant	Aesthetic	Moderately beneficial
Kinosternon flavescens Yellow mud turtle	Water: wide variety, usually with muddy bottom	Western three-fourths North America range: west Texas, Kansas, Oklahoma, west Colorado and New Mexico	Abundant	Aesthetic	Moderately beneficial
Kinosternon subrubrum hippocrepis Mississippi mud turtle	Water: bayous, lagoons, great swamps	Eastern third North America range: southeastern coastal plain	Abundant	Aesthetic	Moderately beneficial

Species	Habitat and/or Seasonal Status	Range in Texas and North America	Abundance in Region	Values	Project Impact
FAMILY TESTUDINIDAE Subfamily Emydinae (box and water turtles)					
Terrapene carolina carolina Eastern box turtle	Woodlands, thickets	Eastern third North America range: most of eastern half United States	Common	Aesthetic	Moderately adverse
Terrapene ornata Western box turtle	Plains and prairies, often in sandy areas	Statewide North America range: south-central United States	Common	Aesthetic	Slightly adverse
Malaclemys terrapin Diamondback terrapin	Water: salt or brackish marshes	Coast North America range: coast from Massachusetts to Texas	Uncommon	Economic, aesthetic	None
Graptemys kohni Mississippi map turtle	Water: lakes and rivers	Eastern third North America range: east-central United States	Uncommon	Aesthetic	Slightly adverse
Graptemys pseudogeographica False map turtle	Water: lakes and rivers	Eastern third North America range: east-central United States	Uncommon	Aesthetic	Slightly beneficial
Chrysemys scripta Red-eared slider	Water: almost all bodies of water	Statewide except far west North America range: southeastern United States	Abundant	Aesthetic	Moderately beneficial
Chrysemys concinna River cooter	Water: rivers, lakes, larger ponds	Statewide except far west and Panhandle North America range: southeastern coastal plain	Common	Economic, aesthetic	Slightly beneficial
Chrysemys floridana Cooter	Water: rivers, lakes, big ponds, and marshes	Eastern fourth North America range: southeastern coastal plain	Common	Economic, aesthetic	Slightly beneficial

Species	Habitat and/or Seasonal Status	Range in Texas and North America	Abundance in Region	Values	Project Impact
Deirochelys reticularia Chicken turtle	Water: still water, ponds, marshes, sloughs, ditches	Eastern third North America range: southeastern coastal plain	Common	Aesthetic	Moderately beneficial
FAMILY TRIONYCHIDAE (softshell turtles)					
Trionyx muticus Smooth softshell	Water: rivers, streams, less often lakes	Eastern half, east Panhandle North America range: south-central United States	Common	Economic, aesthetic	Slightly adverse
Trionyx spiniferus Spiny softshell	Water: lakes, rivers, streams, ponds	Statewide North America range: central and eastern United States	Common	Economic, aesthetic	Slightly adverse
FAMILY IGUANIDAE (iguanids)					
Anolis carolinensis Green anole	Woods, thickets, gardens	Eastern half North America range: southeastern coastal plain	Abundant	Aesthetic	Moderately adverse
Crotaphytus collaris Eastern collared lizard	Hilly, rocky, arid or semiarid country, rocky canyons	Western two-thirds except southern tip North America range: south-central and southwestern United States	Common	Aesthetic	None
Cophosaurus texanus Greater earless lizard	Rocky streams, sandstone and limestone outcrops, rock desert flats	Western two-thirds North America range: central Texas, southwestern United States	Common	Aesthetic	None
Holbrookia maculata Lesser earless lizard	Open sandy area, sand prairies, dry sand bars, cactus-mesquite country	Central, north, west North America range: south-central United States	Common	Aesthetic	None
Sceloporus olivaceus Texas spiny lizard	Trees: mesquite, cedar, cottonwood; abandoned houses, bridges, cactus patches	Eastern two-thirds except Panhandle North America range: east Texas	Common	Aesthetic, insectivorous	Slightly adverse

Species	Habitat and/or Seasonal Status	Range in Texas and North America	Abundance in Region	Values	Project Impact
Sceloporus undulatus Eastern fence lizard	Woods, thickets, fences, abandoned houses	Statewide North America range: southern United States	Abundant	Aesthetic, insectivorous	Moderately adverse
Phrynosoma cornutum Texas horned lizard	Dry, flat, open terrain with sparse plant cover	Statewide North America range: south-central United States	Common	Aesthetic	None
FAMILY TEIIDAE (whiptails)					
Cnemidophorus sexlineatus Six-lined racerunner	Open, loose soil areas, fields, open woods, rocky outcrops, river flood-plains	Eastern three-fourths North America range: central and southeast United States	Common	Aesthetic	Moderately adverse
Cnemidophorus gularis Texas spotted whiptail	Open, dry areas without dense vegetation	Western three-fourths North America range: southwestern United States	Common	Aesthetic	None
FAMILY SCINCIDAE (skinks)					
Scincella laterale Ground skink	Woodlands, with ground cover, leaf litter	Eastern half North America range: southeastern United States	Abundant	Aesthetic	Moderately adverse
Eumeces fasciatus Five-lined skink	Forest, cutover woodlots with rotting stumps and logs	Eastern third North America range: eastern half United States	Common	Aesthetic	Slightly adverse
Eumeces laticeps Broad-headed skink	Forest swamps, woodlands, dead trees	Eastern third North America range: southeastern United States	Common	Aesthetic	Moderately adverse
Eumeces anthracinus Coal skink	Humid wooded hillsides	Northeastern North America range: isolated localities, northeastern, southern United States	Uncommon	Aesthetic	None
Eumeces septentrionalis Prairie skink	Open forest, shortgrass prairie	Eastern half except southeast corner North America range: central United States	Common	Aesthetic	Slightly adverse

Species	Habitat and/or Seasonal Status	Range in Texas and North America	Abundance in Region	Values	Project Impact
FAMILY ANGUIDAE (glass lizards and alligator lizard)					
Ophisaurus attenuatus Slender glass lizard	Dry grasslands; open, dry woodlands	Eastern half North America range: southeastern coastal plain	Uncommon	Aesthetic	Slightly beneficial
FAMILY LEPTOTYPHLOPIDAE (slender blind snakes)					
Leptotyphlops dulcis Texas blind snake	Arid and semiarid region, stony hillsides, prairies, rocky deserts	Western two-thirds North America range: west Texas, southern New Mexico, southeast Arizona	Uncommon	Aesthetic	None
FAMILY COLUBRIDAE (colubrids)					
Natrix cyclopion Green water snake	Edges of lakes, ponds, swamps, rice fields, marshes, bayous	Coast North America range: Gulf coastal plain	Uncommon	Aesthetic	Moderately beneficial
Natrix rhombifera Diamond-backed water snake	Wide variety of aquatic habitats, big lakes and rivers to ditches and cattle tanks	Eastern two-thirds North America range: south-central United States	Abundant	Aesthetic	Very beneficial
Natrix erythrogaster Red-bellied water snake	River bottoms, swamps, marshes, lakes, ponds, streams, ditches, stock tanks	Statewide except far west North America range: southeastern coastal plain	Common	Aesthetic	Slightly beneficial
Natrix sipedon confluens Broad-banded water snake	Marshes, swamps, shallow bodies of water, salt and brackish marshes	Eastern third North America range: southeastern coastal plain	Common	Aesthetic	Slightly beneficial
Regina grahami Graham's water snake	Margins of ponds, streams, sloughs, swamps	Eastern third, north-central North America range: south-central United States	Uncommon	Aesthetic	Moderately beneficial
Regina rigida Glossy water snake	Wet lowlands, swamps	Eastern fourth North America range: Gulf coastal plain	Rare	Aesthetic	Slightly beneficial

Species	Habitat and/or Seasonal Status	Range in Texas and North America	Abundance in Region	Values	Project Impact
Storeria dekayi Brown snake	Bogs, swamps, marshes, moist woods, hillside, cities, dumps, trash piles	Eastern half North America range: eastern half United States	Common	Aesthetic	Moderately adverse
Storeria occipitomaculata Red-bellied snake	Moist woodlands	East North America range: eastern half United States	Rare	Aesthetic	Moderately adverse
Thamnophis marcianus Checkered garter snake	Arid prairie, desert, near streams, stock tanks, springs	Western three-fourths North America range: southwestern United States	Common	Aesthetic	None
Thamnophis sirtalis Common garter snake	Near water, meadows, marshes, woodlands, hillsides, along streams, dumps	Eastern half, eastern Panhandle North America range: United States except southwest	Uncommon	Aesthetic	Slightly adverse
Thamnophis sauritus proximus Western ribbon snake	Near streams and other bodies of water in arid and semiarid country	Statewide except far west North America range: eastern and south-central United States	Abundant	Aesthetic	None
Tropidoclonion lineatum Lined snake	Prairies, open woods, cities, trash dumps	Eastern two-thirds North America range: south-central United States	Common	Aesthetic	None
Virginia striatula Rough earth snake	Wide variety of habitats, beneath logs, stones, boards, etc.	Eastern half North America range: southeastern coastal plain	Common	Aesthetic	Slightly adverse
Virginia valeriae Western earth snake	Near deciduous forest, beneath logs, leaf litter	East-central North America range: southeastern United States	Rare	Aesthetic	Moderately adverse
Heterodon platyrhinos Eastern hognose snake	Woodlands, wooded streams, sandy areas	Eastern two-thirds North America range: eastern half United States	Uncommon	Aesthetic	Moderately adverse

Species	Habitat and/or Seasonal Status	Range in Texas and North America	Abundance in Region	Values	Project Impact
Heterodon nasicus Western hognose snake	Relatively dry, sandy prairies	Statewide except eastern edge North America range: central United States	Uncommon	Aesthetic	None
Diadophis punctatus Ringneck snake	Woodland; rocky, wooded hillsides; near swamps	Statewide except southern tip North America range: eastern half United States	Uncommon	Aesthetic	Slightly adverse
Farancia abacura reinwardti Western mud snake	Swamps and lowlands	Eastern and southeastern North America range: southeastern coastal plain	Uncommon	Aesthetic	Slightly beneficial
Coluber constrictor foxi Blue racer	Fields, grasslands, brushy areas, open woods	Eastern two-thirds North America range: most of United States	Common	Aesthetic	None
Masticophis flagellum Coachwhip	Wide variety; dry, sandy flats to swamps, creek valleys	Statewide North America range: southern half United States	Abundant	Aesthetic	Slightly adverse
Opheodrys aestivus Rough green snake	Dense vegetation; woods, thickets, stream and lake borders	Eastern two-thirds North America range: southeastern United States	Uncommon	Aesthetic	Moderately adverse
Opheodrys vernalis Smooth green snake	Moist grassy plains and prairies	Southeast North America range: northeastern United States, disjunct through central United States	Rare	Aesthetic	None
Salvadora grahamiae Mountain patch-nosed snake	Prairies, rocky terrain, brush land	Trans-Pecos, north-central, central, south North America range: central and west Texas	Uncommon	Aesthetic	None
Elaphe guttata emoryi Great plains rat snake	Canyons or rocky hillsides of prairies, plains, open woodlands	Statewide North America range: southeastern, south-central United States	Common	Aesthetic, predator of rodents	None

Species	Habitat and/or Seasonal Status	Range in Texas and North America	Abundance in Region	Values	Project Impact
Elaphe obsoleta lindheimeri Texas rat snake	Swampy areas, woodlands, stream valleys, rocky canyons	Statewide except staked plains and Panhandle North America range: eastern half United States	Common	Aesthetic, predator of rodents	Slightly adverse
Pituophis melanoleucus sayi Bullsnake	Plains, prairies, open woodland	Statewide North America range: United States except northeastern	Common	Aesthetic, predator of rodents	Slightly adverse
Lampropeltis getulus Common kingsnake	Swamps, upland woods, stream valleys of plains and prairies	Statewide North America range: southern half United States	Common	Aesthetic	Moderately adverse
Lampropeltis doliata amaura Milk snake	Woodlands, rocky hillsides, farms	Statewide North America range: United States except southwest and northeast	Rare	Aesthetic	Slightly adverse
Lampropeltis calligaster calligaster Prairie kingsnake	Grassland prairies, open woodlands, savanna	Eastern half, eastern Panhandle North America range: southeastern United States	Common	Aesthetic	None
Rhinocheilus lecontei tessellatus Texas long-nosed snake	Deserts and dry prairies	Western two-thirds North America range: southwestern United States	Uncommon	Aesthetic	None
Sonora episcopa episcopa Great plains ground snake	Open prairie, desert	Western two-thirds North America range: south-central United States	Common	Aesthetic	None
Hypsiglena torquata Night snake	Arid or semiarid country, often rocky terrain	Western two-thirds North America range: southwestern United States	Uncommon	Aesthetic	None
Tantilla gracilis Flat-headed snake	Variety of habitats, under logs, rocks, etc.	Eastern two-thirds North America range: south-central United States	Uncommon	Aesthetic	Slightly adverse

Species	Habitat and/or Seasonal Status	Range in Texas and North America	Abundance in Region	Values	Project Impact
Tantilla nigriceps Plains black-headed snake	Arid and semiarid prairie	Western two-thirds North America range: southwestern and south-central United States	Uncommon	Aesthetic	None
FAMILY ELAPIDAE (coral snakes)					
Micrurus fulvius tenere Texas coral snake	Dense, jungly hardwood, to well-drained pine woods; in leaf litter, under logs	Eastern half North America range: southeastern coastal plain	Uncommon	Aesthetic	Moderately adverse
FAMILY VIPERIDAE (vipers) Subfamily Crotalinae (pit vipers)					
Agkistrodon contortrix Copperhead	Rocky, wooded hillsides, lowlands near swamps and streams	Eastern two-thirds, Trans-Pecos North America range: eastern half United States except north-central	Common	Aesthetic	Moderately adverse
Agkistrodon piscivorus leucostoma Western cottonmouth	Swamps, bayous, lakes, rivers, ditches, rice fields	Eastern half, central North America range: southeastern coastal plain	Abundant	Aesthetic	Slightly beneficial
Sistrurus catenatus Massasauga	Plains and prairies, usually near swamps or marshes	Statewide except northeastern and southwestern edge North America range: south-central and northeastern United States	Uncommon	Aesthetic	Slightly beneficial
Sistrurus miliarius streckeri Western pigmy rattlesnake	Near wet woodlands, river flood-plains, swamps, marshes, wet prairies	Eastern third North America range: southeastern coastal plain	Uncommon	Aesthetic	Moderately adverse
Crotalus horridus Canebreak rattlesnake	Wooded areas in wet bottomlands	Eastern third North America range: eastern half United States	Rare	Aesthetic, predator of rodents	Slightly adverse

Species	Habitat and/or Seasonal Status	Range in Texas and North America	Abundance in Region	Values	Project Impact
Crotalus atrox Western diamondback rattlesnake	Desert flats, rocky cliffs and canyons	Western three-fourths North America range: southwestern, central, southern United States	Abundant	Aesthetic, predator of rodents	None

Source: Conant (1958), Raun and Gehlback (1972), and Thomas (1974)

BIRDS OF TRINITY RIVER DRAINAGE

Species	Habitat and/or Seasonal Status	Range in Texas and North America	Abundance in Region	Values	Project Impact
FAMILY GAVIIDAE (loons)					
Gavia immer Common loon	Water: open-water lakes bays, gulf Wintering	Statewide North America range: Northern and coastal United States	Uncommon	Aesthetic	Moderately beneficial
Gavia stellata Red-throated loon	Water: open-water, especially offshore Wintering	Statewide as migrant North America range: northern coastal United States	Uncommon (accidental)	Aesthetic	None
FAMILY PODICIPEDIDAE (grebes)					
Podiceps grisegena Red-necked grebe	Water: open-water, lakes, bays, gulf Wintering	Statewide as migrant North America range: United States	Rare	Aesthetic	Slightly beneficial
Podiceps auritus Horned grebe	Water: lakes, bays, open gulf Wintering	Statewide North America range: United States	Uncommon	Aesthetic	Slightly beneficial
Podiceps caspicus Eared grebe	Water: ponds, lakes, bays, open gulf, marshes Wintering	Statewide as migrant North America range: western United States	Uncommon	Aesthetic	Slightly beneficial
Podiceps dominicus Least grebe	Water: fresh water ponds Wintering, transient	Coastal and southern Texas North America range: coastal and southern Texas	Rare	Aesthetic	Slightly beneficial
Aechmophorus occidentalis Western grebe	Water: open-water lakes, bays, gulf Wintering, transient	Statewide North America range: western United States	Rare	Aesthetic	Slightly beneficial
Podilymbus podiceps Pied-billed grebe	Water: ponds, lakes, creeks, marshes, saltwater Transient, migratory	Statewide North America range: United States	Abundant		Moderately beneficial

Species	Habitat and/or Seasonal Status	Range in Texas and North America	Abundance in Region	Values	Project Impact
FAMILY PUFFINIDAE (shearwaters)					
Puffinus iherminieri Audubon's shearwater	Water: tropical seas, coasts Transient, migratory	Coastal North America range: southern coastal United States	Rare	Aesthetic	None
FAMILY PHAETHONTICAE (tropicbirds)					
Phaëthon lepturus White-tailed tropicbird	Water: open seas Transient, migratory	Coastal North America range: southern coastal United States	Uncommon	Aesthetic	None
FAMILY PELECANIDAE (pelicans)					
Pelecanus erythrorhynchos White pelican	Water: lakes, salty bays, beaches Wintering, summering (non breeding)	Statewide North America range: western United States	Abundant	Aesthetic	None
Pelecanus occidentalis Brown pelican	Water: salty bays, open gulf Winter, summer, fall	Coastal North America range: southern coastal United States	Endangered (federal, Texas)	Aesthetic scientific	None
FAMILY SULIDAE (boobies and gannets)					
Sula dactylatra Blue-faced booby	Water: open seas Accidental	Coastal North America range: southern coastal United States	Uncommon	Aesthetic	None
Morus bassanus Gannet	Water: coastal seas Migratory, fall	Coastal North America range: Atlantic and Gulf coastal United States	Uncommon	Aesthetic	None
FAMILY PHALACROCORACIDAE (cormorants)					
Phalacrocorax auritus Double-crested cormorant	Water: lakes, rivers, gulfs Wintering	Statewide as migrant North America range: United States	Abundant	Aesthetic	Moderately beneficial

Species	Habitat and/or Seasonal Status	Range in Texas and North America	Abundance in Region	Values	Project Impact
Phalacrocorax olivaceus Olivaceous cormorant	Water: lakes, rivers, gulfs Resident	Gulf coast North America range: Gulf coast	Common	Predacious and scavenger	Moderately beneficial
FAMILY ANHINGIDAE (darters)					
Anhinga anhinga Anhinga, water-turkey	Water: fresh water swamps, lakes, rivers Nesting	Coastal, eastern Texas along major rivers North America range: southern United States	Common	Aesthetic	Moderately beneficial
FAMILY FREGATIDAE (frigatebirds)					
Fregata magnificens Magnificent frigatebird	Water: coastal seas	Coastal as migrant North America range: southern coastal United States	Rare	Aesthetic	None
FAMILY ARDEIDAE (herons, egrets					
Ardea occidentalis Great white heron	Water: banks of salt-water bays Accidental	Coastal as migrant North America range: Key West, Gulf coast	Rare	High aesthetic	None
Ardea herodias Great blue heron	Water: rivers, marshes, ricefields, swamps, shores Permanent	Statewide North America range: United States	Abundant	Predacious	Moderately beneficial
Casmerodius albus Common egret	Water: ponds, shores, marshes, ricefields Resident	Statewide North America range: United States	Abundant	Aesthetic	Moderately beneficial
Leucophoyx thula Snowy egret	Water: marshes, swamps, ricefields, shores Resident	Statewide North America range: southern half United States, coast to Long Island	Abundant	Aesthetic	Slightly beneficial
Dichromanassa rufescens Reddish egret	Water: shores, lagoons, salt marshes Resident	Coastal resident, migrant to North Texas North America range: Gulf coast, Texas to Florida	Rare	Aesthetic	Slightly beneficial

Species	Habitat and/or Seasonal Status	Range in Texas and North America	Abundance in Region	Values	Project Impact
Hydranassa tricolor Louisiana heron	Water: marshes, swamps, ricefields, lagoons, shores Resident	Coastal resident, migrant to northern and central Texas North America range: Atlantic coastal United States	Abundant	Aesthetic	Slightly beneficial
Florida caerulea Little blue heron	Water: marshes, swamps, ricefields, mudflats, shores Wintering, breeding	Eastern Texas, statewide as migrant North America range: eastern United States	Abundant	Aesthetic	Moderately beneficial
Butorides virescens Green heron	Streams, ponds, swamps, marshes Resident	Statewide as migrant North America range: United States	Common	Aesthetic	Slightly beneficial
Bubulcus ibis Cattle egret	Pastures, fields, marshes Resident	Statewide as migrant, eastern Texas North America range: United States	Abundant	Insectivorous	Moderately beneficial
Nycticorax nycticorax Black-crowned night heron	Water: fresh and brackish swamps, marshes, lakes Resident	Statewide North America range: United States	Abundant	Aesthetic	Moderately beneficial
Nyctanassa violacea Yellow-crowned night heron	Water: swamp, marshes shores Resident	Eastern Texas, statewide as migrant North America range: eastern United States	Abundant	Aesthetic	Moderately adverse
Botaurus lentiginosus American bittern	Water: fresh, brackish, salt marshes, swamps, bogs, Wintering, resident	Statewide North America range: United States	Abundant	Aesthetic	Moderately beneficial
Ixobrychus exilis Least bittern	Water: fresh, brackish, salt marshes, swamps Resident	Statewide North America range: eastern United States	Abundant	Aesthetic	Moderately beneficial

Species	Habitat and/or Seasonal Status	Range in Texas and North America	Abundance in Region	Values	Project Impact
FAMILY CICONIIDAE (storks, wood ibises)					
Mycteria americana Wood ibis	Water: swamps, marshes, ponds Migrant	Eastern Texas North America range: coastal southeastern United States	Rare	Aesthetic	Slightly beneficial
FAMILY THRESKIORNITHIDAE (ibises)					
Plegadis chihi White-faced ibis	Water: freshwater marshes and sloughs, ricefields Resident	Coastal Texas, statewide as migrant North America range: western United States	Abundant	Aesthetic	Moderately beneficial
Eudocimus albus White ibis	Water: marshes, swamps, ricefields Resident	Coastal, eastern Texas as migrant North America range: coastal, southeastern United States	Abundant	Aesthetic	Moderately beneficial
FAMILY PLATALEIDAE (spoonbills)					
Ajaia ajaja Roseate spoonbill	Water: marshes, lagoons, mudflats Resident	Coastal, eastern Texas, migrant North America range: Gulf coast	Common	High aesthetic	Slightly beneficial
FAMILY ANATIDAE (swans, geese, ducks)					
Olor columbianus Whistling swan	Water: lakes, bays Migrating	Statewide North America range: United States	Rare	High aesthetic	Slightly beneficial
Branta canadensis Canada goose	Water: lakes, bays, marshes, prairies Wintering, migrating	Statewide North America range: United States	Abundant	High sport, aesthetic	Moderately beneficial
Branta bernicla Brant	Water: lakes, bays, ocean shores Accidental visitor	Coastal regions North America range: coastal United States	Rare	Sport, aesthetic	Slightly beneficial

Species	Habitat and/or Seasonal Status	Range in Texas and North America	Abundance in Region	Values	Project Impact
Anser albifrons White-fronted goose	Water: marshes, prairies, fields, lakes, bays Wintering	Coastal regions, statewide as migrant North America range: United States	Abundant	High sport, aesthetic	Moderately beneficial
Chen hyperborea Snow goose	Water: marshes, prairies, ponds, bays Wintering, migrating	Statewide as migrant North America range: United States	Abundant	High sport, aesthetic	Moderately beneficial
Chen caerulescens Blue goose	Water: marshes, prairies, ponds, bays Wintering, migrating	Coastal regions, eastern Texas as migrant North America range: Gulf coastal United States	Common	High sport, aesthetic	Moderately beneficial
Chen rossii Ross' goose	Water: lakes, marshes, bays Wintering, migrating	Coastal regions North America range: western United States	Uncommon	High sport, aesthetic	None
Dendrocygna autumnalis Black-bellied tree duck	Water: ponds, marshes, swamps Resident	Coastal and southern Texas North America range: southern Texas and southern Arizona	Common	Aesthetic	Moderately beneficial
Dendrocygna bicolor Fulvous tree duck	Water: grassy fresh water marshes, ponds Resident	Coastal and southern Texas North America range: southwestern United States	Abundant	Sport, aesthetic	Moderately beneficial
Anas platyrhynchos Mallard	Water: ponds, bays, marshes, swamps, lakes Wintering, migrant	Statewide as migrant North America range: United States	Abundant	High sport, aesthetic	Moderately beneficial

Species	Habitat and/or Seasonal Status	Range in Texas and North America	Abundance in Region	Value	Project Impact
Anas rubripes Black duck	Water: lakes, bays, rivers, marshes, mudflats Wintering	Coastal and eastern Texas North America range: eastern and central United States	Uncommon	Sport, aesthetic	Moderately beneficial
Anas fulvigula Mottled duck	Water: marshes, mudflats, ponds, bays, Resident	Coastal regions North America range: southeastern United States	Aburdant	High sport, aesthetic	Very beneficial
Anas strepera Gadwall	Water: ponds, bays, rivers, marshes Wintering, migrant	Statewide as migrant North America range: United States	Abundant	High sport, aesthetic	Very beneficial
Mareca penelope European widgeon	Water: coastal mudflats, estuaries, large lakes Wintering	Coastal Texas North America range: coastal United States	Rare	Sport, aesthetic	Slightly beneficial
Mareca americana American widgeon	Water: marshes, ponds, lakes, bays Wintering, migrant	Statewide as migrant North America range United States	Abundant	High sport, aesthetic	Very beneficial
Anas acuta Pintail	Water: marshes, prairies, ponds, lakes, rivers, salt bays Wintering, migrant	Statewide as migrant North America range: United States	Abundant	High sport, aesthetic	Very beneficial
Anas carolinensis Green-winged teal	Water: marshes, lakes, ponds, rivers, bays Wintering, migrant	Statewide as migrant North America range: western and northeastern United States	Abundant	High sport, aesthetic	Very beneficial
Anas discors Blue-winged teal	Water: ponds, marshes Wintering, resting	Statewide North America range: United States	Abundant	High sport, aesthetic	Very beneficial
Anas cyanoptera Cinnamon teal	Water: fresh ponds, fresh marshes Wintering, migrating	Statewide as migrant North America range: western United States	Rare	Sport, aesthetic	Slightly beneficial

Species	Habitat and/or Seasonal Status	Range in Texas and North America	Abundance in Region	Values	Project Impact
Spatula clypeata Shoveler	Water: marshes, ponds, lakes, salt bays Wintering	Statewide as migrant North America range: United States	Abundant	High sport, aesthetic	Very beneficial
Aix sponsa Wood duck	Water: wooded swamps, wooded streams, ponds Resident	Eastern Texas North America range: United States	Abundant	High sport, aesthetic	Moderately beneficial
Aythya americana Redhead	Water: lakes, reservoirs, bays, estuaries Wintering, migrant	Statewide as migrant North America range: United States	Irregularly common	High sport, aesthetic	Moderately beneficial
Aythya collaris Ring-necked duck	Water: lakes wooded ponds, marsh ponds, rivers, bays Wintering, migrant	Statewide as migrant, coastal wintering North America range: United States	Uncommon	Sport, aesthetic	Moderately beneficial
Aythya valisineria Canvasback	Water: lakes, bays, lagoons, estuaries Wintering, migrant	Statewide as migrant, coastal wintering North America range: central and western United States	Abundant	High sport, aesthetic	Very beneficial
Aythya marila Greater scaup	Water: open water, lakes, bays Wintering, migrant	Statewide as migrant, coastal wintering North America range: western and Gulf coastal United States	Uncommon	Sport, aesthetic	Moderately beneficial
Aythya affinis Lesser scaup	Water: open water, ponds, lakes, rivers, bays Wintering, migrant	Statewide as migrant, coastal wintering North America range: United States	Abundant	High sport, aesthetic	Very beneficial
Bucephala clangula Common goldeneye	Water: lakes, rivers, bays, gulf Wintering	Statewide North America range: United States	Rare	Sport, aesthetic	Slightly beneficial
Bucephala albeola Bufflehead	Water: lakes, ponds, rivers, bays Wintering	Statewide North America range: western United States	Uncommon	Sport, high aesthetic	Slightly beneficial

Species	Habitat and/or Seasonal Status	Range in Texas and North America	Abundance in Region	Values	Project Impact
Clangula hyemalis Oldsquaw	Water: open water Accidental wintering	North and coastal Texas North America range: coastal and Great Lakes, United States	Rare	Low sports, high aesthetic	Slightly beneficial
Melanitta deglandi White-winged scoter	Water: large lakes, gulf Wintering	Coastal Texas North America range: coastal United States	Rare	Sport, aesthetic	Slightly beneficial
Melanitta perspicillata Surf scoter	Water: gulf Occasional wintering	Chiefly coastal North America range: coastal United States	Uncommon	Sport, aesthetic	None
Oidemia americana American scoter	Water: gulf, bays Occasional wintering	Chiefly coastal North America range: coastal United States	Uncommon	Sport, aesthetic	None
Oxyura jamaicensis Ruddy duck	Water: ponds, rivers, lakes, bays Winter, migrant	Statewide as migrant, coastal wintering North America range: United States	Uncommon	Sport, high aesthetic	Moderately beneficial
Oxyura dominica Masked duck	Water: resacas, ponds Accidental visitor	Southern and coastal Texas North America range: southern Texas	Rare	Sport, aesthetic	Slightly beneficial
Lophodytes cucullatus Hooded merganser	Water: lakes, ponds, bays Wintering, migrating	Coastal, migrant in northern and eastern Texas North America range: United States	Uncommon	Sport, aesthetic	Moderately beneficial
Mergus merganser Common merganser	Water: rivers, lakes, bays Wintering, migrant	Statewide as migrant North America range: United States	Uncommon	Sport, aesthetic	Moderately beneficial

Species	Habitat and/or Seasonal Status	Range in Texas and North America	Abundance in Region	Values	Project Impact
Mergus serrator Red-breasted merganser	Water: lakes, bays, gulf Wintering, migrant	Migrant northern and eastern Texas, coastal wintering North America range: Great Lakes, coastal United States	Common	Sport, aesthetic	Very beneficial
FAMILY CATHARTIDAE (American vultures)					
Catnartes aura Turkey vulture	Ubiquitous Wintering, breeding	Statewide North America range: United States	Abundant	Aesthetic, carrion removal	None
Coragyps atratus Black vulture	Ubiquitous Resident	Statewide North America range: southern and southeastern United States	Common	Aesthetic, carrion removal	None
FAMILY ACCIPITRIDAE (kites, hawks, eagles)					
Elanus leucurus White-tailed kite	Coastal prairie: open country Resident	Southern Texas North America range: southern Texas, southern California	Rare	High aesthetic	None
Elanoides forficatus Swallow-tailed kite	River, swamps Occasional migrant	Coastal as migrant North America range: southeastern United States	Rare	High aesthetic	None
Ictinia misisippiensis Mississippi kite	Scrub-oak country, wooded creeks, rangeland Migrant	Statewide as migrant North America range: southeastern United States	Uncommon	High aesthetic	Moderately beneficial
Accipiter gentilis Goshawk	Woodlands Migrant	Northern Texas as rare migrant North America range: northern, northeastern and western Sierras of United States	Very rare	High aesthetic	None

Species	Habitat and/or Seasonal Status	Range in Texas and North America	Abundance in Region	Values	Project Impact
Accipiter striatus Sharp-shinned hawk	Woodlands, thickets, groves Migrant	Statewide as migrant North America range: United States	Common	High aesthetic	Slightly adverse
Accipiter cooperii Cooper's hawk	Woodlands, brush, occasionally open country Breeding, migrant	Statewide North America range: United States	Common	High aesthetic	Slightly adverse
Buteo jamaicensis Red-tailed hawk	Open country, brush, woodlands, mountains Wintering	Statewide North America range: United States	Abundant	High aesthetic, predator of rodents	None
Buteo harlani Harlan's hawk	Open country, brush, woodlands, mountains Wintering	Eastern and central Texas, migrant North America range: central United States	Rare	High aesthetic, predator of rodents	None
Buteo lineatus Red-shouldered hawk	Woodlands, wooded rivers, timbered swamps Resident	Eastern, central, southern Texas North America range: western, central, scutheastern United States	Common	High aesthetic	Slightly adverse
Buteo lagopus Rough-legged hawk	Prairies, marshes Wintering	Statewide as migrant North America range: United States	Rare	High aesthetic	None
Buteo regalis Ferruginous hawk	Plains, rangeland Rare transient	Western two-thirds North America range: western and south-western United States	Rare	High aesthetic	None
Craxirex platypterus Broad-winged hawk	Woodlands, groves Migrant	Eastern half Texas North America range: eastern half United States	Rare	High aesthetic	None

Species	Habitat and/or Seasonal Status	Range in Texas and North America	Abundance in Region	Values	Project Impact
Buteo swainsoni Swainson's hawk	Prairies, rangeland, brush Migrant	Statewide as migrant North America range: western United States	Rare	High aesthetic	None
Buteo albicaudatus White-tailed hawk	Coastal grassland, grassy mesquite, live oak savannah Resident	Coastal Texas North America range: coastal Texas	Uncommon	High aesthetic	None
Parabutec unicinctus Harris' hawk	Mesquite brushland of southwest Resident	Southern and southwestern Texas North America range: southwestern United States	Uncommon	High aesthetic	None
Aquila chryaetos Golden eagle	High rangeland, mountains Occasional visitor	Western two-thirds and coastal Texas North America range: Appalachians and western United States	Rare	High aesthetic	None
Haliaeetus leucocephalus Bald eagle	Shores of rivers, lakes, coasts Resident, breeding	Eastern, central, coastal Texas North America range: central and Gulf coastal United States	Endangered (federal, Texas)	High aesthetic	Slightly beneficial
Circus cyaneus Marsh hawk	Marshes, fields, prairies Wintering	Statewide North America range: United States	Abundant	High aesthetic	Slightly beneficial
FAMILY PANDIONIDAE (osprey)					
Pandion haliaetus Osprey, fish, hawk	Water: rivers, lakes, gulf Migrating, rarely wintering	Statewide as migrant North America range: United States	Uncommon (status undetermined)	High aesthetic	Slightly beneficial
FAMILY FALCONIDAE (falcons)					
Caracara cheriway Caracara	Prairies, rangeland Resident	Coastal and southern Texas North America range: southwestern United States, southern Florida	Rare (status undetermined)	Aesthetic	None

Species	Habitat and/or Seasonal Status	Range in Texas and North America	Abundance in Region	Values	Project Impact
Falco mexicanus Prairie falcon	Canyons, dry plains, prairies Resident, visitor	Western Texas, occasional coastal, northern Texas North America range: western United States	Rare	High aesthetic, scientific	None
Falco peregrinus Peregrine falcon	Open country, gulf shores Wintering, migrant	Statewide as migrant North America range: United States	Endangered (federal, Texas)	High aesthetic, scientific	None
Falco columbarius Pigeon hawk	Open country, marshes, prairies, dunes, Migrating	Statewide North America range: United States	Uncommon	Aesthetic	None
Falco sparverius Sparrow hawk	Open country, farmland Wintering	Statewide North America range: United States	Abundant	High aesthetic, insectivorous	Moderately beneficial
FAMILY TETRAONIDAE (grouse)					
Tympanuchus cupido Greater prairie chicken	Tall-grass prairie, coastal prairie Resident	Southeastern and coastal Texas North America range: central United States, coastal Texas	Rare, endangered (federal, Texas)	High aesthetic, scientific	None
FAMILY ODONTOPHORIDAE (American quails)					
Colinus virginianus Bobwhite	Farmland, brushy open country, road-sides Resident	Statewide except Trans-Pecos North America range: central and eastern United States	Abundant	High sport, aesthetic	Slightly adverse
FAMILY GRUIDAE (cranes)					
Grus canadensis Sandhill crane	Prairie, fields, marshes, shallow bays Wintering migrant	Statewide as migrant North America range: United States	Abundant	High sport, aesthetic	None
FAMILY MELEAGRIDIDAE (Turkeys)					
Meleagris gallopavo Wild turkey	Woodlands, thickets, etc.	Edwards Plateau and Coastal Prairie North American range: Oklahoma, Pennsylvania, Gulf States, Mexico	Uncommon	High sport, aesthetic	Slightly adverse

Species	Habitat and/or Seasonal Status	Range in Texas and North America	Abundance in Region	Values	Project Impact
FAMILY RALLIDAE (rails)					
Rallus elegans King rail	Water: fresh and brackish marshes, swamps, ricefields Wintering	Eastern, central, coastal North America range: eastern United States	Abundant	High sport, aesthetic	Moderately beneficial
Rallus longirostris Clapper rail	Water: salt marshes Resident	Coastal Texas North America range: coastal United States	Abundant	High sport, aesthetic	None
Rallus limicola Virginia rail	Fresh and salt marshes Migrant, wintering	Statewide as migrant North America range: United States	Uncommon	High sport, aesthetic	Slightly beneficial
Porzana carolina Sora	Fresh and salt marshes, swamps Migrant, wintering	Statewide as migrant North America range: United States	Uncommon	High sport, aesthetic	Slightly beneficial
Coturnicops noveboracensis Yellow rail	Grassy marshes, hayfields Rare winter visitor	East and central North America range: United States	Rare	High aesthetic	None
Laterallus jamaicensis Black rail	Grassy marshes, stubble fields Migrating	Coastal North America range: central, northeastern and southeastern United States	Rare	High aesthetic	None
Porphyrula martinica Purple gallinule	Water: fresh swamps, waterlily marshes Summer, nesting	Eastern half North America range: southeastern United States	Abundant	High aesthetic	Moderately adverse
Gallinula chloropus Common gallinule	Water: fresh marshes, swamps, reedy ponds, resacas Wintering, breeding	Eastern half and coast North America range: United States	Abundant	Aesthetic	Moderately beneficial

Species	Habitat and/or Seasonal Status	Range in Texas and North America	Abundance in Region	Values	Project Impact
Fulica americana American coot	Water: ponds, lakes, marshes, bays Resident, migrating	Statewide North America range: United States	Abundant	Low sport, aesthetic	Very beneficial
FAMILY HAEMATOPODIDAE (oystercatchers)					
Haematopus palli tus American oystercatcher	Coastal beaches, tidal flats Resident	Coastal North America range: eastern and Gulf coastal United States	Common	Aesthetic	None
FAMILY CHARADRIIDAE (plovers)					
Charadrius melodus Piping plover	Sea beaches, flats Migrant, some wintering	Coastal North America range: northeastern, southeastern coast	Uncommon	Aesthetic	None
Charadrius alexandrinus Snowy plover	Sand flats, salt flats, sandy beaches of streams, lakes, coast Resident	Statewide North America range: western and south-eastern United States	Uncommon	Aesthetic	Moderately beneficial
Charadrius semipalmatus Semipalmated plover	Beaches, shores, flats Migrant, some winter	Statewide North America range: California coast and southeastern coast	Uncommon	Aesthetic	Moderately beneficial
Charadrius wilsonia Wilson's plover	Open beaches, tidal flats, sandy islands Summer and wintering	Coastal North America range: southeastern coast	Common	Aesthetic	None
Charadrius vociferus Killdeer	Fields, airports, river banks, mudflats, shores Resident	Statewide North America range: United States	Abundant	Aesthetic	Moderately beneficial
Pluvialis dominica American golden plover	Rangeland, plains, prairie, fields, mud-flats, shores Migrant	Statewide as migrant North America range: central United States, Gulf coast	Abundant	Aesthetic	None

Species	Habitat and/or Seasonal Status	Range in Texas and North America	Abundance in Region	Values	Project Impact
Squatarola squatarola Black-bellied plover	Beaches, mudflats, marshes Migrating, some wintering	Statewide as migrant North America range: United States	Common	Aesthetic	None
FAMILY ARENARIIDAE (turnstones)					
Arenaria interpres Ruddy turnstone	Beaches, tidal flats, stone jetties Migrant, wintering	Eastern half and coast North America range: coastal United States	Uncommon	Aesthetic	None
FAMILY CALIDRIDIDAE (sandpipers)					
Philohela minor American woodcock	Wet thickets, moist woodlands, brushy swamps Wintering, migrant	Eastern half North America range: central and southeastern United States	Uncommon	Sport, aesthetic	Slightly adverse
Capella gallinago Common snipe	Marshes, swamps, wet meadows, stream edges Wintering	Statewide North America range: United States	Common	High sport, aesthetic	Slightly beneficial
Numenius americanus Long-billed curlew	Prairies, rangeland, mudflats, beaches Migrating, wintering	Statewide North America range: southwestern and southern United States	Common	High aesthetic	Slightly beneficial
Numenius phaeopus hudsonicus Hudsonian curlew, whimbrel	Shores, mudflats, prairies, marshes Migrant, wintering	Coastal North America range: Gulf and California coast	Uncommon	High aesthetic	None
Bartramia longicauda Upland plover	Prairies, fields Migrant	Statewide as migrant North America range: northern United States	Uncommon	High aesthetic	None
Actitis macularia Spotted sandpiper	Lake shores, streamsides, beaches Migrant, wintering	Statewide as migrant North America range: United States	Abundant	High aesthetic	Moderately beneficial

Species	Habitat and/or Seasonal Status	Range in Texas and North America	Abundance in Region	Values	Project Impact
Tringa solitaria Solitary sandpiper	Streamsides, wooded swamps, ponds, fresh marshes Migrant	Statewide as migrant North America range: United States	Abundant	High aesthetic	Moderately beneficial
Catoptrophorus semipalmatus Willet	Mudflats, beaches, marshes, pond edges Migrant, resident	Statewide as migrant North America range: northeastern and coastal United States	Abundant	High aesthetic	Moderately beneficial
Totanus melanoleucus Greater yellowlegs	Marshes, mudflats, streams, pond margins, shores Wintering, migrant	Statewide as migrant North America range: United States	Abundant	High aesthetic	Moderately beneficial
Totanus flavipes Lesser yellowlegs	Marshes, mudflats, shores, pond edges, streamsides Migrant, wintering	Statewide as migrant North America range: United States	Abundant	High aesthetic	Moderately beneficial
Calidris canutus Knot	Tidal flats, shores Migrant	Coastal North America range: coastal United States	Uncommon	High aesthetic	None
Erolia melanotos Pectoral sandpiper	Prairie pools, fields, marshes, mudflats Migrant	Statewide as migrant North America range: United States	Abundant	High aesthetic	Moderately beneficial
Erolia fuscicollis White-rumped sandpiper	Prairies, shores, mudflats, Migrant	Statewide as migrant North America range: United States	Uncommon	High aesthetic	Slightly beneficial
Erolia bairdii Baird's sandpiper	Prairie pools, pond margins, mudflats, beaches Migrant	Statewide as migrant North America range: United States	Abundant	High aesthetic	Moderately beneficial
Erolia minutilla Least sandpiper	Mudflats, grassy marshes, prairie pools, shores Migrant, wintering	Statewide as migrant North America range: United States	Abundant	High aesthetic	Moderately beneficial
Erolia alpina Dunlin	Mudflats, margins, beaches, muddy pools Migrant, wintering	Statewide as migrant North America range: United States	Abundant	High aesthetic	Moderately beneficial

Species	Habitat and/or Seasonal Status	Range in Texas and North America	Abundance in Region	Values	Project Impact
Limnodromus griseus Short-billed dowitcher	Beaches, mudflats, shallow ponds Migrant, wintering	Coastal North America range: United States	Uncommon	High aesthetic	None
Limnodromus scolopaceus Long-billed dowitcher	Mudflats, shallow pools, margins Migrant, wintering	Statewide as migrant North America range: United States	Abundant	High aesthetic	Moderately beneficial
Micropalama himantopus Stilt sandpiper	Shallow pools, mudflats, margins Migrant, occasional wintering	Statewide as migrant North America range: United States	Abundant	High aesthetic	Moderately beneficial
Ereunetes pusillus Semipalmated sandpiper	Beaches, shores, sandy islands, mudflats Migrant	Statewide as migrant North America range: United States	Abundant	High aesthetic	Moderately beneficial
Ereunetes mauri Western sandpiper	Shores, mudflats, muddy pools Migrant, wintering	Statewide as migrant North America range: coastal United States	Abundant	High aesthetic	Moderately beneficial
Tryngites subruficollis Buff-breasted sandpiper	Short-grass prairies, fields Migrant	Eastern half North America range: central and eastern coast	Uncommon	High aesthetic	None
Limosa fedoa Marbled godwit	Prairies, pools, shores, tidal flats Migrant, wintering	Coastal North America range: northern central and southern United States	Uncommon	High aesthetic	None
Limosa haemastica Hudsonian godwit	Prairie pools, marshes, mudflats, ricefields Migrant	Northwestern and coastal North America range: central and eastern coast	Uncommon	High aesthetic	None
Crocethia alba Sanderling	Sandy beaches, tidal flats Migrant, wintering	Statewide as migrant North America range: coastal United States	Uncommon	High aesthetic	None

Species	Habitat and/or Seasonal Status	Range in Texas and North America	Abundance in Region	Values	Project Impact
FAMILY RECURVIROSTRIDAE (avocets, stilts)					
Recurvirostra americana American avocet	Beaches, flats, shallow lakes, lagoons, prairie ponds Migrant, wintering	Statewide as migrant North America range: western and southern United States	Abundant	High aesthetic	Moderately beneficial
Himantopus mexicanus Black-necked stilt	Ricefields, grassy marshes, mudflats, shallow lakes, pools Wintering, summering	Coastal North America range: western and south-eastern United States	Abundant	High aesthetic	Moderately beneficial
FAMILY PHALAROPODIDAE (phalaropes)					
Steganopus tricolor Wilson's phalarope	Shallow lakes, pools, shores, mudflats Migrant	Statewide as migrant North America range: central United States	Abundant	High aesthetic	Slightly beneficial
Lobipes lobatus Northern phalarope	Open seas, lakes, occasionally pools, shores Migrant	Northern, central, coast North America range: coastal and central United States	Rare	High aesthetic	Slightly beneficial
FAMILY LARIDAE (gulls and terns)					
Larus argentatus Herring gull	Beaches, lakes, bays, gulf, dumps, piers Wintering, migrant	Coastal and eastern two-thirds North America range: United States	Common	Aesthetic	Moderately beneficial
Larus delawarensis Ring-billed gull	Lakes, bays, gulf, dumps, fields Migrant, wintering	Statewide North America range: United States	Common	Aesthetic	Moderately beneficial
Larus atricilla Laughing gull	Coastal bays, salt marshes, gulf Resident	Primarily coastal North America range: eastern coast	Abundant	Aesthetic	None

Species	Habitat and/or Seasonal Status	Range in Texas and North America	Abundance in Region	Values	Project Impact
Larus pipixcan Franklin's gull	Prairies Migrant	Statewide as migrant North America range: northwestern and central United States	Common	Aesthetic	None
Larus philadelphia Bonaparte's gull	Lakes, reservoirs, bays, gulf Wintering	Statewide as migrant coastal wintering North America range: United States	Common	Aesthetic	Slightly beneficial
Gelochelidon nilotica Gull-billed tern	Salt marshes, fields, coastal bays Resident	Coastal North America range: Gulf coast	Abundant	Aesthetic	Slightly beneficial
Sterna forsteri Forster's tern	Salt marshes, bays, gulf, lakes, rivers Resident	Coastal, rare inland migrant North America range: United States	Abundant	Aesthetic	Slightly beneficial
Sterna hirundo Common tern	Beaches, bays, gulf, lakes Migrant	Coastal North America range: United States	Common	Aesthetic	None
Sterna fuscata Sooty tern	Gulf Breeding along coast	Coastal North America range: Gulf coast	Uncommon	Aesthetic	None
Sterna albifrons Least tern	Beaches, bays, gulf, lakes, river Summer	Coastal transient northeastern Texas North America range: coastal and southern United States	Common	Aesthetic	None
Thalasseus maximus Royal tern	Coastal shores, jetties, piers Resident, breeding	Coastal North America range: coastal southeastern United States	Common	Aesthetic	None
Thalasseus sandvicensis Sandwich tern	Coastal water, gulf, jetties Summer, breeding	Coastal North America range: eastern and Gulf coast	Uncommon	Aesthetic	None

Species	Habitat and/or Seasonal Status	Range in Texas and North America	Abundance in Region	Values	Project Impact
Hydroprogne caspia Caspian tern	Coastal waters, lakes Resident	Coastal North America range: United States	Uncommon	Aesthetic	None
Chlidonias niger Black tern	Fresh marshes, lakes, coastal waters Migrant	Statewide as migrant North America range: United States	Abundant	Aesthetic	Moderately beneficial
FAMILY RYNCHOPIDAE (skimmers)					
Rynchops nigra Black skimmer	Beaches, salt bays, tidewater Resident	Coastal North America range: eastern and Gulf coast	Uncommon	Aesthetic	None
FAMILY COLUMBIDAE (pigeons and doves)					
Columba livia Rock dove, pigeon	Cities, towns Resident	Statewide North America range: United States	Abundant	Negative economic	None
Zenaidura macroura Mourning dove	Farmland, ranches, towns, mesquite, woodlands, open country, desert Resident, migrating	Statewide North America range: United States	Abundant	High sport aesthetic	None
Zenaida asiatica White-winged dove	Woodlands, mesquite, citrus groves, towns Summering, accidental	Southern Texas, coastal North America range: southwestern United States	Rare	High sport	None
Columbigallina passerina Ground dove	Farmland, dirt and gravel roads, open woodlands, brush Resident	Southern half, coastal North America range: southern United States	Uncommon	Aesthetic	None
Scardafella inca Inca dove	Towns, gardens, parks, farms Resident	Southern half, coastal North America range: southwestern United States	Uncommon	Aesthetic	None

Species	Habitat and/or Seasonal Status	Range in Texas and North America	Abundance in Region	Values	Project Impact
FAMILY CUCULIDAE (cuckoos)					
Coccyzus americanus Yellow-billed cuckoo	Woodlands, mesquite, thickets, farms Summers, breeding	Statewide North America range: United States	Abundant	High economic as insectivore, aesthetic	Slightly adverse
Coccyzus erythropthalmus Black-billed cuckoo	Wood edges, groves, thickets Migrant, breeding	Eastern and central North America range: central United States	Uncommon	High aesthetic	Moderately adverse
Geococcyx californianus Roadrunner	Deserts, brush, open country with scattered cover Resident	Statewide North America range: southwestern United States	Common	High aesthetic	None
Crotophaga sulcirostris Groove-billed ani	Thick brushy country Migratory, breeding	Southern and coastal North America range: southern Texas, Gulf coast	Rare	High aesthetic scientific	Slightly adverse
FAMILY TYTONIDAE (barn owls)					
Tyto alba Barn owl	Woodlands, ranches, farms, towns, canyons Resident	Statewide except in mountains North America range: United States	Uncommon	High economic for rodent control, high aesthetic	None
FAMILY BUBONIDAE (owls)					
Otus asio Screech owl	Woodlands, farm groves, wood canyons streams Resident	Statewide North America range: western and central United States	Common	High economic, high aesthetic	Slightly adverse
Bubo virginianus Great horned owl	Woodland, canyons, streamsides, deserts Resident	Statewide North America range: United States	Common	High economic for rodent control, high aesthetic	Slightly adverse
Speotyto cunicularia Burrowing owl	Open plains, prairies, fields Wintering, migrating	Statewide North America range: western United States, southern Florida	Uncommon	High aesthetic	None

Species	Habitat and/or Seasonal Status	Range in Texas and North America	Abundance in Region	Values	Project Impact
Strix varia Barred owl	Woodlands, wooded river bottoms Resident	Eastern half North America range: central United States	Common	High aesthetic	Moderately adverse
Asio otus Long-eared owl	Woodlands, thickets, cedar groves Wintering	Statewide as migrant North America range: United States	Rare	High aesthetic	Moderately adverse
Asio flammeus Short-eared owl	Prairies, marshes, coastal dunes Migrant, wintering	Statewide as migrant North America range: United States	Uncommon	High aesthetic	Moderately adverse
Aegolius acadicus Saw-whet owl	Woodland, groves, conifers Casual wintering	Trans-Pecos, southeastern corner Texas North America range: United States	Rare	High aesthetic	Slightly adverse
FAMILY CAPRIMULGIDAE (goatsuckers)					
Caprimulgus carolinensis Chuck-will's-widow	Pine forest, cedar hills and valleys, river woodlands Migrant, breeding	Eastern half North America range: southeastern United States	Abundant	High aesthetic	Moderately adverse
Caprimulgus vociferus Whip-poor-will	Woodlands, oak thickets, wood canyons Migrant	Eastern and coastal North America range: central and eastern United States	Uncommon	High aesthetic	Moderately adverse
FAMILY CHORDEILIDAE (nighthawks)					
Chordeiles minor Common nighthawk	Open country, woodland edges, cities, towns Summers, breeding	Statewide North America range: United States	Abundant	High aesthetic	None
FAMILY MICROPODIDAE (swifts)					
Chaetura pelagica Chimney swift	Open skys, chimneys, trees Migrant, summer, breeding	Statewide except Trans-Pecos North America range: central and eastern United States	Abundant	High aesthetic	None

Species	Habitat and/or Seasonal Status	Range in Texas and North America	Abundance in Region	Values	Project Impact
FAMILY TROCHILIDAE (hummingbirds)					
Archilochus colubris Ruby-throated hummingbird	Widespread, near flowering plants migrant breeding, summers	Statewide North America range: eastern and south-eastern United States	Uncommon	High aesthetic	None
Archilochus alexandri Black-chinned hummingbird	Semiarid country, cedar oak canyon sides, streams, town Migrant summers, breeding	Statewide except Panhandle and eastern fourth North America range: western United States	Common	High aesthetic	None
Selasphorus rufus Rufous hummingbird	Mountain meadows, streamsides, flowering plants Migrant	Western, central and coastal North America range: western United States	Rare	High aesthetic	None
FAMILY HALCYONIDAE (kingfishers)					
Ceryle alcyon Belted kingfisher	Rivers, ponds, lakes, bays Wintering, breeding	Statewide North America range: United States	Abundant	High aesthetic	Moderately beneficial
FAMILY DRYOCOPIDAE (woodpeckers)					
Colaptes auratus Yellow-shafted flicker	Woodlands, groves, farms, towns, semi-open country Wintering, breeding	Statewide North America range: central and eastern United States	Common	High aesthetic, insectivorous	Slightly adverse
Colaptes cafer Red-shafted flicker	Groves, streamside woodlands, farms, towns, canyons Wintering	Statewide North America range: western United States	Rare	High aesthetic, insectivorous	Slightly adverse
Dryocopus pileatus Pileated woodpecker	Woodlands Resident	Eastern third North America range: United States except southwestern	Uncommon	High aesthetic, insectivorous	Slightly adverse

Species	Habitat and/or Seasonal Status	Range in Texas and North America	Abundance In region	Values	Project Impact
Centurus carolinus Red-bellied woodpecker	Woodlands, groves, towns Resident	Eastern two-thirds North America range: eastern and southeastern United States	Common	High aesthetic, insectivorous	Slightly adverse
Melanerpes erythrocephalus Red-headed woodpecker	Groves, farm country, towns, scatterd trees Resident	Eastern half North America range: central and eastern United States	Common	High aesthetic, insectivorous	Slightly adverse
Sphyrapicus varius Yellow-bellied sapsucker	Woodlands, groves, preferably near water Wintering	Statewide North America range: United States	Common	High aesthetic, insectivorous	Slightly adverse
Dendrocopos villosus Hairy woodpecker	Woodlands, groves Resident, wintering	Eastern, northern and Trans-Pecos North America range: United States	Common	High aesthetic, insectivorous	Slightly adverse
Dendrocopos pubescens Downy woodpecker	Woodlands, farm groves, towns Resident	Central and eastern North America range: United States	Common	High aesthetic, insectivorous	Slightly adverse
Dendrocopos scalaris Ladder-backed woodpecker	Canyons, deserts, arid brushland, prairies Resident	Western two-thirds North America range: southwestern United States	Uncommon	High aesthetic, insectivorous	None
Dendrocopos borealis Red-cockaded woodpecker	Pine forest Resident	Eastern edge North America range: southeastern United States	Rare, Endangered, (federal, Texas)	High aesthetic, scientific	None
FAMILY TYRANNIDAE (tyrant flycatchers)					
Tyrannus tyrannus Eastern kingbird	Farmlands, orchards, roadsides Migrant, breeding	Statewide except Trans-Pecos North America range: United States	Abundant	High aesthetic, insectivorous	None

Species	Habitat and/or Seasonal Status	Range in Texas and North America	Abundance in Region	Values	Project Impact
Tyrannus verticalis Western kingbird	Semi-open country, scattered trees, farms, towns Migrant, breeding	Statewide North America range: central and western United States	Uncommon	High aesthetic, insectivorous	None
Muscivora forficata Scissor-tailed flycatcher	Semi-open country, mesquite, ranches, farms, roadsides Migrant, summering, breeding	Statewide North America range: south-central United States	Common	High aesthetic, insectivorous	None
Myiarchus crinitus Great crested flycatcher	Woodlands, groves, orchards Summers, breeding	Most of state North America range: central and eastern United States	Common	High aesthetic, insectivorous	Moderately adverse
Sayornis phoebe Eastern phoebe	Streamsides, farms, towns Migrating, wintering, breeding	Most of state North America range: central and south-eastern United States	Uncommon	High aesthetic, insectivorous	Slightly adverse
Sayornis saya Say's phoebe	Brushy plains, desert edges, canyon mouths Wintering	Western three-fourths North America range: western United States	Rare	Aesthetic	None
Empidonax flaviventris Yellow-bellied flycatcher	Woodlands, thickets Migrant	Eastern half North America range: central and eastern United States	Uncommon	Aesthetic, insectivorous	Moderately adverse
Empidonax virescens Acadian flycatcher	Open woods, wooded streams Migrant, summering breeding	Eastern half North America range: eastern half United States	Common	High aesthetic insectivorous	Slightly adverse
Empidonax traillii Traill's flycatcher	Streamside thickets, bushy swamps, scrubby pastures Migrant	Statewide North America range: United States	Uncommon	High aesthetic, insectivorous	Moderately adverse
Empidonax minimus Least flycatcher	Open woodland, thickets, scattered trees, orchards Migrant	Statewide North America range: central and eastern United States	Common	High aesthetic, insectivorous	Slightly adverse

Species	Habitat and/or Seasonal Status	Range in Texas and North America	Abundance in Region	Values	Project Impact
Contopus virens Eastern wood pewee	Woodlands, groves Migrant, summers, breeding	Eastern two-thirds North America range: central and eastern United States	Common	High aesthetic, insectivorous	Slightly adverse
Nuttallornis borealis Olive-sided flycatcher	Forest, dead trees Migrant	Statewide North America range: United States	Uncommon	High aesthetic, insectivorous	Moderately adverse
Pyrocephalus rubinus Vermilion flycatcher	Near water in desert country, streamsides, fresh ponds, tanks Wintering	Southwestern and coastal North America range: southwestern United States	Rare	High aesthetic, insectivorous	None
FAMILY ALAUDIDAE (larks)					
Eremophila alpestris Horned lark	Plains, prairies, fields, shores, dirt roads, golf courses Wintering, breeding	Statewide North America range: United States	Uncommon	High aesthetic	None
FAMILY HIRUNDINIDAE (swallows)					
Tachycineta thalassina Violet-green swallow	Widespread Migrating	Trans-Pecos, coastal North America range: western United States	Rare	Aesthetic, insectivorous	None
Iridoprocne bicolor Tree swallow	Open country near water, marshes, streams, lakes Migrating, wintering	Statewide North America range: United States	Abundant	Aesthetic, insectivorous	Slightly beneficial
Riparia riparia Bank swallow	Near water, over fields, marshes, streams, lakes Migrant, breeding	Statewide North America range: United States	Common	Aesthetic, insectivorous	Moderately beneficial
Stelgidopteryx ruficollis Rough-winged swallow	Near streams and lakes Summer, breeding	Statewide North America range: United States	Common	Aesthetic, insectivorous	Moderately beneficial

Species	Habitat and/or Seasonal Status	Range in Texas and North America	Abundance in Region	Values	Project Impact
Hirundo rustica Barn swallow	Open country, farms, fields, marshes, lakes Migrant, breeding	Statewide North America range: United States	Abundant	Aesthetic, insectivorous	None
Petrochelidon pyrrhonota Cliff swallow	Open country, farmland, cliffs, canyons, riversides, streams Migrant, breeding	Statewide North America range: United States	Uncommon	Aesthetic, insectivorous	Slightly adverse
Progne subis Purple martin	Towns, rural country Migrant, breeding	Statewide North America range: United States	Abundant	Aesthetic, insectivorous	None
FAMILY CORVIDAE (jays and crows)					
Cyanocitta cristata Blue jay	Woodland, groves, towns Resident	Eastern half and Panhandle North America range: central and eastern United States	Abundant	Aesthetic, sometimes negative economic	Slightly adverse
Corvus brachyrhynchos Common crow	Woodland, farmland, river groves Resident	Statewide except arid southwestern North America range: United States	Common	Negative economic	Slightly adverse
Corvus ossifragus Fish crow	Coastal country and lower reaches of rivers Resident	Southeastern corner North America range: eastern and Gulf coast	Uncommon	Aesthetic	None
FAMILY PARIDAE (tits)					
Parus atricapillus Black-capped chickadee	Woodland, thickets Casual visitor	Northern half North America range: United States	Rare	Aesthetic	Moderately adverse
Parus carolinensis Carolina chickadee	Woods, groves, towns Resident	Central and eastern North America range: southeastern United States	Common	Aesthetic	Slightly adverse
Parus bicolor Tufted titmouse	Woodland, shade trees groves Resident	Eastern half North America range: eastern and southeastern United States	Common	High aesthetic	Slightly adverse

Species	Habitat and/or Seasonal Status	Range in Texas and North America	Abundance in Region	Values	Project Impact
FAMILY SITTIDAE (nuthatches)					
Sitta carolinensis White-breasted nuthatch	Woodlands, groves, shade trees Resident	Central and eastern North America range: United States	Uncommon	High aesthetic	Moderately adverse
Sitta canadensis Red-breasted nuthatch	Woodland, groves, trees, thickets Winter visitor	Most of state North America range: United States	Uncommon	High aesthetic	Moderately adverse
Sitta pusilla Brown-headed nuthatch	Pine forest Resident	Eastern fourth North America range: southeastern United States	Common	High aesthetic	None
FAMILY CERTHIIDAE (creepers)					
Certhia familiaris Brown creeper	Woodlands, groves, trees Wintering	Statewide North America range: United States	Common	Aesthetic, insectivorous	Moderately adverse
FAMILY TROGLODYTIDAE (wrens)					
Troglodytes aedon House wren	Thickets, woodlands, brush, towns Migrant, wintering	Statewide North America range: United States	Common	Aesthetic, insectivorous	Moderately adverse
Troglodytes troglodytes Winter wren	Dense tangles of underbrush, woodland undergrowth Wintering	Statewide North America range: United States	Uncommon	Aesthetic, insectivorous	Moderately adverse
Thryomanes bewickii Bewick's wren	Thickets, undergrowth, towns, brush, deserts Resident	Statewide North America range: central and western United States	Uncommon	Aesthetic, insectivorous	Slightly adverse
Thryothorus ludovicianus Carolina wren	Woodland and underbrush, trees and bushes along streams Resident	Eastern two-third North America range: central and eastern United States	Common	Aesthetic, insectivorous	Moderately adverse

Species	Habitat and/or Seasonal Status	Range in Texas and North America	Abundance in Region	Values	Project Impact
Telmatodytes palustris Long-billed marsh wren	Fresh and salt marshes, reeds Migrating, breeding, wintering	Statewide as migrant North America range: United States	Uncommon	Aesthetic, insectivorous	None
Cistothorus platensis Short-billed marsh wren	Grassy marshes, sedge, cordgrass flats Migrating, wintering	Eastern two thirds North America range: central and eastern United States	Common	Aesthetic, insectivorous	None
FAMILY MIMIDAE (mockingbirds, thrashers)					
Mimus polyglottos Mockingbird	Towns, farm country, ranches, mesquite, brush Resident	Statewide North America range: United States	Abundant	High aesthetic, insectivorous	None
Dumetella carolinensis Catbird	Undergrowth, brush Migrating, breeding, wintering	Statewide as migrant North America range: central and eastern United States	Uncommon	High aesthetic, insectivorous	Slightly adverse
Toxostoma rufum Brown thrasher	Brushy country, thickets Wintering, resident	Statewide North America range: central and eastern United States	Abundant	High aesthetic, insectivorous	None
Oreoscoptes montanus Sage thrasher	Brush plains Wintering	Western two-thirds, coast, northeastern North America range: western United States	Uncommon	Aesthetic	None
FAMILY TURDIDAE (thrushes)					
Turdus migratorius Robin	Farms, towns, croplands, woodland borders Wintering, breeding	Statewide North America range: United States	Common	Aesthetic	None
Hylocichla mustelina Wood thrush	Woodlands, shady thickets Migrating, breeding	Eastern half North America range: central and eastern United States	Uncommon	Aesthetic	Moderately adverse

Species	Habitat and/or Seasonal Status	Range in Texas and North America	Abundance in Region	Values	Project Impact
Hylocichla guttata Hermit thrush	Woodlands, thickets Wintering, migrating	Statewide North America range: United States	Uncommon	Aesthetic	Slightly adverse
Hylocichla ustulata Swainson's thrush	Woodlands. shady thickets Migrating	Statewide North America range: United States	Abundant	Aesthetic	Slightly adverse
Hylocichla minima Gray-cheeked thrush	Woodlands, shady thickets Migrating, wintering	Statewide North America range: United States	Uncommon	Aesthetic	Slightly adverse
Hylocichla fuscescens Veery	Woodlands, shady thickets Migrant	Eastern and coastal North America range: United States	Uncommon	Aesthetic	Slightly adverse
Sialia sialis Eastern bluebird	Farmland, open country with scattered trees Wintering, breeding	Eastern two-thirds North America range: central and eastern United States	Common	High aesthetic	None
Sialia mexicana Western bluebird	Open country, with scattered trees Wintering	Principally western two-thirds North America range: western United States	Rare	Aesthetic	None
Sialia currucoides Mountain bluebird	Open country with scattered trees Wintering	Western two-thirds, northeastern North America range: western United States	Rare	Aesthetic	None
Myadestes townsendi Townsend's solitaire	Canyons, brush, slopes Wintering	Western two-thirds, northeastern North America range: western United States	Rare	Aesthetic	None
FAMILY SYLVIIDAE (gnatcatchers, kinglets)					
Polioptila caerula Blue-gray gnatcatcher	Woods, thickets, brush Wintering, migrating, breeding	Statewide North America range: southwestern, eastern United States	Abundant	Aesthetic	Moderately adverse

Species	Habitat and/or Seasonal Status	Range in Region and North America	Abundance in Region	Values	Project Impact
Regulus satrapa Golden-crowned kinglet	Woodland, thickets, groves Wintering	Statewide North America range: United States except northeastern	Uncommon	Aesthetic	Slightly adverse
Regulus calendula Ruby-crowned kinglet	Woodlands, thickets Wintering	Statewide North America range: United States	Common	Aesthetic	Slightly adverse
FAMILY MOTACILLIDAE (pipits)					
Anthus spinoletta Water pipit	Fields, prairies, marshes Migrant, wintering	Statewide North America range: United States	Abundant	Aesthetic	None
Anthus spragueii Sprague's pipit	Plains, prairies, airports Migrating, wintering	Statewide except Trans-Pecos North America range: central and southeastern United States	Uncommon	Aesthetic	None
FAMILY BOMBYCILLIDAE (waxwings)					
Bombycilla cedrorum Cedar waxwing	Semi-open country, woodlands, towns Wintering	Statewide North America range: United States	Common	Aesthetic	None
FAMILY LANIIDAE (shrikes)					
Lanius excubitor Northern shrike	Open and semi-open country Casual wintering	Northern third, coast North America range: northern and central United States	Rare	Aesthetic	None
Lanius ludovicianus Loggerhead shrike	Open country with scattered trees, scrub, desert Wintering, breeding	Statewide North America range: United States	Abundant	Aesthetic	None
FAMILY STURNIDAE (starlings)					
Sturnus vulgaris Starling	Towns, farms, open country, groves, fields Wintering, breeding	Statewide North America range: United States	Abundant	Sometimes negative, economic	None

Species	Habitat and/or Seasonal Status	Range in Texas and North America	Abundance in Region	Values	Project Impact
FAMILY VIREONIDAE (vireos)					
Vireo atricapilla Black-capped vireo	Oak scrub, brushy canyons Summers	Central, northern central, southern North America range: south-central United States	Uncommon	Aesthetic	None
Vireo griseus White-eyed vireo	Thickets, dense shrubs, near water Wintering, migrating, breeding	Statewide North America range: central and eastern United States	Uncommon	Aesthetic	Slightly adverse
Vireo bellii Bell's vireo	Willow thickets along streams, mesquite Migrant, summers	Statewide North America range: southwestern and south-central United States	Abundant	Aesthetic	Slightly adverse
Vireo flavifrons Yellow-throated vireo	Woodlands, shade trees Migrant, breeding	Eastern half North America range: central and eastern United States	Common	Aesthetic	Moderately adverse
Vireo solitarius Solitary vireo	Woodland trees Migrating, wintering	Statewide North America range: United States	Uncommon	Aesthetic	Moderately adverse
Vireo olivaceus Red-eyed vireo	Woodlands, shade trees, groves Migrating, breeding	Statewide except Trans-Pecos North America range: United States	Uncommon	Aesthetic	Moderately adverse
Vireo philadelphicus Philadelphia vireo	Woodlands, trees Migrating	Eastern half North America range: United States	Uncommon	Aesthetic	Moderately adverse
Vireo gilvus Warbling vireo	Woodlands, trees Migrating, breeding	Statewide North America range: United States	Uncommon	Aesthetic	Slightly adverse
FAMILY PARULIDAE (American wood warblers)					
Miniotilta varia Black-and-white warbler	Woodlands, trees, undergrowth Migrant, breeding	Statewide as migrant North America range: eastern half United States	Common	Aesthetic	Moderately adverse

Species	Habitat and/or Seasonal Status	Range in Texas and North America	Abundance in Region	Values	Project Impact
Protonotaria citrea Prothonotary warbler	Wood swamps Migrant, breeding	Eastern half North America range: eastern and southeastern United States	Uncommon	Aesthetic	Moderately adverse
Limnothlypis swainsonii Swainson's warbler	Swamps, bogs, stream bottoms, heavy woodland undergrowth Migrant, breeding	Eastern third, coast North America range: eastern and southeastern United States	Rare	Aesthetic	Moderately adverse
Helmitheros vermivorus Worm-eating warbler	Woodlands, undergrowth Migrant	Eastern half North America range: eastern and southeastern United States	Rare	Aesthetic	Slightly adverse
Vermivora chrysoptera Golden-winged warbler	Open woodlands, brushy clearings, undergrowth Migrant	Coast North America range: eastern and southeastern United States	Uncommon	Aesthetic	Slightly adverse
Vermivora pinus Blue-winged warbler	Woodland openings, undergrowth, bushy edges Migrant	Eastern half, principally coastal North America range: central and eastern United States	Uncommon	Aesthetic	Slightly adverse
Vermivora peregrina Tennessee warbler	Woodlands, groves, brush Migrant	Eastern half North America range: eastern and southeastern United States	Common	Aesthetic	Slightly adverse
Vermivora celata Orange-crowned warbler	Scattered trees, brush, undergrowth Migrant, wintering	Statewide as migrant North America range: United States	Common	Aesthetic	Slightly adverse
Vermivora ruficapilla Nashville warbler	Woodland edges, thickets Migrant	Statewide North America range: United States	Common	Aesthetic	Slightly adverse

Species	Habitat and/or Seasonal Status	Range in Texas and North America	Abundance in Region	Values	Project Impact
Parula americana Parula warbler	Woodlands, groves, along creeks and swamps Migrant, breeding	Eastern two-thirds North America range: eastern and southeastern United States	Common	Aesthetic	Moderately adverse
Dendroica petechia Yellow warbler	Willows, streamsides, shrubs Migrant, summer	Statewide North America range: United States	Common	Aesthetic	Slightly adverse
Dendroica magnolia Magnolia warbler	Woodlands, groves Migrant	Eastern half North America range: eastern half United States	Abundant	Aesthetic	Moderately adverse
Dendroica caerulescens Black-throated blue warbler	Bushes, thickets, low trees Transient	Eastern half North America range: eastern United States	Rare	Aesthetic	Slightly adverse
Dendroica coronata Myrtle warbler	Trees, brush, thickets Migrating, winter	Statewide North America range: eastern and southeastern United States	Abundant	Aesthetic	Slightly adverse
Dendroica auduboni Audubon's warbler	Trees, brush, thickets Migrating, wintering	Western two-thirds and coast North America range: western United States	Uncommon	Aesthetic	Slightly adverse
Dendroica nigrescens Black-throated gray warbler	Oaks, cedars, brush Migrant	Statewide North America range: western United States	Rare	Aesthetic	Slightly adverse
Dendroica virens Black-throated green warbler	Woodlands, conifers Migrant	Eastern two-thirds North America range: eastern and southeastern United States	Common	Aesthetic	Slightly adverse

Species	Habitat and/or Seasonal Status	Range in Texas and North America	Abundance in Region	Values	Project Impact
Dendroica chrysoparia Golden-cheeked warbler	Cedars, oaks, streamside trees Resident	Central and northern central North America range: central Texas	Uncommon	Aesthetic	None
Dendroica cerulea Cerulean warbler	River woodlands Migrant, breeding	Eastern and coast as migrant North America range: central and eastern United States	Uncommon	Aesthetic	Moderately adverse
Dendroica fusca Blackburnian warbler	Woodlands, groves Migrant	Eastern half North America range: northern and southeastern United States	Uncommon	High aesthetic	Slightly adverse
Dendroica dominica Yellow-throated warbler	Open woodlands, river forests, groves, cypress Migrating, wintering, breeding	Eastern two-thirds North America range: central and eastern United States	Uncommon	High aesthetic	Moderately adverse
Dendroica pensylvanica Chestnut-sided warbler	Shrubs, brush, open second-growth Migrant	Eastern half North America range: eastern and southeastern United States	Uncommon	High aesthetic	Slightly adverse
Dendroica castanea Bay-breasted warbler	Woodlands, groves Migrant	Eastern half North America range: eastern and southeastern United States	Common	High aesthetic	Slightly adverse
Dendroica striata Blackpoll warbler	Trees, groves Migrant	Eastern and coastal North America range: eastern half United States	Rare	High aesthetic	None
Dendroica pinus Pine warbler	Chiefly pinewoods Migrant, resident	Eastern and coast North America range: central and eastern United States	Common	High aesthetic	None

Species	Habitat and/or Seasonal Status	Range in Texas and North America	Abundance in Region	Values	Project Impact
Dendroica discolor Prairie warbler	Semi-open brush, low pines Migrant	Eastern third North America range: central and eastern United States	Rare	High aesthetic	Slightly adverse
Dendroica palmarum Palm warbler	Low vegetation, weedy ground Transient	Eastern and coast North America range: eastern and southeastern United States	Rare	High aesthetic	None
Seiurus aurocapillus Ovenbird	Woodland undergrowth, thickets Migrant	Statewide, principally eastern half North America range: United States	Uncommon	Aesthetic	Slightly adverse
Seiurus noveboracensis Northern waterthrush	Swamps, streamsides, thickets Migrant	Statewide North America range: United States	Common	Aesthetic	Slightly adverse
Seiurus motacilla Louisiana waterthrush	Wooded swamps, streamsides, thickets Migrant, breeding	Eastern half North America range: eastern and southeastern United States	Uncommon	Aesthetic	Moderately adverse
Oporornis formosus Kentucky warbler	Woodland undergrowth Migrant, breeding	Eastern half North America range: central and eastern United States	Uncommon	Aesthetic	Slightly adverse
Oporornis agilis Connecticut warbler	Thickets, undergrowth Migrant	Eastern half North America range: central and southeastern United States	Rare	Aesthetic	Slightly adverse
Oporornis philadelphia Mourning warbler	Thickets, undergrowth Migrant	Eastern half North America range: central and eastern United States	Uncommon	Aesthetic	Slightly adverse

Species	Habitat and/or Seasonal Status	Range in Texas and North America	Abundance in Region	Values	Project Impact
Geothlypis trichas Yellowthroat	Swamps, thickets, streamsides Migrant, breeding	Statewide North America range: United States	Abundant	High aesthetic	Slightly adverse
Icteria virens Yellow-breasted chat	Brushy tangles, briars, thickets Migrant, breeding	Statewide North America range: United States	Uncommon	High aesthetic	Slightly adverse
Wilsonia citrina Hooded warbler	Woodland undergrowth Migrant, breeding	Eastern half North America range: central and eastern United States	Common	Aesthetic	Slightly adverse
Wilsonia pusilla Wilson's warbler	Low shrubs, thickets Migrant	Statewide North America range: United States	Abundant	Aesthetic	Slightly adverse
Wilsonia canadensis Canada warbler	Shady thickets, woodland undergrowth Migrant	Eastern half North America range: eastern and southeastern United States	Uncommon	Aesthetic	Slightly adverse
Setophaga ruticilla American redstart	Woodlands, groves Migrant, breeding	Statewide as migrant North America range: United States	Abundant	High aesthetic	Slightly adverse
FAMILY PLOCEIDAE (weaver finches)					
Passer domesticus House sparrow, English sparrow	Cities, towns, farms Resident	Statewide North America range: United States	Abundant	Insectivorous, sometimes negative economic	None
FAMILY ICTERIDAE (meadowlarks, blackbirds, orioles)					
Dolichonyx oryzivorus Bobolink	Fields, marshes Migrant	Eastern half North America range: United States	Uncommon	High aesthetic	None
Sturnella magna Eastern meadowlark	Fields, meadows, prairies Breeding, wintering	Statewide North America range: central and eastern United States	Abundant	High aesthetic	None

Species	Habitat and/or Seasonal Status	Range in Texas and North America	Abundance in Region	Values	Project Impact
Sturnella neglecta Western meadowlark	Fields, meadow, prairies Winter, breeding	Statewide North America range: central and western United States	Uncommon	Aesthetic	None
Xanthocephalus xanthocephalus Yellow-headed blackbird	Fields, ranches, marshes Migrant	Statewide North America range: central and western United States	Uncommon	High aesthetic	None
Agelaius phoeniceus Red-winged blackbird	Marshes, swamps, fields, streams, lakes Resident	Statewide North America range: United States	Abundant	High aesthetic	None
Icterus spurius Orchard oriole	Towns, farms, orchards, edges Migrating, breeding	Statewide North America range: central and eastern United States	Abundant	High aesthetic	None
Icterus galbula Baltimore oriole	Woodlands, groves, shade trees Migrant	Eastern half North America range: central and eastern United States	Common	High aesthetic, insectivorous	Slightly adverse
Icterus bullockii Bullock's oriole	River groves, towns, ranches Migrant, resident	Western three-fourth as migrant North America range: western United States	Uncommon	High aesthetic	None
Euphagus carolinus Rusty blackbird	River groves, woodland swamps Wintering	Eastern half North America range: central and eastern United States	Common	Aesthetic	Moderately adverse
Euphagus cyanocephalus Brewer's blackbird	Open country, fields, ranches, towns, farms Wintering, breeding	Statewide North America range: central, western, southeastern United States	Abundant	Aesthetic	None
Cassidix mexicanus Great-tailed grackle	Riversides, swamps, groves, wet thickets, towns Resident	Statewide North America range: southwestern and central United States	Abundant	Often negative economic	Slightly adverse

Species	Habitat and/or Seasonal Status	Range in Texas and North America	Abundance in Region	Values	Project Impact
Quiscalus quiscula Common grackle	Croplands, towns, streamsides Resident	Eastern three-fourths North America range: eastern half United States	Common	Often negative economic	None
Molothrus ater Brown-headed cowbird	Cropland, pastures, wood edges, groves, brush Resident	Statewide North America range: United States	Abundant	Sometimes negative	None
FAMILY THRAUPIDAE (tanagers)					
Piranga ludoviciana Western tanager	Open woodlands Migrant	Statewide North America range: western United States	Uncommon	Aesthetic	None
Piranga olivacea Scarlet tanager	Forest, shade trees, especially oak Migrant	Eastern half North America range: central and eastern United States	Uncommon	High aesthetic	Moderately adverse
Piranga rubra Summer tanager	Woodlands, river groves, towns Migrant, breeding	Statewide North America range: southwestern, southern, eastern, United States	Common	High aesthetic	Slightly adverse
FAMILY FRINGILLIDAE (finches)					
Richmondena cardinalis Cardinal	Woodland edges, thickets, towns Resident	Statewide North America range: eastern, central, southwestern United States	Common	High aesthetic	Slightly adverse
Pheucticus ludovicianus Rose-breasted grosbeak	Woodlands, thickets Migrant	Eastern and coast North America range: central and eastern United States	Uncommon	High aesthetic	Moderately adverse
Pheucticus melanocephalus Black-headed grosbeak	Oaks in mountains, streamside, groves Migrant	Statewide North America range: western United States	Uncommon	Aesthetic	Slightly adverse

Species	Habitat and/or Seasonal Status	Range in Texas and North America	Abundance in Region	Values	Project Impact
Guiraca caerulea Blue grosbeak	Brushy places, roadsides, thickets Migrant, resident	Statewide North America range: southern United States	Abundant	Aesthetic	None
Passerina cyanea Indigo bunting	Brushy places, edges Migrant, breeding	Statewide North America range: central and eastern United States	Common	High aesthetic	Slightly adverse
Passerina amoena Lazuli bunting	Open brushy country Migrant	Statewide North America range: western United States	Rare	High aesthetic	None
Passerina ciris Painted bunting	Woodland edges, brush stream edges Migrant, breeding	Statewide North America range: southeastern and south-central United States	Common	High aesthetic	Slightly adverse
Spiza americana Dickcissel	Fields, meadows, prairies Migrant, breeding	Statewide North America range: central and eastern United States	Common	High aesthetic	None
Hesperiphona vespertina Evening grosbeak	Box elders, maples, fruiting shrubs Wintering	Statewide North America range: United States	Rare	Aesthetic	Moderately adverse
Carpodacus purpureus Purple finch	Woodlands, groves Wintering	Eastern half North America range: United States	Uncommon	High aesthetic	Moderately adverse
Carpodacus mexicanus House finch	Towns, ranches, canyons, deserts Resident	Western half, central, coast North America range: western United States	Uncommon	Aesthetic	None

Species	Habitat and/or Seasonal Status	Range in Texas and North America	Abundance in Region	Values	Project Impact
Spinus pinus Pine siskin	Woodlands, groves, conifers Wintering	Statewide North America range: United States	Uncommon	High aesthetic	Slightly adverse
Spinus tristis American goldfinch	Weedy places, edges, groves Winter	Statewide North America range: western and southern United States	Common	High aesthetic	Slightly adverse
Spinus psaltria Lesser goldfinch	Semi-open, brushy country Wintering, breeding	Western two-third, northern central North America range: western and southwestern United States	Uncommon	High aesthetic	None
Chlorura chlorura Green-tailed towhee	Brush, thickets Wintering	Statewide North America range: western United States	Uncommon	Aesthetic	Slightly adverse
Pipilo erythrophthalmus Rufous-sided towhee	Brush, thickets, edges Wintering	Statewide North America range: United States	Common	Aesthetic	Slightly adverse
Calamospiza melanocorys Lark bunting	Plains, prairies, fields Migrant, wintering	Western two-thirds, coast North America range: southwestern and central United States	Common	Aesthetic	None
Passerculus sandwichensis Savannah sparrow	Prairies, fields, marshes, open country Wintering	Statewide North America range: United States	Abundant	Aesthetic	None
Ammodramus savannarum Grasshopper sparrow	Fields, prairies, Migrating, breeding wintering	Statewide North America range: western, central, southeastern United States	Common	Aesthetic, insectivorous	None

Species	Habitat and/or Seasonal Status	Range in Texas and North America	Abundance in Region	Values	Project Impact
Ammodramus bairdii Baird's sparrow	Prairies Winter	Western three-fourth, coast North America range: central United States	Rare	Aesthetic	None
Passerherbulus caudacutus Le Conte's sparrow	Grassy, weedy places Wintering	Eastern half North America range: central, southeastern United States	Uncommon	Aesthetic	Slightly adverse
Passerherbulus henslowii Henslow's sparrow	Weedy fields Wintering	Eastern half North America range: central and eastern United States	Rare	Aesthetic	None
Ammospiza caudacuta Sharp-tailed sparrow	Salt marshes Wintering	Primarily coastal North America range: northeastern, eastern, southeastern United States	Uncommon	Aesthetic	None
Ammospiza maritima Seaside sparrow	Salt marshes Resident	Coastal North America range: eastern, southeastern and Gulf coast	Common	Aesthetic	None
Pooecetes gramineus Vesper sparrow	Fields, open country Migrating, wintering	Statewide North America range: United States	Common	Aesthetic	None
Chondestes grammacus Lark sparrow	Open country, brush, farms, edges Breeding, wintering	Statewide North America range: western and central United States, eastern coast	Common	Aesthetic	None
Aimophila ruficeps Rufous-crowned sparrow	Rocky, brushy slopes Resident	Western three-fourth except southern Texas North America range: southwestern United States	Uncommon	Aesthetic	None

Species	Habitat and/or Seasonal Status	Range in Texas and North America	Abundance in Region	Values	Project Impact
Aimophila aestivalis Bachman's sparrow	Open pine or oak woods, bushy pastures Resident	Eastern third North America range: eastern half United States except far north	Rare	Aesthetic	None
Aimophila cassinii Cassin's sparrow	Arid grassy country with some bushes Wintering, breeding	Western two-thirds North America range: south-central United States	Common	Aesthetic	None
Junco hyemalis Slate-colored junco	Woodlands, edges, brushland Wintering	Statewide North America range: United States	Common	Aesthetic	Slightly adverse
Junco oreganus Oregon junco	Woodlands, edges, brush Wintering	Western three-fourths North America range: western United States	Uncommon	Aesthetic	None
Spizella arborea Tree sparrow	Weedy fields, brushy open country Winter visitor	Northern two-thirds North America range: United States	Rare	Aesthetic	None
Spizella passerina Chipping sparrow	Open woodlands, farmland, orchards, towns Wintering, breeding	Statewide North America range: United States except central	Common	Aesthetic	None
Spizella pallida Clay-colored sparrow	Open brush, fields Migrant	Statewide North America range: central United States	Common	Aesthetic	None
Spizella breweri Brewer's sparrow	Migrant	Western three-fourths North America range: western and southwestern United States	Rare	Aesthetic	None
Spizella pusilla Field sparrow	Brushy, semi-open country Wintering, breeding	Statewide North America range: central and eastern United States	Common	Aesthetic	Slightly adverse

Species	Habitat and/or Seasonal Status	Range in Texas and North America	Abundance in Region	Values	Project Impact
Zonotrichia querula Harris' sparrow	Brush, edges, open woodland Wintering	Statewide North America range: central United States	Common	Aesthetic	Moderately adverse
Zonotrichia leucophrys White-crowned sparrow	Brushy places, edges, towns Migrant, wintering	Statewide North America range: United States	Common	Aesthetic	Slightly adverse
Zonotrichia albicollis White-throated sparrow	Woodland undergrowth, thickets Wintering	Statewide North America range: United States	Common	Aesthetic	Slightly adverse
Passerella iliaca Fox sparrow	Wooded undergrowth, thickets Wintering	Statewide North America range: central and western United States	Common	Aesthetic	Slightly adverse
Melospiza lincolnii Lincoln's sparrow	Thickets, pastures, edges, tangles Migrant, wintering	Statewide North America range: United States	Abundant	Aesthetic	Slightly adverse
Melospiza georgiana Swamp sparrow	Fresh marshes, sedgy swamps Wintering	Eastern half North America range: eastern and southeastern United States	Common	Aesthetic	Moderately adverse
Melospiza melodia Song sparrow	Brush, thickets, edges, streamsides Wintering	Statewide North America range: United States	Common	Aesthetic	Slightly adverse
Rhynchophanes mccownii McCown's longspur	Open plains, fields Wintering	Western two-thirds, northern central North America range: central United States	Uncommon	Aesthetic	None
Calcarius lapponicus Lapland longspur	Fields, prairies Wintering	Northern and northeastern North America range: United States except far south	Uncommon	Aesthetic	None

Species	Habitat and/or Seasonal Status	Range in Texas and North America	Abundance in Region	Values	Project Impact
Calcarius pictus Smith's longspur	Fields, prairies, airports Wintering	Northern and northeastern North America range: central United States	Uncommon	Aesthetic	Moderately adverse
Calcarius ornatus Chestnut-collared longspur	Plains, prairies Wintering	Statewide except far east and south North America range: central and southwestern United States	Rare	Aesthetic	None

Source: Peterson (1967), and Oberholser, Kincaid, and Fuertes (1974)

MAMMALS OF TRINITY RIVER DRAINAGE

Species	Habitat and/or Seasonal Status	Range in Texas and North America	Abundance in Region	Values	Project Impact
FAMILY DIDELPHIIDAE (opossums)					
Didelphis marsupialis Opossum	Farming areas, woodlands, along streams	Statewide North America range: eastern half, West Coast	Abundant	Aesthetic, economic	Slightly adverse
FAMILY SORICIDAE (shrews)					
Cryptotis parva Least shrew	Open grass-covered areas, marshes	Eastern two-thirds except central North America range: eastern half United States	Common	Aesthetic, insectivorous	Slightly adverse
Blarina brevicauda Shorttail shrew	Forest, grassland, marshes, brushy areas	Eastern fourth North America range: eastern half United States	Common	Aesthetic, insectivorous	Very adverse
FAMILY TALPIDAE (moles)					
Scalopus aquaticus Eastern mole	Moist sandy loam, gardens, fields, meadows	Eastern half, western Panhandle, southern Trans-Pecos North America range: eastern half United States	Uncommon	Aesthetic, economic	Slightly adverse
FAMILY VESPERTILIONIDAE (plainnose bats)					
Lasionycteris noctivagans Silver-haired bat	Forested areas, occasionally buildings, caves	Northern two-thirds North America range: most of United States	Rare	Aesthetic, insectivorous	Slightly adverse
Pipistrellus subflavus Eastern pipistrel	Caves, mines, crevices, buildings, wood areas near water	Eastern two-thirds except central North America range: eastern half	Common	Aesthetic, insectivorous	Slightly adverse
Eptesicus fuscus Big brown bat	Caves, tunnels, crevices, hollow trees, wooded areas	Statewide North America range: United States	Common	Aesthetic, insectivorous	Slightly adverse

Species	Habitat and/or Seasonal Status	Range in Texas and North America	Abundance in Region	Values	Project Impact
Lasiurus borealis Red bat	Wooded areas	Statewide North America range: United States except western mountains	Common	Aesthetic, insectivorous	Moderately adverse
Lasiurus seminolus Seminole bat	Wooded areas	Eastern edge North America range: southeast coastal plain	Uncommon	Aesthetic, insectivorous	Slightly adverse
Lasiurus cinereus Hoary bat	Wooded areas	Western two-thirds North America range: United States	Rare	Aesthetic, insectivorous	None
Lasiurus intermedius Eastern yellow bat	Wooded areas	Coast North America range: southeast coastal plain	Rare	Aesthetic, insectivorous	Slightly adverse
Nycticeius humeralis Evening bat	Buildings and hollow trees, forested areas and watercourses	Eastern third and coast North America range: southeast United States	Common	Aesthetic, insectivorous	Slightly adverse
FAMILY MOLOSSIDAE (freetail bats)					
Tadarida brasiliensis Mexican freetail bat	Caves, buildings, tunnels, wells	Western three-fourths North America range: southwest United States, southeast coastal plain	Abundant	Aesthetic, insectivorous, negative health	None
FAMILY PROCYONIDAE (raccoons)					
Procyon lotor Raccoon	Along streams, lakes near wooded areas or rocky cliffs	Statewide North America range: United States	Abundant	Aesthetic, high sport	Moderately adverse
FAMILY BASSARISCIDAE (ringtails)					
Bassariscus astutus Ringtail cat	Chaparral, rocky ridges, cliffs	Southern half, southern Panhandle North America range: southwest United States	Uncommon	Aesthetic, economic, rodent predator	None

Species	Habitat and/or Seasonal Status	Range and North America	Abundance in Region	Values	Project Impact
FAMILY MUSTELIDAE (weasels, skunks)					
Mustela frenata Longtail weasel	All habitats near water	Statewide North America range: United States	Rare	Aesthetic, economic, rodent predator	Moderately adverse
Mustela vison Mink	Along streams and lakes, fresh and brackish marshes	Eastern half North America range: United States except southwest	Rare	Aesthetic, economic	Moderately adverse
Lutra canadensis River otter	Along streams and lake borders, brackish marshes, bayous	Eastern fourth and upper coast North America range: United States except southwest	Rare	Aesthetic, economic	Moderately adverse
Spilogale putorius Spotted skunk	Brushy or sparsely wooded areas, along streams, prairies	Statewide North America range: United States except northeast, far north	Common	Rodent predator	Slightly adverse
Mephitis mephitis Striped skunk	Semiopen country, mixed woods, brushland, prairies	Statewide North America range: United States	Abundant	Rodent predator, economic	Moderately adverse
Conepatus leuconotus Hognose skunk	Partly wooded, brushy, rocky areas	Southern half North America range: southwest United States	Uncommon	Rodent predator	Slightly adverse
FAMILY CANIDAE (dogs, wolves, foxes)					
Canis latrans Coyote	Prairies, open woodlands, brushy or boulder-strewn areas	Statewide North America range: United States except southeast	Common	Aesthetic, rodent predator	Slightly adverse
Canis niger Red wolf	Brushy and forested areas, river bottoms	Reduced recently to upper coast North America range: central-southern United States	Rare (Endangered: federal, Texas)	Aesthetic, rodent predator	Slightly adverse
Vulpes fulva Red fox	Mixture of forested and open country	Eastern and central North America range: United States except western mountains	Uncommon	Aesthetic, sport, rodent predator	Slightly adverse

Species	Habitat and/or Seasonal Status	Range in Texas and North America	Abundance in Region	Values	Project Impact
Urocyon cinereoargenteus Gray fox	Chaparral, open forest, rimrock country, wooded areas	Statewide except northwestern North America range: United States except northwestern	Common	Aesthetic, economic, rodent predator	Moderately adverse
FAMILY FELIDAE (cats)					
Felis concolor Mountain lion	Rugged mountains, forest, swamps	Southern half North America range: western and Gulf coast	Rare (Endangered: federal)	Aesthetic, economic	None
Lynx rufus Bobcat	Rimrock and chaparral, swamps and forest	Statewide North America range: most of United States	Uncommon	Aesthetic, rodent predator	Slightly adverse
FAMILY SCIURIDAE (squirrels)					
Citellus tridecemlineatus Thirteen-lined ground squirrel	Shortgrass prairies, golf courses	Central third and Panhandle North America range: central and northeast United States	Common	Aesthetic	None
Sciurus carolinensis Eastern gray squirrel	River bottom hardwood forest	Eastern third North America range: eastern half	Common	Aesthetic, high sport	Very adverse
Sciurus niger Eastern fox squirrel	Open hardwood forest, pine forest	Eastern half, central, eastern Panhandle North America range: eastern half	Abundant	Aesthetic, high sport	Moderately adverse
Glaucomys volans Southern flying squirrel	Woodlots and forest of deciduous or mixed deciduous-coniferous	Eastern third North America range: eastern half	Common	Aesthetic	Moderately adverse
FAMILY GEOMYIDAE (pocket gophers)					
Geomys bursarius Plains pocket gopher	Grasslands, pastures, alfalfa fields	Eastern half, Panhandle North America range: central United States	Common	Aesthetic, sometimes negative economic	Slightly adverse

Species	Habitat and/or Seasonal Status	Range in Texas and North America	Abundance in Region	Values	Project Impact
FAMILY HETEROMYIDAE (pocket mice, kangaroo mice and kangaroo rats)					
Perognathus nispidus Hispid pocket mouse	Shortgrass prairie with sparse vegetation	Statewide North America range: central United States	Uncommon	Aesthetic	Slightly adverse
FAMILY CASTORIDAE (beaver)					
Castor canadensis Beaver	Streams and lakes with trees near	Statewide North America range: most of United States	Uncommon	Aesthetic, can be positive or negative economic	Moderately adverse
FAMILY CRICETIDAE (mice, rats, lemmings and voles)					
Reithrodontomys humulis Eastern harvest mouse	Old fields, marshes, wet meadows, well drained prairies	Southeast North America range: southeastern United States	Uncommon	Aesthetic	Slightly adverse
Reithrodontomys montanus Plains harvest mouse	Upland, well drained areas, shortgrass prairies	Western two-thirds except southern North America range: south-central United States	Common	Aesthetic	None
Reithrodontomys fulvescens Fulvous harvest mouse	Grasslands, scattered brush and mesquite	Statewide except northwest North America range: south-central United States	Common	Aesthetic	None
Peromyscus maniculatus Deer mouse	Wide variety of dry-land habitat	Western two-thirds except southern North America range: United States except southeast coastal plain	Abundant	Aesthetic	Slightly adverse
Peromyscus leucopus White-footed mouse	Wooded, brushy areas	Statewide North America range: central and eastern United States	Abundant	Aesthetic	Slightly adverse
Peromyscus gossypinus Cotton mouse	Wooded areas along streams, swamplands	Eastern fourth North America range: southeastern United States	Common	Aesthetic	Slightly adverse

Species	Habitat and/or Seasonal Status	Range in Texas and North America	Abundance in Region	Values	Project Impact
Peromyscus boylei Brush mouse	Chaparral areas of arid and semiarid regions, rocky habitat	Western two-thirds except southern North America range: southwestern United States	Common	Aesthetic	None
Peromyscus nuttalli Golden mouse	Forest, edges canebreaks, moist thickets, greenbrier	Eastern edge North America range: southeastern United States	Uncommon	Aesthetic	Slightly adverse
Baiomys taylori Pygmy mouse	Grassy and weedy areas	Eastern half except northeastern North America range: east and south Texas	Abundant	Aesthetic	Slightly adverse
Neotoma floridana Eastern woodrat	Rocky cliffs, hammocks, swamps, yuccas and cacti groves	Eastern half except south North America range: southeastern United States	Common	Aesthetic	Moderately adverse
Oryzomys palustris Rice rat	Marshy areas, grasses, sedges, salt and brackish marsh	Eastern and coastal North America range: southeastern United States	Common	Aesthetic	None
Sigmodon hispidus Hispid cotton rat	Tall grass, sedge, weeds, moist areas	Statewide North America range: southeastern and south-central United States	Abundant	Aesthetic, may be negative economic	Slightly adverse
Pitymys pinetorum Pine vole	Forest with thick layer of leaf litter-deciduous and coniferous	Northeast and central North America range: eastern half United States	Uncommon	Aesthetic	Slightly adverse
Ondatra zibethica Muskrat	Fresh and salt marshes, edges of ponds, lakes, streams	North and east edge, Trans-Pecos, coast North America range: most of United States	Common	High economic, aesthetic	Slightly adverse

Species	Habitat and/or Seasonal Status	Range in Texas and North America	Abundance in Region	Values	Project Impact
FAMILY MURIDAE (old world rats and mice)					
Rattus norvegicus Norway rat	Towns, cities, farms	Statewide North America range: United States	Abundant	Negative economic	None
Rattus rattus Black rat	Towns, cities, farms	Statewide North America range: United States	Abundant	Negative economic	None
Mus musculus House mouse	Towns, cities, farms	Statewide North America range: United States	Abundant	Negative economic	None
FAMILY CAPROMYIDAE (nutria)					
Myocastor coypus Nutria	Marshes, swamps, ponds, lakes	Eastern two-thirds North America range: introduced in many localities in United States	Abundant	Can be positive or negative economic	Moderately beneficial
FAMILY LEPURIDAE (hares and rabbits)					
Lepus californicus Blacktail jackrabbit	Open prairies and sparsely vegetated deserts	Western three-fourths North America range: western half except far north	Abundant	Aesthetic, negative economic	Slightly adverse
Sylvilagus floridanus Eastern cottontail	Heavy brush, open forests, edges of swamps, weed patches	Statewide except Trans-Pecos North America range: eastern and central United States	Abundant	High sport, negative economic	Slightly adverse
Sylvilagus aquaticus Swamp rabbit	Fresh and brackish marshes, swamps, wet bottomlands	Eastern third North America range: Gulf coastal plain	Abundant	Sport, aesthetic	Moderately adverse
FAMILY CERVIDAE (deer)					
Odocoileus virginianus White-tailed deer	Forests, swamps, open brushy country	Statewide North America range: most of United States	Common	High sport	Moderately adverse

Species	Habitat and/or Seasonal Status	Range in Texas and North America	Abundance in Region	Values	Project Impact
FAMILY DASYPODIDAE (armadillos)					
Dasypus novemcinctus Armadillo	Woodlands, brushy areas, rock outcrops, cliffs	Statewide except Panhandle and Trans-Pecos North America range: Gulf coastal plain	Abundant	Aesthetic, economic	Moderately adverse
FAMILY TRICHECHIDAE (manatee)					
Trichechus manatus Manatee	Brackish water lagoons, mouths of rivers, bays	Coast North America range: southeastern coast and Gulf coast	Rare (Endangered: federal, Texas)	Aesthetic	None

Source: Burt and Grossenheider (1964), and Davis (1966)

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
PSILOTACEAE (whisk fern family)						
Psilotum nudum (L.) Beauv. Whisk fern HABITAT: swamps and low wet woods, near tree and stump bases	Southeastern Texas	Southeastern coastal plain	On Texas rare and endangered plant list	Low for food, cover	NA*	None
LYCOPODIACEAE (clubmoss family)						
Lycopodium alopecuroides L. Foxtail clubmoss HABITAT: wet places in savannahs, boggy places in low open pinelands	Southeastern Texas	Southeastern and eastern coastal plain	Uncommon	Low for food, some use for nest material	NA	Slightly adverse
Lycopodium adpressum (Chapm.) Lloyd and Underw. Southern clubmoss HABITAT: depressions in savannahs and flat open pinelands, bogs, sphagnous habitats	Eastern and southeastern Texas	Southeastern and eastern coastal plain	Uncommon	Low for food, some use for nest material	NA	None
Lycopodium carolinianum L. Slender clubmoss HABITAT: depressions in savannahs and flat open pinelands	Southeastern Texas	Southeastern and eastern coastal plain	Rare	Low for food, some use for nest material	NA	None
SELAGINELLACEAE (spikemoss family)						
Selaginella apoda (L.) Spring Meadow spikemoss HABITAT: moist places, usually in partial shade	Eastern half of Texas	Eastern half of United States	Common	Low for food, some use for nest material	NA	Slightly adverse
Selaginella Riddellii Van Eselt. Spikemoss HABITAT: sandy or gravelly soil in open woods, sunny ledges, rocky slopes, barrens	Eastern third of Texas	Alabama to Oklahoma and Texas	Common	Low for food, some use for nest material	NA	Slightly adverse
ISOETACEAE (quillwort family)						
Isoetes melanopoda Gay and Durieu. Quillwort HABITAT: shallow ponds, bogs, wet thickets and woods, seasonal streams and puddles	Scattered in eastern half of Texas	Eastern half of United States	On Texas rare and endangered plant list	Low for food, some use for nest material	NA	None

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
EQUISETACEAE (horsetail or scouring-rush family)						
**Equisetum hyemale L. Horsetail HABITAT: sandy or loamy soils in open or wooded areas along streams, on alluvial flats, seepages, wet ledges	Statewide	All United States	Common	Rootstock and stems eaten by geese and swans	Aesthetic, curious plant	Moderately adverse
OPHIOGLOSSACEAE (adder's-tongue family)						
Botrychium dissectum Spreng. Grape-fern HABITAT: low wet open woods, swamps, moist sandy pinelands, on rotting wood	Eastern Texas	Southeastern United States	Uncommon	Low for food, winter greens	NA	Slightly adverse
Botrychium virginianum (L.) Sw. Rattlesnake-fern HABITAT: moist rich woodlands, and thickets, occasionally in alluvium of swamps	Eastern half of Texas	Eastern half of United States	Uncommon	Low for food, winter greens	NA	Slightly adverse
Ophioglossum Engelmannii Prantl. Adder's tongue HABITAT: thin black soil on limestone, rocky woodland slopes, generally on blackland prairie	Eastern Texas	Southeastern and south-central United States	Common	Low for food	NA	None
SCHIZAEACEAE (curly-grass family)						
Lygodium japonicum (Thunb.) Sw. Climbing fern HABITAT: sandy damp woods, along streams and rivers, roadside ditches, well established locally	Southeastern corner of Texas	Native of Australia and Asian tropics, escaped and established in southeastern United States	Common	Low for food	Ornamental	Slightly adverse
OSMUNDACEAE (cinnamon fern family)						
**Osmunda cinnamomea L. Cinnamon fern HABITAT: moist soil of swamps, marshes, seepage slopes, along streams and lake edges	Timber belt, coastal prairies, and blackland prairies	Throughout eastern North America from Newfoundland to Minnesota, south to central Florida and New Mexico	Common	Low for food, rarely eaten by wildlife--principally grouse, sometimes by deer, and fur animals	Aesthetic	Moderately beneficial

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impac
**Osmunda regalis L. Royal fern HABITAT: swamps, marshes, moist woods, depressions in savannahs and prairies, stream banks, seepage slopes	Timber belt, south and southwest to coast	East Canada to Florida and Texas	Common	Low for food, eaten by deer and fur animals	Aesthetic, ornamental	Slightly adverse
MARSILEACEAE (pepperwort family)						
**Marsilea mucronata A. Br. Water clover HABITAT: shallow water, black waxy mud along streams and rivers, in silt of lakes, in ditches and depressions, occurs in old buffalo wallows	Statewide except timber belt, most abundant on blackland prairies and on Edwards Plateau	Canada south through the Gulf states	Common	Low for food by ducks	Scientific	Moderately beneficial
**Marsilea uncinata A. Br. Hooked pepperwort HABITAT: in or near edge of permanent ponds, springs, ditches, bayous	Scattered localities statewide	Texas and Louisiana	Uncommon	Low for food by ducks	NA	Slightly beneficial
SALVINIACEAE (salvinia family)						
Azolla caroliniana Willd. Water fern HABITAT: on still water of swamps, ponds, lakes, slow moving water of streams	Sporadically distributed in eastern and southern Texas	Central and southeastern United States	Uncommon	NA	Aesthetic	Moderately beneficial
POLYPODIACEAE (true fern family)						
Pteridium aquilinum (L.) Kuhn Bracken HABITAT: dry woods and thickets	Timber belt of ast Texas and southern edge of blackland prairie	Northeastern and southeastern United States	Common	NA	Poisonous to cattle and horses	None
Pteris multifida Poir. Huguenot-fern HABITAT: commonly on masonry	Naturalized in eastern Texas and in Rio Grande Valley	Widely introduced in United States	Common	Low for food	Aesthetic, cultivated	None
**Adiantum Capillus-Veneris L. Maidenhair fern HABITAT: limestone rocks, ledges, cliffs, along streams, pools, canyons, ravines	Most of Texas except far east, northeast, and south	Southeastern and southwestern United States	Uncommon	Low for food	Aesthetic, ornamental	None

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
Pellaea atropurpurea (L.) Link Purple cliff brake HABITAT: rock ledges, cliffs, canyon walls, banks, talus slopes, open rocky woods	Statewide	Eastern half and southeastern United States	Rare	Low for food	Aesthetic	None
Pellaea ternifolia (Cav.) Link Cliff brake HABITAT: crevices, ledges, boulders, rocky ridges, sandstone usually in exposed situations	Trans-Pecos, central and eastern Texas	Southwestern, south-central United States	Rare	Low for food	Aesthetic	None
Cheilanthes tomentosa Link Woolly lipfern HABITAT: crevices of ledges on cliffs, boulders, wooded hillsides, on sandstone, granite or siliceous rock	Scattered through much of Texas	Southeastern United States to Arizona	Common	Low for food	Aesthetic	None
Cheilanthes alabamensis (Buckl.) Kunze Alabama lipfern HABITAT: limestone hills, rock crevices, ravines, canyons	Most of Texas, frequent on the Edwards Plateau and in the blackland prairies and Trans-Pecos	Southeastern United States to Arizona	Common	Low for food	Aesthetic	None
**Onoclea sensibilis L. Sensitive fern HABITAT: moist areas	Eastern third and southern Texas	Eastern half United States	Common	Low for food	Aesthetic, scientific and curious plant	Slightly adverse
Woodwardia virginica (L.) Sm. Virginia chain fern HABITAT: sphagnous bogs, swamps, moist thickets and meadows, along streams	Generally distributed in timber belt of East Texas	Eastern half United States	Common	Low for food	Aesthetic, ornamental	None
**Lorinseria areolata (L.) Presl. Chain fern HABITAT: sandy bogs, swamps, marshes and thickets	Frequent in timber belt, south to Jefferson County in the coastal prairies, Bastrop and Gonzales Counties in the blackland prairies	Florida to Texas, Arkansas and Missouri, north to Nova Scotia and Michigan	Common	Low for food	Aesthetic	None
Polypodium polypodioides (L.) Watt Resurrection fern HABITAT: growing on various species of trees, occasionally on rock ledges, boulders, old buildings and mossy banks, shady and damp locations	Generally distributed in eastern half of Texas	Southeastern United States	Uncommon	Low for food	Aesthetic, curious plant	Slightly adverse

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
Asplenium resiliens Kunze Little ebony spleenwort HABITAT: crevices of cliffs, boulders, limestone, granite; calcareous soils; usually in shaded dry situations	Western, central, and eastern Texas	Southeastern and south-central United States	Common	Low for food	Scientific, occurs on shell mounds	None
**Asplenium platyneuron (L.) D.C. Eat. Ebony spleenwort HABITAT: sandy loam slopes, along streams	Eastern half of Texas	From Canada south to Florida, Texas, and Louisiana	Uncommon	Low for food	Ornamental, terrarium plant	None
Athyrium Filix-femina (L.) Roth Southern lady fern HABITAT: sandy bogs, moist sandy woods, swamps, wet thickets, on stream banks	Eastern Texas	Southeastern United States north to Massachusetts	Common	Low for food	Aesthetic	Slightly adverse
**Woodsia obtusa (Spreng.) Torr. Blunt-lobed woodsia HABITAT: rocks, along rather dry shaded ledges, on rock outcrops and cliffs, sandstone and granite regions, well-drained wooded banks, talus slopes, sandy knolls	Generally distributed, rather frequent in timber belt and cross timbers, eastern part of Edwards Plateau	From Quebec to Minnesota and Nebraska, south to Georgia and southwest to western Texas	Common	Low for food	Aesthetic	None
**Cyscopteris fragilis (L.) Bernh. Fragile fern HABITAT: crevices of cliffs, on the walls of sink holes, on boulders, moist banks and wooded talus slopes, up to 8,000 feet altitude	Local and rare in the Devil's Sink Hole, Edwards County; Edwards Plateau; Trans-Pecos; and southern blackland prairies	From Labrador to Alaska, south to Georgia, and southwest to Texas, Arizona, and southern California	Rare	Browsed by deer and rabbits, low value	Aesthetic	None
**Polystichum acrostichoides (Michx.) Schott Christmas fern HABITAT: on rocky rick wooded hillsides or steep banks of ravines along streams, along sandy creeks and in swamps and thickets	Frequent throughout eastern and southeastern Texas	From Nova Scotia to Wisconsin, south to Florida and Texas, also Mexico	Common	Low food value, rarely eaten by wildlife, eaten by grouse	Aesthetic	Slightly adverse

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
Nephrolepis exaltata (L.) Schott Sword fern HABITAT: open woodlands, rocky banks, on trees	Eastern and central Texas	Gulf coastal plain	Uncommon	Low for food	Aesthetic	None
Thelypteris dentata (Forsk.) E. St. John Downy shield fern HABITAT: rocky wooded slope, hammocks in swamps, along wooded streams, low elevations	Timber belt of East Texas	Gulf coastal plain	Rare	Low for food	Aesthetic	None
**Thelypteris Kunthii (Desv.) Morton Southern shield fern HABITAT: moist areas especially at base of dripping limestone bluffs	Eastern and southeastern Texas	Florida to South Carolina and Texas	Common	Low for food	Aesthetic	None
Thelypteris hexagonoptera (Michx.) Weath. Broad beech fern HABITAT: sandy wooded slopes, ravines, open rocky thickets, low swampy woods, bogs	Timber belt of East Texas	Florida to eastern Texas, north to Quebec and Minnesota	On Texas rare and endangered plant list	Low for food	Aesthetic	None
Thelypteris Torresiana (Gaudich.) Alston True fern HABITAT: along streams in pinelands, swamps, marshes, moist wooded banks	Eastern Texas	Introduced in Florida, Alabama, Texas (native of Asia)	Uncommon, escaped from cultivation	Low for food	Aesthetic, ornamental	None
PINACEAE (pine family)						
**Pinus taeda L. Loblolly pine HABITAT: sands, sandy loams, gravelly soils in flatwoods on ridges and hills, savannahs	Eastern Texas	Coastal plain from northeastern United States to eastern Texas	Abundant	Moderate to high for food--deer, squirrel, turkey	Aesthetic, lumber, fuel	Slightly adverse
**Pinus echinata Mill. Shortleaf pine HABITAT: well-drained hills, flatwoods and slopes	Eastern Texas	Northeastern United States to northern Florida and eastern Texas	Abundant	Moderate to high for food--deer, squirrel, turkey	Aesthetic, lumber	None

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habit[illegible]	Other Values	Project Impact
TAXODIACEAE (taxoidium family)						
**Taxodium distichum (L.) Rich. Bald cypress HABITAT: wet and frequently inundated areas, swamps, along rivers and streams	Eastern Texas Edwards Plateau of central Texas	Southeastern and south-central United States	Abundant	Low for food, moderate to high for cover and dens, food for squirrels	Aesthetic, ornamental, lumber	Slightly beneficial
CUPRESSACEAE (cypress family)						
Juniperus Ashei Buchh. Rock cedar, post cedar HABITAT: rocky soil in canyons, ravines, arroyos, rimrocks forms thickets or "cedar breaks"	Edwards Plateau, extending to north-central and south to Zavala County	South-central United States	Common	Moderate to high for food, high for cover, mature trees nesting habitat for golden-cheeked warbler (Dendroica chrysoparia)--a potential rare and endangered species	Ornamental, fence posts, fuel	None
Juniperus silicicola (Small) Bailey Southern red cedar HABITAT: sandy soil	Southeastern Texas	Coast from North Carolina to Texas	Uncommon	Moderate to high for food, high for cover	Ornamental	None
**Juniperus virginiana L. Eastern red cedar HABITAT: dry forest, old fields	Eastern and northwestern Texas	Northeastern United States, south and west to Kansas and Texas	Common	Moderate to high for food, fruit eaten by birds, squirrels, deer, turkey, high for cover	Ornamental	None
TYPHACEAE (cat-tail family)						
**Typha latifolia L. Common cat-tail HABITAT: shallow water and along streams	Statewide	Throughout	Abundant	Moderate to high as waterfowl habitat, geese and muskrats eat underground stems	Aesthetic, root edible, sometimes negative	Moderately beneficial
Typha angustifolia L. Narrow-leaved cat-tail HABITAT: freshwater marshes	Statewide	Throughout	Common	Moderate to high as food and cover for waterfowl and other aquatic wildlife	Aesthetic, root edible, sometimes negative	Moderately beneficial

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
**Typha domingensis Pers. Tule, cat-tail HABITAT: brackish and freshwater marshes and pools	Most of Texas	Florida to Texas, southern California, north along coast to Delaware and eastern Maryland, inland to Kansas, Utah, Nevada, and northern California	Common	Moderate to high as food and cover, roots tocks used as food by fur and game mammals	Ornamental, sometimes negative	None
SPARGANIACEAE (bur-reed family)						
Sparganium androcladum (Engelm.) Morong. Bur-reed HABITAT: swamps and shallow streams	Eastern Texas	Eastern half of United States except Gulf coastal plain	Uncommon	Moderate value food for waterfowl	NA	None
Sparganium americanum Nutt. Bur-reed HABITAT: shallow water	Eastern Texas	Eastern half of United States, North Dakota	Uncommon	Moderate value food for waterfowl	NA	None
POTAMOGETONACEAE (pondweed family)						
Potamogeton pectinatus L. Sago pondweed HABITAT: alkaline, brackish, saline water of ponds, quiet rivers, marshes, and ocean shores	Statewide except perhaps the eastern timber belt and blackland prairies	Eastern half of United States	Common	High for waterfowl food and cover for other animal life	Aesthetic	None
Potamogeton pusillus L. Pondweed HABITAT: neutral or slightly alkaline or slightly brackish water of ponds and rivers	Statewide	Eastern half of United States	Common	High for waterfowl food and cover for other animal life	Aesthetic	None
Potamogeton diversifolius Raf. Pondweed HABITAT: pools, tanks, and small streams	Eastern Texas and Trans-Pecos	Southern United States	Common	High for waterfowl food and cover for other animal life	Aesthetic	Slightly beneficial
Potamogeton pulcher Tuckerm. Pondweed HABITAT: muddy pools, boggy streams, lakes, occasionally in clear water in timber belt	Eastern Texas	Eastern half of United States	Common	High for waterfowl food and cover for other animal life	Aesthetic	Moderately beneficial

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Potamogeton nodosus Poir. Longleaf pondweed HABITAT: streams and lakes	Statewide	Most of the United States	Common	High for waterfowl food and cover for other animal life	Aesthetic	Moderately beneficial
ZANNICHELLIACEAE (horned pondweed family)						
Halodule Beaudettei (den Hartog) den Hartog Horned pondweed HABITAT: salt water of bays	Texas coast	Along Atlantic coast to North Carolina	Common	Moderate for waterfowl food	Aesthetic	None
Cymodocea filiformis (Kütz.) Correll Manatee-grass HABITAT: shallow salt water of bays	Texas coast	Gulf coast from Florida to Texas	Common	High for waterfowl and mammal food, and cover for aquatic animals	Aesthetic	None
RUPPIACEAE (ditch-grass family)						
Ruppia maritima L. Widgeon-grass HABITAT: saline waters of pools, rivers, marshes; Gulf coast	Scattered statewide	Most of the United States	Common	High for waterfowl food	Aesthetic	None
NAJADACEAE (water-nymph family)						
Najas guadalupensis (Spreng.) Magnus Southern naiad HABITAT: ponds, lakes, streams	Statewide	Most of the United States	Common	High for waterfowl food	Sometimes negative	Moderately beneficial
ALISMATACEAE (water plantain family)						
Alisma subcordatum Raf. Mud plantain HABITAT: shallow water of marshes, streams, ponds	Northeastern Texas and Panhandle	Eastern half of United States	NA	NA	NA	Unknown
Echinodorus rostratus (Nutt.) Engelm. Burhead HABITAT: mud and shallow water about lakes, ponds, and along streams	Mostly in southern Texas, but sparingly throughout most of Texas	From Ontario, west to California and south to Florida, Texas, and Mexico	Uncommon	NA	NA	Slightly beneficial
Echinodorus cordifolius (L.) Griseb. Burhead HABITAT: mud and shallow water of ponds and quiet streams	Eastern Texas	From southeastern Virginia, Illinois, Missouri, and Kansas; south to Florida, Texas, and Mexico	Common	NA	NA	Slightly beneficial

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**Sagittaria montevidensis Cham. and Schlecht. Arrowhead HABITAT: shallow waters of lakes, ponds, sloughs	East-central and western Texas	Michigan, west to North Dakota, California, and New Mexico, south to Virginia, Tennessee, and Texas	NA	High for waterfowl food	Aesthetic	Slightly beneficial
**Sagittaria graminea Michx. Arrowhead HABITAT: rooted in mud or in shallow water of ditches, ponds, marshes, and streams	Eastern and south-central Texas	Throughout eastern North America, west to the Great Plains	Common	High for food; tubers, seeds, and plants food for marshbirds, waterfowl, and fur and game mammals	Aesthetic	Slightly beneficial
**Sagittaria platyphylla Engelm. Arrowhead HABITAT: rooted in mud or in shallow water of ditches, ponds, marshes, and streams	Eastern and south-central Texas	Missouri, west to Kansas, south to Texas and Alabama	Common	High for food; tubers, seeds, and plants food for marshbirds, waterfowl, and fur and game mammals	Aesthetic	Slightly beneficial
Sagittaria lancifolia L. Arrowhead HABITAT: freshwater and brackish tidal marshes, swamps	Along streams in southeastern Texas	Southeastern United States	NA	High for waterfowl food	Aesthetic	Unknown
Sagittaria papillosa Buch Arrowhead HABITAT: swamps, marshes, bogs, ditches, small ponds, and depressions in prairies	Eastern and southern Texas	Arkansas, Louisiana, and Texas	NA	High for waterfowl food	Aesthetic	Slightly beneficial
**Sagittaria latifolia Willd. Duck-potato HABITAT: water or wet places	Southeastern to northern Texas	Throughout most of the United States and much of Latin America	Rare	High for food--seeds eaten by marshbirds, seeds and tubers by waterfowl, and tubers by muskrats	Aesthetic, root edible	Slightly beneficial
HYDROCHARITACEAE (frog's-bit family)						
Limnobium spongia (Bosc.) Steud. Common frog's-bit HABITAT: shallow stagnant water of quiet lakes, ponds, lagoons, and ditches	Eastern Texas	Most of eastern half of United States	NA	Sometimes negative	Aesthetic, sometimes negative	Slightly beneficial
Egeria densa Planch. Frog's-bit HABITAT: near lakes, ponds, pools, ditches, quiet streams	Central and eastern Texas	Introduced in scattered localities in United States, native of South America	Uncommon	Sometimes negative	Aesthetic, sometimes negative	Slightly beneficial

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
Vallisneria americana Michx. Water-celery HABITAT: lakes and beds of flowing streams	Eastern half of Texas	Eastern half of United States	Rare	High for waterfowl food	NA	None
Thalassia testudinum König. Turtle-grass HABITAT: shallow salt water	Gulf coast	Florida to Texas	Abundant	High for food and cover, very productive of nutrients and energy	Aesthetic	None
Halophila Engelmannii Asch. Halophila HABITAT: shallow salt water	Along coast	Gulf coast from Florida to Texas	Uncommon	NA	NA	None
GRAMINEAE (grass family)						
**Arundinaria gigantea (Walt.) Muhl. Giant Cane HABITAT: moist soils near low ground, ponds, and rivers	Eastern and southeastern Texas	Southeastern United States	Common	High for cover	High forage value for cattle	Moderately beneficial
**Zizaniopsis miliacea (Michx.) Doell and Asch. Southern wildrice HABITAT: at edges of streams	Southeastern, eastern, north-central Texas, Edwards Plateau and northern Rio Grande plains	Coastal states, Maryland to Texas, north to Kentucky, Arkansas, and Oklahoma	Common	High for food, seeds eaten by waterfowl, songbirds, shorebirds, and muskrat	High forage value for cattle, slows erosion	Slightly beneficial
Hydrochloa caroliniensis Beauv. Carolina hydrochloa HABITAT: ponds, lakes, and slow flowing streams	Eastern Texas	Coastal states, North Carolina to Texas	Rare	NA	NA	Slightly beneficial
**Leersia lenticularis Michx. Catchfly grass HABITAT: sloughs, bayous, and marshy prairies	Eastern and southeastern Texas	Maryland to Minnesota, south to Gulf states	Common	Moderate for food, seeds eaten by waterfowl and marshbirds	NA	Slightly beneficial
**Leersia oryzoides (L.) Sw. Rice cutgrass HABITAT: near and along creeks	Eastern half of Texas	Most of United States	Common	Moderate for food, seeds and rootstock eaten by waterfowl, seeds by marshbirds and songbirds, plants by muskrat	NA	None
**Leersia hexandra Sw. Leersia HABITAT: near creeks, rivers, and resacas	Eastern and southeastern Texas, coastal parts of Rio Grande plains	Southeastern United States	Uncommon	Moderate for food, seeds eaten by waterfowl and songbirds	NA	None
**Leersia virginica Willd. White grass HABITAT: swamps and bogs	Eastern, southeastern, and north-central Texas	Eastern United States	Rare	NA	NA	None

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Oryza sativa L. Rice HABITAT: irrigated crops, muddy and seasonally flooded areas	South-central and southeastern Texas	Texas, north to Virginia and Gulf states	Common	High food value, summer and nesting cover for mottled ducks and teal	Human and livestock food	Slightly beneficial
**Phragmites communis Trin. Common reed HABITAT: marshes, seeps, along rivers, streamsides and canal banks	Scattered throughout Texas	Most warmer areas	Very abundant	Moderate for muskrat food, grazing potential when immature, cover	Aesthetic, medium forage value, sugar producer	Moderately beneficial
**Arundo Donax L. Giant reed HABITAT: near lakes and rivers, sand bars and levees	Southeastern and central Texas, adventive	Widespread in warmer areas, native to Old World; planted to control erosion along sand dune areas	Common	Moderate for cover	Erosion control	Moderately beneficial
**Danthonia spicata (L.) Beauv. Poverty oatgrass HABITAT: woods on sandy soil	Eastern Texas	Eastern half and northwestern United States	Uncommon	NA	NA	None
**Chasmanthium latifolium (Michx.) Yates Inland sea oats HABITAT: moist, loamy soils of creek bottoms	Eastern and southeastern Texas	Southeastern United States	Common	Moderate for food	NA	None
**Chasmanthium sessiliflorum (Poir.) Yates Chasmanthium HABITAT: frequent in sandy woods	Eastern and southeastern Texas	Southeastern United States, north to Virginia, Tennessee, Missouri, and Oklahoma	Common	NA	Moderate forage value	None
**Chasmanthium laxum (L.) Yates Chasmanthium HABITAT: moist sandy soils	Eastern and southeastern Texas	Southeastern United States, north to Long Island, Kentucky, Missouri, and Oklahoma	Uncommon	NA	NA	None
Parapholis incurva (L.) C.E. Hubb Sicklegrass HABITAT: brackish shores and ditches	Coastal southeastern Texas, southwest to San Patricio County	Widely established in coastal areas of North America, native of Europe	Common	NA	NA	None

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
**Stipa avenacea L. Blackseed needlegrass HABITAT: sandy soils in forests	Eastern Texas	Massachusetts to Michigan and southwest to Texas	Common	Seed eaten by songbirds and small mammals, plants by hoofed browsers	NA	Slightly adverse
**Stipa leucotricha Trin. and Rupr. Texas speargrass HABITAT: disturbed areas, usually calcareous soils	North-central Texas and Edwards Plateau	Oklahoma to Mexico	Uncommon	NA	Good forage value	None
**Melica mutica Walt. Two-flower melic-grass HABITAT: forest on sandy soil	Eastern Texas	Southeastern United States	Uncommon	Low for food, seeds eaten by birds, plants by grazers and browsers	NA	Slightly adverse
Glyceria septentrionalis Hitchc. Manna-grass HABITAT: marsh areas and roadwise ditches	Eastern and southeastern Texas	Eastern North America west to Wisconsin, Iowa, Missouri, Arkansas and Texas	Uncommon	NA	NA	None
Bromus pubescens Muhl. Chess HABITAT: usually on moist banks	Eastern and northcentral Texas	Eastern half of United States	Common	NA	NA	None
**Bromus commutatus Schrad. Brome HABITAT: NA	Eastern and northcentral Texas, plains country, and Edwards Plateau	Eurasias introduced and a volunteer in scattered parts of North America	Uncommon	Moderate for food, seeds little used for food by wildlife	NA	None
**Bromus japonicus L. Japanese chess HABITAT: NA	Statewide in scattered localities	Entire United States	Common	Moderate for food, seeds eaten by gamebirds, plants eaten by small mammals and deer	Sometimes negative as weed	None
**Bromus unioloides H.B.K. Rescue grass HABITAT: roadsides, lawns, gardens	Statewide	Most of United States, native of South America	Common	High for food, seeds eaten by many birds and mammals, plants eaten by deer	High for forage, sometimes negative as weed	None
**Bromus tectorum L. Downy chess HABITAT: roadsides and pastures	Plains, Trans-Pecos, Edwards Plateau and eastern to northcentral Texas	Pacific Coast, scattered though United States, south to Virginia, Mississippi [illegible] Texas	Common	Young plants eaten by geese and grazing animals, seeds eaten by variet of birds and rodents	NA	None

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
Festuca obtusa Biehler Nodding fescue HABITAT: scarce in woods	Eastern Texas	Central United States	Rare	Moderate for food, seeds eaten by birds	NA	None
Festuca paradoxa Desv. Fescue HABITAT: NA	Eastern Texas	Most of eastern United States	Uncommon	Moderate for food, seeds eaten by birds	NA	None
Festuca elatior L. Meadow fescue HABITAT: cultivated, roadsides	Eastern and southeastern Texas	Cultivated in United States, native of Eurasia	Rare	Moderate for food, seeds eaten by birds	High for grazing	None
**Vulpia octoflora (Walt.) Rydb. Six-weeks fescue HABITAT:	Through most of Texas	Temperate North America	Common	Moderate for food, seeds eaten by birds	NA	None
Vulpia Elliotea (Raf.) Fern. HABITAT: open woods on sandy soil	Eastern Texas and northern Rio Grande plains	Coastal states from New Jersey to Texas	Uncommon	Moderate for food, seeds eaten by birds	NA	Slightly adverse
Vulpia mecalura (Nutt.) Rydb. Foxtail fescue HABITAT: disturbed roadsides in sandy soil	Eastern Texas	Most of United States	Rare	Moderate for food, seeds eaten by birds	NA	None
**Lolium perenne L. Ryegrass HABITAT: lawns and disturbed areas	Most of State	Widely introduced in temperate parts of North America and South America	Common	Moderate for food, seeds eaten by birds	Good forage value, quick soil cover	None
Catapodium rigidum (L.) C.E. Hubb. Catapodium HABITAT: local in disturbed areas	Eastern, southeastern and north-central Texas and eastern part of Edwards Plateau	Introduced from Eurasia in scattered areas of North America	Locally common	NA		None
**Poa autumnalis Ell. Bluegrass HABITAT: rich woods	Eastern and southeastern Texas	Eastern and southern United States, north to Pennsylvania and Michigan, west to Illinois, Arkansas and Texas	Uncommon	Moderate for food, songbird and rodent food, seeds and leaves used by grazers and browsers	High for livestock grazing	None
Poa sylvestris Gray HABITAT: rich woods	Eastern Texas	Most of eastern United States	Rare	Moderate for food	NA	None
**Poa annua L. Bluegrass HABITAT: city lawns and flowerbeds, rich woods	Eastern, southeastern and north-central Texas and Edwards Plateau	Widely established in temperate North America, native of Europe	Common	Moderate for food, songbird and rodent food, seeds and leaves used by grazers and browsers	High for livestock grazing	None

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
**Briza minor L. Little quaking grass HABITAT: swales, woods, or open sandy soil	Eastern and southeastern Texas	Widely introduced in United States, native of Europe	Uncommon	NA	NA	Slightly adverse
**Elymus canadensis L. Canada wild-rye HABITAT: on wooded slopes near streams	Most of state	Most of temperate North America	Common	High for food	High grazing value, ornamental	None
**Elymus virginicus L. Virginia wild-rye HABITAT: moist soils in woodlands	Eastern, southeastern, and north-central Texas	Eastern United States	Common	High for food for wildlife, grazed by deer	Readily grazed by livestock, soil cover	None
**Hordeum pusillum Nutt. Little barley HABITAT: NA	Scattered throughout most of state	Nearly all states except New England	Abundant	Moderate for food, seeds eaten by birds and small mammals	NA	None
**Hordeum vulgare L. Barley HABITAT: NA	Few scattered volunteer plants	Introduced from Old World, now cultivated widely	Rare	High for food, seeds eaten by birds and mammals	High for human food	None
**Triticum aestivum L. Wheat HABITAT: along roadsides	Wheat growing areas	Central United States	Uncommon	High for food, seeds valuable food for birds and small mammals	High human food value	None
**Sphenopholis longiflora (Vascy) Hitchc. Wedgegrass HABITAT: streamside forests on sandy soil	Eastern and southeastern Texas	Texas, Arkansas and probably Louisiana	Uncommon	NA	NA	Slightly adverse
Sphenopholis nitida (Biehler) Scribn. Wedgegrass HABITAT: deep forests on sandy soil	Eastern Texas	Eastern half of United States	Uncommon	NA	NA	Slightly adverse
**Sphenopholis filiformis (Chapm.) Hitchc. Wedgegrass HABITAT: pine woods on sandy soil	Eastern and southeastern Texas	Coastal states, Virginia to Texas; also Arkansas and Tennessee	Uncommon	NA	NA	None

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
**Sphenopholis intermedia (Rydb.) Rydb. Wedgegrass HABITAT: heavily wooded moist banks	Extreme eastern Texas	Most of United States	Rare	NA	NA	None
**Sphenopholis obtusata (Michx.) Scribn. Prairie wedgescale HABITAT: moist areas	Statewide	Most of United States	Common	NA	NA	Slightly beneficial
**Aira elegans Gaud. Annual hairgrass HABITAT: NA	Eastern Texas	Coastal states, Maryland to Texas; also Arkansas, California, and Oregon	Uncommon	NA	NA	None
**Avena fatua L. Oats HABITAT: disturbed areas	East-central Texas	Widely introduced in United States, native of Europe	Locally common	High for food for many birds and small mammals, very high for winter green forage, grazing	High for human food, medium forage, winter variety high for grazing	Slightly beneficial
Agrostis Elliottiana Schult. Bentgrass HABITAT: sandy soils, fields, roadsides, and other openings in forested areas	Eastern Texas	Southeastern United States	Locally abundant	NA	Ground cover	None
**Agrostis hyemalis (Walt.) B.S.P. Spring bentgrass HABITAT: moist sandy soil, roadsides, and other open places	Statewide except western plains country	Eastern half of United States	Common	Moderate for food, seeds eaten by biards	Ground cover	None
Agrostis scabra Willd. Bentgrass HABITAT: moist areas, openings in forests, at elevation of 6,000-8,3000 feet	Probably native in Trans-Pecos mountains, scattered in Dallas, Hardin, and Harris Counties	Moist cool areas of North America	Common	NA	NA	None
**Agrostis perennans (Walt.) Tuckerm. Autumn bentgrass HABITAT: moist sandy soils along streams	Eastern Texas	Eastern United States west to Nebraska and Texas	Uncommon	Seeds and plant moderate for food	Special varieties for lawns, turfs	None
**Agrostis stolonifera L. Redtop bentgrass HABITAT: wet meadows, stream banks	Statewide except southern Texas	Widely introduced in United States, native of Eurasis	Common	Moderate for food, seeds eaten by some songbirds, plants eaten by rabbits	High for hay, grazing; used for lawns, turfs; erosion control	None

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
Agrostis palustris Huds. Creeping bentgrass HABITAT: along fresh-water shores	Southeastern Texas	Widely introduced in United States, native of Eurasia	Uncommon	NA	NA	Slightly beneficial
**Polypogon monspeliensis (L.) Desf. Rabbitfoot grass HABITAT: moist soil near fresh water	Statewide	Eastern United States	Uncommon	NA	NA	Slightly beneficial
Cinna arundinacea L. Stout woodreed HABITAT: moist usually sandy soil, flood plains, and stream banks	Eastern Texas	Eastern United States	Uncommon	NA	NA	Slightly beneficial
**Limnodea arkansana (Nutt.) L.H. Dewey Ozark grass HABITAT: loamy sandy soils in prairies and disturbed areas	Eastern half of Texas	Gulf coastal plains	Common	Low for food, eaten by turkey	Ground cover	None
**Alopecurus carolinianus Walt. Foxtail HABITAT: moist soil near ponds, streams, wet meadows	Eastern, southeastern, and north-central Texas	Eastern United States, also Washington, and Oregon	Uncommon	High for food, seeds eaten by songbirds and waterfowl	NA	Moderately beneficial
**Phalaris canariensis L. Canary grass HABITAT: loamy garden soils	Central and eastern Texas	Widely introduced and naturalized in cool-temperate parts of America, native to Mediterranean region	Uncommon	Moderate for food, seeds and plants eaten	High for grazing forage	None
**Phalaris caroliniana Walt. Canary grass HABITAT: loamy usually alluvial soils near creeks, in distrubed soils along roadsides and in fallow fields	Statewide	Virginia to Oklahoma and south to Gulf States; also Oregon, California, southern Nevada, Arizona, and New Mexico, south to northern Mexico	Abundant	Moderate for food, minor use of seeds for food by upland gamebirds and songbirds	High for grazing and forage	None
Phalaris angusta Trin. Canary grass HABITAT: moist loamy soils near ditches, creeks, and bayous	Southeastern Texas	South-central and southwestern United States	Abundant	Moderate for food, seeds and plants eaten	High for grazing and forage	None

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Anthaenantia rufa (Ell.) Schult. Anthaenantia HABITAT: savannahs and sandy woodlands	Eastern and southeastern Texas	Coastal states from North Carolina to Texas	Uncommon	NA	NA	None
Anthaenantia villosa (Michx.) Beauv. Anthaenantia HABITAT: sandy woodlands and savannahs	Eastern and southeastern Texas	Coastal states, North Carolina to Texas	Rare	NA	Indicator of good range conditions, readily grazed by cattle	None
**Digitaria sanguinalis (L.) Scop. Northern crabgrass HABITAT: disturbed soil, along roads, fields, gardens	Statewide except southern Texas	Scattered in United States	Uncommon	High for food, seeds eaten by mourning dove and turkey; very important food for some songbirds; plants eaten by rabbits	High for grazing and forage, nuisance in lawns	None
**Digitaria adscendens (H.B.K.) Henr. Southern crabgrass HABITAT: distrubed loamy soils along roads, in fields and gardens	North-central, eastern, and south-eastern Texas	North to Virginia and Gulf states	Common	High for food; seeds eaten by gamebirds and songbirds; plants by rabbits, deer	High for grazing and forage, nuisance in lawns	None
**Digitaria diversiflora Swall. Tropical crabgrass HABITAT: disturbed, loose soil along roads, fields, gardens, overgrazed prairies	Rio Grande plains	Tropical American lowlands north to Cuba, Texas, and Sonora	Common	High for food; seeds eaten by gamebirds and songbirds; plants by rabbits, deer	High for grazing and forage, nuisance in lawns	None
Digitaria serotina (Walt.) Michx. Dwarf crabgrass HABITAT: sandy soils	Eastern Texas	Coastal states, Pennsylvania to Texas	Rare	High for food; seeds eaten by gamebirds and songbirds, plants by rabbits, deer	High for grazing and forage, nuisance in lawns	None
Digitaria violascens Link Crabgrass HABITAT: disturbed openings in pine forest	Eastern and southeastern Texas	Gulf states	Uncommon	High for food; seeds eaten by gamebirds and songbirds, plants by rabbits, deer	High for grazing and forage nuisance in lawns	None
Digitaria filiformis (L.) Koel. Crabgrass HABITAT: forest openings	Eastern and southeastern Texas	Southeastern United States	Common	High for food; seeds eaten by gamebirds and songbirds; plants by rabbits, deer	High for grazing and forage, nuisance in lawns	Slightly adverse

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
**Leptoloma cognatum (Schult.) Chase Fall witchgrass HABITAT: loose sandy prairie, sandy coastal plain	Statewide	West to Arizona, New Hampshire to Minnesota, south to Florida and Texas	Abundant	NA	NA	None
Eriochloa punctata (L.) Desv. Cupgrass HABITAT: tight loamy moist soil near ponds or seasonally muddy areas	Southeastern Texas and coastal parts of Rio Grande plains	Louisiana, and Texas	Common	Grazing near water	Local protein source near ponds	Slightly beneficial
**Eriochloa contracta Hitchc. Prairie cupgrass HABITAT: tight loamy usually seasonally moist soil near swales in prairies and at edges of fields and roadsides	Southeastern Texas and Rio Grande plains	Central United States	Common	Grazing and browsing	Local protein source for birds in low areas	None
**Eriochloa sericea (Scheele) Munro Cupgrass HABITAT: well-drained prairies, rocky slopes	North-central Texas and eastern plains, south to Rio Grande plains	Texas and Oklahoma	Uncommon	Seeds eaten by quail; grazing, browsing	High forage value, range indicator	None
**Brachiaria ciliatissima (Buckl.) Chase Fringed signalgrass HABITAT: sandy prairies	Rio Grande plains, southern part of southeastern Texas	South-central Oklahoma, and Texas	Common	Moderate grazing ("buffalo grass")	Nondescript ground cover	None
**Brachiaria platyphylla (Griseb.) Nash Broadleaf signalgrass HABITAT: in disturbed loamy soil in fields, gardens, along roads, and in ditches	Eastern and southeastern Texas and Rio Grande plains	Georgia, Florida, Missouri, Texas, Arkansas, Louisiana, and Cuba	Uncommon	NA	Consolidates disturbed soils	None
Axonopus furcatus (Flugge) Hitchc. Carpet grass HABITAT: moist sand	Eastern and southeastern Texas	Coastal states, Virginia to Texas	Uncommon	Grazing by deer	Cover for recreational areas	None
Axonopus compressus (Sw.) Beauv. Carpet grass HABITAT: moist sand	Southeastern Texas	Florida, Texas, and Louisiana	Rare	Year round grazing	Campgrounds and parking lots	None
**Axonopus affinis Chase Carpet grass HABITAT: moist sand, openings in forests, roadsides	Eastern and southeastern Texas	Warmer parts of America, north to North Carolina, Gulf States, Arkansas, and Oklahoma	Common	Grazing, food for ducks	Fair forage value, used in recreational areas for sod	Slightly adverse

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Paspalum monostachyum Vasey Paspalum HABITAT: sandy prairies	Southeastern Texas and parts of Rio Grande plains	Florida, Louisiana and Texas	Common	Low for food, seeds eaten by birds	Low to moderate for forage	None
**Paspalum Langei (Fourn.) Nash Paspalum HABITAT: loamy soils, often shaded, woods in stream bottoms	Coastal plains	Gulf coastal plains	Common	Moderate for browsing	NA	Slightly adverse
**Paspalum setaceum Michx. Thin paspalum HABITAT: sandy soil	Statewide--rare in Trans-Pecos and Edwards Plateau	Eastern half of United States	Abundant	Moderate for browsing	Fair forage value	None
Paspalum bifidum (Bert.) Nash Paspalum HABITAT: in moist acid bogs and open woods	Eastern Texas	Coastal states from Virginia to Texas, inland to Arkansas and Oklahoma	Rare	Moderate as seeds for birds	Moderate for pastures	None
**Paspalum floridanum Michx. Paspalum HABITAT: moist, well-drained soils	Eastern, southeastern, and northern Texas	Southeastern United States	Common	Moderate forage value, seeds eaten by birds	Readily grazed by cattle, soil cover	None
**Paspalum plicatulum Michx. Brownseed paspalum HABITAT: sandy loam prairies and open woods	Southeastern and eastern Texas and coastal part of Rio Grande plains	Widespread in warmer parts of America, north to Georgia and the Gulf states	Common	Moderate for food, quail and ducks eat seeds	Grazed by livestock, soil cover	None
Paspalum Boscianum Flügge Bull paspalum HABITAT:	Reported to occur in East Texas	Southeastern United States	Rare	NA	Moderate for pastures	None
**Paspalum Urvillei Steud. Vasey grass HABITAT: loamy, disturbed, usually very moist soil	Eastern, southeastern, and northern Texas	Southeastern coastal plain, California	Rare	Moderate for food, plants and seeds food for a variety of birds	Soil cover, moderate for pastures	None
Paspalum dilatatum Poir. Dallis grass HABITAT: loamy disturbed soils	Eastern, south-eastern, and north-central Texas	Widely distributed in warmer areas, native of South America	Abundant	Forage and grazing	Nuisance in lawns	None
**Paspalum laeve Michx. Paspalum HABITAT: sandy loam, prairies, open forest	Eastern and southeastern Texas	Much of eastern half of United States	Uncommon	NA	May be moderate for pastures	Slightly adverse

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**Paspalum praecox Walt. Paspalum HABITAT: sandy loam, open pine flats	Southeastern Texas	Southeast and Gulf coastal states	Uncommon	Moderate for browsing	NA	None
Paspalum lividum Trin. Longtom HABITAT: moist tight clay loam in ditches, tanks, resacas, and shallow lakes	Southeastern Texas and coastal Rio Grande plains	Southeastern United States	Common	Low for food, seeds occasionally eaten by ducks, food for variety of birds	Summer forage and may plant	Slightly beneficial
**Paspalum pubiflorum Fourn. Hairyseed paspalum HABITAT: moist loam and calcareous soil, at edges of streams and lakes	Statewide	Southeastern United States	Common	Moderate for food, seeds eaten by gamebirds and songbirds, plants are eaten by rabbit and deer	Moderate for pasture	Slightly beneficial
Paspalum distichum L. Knotgrass HABITAT: margins of fresh ponds, streams, lakes tolerates moderate salinity	Eastern, southeastern, and north-central Texas, Edwards Plateau	North to New Jersey, Tennessee, Arkansas, Oklahome, Utah, Idaho and Washington	Common	Moderate for food, waterfowl food, moderate forage quality, food for variety of birds	Readily grazed by cattle and horses, shoreline cover	Moderately beneficial
Paspalum vaginatum Sw. Paspalum grass HABITAT: moist saline to brackish sands at edges of lagoons, bays, and river mouths	Coastal southeast Texas and Rio Grande	Southeastern United States	Common	Low for food, green feed for wild geese	Indicator of moderate salinity, important livestock forage plant	None
**Paspalum acuminatum Raddi Paspalum HABITAT: lowlands	Southern and coastal Texas	Southern Louisiana and southern Texas	Uncommon	Moderate for food, seeds eaten by birds, plants eaten by small mammals and deer	Moderate for pastures	None
Paspalum dissectum (L.) L. Paspalum grass HABITAT: forming mats at the margins of seeps, bogs, and lakes	Eastern Texas	Lowlands of southern United States	Uncommon	Seeds eaten occassionally by ducks	Moderate for pastures	Slightly beneficial
**Paspalum fluitans (Ell.) Kunth. Paspalum HABITAT: fresh water	Southeastern Texas	Southeastern and south-central United States		May be utilized by aquatic animals	Slight grazing at water's edge	Slightly beneficial

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**Paspalum notatum Flügge Bahia grass HABITAT: sandy loam, openings in forest, usually on roadsides	Eastern Texas	Warmer parts of America; introduced from Cuba and Mexico; persistent in Gulf states	Uncommon	NA	Low pasture value	None
Paspalum minus Fourn. Paspalum grass HABITAT: loamy soil in coastal prairies	Southeastern Texas, rare where probably introduced	Texas and South America	Rare	NA	Moderate for pastures	None
Panicum depauperatum Muhl. Panic grass HABITAT: gravelly slopes in pine-oak woodlands	Eastern Texas	Eastern United States	Rare	High for food for variety of wildlife--including quail	NA	None
Panicum linearifolium Scribn. Panic grass HABITAT: frequent on dry gravelly or sandy slopes	Eastern Texas	Eastern United States	Common	High for food for variety of wildlife--including quail	NA	None
**Panicum laxiflorum Lam. Panic grass HABITAT: sandy woodlands	Southeastern, eastern, and north-central Texas	Southeastern United States	Common	Seeds eaten by wildlife--including quail	NA	None
Panicum angustifolium Ell. Panic grass HABITAT: sandy woodlands	Eastern and southeastern Texas	Southeastern United States	Common	High for food for variety of wildlife--including quail	NA	None
Panicum aciculare Poir. Panic grass HABITAT: sandy soil	Scattered in eastern and southeastern Texas	Soutneastern United States	Uncommon	High for food for variety of wildlife--including quail	Reduce erosion	None
**Panicum dichotomum L. Panic grass HABITAT: moist sandy woodlands	Eastern and southeastern Texas	Eastern United States	Common	High for food; seeds eaten by variety of birds, including quail; foliage eaten by rabbits and deer	NA	None
Panicum leucothrix Nash Panic grass HABITAT: sandy woodlands, often in boggy or moist low places	Eastern and southeastern Texas	Coastal states, Massachusetts to Texas	Uncommon	High for food for variety of wildlife--including quail	NA	None
**Panicum Lindheimeri Nash Panic grass HABITAT: calcareous soils	Eastern half and central Texas	Eastern half and southwestern United States	Common	Seeds eaten by wildlife	Pasturage	None

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Panicum lanuginosum Ell. Panic grass HABITAT: sandy woodlands and prairies	Eastern half of Texas	Eastern half of United States	Common	High for food for variety of wildlife--including quail	NA	None
Panicum villosissimum Nash Panic grass HABITAT: sandy woodlands	Eastern, southeastern, and north-central Texas	Eastern half of United States	Uncommon	High for food for variety of wildlife including quail	NA	None
Panicum portoricense Hamilt. Panic grass HABITAT: sandy woodlands	Eastern and southeastern Texas	Coastal states, Virginia to Texas	Rare	High for food for variety of wildlife including quail	NA	None
Panicum tenue Muhl. Panic grass HABITAT: infrequent or locally abundant in sandy soil	Eastern and southeastern Texas	Southeastern United States	Uncommon	High for food for variety of wildlife--including quail	Moderate for pastures	None
Panicum sphaerocarpon Ell. Panic grass HABITAT: sandy or gravelly soil	Eastern, southeastern, and north-central Texas, and coastal Rio Grande plains	Southeastern United States	Common	High for food for variety of wildlife--including quail	Moderate for pastures	None
Panicum polyanthes Schult. Panic grass HABITAT: sandy woodlands	Eastern Texas	Southeastern United States, north to Connecticut, Pennsylvania, Missouri and Oklahoma	Uncommon	High for food for variety of wildlife--including quail	NA	None
**Panicum malacophyllum Nash Panic grass HABITAT: sandy woodlands	North-central Texas	Southeastern United States	Uncommon	High for food; seeds eaten by variety of birds including quail; foliage eaten by rabbits and deer	NA	None
**Panicum oligosanthes Schult. Panic grass HABITAT: sandy soils, variety of habitats	Statewide	Most of United States	Abundant	High for food; seeds eaten by variety of birds including quail; foliage eaten by rabbits and deer	Pasturage	None
**Panicum scribnerianum Nash Scribner panicum HABITAT: strong acid to mildly alkalide clays; moist, well drained fertile soils	Statewide	Southern and southeastern United States	Common	High for food; deer eat green leaves, birds eat seeds; food for variety of wildlife	Some grazing value, soil cover	None

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**Panicum Ravenelii Scribn. and Merr. Panic grass HABITAT: sandy woodlands	Eastern and southeastern Texas	Southeastern United States	Common	High for food; seeds eaten by variety of birds including quail, foliage eaten by rabbits and deer	NA	None
Panicum latifolium L. Panic grass HABITAT: infrequent in sandy woodlands	Eastern and southeastern Texas	Eastern United States	Uncommon	High for food for variety of wildlife--including quail	NA	None
Panicum scoparium Lam. Panic grass HABITAT: sandy woodlands in moist or even boggy areas	Eastern and southeastern Texas	Southeastern United States	Uncommon	High for food for variety of wildlife--including quail	NA	Slightly beneficial
**Panicum geminatum Forsk. Panic grass HABITAT: moist ground or shallow water	Eastern half of Texas	Gulf coastal plain	Locally common	Forage for aquative mammals	NA	Slightly beneficial
Panicum reptans L. Panic grass HABITAT: usually in disturbed areas	Southeastern, eastern, north-central Texas, and Rio Grande plains	Florida to Texas	Uncommon	High for food for variety of wildlife--including quail	Soil stabilization	None
Panicum gymnocarpon Ell. Panic grass HABITAT: local in wet sand along streams	Eastern and southeastern Texas	Coastal states, South Carolina to Texas, inland to Arkansas	Locally common	High for food for variety of wildlife--including quail	Bank stabilization	None
**Panicum hemitomon Schult. Maidencane HABITAT: fresh marshes	Eastern and southeastern Texas	Coastal United States	Common	High for plant food for variety of wildlife	High forage, hay	Slightly beneficial
**Panicum obtusum H.B.K. Vine-mesquite HABITAT: frequently forming large colonies near water	Western half and eastern to north-central Texas, and coastal bend area	Missouri to Colorado, south to Arkansas and central Mexico	Common	Seeds are eaten by quail and doves	Erosion control; cut for hay and grazed	Slightly beneficial
**Panicum brachyanthum Steud. Panic grass HABITAT: sandy woodlands	Eastern and southeastern Texas	Arkansas, Louisiana, Oklahoma, and Texas	Common	High for food; seeds eaten by variety of birds including quail, foliage eaten by rabbits and deer	NA	Slightly adverse

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**Panicum verrucosum Muhl. Panic grass HABITAT: sandy woodlands	Eastern, southeastern, and north-central Texas	Eastern half of United States	Common	High for food; seeds eaten by variety of birds including quail, foliage eaten by rabbits and deer	NA	Slightly adverse
**Panicum hians Ell. Panic grass HABITAT: low places, damp soil	Eastern half of Texas	Southeastern coastal plain	Common	Seeds eaten by wildlife	NA	Slightly beneficial
**Panicum anceps Michx. Panic grass HABITAT: sandy, well-drained forested uplands	Eastern and southeastern Texas	Southeastern United States	Abundant	High for food; seeds eaten by variety of birds including quail, foliage eaten by rabbits and deer	NA	Slightly adverse
**Panicum rigidulum Nees Panic grass HABITAT: moist or poorly drained areas	Eastern and southeastern Texas	Eastern United States	Abundant	High for food; seeds eaten by variety of birds including quail, foliage eaten by rabbits and deer	NA	None
Panicum tenerum Beyr. Panic grass HABITAT: wet places	Eastern and southeastern Texas	Coastal States, North Carolina to Texas	Rare	NA	NA	None
Panicum amarulum Hitchc. and Chase Beach panic HABITAT: all along the Gulf beach in loose dune sand	Gulf beaches	New Jersey to Mexico beaches	Common	Seeds for sand dune fauna	Dune stabilization	None
**Panicum virgatum L. Switchgrass HABITAT: growing in deep, saline clays or stratified clay-loam; moist open places; highly calcareous soils or wet acid soils; sandy ridges or brackish marshes	Statewide	Ontario to Wyoming, south to Gulf states	Common	High for cover and food for wide variety of wildlife--including quail	High forage value, hay value, ornamental	None
Panicum pilcomayense Hack. Panic grass HABITAT: coastal areas	Southeastern and south in coastal areas to Rio Grande delta	Texas and South America	Locally common	Food for a variety of wildlife	NA	None

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**Panicum capillare L. Witchgrass HABITAT: disturbed ground	Western three-fourths of Texas	Most of the United States	Uncommon	High for cover and food for wide variety of wildlife--including quail	Moderate for forage	None
Panicum philadelphicum Trin. Panic grass HABITAT: rare in sandy and gravelly soils	Eastern and north-central Texas	Most of the eastern United States	Rare	Food for a variety of wildlife	Soil stabilization	None
**Panicum dichotomiflorum Michx. Fall panic HABITAT: moist ground and disturbed soil	Eastern half of Texas	Nova Scotia, Maine to Minnesota, south to Florida and Texas	Common	Seed eaten by variety of birds, foliage eaten by small mammals and hoofed browsers	Soil cover	None
**Panicum texanum Buckl. Texas millet HABITAT: disturbed, usually sandy soils	Eastern two-thirds of Texas	Texas, Oklahoma, Mississippi, Florida, south to Mexico	Common	High for cover and variety of wildlife	Soil and ground cover	None
**Panicum fasciculatum Sw. Browntop panic grass HABITAT: frequent in disturbed ground	Throughout most of Texas	Warmer parts of America, north to Florida and Texas	Common	Seeds eaten by waterfowl, songbirds, marshbirds, upland gamebirds	Soil and ground cover	None
**Sacciolepis striata (L.) Nash Sacciolepis HABITAT: infrequent in bogs, marshes, and moist sand near streams	Eastern and southeastern Texas	Coastal states, New Jersey to Texas	Uncommon	NA	Bank stabilization	None
**Oplismenus hirtellus (L.) Beauv. Oplismenus HABITAT: shady moist loam near streams	Eastern, southeastern Texas, Rio Grande plains	Southeastern coastal plains	Uncommon	Seeds for moisture dependent animals	Bank stabilization	Slightly adverse
**Echinochloa colonum (L.) Link Jungle-rice HABITAT: moist, often disturbed loamy soil	Statewide	Temperate United States	Common	High value for waterfowl food	Soil reclamation	None

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**Echinochloa crusgalli (L.) Beauv Barnyard grass HABITAT: moist loamy soil	Nearly throughout the state	Widespread in temperate and tropical areas of the world	Common	Seeds high value food for waterfowl, marshbird, upland gamebird, songbird	NA	None
Echinochloa cruspavonis (H.B.K.) Schult. Echinochloa HABITAT: marshy margins of streams and lakes	Southeastern Texas	Southeastern United States	Uncommon	Food for semiaquatic fauna	Bank stabilization	Moderately beneficial
**Echinochloa Walteri (Pursh) Heller Echinochloa HABITAT: margins of streams	Eastern and southern parts of north-central Texas	Wisconsin, Virginia, South Carolina, Arkansas, Louisiana, and Texas	Uncommon	High for food; seeds eaten by waterfowl, marshbirds, upland and songbirds; foliage eaten by muskrats and rabbits	Bank stabilization	Moderately adverse
Setaria magna Griseb. Setaria HABITAT: infrequent in moist ditches, bayous, and such	Southeastern Texas	Coastal states, New Jersey to Texas	Uncommon	Seeds are songbird and quail food	Aesthetic	None
**Setaria geniculata (Lam.) Beauv. Setaria HABITAT: common in disturbed areas	Statewide	Southwestern and southeastern United States	Common	Seeds eaten by ducks, marshbirds, gamebirds, songbirds and small mammals; foliage by rabbit and muskrats	Fair forage value	None
Setaria glauca (L.) Beauv. Yellow foxtail HABITAT: high marsh plant	Statewide except the Rio Grande plains and plains country	Temperate North America	Uncommon	Marshbirds, quail, and songbird food	Aesthetic	None
Cenchrus echinatus L. Cadillo HABITAT: infrequent weed in disturbed areas	Rio Grande plains, rare in southeastern Texas	Coastal states, North Carolina to Texas	Uncommon	Infectious to some animals	Poisonous when mixed with hay	None
**Cenchrus incertus M.A. Curtis Coast sandbur HABITAT: sandy or tighter soils, disturbed areas	Statewide, abundant in southeastern and north-central areas	Coastal states, Virginia to Texas; inland to Arkansas, Oklahoma, New Mexico, Arizona, and California	Abundant	Low for food; slight use for food by songbirds, hoofed browsers	Seasonal livestock grazing, but may be poisonous	None

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**Erianthus strictus Baldw. Narrow plumegrass HABITAT: moist, sandy places	Eastern and southeastern Texas	Southeastern United States	Rare	Slight for grazing animals	Soil stabilization	None
Erianthus contortus Baldw. Bent-awn plumegrass HABITAT: rare in moist sandy places	Eastern and southeastern Texas	Southeastern United States	Rare	Slight for grazing animals	Grazed by cattle and horses	None
Erianthus alopecuroides (L.) Ell. Silver plumegrass HABITAT: sandy woodlands, usually near water	Eastern and southeastern Texas	Missouri and Oklahoma, south to Gulf states	Uncommon	NA	Soil stabilization	Slightly beneficial
**Erianthus giganteus (Walt.) Muhl. Sugarcane plumegrass HABITAT: sandy soil, usually near moisture	Eastern and southeastern Texas	Southeastern United States	Uncommon	Slight for grazing animals	Soil stabilization	None
Schizachyrium tenerum Nees Little bluestem HABITAT: woodlands	Eastern Texas	Gulf states	Rare	NA	NA	Slightly adverse
**Schizachyrium scoparium (Michx.) Nash Little bluestem HABITAT: prairie vegetation	Statewide	Gulf plains	Common	Moderate for grazing, cover, can be negative if dominant	Moderate grazing value	None
**Andropogon Gerardi Vitman Big bluestem HABITAT: low meadows and prairies	Nearly throughout Texas	Quebec and Maine to Saskatchewan and Montana, south to Gulf states and central Mexico	Abundant	Moderately high for food; used as food primarily by songbirds and hoofed browsers; can be negative	Livestock grazing and hay	None
**Andropogon ternarius Michx. Splitbeard bluestem HABITAT: sandy wooded areas	Eastern half of Texas	Delaware to Kentucky, south to to Gulf states	Common	Moderate for food; seeds eaten by gamebirds, songbirds, small mammals; plants by deer; cover	Readily grazed by cattle	None
Andropogon Elliottii Chapm. Bluestem HABITAT: sandy wooded areas	Eastern and southeastern Texas	Southeastern United States	Rare	NA	High grazing and forage value	Slightly adverse

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**Andropogon virginicus L. Broomsedge HABITAT: sandy woodlands	Eastern half of Texas, west to north-central, rare west to Edwards Plateau and south to Rio Grande plain	Most of eastern United States, California	Common	Seeds eaten by upland gamebirds, songbirds, small mammals, and hoofed browsers	Moderate grazing value, range indicator	Slightly adverse
Andropogon glomeratus (Walt.) B.S.P. Bushy beardgrass HABITAT: moist areas	Eastern half of Texas	Southeastern United States	Common	Food for upland gamebirds, songbirds, small mammals, and hoofed browsers	Moderate grazing value	None
**Bothriochloa saccharoides (Sw.) Rydb. Silver bluestem HABITAT: dryish open areas	Statewide	Alabama, Missouri, and Colorado, south to Mexico	Common	Moderate for browse cover, can be undesirable if dominant	Spring and winter grazing, moderate as hay, fast cover on base soil	None
Bothriochloa hybrida (Gould) Gould Beardgrass HABITAT: open calcareous areas	Rio Grande plains, Edwards Plateau and southeastern Texas	Texas into Mexico	Common	Moderate for cover	Spring and winter grazing, moderate as hay, fast cover on base soil	None
**Dichanthium annulatum Stapf. Dichanthium HABITAT: cultivated	Eastern half of Texas	Introduced in Texas, native of Old World	Uncommon	NA	Experimental forage grass	None
**Sorghum halepense (L.) Pers. Johnson grass HABITAT: open ground, fields, waste places	Statewide	Massachusetts to Kansas, south to Florida and Kansas, west to southern California	Abundant	High for nesting cover for turkey; seeds, plants, and roots, high for food	Fair grazing value and used for hay, can be poisonous (prussic acid)	None
**Sorghum bicolor (L.) Moench Sorghum HABITAT: cultivated	Statewide	Warmer parts of United States	Uncommon	High food value for geese and other foraging wildlife and seed eaters	High forage value, cultivated for food value and feed supplement	Slightly beneficial

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**Sorghastrum avenaceum (Michx.) Nash Indian grass HABITAT: varied habitats	Central, north-central, and northwestern Texas	Eastern half of United States	Common	High food value for grazing	High aesthetic, high forage	None
**Sorghastrum Elliottii (Mohr) Nash Indian grass HABITAT: coastal sand vegetation affected primarily by fresh water and occasionally by salt spray	Eastern and southeastern Texas	Maryland to Tennessee, south to Gulf states	Common	High for cover and grazing	Aesthetic, cattle forage	None
Heteropogon contortus (L.) R. & S. Tanglehead HABITAT: prairies	Southern Texas to Trinity River	Arizona and Texas	Locally common	Moderate for browse	Grazed by livestock, used for thatch	None
Trachypogon secundus (Presl) Scribn. Crinkle-awn HABITAT: sandy prairies and woodlands	Southern and southeastern Texas	Texas, southern Arizona and southwestern New Mexico	Uncommon	NA	Soil stabilization	None
Elyonurus barbiculmis Hack. Balsamscale HABITAT: woodlands and prairies, usually sandy soil	Locally abundant on coastal plain	Gulf states	Abundant	NA	Soil stabilization	Slightly adverse
Manisuris cylindrica (Michx.) O. Ktze. Joint-tail HABITAT: infrequent in open areas on usually sandy soils	Eastern, southeastern, and north-central Texas	Gulf states	Uncommon	Grazed by wildlife	Grazed readily by all livestock	None
**Manisuris rugosa (Nutt.) O. Ktze. Joint-tail HABITAT: open woodlands, on low, moist sandy loam	Southeastern and eastern Texas	Southeastern coastal plains	Uncommon	Grazed by wildlife	Grazed readily by all livestock	None
Tripsacum dactyloides (L.) L. Eastern gamagrass HABITAT: NA	Scattered parts of Texas, more common in eastern half	Eastern United States	Common	High for food, high forage value	High as hay and grazing grass	None

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Eragrostis reptans (Michx.) Nees Lovegrass HABITAT: swales and lakes and river-beds, usually tight clay-loam soil	North-central, eastern, and south-eastern Texas	Central United States	Abundant	Moderate for food by seed eaters	Grazed by livestock	Slightly beneficial
**Eragrostis hypnoides (Lam.) B.S.P. Lovegrass HABITAT: swales, borrow ditches, streambars, banks	Eastern and southeastern Texas	Most of the United States	Abundant	Moderate for food by seed eaters	Grazed by livestock	None
Eragrostis pilosa (L.) Beauv. India lovegrass HABITAT: NA	North-central and eastern Texas	Introduced and scattered in warmer regions of new world, native of southern Europe	Rare	Moderate for food by seed eaters	Grazed by livestock, rare weed	None
Eragrostis pectinacea (Michx.) Nees Lovegrass HABITAT: disturbed loamy soil near roads, fields, and streams	Statewide	Throughout United States	Common	Moderate for food by seed eaters	Grazed by livestock	None
Eragrostis capillaris (L.) Nees Lacegrass HABITAT: NA	North-central Texas (Tarrant County)	Eastern United States	Rare	Moderate for food by seed eaters	Grazed by livestock	None
**Eragrostis hirsuta (Michx.) Nees Lovegrass HABITAT: open sandy woods	Eastern and southeastern Texas	Eastern coast, and southeastern United States	Common	Moderate forage for grazing animals and food for seed eaters	Grazed by livestock	None
Eragrostis lugens Nees Lovegrass HABITAT: NA	Nearly statewide except plains country	South-central United States	Common	Moderate for food by upland game birds	Forage for livestock	None
Eragrostis trichodes (Nutt.) Wood Lovegrass HABITAT: open woods and brush, usually in somewhat sandy soil	Eastern and north-central Texas, plains country, and northern parts Rio Grande plains	Central United States	Uncommon	Moderate for food by feed eaters	Grazed by livestock, ornamental	Slightly adverse

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
**Eragrostis curvula (Schrad.) Nees Weeping lovegrass HABITAT: NA	Plains country, spontaneous in other parts	Spontaneous in southern parts of United States	Uncommon	Moderate for food by seed eaters	High for spring grazing, green shoots in winter	None
Eragrostis refracta (Muhl.) Scribn. HABITAT: open sandy woods and along roadsides	Eastern and southeastern Texas	Coastal states, Delaware to Texas	Uncommon	Moderate for food by seed eaters	Moderate for grazing	None
**Eragrostis spectabilis (Pursh) Steud. Lovegrass HABITAT: open woods and prairies, loose sandy soil	Northwestern, north-central, and eastern Texas	Eastern two-thirds United States	Uncommon	Moderate for forage; basal parts, stems eaten by deer during winter; seeds eaten by seed eaters	Moderate for grazing by livestock	None
Eragrostis Silveana Swall. Lovegrass HABITAT: loamy soils	Southeastern Texas, coastal parts of Rio Grande plain	Texas into Mexico	Common	Moderate for food by seed eaters	Moderate for grazing	None
**Eragrostis curtipedicellata Buckl. Gummy lovegrass HABITAT: prairies and open woods on sandy loam	Statewide	South-central United States	Uncommon	Moderate for food by seed eaters	Medium forage value	None
**Eragrostis oxylepis (Torr.) Torr. Red lovegrass HABITAT: prairies, opening in woods, brush, on sandy soils	Statewide except Trans-Pecos	Southern half of United States	Common	Moderate value for food, seeds and forage	Medium forage value	None
Eragrostis glomerata (Walt.) L.H. Dewey Lovegrass HABITAT: roadside ditches	Eastern Texas	South Carolina and Gulf states	Rare	Moderate for food by seed eaters	NA	None
**Tridens flavus (L.) Hitchc. Purpletop HABITAT: sandy loam soils, open forest, prairies	Eastern, north-central, and south-eastern Texas	Eastern half of United States	Abundant	High food value for song and game birds, high forage value	High for grazing	Slightly adverse
Tridens congestus (L. H. Dewey) Nash Tridens HABITAT: low-lying prairies, black clay loam	Southeastern and north-central Texas	Endemic to Texas	Uncommon	Seeds eaten by birds	Moderate for grazing	None

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
**Tridens strictus (Nutt.) Nash Tridens HABITAT: open forest on sandy soil	Eastern, southeastern, and north-central Texas	Southeastern United States	Uncommon	Seeds eaten by birds	Moderate for grazing	Slightly adverse
Tridens eragrostoides (Vasey and Scribn.) Nash Tridens HABITAT: brush	Rio Grande plains, infrequent in southeastern Texas	Arizona, Texas, and Florida into Mexico	Common	Seeds eaten by birds	Moderate for grazing	None
**Tridens albescens (Vasey) Woot. and Standl. White tridens HABITAT: roadside ditches, streamsides, low-lying prairies	Statewide	South-central Texas	Abundant	Seeds eaten by birds	Grazed by cattle and horses	None
**Triplasis purpurea (Walt.) Chapm. Purple sandgrass HABITAT: open areas of loose sand	Eastern half of Texas	Eastern half of United States	Uncommon	Seed sometimes eaten by birds	Soil stabilization	None
Sporobolus Tharpii Hitchc. Coastal sacaton HABITAT: sand and calcareous shell debris (hash) near the coast	Southeastern Texas, and Rio Grande plains	Endemic to Texas	Uncommon	Seeds are high value food for ground-feeding birds and small mammals	Soil cover	None
**Sporobolus cryptandrus (Torr.) Gray Sand dropseed HABITAT: sandy soil	Statewide	Most of the United States except extreme southeast	Abundant	Seeds eaten by songbirds, gamebirds, small mammals	Fair forage value	None
Sporobolus pyramidatus (Lam.) Hitchc. Dropseed HABITAT: clay or packed loam, often alkaline or subsaline soil in open disturbed areas	Southeastern Texas	Southern United States	Abundant	Slight for grazing animals	Indicator of deteriorating range	None
Sporobolus virginicus (L.) Kunth Coastal dropseed HABITAT: packed loamy somewhat saline soil along the coast	Along the coast	Warm Atlantic to Gulf coastal states	Common	Winter food for wild geese, ground feeding birds, small mammals	Good forage grass, soil cover	None

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
**Sporobolus indicus (L.) R. Br. Smutgrass HABITAT: mud and moist loam, low prairies and swales	Eastern and coastal Texas	Southeastern coastal plain	Common	Seeds eaten by turkey, songbirds, and small mammals; plants eaten by deer	Livestock grazing, sometimes negative; livestock disease	None
Sporobolus junceus (Michx.) Kunth Dropseed HABITAT: loose sandy soil, open forest and forest openings	Eastern and southeastern Texas	Coastal states, Virginia to Texas	Common	Seeds high value for ground-feeding birds, small mammals	Grazed by livestock, range indicator	Slightly adverse
Sporobolus Silveanus Swall. Dropseed HABITAT: sandy soils, meadows and openings in forests	Eastern Texas	Texas and western Louisiana	Rare	NA	NA	None
Sporobolus heterolepis (Gray) Gray Prairie dropseed HABITAT: sandy soil	Eastern Texas	Eastern United States	Rare	NA	Soil stabilization	None
**Sporobolus asper (Michx.) Kunth Tall dropseed HABITAT: variety of habitats	Eastern half of Texas	Eastern half of United States	Common	Fair forage value	Winter grazing	Slightly adverse
Sporobolus vaginaeflorus (Torr.) Wood Poverty grass HABITAT: variety of habitats	Eastern and north-central Texas, eastern Edwards Plateau, and plains country	Eastern United States, west to Dakotas, Texas, Nebraska, and Oklahoma	Common	Seeds are songbird food	Range indicator	Slightly adverse
Muhlenbergia sobolifera (Muhl.) Trin. Muhly grass HABITAT: dry rocky woods	North-central Texas, rare in Dallas County	Eastern United States	Rare	Slight forage	NA	None
**Muhlenbergia brachyphylla Bush Muhly HABITAT: woods near streams	North-central Texas	Southeastern, and central United States	Uncommon	Seeds eaten by turkey, plants eaten by deer	NA	Slightly adverse
Muhlenbergia frondosa (Poir.) Fern. Wirestem muhly HABITAT: woods	North-central Texas (Dallas and Grayson Counties)	Eastern United States	Rare	Slight forage	NA	None

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
Muhlenbergia glabriflora Scribn. Muhly grass HABITAT: woods	North-central Texas (Dallas County)	Southeastern United STates	Rare	Slight forage	NA	Slightly adverse
**Muhlenbergia Schreberi J. F. Gmel. Nimblewill muhly HABITAT: moist ground, shaded streams, and marshy areas	Eastern half of Texas	Eastern half of United States	Locally abundant	Eaten by deer	NA	Slightly adverse
Muhlengergia capillaris (Lam.) Trin. Gulf muhly HABITAT: sandy prairie openings in pine forest	Eastern and southeastern Texas	Southeastern United States	Uncommon	Seed food for wild turkey	NA	None
Leptochloa fascicularis (Lam.) Gray Sprangletop HABITAT: alkaline areas or subsaline mud	North-central, and southeastern Texas, plains country, Rio Grande plains, and Trans-Pecos	Throughout warmer parts of United States	Abundant	Used by grazing animals	Grazed by domestic livestock	None
Leptochloa panicoides (Presl) Hitchc. Sprangletop HABITAT: mud	Eastern and southeastern Texas	Missouri to Mississippi, Texas, and Arkansas	Rare	Used by grazing animals	Grazed by domestic livestock	None
Leptochloa Nealleyi Vasey Sprangletop HABITAT: mud near coast	Southeastern Texas, and Rio Grande plains	Coastal areas, Mexico to Louisiana	Uncommon	Used by grazing animals	Grazed by domestic livestock	None
**Leptochloa filiformis (Lam.) Beauv. Red sprangletop HABITAT: moist soil and mud	Eastern, southeastern, and north-central Texas	Southeastern and southwestern United States	Uncommon	Used by grazing animals	Grazed by domestic livestock	None
Eleusine indica (L.) Gaertn. Goosegrass HABITAT: weed in disturbed areas especially in gardens and around farm houses	Southeastern Texas, and Rio Grande plains	Widespread in warmer parts of the United States	Uncommon	None	Weed in gardens	None
Dactyloctenium aegyptium (L.) Beauv. Crowfoot HABITAT: sandy soil or moist garden loam	Southeastern Texas, and Rio Grande plains	Widespread in North America	Uncommon	NA	Weed	None

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
**Cynodon Dactylon (L.) Pers. Bermuda grass HABITAT: seasonally moist, sometimes alkaline or subsaline soils	Nearly throughout the state	Warmer parts of North America, north to New England, Michigan, Iowa, Colorado, Utah, Nevada, and Oregon	Abundant	Seeds minor use as food for birds, leaves eaten by browsers	High forage value, lawns	None
Willkommia texana Hitchc. Willkommia HABITAT: bare tight calcareous clay loam	Southeastern Texas, and northern Rio Grande plains	Endemic to Texas	Rare	NA	Soil stabilization	None
**Schedonnardus paniculatus (Nutt.) Trel. Tumblegrass HABITAT: prairies, disturbed openings on tight clay loams	Statewide	Central United States	Common	Slight grazing	Forage for cattle	None
Gymnopogon ambiguus (Michx.) B.S.P. Gymnopogon HABITAT: loose sandy podsol, open woods	Eastern Texas	Eastern United States	Uncommon	NA	Soil stabilization	None
Gymnopogon brevifolius Trin. Gymnopogon HABITAT: loose sandy soil, open woods and savannahs	Eastern Texas	Coastal states, New Jersey to Texas	Uncommon	NA	Soil stabilization	None
Chloris Gayana Kunth Rhodes grass HABITAT: disturbed loamy soil in fields and along roads	Southern, eastern, and southeastern Texas, and Rio Grande plains	Scattered in warmer parts of United States	Uncommon	NA	Fair forage value	None
Chloris texensis Nash Fingergrass HABITAT: silty loam	Coastal prairies, southeastern Texas, Rio Grande plains	Endemic to Texas	On Texas rare and endangered plant list	Grazed by deer	Grazed by livestock	None
Chloris andropogonoides Fourn. Fingergrass HABITAT: tight black clay or sandy loam	Rio Grande plains, southern part of Southeast Texas	Texas into Mexico	Uncommon	NA	Moderate livestock hay	None
**Chloris verticillata Nutt. Wirdmill fingergrass HABITAT: packed rock or calcareous gravelly and sandy loam, disturbed areas	Western three-fourths Texas	Central and southwestern United States	Rare	Slight grazing value	Indicator of poor range conditions	None

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
Chloris cucullata Bisch. Hooded fingergrass HABITAT: prairies, sandy and gravelly soils	Statewide, rare on prairies	Oklahoma, New Mexico, and Texas, south to Mexico	Rare	Slight grazing value	Good forage grass	None
Chloris Canterai Arech. Fingergrass HABITAT: tight often moist clayey loamy soil	Southeastern, and southern part of East Texas	Texas	Common	Grazing	Forage	None
Chloris ciliata Sw. Fingergrass HABITAT: tight calcareous loam	Southeastern Texas, and Rio Grande plains	Texas also Mexico	Common	Grazing	Forage	None
Chloris petraea Sw. Fingergrass HABITAT: seasonally moist sandy soil near the coast	Southeastern Texas, and Rio Grande plains	Coastal states, North Carolina to Texas	Common	Grazing	Forage	None
**Bouteloua hirsuta Lag. Hairy grama HABITAT: variety of habitats	Frequent practically statewide but rare in eastern Texas	Central United States	Common	Seeds eaten by songbirds, turkeys, small mammals; Plants browsed by deer	Good grazing and forage grass	None
**Bouteloua rigidiseta (Steud.) Hitchc. Texas grama HABITAT: disturbed areas	Central and east-central Texas	Oklahoma, and Texas into Mexico	Common	Browse for deer	Excellent forage	None
**Bouteloua curtipendula (Michx.) Torr. Side-oats grama HABITAT: open areas on alluvial loam or among rocks	Nearly statewide	Throughout most United States	Common	Wild turkeys eat seed, excellent game food	Good forage and grazing grass, ornamental	None
**Buchloë dactyloides (Nutt.) Engelm. Buffalo grass HABITAT: in fine black calcareous clay loam in prairies and along roadsides	Most of Texas	North America from Minnesota to Montana and south through eastern Mexico	Abundant	Extremely valuable, plants used as food by browsers	Good grazing and forage grass, ornamental	None

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
**Spartina spartinae (Trin.) Hitchc. Gulf cordgrass HABITAT: tight loamy somewhat saline poorly drained flats; growing well in deep, saline clays and stratified clay-loam materials; high tolerance to high soil salinities	Southeastern Texas, and Rio Grande plains	Coastal areas	Abundant on coast	Excellent grazing potential, high value for geese and muskrats	Young shoots good forage, older shoots much too tough even for horses, purposely burned in some areas	None
**Spartina alterniflora Lois. Smooth cordgrass HABITAT: tidally-inundated shores of brackish to hypersaline bays and river-mouths; found in vegatative condition on margins of ponds polluted with oil; grows on organic soils in salt marshes; oil marked stems of most specimens; high salt tolerance; grows in low depressed areas on Neches River on permanently wet clay or silty clay covered with organic peat and muck	Coastal areas	Native to eastern coast of North America from the Maritime Provinces to Texas	Locally abundant	A major potential grass, remains green relatively longer than most genera throughout seasons, excellent grazing potential, high value for geese	Livestock forage	None
**Spartina cynosuroides (L.) Roth Big cordgrass HABITAT: much at tidally submerged shores of brackish bays, river mouths	Southeastern Texas (Chambers, Galveston and Harris Counties)	Coasts from Massachusetts to Texas	Locally abundant	Muskrat food cover, ducks and geese eat tender shoots after marsh-burn, good grazing potential	Filters nutrients, grazing, soil and water control	None
Spartina patens (Ait.) Muhl. Saltmeadow cordgrass HABITAT: sandy seasonally moist soil near coast; adapted for firm mineral soils; tolerates medium salinities; high marsh plant	Southeastern Texas, and Rio Grande plains	Shores of Great Lakes, Atlanta, and Gulf coasts	Common	Waterfowl food, remains green relatively longer than most genera throughout seasons, excellent grazing potential, high value for geese and muskrats, fresh-brackish marsh vegetation	Filters nutrients and pollutants	None

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
Spartina pectinata Link. Prairie cordgrass HABITAT: NA	Eastern third and northern half of Texas	Eastern half of United States	Rare	Moderate value for wildlife	NA	None
**Distichlis spicata (L.) Greene. Saltgrass HABITAT: salt marshes near coast; tidal emergent; increases when other grasses decrease due to overuse; adapted to high saline marsh soils of clay to sand	Abundant on eastern Texas coast, rare in salt marshes inland	Atlantic, Pacific, and Gulf coasts	Very abundant	High value for waterfowl and muskrat food, nesting cover	Filters nutrients and pollutants, livestock forage	None
Monanthochloe littoralis Engelm. Saltflat grass HABITAT: poorly drained brackish or saline flats; salt marshes	Southeastern Texas, and Rio Grande plains	Florida, Texas, and California	Locally abundant	NA	Marsh stabilizer	None
**Aristida desmantha Trin. and Rupr. Three-awn grass HABITAT: sandy soil, openings in oak woods	Eastern Texas, and northern Rio Grande plains	Texas, also reported from Nebraska and Illinois	Common	Seeds for songbirds, and quail; plants food for browsing and grazing mammals	Slight for grazing	Slightly adverse
**Aristida oligantha Michx. Prairie three-awn HABITAT: sandy and calcareous sandy soil, open ground	Eastern half of Texas	Eastern half and far western regions of United States	Common	Seeds eaten by songbirds, plants by small mammals and deer	Indicator of deteriorated range conditions, troublesome to stock	None
Aristida dichotoma Michx. Three-awn grass HABITAT: sandy soil	Eastern Texas	Throughout eastern United States	Rare	Seeds food for songbirds, plants food for grazing and browsing mammals	Stabilizes sandy soil	None
**Aristida longespica Poir. Three-awn grass HABITAT: sandy open ground	Eastern and southeastern Texas	Eastern, and south-central United States	Common	Seeds food for songbirds, plants food for grazing and browsing mammals	Stabilizes sandy soil	None

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
Aristida intermedia Scribn. and Ball Three-awn grass HABITAT: loose sandy ground	Southeastern Texas, and Rio Grande plains	From the Gulf coastal states, also Georgia, Arkansas, Oklahoma, and Kansas	Common	Seeds food for songbirds, plants food for grazing and browsing mammals	Soil stabilization	None
Aristida purpurascens Poir. Arrowfeather three-awn HABITAT: sandy woods and openings	North-central, eastern, and southeastern Texas	Eastern United States, west to Kansas, Oklahoma, and Texas	Common	Seeds food for songbirds, plants food for grazing and browsing mammals	Low quality forage except in early spring, troublesome to stock	Slightly adverse
Aristida virgata Trin. Three-awn grass HABITAT: sandy prairies and sandy openings in woods	Eastern and southeastern Texas	Coastal states--New Jersey to Texas	Common	Seeds food for songbirds, plants food for grazing and browsing mammals	Soil stabilization	Slightly adverse
Aristida affinis (Schult.) Kunth Three-awn grass HABITAT: loose sandy soil, openings in forests	Eastern and southeastern Texas	Coastal states--North Carolina to Texas	Uncommon	Seeds food for songbirds, plants food for grazing and browsing mammals	Soil stabilization	Slightly adverse
**Aristida lanosa Ell. Three-awn grass HABITAT: loose sandy soil	Eastern and southeastern Texas	Coastal states--North Carolina to Texas	Uncommon	Seeds food for songbirds, and quail; plants food for browsing and grazing mammals	Slight for grazing	None
**Aristida purpurea Nutt. Purple three-awn HABITAT: loamy or rock soils, open ground	Western three-fourths Texas	South-central United States	Locally abundant	Seeds food for songbirds, plants food for small mammals and deer	Poor grazing grass	None
CYPERACEAE (sedge family)						
Dulichium arundinaceum (L.) Britt. Three-way sedge HABITAT: boggy places	Eastern Texas (Leon, Robertson, and Wood Counties)	Wet places and lowlands over most of the United States	Uncommon to rare	Moderate for waterfowl food	Nutrient source	None
**Scirpus maritimus L. Salt-marsh bulrush HABITAT: coastal marshes, salt marshes; will increase and invade sites under heavy use	Southeastern Texas, and Rio Grande plains	Cosmopolitan	Uncommon	High value muskrat and waterfowl food and cover	High forage value	None

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
Scirpus cyperinus (L.) Kunth Bulrush HABITAT: wet boggy places	Eastern Texas	Southeastern United States	Common	Moderate for food and bird cover	Aesthetic, bank stabilization	Slightly beneficial
**Scirpus koilolepis (Steud.) Gl. Bulrush HABITAT: moist sandy loam	Eastern, southeastern, and north-central Texas; Edwards Plateau	Georgia, Tennessee, and Alabama to Oklahoma and Texas; California	Common	Seeds eaten by waterfowl, marsh-birds, songbirds	Soil stabilization	Slightly beneficial
Scirpus molestus M. C. Johnst. Bulrush HABITAT: moist sand	Eastern and southeastern Texas	Arkansas, Louisiana, and Texas	Common	Moderate for food and bird cover	Soil stabilization	Slightly beneficial
Scirpus supinus L. Bulrush HABITAT: moist areas near the coast	Southeastern Texas and Rio Grande plains	Great plains from North Dakota to Texas	Common	Nesting and cover for birds	Bank stabilization, ecological	None
Scirpus americanus Pers. Sword-grass HABITAT: low, often moist ground	Statewide	Through temperate parts of the world	Common	Geese eat rhizomes	Soil cover, ecological	Slightly beneficial
**Scirpus Olneyi E. & G. Bulrush HABITAT: marshy soil, increase in and/or invade sites of heavy use and uncontrolled burning, grows in permanently wet clay covered with salt, salt marsh range	Southeastern and eastern Texas	Temperate North America	Common	High value muskrat food and cover, waterfowl food and nesting cover	Winter forage for livestock	None
**Scirpus validus Vahl Soft-stem bulrush HABITAT: will increase in or invade sites of heavy use or burning, salt marsh, in mud and shallow water	Eastern, southeastern, and north-central Texas	Temperate North America	Uncommon	Waterfowl food and cover	Soil cover	None
**Scirpus californicus (C.A. Mey.) Steud. Giant bulrush HABITAT: will increase in or invade sites of heavy use or burning, salt marsh	Statewide except plains country	Warmer North Amerida	Uncommon	Wildlife cover, waterfowl food	Windbreak, bank stabilization	None

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
**Fuirena squarrosa Michx. Umbrella-grass HABITAT: moist usually acid soils of marshes and bogs	Eastern and southeastern Texas	Eastern United States	Common	Bird food	Nutrient contribution to ecosystem	Slightly adverse
**Fuirena simplex Vahl Umbrella-grass HABITAT: wet areas, usually in calcareous mud	Western half and north-central Texas	South-central United States	Common	Bird food	Nutrient contribution to ecosystem	Slightly beneficial
**Eleocharis quadrangulata (Michx.) R. & S. Squarestem spikerush HABITAT: mud	Eastern and southeastern Texas	Most of eastern United States	Uncommon	Seeds, culms, tubers eaten by waterfowl and mammals, seeds eaten by shore-birds	Aesthetic, ornamental	None
Eleocharis cellulosa Torr. Spikerush HABITAT: fresh brackish marsh, in freshwater mud	Edwards Plateau, Rio Grande plains, and eastern Texas	Coastal states--North Carolina to Texas	Rare	Seeds, culms, tubers eaten by waterfowl and mammals, seeds eaten by shore-birds	Aesthetic, ornamental	None
**Eleocharis parvula (R. & S.) Link Dwarf spikerush HABITAT: in mud generally completely submerged in shallow brackish or alkaline waters	Statewide	Throughout United States	Uncommon	Waterfowl food, tubers and seeds eaten	Aesthetic, ornamental	None
Eleocharis melanocarpa Torr. Spikerush HABITAT: moist sandy areas often boggy loam	Eastern Texas	Coastal states--Massachusetts to Texas	Rare	On Texas rare and endangered plant list	Aesthetic, scientific	None
**Eleocharis acicularis (L.) R. & S. Spikerush HABITAT: mud	Statewide except Trans-Pecos and eastern Texas	Coastal states--North Carolina to Texas	Common	Seeds, culms, tubers eaten by waterfowl and mammals, seeds eaten by shore-birds	Aesthetic, ornamental	None
Eleocharis radicans (A. Dietr.) Kunth Spikerush HABITAT: marshy areas	Eastern and southeastern Texas	Virginia, Michigan, Texas, Oklahoma, and California	Rare	Cover	Aesthetic	Slightly beneficial

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**Eleocharis obtusa (Willd.) Schult. Blunt spikerush HABITAT: moist, sandy soils	Eastern, southeastern, and north-central Texas; Edwards Plateau	Throughout much of temperate North America	Locally abundant	Occasionally used by waterfowl and shorebirds as food	Aesthetic, ornamental	Slightly beneficial
Eleocharis flavescens (Poir.)Urban Spikerusn HABITAT: moist soils	Eastern, southeastern Texas, and Edwards Plateau	Eastern North America	Rare	Cover	Aesthetic	None
Eleocharis caribaea (Rottb.) Blake Spikerush HABITAT: moist calcareous soil	Most parts of the state	Gulf states	Locally abundant	Cover and bird food	Soil stabilization	None
**Eleocharis macrostachya Britt. Spikerush HABITAT: usually in slightly alkaline mud	Statewide except extreme eastern and southeastern Texas	Minnesota to Illinois, Missouri, Kansas, Oklahoma, and Texas	Common	Seeds, culms, tubers eaten by waterfowl and mammals, seeds eaten by shorebirds	Aesthetic, ornamental	None
**Eleocharis montevidensis Kunth Sand spikerush HABITAT: moist soil	Statewide	West-central and Gulf coastal states	Common	Seeds eaten by marshbirds; plants by rabbit, muskrat; seeds, culms, tubers by waterfowl	Aesthetic, ornamental	Slightly beneficial
**Eleocharis austrotexana M. C. Johnst. Spikerush HABITAT:	Rio Grande plains, and southeastern Texas Texas	Endemic to Texas	Rare	Seeds, culms, tubers eaten by waterfowl and mammals, seeds eaten by shorebirds	Aesthetic, ornamental	None
Eleocharis tuberculosa (Michx.) R. & S. Spikerush HABITAT: moist sand	Eastern and southeastern Texas	Coastal states--New Hampshire to Texas	Common	Cover and bird food	Soil stabilization	Slightly beneficial
**Eleocharis tortilis (Link) Schult. Spikerush HABITAT: moist sandy soil	Eastern Texas	Coastal areas--New York to Texas	Uncommon	Seeds, culms, tubers eaten by waterfowl and mammals, seeds eaten by shorebirds	Aesthetic, ornamental	Slightly beneficial

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
Bulbostylis ciliatifolia (Ell.) Fern. Bulbostylis HABITAT: wet sandy soil of open woods and hillsides	Eastern and southeastern Texas	Virginia, south to Florida and Texas	Uncommon	NA	Soil and bank stabilization	None
Bulbostylis capillaris (L.) Clarke Bulbostylis HABITAT: sandy soils in crevices of granitelike rock	Eastern, southeastern, and north-central Texas	Widespread in warm temperate North America	Uncommon	NA	Soil and bank stabilization	None
**Fimbristylis autumnalis (L.) R. & S. Fimbristylis HABITAT: moist to wet sands, peats, silts, or clay	Statewide	Eastern United States	Uncommon	NA	NA	Slightly beneficial
Fimbristylis tomentosa Vahl Fimbristylis HABITAT: moist to wet sand or clays of coast	Gulf coast	Coastal plains from North Carolina to Texas	Common	Moderate cover and bird food	Soil stabilization	None
Fimbristylis decipiens Kral Fimbristylis HABITAT: moist sandy roadsides, fields and disturbed open usually piney woods of coast	Gulf coast	Coastal plains--eastern North Carolina, south to northern Florida, and west to eastern Texas	Common	Little value	Negative value, indicates disturbance, weed	None
Fimbristylis annua (All.) R. & S. Fimbristylis HABITAT: moist sunny open areas	Southern third of Texas	Temperate to tropical climates of United States	Common	Slight food	Indication of disturbance	None
**Fimbristylis Vahlii (Lam.) Link Vahl fimbry HABITAT: fine sands, silts, clays usually alluvial, bottomland	Statewide	Southeastern coastal plain, southwestern United States	Uncommon	Slight for bird food	Soil stabilization	Slightly adverse

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other VAlues	Project Impact
Fimbristylis castanea (Michx.) Vahl Marsh fimbristylis HABITAT: moist sands or much of coastal marshes, dune swales or estuary banks (rarely alkaline situations inland)	Gulf coast	Long Island, south along Atlantic coast into Florida Keys along Gulf	Uncommon	Waterfowl food	Soil stabilization	None
Fimbristylis puberula (Michx.) Vahl Fimbristylis HABITAT: sands, sandy peats or clays of open areas or edges of grass; sedge bogs, meadows, and prairies	Gulf coastal plain	Throughout the Atlantic and Gulf coastal plains	Common	Moderate food	Soil stabilization	None
Hemicarpha micrantha (Vahl) Britt. Hemicarpha HABITAT: moist soils	Statewide except plains area	Temperate to tropical areas of United States	Uncommon	NA	NA	None
**Cyperus erythrorhizos Muhl. Flatsedge HABITAT: grows especially well in soil soaked with oil, marshy places	Southeastern Texas	Eastern half United States, west coast	Abundant	Eaten by birds, waterfowl and small mammals	Ecosystem stabilizer	Slightly beneficial
Cyperus articulatus L. Chintul HABITAT: moist clay meadows	Southeastern Texas, Rio Grande plains; rare north to south part of north-central Texas	Columbia north to Gulf states	Abundant	Slight food value	NA	None
**Cyperus rotundus L. Nut HABITAT: loamy soils	Scattered statewide	Widely introduced in United States, native of Eurasia	Aoundant	Eaten by waterfowl, gamebirds, song-birds, and small mammals	Edible root	None
**Cyperus setigerus T. & H. Flatsedge HABITAT: moist clay meadows and ditches	North-central Texas, Rio Grande plains, Edwards Plateau, plains country	Kansas, Missouri, Oklahoma, and Texas	Uncommon	Eaten by birds and small mammals	NA	None
**Cyperus esculentus L. Yellow nut-grass HABITAT: occasionally moist sandy disturbed or loamy soil	Statewide	Most of the United States	Uncommon	Tubers and seeds very high value; food for waterfowl, songbirds, upland game birds, mammals	Lawn pest	None

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Cyperus elegans L. Sedge HABITAT: moist calcareous soils	Southeastern Texas	Florida, Louisiana, and Texas	Common	Cover and bird food	Soil stabilization	None
Cyperus virens Michx. Sedge HABITAT: moist places	Southeastern Texas, frequent in eastern Texas and coastal Rio Grande plains	Coastal from North Carolina to Texas	Abundant	Cover and bird food	Soil stabilization	Slightly beneficial
**Cyperus pseudovegetus Steud. Flatsedge HABITAT: moist places	Eastern and southeastern Texas	Gulf states north to New Jersey, Illinois, Indiana, Missouri and Kansas	Common	Eaten by waterfowl, birds small mammals	Soil stabilizer	Slightly beneficial
Cyperus reflexus Vahl Sedge HABITAT: moist sand	Eastern and southeastern Texas	Scattered in Oklahoma, Louisiana, and Texas	Rare	NA	Aesthetic	None
**Cyperus acuminatus T. & G. Flatsedge HABITAT: moist places	Eastern, southeastern, north-central Texas, and Rio Grande plains	Missouri and North Carolina south to Texas and Louisiana; also Arizona, Nevada, California and Oregon	Abundant	Seeds and tubers eaten by birds and small mammals	Ecologic	Slightly beneficial
**Cyperus surinamensis Rottb. Flatsedge HABITAT.	Southeastern Texas and coastal parts of Rio Grande plains	Florida, Louisiana, and Texas	Uncommon	Eaten by birds and small mammals	NA	None
Cyperus phaeolepis Cherm. Sedge HABITAT: moist places	Southeastern (Galveston), and Trans-Pecos	Texas	Rare	NA	Aesthetic	None
**Cyperus Haspan L. Flatsedge HABITAT: moist places	Eastern, and southeastern Texas, coastal Rio Grande plains	Widely distributed in warmer regions of United States	Uncommon	Eaten by waterfowl, birds, and small mammals	NA	Slightly beneficial
**Cyperus strigosus L. Flatsedge HABITAT: bogs and marshy areas	Eastern, southeastern and north-central Texas	Pacific states, east United States, north to Canada, Kansas, Oklahoma and Texas	Common	Eaten by birds and small mammals	Ecologic	Slightly beneficial
Cyperus uniflorus T. & H. Sedge HABITAT: dry to moist sandy or loamy prairies, brush or open woodlands	Nearly throughout state	Arkansas, Oklahoma, New Mexico, and Arizona	Abundant	Moderate food	Soil stabilizer	None

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
**Cyperus retrofractus (L.) T. & G. Flatsedge HABITAT: in woods on moist or dry sandy soils	Eastern and southeastern Texas	Southeast States north to New Jersey, Ohio, Missouri, and Oklahoma	Uncommon	Eaten by birds and small mammals	NA	None
**Cyperus ovularis (Michx.) Torr. Flatsedge HABITAT: moist sand	Eastern, southeastern, and north-central Texas	Eastern United States north to New York and Missouri, west to Kansas and Texas	Uncommon	Eaten by waterfowl, birds, and small mammals	Soil stabilizer	None
**Cyperus globulosus Aubl. Flatsedge HABITAT: moist or dry sandy soil	Eastern and southeastern Texas	Gulf coast north to Virginia, Missouri, and Oklahoma	Common	Eaten by waterfowl, birds, and small mammals	Soil stabilizer	None
**Cyperus odoratus L. Flatsedge HABITAT: abundant various habitats	Statewide	Temperate regions of United States	Abundant	Eaten by waterfowl, birds, and small mammals	Soil stabilizer	None
Cyperus aristatus Rottb. Sedge HABITAT: various habitats	Scattered throughout Texas	Cosmopolitan in temperate and tropical areas	Uncommon	Slight food value	NA	None
**Cyperus polystachyos Rottb. Flatsedge HABITAT: seasonally moist sand	Eastern and southeastern Texas, coastal parts of Rio Grande plains	North to Massachusetts, Pennsylvania, Missouri, Arkansas, and Oklahoma	Locally abundant	Eaten by waterfowl, birds, and small mammals	Soil stabilizer	Slightly beneficial
Cyperus flavescens L. Sedge HABITAT: moist sand	Eastern and southeastern, and north-central Texas	Widespread in warmer regions of the United States	Uncommon	Slight food	Soil stabilizer	None
Cyperus sesquiflorus (Torr.) Mattf. and Kükenth. Sedge HABITAT: moist sandy loam	Eastern Texas	Widespread in warmer regions of the United States	Common	Moderate bird food	Soil stabilizer	None
Cyperus tenuifolius (Steud.) Sedge HABITAT: moist loam	Eastern Texas	Widespread in warmer United States	Uncommon	Slight bird food	Soil stabilizer	None
**Cyperus brevifolius (Rottb.) Hassk. Flatsedge HABITAT: moist loam	Southeastern Texas	Warmer regions of United States	Common	Eaten by birds and small mammals	Ecologic	None

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
**Cladium jamaicense Crantz Saw-grass HABITAT: fresh water margins, calcareous soil marsh	Southeastern Texas, Edwards Plateau	Gulf states and Virginia	Common	Waterfowl food, protective cover for other wildlife, nutria food	Stabilizes banks	None
**Rhynchospora corniculata (Lam.) Gray Horned-rush HABITAT: mud	Eastern and southeastern Texas	Southeastern United States	Common	Waterfowl food	Soil stabilizer	None
**Rhynchospora glomerata (L.) Vahl Beak-rush HABITAT: moist sand	Frequent in eastern Texas, infrequent in southeastern Texas	Gulf states north to Delaware, Virginia, Tennessee and Arkansas, west to Oklahoma and Texas	Common	NA	Soil stabilizer	Slightly beneficial
**Rhynchospora capitellata (Michx.) Vahl Beak-rush HABITAT: acid boggy ground	Eastern Texas	Eastern United States, northeast to Nova Scotia, west to Wisconsin, Missouri, Oklahoma, and Texas	Uncommon to rare	NA	Soil stabilizer	None
Rhynchospora macra (Clarke) Small Beak-rush HABITAT: bogs	Eastern Texas	Georgia, Florida, Mississippi, and Texas	On Texas rare and endangered plant list	Minor food for quail	Scientific	None
Rhynchosp. · filifolia Gray Beak-rush HABITAT: moist loam	Eastern Texas	New Jersey to Texas	On Texas rare and endangered list	Minor food for quail	Scientific	None
Rhynchospora fascicularis (Michx.) Vahl Beak-rush HABITAT: moist sand	Southeastern Texas	Low coastal areas, Virginia to Texas	Uncommon	Minor food for quail	Soil stabilizer	None
Rhynchospora gracilenta Gray Beak-rush HABITAT: boggy ground	Eastern and southeastern Texas	Southeastern United States mainly in coastal states	Uncommon	Minor food for quail	Aesthetic	None
Rhynchospora Harveyi W. Boott. Beak-rush HABITAT: low places in open woods and prairies	Eastern, southeastern, and north-central Texas	Southeastern United States	Common	Minor food for quail	NA	Slightly adverse

Species	State Range	United States Range	Abundance in Region	Wildlife Habitat	Other Values	Project Impact
Rhynchospora rariflora (Michx.) Ell. Beak-rush HABITAT: bogs or piny crayfish-land	Eastern and southeastern Texas	Coastal areas, New Jersey to Texas	Rare	Minor food for quail	Ecologic	None
Rhynchospora inexpansa (Michx.) Vahl Beak-rush HABITAT: open pinelands	Eastern and southeastern Texas	Coastal states, Virginia to Texas	Common	Minor food for quail	NA	None
Rhynchospora Elliottii A. Dietr. Beak-rush HABITAT: moist sandy areas	Eastern and southeastern Texas	Near coast, North Carolina to Texas	Common	Minor food for quail	Soil stabilizer	None
Rhynchospora perplexa Small Beak-rush HABITAT: moist sand	Eastern and southeastern Texas	Coastal states, Virginia to Texas	Rare	Minor food for quail	Aesthetic	None
**Rhynchospora caduca Ell. Beak-rush HABITAT: moist sand	Frequent in southeastern Texas, less frequent in eastern Texas, Edwards Plateau	Coastal states, Virginia to Texas; also Arkansas and Oklahoma	Common	NA	Soil stabilizer	Slightly beneficial
**Rhynchospora globularis (Chapm.) Small Beak-rush HABITAT: moist sandy soil	Frequent in eastern Texas, infrequent in southeastern Texas	North to New Jersey, Tennessee, and Missouri, west to Oklahoma and Texas, also California	Common	Food for birds	Soil stabilizer	Slightly beneficial
Psilocarya nitens (Vahl) Wood Bald rush HABITAT: marshes	Southeastern Texas (Hardin to Aransas Counties)	Coastwise, Massachusetts to Texas	Uncommon	Waterfowl food	Aesthetic	Slightly adverse
Scleria georgiana Core Slender nut-rush HABITAT: loam	Southeastern and north-central Texas	Coastal states, North Carolina to Texas	Common	Waterfowl food	NA	None
**Scleria triglomerata Michx. Whip-grass HABITAT: moist soils	Eastern, southeastern, and north-central Texas	Eastern half of United States	Locally abundant	Slight food value	Soil stabilizer	Slightly beneficial
Scleria ciliata Michx. Stone-rush HABITAT: N/	Southeastern and north-central Texas	Virginia to Missouri, south to Gulf states	Common	High value food for quail	NA	None

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
Scleria pauciflora Muhl. Carolina whip-grass HABITAT: moist sandy soil	Eastern and southeastern Texas	Much of eastern United States	Uncommon	Slight food value	Soil stabilizer	None
Scleria oligantha Michx. Stone-rush HABITAT: moist sand	Eastern, southeastern, and north-central Texas	Southeastern United States	Common	Slight food value	Soil stabilizer	None
**Carex intumescens Rudge Bladder sedge HABITAT: moist areas	Eastern and southeastern Texas	Southeast Canada and eastern United States, west to Minnesota, Iowa, Missouri, Arkansas, and Texas	Common	Waterfowl, marshbird, upland gamebird, songbird, fur animals, small mammal, and browser food	Aesthetic	None
Carex gigantea Rudge Sedge HABITAT: moist places	Eastern and southeastern Texas	Lowlands of southeastern United States	On Texas rare and endangered plant list	Wildlife cover and food	Aesthetic, scientific	None
Carex lupulina Muhl. Sedge HABITAT: moist soils	Eastern and southeastern Texas	Eastern half of United States	Common	Wildlife cover and food	Soil stabilizer	None
**Carex lurida Wahl. Sedge HABITAT: moist sand and mud	Eastern Texas	Eastern third of United States	Common	Provides wildlife cover; seeds eaten by ducks, coots, marshbirds, gamebirds, songbirds, some fur and game mammals; and seeds, leaves, roots by small mammals, deer	Soil stabilizer	Slightly beneficial
**Carex Frankii Kunth Franks sedge HABITAT: moist sand	Eastern and southeastern Texas, infrequent in north-central Texas	Southeastern United States, north to New York and Kansas	Uncommon	Seeds eaten by variety of birds; seeds, leaves, and roots eaten by small mammals and deer	Aesthetic	Slightly beneficial
**Carex hyalinolepis Steud. Sedge HABITAT: wet black clay	Southeastern, eastern, and north-central Texas	Eastern United States, west to Michigan, Nebraska, Kansas, Oklahoma, and Texas	Uncommon	Provides wildlife cover; seeds eaten by ducks, coots, marshbirds, gamebirds, songbirds, some fur and game mammals; and seeds, leaves, roots by small mammals, deer	Ecologic	None

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
**Carex cherokeensis Schwein. Sedge HABITAT: sandy loam in woodlands	Eastern, south-eastern, and north-central Texas	Gulf states, Georgia, Oklahoma, Arkansas, and Missouri	Abundant	Provides wildlife cover; seeds eaten by ducks, coots, marshbirds, game-birds, songbirds, some fur and game mammals; and seeds, leaves, roots by small mammals, deer	Soil stabilizer	Slightly adverse
Carex microdonta T. & H. Sedge HABITAT: moist open places, usually calcareous areas	North-central and southeastern Texas, Edwards Plateau, infrequent in eastern Texas	Mississippi, Louisiana, Texas, Oklahoma, and Missouri	Common	Wildlife cover and food	Soil stabilizer	None
**Carex amphibola Steud. Sedge HABITAT: moist woodlands	Eastern, south-eastern, and north-central Texas	Southeastern United States	Common	Provides wildlife cover; seeds eaten by ducks, coots, marshbirds, game-birds, songbirds, some fur and game mammals; and seeds, leaves, roots by small mammals, deer	Soil stabilizer	Slightly adverse
**Carex flaccosperma Dew. Sedge HABITAT: moist sandy soil	Eastern and southeastern Texas	Southeastern United States	Common	Provides wildlife cover; seeds eaten by ducks, coots, marshbirds, game-birds, songbirds, some fur and game mammals; and seeds, leaves, roots by small mammals, deer	Soil stabilizer	None
**Carex blanda Dew. Sedge HABITAT: moist woods	Eastern and north-central Texas	Eastern temperate North America	Common	Provides wildlife cover; seeds eaten by ducks, coots, marshbirds, game-birds, songbirds, some fur and game mammals; and seeds, leaves, roots by small mammals, deer	NA	Slightly adverse

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**Carex crebriflora Wieg. Sedge HABITAT: moist areas	Eastern and southeastern Texas	Southeastern United States	Uncommon	Provides wildlife cover; seeds eaten by ducks, coots, marshbirds, game-birds, songbirds, some fur and game mammals; and seeds, leaves, roots by small mammals and deer	Soil stabilizer	None
**Carex Davisii Schwein. and Torr. Sedge HABITAT: calcareous woods	North-central Texas	Northeastern United States, west to Minnesota and Kansas; also Oklahoma and Texas	Uncommon	Provides wildlife cover; seeds eaten by ducks, coots, marshbirds, game-birds, songbirds, some fur and game mammals; and seeds, leaves, roots by small mammals and deer	NA	Slightly adverse
Carex oxylepis T. & H. Sedge HABITAT: low moist rich woods near streams	Eastern and southeastern Texas	Southeastern United States	Uncommon	Wildlife cover and food	Soil stabilizer	Slightly adverse
**Carex Bushii Mack. Sedge HABITAT: moist sandy soil	Eastern Texas	Atlantic coastal states and southeastern United States	Common	Provides wildlife cover; seeds eaten by ducks, coots, marshbirds, game-birds, songbirds, some fur and game mammals; and seeds, leaves, roots by small mammals and deer	Soil stabilizer	None
Carex complanata T. & H. Sedge HABITAT: moist sandy woods	Eastern and southeastern Texas	Eastern half of United States	Common	Wildlife cover and food	Soil stabilizer	Slightly adverse
**Carex caroliniana Schwein. Carolina sedge HABITAT: rich open woods near streams in sandy soils	Eastern, south-eastern, and north-central Texas	Pennsylvania to Indiana and south to North Carolina, Tennessee, Arkansas, Oklahoma, and Texas	Uncommon	General use by songbirds, marsh-birds, upland game, small mammals, and hoofed browsers as food	Ecologic	Slightly beneficial

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
**Carex Joorii Bailey Hummock sedge HABITAT. moist sandy soil	Eastern and southeastern Texas	Southeastern and east coastal United States	Common	Seeds important food for some waterfowl, songbirds, marshbirds, a[illegible] gamebirds; [illegible]ds and leaves [illegible]en by small [illegible]mals and [illegible]owsed by deer	Ecologic	None
**Carex Emoryi Dew. Sedge HABITAT: calcareous mud	North-central and Trans-Pecos Texas	Eastern half of the United States	Common	Provides wildlife cover; seeds eaten by ducks, coots, marshbirds, gamebirds, songbirds, some fur and game mammals; and seeds leaves, roots by small mammals and deer	NA	None
Carex stricta Lam. Sedge HABITAT: moist sandy forest and bogs	Eastern Texas	Eastern United States	On Texas rare and endangered plant list	NA	Scientific; aesthetic	None
Carex physorhyncha Liebm. Sedge HABITAT: moist sandy soil	Eastern, southeastern and north-central Texas	Southeastern United States	On Texas rare and endangered plant list	Food	Scientific; aesthetic	None
Carex leptalea Wahl. Sedge HABITAT: sphagnum areas	Eastern and southeastern Texas	Eastern temperate North America	Common	Slight food	Ecologic	None
**Carex crus-corvi Kunze Crowfoot sedge HABITAT: growing in mud, springs	Eastern Texas, infrequent in southeast and central Texas	Gulf states, north in central United States to Ohio, Michigan, Minnesota and Wisconsin	Common	High food and protective cover value for wildlife	Ecologic	Slightly beneficial
**Carex decomposita Muhl. Branched sedge HABITAT: usually on rotten logs at lake margins, wet areas	Northeastern Texas	Eastern United States, north to New York and Michigan, west to Missouri and Texas	On Texas rare and endangered plant list	Seeds eaten by waterfowl, marshbirds, songbirds, and fur animals	Scientific, aesthetic	Slightly beneficial

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
**Carex vulpinoidea Michx. Fox sedge HABITAT: frequent in mud	Eastern and southeastern Texas	United States, west to Rocky Mountains	Common	Seeds eaten by variety of birds and mammals, leaves eaten by small mammals and deer	NA	None
**Carex Muhlenbergii Schkuhr. Muhlenburg sedge HABITAT: sandy forested soil	Eastern half of Texas	Eastern half of United States	Common	Seeds eaten by birds and small mammals, plants browsed by deer	NA	Slightly adverse
**Carex cephalophora Muhl. Sedge HABITAT: sandy moist soil	Eastern, south-eastern, and north-central Texas	Eastern United States, west to Michigan and Texas	Common	Provides wildlife cover; seeds eaten by ducks, coots, marshbirds, game-birds, songbirds, some fur and game mammals; and seeds, leaves, roots by small mammals and deer	Soil stabilizer	None
**Carex retroflexa Muhl. Sedge HABITAT: sandy woodlands	Eastern, south-eastern, and north-central Texas	Eastern United States, west to Illinois, Missouri, Oklahoma, and Texas	Uncommon	Provides wildlife cover; seeds eaten by ducks, coots, marshbirds, game-birds, songbirds, some fur and game mammals; and seeds, leaves, roots by small mammals and deer	NA	Slightly adverse
**Carex atlantica Bailey Sedge HABITAT: along clear acid streams	Eastern and southeastern Texas	Eastern United States, west to Michigan and Texas	On Texas rare and endangered plant list	Provides wildlife cover; seeds eaten by ducks, coots, marshbirds, game-birds, songbirds, some fur and game mammals; and seeds, leaves, roots by small mammals and deer	High aesthetic, scientific value	None
**Carex hyalina Boott. White sheath sedce HABITAT: muddy places	Eastern Texas	Arkansas, Oklahoma, Texas	On Texas rare and endangered plant list	Slight food value	Aesthetic, scientific	None

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
**Carex Brittoniana Bailey Sedge HABITAT: moist areas	Rio Grande plains, southeastern and north-central Texas	Texas and Oklahoma (reported from Florida)	Common	Provides wildlife cover; seeds eaten by ducks, coots, marshbirds, game-birds, songbirds, some fur and game mammals; and seeds, leaves, roots by small mammals and deer	Soil stabilizer	Slightly beneficial
**Carex reniformis (Bailey) Small Sedge HABITAT: mud, occasionally in woodlands	Eastern, south-eastern, and north-central Texas	Eastern half of United States	Common	Provides wildlife cover; seeds eaten by ducks, coots, marshbirds, game-birds, songbirds, some fur and game mammals; and seeds, leaves, roots by small mammals and deer	NA	Slightly adverse
**Carex alata Torr. Wingseed HABITAT: muddy places	Eastern Texas	Coastal states in east-northeast United States	On Texas rare and endangered plant list	Slight food value	Aesthetic, scientific	Slightly beneficial
**Carex albolutescens Schwein. Sedge HABITAT: moist sand	Eastern and south-eastern Texas	Eastern half of United States	On Texas rare and endangered plant list	Provides wildlife cover; seeds eaten by ducks, coots, marshbirds, game-birds, songbirds, some fur and game mammals; and seeds, leaves, roots by small mammals and deer	High aesthetic and scientific value	Slightly beneficial
PALMAE (palm family)						
**Sabal minor (Jacq.) Pers. Bush palmetto HABITAT: lowlands, swamps, river terraces and floodplains	Eastern Texas, west to the Edwards Plateau and south to Aransas County	Southeastern coastal United States	On Texas rare and endangered plant list	Fruit high value food for birds, mammels; plants browsed by deer; cover	Occasional livestock forage, aesthetic and scientific value	None

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ARACEAE (arum family)						
**Arisaema Dracontium (L.) Schott Green dragon HABITAT: rich woodlands and alluvial soils in woods and thickets	Eastern and southeastern Texas	Florida, west to Texas, north to New Hampshire	Uncommon	Fruit and leaves eaten by pheasant and turkey; fruits eaten by wood thrush	Aesthetic	Slightly adverse
Arisaema triphyllum (L.) Schott Jack-in-the-pulpit HABITAT: wet woods, swamps and boggy areas	Eastern and southeastern Texas	From Georgia, west to Texas, north to New York, Connecticut, and southeastern Massachusetts	Uncommon	Nectar eaten; foliage eaten by turkey; fruit eaten by song-birds	Root edible; ornamental; highly aesthetic	None
Arisaema quinatum (Nutt.) Schott Indian-turnip HABITAT: moist wooded slopes	Eastern Texas	From Texas, east to Georgia and north to Tennessee and North Carolina	Uncommon	Nectar eaten; foliage eaten by turkey; fruit eaten by song-birds	Root edible	None
**Peltandra virginica (L.) Kunth Tuckahoe, arrow-arum HABITAT: swamps, moist woodlands, bogs, streams, bodies of water	Eastern Texas	Eastern United States	NA	Food for variety of birds	Root edible; aesthetic	Moderately beneficial
Acorus Calamus L. Sweetflag HABITAT: wet places and borders of quiet waters	North-central and northeastern Texas	Eastern half and northwestern United States	Uncommon	Slight food values	Root edible	Slightly beneficial
LEMNACEAE (duckweed family)						
Spirodela polyrhiza (L.) Schleid. Duck-meat HABITAT: ponds, lakes, bayous, and sluggish streams	Statewide	Most of the United States	Abundant	Food for water-fowl and marsh-birds	Ecologic and aesthetic	Very beneficial
Spirodela oligorhiza (Kurtz) Hegelm. Duck-meat HABITAT: lakes and ponds	Eastern Texas	Most of the United States	Rare	Food for water-fowl and marsh-birds	Ecologic and aesthetic	Very beneficial

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
Lemna valdiviana Phil. Duckweed HABITAT: ponds, lakes, ditches, springs	Statewide	Most of United States	Common	Waterfowl food, cover for invertebrates	Aesthetic	Very beneficial
Lemna trinervis (Aust.) Small Duckweed HABITAT: lakes, streams, ditches, canals	Statewide	Most of United States	Common	Waterfowl food, cover for invertebrates	Aesthetic	Very beneficial
Wolffia columbiana Karst. Water-meal HABITAT: lakes and sloughs	Eastern Texas	Most of United States except northwest	Uncommon	Waterfowl food, cover for invertebrates	Aesthetic	Very beneficial
Wolffia papulifera Thomps. Water-meal HABITAT: surface of lakes, ponds	Eastern and central Texas	Southeastern United States	Uncommon	Waterfowl food, cover for invertebrates	Sometimes a nuisance	Very beneficial
Wolffiella floridana (J. D. Sm.) Thomps. Bog-mat HABITAT: lakes and ponds	Eastern Texas	Southeastern and Gulf coastal plains of United States	NA	Waterfowl food, cover for invertebrates	Ecologic	Moderately beneficial
MAYACACEAE (bogmoss family)						
Mayaca Aubletii Michx. Bogmoss HABITAT: springy and seepage areas, along and in streams and ponds	Southeastern Texas	Southeastern and Gulf coastal plains of United States	Uncommon	NA	Aesthetic	Moderately beneficial
XYRIDACEAE (yellow-eyed grass family)						
Xyris Baldwiniana Schult. Yellow-eyed grass HABITAT: moist sands or sandy peats of pine flatwoods, hillside bogs, ditches, savannahs	Eastern Texas	Southeastern and Gulf coastal plains of United States	Common	Slight for seeds as food	Soil stabilizer	Slightly beneficial
Xyris ambigua Kunth Yellow-eyed grass HABITAT: moist sands or sandy peats of pine flatwoods, hillside bogs, ditches, savannahs	Eastern Texas	Southeastern and Gulf coastal plains of United States	Common	Slight for seeds as food	Soil stabilizer	Slightly beneficial

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Xyris caroliniana Walt. Yellow-eyed grass HABITAT: moist sands of pine flatwoods or savannahs, in well drained sands, scrub oak-pine barrens	Eastern Texas	Southeastern and Gulf coastal plains from New Jersey to Texas	NA	Slight for seeds as food	NA	None
Xyris platylepis Chap.... Yellow-eyed grass HABITAT: moist to wet sands or sandy peats in pineland, pond margins, savannahs, bogs, ditches	Eastern Texas	Southeastern and Gulf coastal plains Virginia to Texas	Common	Slight for seeds as food	Soil and bank stabilizer	Moderately beneficial
Xyris torta Sm. Yellow-eyed grass HABITAT: sphagnous bogs, stream banks, lake and pond shores, wet sandy swales, acid sandy swamps	Eastern Texas	Canada, south to Georgia, Oklahoma, and Texas	Uncommon	Slight for seeds as food	Soil and bank stabilizer	Moderately beneficial
**Xyris iridifolia Chapm. Yellow-eyed grass HABITAT: wet sand, peat muck, stream banks, cypress swamps, marshes, pineland ponds	Eastern Texas	Southeastern and Gulf coastal plains from southeastern Virginia to Texas	Common	Slight for seeds as food	Soil and bank stabilizer	Slightly beneficial
**Xyris Jupicai Rich. Yellow-eyed grass HABITAT: wet sand or sandy peat or alluvium of road-side ditches, ponds, cypress swamps, lake shores	Eastern Texas	Southeastern and Gulf coastal plains from New Jersey to Texas, and Arkansas	Uncommon	Slight for seeds as food	Soil and bank stabilizer	Moderately beneficial
Xyris difformis Chapm. Yellow-eyed grass HABITAT: wet sands or sandy peats in flatwoods, pond margins, ditches, lake shores, often in heavily shaded alluvium	Eastern Texas	Coastal plains, Texas to south-eastern Canada and Great Lakes	Uncommon	Slight for seeds as food	Soil and bank stabilizer	Moderately beneficial

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
ERIOCAULACEAE (pipewort family)						
**Eriocaulon decangulare L. Pipewort HABITAT: moist meadows and pinelands, savannahs, bogs, swamps, pond margins	Eastern Texas	Southeastern and Gulf coastal plains from New Jersey to Texas	NA	NA	Aesthetic	Slightly beneficial
Eriocaulon compressum Lam. Pipewort HABITAT: in shallow water of acid ponds, swamps, low pinelands, streams	Eastern Texas	Southeastern and Gulf coastal plains from New Jersey to Texas	NA	NA	Aesthetic	None
Eriocaulon texense Körn. Pipewort HABITAT: bogs, swamps, moist pinelands	Eastern Texas	Eastern Texas to southwestern Alabama	NA	NA	Aesthetic	Slightly beneficial
Lachnocaulon anceps (Walt.) Morong Hairy pipewort HABITAT: in wet places	Southeastern Texas	Southeastern and Gulf plains from Virginia to Texas	NA	NA	Aesthetic	Slightly adverse
BROMELIACEAE (pine-apple family)						
**Tillandsia usneoides (L.) L. Spanish moss HABITAT: Epiphytic or on wires, fences and other such supports	Central, southern, and coastal Texas	Southeastern and Gulf plains from Virginia to Texas	Common	Nest material	Aesthetic	Moderately adverse
COMMELINACEAE (spiderwort family)						
**Commelina communis L. Day-flower HABITAT: stream banks, low thickets	Eastern Texas	Eastern half of United States	Common	Seeds eaten by gamebirds and songbirds; plants eaten by deer	Aesthetic	Slightly adverse
**Commelina diffusa Burm. f Spreading day-flower HABITAT: floodplain woods and wet plains	Eastern and southern Texas	Southeastern United States, west to Texas, Oklahoma, and Kansas	NA	Seeds eaten by some game and songbirds; plants eaten by deer	Aesthetic, may be cultivated	Unknown
**Commelina virginica L. Spiderwort HABITAT: low woods	Eastern and north-central Texas	Texas, north to Illinois and Maryland, east to Atlantic Ocean	NA	Seeds eaten by doves, quail, blackbirds, and cardinals; plants by deer	Aesthetic, may be cultivated	Unknown

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
**Commelina erecta L. Day-flower HABITAT: sandy rocky soils	Eastern two-thirds of Texas	Wisconsin, south to Florida and Arizona, west to Wyoming	Common	Seeds eaten by birds, plants eaten by deer	Aesthetic, may be cultivated	None
**Tradescantia hirsutiflora Bush Spiderwort HABITAT: sandy soil of prairies and open woods and on banks	Eastern half of Texas	West Florida, Texas, Arkansas, and eastern Oklahoma	Uncommon	NA	Aesthetic, may be cultivated	Slightly beneficial
**Tradescantia ohioensis Raf. Spiderwort HABITAT: meadows, prairies, and roadsides	Eastern two-thirds of Texas	Eastern half of United States	Common	NA	Cultivated, garden plant	None
**Tradescantia Reverchonii Bush Spiderwort HABITAT: rocky open woods and sandy soils	Eastern half of Texas	Texas and western Louisiana	Uncommon	NA	Aesthetic, may be cultivated	None
Tradescantia humilis Rose Spiderwort HABITAT: sandy and rocky soil	Eastern half of Texas	Endemic to Texas	NA	NA	Aesthetic, may be cultivated	None
Tradescantia occidentalis (Britt.) Smyth Spiderwort HABITAT: prairies and plains, sandy or rocky soils	Statewide	Central United States	Uncommon	NA	Aesthetic, may be cultivated	None
PONTEDERIACEAE (pickerel-weed family)						
Eichhornia crassipes (Mart.) Solms. Water-hyacinth HABITAT: ponds, streams	Southern and eastern Texas	From Virginia, south to Florida, west to Missouri and Texas	Common	Muskrat food	Has become a noxious weed, ornamental	Very beneficial
**Pontederia cordata L. Pickerel-weed HABITAT: marshes, ditches in shallow water	Eastern Texas	Eastern half of United States	NA	Seeds eaten by waterfowl and muskrat	Aesthetic	Moderately beneficial
Heteranthera dubia (Jacq.) MacM. Water-stargrass HABITAT: quiet water, submerged plant	Southern and south-central Texas	Florida, west to Texas, north to Quebec, west to Oregon	NA	Aquatic food	Ecologic	Moderately beneficial

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
Heteranthera reniformis R. & P. Mud-plantain HABITAT: in streams	West to south-eastern Texas	Eastern half of United States	NA	Aquatic food	Ecologic	Slightly adverse
JUNCACEAE (rush family)						
**Juncus tenuis Willd. Slender-rush HABITAT: moist sand	Eastern and southeastern Texas	Eastern half of United States	Uncommon	Plant food for small mammals	Slight forage	Moderately beneficial
**Juncus interior Wieg. Inland-rush HABITAT: moist calcareous soil	North-central and southeastern Texas, west portion of eastern Texas and coastal part of Rio Grande plains, west through Edwards Plateau, plains country, and the Trans-Pecos	Central United States	Common	Wildlife cover	Slight forage	Very beneficial
**Juncus dichotomus Ell. Forked-rush HABITAT: moist sandy soil	Eastern and probably southeastern Texas	Coastal States--Massachusetts to Texas	Uncommon	Wildlife cover	Slight forage	Slightly beneficial
**Juncus bufonius L. Toad-rush HABITAT: moist soils	Statewide except extreme panhandle and Rio Grande plains	Temperate regions throughout the world	Locally abundant	Wildlife cover	Slight forage	Moderately beneficial
**Juncus effusus L. Soft rush HABITAT: moist sandy soil or shallow water	Eastern and southeastern Texas	Widely distributed in temperate areas	Abuncant	Forage and cover	Slight forage	Moderately beneficial
**Juncus coriaceus Mack. Leathery rush HABITAT: moist soils	Eastern Texas	Southeastern United States	NA	Plant food for small mammals	Slight forage	Unknown
**Juncus Roemerianus Scheele Black rush HABITAT: coastal salt marshes, tidal emergent	Southeastern Texas	Coastal States--Maryland to Texas	Scattered	Plant food for small mammals	Formerly woven into useful items	None

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
**Juncus marginatus Rostk. Glassleaf rush HABITAT: moist soils	Most of Texas; common in eastern half, rare in west	Eastern half temperate North America	Common	Wildlife cover	Slight forage	Moderately beneficial
**Juncus repens Michx. Creeping rush HABITAT: ponds and sandy loam soil	Eastern Texas	Coastal states--Delaware to Texas, inland to Tennessee and Arkansas	Uncommon	Plant is food for small mammals	Slight forage	Slightly beneficial
**Juncus Torreyi Cov. Rush HABITAT: marshy margins of lakes, ponds, streams	Statewide except south	Most of United States	Common	Wildlife cover	Bank stabilization	Very beneficial
**Juncus validus Cov. Roundhead rush HABITAT: NA	Eastern half of Texas	Southeastern United States	Abundant	NA	NA	Slightly beneficial
Juncus scripoides Lam. Rush HABITAT: deep sandy soils	Most of eastern two-thirds of Texas	Eastern half of United States	Common	Wildlife cover	Slight forage	Slightly beneficial
**Juncus brachycarpus Engelm. White root rush HABITAT: moist loamy soils	Eastern and southeastern Texas	Eastern and southeastern United States	Common	Wildlife cover	Slight forage	Moderately beneficial
**Juncus trigonocarpus Steud. Bog-rush HABITAT: seeps and bogs on sandy soil	Eastern Texas	Coastal states--South Carolina to Texas	Rare	NA	Aesthetic	None
**Juncus diffusissimus Buckl. Slimpod rush HABITAT: moist loamy soil	Eastern and north-central Texas	Coastal states--Georgia to Texas	Common	Wildlife cover	Slight forage	Slightly adverse
Juncus acuminatus Michx. Rush HABITAT: wet places	Most of Texas except Panhandle	Most of United States	Uncommon	Wildlife cover	Slight forage	Slightly beneficial
**Juncus nodatus Cov. Rush HABITAT: NA	Eastern half of Texas	South-central United States	Uncommon	Wildlife cover	Slight forage	Slightly beneficial
Luzula bulbosa (Wood) Rydb. Woodrush HABITAT: forested sandy soils, grassy seepage banks	Eastern and southeastern Texas	Coastal states--Massachusetts to Texas; inland to Indiana, Illinois, and Oklahoma	Common	NA	Bank stabilization	Moderately beneficial

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
Luzula echinata (Small) Herm. Woodrush HABITAT: sandy soil, well drained stream banks in hardwood forest	Eastern Texas	Most of eastern United States	Rare	NA	Bank stabilization	None
LILIACEAE (lily family)						
Tofieldia racemosa (Walt.) Small False asphodel HABITAT: wet sandy soil on pine savannah, pitcher plant bogs	Southeastern Texas	Southeastern and Gulf coastal plains, from New Jersey to Texas	NA	NA	Ecologic	None
Stenanthium gramineum (Ker) Morong. Featherbells HABITAT: forest and forest edges	Eastern Texas	Southeastern Texas	NA	NA	NA	Unknown
Zigadenus Nuttallii Gray Poison camas HABITAT: prairies and hillsides of calcareous rocks	Eastern third of state	Tennessee to Kansas and Texas	Uncommon	NA	Poisonous to livestock	None
Zigadenus densus (Desr.) Fern. Crow-poison HABITAT: damp pinelands and bogs	Eastern Texas	Southeastern United States	NA	NA	Poisonous to livestock	None
Schoenolirion croceum (Michx.) Wood Yellow sunny-bell HABITAT: wet savannahs, marshy pinelands, bogs, seepage slopes	Southeastern Texas	Southeastern and Gulf coastal plains, from North Carolina to Texas	On Texas rare and endangered plant list	NA	Scientific, aesthetic	None
Schoenolirion texanum (Scheele) Gray Yellow sunny-bell HABITAT: on low ridges, open mixed forest	Western edge of southeastern Texas	Southeastern Texas	On Texas rare and endangered plant list	NA	Scientific, aesthetic	None

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
Melanthium virginicum L. Bunchflower HABITAT: meadows, bogs, swales, savannahs, edges of woods and low thickets	Eastern and southeastern Texas	Much of eastern half of United States	Uncommon	NA	Aesthetic	Slightly adverse
**Allium canadense L. Canada garlic HABITAT: roadsides, meadows, woods, fields, prairies	Eastern half and central Texas	Eastern half of United States	Common	Forage	Root edible; aesthetic	None
Allium Drummondii Regel Wild onion HABITAT: on plains, hills, prairies, particularly on limestone hills	Statewide	Central United States	Common	Forage	Root edible; aesthetic	None
**Nothoscordum bivalue (L.) Britt. Crow-poison HABITAT: low sandy woods, grasslands, prairies, and disturbed soils	Statewide	Florida to Texas, north to Virginia and Nebraska	Common	NA	Indicator of disturbance; aesthetic	Moderately adverse
Lilium Michauxii Poir. Carolina-lily HABITAT: pine and oak woods	Southeastern Texas	Southeastern and Gulf coastal plains, Virginia to Texas	NA	NA	Aesthetic	Unknown
Erythronium rostratum Wolf Dog's-tooth-violet HABITAT: rich moist woods, especially along creeks or river banks	Eastern Texas	Alabama, Tennessee, Kansas, Missouri, Oklahoma, and Arkansas to Texas	On Texas rare and endangered plant list	Blooms eaten by wildlife	Aesthetic; scientific	None
Erythronium mesochoreum Knerr Dog's-tooth-violet HABITAT: prairies, pastures, dry open woods	Mostly north-central Texas	Central United States	Uncommon	Blooms eaten by wildlife	Aesthetic	None
Yucca pallida McKelvey Twisted-leaf yucca HABITAT: blackland prairies	North-central Texas	Endemic to Texas	Common	None	Toxic to livestock, ornamental, aesthetic	None
Yucca arkansana Trel. Yucca HABITAT: prairies, on limestone outcrops and rocky soils	South-central to north-central Texas	Texas to Arkansas and Oklahoma	Common	None	Toxic to livestock, ornamental, aesthetic	None

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
**Asparagus officinalis L. Garden asparagus HABITAT: escapes from cultivated to sandy fields and dry open woods	Most of Texas	Most of United States, native of eurasia	Common	NA	Aesthetic, highly edible	None
Polygonatum biflorum (Walt.) Ell. Great solomon's seal HABITAT: rich, moist, wooded slopes	Eastern and north-central Texas	Eastern half of United States	On Texas rare and endangered plant list	Seeds eaten by birds	Aesthetic, scientific	None
Trillium texanum Buckl. Wake-robin HABITAT: low moist woods, bogs, stream banks	Cass, Houston, and Panola Counties	Arkansas, southwestern Missouri, and Texas	On Texas rare and endangered plant list	NA	Aesthetic, scientific	None
Trillium gracile J. D. Freeman Wake-robin HABITAT: sandy loam of rich piney woods	Southeastern Texas	Southeastern Texas and southwestern Louisiana	Locally abundant	NA	Aesthetic	None
Aletris farinois L. Unicorn-root HABITAT: dry or moist peats, sands, gravels	Southeastern Texas	Eastern half of United States	Rare	None	None	None
Aletris aurea Walt. Yellow star-grass HABITAT: damp pine barrens, bogs, savannahs	Eastern Texas	Southeastern United States	NA	None	None	None
Smilax pumila Walt. Sarsaparilla-vine HABITAT. sandy soil and duff of pinelands, sand hills, stream beds, oak woods, wooded slopes	Eastern Texas	From Florida to Texas, north to South Carolina	Common	Plant high value food and cover for wide variety of wildlife	Soil stabilizer	None
Smilax laurifolia L. Bamboo-vine HABITAT: swamps, seepage slopes, low ground	Eastern Texas	Southeastern United States	Common	Plant high value food and cover for wide variety of wildlife	Browse	None

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
Smilax glauca Walt. Saw-brier HABITAT: dry to moist sandy thickets, open woods, fields, streams	Eastern Texas	Much of eastern half of United States	Common	Plant high value food and cover for wide variety of wildlife	NA	Slightly beneficial
**Smilax Bona-nox L. Cat-brier HABITAT: thickets, open woods, flood plains	Eastern and southern Texas	Florida to Texas, north to Missouri and Virginia	Common	Protective cover and food for wildlife, including squirrel	Root edible, ornamental	Slightly beneficial
**Smilax hispida Muhl. Bristly green-brier HABITAT: low woods and thickets along creeks	Eastern and north-central Texas	Florida to Texas, north to Virginia and Kansas	Uncommon	Protective cover and food for wildlife including, squirrel	NA	Slightly beneficial
Smilax Smallii Morong. Green-brier HABITAT: creeks and woods	Eastern Texas	Florida, Texas, and Arkansas, north to Virginia	Common	Protective cover and food for wildlife	Weed	Slightly beneficial
**Smilax rotundifolia L. Common green-brier HABITAT: moist to dry woodlands, bogs	Eastern Texas	Florida to Texas, north to Canada	Common	Protective cover for wildlife, food for wildlife	Nuisance in thickets and gardens	Slightly beneficial
Smilax Walteri Pursh. Coral green-brier HABITAT: swampy or boggy thickets, low pinelands	Eastern Texas	Southeastern and Gulf coastal plains from New Jersey to Texas	Rare	Protective cover and food for wildlife	Slight aesthetic	None
AMARYLLIDACEAE (amaryllis family)						
Hymenocallis Eulae Shinners Spider-lily HABITAT: in heavy soils near streams that periodically overflow, and seepage slopes	Southeastern Texas	Texas and Louisiana	Infrequent to rare	Seeds food for birds	Aesthetic, ornamental	None

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
Hymenocallis Liriosme (Raf.) Shinners Spider-lily HABITAT: stream banks, ditches, wet places	Eastern Texas	Louisiana, Texas, Arkansas, Oklahoma	Common	Bulbs eaten by wildlife	High aesthetic, cultivated in gardens	Slightly beneficial
Hymenocallis caroliniana (L.) Herb. Spider-lily HABITAT: wet sandy areas	Eastern and south-central Texas	Southeastern United States	NA	Fruit eaten by birds	High aesthetic	None
Hypoxis hirsuta (L.) Cov. Star-grass HABITAT: open woods, meadows, prairies, pastures	Eastern Texas	Eastern half of United States	NA	Low value for songbirds	Aesthetic	None
Hypoxis leptocarpa Engelm. Star-grass HABITAT: wet woods, swamps, bottomlands, along streams	Southeastern Texas	From North Carolina to Florida and Texas	Common	Low value for songbirds	Aesthetic	None
Hypoxis rigida Chapm. Star-grass HABITAT: low pine barrens, sandy soil in prairies, edges of bogs	Southeastern Texas	From North Carolina to Florida and Texas	Common	Low value for songbirds	Aesthetic	None
Hypoxis sessilis L. Star-grass HABITAT: dry pine barrens, sandy openings	Southeastern Texas	Throughout United States	Uncommon	Low value for songbirds	Aesthetic	None
Cooperia pedunculata Herb. Rain-lily HABITAT: NA	Eastern and southwestern Texas	Eastern and southwestern Texas and Mexico	NA	NA	Aesthetic	None
**Cooperia Drummondii Herb. Rain-lily HABITAT: cultivated	Widely distributed statewide	South-central United States	Common	NA	Aesthetic	None
**Zephyranthes candida Herb. Autumn zephyr-lily HABITAT: cultivated	Liberty, Orange, and Jefferson Counties	NA, native to South America	NA	NA	Cultivated	None
Habranthus texanus (Herb.) Steud. Copper lily HABITAT: in water among grass, swales, moist pasture land	Eastern half of Texas	Endemic to Texas	NA	NA	Aesthetic	None

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
**Crinum americanum L. Southern swamp lily HABITAT: swamps, marshes, aquatic vegetation	Southeastern and south coastal Texas	From Florida and Georgia to Texas	Uncommon	NA	Aesthetic	Slightly beneficial
Polianthes virginica (L.) Shinners False aloe HABITAT: pine and mixed forest, open woods, gravelly slopes, old fields	Eastern Texas	Southeastern United States	NA	NA	Aesthetic	None
DIOSCOREACEAE (yam family)						
Dioscorea villosa L. Yam HABITAT: low moist woods and thickets	Eastern Texas	Eastern half of United States	NA	High food value	Roots edible	None
IRIDACEAE (iris family)						
Sisyrinchium minus Engelm. and Gray Blue-eyed grass HABITAT: sandy or silty soil	Southeastern Texas	Coastal plains of Texas and Louisiana, introduced elsewhere	Common	Moderate to low food value for gamebirds	Aesthetic	None
Sisyrinchium rosulatum Bickn. Blue-eyed grass HABITAT: weedy along roadsides and old fields	Southeastern Texas	Florida to Texas, north to North Carolina, Arkansas	Common	Moderate to low food value for gamebirds	Aesthetic	None
Sisyrinchium exile Bickn. Blue-eyed grass HABITAT: weedy along roadsides and old fields	Southeastern Texas	Florida to southeastern Texas	Common	Moderate to low food value for gamebirds	Aesthetic	None
Sisyrinchium sagittiferum Bickn. Blue-eyed grass HABITAT: low wet areas	Eastern Texas	Eastern Texas Louisiana	Common	Moderate to low food value for gamebirds	Aesthetic	None
Sisyrinchium albidum Raf. Blue-eyed grass HABITAT: open woods, exposed areas	Eastern Texas	Eastern half of Texas	Common	Moderate to low food value for gamebirds	Aesthetic	None

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
Sisyrinchium angustifolium Mill. Blue-eyed grass HABITAT: low wet areas	Eastern Texas	Florida to Texas, north to southeastern Newfoundland, southern Quebec, southern Ontario, Indiana, Illinois, Missouri, and eastern Kansas	Common	Moderate to low food value for gamebirds	Aesthetic	None
**Sisyrinchium pruinosum Bickn. Blue-eyed grass HABITAT: clay and sandy clay on roadsides and open areas in prairies and oak belts	Coastal prairies of Texas	Oklahoma, Arkansas, and Texas	Common	Moderate to low food value for gamebirds	Aesthetic	None
Sisyrinchium ensigerum Bickn. Blue-eyed grass HABITAT: clay, limestone, or sandy soil	Grand Prairie, Edwards Plateau, and south Texas plains westward	Texas, Oklahoma, and New Mexico	Common	Moderate to low food value for gamebirds	Aesthetic, may be cultivated	None
**Sisyrinchium Langloisii Greene Blue-eyed grass HABITAT: roadsides and open areas	Eastern oak belt and pine belt of Texas	Louisiana, Arkansas, Mississippi, and Texas	Common	Moderate to low food value for gamebirds	Aesthetic	None
**Iris virginica L. Southern blue-flag HABITAT: shallow waters of marshes and pinelands	Eastern Texas	Florida to Texas, north to eastern Virginia	Common	Flowers visited by hummingbirds	Aesthetic	Slightly adverse
Iris hexagona Walt. Iris HABITAT: lowlands	Southeastern Texas	Texas and Louisiana	Common	Nector for hummingbirds	High aesthetic	None
**Iris brevicaulis Raf. Shortstem iris HABITAT: damp woods, marshes, and bottomlands	Eastern Texas	Central United States	Uncommon	Flowers visited by hummingbirds	High aesthetic	Slightly adverse
Belamcanda chinensis (L.) DC. Blackberry lily HABITAT: pastures, roadsides, thickets, hillsides	Mostly in East Texas	From Georgia to Texas, Kansas, and Connecticut	Uncommon	Seeds eaten by birds	Aesthetic	None
Nemastylis geminiflora Nutt. Celestial lily HABITAT: clayey soils, limestone areas	North-central to southern Texas	Texas to Missouri and Kansas	Uncommon	NA	Aesthetic	None

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
Eustylis purpurea (Herb.) Engelm. and Gray Purple pleat-leaf HABITAT: sandy soils in open woods and grassy areas	Eastern and southern Texas	Arkansas, Louisiana, Oklahoma	Common	NA	Aesthetic	None
CANNACEAE (canna family)						
Canna indica L. Indian-shot HABITAT: cultivated and escaped in lowland	Gulf coastal plains	Cultivated Florida to Texas, native of East Indies	Uncommon	NA	Cultivated, aesthetic	None
MARANTACEAE (arrowroot family)						
Thalia dealbata Roscoe Powdery thalia HABITAT: water of ditches, edges of ponds and swamps	Eastern and southeastern Texas	Southeastern United States	Common	Slight seed use	Soil and bank stabilization	Slightly beneficial
BURMANNIACEAE (burmannia family)						
Burmannia biflora L. Burmannia HABITAT: moist woodlands and bogs	Eastern Texas	Florida, north to Virginia and west to Texas	Uncommon	NA	Aesthetic	None
Burmannia capitata (Walt.) Mart. Burmannia HABITAT: moist woodlands and bogs	Eastern Texas	Florida, north to North Carolina and west to Texas	Uncommon	NA	Aesthetic	None
Apteria aphylla (Nutt.) Barnh. Nodding-nixie HABITAT: decaying leaves of moist woods on edge of bogs	Eastern Texas	Florida and Georgia to Texas	Rare	NA	Aesthetic	None

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
ORCHIDACEAE (orchid family)						
Cypripedium Calceolus L. Yellow lady's-slipper HABITAT: hardwood slopes	Eastern Texas	Eastern half of northwestern United States	On Texas rare and endangered plant list	NA	Aesthetic, scientific	None
Habenaria repens Nutt. Water-spider orchid HABITAT: streams, ditches, swamps, on margins of ponds, lakes	Central and southeastern Texas	From Newfoundland; south to Georgia, west to Texas, Arkansas, Missouri, Illinois, Wisconsin, and Minnesota	Common	NA	Aesthetic	Slightly beneficial
Habenaria Blephariglottis (Willd.) Hook. White fringed orchid HABITAT: marshes, meadows, edges of swamps and depressions in savannahs and prairies	Southeastern Texas	Eastern half of United States	Locally abundant	NA	High aesthetic	None
Habenaria ciliaris (L.) R. Br. Yellow fringed orchid HABITAT: moist woodlands, along streams, seepage slopes in forests, open areas, bogs, prairies	Eastern and southeastern Texas	Much of eastern half of United States	NA	NA	High aesthetic	Unknown
Habenaria cristata (Michx.) R. Br. Crested fringed orchid HABITAT: moist woodlands, along streams, seepage slopes in forests, open areas, bogs, prairies	Eastern and southeastern Texas	Southeastern United States	Rare	NA	High aesthetic, scientific	None
Habenaria flava (L.) R. Br. Southern rein-orchid HABITAT: in mud of densely wooded floodplain swamplands, thickets, wet savannahs, marshes	Eastern and southeastern Texas	Southeastern United States	Uncommon	NA	Aesthetic	None

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
Habenaria clavellata (Michx.) Spreng. Green rein-orchid HABITAT: water or at edge along streams in forest, swamps, wooded seepage slopes, ravines	Eastern Texas	Eastern half United States	Uncommon	NA	Aesthetic	None
Habenaria nivea (Nutt.) Spreng. Snowy orchid HABITAT: wet prairies, savannahs and bogs	Southeastern Texas	Southeastern and Gulf coastal plains from New Jersey to Texas, and Arkansas	Common	NA	Aesthetic	None
Listera australis Lindl. Southern twayblade HABITAT: in humus, on mosses of low moist woods, ravines along streams	Southeastern Texas	Much of eastern half of United States	Uncommon	NA	Aesthetic	None
Triphora trianthophora (Sw.) Rydb. Three birds orchids HABITAT: leafmold of hardwood forest	Eastern Texas	Eastern half of United States	Abundant	NA	Aesthetic	None
Isotria verticillata (Willd.) Raf. Whorled pogonia HABITAT: along streams, on slopes in hardwood forest	Eastern Texas	Eastern half of United States	On Texas rare and endangered plant list	NA	Aesthetic, scientific	None
Pogonia ophioglossoides (L.) Ker. Rose pogonia HABITAT: swamps, bogs, marshes, wet savannahs, prairies, seepage slopes	Eastern and southeastern Texas	Eastern half of United States	Uncommon	NA	Aesthetic	None
Calopogon barbatus (Walt.) Ames Bearded grass-pink HABITAT: moist acid sandy soils, near bogs, swamps, marshes, moist open woodlands	Eastern Texas	Along the Atlantic seaboard to Florida, west along the Gulf coast to eastern Texas	On Texas rare and endangered plant list	NA	Aesthetic, scientific	None

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
Calopogon pulchellus (Salisb.) R. Br. Grass-pink HABITAT: depression in savannahs and prairies, marshes, swamps, bogs	Eastern and southeastern Texas	Eastern half United States	Uncommon	NA	Aesthetic	None
Ponthieva racemosa (Walt.) Mohr Shadow-witch HABITAT: along streams in woods, near muddy sloughs and ponds	Eastern and southeastern Texas	Southeastern Virginia, south to Florida, west to Texas	Uncommon	NA	Aesthetic	None
**Spiranthes vernalis Engelm. and Gray Spring ladies' tresses HABITAT: wet areas, fresh and salt marshes	Eastern third of Texas	Eastern half United States	Common	Seeds eaten by birds	Aesthetic	Slightly bereficial
Spiranthes cernua (L.) Rich. Nodding ladies' tresses HABITAT: swamps, wet woods, stream bottoms, grassy seepage slopes	Central and eastern Texas	Eastern half United States	Common	Seeds eaten by birds	Aesthetic, roadside wildflower	None
Spiranthes ovalis Lindl. Oval ladies' tresses HABITAT: moist shady woods, edges of thickets, wooded hills, along streams	North-central and eastern Texas	Southeastern United States	On Texas rare and endangered plant list	Seeds eaten by birds	Aesthetic, scientific	None
Spiranthes gracilis (Bigel.) Beck Green-lip ladies' tresses HABITAT: sandy post oak woods, gravelly soils, open-wooded slopes, meadows, prairies	North-central, eastern, and southeastern Texas	Eastern half United States	Uncommon	Seeds eaten by birds	Aesthetic	None
Spiranthes Grayi Ames Little ladies' tresses HABITAT: damps sandy soil of shady forest, well drained wooded slopes, wooded streambanks	Eastern and southeastern Texas	From Massachusetts, south to south-central Florida, west to Kentucky, Arkansas, and Texas	Uncommon	Seeds eaten by birds	Aesthetic	None

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
Spiranthes praecox (Walt.) Wats. Grass-leaved ladies' tresses HABITAT: low wet grassy pinelands and flatwoods, wet prairies, savannahs, meadows, bogs, and coastal marshes	Eastern and southeastern Texas	From New Jersey, south to Florida, west to Arkansas and Texas	Uncommon	Seeds eaten by birds	Aesthetic	None
Spiranthes longilabris Lindl. Giant spiral-orchid HABITAT: wet grassy pine barrens and flatwoods, swamps, marshes, wet savannahs, prairies, bogs	Southeastern Texas	Eastern North Carolina, south to Florida, west to Texas	Common	Seeds eaten by birds	Aesthetic	None
Malaxis unifolia Michx. Green adder's mouth HABITAT: moist wooded slopes, along streams, ravines, mixed pine-hardwood forest	Eastern Texas	Eastern half of United States	Uncommon	None	Slight aesthetic	None
Tipularia discolor (Pursh) Nutt. Crippled crane-fly HABITAT: humus of rich damp woods, along streams, pine-hardwood slopes	Eastern and southeastern Texas	Northeastern and southeastern United States	Uncommon	None	Slight aesthetic	None
**Corallorhiza Wisteriana Conrad Spring coral-root HABITAT: upland forested slopes and river banks	Eastern half of Texas	Southeastern, southern, west-central United States	Uncommon	None	Slight aesthetic	Slightly adverse
SAURURACEAE (lizard's-tail family)						
**Saururus cernuus L. Lizard's tail HABITAT: water on muddy soils of lakes, swamps, and streams	Eastern and southeastern Texas	Central United States	NA	Eaten by wood ducks	Aesthetic	Moderately beneficial

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**Salix nigra Marsh. Black willow HABITAT: moist soil	Eastern two-thirds of state	Eastern half of United States	Common	Cover; buds, twigs, bark are food for many kinds of birds and mammals	Soil stabilization, ornamental, low commercial	Very beneficial
Populus deltoides Marsh. Eastern cottonwood HABITAT: alluvial soils	Statewide	Eastern half of United States	Common	Cover; buds, twigs, bark are food for many kinds of birds and mammals	Historical value, ornamental, occasionally browsed by cattle	Very beneficial
Populus Sargentii Dode Plains cottonwood HABITAT: sandy alluvial soil along streams and rivers	Cooke and Montague Counties in north-central Texas	Central United States	Common	Cover; buds, twigs, bark are food for many kinds of birds and mammals	Ornamental	None
MYRICACEAE (wax-myrtle or bayberry family)						
Myrica heterophylla Raf. Wax-myrtle HABITAT: in bogs and along streams in woods and thickets	Eastern Texas	Coastal areas, New Jersey to Texas	NA	Cover	Ornamental, wax used for making candles	None
**Myrica cerifera L. Wax-myrtle HABITAT: along streams, boggy grasslands, wet woodlands	Eastern Texas	From Florida, west to Texas and north to New Jersey, and Arkansas	Common	Fruit eaten by birds, especially bobwhite, quail, and turkeys	Ornamental	Slightly beneficial
Myrica pusilla Raf. Wax-myrtle HABITAT: sandy soils in moist or dry pine-hardwoods	Eastern Texas	From Florida, west to Texas and north to south Delaware and Arkansas	NA	Cover	Ornamental	None
LEITNERIACEAE (corkwood family)						
Leitneria floridana Chapm. Corkwood HABITAT: brackish or fresh water swamps and thickets	Southeastern and south-central Texas	Florida to Texas, north to Georgia and Missouri	On Texas rare and endangered plant list	Cover	Cork substitute, scientific	None

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JUGLANDACEAE (walnut family)						
**Juglans nigra L. Black walnut HABITAT: fields and rich woodlands	Eastern Texas	Eastern half of United States	Common	Cover	Nut edible, furniture, ornamental	Moderately adverse
Carya myristicaeformis (Michx. f.) Nutt. Nutmeg hickory HABITAT: river banks and swamps	Eastern Texas	Eastern South Carolina to south-eastern Oklahoma, eastern Texas	On Texas rare and endangered plant list	Nut high food value for variety of game mammals and birds	Nut edible, low commercial value, aesthetic	None
**Carya illinoinensis (Wang.) K. Koch. Pecan HABITAT: bottomlands	Central and northwestern Texas	South-central United States	Common	Nuts eaten by many bird species, squirrels, opossums, raccoons; plant foliage eaten by rabbits and browsers	Historical value, nut edible, ornamental	Slightly adverse
**Carya cordiformis (Wang.) K. Koch Bitternut hickory HABITAT: low wet woods near streams and swamps, high rolling uplands	Eastern Texas	Eastern half of United States	Common	Cover; squirrel food	Fuel	Slightly adverse
**Carya aquatica (Michx. f.) Nutt. Water hickory HABITAT: periodically inundated river swamps	Eastern Texas	Southeastern United States	Common	Nut high value food for many game mammals and birds; cover	Historical value, nut edible, low commercial	Slightly adverse
**Carya ovata (Mill.) K. Koch Shagbark hickory HABITAT: rich woodlands, bottoms, slopes, often near streams and swamps	Eastern Texas	Eastern half of United States	Common	Nut food for wildlife; cover	Nut edible, wood products	Slightly adverse
**Carya tomentosa Nutt. Mockernut HABITAT: dry to moist woods	Eastern Texas	Eastern half of United States	NA	Nut food for wildlife; cover	Nut edible, wood products, fuel	Slightly adverse

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
**Carya leiodermis Sarg. Swamp hickory HABITAT: low wet swamps and woods	Southeastern Texas	From Texas and Arkansas to Mississippi	NA	Nut high value food for many game mammals and birds; cover	Nut edible, low commercial	Slightly beneficial
**Carya texana Buckl. Black hickory HABITAT: dry sandy woods, rock slopes	Eastern Texas	South-central Texas	Uncommon	Cover	Fuel	Slightly adverse
BETULACEAE (birch or hazel-nut family)						
**Carpinus caroliniana Walt. Blue-beech HABITAT: rich woods and bottomlands along streams	Eastern Texas	Southeastern United States	Uncommon	Cover, food for squirrel, deer	Aesthetic	Moderately adverse
**Ostrya virginiana (Mill.) K. Koch. American hop-hornbeam HABITAT: moist or dry woods	Eastern Texas	Southeastern United States	Common	Cover; food for squirrel	Wood products	Moderately adverse
**Betula nigra L. River birch HABITAT: along streams and bottomland	Eastern Texas	Throughout most of eastern United States	Common	Cover; food for squirrel	Historical value	Moderately adverse
**Alnus serrulata (Ait.) Willd. Smooth alder HABITAT: along streams and swamps and boggy areas	Eastern Texas	Most of eastern United States	Common	Cover	Aesthetic	Moderately adverse
FAGACEAE (beech family)						
**Fagus grandifolia Ehrh. Beech HABITAT: rich hardwood forests, especially on slopes along streams	Eastern Texas	From Florida, west to Texas and north to southeastern Massachusetts, Ohio, Indiana, Illinois	Common	Cover; food for squirrel and deer	Nut edible, lumber	Moderately adverse
Castanea pumila (L.) Mill. Chinquapin HABITAT: sandy open woodlands and thickets	Eastern Texas	From eastern Massachusetts, south to Florida to Tennessee, Arkansas and Texas	Uncommon	Cover; food for deer, squirrel, and turkey	Historical value, nut edible	None

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
Castanea alnifolia Nutt. Downy chinquapin HABITAT: rolling hillsides and often woodlands and thickets	Eastern Texas	Southeastern United States	Uncommon	Cover and food for deer, squirrel, and turkey	Nuts edible	None
**Quercus macrocarpa Michx. Bur oak HABITAT: moist forest along streams	Eastern and central Texas	Texas to Atlantic and north to New Brunswick and Saskatchewan	Common	Acorns eaten by squirrels, deer and birds; cover	Lumber, crossties, livestock browse, fuel	Moderately adverse
**Quercus lyrata Walt. Overcup oak HABITAT: wet poorly drained clay soil	Eastern Texas	Texas, east to the Atlantic, north to Maryland and Missouri	Common	High value for game food, young plants browsed by squirrel and deer, cover	Low commercial, fuel	Slightly adverse
**Quercus alba L. White oak HABITAT: moist forest	Eastern Texas	Texas to Atlantic, north to Canada	Common	Acorns eaten by squirrel, deer, turkey, and other birds; folage eaten by deer	Nut edible, lumber, livestock browse, ornamental	Slightly adverse
**Quercus Prinus L. Chestnut oak HABITAT: moist forest	Eastern Texas	Eastern Texas to Atlantic, north to Delaware and Missouri	Uncommon	Acorns eaten by squirrel, deer, and birds; cover	Nut edible	Slightly adverse
**Quercus stellata Wang. Post oak HABITAT: dry uplands	Eastern and central Texas	Texas to Atlantic, north to northern Massachusetts and Kansas	Abundant	Acorns eaten by wildlife-- including deer, turkey, squirrel, many birds; cover	Fuel, lumber, ornamental	Slightly adverse
**Quercus similis Ashe Bottomland post oak HABITAT: wet stream bottom	Eastern Texas	Texas, southern Arkansas and Louisiana south to South Carolina	Common	Acorns eaten by squirrel, deer, and birds; cover	Lumber, fuel, ornamental	Slightly adverse
Quercus Boyntonii Beadle Boyntonii HABITAT: deep sand in loblolly pine forests	East-central Texas	Texas east sporadically to Atlantic	Locally abundant	Food for squirrels, cover	Aesthetic	None
Quercus Margaretta Ashe Sand post oak HABITAT: low woodlands in deep sandy soil	Central and eastern Texas	Texas east to the Atlantic	Common	Food for squirrels; cover	Aesthetic	None

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
**Quercus sinuata Walt. Bastard oak HABITAT: moist forests	Eastern Texas and west along rivers	Texas east to South Carolina	Common	Acorns important food for many birds and small mammals, deer browse twigs and foliage and eat acorns	NA	Slightly adverse
Quercus virginiana Mill. Live oak HABITAT: near coast, sandy loam to heavier clay; can tolerate considerable salinity	Eastern and southern Texas	From Texas, east to Atlantic, north to Virginia	Uncommon	Acorns eaten by deer, squirrls, chipmunks, turkey, and other birds; cover	Ornamental	None
Quercus minima (Sarg.) Small Minima oak HABITAT: deep sands behind the beach areas	Eastern and central Texas Gulf coast	North Carolina coastal to Texas	Common	Food for squirrels, cover	Aesthetic	None
**Quercus incana Bartr. Sandjack oak HABITAT: sandy upland timber belt	Eastern and central Texas	Coastal plains from Virginia to Texas	Common	Acorns eaten by birds, small mammals, deer and squirrel	Fuel	Slightly adverse
**Quercus laurifolia Michx. Laurel oak HABITAT: wet forest and along streams	Southeastern Texas	Texas east to Atlantic	Common	Acorns eaten by squirrels, deer and birds; cover	Historical	Slightly adverse
Quercus hemisphaerica Bartr. Laurel oak HABITAT: sandy woodlands, sometimes forming mottes on sandy prairies often dominating stream terraces	Along the Gulf coast	Texas east to Atlantic	Common	Food for squirrels, cover	Aesthetic	None
**Quercus Phellos L. Willow oak HABITAT: moist bottomland of clay or loam	Eastern Texas	Eastern Texas to Atlantic, north to Illinois and New York	Common	Acorns eaten by deer, squirrels, chipmunks, turkey, and other birds; cover	Ornamental, lumber	Slightly adverse
**Quercus nigra L. Water oak HABITAT: wet forest, scattered due to salt intolerance	Eastern Texas	Texas to Atlantic states and north to Missouri and Deleware	Uncommon	Acorns eaten by wildlife--including waterfowl, squirrels, deer	Ornamental, lumber, fuel	Slighly beneficial

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
**Quercus Shumardii Buckl. Shumard red oak HABITAT: waterways, moist forests	Eastern Texas	Texas to Atlantic and north to Missouri and Ohio	Common	Acorns eaten by birds, small mammals, deer and squirrel	Lumber, historical, fuel	Moderately adverse
**Quercus texana Buckl. Texas red oak HABITAT: limestone upland slopes	Central Texas	Endemic to Texas	Common	Acorns eaten by birds, small mammals, deer and squirrel	Lumber, shade tree, ornamental	Slightly adverse
**Quercus falcata Michx. Southern red oak HABITAT: moist forest	Eastern Texas	Texas to Atlantic, north to New Jersey and Missouri	Uncommon	Acorns eaten by birds, small mammals, deer and squirrel	Lumber, shade tree, ornamental	Slightly adverse
**Quercus marilandica Muenchh. Blackjack oak HABITAT: well drained areas	Central and east Texas	Texas to Atlantic, north to New York and Kansas	Uncommon	Acorns eaten by deer, squirrel, chipmunks, and birds; cover	Lumber, fuel, ornamental	Slightly adverse
**Quercus velutina Lam. Black oak HABITAT: upland forests	Eastern Texas	Texas to Georgia and north to Louisiana and Vermont	Common	Acorns important food for many birds and small mammals, deer browse twigs and foliage and eat acorns	Lumber	Slightly adverse
ULMACEAE (elm family)						
**Celtis laevigata Willd. Texas sugarberry HABITAT: sandy loam, rocky or alluvial soil along streams in woodlands	Eastern two-thirds of Texas	Florida to Oklahoma and Texas, north to Virginia, Illinois, Missouri, and Kansas	Common	Birds eat fruit, cover, food for squirrels	Ornamental, moderate commercial value	Very adverse
**Celtis reticulata Torr. Netleaf hackberry HABITAT: limestone hills, breaks and rocky canyon slopes and arroyos, mesquite groves and water courses	Statewide	Western half of United State	Common	Birds eat fruit, cover, food for squirrels	Ornamental, moderate commercial value	Moderately adverse

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
Celtis occidentalis L. Southern hackberry HABITAT: on sandy or rocky banks of rivers, in alluvial soils in open woodlands along streams and in dry rocky soils in canyons	Eastern two-thirds of Texas	Florida to Oklahoma and Texas, north to Virginia, Illinois, Missouri, and Kansas	Common	Fruit eaten by birds, especially gallinaceous species; cover	Ornamental, historical value, fruit edible, low commercial	None
Celtis tenuifolia Nutt. Dwarf Hackberry HABITAT: on hardwood slopes along streams in open woodlands	Southeastern Texas	Southeastern United States	Common	Cover, food for squirrels	Aesthetic	None
**Ulmus crassifolia Nutt. Cedar elm HABITAT: woodlands, ravines and open slopes	Central and southern Texas	Mississippi to Arkansas and Texas	Common	Cover, food for squirrels	Ornamental, shade tree	Moderately adverse
**Ulmus americana L. American elm HABITAT: moist soils of bottomlands and uplands	Eastern third of Texas	Eastern two-thirds United States	Common	Fruit eaten by gallinaceous birds; twigs and leaves browsed by opossum, deer, rabbits	Ornamental, shade tree, lumber	Moderately adverse
**Ulmus alata Michx. Winged-elm HABITAT: streams, woodlands, thickets	Eastern Texas	Southeastern Texas States	Common	Seeds, buds eaten by birds and mammals; cover	Historical value, ornamental, moderate commercial value	Moderately adverse
**Ulmus rubra Muhl. Slippery elm HABITAT: woodlands and thickets along rivers and streams	Eastern third of Texas	Eastern half of United States	Common	Cover, food for squirrels	Ornamental, shade tree, lumber	Very adverse
**Planera aquatica (Walt.) J. F. Gmel. Water-elm HABITAT: river bottoms, swamps, near lakes, scattered stands	Eastern Texas	Florida to Texas, north to south Illinois, and Kentucky	Locally abundant	Ducks eat fruit; seeds eaten by birds, mammals; cover	Historical value	Moderately adverse

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
MORACEAE (mulberry family)						
**Morus alba L. White mulberry HABITAT: woodlands and rocky areas	Eastern and central Texas	Widely introduced in United States, native of China	Common	Cover	Historical value, fruit edible	Slightly adverse
**Morus rubra L. Red mulberry HABITAT: upland woods and floodplains	Eastern and central Texas	Eastern half of United States	Common	Food and cover for variety of wildlife--including deer, squirrel, turkey	Fruit edible, beverages, mental	Slightly adverse
**Maclura pomifera (Raf.) Schneid. Osage orange HABITAT: fields, ravines, fencerows, waste places	Eastern half of Texas	Texas, Oklahoma, Arkansas; introduced in southern states	Common	Cover, fruit food for wildlife including squirrel	Windbreak, hedges, source of dye	Slightly adverse
URTICACEAE (nettle family)						
**Parietaria pensylvanica Muhl. Hammerwort HABITAT: shaded banks and near large boulders	Eastern two-thirds of Texas	Most of eastern United States	Uncommon	None	Stings on contact	Moderately adverse
Boehmeria nivea (L.) Gaud. Ramie HABITAT: in waste places and cultivated soils and along roadsides	Southeastern Texas, west to Edwards Plateau	From Florida to Texas, north to South Carolina, native of Asia	Common	NA	Indicator of waste land	None
**Urtica urens L. Dog nettle HABITAT: woodlands and waste places	Southern third of state	Throughout, native of Europe	Common	NA	Poisonous to touch	Moderately adverse
**Urtica chamaedryoides Pursh. Nettle HABITAT: humus of wooded slopes, in bottomlands, rocky slopes	Central and southern Texas	From Florida to Texas and Mexico, north to West Virginia, Kentucky, Missouri, and Oklahoma	Uncommon	Seeds sometimes eaten by birds	Stings to touch	Moderately adverse
Pilea pumila (L.) Gray Richweed HABITAT: moist or wet rich soils of woods, especially in seepages along streams	Eastern Texas	Southeastern United States	Common	NA	None	None

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
VISCACEAE (mistletoe family)						
**Phoradendron tomentosum (DC.) Gray Mistletoe HABITAT: parasitic on woody species	Statewide	Southern half of United States	Common	Fruit food for wildlife	High cultural, aesthetic, parasite	Slightly adverse
ARISTOLOCHIACEAE (birthwort family)						
Aristolochia reticulata Nutt. Texas dutchman's-pipe HABITAT: in humus of pine-hardwood forest, pine-savannahs and rocky woodlands	Eastern Texas	Texas, Louisiana, and southwestern Arkansas	Uncommon	NA	Aesthetic	None
**Aristolochia Serpentaria L. Virginia dutchman's-pipe HABITAT: moist or dry upland woods, about ledges and on wooded rocky slopes	Edwards Plateau, and eastern Texas	Southeastern United States	On Texas rare and endangered plant list	NA	Aesthetic, scientific	Slightly adverse
**Aristolochia tomentosa Sims Woolly dutchman's pipe HABITAT: in shaded areas along streams, in bottom-land forests, along rivers, and in post oak woods	North-central and east-central Texas	From Florida to Texas, north to Oklahoma, Missouri, Illinois, and North Carolina	Uncommon	NA	Aesthetic	Moderately adverse
POLYGONACEAE (knotweed family)						
**Eriogonum longifolium Nutt. Wild buckwheat HABITAT: sandy soil, edges of pine and oak woodlands	Eastern Texas	South-central United States	Common	Moderate food value	Forage	Slightly adverse
Eriogonum annuum Nutt. Wild buckwheat HABITAT: sandy to gravelly soils in open grassland or more commonly in disturbed places	Throughout state except for intermediate Gulf coastal plains	Central United States	Common	Moderate food value	Aesthetic on poor land	None

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
**Eriogonum multiflorum Benth. Wild buckwheat HABITAT: sandy to gravelly soils in oak or pine forest	Eastern and central Texas	South-central United States	Common	Moderate food value	Aesthetic	Slightly adverse
**Rumex hastatulus Ell. Heart sorrel HABITAT: open, sandy ground	Eastern, southeastern, and north-central Texas	Southeastern United States	Common	Seeds eaten by waterfowl, gamebirds, songbirds; seeds and leaves eaten by small mammals and browsed by deer	NA	None
**Rumex verticillatus L. Swampdock HABITAT: low ground, wet meadows	Southeastern Texas	Eastern half of United States	Uncommon	Seeds eaten by birds and mammals; plants browsed	Browse for livestock, foliage edible	Slightly adverse
**Rumex altissimus Wood Pale dock HABITAT: wet places	Eastern half of Texas	Most of United States except far western	Common	Seeds eaten by variety of birds; leaves eaten by small mammals	Foliage edible	Slightly adverse
**Rumex chrysocarpus Moris Dock HABITAT: low seasonally wet places	Southeastern Texas	Louisiana, Texas to Mexico	Abundant	Seeds eaten by waterfowl, shorebirds, upland birds, and songbirds; leaves eaten by rabbits, ground squirrels, and deer	Browse for livestock, foliage edible	None
**Rumex crispus L. Yellow dock HABITAT: seasonally moist usually disturbed ground	Eastern, southeastern, and north-central Texas	Temperate areas	Common	Seeds eaten by waterfowl, shorebirds, upland birds, and songbirds; leaves eaten by rabbits, ground squirrels, and deer	Browse for livestock, foliage edible	Slightly adverse

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
**Rumex pulcher L. Fiddle dock HABITAT: on seasonally moist soil	Eastern half of TExas	Widespread in warm temperate regions	Common	Seeds caten by birds and mammals, plants browsed	Browse for livestock, foliage edible	Slightly adverse
Polygonella polygama (Vent.) Engelm. and Gray October-flower HABITAT: infrequent in loose sand	Eastern and southeastern Texas	Coastal states-- Virginia to Texas	Uncommon	Low food value	None	None
Polygonella americana (Fisch. and Mey.) Jointweed HABITAT: local in loose sands	Eastern, south-eastern, and north-central Texas	Southwest-central United States	Locally common	Low food value	None	None
Polygonum aviculare L. Knotweed HABITAT: NA	Widespread but local nearly throughout Texas, except extreme south	Widespread in temperate regions	Common	Seeds important food of some gamebirds, and songbirds; as well as small mammals	None	None
Polygonum ramosissimum Michx. Knotweed HABITAT: seasonally wet low areas	Widespread though local over the state. absent from Rio Grande plains	Eastern United States	Locally common	Seeds important food of some gamebirds, and songbirds; as well as small mammals	None	None
Polygonum tenue Michx. Knotweed HABITAT: sterile oak woods	Eastern half of Texas	Eastern half of United States	Rare	Seeds important food of some gamebirds, and songbirds; as well as small mammals	None	None
**Polygonum sagittatum L. Arrow-vine, tearthumb HABITAT: at margins of lakes, swamps, marshes and bogs	Eastern Texas	Newfoundland to Saskatchewan, south to Florida and Texas	Uncommon	Seeds and plants food for upland gamebirds; song birds; fur, game, and small mammals	None	Moderately beneficial
**Polygonum cristatum Engelm. and Gray Knotweed HABITAT: edges of woods	Eastern and north-central Texas	Texas, Arkansas, Louisiana, and Oklahoma	Uncommon	Important food for some gamebirds, songbirds, and small mammals	None	Slightly beneficial

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
Polygonum Convolvulus L. Black bindweed HABITAT: usually in disturbed soil	Throughout Texas except extreme Trans-Pecos	Widely advanced, native to Europe	Uncommon	Seeds important food of some gamebirds, and songbirds; as well as small mammals	Weed	None
**Polygonum virginianum L. Jump seed HABITAT: rich woodlands	Eastern, south-eastern, and north-central Texas	Most of eastern United States	Locally common	Seeds important food of some gamebirds, songbirds, and small mammals	Aesthetic	Slightly adverse
**Persicaria coccinea (Muhl.) Greene Smartweed HABITAT: streams, rivers, lakes, and ditches	Eastern Texas	Throughout North America	Common	Seeds eaten by waterfowl, shorebirds, gamebirds, songbirds, and small mammals; plants by muskrats, raccoons, squirrels	None	Moderately beneficial
**Persicaria bicornis (Raf.) Nieuw. Pink smartweed HABITAT: wet areas, ditches, disturbed habitats	Statewide	Nebraska to Colorado, south to Texas; California	Common	NA	Weed	Moderately beneficial
**Persicaria lapathifolia (L.) Small Smartweed HABITAT: wet areas and disturbed habitats	Statewide	Throughout North America, native to Europe	Common	Seeds eaten by waterfowl, shorebirds, gamebirds, songbirds, and small mammals; plants by muskrats, raccoons, squirrels	Weed	Moderately beneficial
**Persicaria densiflora (Meisn.) Moldenke Persicaria HABITAT: wet areas	Along the coastal plains	Through North America, native to Europe	Uncommon	NA	Soil stabilizer	None
**Persicaria punctata (Ell.) Small Smartweed HABITAT: wet areas	Statewide, but more common in eastern Texas	Throughout North America	Common	Seeds eaten by waterfowl, shorebirds, gamebirds, songbirds, and small mammals; plants by muskrats, raccoons, squirrels	Source of fish toxin	Slightly beneficial

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
**Persicaria setacea (Baldw.) Small Persicaria HABITAT: wet areas	Eastern Texas, and Gulf coast	Southeastern United States and southward	NA	NA	Soil stabilizer	Unknown
**Persicaria hydropiperoides (Michx.) Small Smartweed HABITAT: wet areas	Statewide	Throughout North America	Common	Seeds eaten by waterfowl, shorebirds, gamebirds, songbirds, and small mammals; plants by muskrats, raccoons, squirrels	None	Moderately beneficial
**Brunnichia ovata (Walt.) Shinners Eardrop vine HABITAT: on the edge of and in woods near streams, lakes, and ponds	Eastern Texas	Gulf states, north to Missouri, Tennessee, and South Carolina	Uncommon	NA	None	Moderately beneficial
CHENOPODIACEAE (goosefoot family)						
**Chenopodium ambrosioides L. Wormseed HABITAT: waste places, cultivated ground, shores, salt marshes	Statewide	Most of United States	Common	Seeds and plants eaten by a variety of birds and mammals	Herb tea	Slightly beneficial
**Chenopodium Berlandieri Moq. Pitseed goosefoot HABITAT: dry soils	Coastal plain	Southeastern and Gulf coastal plains--North Carolina to Texas and Mexico	Common	Seeds are eaten by a variety of birds and small mammals	Weed	None
**Salicornia Bigelovii Torr. Bigelovii's glasswort HABITAT: shallow water of salt marsh and low ridges; flats along coast	Coastal salt marshes and flats	Along Atlantic and Gulf coasts from Nova Scotia to Texas and Yucatan, California	Common	Plant food for waterfowl	Forage	None
**Salicornia virginica L. Glasswort HABITAT: brackish marsh	Coastal salt marshes and flats	Sea coasts--southern New Hampshire to Texas, Alaska to California	Common	Plant food for waterfowl	Forage	None
Suaeda linearis (Ell.) Moq. Sea blite HABITAT: salt marshes,	Coastal salt marshes and sandy areas	Coastal plains--Maine to Texas	Common	Link in marsh food chain	Forage	None

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AMARANTHACEAE (amaranth family)						
Celosia nitida Vahl Albahaca HABITAT: sandy soils in thickets and brush	Along coast	From Florida Keys to Texas and northeastern Mexico	Locally abundant	Seeds important for birds	Aesthetic	None
**Amaranthus Palmeri* Wats. Pigweed HABITAT: silty, sandy, gravelly soils, river banks, ditches, gardens	Statewide	Kansas to California, south to Texas and Mexico	Common	High food value	Weed	None
**Amaranthus arenicola* I. M. Johnst. Sandhills amaranth HABITAT: sandhills, swales, dried ponds, roadsides and railroads	Statewide	Oklahoma and Iowa to Texas and west to Colorado, Nevada, and New Mexico	Common	High food value	Weed	None
Amaranthus Greggii Wats. Pigweed HABITAT: coastal dunes and beaches along the seacoast	Jefferson County to Mexico	Texas and Mexico	Common	High food value	Dune stabilization	None
**Amaranthus spinosus* L. Spiny pigweed HABITAT: waste ground, sandy loam soil	Eastern third of Texas, west to Dallas, Travis, and Cameron Counties	Eastern half of United States	Common	Seeds food for teal, gamebirds, songbirds, small mammals; plants eaten by rabbits	Weed	None
**Amaranthus cruentus* L. Purple amaranth HABITAT: cultivated roadsides, waste places	Statewide	Widely introduced in United States	Common	Seeds important food of many birds and small rodents; plants eaten by rabbits and deer	Weed	None
**Amaranthus viridis* L. Green amaranth HABITAT: waste places and beaches	Southern Texas and Rio Grande plains	Local in Gulf states, probably native to South America	Locally abundant	Seeds important food for songbirds and gamebirds, seeds and plants eaten by small mammals	NA	None
**Acnida cuspidata* Spreng. Southern water-nemp HABITAT: salt and marshy places	Gulf coast	Coastal plain from Florida to Texas	Common	Seeds food for waterfowl	Aesthetic	None

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
Acnida tamariscina (Nutt.) Wood Nuttall's water-hemp HABITAT: sandy fields and wastelands, chiefly in moist soils, swamps, alluvial soils	Statewide except extreme western part	Central United States	Common	Seeds for waterfowl	Aesthetic	None
Acanthochiton Wrightii Torr. Green stripe HABITAT: dunes, beaches and rocky hills	Southeastern Texas to plains country	Texas, New Mexico, and northeastern Arizona	NA	NA	NA	None
**Iresine rhizomatosa Standl. Bloodleaf HABITAT: sandy alluvial soils, scattered	Scattered in eastern half of Texas, west to Denton and Comal Counties	Maryland to southern Illinois and Kansas, south to eastern Virginia, Alabama, Louisiana, and Texas	Uncommon	NA	None	None
**Alternanthera philoxeroides (Mart.) Griseb. Alligator-weed HABITAT: in waste places, in ponds, streams, along some rivers, thrives in and around oil storage tanks, fresh water marsh	Coastal and southern Texas	Coastal plains, North Carolina to Florida, west to Louisiana and Texas	Abundant	Cover, low value waterfowl food	Becomes a noxious weed, in conjunction with water-hyacinth may clog canals, etc; rapid growth	Very beneficial
Froelichia gracilis (Hook.) Moq. Snake-cotton HABITAT: on gravel and on sandy soil	Statewide except extreme eastern	Iowa to Colorado, south to Arkansas, Arizona and Texas	Common	NA	Weed	None
**Froelichia Braunii Standl. Snake-cotton HABITAT: dry soils	Adventive to Texas	Texas north to Missouri and Illinois	NA	NA	Weed	None
**Froelichia floridana (Nutt.) Moq. Snake-cotton HABITAT: sandy soils	Statewide	Southeastern United States	Common	NA	Aesthetic	None
**Froelichia Drummondii Moq. Snake-cotton HABITAT: sandy dry soils	Statewide	Southern Oklahoma, Texas	Common	NA	Weed	None

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
**Philoxerus vermicularis (L.) R. Br. Saltwater alligator weed HABITAT: saline soils and dunes, wet sands	Gulf coast and Rio Grande plains	Florida to Texas	Common	Seeds are high value songbird food, seeds and foliage food for variety of wildlife	Dune stabilization	None
Gomphrena dispersa Standl. Globe-amaranth HABITAT: waste and cultivated grounds	Coastal Texas	Florida and Texas to Mexico	Common	Seeds used by wildlife	Weed	None
Gomphrena decumbens Jaco. Globe-amaranth HABITAT: sandy soils, dry and waste grounds	Coastal Texas	Texas to Mexico	Common	NA	Soil stabilization	None
NYCTAGINACEAE (four-o'clock family)						
Nyctaginia capitata Choisy Scarlet musk-flower HABITAT: sandy or loam soil, roadsides and fields	Coastal Texas to Trans-Pecos and plains	From Texas and New Mexico to Mexico	Common	NA	Aesthetic	None
Allionia incarnata L. Umbrella-wort HABITAT: dry hills and flats, dry sandy or gravelly soils, on lime-stone areas	Coastal Texas to the Trans-Pecos and plains	From southern California and Nevada to southern Utah and Colorado, south to Texas	NA	NA	Soil stabilization	None
**Mirabilis hirsuta (Pursh) MacM. Hairy four-o'clock HABITAT: dry, sandy ground, dry fields and hillsides	Western and north-western Texas	Central United States	NA	Flowers visited by hummingbirds and bees	Slightly aesthetic	None
Mirabilis collina Shinners Wild four-o'clock HABITAT: sandy thickets and on hillsides	East Texas	Endemic to Texas	Locally common	Nectar for hummingbirds and bees	Slightly aesthetic	None
**Mirabilis nyctaginea (Michx.) MacM. Wild four-o'clock HABITAT: dry soils, lime-stone gravels, sandy	Post oak belt and western cross timbers	Much of central half of United States	NA	Nectar for hummingbirds and bees	Slightly aesthetic	Unknown

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
Commicarpus scandens (L.) Standl. Climbing wartclub HABITAT: thickets and hillsides, canyons and arroyos	Coastal Texas and the Rio Grande valley and plains to the Trans-Pecos	Texas to southeastern Arizona	NA	NA	Weedy	None
**Boerhaavia coccinea Mill. Scarlet spiderling HABITAT: river banks, fields, waste places	Southern and western Texas	Florida to southern and western Texas, and southeastern California	Common	Seeds eaten by quail and small rodents, plants by rabbits	Weed	Moderately adverse
BATACEAE (saltwort family)						
**Batis maritima L. Maritime saltwort HABITAT: in salt flats and along muddy flats of seashore	Southern Texas	Widespread on coastal stands	Common	Cover for shore animals	Moderate commercial value, shore stabilization	None
PHYTOLACCACEAE (pokeweed family)						
**Agdestis clematidea DC. Rockroot HABITAT: waste places	East-central Texas	Florida and Texas	NA	Seeds eaten by birds	Weed	Slightly beneficial
**Rivina humilis L. Pigeon-berry HABITAT: moist or alluvial soils, chaparral hills, usually in shade	Statewide	Gulf coastal plains of United States	Uncommon	Fruit eaten by wildlife	Aesthetic, sometimes grown as an ornamental, used as a dye	Slightly adverse
**Phytolacca americana L. Pokeweed HABITAT: rich low ground, roadsides	Statewide	Southeastern and eastern United States	Common	Seeds are high value food for many forms of wildlife, narcotic effect on birds, bears	Unpleasant odors, large poisonous roots, source of dyes, very young sprouts when properly and safely prepared are used as a potherb	Slightly beneficial

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AIZOACEAE (carpet-weed family)						
**Mollugo verticillata L. Indian chickweed HABITAT: waste places, cultivated ground, open sandy woods and brushlands, dunes	Statewide	Throughout United States	Common	Occasionally eaten by birds	Weed, dune stabilization	None
Sesuvium maritimum (Walt.) B.S.P. Sea purslane HABITAT: sandy beaches	Along the coast in southeastern Texas	From New York to Florida and Texas	Common	Cover for beach animals	Aesthetic	None
PORTULACACEAE (purslane family)						
Portulaca umbraticola H.B.K. Purslane HABITAT: sandy soils in prairies, mesquite thickets and salt marshes	Throughout most of Texas	Texas to Arizona	Common	Seeds are high value food for many birds and mammals	Aesthetic	None
**Portulaca oleracea L. Purslane HABITAT: grassy slopes, dunes, salt marshes	Throughout most of Texas	Temporate America	Common	Seeds are high value food for many birds and mammals	Ornamental, seeds substituted for poppy seeds	None
Talinum parviflorum Nutt. Flame-flower HABITAT: sandy soil in woods and over rock outcrops	Most of Texas	Central United States	Common	Large seeds eaten by wildlife	Aesthetic, edible root	None
Claytonia virginica L. Spring beauty HABITAT: sandy soil in rich woods, thickets, and clearings	Eastern third of Texas	Eastern half of United States	Common	Moderate food value	Aesthetic, root edible	None
CARYOPHYLLACEAE (pink family)						
Petrorhagia prolifer (L.) Ball & Heywood Childing pink HABITAT: scattered in grasses along roadsides and fields	Eastern Texas	An escape in various parts of North America, native of Europe and northern Africa	Uncommon	NA	Roadside flowers	None

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
Saponaria officinalis L. Soapwort HABITAT: in fields and waste places	Eastern Texas	Locally naturalized in various places in temperate North America, native to Europe	Common	May be toxic to wildlife	Toxic to livestock	None
Silene Antirrhina L. Sleepy catchfly HABITAT: moist grassy areas, fields, open woodlands, and waste places	Throughout most of Texas	Throughout United States	Common	Moderate food value for songbirds	Weed	None
Silene gallica L. Forked catchfly HABITAT: roadsides and waste places	Eastern third of Texas	Most of eastern United States	Common	Moderate food value for songbirds	Weedy pest	None
Silene stellata (L.) Ait.f. Starry campion HABITAT: in woods or clearings	Eastern third of Texas	Most of eastern United States	NA	Moderate food value for songbirds	Aesthetic	None
Silene subciliata Robins. Catchfly HABITAT: sandy soil in open woodlands and scrub areas	Southeastern Texas	Texas and western Louisiana	NA	Moderate food value for songbirds	NA	None
Agrostemma Githago L. Common corn-cockle HABITAT: fields and waste places	East-central Texas	Adventive, from Europe	Common	NA	Weed	None
**Cerastium glomeratum Thuill. Chickweed HABITAT: fields, cleared woodlands, along roadsides, and in disturbed waste places	Eastern third of Texas	A native of Europe that has become naturalized from Florida to Texas and California, north to New England, New York, Ohio, Illinois, South Dakota and British Columbia	Common	Seeds serve as food for birds	Weed	Slightly beneficial
**Cerastium vulgatum L. Common mouse-ear HABITAT: fields, roadsides	Statewide	Widespread naturalized in United States, native to Eurasia	Uncommon	Seeds serve as food for birds	Slight aesthetic	None

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
**Stellaria media (L.) Cyr. Common chickweed HABITAT: waste places, damp woods and thickets	Eastern third of Texas	Widespread naturalized in United States, native to Eurasia	Common	High use for food by songbirds and gamebirds	Lawn and garden pest	Slightly adverse
Arenaria serpyllifolia L. Thyme-leaved sandwort HABITAT: fields, roadsides and open flats in sandy or rocky soils	Eastern and central Texas	Eastern half of United States	Common	Seeds used for songbirds and gamebirds	Aesthetic	None
**Arenaria patula Michx. Sandwort HABITAT: sandy, gravelly soil of meadows and fields	Eastern Texas	Central United States	Common	Seeds used by songbirds and gamebirds	Soil stabilizer, aesthetic	None
Arenaria Drummondii Shinners Sandwort HABITAT: sandy soils mostly in open grassy woodlands	Eastern, south-central, and southern Texas	Texas and Oklahoma	Common	Seeds used by songbirds and gamebirds	Aesthetic	None
Paronychia fastigiata (Raf.) Fern. Whitlow-wort HABITAT: dry woods or sandy openings	Eastern Texas	Eastern half of United States	Uncommon	Seeds of some value to wildlife	Slight aesthetic	None
Paronychia Drummondii T. & G. Whitlow-wort HABITAT: sandy soil in dry oak and pine woods and loose sand of dunes	Southeastern Texas	Endemic to Texas	Common	Seeds of some value to wildlife	Slight aesthetic	None
Spergularia marina (L.) Griseb. Salt-marsh sand-spurrey HABITAT: saline or brackish soils in depressions in dunes and on flats	Eastern Texas along coast to south Texas	Texas, California, and Washington	NA	Seeds of some value to wildlife	Marsh stabilization	None
Spergularia echinosperma Čelak. Sand-spurrey HABITAT: salt marshes and flats and dune pockets	Eastern Texas along the coast to Corpus Christi, and isolated near Fort Stockton	Introduced into southern United States, native of Old World	NA	Seeds of some value to wildlife	Marsh and dune stabilization	None

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NYMPHAEACEAE (water-lily family)						
Nymphaea mexicana Zucc. Yellow water-lily HABITAT: lakes and ponds	Eastern and southern Texas	Texas, southern Florida, and Mexico	Common	Resting and breeding place for aquatic organisms	High aesthetic	None
Nymphaea odorata Ait. White water-lily HABITAT: ponds, lakes, slow streams	Southeastern Texas	From Florida to Texas, north to eastern Canada	Common	Seeds are high value waterfowl food, foliage eaten by beaver and muskrat	Aesthetic, ornamental	None
Nuphar luteum (Small) E. O. Beal Yellow cow-lily HABITAT: in water or on mud in ponds, shallow lakes, streams, and springs	Eastern Texas, mostly on Edwards Plateau	Throughout United States	Common	Seeds are high value waterfowl food, foliage eaten by beaver and muskrat	Aesthetic	None
Cabomba caroliniana Gray Fanwork HABITAT: lakes, ponds, and quiet streams	Eastern Texas	Florida to Texas, north to Virginia, southern Illinois, and eastern Missouri	Common	Cover for fish and invertebrates	Aesthetic	None
Brasenia schreberi J.F. Gmel. Water-shield HABITAT: slow streams, lakes, ponds	Eastern Texas	From Florida to Texas	Common	Waterfowl food	Aesthetic	None
Nelumbo lutea (Willd.) Pers. Yellow lotus HABITAT: quiet ponds and sluggish streams	Eastern third of Texas	From Florida to Texas, north to southern New England, New York, southern Ontario, Minnesota, and Iowa	Common	Waterfowl food	Aesthetic, edible seed and farinaceous storage tubers, ornamental	None
CERATOPHYLLACEAE (hornwort family)						
Ceratophyllum demersum L. Common hornwort HABITAT: quiet lakes, ponds, slow streams	Statewide, mostly in eastern Texas	From Quebec to northern British Columbia, south to Mexico	Common	Waterfowl food, fish cover	Aesthetic	None
Ceratophyllum echinatum Gray Hornwort HABITAT: quiet waters of lakes, ponds, and streams	Eastern Texas	Florida to Texas, north to southwestern New Brunswick, southern Maine, New York, Ohio, Michigan, Illinois, and Minnesota	Uncommon	Waterfowl food, fish cover	Part of limnetic ecosystem	None

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RANUNCULACEAE (crowfoot family)						
Xanthorhiza simplicissima Marsh. Brook-feather HABITAT: damp woods, thickets, and on wooded streambanks	Southeastern Texas	From New York south to Florida and Texas	Rare	NA	Aesthetic	None
****Thalictrum dasycarpum* Fisch. and Ail. Purple meadow-rue HABITAT: meadows, swamps, and damp thickets on rich wooded slopes or along wooded streams	Eastern Texas	Northeastern United States and central United States	Common	NA	Aesthetic	Moderately adverse
Thalictrum texanum (Gray) Small Houston meadow-rue HABITAT: NA	Southeastern Texas	Endemic to Texas	Uncommon	Fruit eaten by wildlife	Aesthetic	None
****Delphinium Ajacis* L. Rocket larkspur HABITAT: roadsides, waste places, old fields	Central and southern Texas	Introduced in scattered areas in United States, native of Europe	Common	NA	Cultivated, high aesthetic	None
****Delphinium carolinianum* Walt. Blue larkspur HABITAT: dry open woods, sandhills, brushlands, fields and barrens	Edwards Plateau to northeastern Texas	From Texas, east to Georgia and Tennessee, north to Illinois	Common	Seeds eaten by birds	High aesthetic	None
Delphinium vimineum D. Don Larkspur HABITAT: sandy open soils, meadowlands, open grassy woods	Edwards Plateau eastward	Texas, Louisiana, and southwestern Arkansas	Common	May be poisonous to wildlife	Poisonous to livestock, may be cultivated	None
Ranunculus laxicaulis (T. & G.) Darby Crowfoot, buttercup HABITAT: boggy shores of lakes, in depressions, ditches and marshes	Southeastern Texas	Southeastern United States	Common	Low food value	Aesthetic	None

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
**Ranunculus pusillus Poir. Buttercup HABITAT: shallow water and mud of ditches, marshes, bogs, seepage areas	Eastern fourth of Texas	From California to Missouri, and New York south to Texas and Florida	Uncommon	Some use of seeds for food by birds	Low food value, aesthetic	Slightly beneficial
Ranunculus parviflorus L. Crowfoot, buttercup HABITAT: moist hardwood slopes, in grassy copses and along ditches	Eastern fourth of Texas	Naturalized in various parts of United States, native of Old World	NA	Low food value	Aesthetic	None
Ranunculus platensis Spreng. Crowfoot, buttercup HABITAT: sandy bottomland woods and thickets	Southeastern Texas	Recently introduced into Louisiana and southeastern Texas, native of South America	Uncommon	Low food value	Aesthetic	None
Ranunculus Sardous Crantz Crowfoot, buttercup HABITAT: moist grassy slopes	Eastern Texas	Naturalized mostly about seaports in North America, native of Old World	Uncommon	Low food value	Aesthetic	None
Ranunculus muricatus L. Crowfoot, buttercup HABITAT: grassy banks, along roads, in sandy marshes, and in wet soil about ponds and streams, often in shallow water	Eastern fourth of Texas	Naturalized in various parts of North America, native of Old World	Common	Low food value	Aesthetic	Slightly beneficial
**Ranunculus sceleratus L. Blister buttercup HABITAT: borders of lakes, streams and marshlands	Southeastern and southern Texas	From Washington to New England, south to Texas, Louisiana, and Georgia	Uncommon	Seeds occasionally eaten by birds and small rodents, low food value	Aesthetic	Moderately beneficial
**Ranunculus abortivus L. Buttercup HABITAT: moist ground in open areas or rich woodland	Eastern Texas	Transcontinental from Nova Scotia to Alaska, south to Washington, Colorado, Texas, and Florida	Uncommon	Some use of seeds for food by birds, low food value	Aesthetic	Slightly adverse
**Ranunculus fascicularis Muhl. Prairie buttercup HABITAT: sandy soil in shallow water, low pinelands, meadow, seepage slopes	Eastern Texas	Eastern half of United States	Common	Low food value	High aesthetic	Slightly beneficial

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Adonis annua L. Pheasant's eye HABITAT: cultivated	Eastern third of Texas	Established in eastern third of Texas' flora, cultivated plant from Eurasia	Uncommon	NA	Cultivated, aesthetic	None
**Anemone caroliniana Walt. Anemone, prairiesmoke HABITAT: mostly sandy soils	Eastern fourth of Texas	From Florida to Texas, north to North Carolina, Indiana, Wisconsin, Minnesota, and South Dakota	Common	NA	High aesthetic	None
Anemone heterophylla Nutt. Anemone HABITAT: calcareous clays or in sandy clays	Throughout most of Texas	From Alaska to Texas, Oklahoma, and Arkansas	Common	NA	High aesthetic	None
Clematis dioscoreifolia Levl. and Van. Clematis HABITAT: climbing on trees and shrubs	Southeastern Texas	Frequently cultivated and occurring as an escape, native of Japan	Uncommon	NA	Cultivated, aesthetic	None
Clematis virginiana L. Virgin's-bower HABITAT: low grounds, thickets and borders of woods, edge of swamp forests; commonly climbing in trees	Eastern Texas	Eastern half of United States	Common	NA	Aesthetic	None
Clematis glaucophylla Small Clematis HABITAT: in rich woods or along streams	Eastern Texas	Southeastern United States	NA	NA	Aesthetic	None
Clematis versicolor Britt. Clematis HABITAT: in barrens and sandy or stony woods and sandhills	Eastern Texas	Southeastern United States	Common	Bird cover	Aesthetic	None
**Clematis crispa L. Blue jasmine HABITAT: frequent in wet soils, climbing on shrubs, along streams in low woodlands	Eastern Texas, west to Calhoun and Williamson Counties	From Florida to Texas, north to southeast Virginia, Illinois, and Missouri	Common	Bird cover	Aesthetic	Slightly beneficial

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
Clematis reticulata Walt. Clematis HABITAT: sandy forest soils	Eastern Texas	Southeastern United States	Uncommon	Bird cover	Aesthetic	None
**Clematis Pitcheri T. and G. Leather-flower HABITAT: thickets, open woodlands, along streams, low places	North-central, coastal, Edwards Plateau	Central United States	Uncommon	Bird cover	Aesthetic	Slightly beneficial
BERBERIDACEAE (barberry family)						
**Podophyllum peltatum L. May-apple HABITAT: rich woods, thickets, open pastures, edge of forests	Eastern Texas	Eastern United States	Common	Fruit eaten by wildlife	Fruit edible	Slightly beneficial
MENISPERMACEAE (moonseed family)						
**Cocculus carolinus (L.) DC. Red-berried moonseed HABITAT: frequent in rich woods and thickets	Eastern half of Texas	Southeastern United States	Common	Food for squirrels	Ornamental	Slightly adverse
Calycocarpum Lyonii (Pursh) Gray Cupseed HABITAT: in rich and swampy areas	Eastern Texas	Southeastern United States	Uncommon	NA	Aesthetic	None
MAGNOLIACEAE (magnolia family)						
**Magnolia grandiflora L. Southern magnolia HABITAT: in low moist woods especially along streams	Eastern and southeastern Texas	Coastal states from North Carolina to Texas	Common	Seeds food for birds and squirrels; winter cover	Historical value, lumber, aesthetic, ornamental	Slightly adverse
Magnolia virginiana L. White bay HABITAT: in swamps, low woods, along boggy streams and on seepage slopes; low, wet, acid, sandy soil	Eastern Texas	From Massachusetts, south to Florida and Texas	Common	Cover for songbirds and game	Aesthetic, fragrant flowers	None

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
ANNONACEAE (custard-apple family)						
**Asimina triloba (L.) Dun. Pawpaw HABITAT: rich woods, banks of streams	Northeastern Texas	Eastern half United States	Common	Food for wildlife--including deer, squirrel; cover	Fruit edible	Slightly adverse
Asimina parviflora (Michx.) Dun. Dwarf pawpaw HABITAT: in dryish pinelands, thickets, and oak woods	Southeastern Texas	Northern Florida to Texas, north to southeastern Virginia	Common	Food for wildlife--including deer, squirrel; cover	Fruit edible	None
LAURACEAE (laurel family)						
**Sassafras albidum (Nutt.) Nees Sassafras HABITAT: sandy woods, old fields, road cuts, fence rows	Eastern third of Texas	Eastern half United States	Common	Food for wildlive--including deer, squirrel; cover	Root bark used for tea and medicine	Slightly adverse
**Persea Borbonia (L.) Spreng. Red bay HABITAT: wood, swamps, along streams, and shores	Southeastern Texas	Southeastern United States	Common	Fruit rarely eaten by birds, deer, and squirrel; cover	Ornamental, moderate commercial value	Slightly adverse
**Lindera Benzoin (L.) Bl. Spicebush HABITAT: on rich wooded slopes and in rocky areas along streams	Edwards Plateau	Southeastern Virginia, south to Florida and Texas, west to Ohio, Michigan, Missouri, and Arkansas	On Texas rare and endangered plant list	NA	Aesthetic, scientific	Slightly adverse
Cassytha filiformis L. Woe-vine HABITAT: parasitic on various herbaceous and woody plants	Coastal Texas	Florida and Texas	Rare	NA	None	None
PAPAVERACEAE (poppy family)						
Sanguinaria canadensis L. Bloodroot HABITAT: in rich woods	Eastern Texas	Quebec south to Florida, west to Texas	Uncommon, on Texas rare and endangered plant list	NA	Aesthetic, scientific	None
**Argemone polyanthemos (Fedde) G. Ownbey Prickly poppy HABITAT: in sandy or gravelly soils on prairies, foothills and mesas; roadsides, fields, pastures, and waste grounds	Northern half of Texas	Central United States	Common	Seeds eaten by white-winged dove	Aesthetic	None

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
Argemone albiflora Hornem. White prickly poppy HABITAT: in sandy or gravelly soils on embankments and in vacant lots, pastures, and waste places	Statewide	Northern Arkansas and southern Missouri to Texas	Common	Low food value	May be cultivated	None
FUMARIACEAE (fumitory family)						
**Corydalis micrantha (Engelm.) Gray Scrambled eggs HABITAT: disturbed sandy areas, along bluffs, rocky hills, open woods and on river banks	Northeastern, eastern, and southern Texas	From Minnesota to Illinois, Kansas, and Texas	Common	Seeds eaten by birds	Aesthetic	Slightly beneficial
**Corydalis aurea Willd. Scrambled eggs HABITAT: gravelly or sandy soil on hillsides, prairies, plains, gravel pits, creek bottoms, burned-over areas	Western half of Texas	Texas	Common	Seeds eaten by birds	May be cultivated	Slightly beneficial
CRUCIFERAE (mustard family)						
Iodanthus pinnatifidus (Michx.) Steud. Purple rocket HABITAT: alluvial soil of river bottoms and in rich woods	Central and eastern Texas	Pennsylvania to Iowa, Alabama, and Texas	Uncommon	NA	Aesthetic	None
**Sibara virginica (L.) Roll. Sibara HABITAT: Old fields, roadsides and open areas	South-central and eastern Texas	Southern California and Oklahoma to Ohio, Virginia and Florida	Common	NA	NA	None
Descurainia pinnata (Walt.) Britt. Tansy-mustard HABITAT: sandy soils and waste places	Statewide	Entire United States	Common	Seeds used by wildlife, birds	Aesthetic, seeds edible	None
Arabidopsis Thaliana (L.) Heynh. Mouse-ear cress HABITAT: open fields, yards, and roadsides	Eastern Texas	Naturalized from Eurasia, widely dispersed in United States	Common	Seeds used by birds	Weed	None

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
Cardamine bulbosa (Schreb.) B.S.P. Spring-cress HABITAT: wet woods, creek bottoms, marshy meadows	Eastern Texas	Most of eastern United States	Uncommon	NA	Aesthetic	None
Cardamine parviflora L. Bitter-cress HABITAT: moist seeps, wet sandy soils and open wet places in wooded areas, ditches and stream banks	Central and eastern Texas	Florida to eastern Canada, west to Oregon and Washington	Uncommon	None	None	None
**Rorippa sessiliflora (Nutt.) Yellow cress HABITAT: wet land, river floodplains and along sluggish stream margins or around ponds	Northern and eastern Texas	Eastern United States	Common	Part of limnetic ecosystem	Aesthetic	Moderately beneficial
**Rorippa islandica (Oeder) Borbás Bog marsh-cress HABITAT: along stream banks and margins of lakes or ponds	Northeastern Texas, southeast to Brazoria County	Texas and Louisiana to Greenland and Europe	NA	Part of limnetic ecosystem	Aesthetic	Moderately beneficial
Rorippa teres (Michx.) Stuckey Yellow-cress HABITAT: wet fields, lakes, ponds and stream margins and swamp land	Eastern and southwestern Texas	Southeastern coastal plain	Uncommon	Part of limnetic ecosystem	Aesthetic	None
Cakile fusiformis Greene Sea rocket HABITAT: sandy areas near the ocean, mainland and off-shore islands	NA	Florida to Texas	Uncommon	NA	Aesthetic, dune stabilizer	None
Cakile geniculata (Robins.) Millsp. Sea rocket HABITAT: beaches and sandy places near ocean, mainland and off-shore islands	NA	Northwestern Florida to Texas	Uncommon	NA	Aesthetic dune stabilizer	None
Draba reptans (Lam.) Fern Whitlow-grass HABITAT: sandy soil	Northwestern and north-central Texas	Northeastern United States west to Colorado	Uncommon	NA	Slight aesthetic	None
Draba cuneifolia T. & G. Whitlow-grass HABITAT: sandy and gravelly soils	Statewide except northern panhandle and southern Rio Grande plains	Southern and central United States	Common	NA	Slight aesthetic	None

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
**Capsella Bursa-Pastoris (L.) Medic Shepherd's purse HABITAT: waste land, street margins, roadsides, fields	Statewide	Entire United States, introduced	Common	NA	Aesthetic, scientific, weed	Slightly beneficial
Lepidium ruderale L. Peppergrass HABITAT: waste places, roadsides, disturbed soils	Eastern and southern Texas	Central and eastern United States, introduced	Common	Low feed value	Slight aesthetic	None
Lepidium densiflorum Schrad. Peppergrass HABITAT: sandy and/or disturbed soils	Eastern, central, and northwestern Texas	Central and eastern United States, occasionally in Rocky Mountains and Pacific states	Common	Low food value	Slight aesthetic, foliage and seeds edible	None
**Lepidium virginicum L. Peppergrass HABITAT: sandy and/or disturbed soils, waste places	Statewide	Most of United States	Common	Eaten by deer, small mammals, waterfowl, and songbirds	Slight aesthetic, foliage and seeds edible	Slightly beneficial
**Lesquerella recurvata (Gray) Wats. Bladder-pod HABITAT: loose sandy soil, usually on calcareous soils	Southern and central Texas	Endemic to Texas	NA	Small rodent food	Negligible	None
CAPPARIDACEAE (caper family)						
Polanisia dodecandra (L.) DC. Clammy-weed HABITAT: sandy, rocky or gravelly soil of plains, hills, river bottoms, sandbars and washes, thickets, forests, varied habitats	Statewide	Western and south-central United States	Uncommon	Seeds eaten by birds	Aesthetic	None
**Polanisia erosa (Nutt.) Iltis. Clammy-weed HABITAT: dry loose deep sandy soils, sandhills, sandy prairies, woods and fields	Western Gulf coastal plain, eastern half of Texas	From south Texas to the Red River, Oklahoma, rarely in Louisiana; essentially endemic to Texas	Common	Seeds eaten by birds	Aesthetic	None

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
Cleomella angustifolia Torr. Spider flower HABITAT: deep sands, gravels in river-bottoms, edge of ponds, roadsides, sandy prairies and bare sandstone shale	Eastern half of Texas	South-central United States	NA	Seeds eaten by birds	Aesthetic, garden flower	None
SARRACENIACEAE (pitcher-plant family)						
Sarracenia alata Wood Yellow trumpets HABITAT: wet acid bogs on slopes and flats in pinelands	Eastern and southeastern Texas	Gulf coastal plain from southern Alabama to eastern Texas	Uncommon	Insectivorous	High aesthetic	None
DROSERACEAE (sundew family)						
Drosera annua E.L. Reed Sundew HABITAT: damp sand in pinelands or mixed forests and in open bogs	Eastern and southeastern Texas	Tennessee south to Alabama, Oklahoma, Louisiana, and Texas	Uncommon	Insectivorous	High aesthetic	None
Drosera capillaris Poir. Sundew HABITAT: wet sands and on seepage slopes, bogs	Eastern Texas	Virginia, Tennessee, and Arkansas, south to Florida and Texas	Uncommon	Insectivorous	High aesthetic	None
Drosera intermedia Hayne Sundew HABITAT: wet sands and peaty areas	Southeastern Texas	Eastern half United States	Uncommon	Insectivorous	High aesthetic	None
CRASSULACEAE (orpine family)						
Tillaea aquatica L. Water pigmy-weed HABITAT: dry mud flats about pools and along shores	Eastern and southeastern Texas	Much of United States except southwest	Common	NA	Aesthetic	None
Sedum pulchellum Michx. Stonecrop HABITAT: in seepage on and about calcareous rocks	Eastern Texas	Southeastern United States	Uncommon	Low food value	Aesthetic	None

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SAXIFRAGACEAE (saxifrage family)						
Lepuropetalon spathulatum (Muhl.) Ell. Lepuropetalon HABITAT: sandy soil about sinks and on wet soil	Eastern half of Texas	South Carolina and Georgia to Texas	Uncommon	NA	Slight aesthetic	None
**Penthorum sedoides L. Ditch-stonecrop HABITAT: wet ground, usually along and on edge of water in streams	Eastern and southeastern Texas	Florida to Texas, north to Canada	Uncommon	Eaten by rodents	None	Slightly adverse
Saxifraga texana Buckl. Saxifrage HABITAT: in seepage on rock outcrops in fields and on edge of woods	Eastern Texas	Missouri, Kansas, Arkansas, Oklahoma, and Texas	Uncommon	Low food value	Low aesthetic	None
Parnassia asarifolia Vent. Grass-of-Parnassus HABITAT: in spagnum moss of evergreen shrub bogs	Eastern Texas	From Virginia and West Virginia, south to Georgia and Texas	On Texas rare and endangered plant list	NA	Aesthetic, scientific	None
Parnassia grandifolia DC. Grass-of-Parnassus HABITAT: moist meadows and wet marly situations	Eastern Texas	From Florida to Texas, north to Virginia, West Virginia, Tennessee, and Missouri	Rare	Cover	Aesthetic	None
**Itea virginica L. Tassel-white HABITAT: swamps, about lakes and along wooded streams	Eastern Texas	Southeastern United States	Uncommon	NA	Aesthetic	Slightly beneficial
Ribes curvatum Small Granite gooseberry HABITAT: rocky woods and slopes	Eastern Texas	From Georgia to Louisiana and Texas	NA	Moderate food value	Slight aesthetic	None
Decumaria barbara L. Wood-vamp HABITAT: rich woods and swamps	Eastern Texas (questionable)	Southeastern coastal plain	Rare	Bird cover	High aesthetic	None
HAMAMELIDACEAE (witch-hazel family)						
Hamamelis virginiana L. Witch-hazel HABITAT: dry or moist woods	Eastern and central Texas, Edwards Plateau	South Quebec to Minnesota, south to Georgia, Texas, and Missouri	Common	Food for	Analgesic from bark, astringent	None

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
Hamamelis vernalis Sarg. Witch-hazel HABITAT: along streams in open woods	Eastern Texas	South Missouri and Oklahoma to Texas, Louisiana, and Alabama	Common	Food for squirrels, cover	Aesthetic, astringent	None
**Liquidambar Styraciflua L. Sweet-gum HABITAT: wet situations and swampy woods	Eastern and south-central Texas	From Florida to Texas; north to southern Connecticut; southeastern New York; West Virginia; southern Ohio, Indiana, and Illinois; southeastern Missouri	Common	Fruit eaten by birds, squirrels, and chipmunks	Aesthetic; lumber, sugar, and gum; ornamental	Slightly adverse
PLATANACEAE (plane-tree family)						
**Platanus occidentalis L. Sycamore HABITAT: mostly along streams and in bottomlands	Eastern two-thirds of Texas	Eastern half United States	Common	Seeds eaten by muskrat and birds, food for squirrels; cover, dens, nests	Lumber, woody pioneer	Moderately adverse
ROSACEAE (rose family)						
**Pyrus arbutifolia (L.) L.f. Red chokeberry HABITAT: low woods, thickets, swamps, wet pine barrens, bogs	Eastern Texas	Much of eastern half United States	On Texas rare and endangered plant list	Fruit eaten by birds	Aesthetic, scientific	Moderately adverse
Pyrus communis L. Common pear HABITAT: escaped from cultivation, thickets, edge of woods and clearings	Eastern Texas	Native of Eurasia, introduced in various localities in United States	Uncommon	Not common enough to be valuable as food	Fruit edible, cultivated	None
Pyrus angustifolia Ait. Wild crab apple HABITAT: woods, bottoms, thickets	Southeastern Texas	Southeastern United States	Common	Moderate food value	Fruit edible	None
**Crataegus Marshallii Eggl. Parsley hawthorn HABITAT: sandy woods, hillsides, fencerows and pastures	Eastern Texas	From Virginia to Florida, west along coastal plain to Texas, north in the Mississippi valley to southeastern Missouri	Common	Fruit food for wildlife--including deer, squirrels, turkey; good cover	Fruit used for jelly	Moderately adverse
**Crataegus spathulata Michx. Pasture haw HABITAT: sandy or sandy clay woods, fencerows and pastures	Eastern Texas	Southeastern United States	Common	Fruit food for wildlife--including deer, squirrels, turkey; good cover	Fruit used for jelly	Moderately adverse

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
Crataegus brachyacantha Sarg. & Engelm. Blueberry hawthorn HABITAT: borders of streams in rich soil	Eastern Texas	Arkansas, Louisiana, Texas	Common	Fruit food for wildlife-- including deer, squirrels, turkey; good cover	Ornamental	None
Crataegus opaca H. & A. Apple haw HABITAT: seasonally filled depressions, along streams and swamps	Eastern Texas	From Alabama to Texas	Common	Fruit food for wildlife-- including deer, squirrels, turkey; good cover	Ornamental, fruit edible	None
Crataegus uniflora Moench Hawthorn HABITAT: flat woods and open sandy soils	Eastern Texas	Southeastern United States	Common	Fruit food for wildlife-- including deer, squirrels, turkey; good cover	Ornamental	None
Crataegus Calpodendron (Ehrh.) Medic. Hawthorn HABITAT: dryish open woods	Eastern Texas	From Texas and Arkansas, northward and eastward	Common	Fruit food for wildlife-- including deer, squirrels, turkey; good cover	Ornamental	None
Crataegus Pearsonii Ashe Hawthorn HABITAT: mixed pine-hardwood forests	Southeastern Texas	From Mississippi to Texas	NA	Fruit food for wildlife-- including deer, squirrels, turkey; good cover	Ornamental	None
**Crataegus mollis Scheele Downy hawthorn HABITAT: stream bottoms, hillside woods and thickets	North-central and south-central Texas	Eastern half United States	Common	Fruit food for wildlife-- including deer, squirrels, turkey; good cover	Ornamental	Moderately adverse
Crataegus limaria Sarg. Hawthorn HABITAT: dense woods of rich bottomlands	North-central and south-central Texas	Texas and Arkansas	Common	Fruit food for wildlife-- including deer, squirrels, turkey; good cover	Ornamental	None
Crataegus texana Buckl. Hawthorn HABITAT: rich bottomlands	Coastal Texas	Endemic to Texas	Common	Fruit food for wildlife-- including deer, squirrels, turkey; good cover	Ornamental	None
Crataegus invisa Sarg. Hawthorn HABITAT: dense woods of rich bottomlands	Eastern Texas	Texas, Arkansas, and Oklahoma	Common	Fruit food for wildlife-- including deer, squirrels, turkey; good cover	Ornamental	None

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
**Crataegus brazoria Sarg. Brazos hawthorn HABITAT: stream bottoms or wooded hillsides and thickets	Eastern Texas, blackland prairies	Endemic to Texas	Common	Fruit food for wildlife--including deer, squirrels, turkey; good cover	Ornamental	Moderately adverse
Crataegus sabineana Ashe Hawthorn HABITAT: NA	Eastern Texas	Eastern Texas and western Louisiana	Common	Fruit food for wildlife--including deer, squirrels, turkey; good cover	Ornamental	None
Crataegus pyracanthoides Beadle Hawthorn HABITAT: low rich woods and moist ground along streams	Eastern Texas	Indiana to Missouri, south to Florida and Texas	Common	Fruit food for wildlife--including deer, squirrels, turkey; good cover	Ornamental	None
**Crataegus crus-galli L. Cockspur hawthorn HABITAT: on limestone bluffs and hilltops, woods, thickets, fencerows	Eastern and north-central Texas	From southeastern Canada to South Carolina, west to Minnesota, Kansas, Texas	Common	Fruit food for wildlife--including deer, squirrels, turkey; good cover	Ornamental	Slightly adverse
Crataegus Reverchonii Sarg. Hawthorn HABITAT: thickets and open woods	North-central Texas	Texas, north to Arkansas, Missouri, and Kansas	Common	Fruit food for wildlife--including deer, squirrels, turkey; good cover	Ornamental	None
Crataegus cherokeensis Sarg. Hawthorn HABITAT: upland thickets and lowland woods	Eastern Texas	Endemic to Texas	Common	Fruit food for wildlife--including deer, squirrels, turkey; good cover	Ornamental	None
Crataegus sublobulata Sarg. Hawthorn HABITAT: edge of upland woods	Eastern Texas	Endemic to Texas	Common	Fruit food for wildlife--including deer, squirrels, turkey; good cover	Ornamental	None
Crataegus Warneri Sarg. Hawthorn HABITAT: sandy woods and dry banks	Eastern Texas	Endemic to Texas	Common	Fruit food for wildlife--including deer, squirrels, turkey; good cover	Ornamental	None
Crataegus berberifolia T. & G. Bigtree hawthorn HABITAT: low wet woods and on dryish hills	Eastern Texas	Endemic to Texas	Common	Fruit food for wildlife--including deer, squirrels, turkey; good cover	Ornamental	None

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
Crataegus Engelmannii Sarg. Hawthorn HABITAT: sandy upland or lowland woods, thickets and open dry soils	Eastern and north-central Texas	From Illinois to Oklahoma and Texas	Common	Fruit food for wildlife--including deer, squirrels, turkey; good cover	Ornamental	None
**Crataegus glabriuscula Sarg. Hawthorn HABITAT: dry creek beds and bottomlands along rivers	North-central and south Texas	Endemic to Texas	Common	Fruit food for wildlife--including deer, squirrels, turkey; good cover	Ornamental	Slightly adverse
**Crataegus viridis L. Green hawthorn HABITAT: low wet or alluvial woods, fields in sandy soils and clays	Eastern and south-central Texas	From Virginia and Florida, west to Illinois, Missouri, and Texas	Common	Fruit food for wildlife--including deer, squirrels, turkey; good cover	Ornamental	Slightly adverse
Fragaria virginiana Duchn. Virginia strawberry HABITAT: fields, prairies, open slopes and borders of woods	Eastern fourth of Texas	Much of eastern United States	NA	Moderate food value	Aestnetic, fruit edible	None
**Duchesnea indica (Andrz.) Focke Indian strawberry HABITAT: edge of low woods and thickets, seepage areas and marshes, along roadsides, old fields	Eastern Texas	Widely introduced in United States, native to Asia	Common	Songbirds and gamebirds eat leaves and fruit, leaves eaten by small mammals and deer	Aesthetic	None
Potentilla recta L. Sulphur cinquefoil HABITAT: fields and along roadsides	Tarrant and Cass Counties	Naturalized in fields and along roadsides throughout much of northeastern United States, Texas, native of Europe	Common	NA	Aesthetic	None
**Geum canadense Jacq. White avens HABITAT: rich woods	Eastern third of Texas	Nova Scotia to South Dakota, south to Georgia and Texas	NA	Low food value	Aesthetic	None
Rubus bifrons Vest Dewberry HABITAT: sandy roadsides, waste places, and about old homesites, naturalized	Eastern Texas	From Florida to Texas, north to Rhode Island, Tennessee, and Missouri, native of Europe	Common	Fruit eaten by wildlife, high value seasonal food, cover	Fruit edible	None

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
Rubus louisianus Berger Blackberry HABITAT: damp and sandy thickets, pastures and lowland areas, and along fencerows	Eastern Texas	From Texas to South Carolina, north to Maryland and Virginia	Common	Fruit eaten by wildlife, high value seasonal food, cover	Fruit edible, pioneer cover plant	None
Rubus persistens Rydb. Dewberry HABITAT: sandy soils in open areas	Southeastern Texas	From Florida to Texas	Uncommon	Fruit eaten by wildlife, high value seasonal food, cover	Fruit edible, pioneer cover plant	None
**Rubus saepescandens Bailey Dewberry-blackberry HABITAT: sandy open areas	Eastern Texas	Eastern Texas and southern Louisiana	NA	Fruit eaten by wildlife, high value seasonal food, cover	Fruit edible, pioneer cover plant	None
Rubus oklahomus Bailey Dewberry HABITAT: thickets, edge of woods, on slopes, in stream bottoms and along fencerows	North-central Texas	Texas, Oklahoma, and Arkansas	NA	Fruit eaten by wildlife, high value seasonal food, cover	Fruit edible, pioneer cover plant	None
**Rubus trivialis Michx. Southern dewberry HABITAT: commonly a weedy plant along roadsides, fencerows and in thickets in various soils	Eastern Texas, west to Grand Prairie	Florida to Texas, north to Maryland, Missouri, and Oklahoma	Common	Fruit eaten by wildlife, high value seasonal food, cover	Fruit edible	None
Rubus duplaris Shinners Blackberry HABITAT: open sandy oak woods	East-central Texas	Endemic to Texas	NA	Fruit eaten by wildlife, high value seasonal food, cover	Fruit edible, pioneer cover plant	None
**Rubus aboriginum Rydb. Dewberry-blackberry HABITAT: sandy open woods, along roadsides and in fencerows	Eastern Texas, west to west cross timbers	Endemic to Texas	Common	Fruit eaten by wildlife, high value seasonal food, cover	Fruit edible pioneer cover plant, scientific	None
**Rubus apogaeus Bailey Dewberry-blackberry HABITAT: damp thickets, on road shoulders and edge of forests	Eastern Texas	Endemic to Texas	Common	Fruit eaten by wildlife, high value seasonal food, cover	Fruit edible, pioneer cover plant, scientific	None

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
Rubus flagellaris Willd. Northern dewberry HABITAT: dry fields, opening and borders of thickets	Eastern third of Texas	Most of eastern half United States	Common	Fruit eaten by wildlife, high value seasonal food, cover	Fruit edible	None
Rubus Nessianus Bailey Dewberry HABITAT: red sands in pinelands and bottomlands	South-central and southeastern Texas	Endemic to Texas	NA	Fruit eaten by wildlife, high value seasonal food, cover	NA	None
Alchemilla microcarpa Boiss & Reut. Parsley piert HABITAT: sandy open places, old fields and along roads	Eastern Texas	Naturalized from Delaware south to Georgia, Alabama, and Texas	Uncommon	NA	Aesthetic, foliage edible	None
Agrimonia microcarpa Wallr. Agrimony HABITAT: low rich woods	Eastern Texas	Southeastern United States	Uncommon	NA	Aesthetic, pest	None
**Agrimonia rostellata Wallr. Woodland groovebur HABITAT: moist rich open woods	Northeastern Texas	Georgia to Texas and Oklahoma, north to Massachusetts, Connecticut, New York, Ohio, Indiana, Illinois, Missouri, and eastern Kansas	Uncommon	NA	Pest	Slightly adverse
**Agrimonia parviflora Ait. Manyflower groovebur HABITAT: damp thickets and meadows and in marshy areas	Northern Panhandle, northeastern Texas	From Florida to Texas, north to Connecticut, New York, Ontario, Ohio, Indiana, Illinois, and Nebraska	Uncommon	NA	Pest	Slightly adverse
Sanguisorba annua Nutt. Prairie burnet HABITAT: sandy or gravelly soils in prairies, pastures, open oak woods and along roadsides	North-central Texas	Texas to Arkansas and Kansas	Common	NA	Aesthetic, foliage edible	None
Rosa bracteata Wendl. Macartney rose HABITAT: escape from cultivation	Eastern Texas	Florida to Texas, north to Virginia, native of China	Common	Fruit eaten by wildlife	Aesthetic, edible, cultivated	None
**Rosa setigera Michx. Prairie rose HABITAT: open woods, thickets, clearings and banks	Eastern Texas	Florida to Texas, north to New York, West Virginia, Ohio, Indiana, Illinois, Missouri, and Kansas	Common	Fruit eaten by wildlife	Aesthetic, edible, cultivated	Slightly beneficial

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
Rosa foliolosa Nutt. Leafy rose HABITAT: prairies, sandy oak woods, thickets, and along fences, roadsides and railroad tracks	North-central and central Texas, southwest to Kerr County	Texas, Oklahoma, and Arkansas	NA	High food value	Aesthetic	None
Rosa carolina L. Carolina rose HABITAT: dry sandy, rocky or open habitats or thin woods	Eastern Texas	Eastern half United States	NA	High food value	Aesthetic	None
Rosa suffulta Greene Sunshine rose HABITAT: dry thickets, on rocky slopes and sands	North-central Texas	Central United States	NA	High food value	Aesthetic	None
Prunus caroliniana (Mill.) Ait. Laurel cherry HABITAT: in and on the edge of forests, lowland areas, fields and thickets	Eastern Texas	Florida to Texas, north to North Carolina	Common	Food for wildlife--including deer, squirrel, turkey; cover	Ornamental	None
Prunus virginiana L. Common chokecherry HABITAT: open woods, rocky slopes, bluffs, rimrock, breaks and seepage areas	Eastern Texas, the Panhandle and Trans-Pecos	From Newfoundland to Saskatchewan, south to North Carolina, Tennessee, Missouri, Kansas, and Texas	Common	Food for wildlife--including deer, squirrel, turkey; cover	Fruit edible in jelly	None
**Prunus serotina Ehrh. Black cherry HABITAT: woodlands, floodplains, canyons, draws, thickets, fencerows	Eastern Texas, scattered	Eastern and southern United States	Common	Fruit eaten by birds, raccoon, opossum, squirrel, rabbit, deer, turkey; cover	Fruit edible, ornamental, timber, foliage, poisonous to cattle	Slightly adverse
**Prunus persica (L.) Batsch Peach HABITAT: cultivated, escapes in waste places, dumps, thickets, along roadsides and edge of woods	Mostly in eastern Texas	Introduced widely in United States, native of China	Uncommon	Food for wildlife	Fruit edible, cultivated	None
Prunus umbellata Ell. Flatwood plum HABITAT: in and on edge of forests, on slopes and along creeks, in pastures and fencerows	Mostly in eastern Texas	Mississippi to Texas and southern Arkansas	Common	Food for variety of wildlife--including birds, deer, squirrels, turkey; cover	Fruit edible, cultivated	None

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
**Prunus mexicana Wats. Mexican plum HABITAT: river bottoms, lake shores, hardwood slopes, prairies	Northeastern and north-central Texas, eastern Edwards Plateau	Texas	Common	High for food for variety of wildlife--including deer, squirrel, turkey; cover	Aesthetic	Slightly beneficial
Prunus Munsoniana Wight & Hedr. Wild-goose plum HABITAT: limestone ledges and slopes and grassy thickets	Centered on Edwards Plateau but south to Calhoun County and north to Rockwall County	Kentucky and Tennessee, south to Kansas and Texas	Common	High for food for variety of wildlife--including deer, squirrel, turkey; cover	Aesthetic	None
Prunus gracilis Engelm. & Gray Oklahoma plum HABITAT: sandy or dryish soils on open hills and thin woods, fencerows and fields	Eastern Texas, Panhandle	Texas, Oklahoma, and Arkansas	Common	High for food for variety of wildlife--including deer, squirrel, turkey; cover	Aesthetic	None
Prunus rivularis Scheele Creek plum HABITAT: along creeks, edge of woods, roadsides, canyons, breaks on limestone ravines and slopes	Mainly on Edwards Plateau, north-central Texas	Texas, Oklahoma	Common	High for food for variety of wildlife--including deer, squirrel, turkey; cover	Aesthetic	None
**Prunus angustifolia Marsh. Chickasaw plum HABITAT: old fields, edge of woods, along roadsides and fencerows	Throughout most of eastern two-thirds of Texas	Maryland and Delaware, south to Florida, west to Arkansas and Texas	Common	High for food for variety of wildlife--including deer, squirrel, turkey; cover	Fruit edible, may be cultivated	Slightly beneficial
LEGUMINOSAE (legume family)						
Acacia hirta T. & G. Fern acacia HABITAT: grasslands and in open shrubby vegetation	Through eastern two-thirds of Texas, rarely west to plains country	Texas, Oklahoma, Arkansas, Missouri, and Florida	Common	Moderate food value and cover	NA	None
Schrankia hystricina (Britt. & Rose) Standl. Sensitive brier HABITAT: sandy forested areas	Eastern, and south-eastern Texas	Texas, Louisiana	Locally abundant	NA	Aesthetic	None
Schrankia uncinata Willd. Sensitive bri HABITAT: sandy soils	Eastern, south-eastern, and north-central Texas	Central United States, sparingly southeast to South Carolina and Alabama, southwest to Texas	Locally abundant	NA	Aesthetic	None

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Value	Project Impact
**Schrankia Roemeriana (Scheele) Blank Sensitive brier HABITAT: calcareous soil	North-central Texas, scattered in Edwards Plateau	Texas, Oklahoma	Common	NA	Aesthetic	None
Schrankia microphylla (Sm.) Macbr. HABITAT: NA	Scattered in south-eastern Texas, rare in southern part of East Texas	Coastal states, Virginia to Texas	Uncommon	NA	Aesthetic	None
**Mimosa strigillosa T. & G. Powderpuff HABITAT: grasslands and openings in forests on sandy loam	Eastern and south-eastern Texas, and coastal parts of Rio Grande plains	Southeastern United States, west to Oklahoma and Texas	Common	NA	NA	Unknown
**Desmanthus illinoensis (Michx.) MacM. Illinois bundleflower HABITAT: clay soils	North-central Texas, infrequent or rare in Edwards PLateau and plains country	Sounth-central United States	Rare	Low food value for quail	NA	None
Desmanthus leptolobus T. & G. Bundleflower HABITAT: NA	North-central Texas, rare west on Edwards Plateau and plains country	Kansas, Missouri, Arkansas, and Texas	Locally common to rare	Low food value for quail	NA	None
**Neptunia lutea (Leavenw.) Benth. Yellow-puff HABITAT: NA	Scattered or locally frequent over the eastern half of Texas, south to Aransas and Goliad Counties, west to north-central Texas	Alabama, Mississippi, Arkansas, Louisiana, Oklahoma, and Texas	Locally common	Low food value for quail	Aesthetic	None
Neptunia pubescens Benth. Yellow-puff HABITAT: NA	Coastal plains, inland to Val Verde County	Gulf coastal plains	Common	Low food value for quail	NA	None
**Prosopis glandulosa Torr. Honey mesquite HABITAT: NA	Throughout most of state, abundant in some areas	Kansas, Oklahoma, eastern New Mexico, and into Mexico	Abundant to common	High food value, cover and nesting sites	May be used a as an ornamental	None
**Cercis canadensis L. Redbud HABITAT: forested sandy areas, calcareous soils	Eastern and north-central Texas, Edwards Plateau and eastern parts of plains country, mountains of Trans-Pecos	Widespread in eastern United States	Common	Moderate for cover and nesting sites; food for wildlife--including deer and turkey	Aesthetic, may be used as ornamental	Slightly adverse

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Value	Project Impact
Cassia Roemeriana Scheele Two-leaved senna HABITAT: fields and open woods on limestone and black clay soils	Central and southwestern Texas	Texas and New Mexico	Common	Moderate for food, seeds eaten by birds and small mammals; plants grazed	Aesthetic	None
Cassia nictitans L. Sensitive pea HABITAT: woods, fields, disturbed places	Northeastern Texas, westward and southward	Eastern half United States	Locally abundant	Moderate for food, seeds eaten by birds and small mammals; plants grazed	Aesthetic	None
**Cassia fasciculata Michx. Partridge pea HABITAT: fields and open woods, mainly on sandy soils	Eastern and central Texas	Eastern half United States	Common	High for food; seeds eaten by gamebirds, small mammals; plants eaten by deer	Aesthetic, soil improver, sometimes toxic to livestock	None
**Cassia obtusifolia L. Sickle-pod HABITAT: disturbed ground on sandy soils	Eastern Texas	East and north to Pennsylvania, Indiana, and Missouri	Common	Possibly negative, seeds reported to be sometimes fatal to quail	Aesthetic, alternate host for tobacco etch disease	None
Cassia occidentalis L. Coffee senna HABITAT: roadsides, waste ground, and other disturbed places	Gulf coastal plain, southern half East Texas	Southeastern United States	Common	Seeds reported to have antibiotic activity	Aesthetic, weakly toxic to livestock	None
**Cassia marilandica L. Maryland senna HABITAT: moist sandy fields open woods and creek borders	Eastern Texas	Eastern United States	Common	Seeds reported to have antibiotic activity	Aesthetic, sometimes cultivated; some value as a nectar plant in apiaries	Slightly beneficial
**Gleditsia triacanthos L. Honey locust HABITAT: NA	Scattered in eastern Texas	Eastern United States	Uncommon	High for food, seeds and pods eaten by many birds and mammals, cover and nesting sites	Seeds edible	Slightly adverse
**Gleditsia aquatica Marsh. Water locust HABITAT: swamps, along rivers and low bottomland forests	Eastern and southeastern Texas	Central United States to Florida	Uncommon	High for food; seeds, pods, and foliage food for many birds and mammals; good cover	Soil builder, nitrogen fixer	Slightly adverse

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Trifolium incarnatum L. Crimson clover HABITAT: roadside escapee	Eastern half of Texas	Widely introduced, native of Europe	Common	High for food, provides nectar for bees	Aesthetic, forage and hay crop, adds nitrogen to soil	None
**Trifolium resupinatum L. Persian clover HABITAT: roadside escapee	Eastern Texas	Widely introduced, native of Old World	Rare	Moderate for food, seeds eaten by variety of birds and small mammals, plants eaten by deer, provide bee nectar	Aesthetic, forage and hay crop, adds nitrogen to soil	None
Trifolium reflexum L. Buffalo clover HABITAT: sandy forested areas	Northeastern Texas	Most of eastern United States	Uncommon	Moderate for food, seeds eaten by variety of birds and small mammals, plants eaten by deer, provide bee nectar	Aesthetic, adds nitrogen to soil	None
**Trifolium repens L. White clover HABITAT: roadside escapee	Scattered in eastern half of Texas	Widely introduced native of Europe	Common	Moderate for food, seeds eaten by variety of birds and small mammals, plants eaten by deer, provide bee nectar	Aesthetic, adds nitrogen to soil, forage and hay crop	None
**Trifolium amphianthum T. & G. Peanut clover HABITAT: wooded sandy areas	Eastern, southeastern, and northcentral Texas	Texas, Louisiana	Common	Moderate for food, eaten by birds, small mammals, and deer; provide bee nectar	Aesthetic, adds nitrogen to soil	None
Trifolium bejariense Moric. Clover HABITAT: sandy or sandy clay soils of prairies and open woods	Eastern and northcentral Texas	Endemic to Texas	Uncommon	Moderate for food, seeds eaten by variety of birds and small mammals, plants eaten by deer, provide bee nectar	Aesthetic, adds nitrogen to soil	None
**Trifolium carolinianum Michx. Carolina clover HABITAT: NA	Eastern and southeastern Texas, southwest to Travis, Caldwell, and Wharton Counties	Southeastern United States, northwest to Kansas and Oklahoma, north to Missouri and Virginia	Common	Low for food, minor use as food by wildlife, primcipally hoofed browsers eat plants	Aesthetic, adds nitrogen to soil	None

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Value	Project Impact
**Medicago minima (L.) L. Small bur-clover HABITAT: cultivated	North-central Texas, eastern edge of Edwards Plateau, rare farther east	Widely introduced in Texas, native of Eurasia	Common	High for food, seeds eaten by gamebirds and songbirds, fruits eaten by small rodents	Aesthetic	None
**Medicago orbicularis (L.) Bartal. Button clover HABITAT: NA	Scattered in north-central Texas, eastern part of plains country	Widely introduced, native of Mediterranean area	Uncommon	Moderate for food, seeds used as food by birds, and plants by browsers	Aesthetic	None
**Medicago polymorpha L. var. vulgaris (Benth.) Shinners Bur-clover HABITAT: lawns	Widespread in eastern half of Texas, rare in western half	Widely introduced, native of Old World	Common	Moderate for songbird and small mammal food	Aesthetic, weed in lawns	None
**Medicago arabica (L.) Huds. Spotted bur-clover HABITAT: cultivated	Scattered in eastern half of Texas	Widely introduced, native of Old World	Common	Moderate for food, leaves, pods, and seeds eaten by birds and small mammals	Aesthetic, forage plant for livestock, soil improvement	None
**Melilotus albus Lam. White sweet clover HABITAT: NA	Scattered as weed over Texas, seemingly rare on Edwards Plateau and far eastern Texas	Widely introduced, native of Eurasia	Common	Moderate for food, seeds and leaves eaten	Aesthetic, high forage and hay value, weed	None
**Melilotus indicus (L.) All. Sour clover HABITAT: cultivated	Scattered over Texas	Widely introduced, native of Mediterranean area	Common	Moderate for food for upland game, fur and game mammals, small mammals	Aesthetic high forage and hay value	None
**Melilotus officinalis (L.) Lam. Yellow sweet clover HABITAT: cultivated	Frequent in north-central Texas, scattered elsewhere	Widely introduced, native of Eurasia	Common	Moderate for food by browsers and seed eaters	Aesthetic, high forage and hay value	None
**Trifolium campestre Sturm. Low hop clover HABITAT: sandy soils along roads, wooded areas	Eastern and southeastern Texas	Widely introduced, native of Europe	Common	High for food, seeds important food for birds, foliage eaten by small mammals and deer	Aesthetic, provide bee nectar, supply nitrogen to soil	None
Trifolium pratense L. Red clover HABITAT: cultivated	Scattered escape in eastern half of Texas	Widely introduced, native of Europe	Common	High for food, provides nectar for bees	Aesthetic, forage and hay crop, adds nitrogen to soil, green manure	None

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Trifolium incarnatum L. Crimson clover HABITAT: roadside escapee	Eastern half of Texas	Widely introduced, native of Europe	Common	High for food, provides nectar for bees	Aesthetic, forage and hay crop, adds nitrogen to soil	None
**Trifolium resupinatum L. Persian clover HABITAT: roadside escapee	Eastern Texas	Widely introduced, native of Old World	Rare	Moderate for food, seeds eaten by variety of birds and small mammals, plants eaten by deer, provide bee nectar	Aesthetic, forage and hay crop, adds nitrogen to soil	None
Trifolium reflexum L. Buffalo clover HABITAT: sandy forested areas	Northeastern Texas	Most of eastern United States	Uncommon	Moderate for food, seeds eaten by variety of birds and small mammals, plants eaten by deer, provide bee nectar	Aesthetic, adds nitrogen to soil	None
**Trifolium repens L. White clover HABITAT: roadside escapee	Scattered in eastern half of Texas	Widely introduced native of Europe	Common	Moderate for food, seeds eaten by variety of birds and small mammals, plants eaten by deer, provide bee nectar	Aesthetic, adds nitrogen to soil, forage and hay crop	None
**Trifolium amphianthum T. & G. Peanut clover HABITAT: wooded sandy areas	Eastern, south-eastern, and north-central Texas	Texas, Louisiana	Common	Moderate for food, eaten by birds, small mammals, and deer; provide bee nectar	Aesthetic, adds nitrogen to soil	None
Trifolium bejariense Moric. Clover HABITAT: sandy or sandy clay soils of prairies and open woods	Eastern and north-central Texas	Endemic to Texas	Uncommon	Moderate for food, seeds eaten by variety of birds and small mammals, plants eaten by deer, provide bee nectar	Aesthetic, adds nitrogen to soil	None
**Trifolium carolinianum Michx. Carolina clover HABITAT: NA	Eastern and south-eastern Texas, southwest to Travis, Caldwell, and Wharton Counties	Southeastern United States, northwest to Kansas and Oklahoma, north to Missouri and Virginia	Common	Low for food, minor use as food by wildlife, primcipally hoofed browsers eat plants	Aesthetic, adds nitrogen to soil	None

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Value	Project Impact
**Lotus Purshianus (Benth.) Clem. & Clem. Deer vetch HABITAT: usually on sandy soils	North-central, eastern, and south-eastern Texas, infrequent in Llano region	Most of United States west of Mississippi River	Abundant	High for food, both leaves and seeds are eaten by birds and rodents	Aesthetic	None
**Indigofera miniata Ort. Scarlet pea HABITAT: open areas	Eastern two-thirds of Texas	Texas to Florida	Very abundant	NA	Aesthetic	None
Indigofera suffruticosa Mill. Indigo HABITAT: coastal plains	Coastal plains, Hardin County to Cameron County, inland to Brazos, Gonzales, and Wilson Counties	Widely introduced, native to Tropical America	Locally common	NA	Aesthetic	None
Psoralea simplex T. & G. Scurfy pea HABITAT: sandy soils	Eastern and south-eastern Texas	Southeastern United States	Uncommon	NA	Aesthetic	None
Psoralea psoralioides (Walt.) Cory Sampson's snakeroot HABITAT: sandy wooded areas	Eastern and south-eastern Texas	Southeastern United States, north to Virginia and Illinois	Common	NA	Aesthetic	None
Psoralea linearifolia T. & G. Scurfy pea HABITAT: rocky calcareous soils	Frequent in north-central Texas, rare in plains country	Nebraska and Wyoming south to Texas	Common	NA	Aesthetic	None
**Psoralea tenuiflora Pursh. Slimleaf scurfy pea HABITAT: NA	Frequent in north-central Texas, local in Trans-Pecos and parts of plains country, scattered in Edwards Plateau and eastern and south-eastern Texas	Central United States from Illinois to Montana and south to Texas and Arizona	Common	NA	Aesthetic	None
Psoralea digitata T. & G. Scurfy pea HABITAT: sandy soils	North-central Texas	South Dakato to Colorado, Texas, and Arkansas	Common	NA	Aesthetic	None
Psoralea Reverchonii Wats. Scurfy pea HABITAT: rocky calcareous soils, rarely on sandy soils	North-central Texas	Texas, Oklahoma	Rare	None	Aesthetic	None

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Value	Project Impact
Psoralea cuspidata Pursh. Scurfy pea HABITAT: calcareous soils	North-central Texas, plains country, and Edwards Plateau; infrequently south to DeWitt and Lavaca Counties	Great Plains, South Dakato to Texas	Common	NA	Aesthetic	None
Psoralea latestipulata Shinners Scurfy pea HABITAT: rocky or sandy calcareous soil, bare limestone, hillsides	North-central and central Texas	Endemic to Texas	Locally common	NA	Aesthetic	None
Psoralea subulata Bush Scurfy pea HABITAT: openings in woods on loose sandy soil	Eastern, north-central, and southeastern Texas	Endemic to Texas, but probably occurs in Louisiana	Locally common	NA	Aesthetic	None
Psoralea hypogaea T. & G. Scurfy pea HABITAT: calcareous hillsides	North-central Texas, eastern edge of Edwards Plateau, higher parts of plains country	Montana and Wyoming, south to Texas and New Mexico	Uncommon	NA	Aesthetic, edible root	None
**Psoralea rhombifolia T. & G. Roundleaf scurfy pea HABITAT: Sandy soil	Eastern and south-eastern Texas	Texas, Louisiana, Oklahoma	Uncommon	NA	Aesthetic	None
Amorpha canescens Pursh. Lead plant HABITAT: Sandy prairies	Infrequent or rare and local and with a very peculiar disjunct distribution, occurring in sandy prairies, eastern Panhandle, scattered in southeastern and south-central Texas, south to Aransas County	South-central Canada, south to New Mexico and Texas	Locally uncommon or rare	NA	Aesthetic	None
**Amorpha paniculata T. & G. Amorpha HABITAT: deep acid woodlands and bogs	Eastern Texas	Arkansas, Louisiana, and Texas	Uncommon	Moderate food value for quail	Aesthetic	None
**Amorpha fruticosa L. Bastard indigo HABITAT: NA	Statewide, rare in eastern and far western Texas	Widely scattered in United States	Abundant	Moderate for food, seeds eaten by quail	Aesthetic nitrogen fixer, erosion control, poisonous to livestock	None

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
Dalea Hallii Gray Dalea HABITAT: NA	North-central Texas, north and northeast to Parker, Dallas, Tarrant, and Fannin Counties, south to Hays and Kerr Counties	Endemic to Texas	NA	Low food value	Aesthetic	None
**Petalostemum candidum (Willd.) Michx. Prairie clover HABITAT: NA	Scattered in northern half of Texas	Central United States	Common	NA	Aesthetic, ornamental	None
Petalostemum glandulosum Coult. and Fish. Prairie clover HABITAT: NA	Scattered on Texas coastal plain from Hardin and Trinity Counties, southwest to Aransas and Dimmit Counties	Endemic to Texas	Uncommon	NA	NA	None
Petalostemum phleoides T. & G. Prairie clover HABITAT: sandy woodlands	Eastern Texas	Texas and Arkansas	Rare	NA	NA	None
Petalostemum microphyllum (T. & G.) Heller Prairie clover HABITAT: NA	Frequent in eastern, southeastern, and north-central Texas	Endemic to Texas	Common	NA	Aesthetic	None
Petalostemum griseum T. & G. Prairie clover HABITAT: sandy woodlands	Eastern and southeastern Texas	Endemic to Texas	NA	NA	NA	None
**Petalostemum pulcherrimum (Heller) Heller Prairie clover HABITAT: calcareous soils	North-central Texas, infrequent southeast to Goliad, Jackson, and Montgomery Counties, west to Irion County, rare in Trans-Pecos	South-central United States	Common	NA	Aesthetic	None
Petalostemum decumbens Nutt. Prairie clover HABITAT: black clay soils, prairies or gumbo glades	Southeastern Texas and north to Polk and Tyler Counties	Texas and Okalhoma	Locally common	NA	NA	None
Tephrosia onobrychoides Nutt. Hoary pea HABITAT: sandy soils	Eastern and southeastern Texas, southwest to Wilson, Goliad, and Aransas Counties	Alabama to Texas and Oklahoma	NA	Low food for quail	Aesthetic	None

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
Wisteria macrostachya T. & G. Wisteria HABITAT: moist woods and along river banks	Eastern and south-eastern Texas	East-central United States	Locally common	Moderate for cover	Ornamental	None
**Sesbania vesicaria (Jacq.) Ell Bladder pod HABITAT: seasonally wet places	Eastern third of Texas, west to Palo Pinto, Erath, Bastrop, Gonzales, Karnes, and San Patricio Counties	Coastal states, North Carolina to Texas	Common	None known	Nitrogen fixer	Slightly adverse
**Sesbania macrocarpa Muhl. Bequilla HABITAT: seasonally wet places	Infrequent or locally abundant eastern third of Texas, west to Denton, Tarrant, Travis, Hays, Comal, San Patricio, and Cameron Counties	Florida to Texas, and north to Missouri	Locally abundant	Moderate for food, seeds eaten by quail and other birds	Aesthetic, nitrogen fixer	Slightly adverse
**Sesbania Drummondii (Rydb.) Cory Rattlebush HABITAT: seasonally wet places	Coastal plain, inland to Denton, Williamson, Travis, Comal, Wilson, McMullen, and Starr Counties	Coastal states, Florida to Vermont, and inland to San Luis Potosi	Locally very abundant	The seeds, if eaten, are known to be poisonous to sheep and goat	NA	Slightly adverse
Sesbania punicea (Cav.) Benth. Sesbania HABITAT: seasonally wet places	Eastern and south-eastern Texas	Widely adventive in warmer parts of southeastern United States, native of South America	Uncommon to rare	NA	NA	None
**Robinia Pseudo-Acacia L. Black locust HABITAT: cultivated, native to parts of southeastern United States	Eastern, south-eastern, and north-central Texas	Probably native to parts of southeastern United States, now widely cultivated in temperate climates	Scattered, common	Low food value, good cover and nesting sites	Seed edible, used for fence posts and mine props, weedy "dirty" tree	Slightly adverse
Astragalus canadensis L. Milk-vetch HABITAT: NA	Scattered in northern part of north-central and parts of eastern and south-eastern Texas	Much of temperate North America	Common	Moderate food value	Aesthetic	None
Astragalus distortus T. & G. Milk-vetch HABITAT: NA	Two varieties, abundant in north-central, eastern, and southeastern Texas	Southeastern United States	Abundant	Moderate food value	Aesthetic	None
**Astragalus Nuttallianus A. DC. Milk-vetch HABITAT: NA	Western two-thirds of Texas	Southwestern United States	Abundant to common	Moderate for food, seeds eaten by gamebirds and small mammals	Aesthetic	None

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Astragalus leptocarpus T. & G. Milk-vetch HABITAT: NA	Abundant in eastern, southeastern, and north-central Texas, and near the coast south to Cameron County	Endemic to Texas	Abundant	Moderate food value	Aesthetic	None
Astragalus reflexus T. & G. Milk-vetch HABITAT: NA	Infrequent Dallas and Travis Counties, rarely southeastern to Gonzales and Walker Counties	Endemic to Texas	Uncommon	Moderate food value	Aesthetic	None
Oxytropis Lambertii Pursh Crazy-weed, purple loco HABITAT: Scattered in higher plains	North-central Texas, south to Tarrant and Dallas Counties, very rarely south to Comanche and Travis Counties	From Canada, south and southwest to Arizona, New Mexico and Texas	Common	Negative, one of the most dangerous of the loco weeds because it is readily eaten by grazing animals, often with fatal effect.	NA	None
**Stylosanthes biflora (L.) B.S.P. Pencil-flower HABITAT: NA	Frequent in eastern, southeastern, and north-central Texas	Most of eastern United States	Common	Low as food for quail	NA	Unknown
Zornia bracteata J.F. Gmel. Viperina HABITAT: sandy gravelly soils	Rio Grande plains, north-central and southeastern Texas, less frequent west to the Llano area of Edwards Plateau and to eastern Texas	Coastal states--Virginia to Texas	Common	NA	Aesthetic	None
Zornia gemella (Willd.) Vog. Zornia HABITAT: sandy soils	Rio Grande plains, rare in southeastern and eastern Texas	From South America north into Texas	Uncommon to rare	NA	NA	None
Zornia reticulata Sm. Zornia HABITAT: sandy soil	Rio Grande plains, and southeastern Texas	Paraguay northwest to Arizona and Texas	Uncommon	NA	Aesthetic	None
Desmodium nudiflorum (L.) DC. Tick-trefoil HABITAT: rich woods	Eastern Texas	Central United States, south to northern Florida, southern Mississippi, and central Louisiana	Rare	High for food for variety of wildlife--including quail	Aesthetic	None
**Desmodium pauciflorum (Nutt.) DC. Fewflower tick-clover HABITAT: rich woods, wooded banks	Eastern Texas	Eastern and central United States southward	Rare	High for food, seeds eaten by quail and rice, plants eaten by deer	Aesthetic	Slightly adverse

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Desmodium rotundifolium DC. Tick-trefoil HABITAT: dry woods	Southeastern Texas	Florida to Texas, northward to Massachusetts, southern Vermont, New York, and Michigan	Uncommon	High for food for variety of wildlife--including quail	Aesthetic	None
**Desmodium canescens (L.) DC. Hoary tick-clover HABITAT: dry sandy woods	Eastern and north-central Texas	Eastern half of United States	Common	High for food, seeds important food for quail, plants browsed by deer	Aesthetic	None
**Desmodium sessilifolium (Torr.) T. & G. Beggar-weed HABITAT: dry sandy soils	Frequent in eastern and north-central Texas, infrequent in southeastern Texas, rare in plains country	Local in eastern United States	Common	Low for food, occasionally seeds used by Bob-white quail as food	Aesthetic	None
**Desmodium obtusum (Willd.) DC. Beggar-weed HABITAT: sandy open woodlands	Eastern and north-central Texas	Scattered in eastern United States, south to southeastern South Carolina, Florida, and Texas	Rare and scattered	Low for food, ocassionally seeds used by Bob-white quail as food	Aesthetic	Slightly adverse
Desmodium ciliare (Willd.) DC. Tick-trefoil HABITAT: dry sandy woods and clearings	Eastern and south-eastern Texas	Eastern United States	Rare	High for food for variety of wild-life--including quail	Aesthetic	None
Desmodium marilandicum (L.) DC. Tick-trefoil HABITAT: dry open woods	Scattered and rare in eastern and southeastern Texas	Eastern half of United States	Rare	High for food for variety of wild-life--including quail	Aesthetic	None
Desmodium cuspidatum (Willd.) Loud. Tick-clover HABITAT: rich woods	Northeastern Texas	Eastern and central United States	Uncommon	NA	NA	None
**Desmodium viridiflorum (L.) DC. Beggar-weed HABITAT: dry woods	Eastern Texas	Southeastern United States, north to Delaware and inland only to Arkansas and Tennessee	Uncommon	Low for food, occasionally seeds used by Bob-white quail as food	Aesthetic	Slightly adverse
**Desmodium Nuttallii (Schindl.) Schub. Beggar-weed HABITAT: dry sandy open woods	Eastern and north-central Texas	New York to Indiana, south to northern Florida, Alabama, and Texas	Rare	Low for food, occasionally seeds used by Bob-white quail as food	Aesthetic	Slightly adverse

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Desmodium Fernaldii Schub. Tick-trefoil HABITAT: sandy woods	Eastern Texas	Southeastern Virginia to South Carolina, Louisiana, and eastern Texas	Rare	High for food for variety of wildlife--including quail	NA	None
Desmodium glabellum (Michx.) DC. Tick-trefoil HABITAT: dry sandy woods	Eastern Texas as far south as Fort Bend County	Southeastern Massachusetts to Michigan and Illinois, south to South Carolina, Alabama, Louisiana, and Texas	NA	High for food for variety of wildlife--including quail	NA	Unknown
**Desmodium paniculatum (L.) DC. Panicled tick-clover HABITAT: clearings and borders of dry woods	Eastern half of Texas	Eastern half United States	Common	High for food, seeds eaten by gamebirds, small mammals, plants eaten by deer	Aesthetic	Slightly adverse
**Desmodium laevigatum (Nutt.) DC. Beggar-weed HABITAT: dry sandy woods and clearings	Eastern Texas	New York to Indiana and Missouri, south to northern Florida, Tennessee, Louisiana, and Texas	NA	Low for food, occasionally seeds used by Bob-white quail as food	Aesthetic	Slightly adverse
**Lespedeza procumbens Michx. Trailing bush clover HABITAT: roadsides and open sandy woodlands	Eastern and north-central Texas	Eastern and central United States	NA	Moderate for food, seeds eaten by gamebirds and juncos, plants by deer	NA	None
**Lespedeza repens (L.) Bart. Creeping bush clover HABITAT: sandy or gravelly soil, roadsides, open woodlands	Eastern Texas, infrequent west to north-central Texas	Eastern and central United States	Common	Low food value to birds	Aesthetic	None
**Lespedeza violacea (L.) Pers. Prairie clover HABITAT: NA	North-central Texas	Most of northeastern and central United States	On Texas rare and endangered plant list	Moderate for food, seeds eaten by gamebirds and juncos, plants by deer	Aesthetic	Unknown
**Lespedeza Stuevei Nutt. Tall bush clover HABITAT: sandy or gravelly soil on roadsides and open woodlands	Eastern and north-central Texas	Most of eastern United States	Common	Moderate for food, seeds eaten by gamebirds and juncos, plants by deer	Aesthetic	None
**Lespedeza virginica (L.) Britt. Slender bush clover HABITAT: roadsides and sandy open woodlands	Eastern and north-central Texas	Eastern United States	Common	Moderate for food, seeds eaten by quail, turkey, dove, and junco; plants by deer	Aesthetic	None

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**Lespedeza hirta (L.) Hornem. Hairy bush clover HABITAT: sandy soils	Eastern and southeastern Texas, rare west to north-central Texas	Easterr United States	Common	High for food, seeds important food for Bob-white quail, plant browsed by deer	Aesthetic	None
**Lespedeza striata (Thunb.) H. & A. Japanese bush clover HABITAT: sandy open areas	Eastern Texas, infrequent west to north-central Texas	Widely introduced in North America, native to eastern Asia	Abundant	High for food, seeds important to Bob-white quail, foliage eaten by deer	Aesthetic, cover and soil improvement crop, good for grazing and as hay crop	None
**Vicia angustifolia L. Narrow-leaved vetch HABITAT: cultivated	Eastern Texas	Widely introduced in United States, native to Europe	Uncommon escape	High for food, seeds and leaves eaten by gamebirds and small mammals	Cover crop, grazing and hay	None
**Vicia minutiflora Dietr. Pygmy-flowered vetch HABITAT: NA	Eastern, south-eastern, and north-central Texas	Southeastern United States	Common	High for food, seeds and leaves eaten by gamebirds and small mammals	Aesthetic, cover crop, grazing and hay	None
Vicia Reverchonii Wats. Hairy-pod vetch HABITAT: NA	Local in vicinity of Dallas, Texas, north-central Texas	Texas and Oklahoma	Locally rare	High for food, seeds and leaves eaten by gamebirds and small mammals	Cover crop, grazing and hay	None
**Vicia ludoviciana Nutt. Deer pea vetch HABITAT: open sandy loam soil	Eastern half of Texas, west sparingly to Edwards Plateau	Missouri, Florida, Mississippi, Louisiana, Oklahoma, Texas, and New Mexico	Common	High for food, both seeds and leaves are eaten by birds and rodents	Aesthetic, cover crop, grazing and hay	None
**Vicia Leavenworthii T. & G. Leavenworth vetch HABITAT: variety of soils	Eastern half of Texas	Missouri, Oklahoma, Arkansas, and Texas	Common	High for food, seeds and leaves eaten by gamebirds and small mammals	Cover crop, grazing and hay	None
Vicia caroliniana Walt. Pale vetch HABITAT: wooded areas	Eastern Texas and eastern edge of Edwards Plateau	Eastern United States	Rare	High for food, seeds and leaves eaten by gamebirds and small mammals	Cover crop, grazing and hay	None
**Vicia villosa Roth Hairy vetch HABITAT: roadsides	Eastern and north-central Texas	Widely introduced in United States, native to Europe	Rareq	High for food; seeds eaten by song sparrows; seeds and leaves eaten by gamebirds and small mammals	Cover crop, grazing and hay	None

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**Vicia dasycarpa Ten. Winter vetch HABITAT: roadsides	Eastern and north-central Texas	Widely introduced in United States, native to Europe	Uncommon	High for food, leaves and seeds eaten by gamebirds and small mammals	Aesthetic, cover crop, grazing and hay	None
**Lathyrus hirsutus L. Singletary pea HABITAT: roadsides	Eastern and north-central Texas	Introduced and now widely escaped, native to Europe	Rare escape	NA	Good grazing and hay plant	None
Lathyrus pusillus Ell Pea-vine HABITAT: NA	Eastern, south-eastern, and north-central Texas	Gulf states north to southern Kansas and Missouri	Uncommon	High for food, leaves and seeds eaten by gamebirds and small mammals	Aesthetic, cover crop, grazing and hay	None
**Lathyrus latifolius L. Perennial sweetpea HABITAT: cultivated, persisting at old homesites	Statewide	Widely introduced in United States, native to Old World	Rare escape	NA	Seeds are poisonous	None
**Clitoria mariana L Atlantic pigeon wings HABITAT: NA	Frequent in eastern half of Texas, west to Eastland and Llano Counties and south to Travis and Bastrop Counties	Mostly Eastern United States, Arizona	Common	NA	Aesthetic	None
**Centrosema virginianum (L.) Benth. Butterfly pea HABITAT: NA	Frequent in eastern half of Texas, west to Erath, San Saba, Llano, and Brooks Counties	Southeastern United States	Common	Low food for quail	Aesthetic	Unknown
Amphicarpaea bracteata (L.) Fern Hog peanut HABITAT: NA	Eastern and south-eastern Texas, rare west to north-central Texas	Eastern United States	Uncommon	Low food value	NA	Unknown
Glycine Max (L) Merr. Soybean HABITAT: edges of fields	Eastern Texas	Southeastern, midwestern, and northeastern United States	Common escape	High for food	High forage value, soil binder, human food	None
**Apios americana Medic. American potato bean HABITAT: woods near streams	Eastern, south-eastern and north-central Texas	Southeastern Canada and eastern United States	Uncommon	NA	Aesthetic	Slightly adverse
**Erythrina herbacea L. Coral bean HABITAT: sandy woods	Coastal plains inland to central Texas	Coastal states--North Carolina to Mexico, cultivated elsewhere	NA	NA	Aesthetic	Unknown

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Galactia regularis (L.) B.S.P. Milkpea HABITAT: dry sandy soil	Southeastern Texas	Florida to Texas, north to New York, Pennsylvania, and Tennessee	Common	Moderate for food, seeds eaten by quail	Aesthetic	None
**Galctia volubilis (L.) Britt. Downy milkpea HABITAT: woodlands	Eastern half of Texas, south and west to Palo Pinto, Burnet, and Cameron Counties	Most of eastern United States	Common	Moderate for food, seeds eaten by quail	Aesthetic	None
Pueraria lobata (Willd.) Ohwi Kudzu HABITAT: along road shoulders	Eastern and south-eastern Texas	Widely introduced in warm-temperate moist regions of United States, native of China	Common	Moderate for food, foliage browsed by deer, moderate for cover	Moderate good summer forage, high for erosion control, considered a noxious weed as capable of choking out all native vegetation	None
Rhynchosia minima (L.) DC. Snoutbean HABITAT: usually in clay soil	Coastal plain inland to Newton, Houston, Travis, Bexar, and Hidalgo Counties	Coastal Texas, Louisiana, Florida, and Georgia	Common	NA	Ground cover, retards erosion	None
**Rhynchosia latifolia (Nutt.) T. & G. Snoutbean HABITAT: sandy woodland soil	Eastern, south-eastern, and north-central Texas	Missouri, southwest to Louisiana and Texas	Abundant	NA	Aesthetic	None
Rhynchosia tomentosa (L.) H. & A. Snoutbean HABITAT: woodlands	Eastern Texas	Texas north to Washington D.C., Virginia, Kentucky, and Tennessee	Very rare	NA	Aesthetic	None
Rhynchosia reniformis DC. Dollar-leaf HABITAT: pine woods	Eastern Texas	Coastal states--North Carolina to Texas	Uncommon	NA	Aesthetic	None
**Strophostyles helvola (L.) Ell Amberique bean, trailing wildbean HABITAT: grasslands and open woodlands in sandy soil	Eastern, south-eastern, and north-central Texas	Eastern United States	Common	Moderate for upland gamebird food	Aesthetic	None

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Strophostyles umbellata (Willd.) Britt. Fuzzy bean HABITAT: sandy soils of pine woodlands	Eastern and southeastern Texas	Eastern United States	Common	Moderate for upland gamebird food	Aesthetic	None
**Strophostyles leiosperma (T. & G.) Piper Slick-seed bean HABITAT: usually sandy loam soil	Eastern, southeastern, and north-central Texas	Mississippi to Texas, north to Indiana, Minnesota, Nebraska, and Colorado	Locally common	Moderate for upland gamebird food	Aesthetic	None
Vigna luteola (Jacq.) Benth. Wild cowpea HABITAT: wet places	Coastal tier of counties and inland to Hidalgo County	Tropical America, north to Gulf states, rarely to North Carolina	Common	High for food, seeds and plants eaten by birds and browsing mammals	Livestock food, soil builder, aesthetic	None
Vigna unguiculata (L.) Walp. Black-eyed pea HABITAT: cultivated, edges of fields	Eastern half of Texas	Widely introduced and cultivated, native of Asia	Rare	Moderate for food, seeds eaten by birds	Forage crop, also eaten by humans	None
KRAMERIACEAE (ratany family)						
**Krameria lanceolata Torr. Trailing ratany HABITAT: variety of habitats	Statewide except the wettest, densest pine forests of eastern Texas	Kansas to Arizona, south to Mexico and Texas	Common	NA	Aesthetic	None
GERANIACEAE (geranium family)						
**Geranium carolinianum L. Carolina geranium HABITAT: dry rocky woods and fields, about boulders, on gravelly or clay flats and wastelands	Statewide, especially in central part	From Northeast, south to Florida and Texas, west to Michigan, Illinois, Missouri, Kansas, Wyoming, and Idaho	Common	Low food value	Aesthetic	None
**Geranium texanum (Trel.) Heller Texas geranium HABITAT: clayey or sandy soil	Central and southern Texas	Endemic to Texas	NA	Low food value	Aesthetic	None
OXALIDACEAE (wood-sorrel family)						
**Oxalis violacea L. Violet wood-sorrel HABITAT: sandy soils	Eastern fourth of Texas	Southern half United States from Florida to New Mexico and Massachusetts to Colorado	Common	Low food value	Aesthetic	None

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**Oxalis Dillenii Jacq. Wood-sorrel HABITAT: sandy, rocky, or gravelly soils in thickets, woodlands, pastures, river bottoms, and limestone banks	Statewide	Eastern and central United States	Very common	Low food value	Aesthetic	None
LINACEAE (flax family)						
**Linum medium (Planch.) Britt. Sucker flax HABITAT: open fields, meadows, and swales	Eastern Texas	Texas to Florida, north to Iowa and Maine	NA	Moderate as food for wildlife--including deer and turkey	Aesthetic	None
**Linum rigidum Pursh Flax HABITAT: sandy, gravelly, open areas	Northern Texas	Texas, north to Canada	NA	Moderate as food for wildlife--including deer and turkey	Aesthetic	None
ZYGOPHYLLACEAE (caltrop family)						
**Kallstroemia parviflora Nort. Kallstroemia HABITAT: NA	Most of Texas except eastern and southeastern Texas, High Plains and the southernmost Rio Grande plains	Southern United States	Common	NA	Aesthetic	Unknown
**Tribulus terrestris L. Puncture weed HABITAT: sandy or gravelly, disturbed soils	Statewide except coastal and far eastern areas	Widely distributed throughout warm-temperate areas of the world, native to Mediterranean region	Abundant	Low food value	Aesthetic, occasionally fatal to stock if eaten, weed	None
RUTACEAE (citrus family)						
**Citrus trifoliata L. Bitter orange HABITAT: infrequent near old home-sites and in fencerows, cultivated	Eastern half of Texas	NA, native of Asia	Uncommon	NA	NA	None
**Ptelea trifoliata L. Skunk-bush HABITAT: NA	Statewide, scattered	NA	NA	NA	NA	None
**Zanthoxylum Clava-Herculis L. Hercules-club HABITAT: forested areas	Eastern and south-eastern Texas	Southeastern United States	Common	Moderate as food for wildlife--including deer, squirrel, turkey	Ornamental	Slightly adverse

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MELIACEAE (mahogany family)						
**Melia Azedarach L. Chinaberry-tree HABITAT: thickets, floodplain woods and borders of woods, cultivated	Eastern half of Texas	Cultivated and escaped as far north as south-eastern Virginia, native of Asia	Uncommon	Moderate as food; berries eaten by birds, sometimes intoxicating and toxic	Ornamental, wood of moderate commercial value	Slightly adverse
POLYGALACEAE (milkwort family)						
**Polygala cruciata L. Polygala HABITAT: in and on edge of bogs, on seepage slopes, and in savannahs	Eastern Texas	From Florida to eastern Texas, north along the coast to Virginia and inland to Kentucky	NA	NA	Aesthetic	None
**Polygala ramosa Ell. Polygala HABITAT: in seepage areas of savannahs, open slopes, boggy open pineland	Southeastern Texas	From Florida to Texas, north to New Jersey	NA	NA	Aesthetic	None
EUPHORBIACEAE (spurge family)						
**Phyllanthus polygonoides Spreng. Leaf-flower HABITAT:rocky, calcareous soils	Central, southern, and western Texas	Oklahoma and Texas, with outliers in Missouri and Louisiana	Common	NA	Aesthetic	None
**Phyllanthus pudens Wheeler Lead-flower HABITAT: coastal prairie	Coastal prairies from Matagorda County to Chambers County	Texas and Louisiana	NA	NA	Aesthetic	None
**Croton punctatus Jacq. Gulf croton HABITAT: loose deep sands	Texas coastal areas	Coastal areas from North Carolina to Venezuela	Locally abundant	High for food, seeds important food for songbirds and gamebirds especially white-winged dove, eaten to lesser extent by small mammals	NA	None
**Croton glandulosus L. Croton HABITAT: open sandy or loamy areas	Statewide	Southeastern United States	Common	High food value for upland gamebirds and songbirds	NA	None

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**Euphorbia maculata L. Spurge HABITAT: in a variety of soils, commoner in disturbed sandy areas	Statewide except Trans-Pecos	Eastern United States, adventive in California, and Oregon	Common	Moderate to high food value for birds and small mammals	Aesthetic	None
**Euphorbia prostrata Ait. Spurge HABITAT: disturbed soils	Statewide, infrequent in far western part	Lowlands of United States	Common	Moderate to high food value for birds and small mammals	NA	None
ANACARDIACEAE (sumac family)						
**Rhus Toxicodendron L. Poison ivy HABITAT: variety of habitats	Statewide	Nova Scotia to British Columbia; south to Florida, Texas, Arizona	Common	Moderate as food, fruit eaten by birds, particularly gallinaceous species	Aesthetic, very poisonous to the touch, fumes from burning plants also poisonous	None
**Rhus glabra L. Smooth sumac HABITAT: dry sandy hillsides and banks	Eastern Texas, west to Brazos, Eastland, and Armstrong Counties	New England and Quebec; south to Florida, Texas, Arizona, and northern Mexico	Common	High as food for variety of wildlife--including deer, squirrel, turkey; cover	Ornamental	None
**Rhus copallina L. Shining sumac HABITAT: rocky hills, woods, bottomlands	Eastern half of Texas	New England to Illinois; south to Georgia, Alabama, Louisiana, and Texas	NA	High as food for variety of wildlife--including deer, squirrel, turkey; cover	Ornamental, planted for its lustrous leaves that change to reddish-purple in fall	None
**Rhus aromatica Ait. Fragrant sumac HABITAT: variety of habitats	Statewide	Eastern half of United States	Common	High as food for variety of wildlife--including deer, squirrel, turkey: cover	Ornamental	None
AQUIFOLIACEAE (holly family)						
**Ilex decidua Walt. Deciduous holly HABITAT: woods; often bordering streams, swamps, or ravines	Eastern and central Texas	Virginia, west to Illinois south to Florida, Texas, and Kansas	Common	High as food for wildlife--including deer, squirrel, turkey high for cover	Ornamental	Slightly adverse

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
**Ilex vomitoria Ait. Yaupon HABITAT: low woods and sandy pine lands	Southeastern and south-central Texas	Virginia south to Florida, Arkansas, and Texas	Abundant	High as food; fruit eaten by songbirds, gamebirds, and small mammals; evergreen foliage provides shelter for birds and mammals	Historical value	Slightly adverse
**Ilex opaca Ait. American holly HABITAT: in moist woods, hammocks, along banks of streams, and in swamps	Eastern and south-central Texas	Massachusetts west to Wisconsin, south to Florida and Texas	Abundant	High as food for wildlife--including deer, squirrel, turkey; high for cover	Historical value, decorative use at Christmas time	Slightly adverse
CELASTRACEAE (staff-tree family)						
**Euonymus americanus L. Strawberry-bush HABITAT: mud along streams, river bottomlands and on forested stream banks	Eastern Texas	Southeastern United States	NA	Moderate as food for wildlife--including deer and turkey	Aesthetic	Moderately adverse
**Euonymus atropurpureus Jacq. Burning-bush HABITAT: rich moist woods, thickets and ravines	North-central Texas	Central United States, Canada south to Texas and Oklahoma	NA	Moderate as food for wildlife--including deer and turkey	Aesthetic	Moderately adverse
ACERACEAE (maple family)						
**Acer Negundo L. Boxelder HABITAT: river banks, waste places, floodplain woods, fencerows	Eastern half of Texas	Florida to Texas; north to western New England, New York, southern Ontario, and southeastern Minnesota	Uncommon	Moderate as food, seeds eaten by birds and squirrels	Ornamental; wood of commercial value; sugar, and gum	Moderately adverse
**Acer saccharum Marsh. Sugar maple HABITAT: forested hills and in ravines	Northeastern Texas	Eastern half United States	Uncommon	High as food for gamebirds, songbirds, small mammals, hoofed browsers; nesting sites for birds	Ornamental, historical value, source of maple syrup and sugar, wood of commercial value	Moderately adverse
**Acer rubrum L. Red maple HABITAT: swamps, along streams or in alluvial woods	Eastern Texas	Florida to Texas, north to Canada	Uncommon	High as food; seeds eaten by chipmunks, gamebirds, squirrels, and songbirds, forage by deer	Aesthetic, ornamental, sugar and gum	Moderately adverse

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
**Croton capitatus Michx. Woolly croton HABITAT: sandy soil	Eastern half of Texas	Southeastern United Texas	Uncommon	High as food for wildlife--including quail, doves	Aesthetic	None
**Croton Lindheimerianus Scheele Croton HABITAT: sandy or alluvial usually disturbed soil	North-central Texas	Texas, Oklahoma, Kansas, Arkansas	Locally common	High food value for upland game-birds and songbirds	NA	None
**Croton monanthogynus Michx. Prairie-tea HABITAT: calcareous soils	Statewide except Trans-Pecos deserts and higher parts of plains country	Southeastern United States	Abundant	High for food, seeds important food for songbirds and gamebirds, especially white-winged dove; eaten to lesser extent by small mammals	NA	None
**Crotonopsis linearis MIchx. Rush-foil HABITAT: deep, loose, fine sand, openings in forested areas	Eastern Texas	Southeastern United States	Rare	High for food, major food for quail	NA	None
**Acalypha ostryaefolia Ridd. Three-seeded mercury HABITAT: dry soils in open woods and roadsides	Eastern and southeastern Texas	Pennsylvania to southern Florida, Iowa and Oklahoma to western Texas, New Mexico, and Arizona	NA	Low food value	NA	None
**Acalypha rhomboidea Raf. Three-seeded mercury HABITAT: moist to dry sandy sites	North-central to southeastern Texas	Maine; south to Georgia and Louisiana; west to Michigan, Minnesota, North Dakota, and Texas	Rare	None	NA	None
**Acalypha virginica L. Three-seeded mercury HABITAT: moist or dry sandy soil	North-central Texas	New Hampshire, south to South Carolina, Georgia and Louisiana, west to Iowa and Nebraska, south to Texas	NA	Low food value	NA	None
**Acalypha gracilens Gray Three-seeded mercury HABITAT: dry sandy soils	North-central Texas	Maine, New York and Minnesota, south to southern Florida and Texas	Rare	None	NA	None
**Tragia cordata Michx. Noseburn HABITAT: rocky, wooded bluffs along streams, rich soil in open woods	Eastern Texas	Southeastern United States	NA	Low for food for dove	NA	None

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
**Tragia ramosa Torr. Noseburn HABITAT: open and disturbed habitats	Central and south-western Texas	South-central and southwestern United States	Common	Low for dove food	NA	None
**Sapium sebiferum (L.) Roxb. Chinese tallow tree HABITAT: scattered along rivers, thickets, woods, cultivated	Southeastern Texas	Widely introduced throughout, native of Asia	Locally abundant	Low for food, seeds eaten by birds	Historical value, sap is poisonous, ornamental	None
**Stillingia sylvatica L. Queen's delight HABITAT: loose sandy soil	Statewide except Trans-Pecos	Southeastern and south-central United States	Common	Low for food, sometimes eatern by Bob-white quail	Aesthetic	None
**Cnidoscolus texanus (Muell. Arg.) Small Bull nettle HABITAT: sandy often disturbed soils	Nearly throughout Texas	Louisiana, Oklahoma, Arkansas, Texas	Rare	NA	NA	None
**Euphorbia spathulata Lam. Spurge, warty euphorbia HABITAT: variety of habitats	Statewide	Widespread in temperate North America	Abundant	Moderate to high food value for birds and small mammals	NA	None
**Euphorbia bicolor Engelm. and Gray Snow-on-the-prairie HABITAT: coastal plain, tight clay soil	Southeastern Texas, rare in eastern, and north-central Texas	Texas and Oklahoma	Abundant	High for food, seeds eaten by upland gamebirds, songbirds, and small mammals	Aesthetic	None
**Euphorbia dentata Michx. Spurge HABITAT: variety of habitats	Statewide	Eastern two-thirds United States	Abundant	Moderate to high food value for birds and small mammals	NA	None
**Euphorbia missurica Raf. Spurge HABITAT: variety of habitats	Statewide except Trans-Pecos	Central United States	Common	Moderate to high food value for birds and small mammals	NA	None
**Euphorbia nutans Lag. Eyebane HABITAT: variety of habitats	Statewide, local in plains and Trans-Pecos	Texas, north to South Dakota, Minnesota, Michigan, New York, and New England	Abundant	Moderate for food, seeds eaten by gamebirds, song-birds, rats and mice	Aesthetic	None
**Euphorbia serpens H.B.K. Spurge HABITAT: usually in calcareous soils	Statewide	North to Ontario, Ohio, Indiana, New Mexico, and Arizona	Common	Moderate to high food value for birds and small mammals	NA	None

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
SAPINDACEAE (soap-berry family)						
**Sapindus Saponaria L. Soap-berry HABITAT: form groves in fields and on the edge of woods, along streams and fencerows	Scattered statewide	From Louisiana, north to Kansas, west to New Mexico and Mexico	Common	NA	May be used as an ornamental, toxic plant	Slightly adverse
**Cardiospermum Halicacabum L. Balloon-vine HABITAT: sprawling on ground and trailing over weeds and bushes in open waste ground or brushy areas	Northeastern, central, and southern Texas	Widespread in warmer regions of Western Hemisphere	Common	NA	NA	None
RHAMNACEAE (buckthorn family)						
**Ceanothus herbaceus Raf. Redroot HABITAT: well-drained clays and loams in prairies or open brush, or in crevices of limestone bluffs	North-central and south-central Texas, Panhandle, and Edwards Plateau	Eastern United States	Uncommon	High for food, important plant for browsers; cover	NA	None
**Rhamnus lanceolata Pursh Buckthorn HABITAT: bottomland hardwood forests	Eastern Texas	Eastern half United States	Uncommon	High food value for birds and mammals	Aesthetic	Slightly adverse
**Rhamnus caroliniana Walt. Indian-cherry HABITAT: bottomlands, near streams	Eastern and southeastern Texas, west near streams into north-central and south-central Texas, and Edwards Plateau	Southeastern United States	Uncommon	High as food for wildlife--including deer, squirrel, turkey	Fruit edible	Slightly adverse
**Berchemia scandens (Hill) K. Koch Rattan-vine HABITAT: forests and forest-edges, ravines	Eastern, southeastern, north-central, south-central Texas, southern portion of Edwards Plateau	From Virginia to Missouri, south to Florida and Texas	Uncommon	High as food for wildlife--including deer, squirrel, turkey	NA	Slightly adverse
VITACEAE (grape family)						
**Vitis mustangensis Buckl. Mustang grape HABITAT: along stream bottoms, thickets, fencerows, edge of woods and sandy slopes, disturbed ground	Eastern half of Texas	Texas to Louisiana, Oklahoma, and Arkansas	Common	High food value for wildlife--song birds, gamebirds, small mammals, game mammals; protective covering and nesting sites for birds	Ornamental, fruit edible, used for making wine	Slightly adverse

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
**Vitis cinerea Engelm. Sweet grape HABITAT: river and creek banks, bottomlands, and pond margins	North-central and eastern Texas	Southeastern and central United States	Common	High food value for wildlife--songbirds, gamebirds, small mammals, game mammals; protective covering and nesting sites for birds	Ornamental, fruit edible	Slightly adverse
**Vitis Lincecumii Buckl. Post oak grape HABITAT: sandy open woods, thickets, and glades	Eastern and south-central Texas, west to Bastrop County	Mississippi to Texas, north to Indiana and Missouri	Common	High food value for wildlife--songbirds, gamebirds, small mammals, game mammals; protective covering and nesting sites for birds	Ornamental, fruit edible	Slightly adverse
**Vitis aestivalis Michx. Summer grape HABITAT: sandy soils mostly along rivers and streams	Eastern third of Texas	Georgia to Texas, north to Massachusetts, New York, Ohio, Michigan, and Wisconsin	Uncommon	High food value for wildlife--songbirds, gamebirds, small mammals, game mammals; protective covering and nesting sites for birds	Ornamental, fruit edible	Slightly adverse
**Vitis rotundifolia Michx. Muscadine HABITAT: forests	Eastern Texas	Florida to Texas, north to Delaware, Virginia, West Virginia, Indiana, Missouri, and Oklahoma	Common	High food value for wildlife--songbirds, gamebirds, small mammals, game mammals; protective covering and nesting sites for birds	Ornamental, fruit edible	Slightly adverse
**Vitis riparia Michx Frost grape HABITAT: trees and cliffs in open woodlands, along streams and in canyons	Eastern to north-central Texas	Canada and Montana south to Tennessee, Missouri, Texas, and New Mexico	Uncommon	High food value for wildlife--songbirds, gamebirds, small mammals, game mammals; protective covering and nesting sites for birds	Ornamental, fruit edible	Slightly adverse

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
**Vitis palmata Vahl Red grape HABITAT: on margins of ponds or sloughs, or in low woods	Eastern Texas	Louisiana and Texas, north to Indiana, Illinois, and Iowa	Uncommon	High food value for wildlife--songbirds, gamebirds, small mammals, game mammals; protective covering and nesting sites for birds	Ornamental, fruit edible	Slightly adverse
**Vitis vulpina L. Winter grape HABITAT: edge of woods and in woods, fields, along roadsides and on trees along rivers and streams	Eastern third of Texas	Florida to Texas, north to New Jersey, Wisconsin, and Nebraska	Common	High food value for wildlife--songbirds, gamebirds, small mammals, game mammals; protective covering and nesting sites for birds	Ornamental, fruit edible	Slightly adverse
**Parthenocissus quinquefolia (L.) Planch. Virginia creeper Habitat: in woods and on rocky banks, in open woodlands, on fences and edge of forests	Eastern half of Texas	Eastern third of United States	Common	High food value for wildlife--songbirds, gamebirds, small mammals, game mammals; protective covering and nesting sites for birds	Ornamental	Slightly adverse
**Ampelopsis cordata Michx. Heartleaf HABITAT: rich woodlands and bottomlands along rivers and streams	Eastern half and the Panhandle of Texas	Southeastern United States	Common	Food for squirrel	NA	Slightly adverse
**Ampelopsis arborea (L.) Koehne Pepper-vine HABITAT: along streams, in and on edge of swamp forests, in fencerows and waste places	Southern and eastern Texas	Southeastern United States	Common	Food for squirrel	NA	Slightly adverse
**Cissus incisa (Nutt.) Des Moul. Ivy treebine HABITAT: chaparral, salt marshes and open woodlands	Statewide except extreme eastern Texas and in Panhandle	Florida to Texas, north to Missouri and Kansas	Common	NA	Ornamental	None

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
TILIACEAE (linden family)						
**Tilia americana L. American basswood HABITAT: rich moist soils of woods and bottomlands	Northeastern Texas	From Canada south to Virginia and Alabama; west to North Dakota, Kansas, and Texas	Common	Moderate as food and wildlife cover, fruit eaten by birds and rodents	Ornamental	Slightly adverse
**Tilia caroliniana Mill. Carolina basswood HABITAT: open woodlands, along forested streams and lowlands	Eastern and central Texas	North Carolina, south to central Florida; west to southwestern Arkansas and Texas	Common	Moderate as food for squirrels	NA	Moderately adverse
**Tilia floridana Small Florida basswood HABITAT: rich woods	Eastern and central Texas	Southeastern United States	Common	Moderate as cover, minor food importance for small mammals and browsers	Aesthetic	Moderately adverse
MALVACEAE (mallow family)						
**Malvaviscus arboreus Cav. Drummond wax-mallow HABITAT: limestone slopes and ledges, in wooded arroyos, along streams	From southern Edwards Plateau southward and eastward	Florida to Texas	Uncommon	NA	Fruit edible	Slightly adverse
Kosteletzkya virginica (L.) Gray Salt marsh-mallow HABITAT: brackish or nearly fresh marshes and along shores and in swamps	Coastal Texas	From Florida to Texas, north to Virginia and Delaware	NA	NA	Aesthetic	None
Hibiscus dasycalyx Blake and Schiller Rose-mallow HABITAT: NA	Trinity County	Endemic to Texas	On Texas rare and endangered plant list	NA	High aesthetic, scientific	None
**Hibiscus militaris Cav. Scarlet rose-mallow HABITAT: marshes, shallow water	Eastern and north-central Texas	Florida to Texas, north in the interior to Ohio and Minnesota	NA	NA	Aesthetic	Slightly adverse
**Hibiscus trionum L. Flower-of-an-hour HABITAT: introduced	Central and northern Texas	Introduced, native of central Africa	Common	NA	Aesthetic, weed	Slightly adverse
Hibiscus cubensis A. Rich. Rose-mallow HABITAT: marshes and along canals	Southeastern Texas	Temperate and tropical America	NA	NA	Aesthetic	None

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
Hibiscus Moscheutos L. Swamp rose-mallow HABITAT: low wet areas on edge of woods, swamps and wet meadows	Eastern Texas	Southeastern United States	Common	NA	NA	None
**Hibiscus lasiocarpos Cav. Woolly rose-mallow HABITAT: marshes, floodplains, ditches, and along streams and rivers	Eastern to north-western Texas	Georgia to Texas; north in the Mississippi basin to Kentucky, Indiana, Illinois, and Missouri	Common	NA	Aesthetic	Slightly adverse
Gossypium hirsutum L. Cotton HABITAT: cultivated	Statewide	Southeastern United States	Common	Low food value, nest material	High commercial value	None
Callirhoë Papaver (Cav.) Gray Poppy-mallow HABITAT: in pine-oak flatwoods, on calcareous outcrops and grassy banks	Eastern Texas	From Florida to Texas, north to Georgia and Missouri	NA	NA	Aesthetic, may be cultivated	None
**Callirhoë involucrata (Torr.) Gray Low poppy-mallow HABITAT: sandy or gravelly soils in open woods, on rocky hills, in scrubland and thickets	Statewide, except in Trans-Pecos	Central United States	Common	NA	Aesthetic, may be cultivated	Slightly adverse
**Malva parviflora L. Little mallow HABITAT: thickets, along waste ground and cultivated soils	Statewide	Distributed over much of North America	Common	Low food value	Aesthetic	Slightly beneficial
**Modiola caroliniana (L.) G. Don Carolina modiola HABITAT: in waste grounds, disturbed soils, edge of salt marshes, lawns, and similar places	Mostly in southern Texas, but occasionally elsewhere	From Florida to Texas, north to Virginia and south to South America	Common	NA	NA	Slightly beneficial
**Sida hederacea (Hook.) Gray Dollar weed, alkali mallow HABITAT: rocky or silty soils along irrigation canals and in depressions	Panhandle and Trans-Pecos	Washington and Idaho, south to Mexico and east to Kansas, Oklahoma, and Texas	Uncommon	NA	NA	Slightly beneficial

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
**Sida spinosa L. Prickly mallow HABITAT: in waste lands and disturbed soils	Southern and eastern half of Texas	Mostly in the tropics	Common	NA	Aesthetic, weedy	Slightly beneficial
**Sida rhombifolia L. Mallow HABITAT: sandy-clayey soils in brushlands, meadows, low open woods and alluvial soils	Eastern third of Texas	North Carolina to Florida and Texas, mostly in the tropics	NA	NA	Aesthetic	Slightly beneficial
THEACEAE (camellia family)						
Stewartia Malacodendron L. Silky camellia HABITAT: on wooded banks, hillsides and along streams	Eastern Texas	Western Florida to Louisiana and Texas, north to Virginia, Tennessee, and Arkansas	On Texas rare and endangered plant list	NA	High aesthetic, scientific	None
HYPERICACEAE (St. John's-wort family)						
**Ascyrum stans Michx. St. Peter's-wort HABITAT: sandy bogs, swamp woods and moist grasslands	Eastern Texas	Florida to Texas, north to New York, New Jersey, eastern Pennsylvania, Kentucky, Tennessee, Arkansas, and Oklahoma	NA	NA	Aesthetic	Slightly adverse
**Ascyrum hypericoides L. St. Andrew's cross HABITAT: light sandy soils in open pine-hardwood and hardwood forests, thickets, grasslands and in bogs	Eastern third of Texas	Florida to Texas, and eastern Mexico; north to New England, Kentucky, Missouri, and Oklahoma	Common	NA	Aesthetic	Moderately adverse
**Hypericum punctatum Lam. St. John's-wort HABITAT: open-wooded hills, and on edge of woods and fields	North-central and northeastern Texas	Florida to Texas, north to Quebec and Minnesota	NA	NA	Aesthetic	Slightly adverse
Hypericum pseudomaculatum Bush St. John's-wort HABITAT: moist or dry soil in fields	Eastern Texas	Florida to Texas, north to Oklahoma and Illinois	NA	NA	NA	None
Hypericum densiflorum Pursh St. John's-wort HABITAT: pinewood slopes and in and on the edge of swamps and marshes, and along wooded streams	Southeastern Texas	Florida to Texas, north to New York, New Jersey, West Virginia, southern Indiana, and southern Missouri	NA	NA	NA	None

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
**Hypericum prolificum L. Shrubby St. John's-wort HABITAT: dry or damp sandy or rocky thickets, along wooded streams and on slopes	Southeastern Texas	Georgia to Texas and Arkansas, north to southeastern New York, Ontario, and Minnesota	NA	NA	Aesthetic	Moderately adverse
Hypericum frondosum Michx. Golden St. John's-wort HABITAT: in barrens and openings	Eastern Texas	Alabama to Texas; north to South Carolina, Kentucky, and southern Indiana	Common	NA	Frequently cultivated, ornamental	None
Hypericum galioides Lam. St. John's-wort HABITAT: wet pinelands, swamps and depressions, about ponds and lakes, and along ditches	Southeastern Texas	Florida to Texas, north to Tennessee and North Carolina	NA	NA	NA	None
Hypericum fasciculatum Lam. Sand-weed HABITAT: wet places about ponds and lakes, in low pinelands and along forested streams	Southeastern Texas	Florida to Texas, north to North Carolina	NA	NA	NA	None
**Hypericum mutilum L. St John's-wort HABITAT: on the edge of and in water of streams, ponds, swamps and other wet situations	Central and eastern Texas	Florida to Texas; north to southern New England, central New York, Ohio, Illinois, Missouri, and Kansas	NA	NA	Aesthetic	Moderately beneficial
Hypericum gymnanthum Engelm. and Gray St. John's-wort HABITAT: sandy soils in barrens or low ground	South-central and southeastern Texas	Eastern United States locally	NA	NA	Aesthetic	None
Hypericum Drummondii (Grev. and Hook.) T. & G. Nits-and-lice HABITAT: dry sandy or gravelly soils in tallow fields, open scrub oak and cedar-oak flatwoods	Central and eastern Texas	Southeastern United States	NA	NA	Aesthetic	None
Hypericum virginicum L. Marsh St. John's-wort HABITAT: in or on the edge of water along streams, in bogs and swamps, and about lakes and ponds	Eastern Texas	Florida to Texas; north to Nova Scotia, southern New England, New York, Ohio, Indiana, and Illinois	NA	NA	NA	None

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
**Hypericum Walteri Gmel. St. John's-wort HABITAT: in or on the edge of water along streams, in bogs and and swamps, and about ponds and lakes, sometimes on cypress knees and trunks, logs and occasionally on moist sandy wooded slopes	Eastern Texas	Florida to Texas; north to Maryland, West Virginia, southern Indiana, and southeastern Missouri	NA	NA	Aesthetic	Moderately beneficial
Hypericum tubulosum Walt. St. John's-wort HABITAT: wet soil of wooded swamps, open floodplain woods and on lake shores	Southeastern Texas	Coastal plain from southeastern Virginia to southeastern Texas, northwest in the interior to southern Missouri and southern Ohio	NA	NA	NA	None
TAMARICACCAE (tamarisk family)						
**Tamarix gallica L. Salt cedar HABITAT: cultivated	Scattered	Introduced, southern United States, native of southern Europe	Uncommon	Low food value, moderate to high as cover	NA	Slightly beneficial
CISTACEAE (rockrose family)						
Helianthemum carolinianum (Walt.) Michx. Rockrose HABITAT: sandy fields, roadsides, open woods	Eastern Texas	Florida to Texas, north to southeastern North Carolina and southern Arkansas	NA	NA	Aesthetic	None
Helianthemum georgianum Chapm. Rockrose HABITAT: dry open sandy fields, woods	Eastern Texas	Florida to Texas, north to southeastern North Carolina and southern Oklahoma	NA	NA	Aesthetic	None
**Helianthemum rosmarinifolium Pursh Rockrose HABITAT: sandy fields, roadsides, open woods	Eastern Texas	Florida to Texas, north to southeastern North Carolina and Arkansas	NA	NA	Aesthetic	None
**Lechea mucronata Raf. Pin-weed HABITAT: sandy fields and roadsides, open woods and hillsides	Eastern half of Texas	Florida to Texas, north to southern New Hampshire and Nebraska	Common	Low food value for songbirds	Aesthetic	None

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
**Lechea san-sabeana (Buckl.) Hodg. Pin-weed HABITAT: roadsides, fields, or open woods	East-central Texas	Endemic to Texas	NA	Low food value for songbirds	Aesthetic	None
**Lechea tenuifolia Michx. Pin-weed HABITAT: roadsides, fields, and open woods	Eastern Texas	Georgia to Texas; north to southern Maine, Minnesota, and Nebraska	NA	Low food value for songbirds	Aesthetic	None
VIOLACEAE (violet family)						
**Viola Rafinesquii Greene Field pansy HABITAT: roadsides, fields, and lawns	Eastern Texas	Texas to Georgia; north to Pennsylvania, Michigan, and Nebraska	Abundant	Moderate as food, seeds eaten by birds and small mammals	Aesthetic	None
Viola Wateri House Violet HABITAT: moist to somewhat dry rich deciduous forests	Southeastern Texas	Texas to Florida; north to Virginia, Ohio, and Arkansas	NA	Moderate food value for birds and small mammals	Aesthetic	None
Viola primulifolia L. Violet HABITAT: roadside ditches, open marshy fields	Eastern Texas	Texas to Florida; north to Nova Scotia, northern Indiana, and Oklahoma	Abundant	Moderate food value for birds and small mammals	Aesthetic	None
Viola pecata L. Bird-foot violet HABITAT: open woods or fields, usually in sandy soil	Eastern Texas	Texas to Georgia, north to New Hampshire and Minnesota	NA	Moderate food value for birds and small mammals	Aesthetic	None
**Viola esculenta Ell. Violet HABITAT: wet open land	Southeastern corner of Texas	Texas to southern Florida, north to southern Virginia and northern Mississippi	NA	Moderate food value for birds and small mammals	Aesthetic	None
Viola sororia Willd. Violet HABITAT: woodland habitats of all sorts	Eastern half of Texas	Texas to northern Florida, north to Quebec and North Dakota	Common	Moderate food value for birds and small mammals	Aesthetic, weed	None
**Viola pratincola Greene Violet HABITAT: open prairie, often beside railroads	Eastern half of Texas, Panhandle	Texas; north to Wisconsin, North Dakota; and west to Colorado	Uncommon	Moderate food value for birds and small mammals	Aesthetic, sometimes a weed in towns and cities	None
**Viola Langloisii Greene Violet HABITAT: river forests	Eastern Texas, especially in southeastern; central Texas	Central Texas; east to central Florida; north to northern Mississippi	NA	Moderate food value for birds and small mammals	Aesthetic	Slightly adverse

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**Viola missouriensis Greene Violet HABITAT: river forests	Central and northeastern Texas	Texas, east to Arkansas, north to Minnesota and Nebraska, and west to New Mexico	Common	Moderate food, seeds eaten by small rodents and gamebirds	Aesthetic	Slightly adverse
PASSIFLORACEAE (passion-flower family)						
**Passiflora lutea L. Yellow passion-flower HABITAT: shade of low moist woods	Central and eastern Texas	Pennsylvania to Illinois and Kansas, south to Florida and Texas	Common	NA	Aesthetic	Moderately adverse
**Passiflora incarnata L. Maypop HABITAT: old fields, along roadsides and streams, and in and on the edge of open woods	Eastern third of Texas	Virginia to Missouri, south to Florida and Texas, introduced further north in United States	Common	NA	Aesthetic, fruit edible	None
LOASACEAE (stick-leaf family)						
Mentzelia oligosperma Sims Stick-leaf HABITAT: limestone bluffs in wooded areas, shell debris, sandy or clay soils	Statewide	Texas, northern Arkansas, Missouri, and South Dakota to Colorado	Common	Low value food for quail	Aesthetic	None
Mentzelia Reverchonii (Urban and Gilg) Thomps. and Zavortink Stick-leaf HABITAT: gravelly and limestone soils	Statewide, except the extreme eastern portion	Texas, southeastern Colorado, southwestern Oklahoma, eastern New Mexico into northern Mexico	Common	Low value food for quail	Aesthetic	None
CACTACEAE (cactus family)						
**Opuntia leptocaulis DC. Desert Christmas cactus HABITAT: heavier and bottomland soils	Western and southern Texas	Arizona to New Mexico, Oklahoma, and western and southern Texas	Uncommon	High as food, seeds and fruits eaten by birds, rabbits, and rodents; vegetative parts and fruits eaten by deer	Ornamental, fruit edible	None
Opuntia Lindheimeri Engelm. Texas prickly pear HABITAT: dry sandy soil	Statewide	Texas, New Mexico, Louisiana	Common	High as food, plant and fruit eaten by wildlife; cover	Ornamental, fruit edible, living fence	None

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
LYTHRACEAE (loosestrife family)						
Decodon verticillatus (L.) Ell. Water-willow HABITAT: in swamps, shallow pools, in and on margin of ponds and lakes	Eastern Texas	Florida to Texas; north to New England, New York, southern Ontario, and southern Illinois	Common	NA	Aesthetic	None
**Lythrum lanceolatum Ell. Loosestrife HABITAT: meadows, prairies, ditches, and depressions	Eastern third of Texas	Texas and Oklahoma; east to Florida, Virginia, and Tennessee	Common	Low food value	NA	None
**Ammannia coccinea Rottb. Tooth-cup HABITAT: mud of ditches, ponds, lakes, streams	Eastern, central, and extreme southern Texas	Florida to Texas and Mexico; north to Ohio, Illinois, Minnesota, Nebraska, Montana, and Washington	Common	NA	Aesthetic	Slightly beneficial
Ammannia teres Raf. Ammannia HABITAT: swamps and tidal marshes	Southeastern Texas	From Florida to Texas, north to New Jersey	Uncommon	NA	Aesthetic	None
Peplis diandra Nutt. Water-purslane HABITAT: shallow water and on margin of water of ponds and lakes	Eastern Texas	Florida to Texas; north to Virginia, Ohio, Indiana, and Wisconsin	On Texas rare and endangered plant list	NA	High aesthetic, scientific	None
**Rotala ramosior (L.) Koehne Tooth-cup HABITAT: sandy or muddy soil in water or on the edge of ponds, lakes, tanks, and in depressions	Eastern half of Texas	Florida to Texas; north to New England, New York, and the Lake states; also Washington and Oregon	Common	NA	Aesthetic	Moderately beneficial
MELASTOMATACEAE (melastoma family)						
**Rhexia petiolata Walt. Meadow beauty HABITAT: peaty or sandy soils of moist pinelands	Southeastern Texas	Along coast from southeastern Virginia to central Florida, west to Texas	NA	NA	NA	Unknown
Rhexia lutea Walt. Meadow beauty HABITAT: moist savannahs and open pinelands	Southeastern Texas	Along coast from eastern North Carolina to northern Florida, west to Texas	NA	NA	NA	Unknown
**Rhexia mariana L. Meadow beauty HABITAT: ditches, wet meadows, seepage bogs, savannahs, edge of thickets, wet or moist places	Eastern Texas	Massachusetts; south to Georgia; west to Texas and Oklahoma; northwest to Missouri, Illinois, and Indiana	Common	NA	NA	Slightly beneficial

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
ONAGRACEAE (evening primrose family)						
**Gaura parviflora Hook. Velvet-leaf gaura HABITAT: weedy or cultivated situations	Statewide, but rare in northeastern Texas	Washington, Montana, and Indiana to Arizona and Louisiana, and Texas	Common	Low as food for quail	Aesthetic	None
**Gaura filiformis Small Gaura HABITAT: open woods and fields	Eastern and south-central Texas, rare in north-central Texas	Texas to southern Missouri, western Tennessee and western Alabama, to Nebraska, Iowa, southern Wisconsin, southern Minnesota, New England, and Maryland	Uncommon	Low as food for quail	NA	Slightly adverse
Gaura Lindheimeri Engelm. and Gray Gaura HABITAT: black-soil prairies	South-central and southeastern Texas	Texas and southern Louisiana, widely cultured and occasionally established elsewhere	Common	Low as food for quail	Aesthetic	None
Gaura sinuata Sér. Wavy-leaved gaura HABITAT: open sandy or often disturbed places	Statewide, except high plains and Trans-Pecos	Texas, Oklahoma, widely introduced elsewhere	Common	Low as food for quail	Aesthetic	None
**Gaura suffulta Gray Roadside gaura HABITAT: open sandy often weedy situations	Statewide	South-central United States	Common	Low as food for quail	Aesthetic	None
**Oenothera speciosa Nutt. Showy primrose HABITAT: prairies and open woodlands	Statewide, but rare and scattered to the north and west	Texas, Kansas, and Missouri to north-eastern Mexico	Common	Low as food, eaten by common goldfinch	Aesthetic; ornamental; scientific, genetic research	None
Oenothera Spachiana T. & G. Evening primrose HABITAT: open sandy prairies and low ground	Eastern Texas	Texas to western Louisiana, Arkansas, and southeastern Oklahoma	NA	Low as food, eaten by common goldfinch	Aesthetic; ornamental; scientific, genetic research	None
**Oenothera heterophylla Spach Evening primrose HABITAT: sandy open woods, colonial	Eastern and north-central Texas	Texas, western Louisiana	Common	Low as food, eaten by common goldfinch	Aesthetic; ornamental; scientific, genetic research	None

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
**Oenothera laciniata Hill Cut-leaved evening primrose HABITAT: sandy fields and waste places	Statewide, except south plains, rare in western Texas and Panhandle	Eastern United States, south to Ecuador	Common	Low as food, eaten by common goldfinch	Aesthetic; scientific, genetic research	None
**Stenosiphon linifolius (Nutt.) Heynh. Stenosiphon HABITAT: rocky banks and slopes, usually on limestone, colonial	Edwards Plateau, north through north-central Texas, and Panhandle	Texas, north to southern Nebraska and western Arkansas	NA	NA	Aesthetic	None
**Ludwigia decurrens Walt. Primrose-willow HABITAT: swamps and wet places	Eastern Texas	Southeastern United States to eastern Texas	Uncommon	Moderate food value	NA	Slightly beneficial
Ludwigia octovalvis (Jacq.) Raven Seedbox HABITAT: swamps and other wet places	Widespread through southern half of Texas	Warmer regions of the world	Common	Moderate food value	NA	None
**Ludwigia leptocarpa (Nutt.) Hara Water-primrose HABITAT: wet places, as along ditches	Eastern Texas	Texas, east to Missouri, Georgia, northern Florida	NA	Moderate food value	Aesthetic	None
**Ludwigia peploides (H.B.K.) Raven Seedbox HABITAT: ponds and streams	East-central and eastern Texas, locally west to the Trans-Pecos	Throughout warmer portions of New World	Locally common	High as food, seeds and foliage valuable food for upland gamebirds and mammals	Aesthetic	Slightly beneficial
**Ludwigia uruguayensis (Camb.) Hara Uruguay water-primrose HABITAT: wet places, as along ponds and ditches	Scattered in southeastern Texas	Southeastern United States, and scattered south to northern Argentina	Uncommon	Moderate food value	Aesthetic	Slightly beneficial
**Ludwigia alternifolia L. Rattle-box HABITAT: occasional along ditches and in wet places	Eastern Texas	Massachusetts and Ontario to northern Florida, eastern Texas, and Iowa	Uncommon	High as food, seeds and foliage valuable food for upland gamebirds and mammals	Aesthetic, soil builder	None
**Ludwigia glandulosa Walt. Cylindric-fruited ludwigia HABITAT: wet places, as along ditches and in swamps	Eastern Texas	Texas; north and east to southern Illinois, Virginia and northern Florida	NA	High as food, seeds and foliage valuable food for upland gamebirds and mammals	Aesthetic	Slightly beneficial

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
**Ludwigia palustris (L.) Ell. Marsh purslane HABITAT: wet places as about ponds and along rivers	Eastern and south-central Texas to the Llano area and in Davis Mountains	Temperate North America, except Rocky Mountains area to Colorado	Common	Moderate food value	Aesthetic	Moderately beneficial
HALORAGACEAE (water-milfoil family)						
**Myriophyllum brasiliense Camb. Water-feather HABITAT: ponds, ditches, streams, and on seepage slopes, cultivated	Edwards Plateau and in eastern Texas	Escape from cultivation and persistent in southern United States, native to South America	Common	Seeds and plants low value waterfowl food	Aesthetic	Moderately beneficial
**Myriophyllum verticillatum L Water-milfoil HABITAT. Lakes	Northeastern Texas	From Newfoundland to British Columbia, south to Utah and northeastern Texas	NA	Low value waterfowl food	NA	Very beneficial
**Myriophyllum pinnatum (Walt.) B S.P Green parrot's-feather HABITAT: swamp forests, on muddy shores or in shallow waters	Eastern and south-eastern Texas	Florida to Texas; north to southern New England, West Virginia, Kentucky, Illinois, and Iowa	NA	Low as food, foliage and seeds eaten by waterfowl and marshbirds	NA	Very beneficial
ARALIACEAE (ginseng family)						
**Aralia spinosa L. Devil's-walking-stick HABITAT: woodlands, mostly along streams	Eastern Texas	Florida to Texas; north to New Jersey, Pennsylvania, western New York, Ohio, Indiana, southern Illinois, and Iowa	NA	Low food value	Aesthetic, historical value	None
UMBELLIFERAE (parsley family)						
Zizia aurea (L.) Koch Golden Alexanders HABITAT: sandy woodlands and sandy-clay floodplains	Eastern third of Texas	Eastern Canada, south to Florida, west to Saskatchewan, Montana, and Texas	NA	NA	Aestnetic	None
Taenidia integerrima (L.) Drude Yellow pimpernel HABITAT: rocky open woods, lowland woods and on bluffs	Eastern Texas	Eastern Canada; south to Georgia; west to Minnesota, Kansas, Arkansas, and Texas	NA	NA	Aesthetic	None
Cicuta mexicana Coult. and Rose Water-hemlock HABITAT: swamps and other wet places	Eastern third of Texas	From middle Atlantic United States, south to Mexico	NA	Low value duck food	Poisonous	None

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
Cicuta maculata L. Spotted cowbane HABITAT: along streams, in marshes and other wet places	East-central and northern Texas	Throughout eastern United States	NA	Low value duck food	Aesthetic, poisonous	None
**Ptilimnium capillaceum (Michx.) Raf. Mock bishop's-weed HABITAT: wet places	Eastern half of Texas	Southeastern United States	NA	NA	Aesthetic	None
Ptilimnium costatum (Ell.) Raf. Mock bishop's-weed HABITAT: swamps and other wet places	Eastern half of Texas	North Carolina to Georgia, west to Missouri and Texas	NA	NA	Aesthetic	None
Ptilimnium Nuttallii (DC.) Britt. Mock bishop's-weed HABITAT: moist sandy soil, in prairies and other moist places	Eastern half of Texas	Illinois, south to Louisiana and west to Kansas and Texas	NA	NA	Aesthetic	None
**Cynosciadium digitatum DC. Finger dogshade HABITAT: wet places	Coastal and blackland prairies	Texas, north to southern Missouri and eastern Louisiana	NA	NA	Aesthetic	Slightly beneficial
**Limnosciadium pinnatum (DC.) Math. and Const. Limnosciadium HABITAT: wet places	Eastern half of Texas	Texas and Louisiana, north to Illinois and Kansas	NA	NA	Aesthetic	Slightly beneficial
**Apium leptophyllum (Pers.) F. v. Muell Slimlobe celery HABITAT: moist or wet soil	Coastal and blackland prairies, and the Rio Grande plains	Southern United States	Common	NA	Aesthetic	Slightly beneficial
**Chaerophyllum Tainturieri Hook. Chervil HABITAT: prairies, woodlands, and alluvial thickets	Widespread, but chiefly in eastern half of Texas	From Virginia; south to Florida; west to Kansas, Missouri, Texas, and Arizona	Common	NA	Aesthetic	Slightly beneficial
**Trepocarpus Aethusae Nutt. Trepocarpus HABITAT: river bottoms and terraces	Timber belt, and blackland and coastal prairies	From Texas, north to Arkansas, and east to South Carolina	NA	NA	Aesthetic	Slightly beneficial
Ammoselinum Butleri (Wats.) Coult. and Rose Sand-parsley HABITAT: bottomlands and moist woodlands	Timber belt, and blackland and coastal prairies	Texas, Oklahoma, and Arkansas	NA	NA	Aesthetic	None

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
**Spermolepis inermis (DC.) Math. and Const. Scale-seed HABITAT: sandy or gravelly soil	Southern half of Texas	Eastern half United States	Common	NA	Aesthetic	None
**Torilis nodosa (L.) Gaertn. Knotted hedge-parsley HABITAT: moist places	Timber belt, and blackland and coastal prairies	Introduced widely in United States, native of Old World	Common	NA	Aesthetic	None
**Torilis arvensis (Huds.) Link Hedge-parsley HABITAT: NA	Blackland prairies, Edwards Plateau	Adventive, native of Old World	Common	NA	NA	None
**Daucus pusillus Michx. Rattlesnake-weed HABITAT: disturbed soil	Statewide, especially in eastern portion	Across southern United States, north to British Columbia	Common	Low food value	Aesthetic	None
Oxypolis filiformis (Walt.) Britt. Water-dropwort HABITAT: wet places	Timber belt, and blackland and coastal prairies	From Virginia, south to Florida and west to Texas	NA	NA	Aesthetic	None
Oxypolis rigidior (L.) Raf. Cowbane HABITAT: along streams and in other wet places	Timber belt, and blackland and coastal prairies	From New York, south to South Carolina, west to Minnesota and Texas	NA	NA	Aesthetic	None
**Polytaenia Nuttallii DC. Prairie-parsley HABITAT: sandy soil	Timber belt, and blackland prairies	Texas and Louisiana, north to Kentucky, Michigan, and Iowa	NA	NA	Aesthetic	None
Polytaenia texana (Coult. and Rose) Math. and Const. Texas-parsley HABITAT: prairies	Blackland and coastal prairies, Edwards Plateau	Endemic to Texas	Abundant	NA	Aesthetic	None
**Sanicula canadensis L. Black snakeroot Habitat: moist woods	Eastern and central Texas	Vermont, south to Florida, west to South Dakota and Texas	Common	NA	Aesthetic	Slightly adverse
Eryngium yuccifolium Michx. Button snake-root HABITAT: open prairies	Timber belt, and blackland and coastal prairies	Connecticut; south to Florida; west to Minnesota, Kansas, and Texas	NA	NA	Aesthetic	None
**Eryngium Hookeri Walp. Eryngo HABITAT: moist limy soil	Blackland and coastal prairies	Texas and Louisiana	NA	NA	Aesthetic	None

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
**Eryngium integrifolium Walt. Eryngo HABITAT: moist woods and bogs	Timber belt and blackland and coastal prairies	North Carolina, south to Florida and west to Texas and Oklahoma	NA	NA	Aesthetic	Moderately adverse
Eryngium prostratum DC. Eryngo HABITAT: moist soil	Timber belt, and blackland and coastal prairies	South Carolina; south to Florida and west to Kentucky, Missouri, and Texas	NA	NA	Aesthetic	None
Centella asiatica (L.) Urban Centella HABITAT: edges of streams and other wet places	Eastern half of Texas	Delaware, south to Florida and west to Texas	NA	NA	Aesthetic	None
**Hydrocotyle umbellata L. Water-pennywort HABITAT: wet places	Eastern half of Texas	Nova Scotia; south to Florida; west to Minnesota and Texas; also Oregon, and California	NA	NA	Aesthetic	Slightly beneficial
**Hydrocotyle verticillata Thumb. Water-pennywort HABITAT: wet places	Timber belt, and blackland and coastal prairies, Edwards Plateau	Massachusetts, south to Florida, west to Missouri, Texas, southern Utah, New Mexico, Arizona, and California	NA	NA	Aesthetic	Slightly beneficial
Hydrocotyle bonariensis Lam. Sombrerillo HABITAT: wet places	Coastal and blackland prairies, and on the Gulf side of the Rio Grande plains	North Carolina, south to southern South America	NA	NA	Aesthetic	None
Hydrocotyle ranunculoides L.f Water-pennywort HABITAT: wet places	Timber belt and blackland prairies	Southeastern United States, Washington south along the coast to Panama	NA	NA	Aesthetic	None
**Bowlesia incana R. & P. Bowlesia HABITAT: moist thickets, lawns	Southeastern half of Texas	Florida to California	NA	NA	Aesthetic	None
CORNACEAE (dogwood family)						
**Nyssa aquatica L. Tupelo HABITAT: inundated swamps and along sluggish streams	Eastern Texas	Virginia, southern Indiana, southern Illinois, and Missouri; south to Florida and Texas	Locally abundant	High for food for wildlife--including squirrel, flowers valuable as food for bees, buds eaten by birds and animals	Fruit edible, low commercial value	Moderately beneficial

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
**Nyssa sylvatica Marsh. Black-gum HABITAT: swamps, low woods, and sandy open woodlands	Eastern Texas	Maine; south to Missouri, Florida, and Texas	Locally abundant	High as food, foliage eaten by deer, squirrel, flowers valuable food for bees, buds and fruit eaten by birds and mammals	Fruit edible, moderate commercial value	Moderately adverse
**Cornus florida L. Flowering dogwood HABITAT: woodlands	Eastern and central Texas	Eastern half of United States, south to Florida and Texas	Locally abundant	High as food, fruit and buds eaten by birds and mammals, browse for deer; cover	Aesthetic	Moderately adverse
**Cornus racemosa Lam. Dogwood HABITAT: moist or wet soil on seepage slopes, in thickets and on stream banks in open woodlands	Eastern Texas	Maine to Manitoba, south to Florida and Texas	Locally abundant	High as food, fruit and buds eaten by birds and mammals, browse for deer	Ornamental	Moderately adverse
**Cornus Drummondii C.A. Mey. Rough-leaf dogwood HABITAT: damp woodlands and thickets, occasionally on dry hills	Eastern half of Texas	Eastern Virginia, southern Indiana and southeastern Missouri; south to Florida and Texas	Common	High as food, fruit and buds eaten by turkeys, bobwhites, squirrels; all of plant eaten by deer	Aesthetic, ornamental, wood of commercial value	Moderately adverse
Cornus foemina Mill. English dogwood HABITAT: swamps and low wet woodlands	Eastern Texas	Indiana and Virginia, south to Florida, Louisiana, and Texas	Scattered stands	High as food, fruit and buds eaten by birds and mammals, browse for deer	Ornamental	None
CLETHRACEAE (white alder family)						
Clethra alnifolia L. Sweet pepper-bush HABITAT: swamps, about lakes and in wet woods and thickets	Southeastern Texas	Maine, south to Florida and Texas	Common	NA	NA	None
ERICACEAE (heath family)						
**Vaccinium arboreum Marsh. Farkleberry HABITAT: sandy soils in pinelands, open mixed forests, thickets, clearings, fields, and coastal scrub-forests	Eastern and south central Texas	Southeastern United States	Common	Moderate as food for wildlife--including squirrel, deer, turkey	NA	Moderately adverse

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
Vaccinium caesium Greene Vaccinium HABITAT: savannahs and open pine-hardwood forests	Eastern Texas	Florida to Texas, north to West Virginia and Pennsylvania	Rare	Moderate as food for wildlife--including squirrel, deer, turkey	NA	None
Vaccinium Elliottii Chapm. Elliott's blueberry HABITAT: open flatwoods and ravines, rarely in swampy areas and occasionally in cleared river bottoms	Eastern Texas	Southeastern Virginia, south to Florida, west to Texas and Arkansas	Uncommon	Moderate as food for wildlife--including squirrel, deer, turkey	NA	None
Vaccinium arkansanum Ashe Vaccinium HABITAT: sandy lake or stream margins or in swamps, occasionally in bogs or open flatwoods	Eastern and southeastern Texas	Northern Florida, west to Texas and Arkansas	Common	Moderate as food for wildlife--including squirrel, deer, turkey	NA	None
Rhododendron Coryi Shinners Azalea HABITAT: bogs and low woodlands along streams	Southeastern Texas	Apparently endemic to Texas	NA	Low food value, good cover	Aesthetic	None
Rhododendron canescens (Michx.) Sweet Hoary azalea HABITAT: sandy or light soils in and on the edge of bogs, in seepage areas, along wooded streams, in pine-hardwood flats	Eastern Texas	Florida to Texas; north to Delaware, Maryland, and Ohio	NA	Low food value, good cover	Aesthetic	None
Rhododendron prinophyllum (Small) Millais Early-azalea HABITAT: sandy or light soils usually in moist or wet situations in swamps, along wooded streams and in bog areas	Southeastern Texas	Maine to Quebec; south and southwest to Tennessee, Missouri, and Texas	NA	Low food value, good cover	Aesthetic	None
Leucothoë racemosa (L.) Gray Fetter-bush HABITAT: moist thickets, swamp forests and sunny lake shores	Southeastern Texas	Texas to Florida; north to Massachusetts, southeastern New York, and eastern Pennsylvania	NA	Low as food, browsed by deer	NA	None

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
Lyonia ligustrina (L.) DC. He-huckleberry HABITAT: in bog and seepage areas, along wooded streams	Eastern Texas	Southeastern United States	Common	NA	NA	None
Lyonia mariana (L.) D. Don Stagger bush HABITAT: peaty or sandy pinelands and edge of evergreen shrub bogs, usually in moist soils	Eastern and south-central Texas	Florida to Texas; north to southern New England, southeastern New York, eastern Pennsylvania, Arkansas, Tennessee, Missouri	Common	Foliage considered poisonous to young grazing animals	NA	None
Monotropa uniflora L. Indian-pipe HABITAT: humus of moist pine-hardwoods	Eastern Texas	Entire United States	On Texas rare and endangered plant list	None	High aesthetic, scientific	None
PRIMULACEAE (primrose family)						
**Samolus parviflorus Raf. Brookweed HABITAT: wet soils and about various types of wet rocks, along streams, about lakes and seepage areas	Statewide	From Florida to California and Mexico; north to eastern Canada, Michigan, Illinois, and British Columbia	Common	NA	Aesthetic	Moderately beneficial
Dodecatheon Meadia L. Shooting-star HABITAT: open slopes, base of bluffs, in cedar brakes, open moist woods	Eastern third of Texas	From District of Columbia, west to Wisconsin, south to Georgia and Texas	On Texas rare and endangered plant list	None	High aesthetic, scientific	None
Lysimachia lanceolata Walt. Loosestrife HABITAT: dry or moist open woods, thickets, in or about water of lakes, seepage and streams	Eastern Texas	Florida to Texas; north to Ohio, Pennsylvania; west to Michigan and Wisconsin	Uncommon	Low food value	NA	None
**Anagallis arvensis L. Scarlet pimpernel HABITAT: moist places in prairies and flatlands	Eastern and southern Texas	NA, introduced, native to Europe	Uncommon	NA	Aesthetic	None
Centunculus minimus L. Chaffweed HABITAT: damp sand and mud in depressions, bogs, grasslands and open woods, nearly cosmopolitan	Eastern and southern Texas	Nearly throughout United States	Common	NA	Aesthetic	None

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
PLUMBAGINACEAE (plumbago family)						
Limonium Nashii Small Sea-lavender HABITAT: beaches, salt flats and marsh borders, in grasslands, and in loose sand	Gulf coast	Mostly from South Carolina, south to Florida and west to Texas and northeastern Mexico; rare north of South Carolina	Uncommon	NA	High aesthetic	None
SAPOTACEAE (sapodilla family)						
**Bumelia lanuginosa (Michx.) Pers. Gum bumelia HABITAT: various habitats, mostly in uplands or sometimes in bottomlands	Several varieties found statewide	Florida to Missouri and Kansas; south to Texas, southern Arizona, and northern Mexico	Common	High as food for wildlife--including deer, squirrel; cover	Ornamental, historical value	Moderately adverse
EBENACEAE (persimmon or ebony family)						
**Diospyros virginiana L. Common persimmon HABITAT: dryish woods, old fields and clearings	Eastern Texas, extending west to the rolling plains	Florida to Texas: north to New England, New York, West Virginia, Ohio, Pennsylvania, Iowa, Indiana, Illinois, and Kansas	Common	High as food for variety of wildlife--including deer, squirrel, turkey; cover	Fruit edible, ornamental, historical value	Slightly adverse
STYRACACEAE (storax family)						
**Halesia carolina L. Opossum-wood HABITAT: rich woods and along stream banks	Eastern Texas	Southeastern United States	Locally abundant	NA	NA	Moderately adverse
**Halesia diptera Ellis Snowdrop-tree HABITAT: woods and along streams	Eastern Texas	Northern Florida, north to South Carolina, west to Texas and Arkansas	Locally abundant	NA	NA	Moderately adverse
**Styrax americana Lam. Mock-orange HABITAT: moist woods and along streams	Eastern Texas	Florida; west to Texas; north to southeastern Virginia, southern Indiana, southeastern Missouri, Arkansas, and Oklahoma	Locally abundant	NA	Aesthetic	Moderately adverse

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SYMPLOCACEAE (sweet-leaf family)						
**Symplocos tinctoria (L.) L'Her. Sweet-leaf HABITAT: woods, swamps, bottomlands	Eastern Texas	Florida to Texas and Arkansas, north to Delaware	Common	High as food, leaves relished by browsing animals	Aesthetic	Moderately adverse
OLEACEAE (olive family)						
**Fraxinus caroliniana Mill. Carolina ash HABITAT: swamps, and along rivers	Southeastern Texas	Virginia to Florida, west to Arkansas and Texas	Common	High for food and cover	Lumber	Moderately adverse
**Fraxinus pensylvanica Marsh. Red ash HABITAT: rivers and streams, in alluvial woods and swamps, and in depressions in savannahs	Eastern half of Texas	Eastern half United States	Uncommon	High as food for squirrel	Ornamental	Slightly adverse
**Fraxinus americana L. White ash HABITAT: streams and in forests	Eastern third of Texas	From Nova Scotia to Minnesota, south to Florida and Texas	Common	High as food, fruit eaten by birds, foliage eaten by mammals	Ornamental, lumber, historical value	Moderately adverse
**Chionanthus virginica L. Fringe-tree HABITAT: damp woods, thickets, or on bluffs	Eastern Texas	Florida to Texas; north to New Jersey, eastern Pennsylvania, West Virginia, southern Ohio, southern Missouri, and Oklahoma	Locally common	High as food for wildlife--including deer, squirrel; cover	Aesthetic	Moderately adverse
**Ligustrum Quihoui Carr. Wax-leaf ligustrum HABITAT: cultivated, woodlands	Eastern and north-central Texas	Naturalized in parts of United States, native of China	Common	High as cover, low food value	Ornamental	None
**Ligustrum sinense Lour. Privet HABITAT: Fencerows, in thickets, and about old home sites	*Introduced widely*	Widely introduced in parts of United States. native of China	Common	High as cover, low food value	Ornamental	None
**Forestiera acuminata (Michx.) Poir. Swamp privet HABITAT: lowland woods	Eastern, southeastern, and north-central Texas	Southeastern United States; north to South Carolina, Tennessee, Indiana, Illinois, west to Texas	Uncommon	Moderate as food, fruit eaten by gamebirds--including quail	NA	Slightly adverse

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
**Forestiera ligustrina (Michx.) Poir. Forestiera HABITAT: woods, sandy soils	Eastern and southeastern Texas	Alabama, Georgia, Florida, Tennessee, and Texas	Uncommon	High as food for quail, moderate as cover	NA	Moderately adverse
LOGANIACEAE (logania family)						
Gelsemium sempervirens (L.) Jaume St.-Hil Carolina-jessamine HABITAT: sandy loam on edge or in open woodlands	Eastern Texas	Florida to Texas, north to southeastern Virginia and Arkansas	Uncommon	Moderate food, browsed by deer	Aesthetic	None
Spigelia marilandica L. Indian-pink HABITAT: rich wooded slopes	Eastern Texas	Florida to Texas; north to Maryland, Ohio, Indiana, Missouri, and Oklahoma	Uncommon	NA	Aesthetic	None
**Spigelia texana (T. & G.) A. DC. Texas pink-root HABITAT: wooded slopes and floodplain woods along rivers	Southern Texas	Endemic to Texas	Uncommon	NA	Aesthetic	Slightly adverse
Cynoctonum mitreola (L.) Britt. Miterwort HABITAT: moist soil in seepage, along ditches and streams, and about ponds and lakes	Eastern and central Texas	Florida to Texas; north to southeastern Virginia, Tennessee, and Arkansas	Uncommon	Moderate food, eaten by quail	Aesthetic	None
Cynoctonum sessilifolium (Walt.) J. F. Gmel. Miterwort HABITAT: seepage slopes and in bogs and wet savannahs, along wooded streams	Eastern Texas	Florida to Texas, north to southeastern Virginia	NA	Moderate food, eaten by quail	Aesthetic	None
**Polypremum procumbens L. Juniper leaf HABITAT: dry sandy fields, on dunes, along roadsides, and in openings in flatwoods	Eastern two-thirds of Texas	Florida to Texas, north to Long Island, New Jersey, eastern Pennsylvania and southeastern Missouri	Common	NA	Aesthetic	None
GENTIANACEAE (gentian family)						
Sabatia dodecandra (L.) B.S.P. Large marsh-pink HABITAT: depressions in open woods, about ponds, stream margins, and in ditches	Southeastern Texas	South Carolina to Texas	NA	NA	Aesthetic	None

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
**Sabatia campestris Nutt. Rose-gentian HABITAT: moist or dry soil in fields, prairies, cedar-oak flats, and along streams	Eastern half of Texas, and southwest along coast	Illinois and Kansas, south to Texas and Mississippi	NA	NA	Aesthetic	Moderately adverse
Sabatia calycina (Lam.) Heller Rose-gentian HABITAT: ditches and shaded river swamps and bottoms	Southeastern Texas	Southeastern Virginia, south to Florida and Texas	NA	NA	Aesthetic	Unknown
Gentiana Saponaria L. Bottle-gentian HABITAT: moist woods, thickets, and sandy swamps	Southeastern Texas	Georgia to eastern Texas; north to New York, West Virginia, Indiana, Wisconsin, and Minnesota	NA	NA	Aesthetic	Unknown
Bartonia paniculata (Michx.) Muhl. Screw-stem HABITAT: sandy bogs and meadows	Eastern Texas	Mostly along the coast from Nova Scotia and New Jersey; south to Florida, Oklahoma, and Texas	NA	NA	NA	Unknown
Bartonia texana Correll Screw-stem HABITAT: sphagnum moss along wooded stream	Tyler County, southeastern Texas	Endemic to Texas	NA	NA	NA	Unknown
Obolaria virginica L. Pennywort HABITAT: humus of low moist hardwoods	Eastern Texas	Southeastern United States	NA	NA	Aesthetic	Unknown
Nymphoides aquatica (Gmel.) O. Ktze. Yellow floating-heart HABITAT: In ponds and sluggish streams	Eastern Texas	From Florida and Texas, north locally to southern New Jersey and Delaware	Locally common	NA	Aesthetic	None
APOCYNACEAE (dogbane family)						
Amsonia repens Shinners Blue-star HABITAT: on prairies and along railroad tracks	Eastern Texas	Endemic to Texas	NA	NA	Aesthetic	None

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
**Amsonia illustris Woods Blue-star HABITAT: wet soil of swamps, meadows, low woodlands, in streams and ditches	Eastern third of Texas	South Missouri and eastern Kansas to Texas	NA	None known	Aesthetic	Unknown
**Trachelospermum difforme (Walt.) Gray Climbing dogbane HABITAT: along streams, on the edge of forests, and in weedy areas	Eastern Texas	From Delaware; south to Florida and Texas; west to Illinois, Indiana, Missouri, and Oklahoma	Common	NA	Aesthetic	Slightly adverse
Vinca major L. Periwinkle HABITAT: sandy soil along streams, on edge of woods, and in open woodlands	Eastern and central Texas	Introduced, native of Eurasia	Common	NA	Aesthetic	None
**Apocynum cannabinum L. Indian hemp HABITAT: wet or moist sandy or clayey soil in ditches and along streams and rivers, occasionally in fields and open woodlands	Eastern, central, and north-central Texas	Throughout the United States	Common	NA	Aesthetic	None
ASCLEPIADACEAE (milkweed family)						
**Asclepias viridis Walt. Antelope-horn HABITAT: glades, prairies, dry hillsides, and dry pine barrens	Eastern half of Texas	From Tennessee to Florida, west to Nebraska and Texas	NA	Low food value	Aesthetic	None
Asclepias amplexicaulis Sm. Milkweed HABITAT: open woods, prairies, old dunes, clearings, meadows, pastures, roadsides and railways, sandy or gravelly soil	Eastern third of Texas	New Hampshire, south to Florida, west to Nebraska and Texas	Common	Low food value	Aesthetic	None
**Asclepias obovata Ell. Milkweed HABITAT: sandy oak and pine woods, savannahs, fields, roadsides	Southeastern Texas	South Carolina to Florida and west to Texas	Common	Low food value	Aesthetic	None

Species	State RAnge	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
**Asclepias tuberosa L. Butterfly-weed HABITAT: variety of habitats, prairies, dry fields, open woods	Eastern two-thirds of Texas	Eastern half United States	Common	Low food value	Aesthetic	None
**Asclepias viridiflora Raf. Milkweed HABITAT: glades, prairies, plains and rocky or sandy hillsides, old fields	Statewide	Eastern two-thirds United States	Uncommon	Low food value	Aesthetic	None
Asclepias variegata L. White-flowered milkweed HABITAT: thickets and open woods, sandy or rocky soil	Eastern Texas	Connecticut, south to northern Florida, southern Missouri, and Texas	NA	Low food value	Aesthetic	None
**Asclepias rubra L. Milkweed HABITAT: bogs, marshes, wet meadows, low pine barrens	Eastern Texas	New Jersey; south to Georgia, Alabama, Louisiana, and Texas	NA	Low food value	Aesthetic	None
Asclepias verticillata L. Milkweed HABITAT: prairies, thickets, open woods, in rather dry soil, dunes, roadsides, and fence corners	Eastern half of Texas	Eastern Canada, south to Florida, west to North Dakota and Texas	Common	Low food value	Aesthetic	None
Asclepias longifolia Michx. Milkweed HABITAT: flatwoods, swamps, savannahs, low pinelands	Eastern Texas	Delaware to Florida, and west to Texas	Common	Low food value	Aesthetic	None
**Asclepias perennis Walt. Milkweed HABITAT: low swampy ground, frequently with bald cypress, alluvial woods, sloughs, and ditches	Southeastern Texas	South Carolina; south to Florida, and west to Texas, southern Missouri, Illinois, and south-western Indiana	Common	Low food value	Aesthetic	None
Cynanchum angustifolium Pers. Cynanchum HABITAT: in and on the edge of salt marshes and in moist sandy soils	Gulf coast	North Carolina to Florida and Texas	Locally common	Low food value	Aesthetic	None
Matelea cynanchoides (Engelm.) Woods. Matelea HABITAT: sandy soil, mostly in open woodlands	Northeastern Texas, south to the Gulf coast, west to the south plains	Oklahoma and Texas	NA	NA	Aesthetic	None

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
**Matelea gonocarpa (Walt.) Shinners Milkvine HABITAT: high-climbing on trees and shrubs, mostly along wooded streams and in thickets	Eastern half of Texas	Southeastern Virginia to southern Missouri, south to Florida and Texas	Common	NA	NA	None
Matelea decipiens (Alex.) Woods Matelea HABITAT: sandy soils in open woodlands	Eastern Texas	South Carolina to Louisiana, Texas, Oklahoma, and Missouri	NA	NA	Aesthetic	None
CONVOLVULACEAE (morning glory family)						
**Dichondra carolinensis Michx. Pony-foot HABITAT: damp open ground, roadsides and lawns	Central and eastern Texas	Eastern and northern Florida and Virginia and Texas	Common	NA	Aesthetic	None
Stylisma humistrata (Walt.) Chapm. Stylisma HABITAT: sandy soil in usually dry open woods	Eastern Texas	Florida, west to Arkansas and Texas, north to Virginia	Common	NA	Aesthetic	None
Stylisma Pickeringii (Torr.) Gray Stylisma HABITAT: sandy open ground	Eastern and central Texas	Texas to Kansas, Iowa, Illinois, and Louisiana	Common	NA	Aesthetic	None
Convolvulus equitans Benth. Convolvulus HABITAT: prairies or disturbed ground, especially in rocky or sandy soil	Statewide, except eastern timber belt	Texas to Kansas, Colorado, Arizona, and Mexico	Common	NA	Aesthetic	None
Jaquemontia tamnifolia (L.) Griseb. Jaquemontia HABITAT: roadsides, stream beds, cultivated or disturbed ground	Eastern Texas	Southeastern United States	Common	NA	Aesthetic	None

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
Ipomoea hederifolia L. Morning glory HABITAT: damp thickets, cultivated inland	Near the coast, Orange County to Matagorda County,	Florida to Texas	Uncommon	Low as food for gamebirds	Ornamental	None
Ipomoea hederacea Jacq. Morning glory HABITAT: gravel bars, stream beds, fields, and disturbed ground, cultivated	Eastern Texas, west to cross timbers, south to Rio Grande, locally up river to Big Bend	Southeastern United States	Common	Low as food, seeds eaten	Aesthetic	None
**Ipomoea purpurea (L.) Roth Morning glory HABITAT: cultivated, escaped in waste places and disturbed ground, stream banks	Statewide, scattered	Southeastern and southwestern United States	Common	Low as food, seeds eaten by quail, roots by small rodents	Aesthetic	None
Ipomoea Pes-caprae (L.) Soilbind morning glory HABITAT: beaches and dunes, banks of bayous	Gulf coast	Warm regions	Common	Low as food, seeds eaten	Aesthetic, ground cover, soil binder	None
**Ipomoea pandurata (L.) Mey. Wild potato HABITAT: thickets, fields, and roadsides	Eastern Texas, west to Bexas, Blanco, and Johnson Counties	Southeastern United States	Common	Low as food	Aesthetic, root edible	None
Ipomoea sagittata Poir. Arrow-leaf morning glory HABITAT: beaches and dunes,	Gulf coast	Texas to Florida	Common	Low as food, seeds eaten	Aesthetic, ornamental	None
**Ipomoea trichocarpa Ell. Morning glory HABITAT: thickets, fields, roadsides, and disturbed ground	Eastern half of Texas	Southeastern United States	Common	Low as food, seeds eaten by quail, roots by small mammals	Aesthetic	None
**Ipomoea lacunosa L. Morning glory HABITAT: damp thickets, stream banks, and ditches	Eastern Texas, west and south to Tarrant, Travis, and Matagorda Counties	Southeastern United States	Common	Low as food, seeds eaten by quail, roots by small rodents	Aesthetic	Slightly beneficial
Cuscuta glabrior (Engelm.) Yunck. Dodder HABITAT: parasitic on a variety of mostly herbaceous hosts	Statewide	Texas, New Mexico, Oklahoma, and Louisiana	Common	Low as food, seeds eaten	Parasitic on crop plants	None

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
Cuscuta indecora Choisy Pretty dodder HABITAT: parasitic on a wide range of herbaceous and woody hosts	Statewide	Southern states from Florida to California, north through the central states to Minnesota, Michigan, and South Dakota	Abundant	Low as food, seeds eaten	Parasitic on crop plants	None
**Cuscuta compacta Juss. Dodder HABITAT: parasitic on a wide range of herbaceous and woody hosts	Statewide	New England to Florida; west to Missouri, Arkansas, and Texas	Common	Low as food, seeds eaten	Parasitic on crop plants	None
POLEMONIACEAE (phlox family)						
Ipomopsis rubra (L.) Wherry Texas plume HABITAT: in sun or partial shade in dry sandy or rocky ground	Central and eastern Texas	Texas, east to Florida, north to North Carolina	Common	Low as food, seeds eaten	Ornamental, aesthetic	None
Phlox oklahomensis Wherry Phlox HABITAT: sandy woods	Northeastern Dallas County	Southern Kansas to northwestern Oklahoma and south to Texas	On Texas rare and endangered plant list	None	High aesthetic, scientific	None
**Phlox pilosa L. Phlox HABITAT: various habitats	Eastern to southwestern Texas	Eastern half United States	Common	Nectar for hummingbirds and bees	Aesthetic	None
**Phlox Drummondii Hook. Drummond phlox HABITAT: acid sandy soils	Eastern Texas, rare westward and northwestern	Some varieties endemic to Texas, other varieties have escaped throughout United States	Common	Nectar for hummingbirds and bees	Aesthetic	None
Phylox glabriflora (Brand) Whitehouse. Rio Grande phlox HABITAT: along Gulf coast	Gulf coast and lower Rio Grande valley, extending inland to Atascosa and Duval Counties	Gulf coast	NA	Nectar for hummingbirds and bees	Aesthetic	None
Phlox cuspidata Scheele Phlox HABITAT: acid sandy loam soils in grasslands and open oak woodlands	Over much of eastern Texas, except pinelands	Texas, Oklahoma	Common	Nectar for hummingbirds and bees	Aesthetic	None
HYDROPHYLLACEAE (waterleaf family)						
**Nemophila phacelioides Nutt Baby blue-eyes HABITAT: sandy soil, usually in open woodlands	Eastern and southeastern Texas	From Arkansas and Oklahoma to southeastern Texas	NA	None known	Aesthetic	Unknown

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
**Nemophila microcalyx (Nutt.) Fisch. and Mey. Baby blue-eyes HABITAT: damp woods	Eastern Texas	Florida to Texas; north to Virginia, Tennessee, Arkansas, and Missouri	NA	None known	Aesthetic	None
**Phacelia hirsuta Nutt. Phacelia HABITAT: sandy soil of borders and openings in deciduous woods	Northeastern Texas	Louisiana to Texas, north to southern Missouri and southeastern Kansas	NA	NA	Aesthetic	Unknown
Phacelia congesta Hook. Phacelia HABITAT: sandy, gravelly, or rocky soil	Statewide, except eastern Texas	Texas, New Mexico, and Arizona	Common	NA	Aesthetic	None
Nama jamaicense L. Nama HABITAT: moist places under shrubs and elsewhere	Eastern and southeastern Texas	Texas, east to Florida	NA	NA	Aesthetic	None
**Nama hispidum Gray Nama HABITAT: in sand and on gravelly soil in diverse habitats	Most of Texas	Texas, north to Oklahoma, west to Arizona and California	Common	NA	Aesthetic	None
**Hydrolea ovata Choisy Hydrolea HABITAT: edges of ponds and streams	Eastern and southeastern Texas	Louisiana to Texas, north to Mississippi and Arkansas	NA	NA	Aesthetic	None
**Hydrolea uniflora Raf. Smooth hydrolea HABITAT: edges and shallow water of ponds and streams	Eastern and southeastern Texas	Texas, north to Arkansas, Missouri, and southern Illinois	NA	NA	Aesthetic	None
BORAGINACEAE (borage family)						
Heliotropium curassavicum L. Seaside heliotrope HABITAT: sandy soil along beaches, about ponds, saline flats	Statewide	From Florida; north to Delaware; west to Oklahoma, Texas, and New Mexico	Common	Low as food	Aesthetic	None
**Heliotropium procumbens Mill. Four-spike heliotrope HABITAT: damp situations, or land subject to flooding	North to Jefferson, Hays, Bexar, and Brewster Counties	Mostly on the coastal plain--Florida, Louisiana, and Texas	Common	Low as food, seeds eaten by mourning dove	Aesthetic	Slightly adverse

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
**Heliotropium indicum L. Turnsole HABITAT: along river banks and bottoms, ditches, lake shores, and along creeks	Eastern half of Texas	Widely distributed in warmer parts of America	Common	Low as food, seeds eaten by mourning dove	Aesthetic	Moderately beneficial
**Heliotropium tenellum (Nutt.) Torr. India heliotrope HABITAT: rocky or gravelly soils in the open or in cedar-oak woods	Eastern two-thirds of Texas	From Kentucky, Missouri, and Kansas; south to Georgia, Alabama, and Texas	NA	Low as food	Aesthetic	None
Cynoglossum virginianum L. Wild comfrey HABITAT: upland deciduous woods	Eastern Texas	From southern New England, south to Florida and west to eastern Texas	NA	NA	Aesthetic	None
Hackelia virginiana (L.) I.M. Johnst. Stickseed HABITAT: rich woods and open thickets	Northeastern Texas and the Panhandle	From Quebec and Maine; west to South Dakota; south to Georgia, Alabama, Louisiana, and Texas	On Texas rare and endangered plant list	NA	High aesthetic, scientific	None
**Myosotis macrosperma Engelm. Scorpion-grass HABITAT: rich soil of woods and bottomlands	Northeastern and eastern Texas, southeast to the coast	Maryland to Florida; west to Illinois, Missouri, and Texas	Common	NA	Aesthetic	None
**Myosotis verna Nutt. Forget-me-not HABITAT: rocky woods, on slopes and banks, in prairies and open woodlands	Northeastern Texas; Dallas to Travis and Harris Counties, eastward and northward	New England to Florida; west to British Columbia, California, Idaho, and Texas	Common	NA	Aesthetic	None
**Lithospermum tuberosum A. DC. Gromwell HABITAT: low often dry woods,	Eastern Texas	Scattered along coastal plain and in adjacent provinces from Florida to Tennessee and Texas	On Texas rare and endangered plant list	Low as food, seeds eaten by a few songbirds and gamebirds	High aesthetic, scientific	None
**Lithospermum incisum Lehm. Gromwell HABITAT: various type habitats, but usually in sandy soils of prairies, fields, and open-wooded areas	Most of Texas	Widely distributed in United States, chiefly on the great plains and along the Rocky Mountains, and extending into adjacent Canada and Mexico	Common	Low as food	Aesthetic	None

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
Lithospermum caroliniense (Walt.) MacM. Puccoon HABITAT: in sandy woods	Eastern pine forests west to the western cross timbers and south to Wilson County on the coastal plain, local in Panhandle	Eastern half of United States	Common	Low as food, seeds eaten by a few songbirds and gamebirds	High aesthetic, scientific	None
Buglossoides arvense (L.) I.M. Johnst. Buglossoides HABITAT: open woodlands, old fields, and waste places	Eastern half of Texas	Widely introduced in United States, native of Europe	Common	NA	Aesthetic	None
**Onosmodium occidentale Mack. False-gromwell HABITAT: open rocky woods, prairies, bottomlands, and on hillsides	Central Texas	From Minnesota and Illinois, west to New Mexico, Utah, and Saskatchewan	NA	NA	Aesthetic	Unknown
VERBENACEAE (vervain family)						
Verbena rigida Spreng. Tuber vervain HABITAT: cultivated, pastures, prairies, and roadsides	Eastern Texas, west to Fayette and Travis Counties	Introduced in southern United States, native to Brazil and Paraguay	Common	Low as food	Aesthetic	None
**Verbena brasiliensis Vell. Brazilian vervain HABITAT: waste places, dry sandy soil, coastal prairies	Southeastern Texas	Introduced, native to most of South America, naturalized from Virginia to Florida and Gulf coast, Oregon, and California	Common	Low as food, slight use by birds as food	Aesthetic	None
**Verbena Halei Small Texas vervain HABITAT: sandy or calcareous meadows, prairies, fields, woodlands, rocky hillsides, and roadsides	Statewide, especially in eastern, central, and southern Texas	Alabama to Oklahoma, and south to Mexico	Abundant	Low as food, slight use by birds as food	Aesthetic	None
Verbena scabra Vahl Sandpaper vervain HABITAT: mostly rich soil of low ground, marshes, swamps, and edges of lakes and streams	Statewide, except plains country	North Carolina to Florida; west to Arizona, California, and northern Mexico	Common	Low as food, slight use by birds as food	Aesthetic	None

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
**Verbena urticifolia L. White vervain HABITAT: low rich or open woods, bottomlands, waste places, fencerows, pastures, streamsides	Northeastern and north-central Texas	Eastern half United States	Common	Low as food, slight use by birds as food	Aesthetic	None
**Verbena xutha Lehm. Gulf vervain HABITAT: dry mostly sandy soil of beaches, fields, roadsides, blackland prairies	Bowie and Navarro to Jefferson and Cameron Counties, west to the Trans-Pecos	Alabama to Arizona	Common	Low as food, seeds and plants eaten by birds and small mammals to slight extent	Aesthetic	None
**Verbena canescens H.B.K. Gray vervain HABITAT: sand and rocky places on dry limestone hills, valleys, and canyons	Edwards Plateau and south-central Texas	Texas, Mexico, and California	Common	Low as food, seeds and plants eaten by birds and small mammals to slight extent	Aesthetic	None
Verbena bracteata Lag. and Rodr. Prostrate vervain HABITAT: low and newly cleared ground, grassy places, waste ground, roadsides	From the Trans-Pecos and plains country, through Edwards Plateau east to Newton County	Almost throughout United States	Common	Low as food, seeds and plants eaten by birds and small mammals to slight extent	Aesthetic	None
**Verbena canadensis (L.) Britt. Rose vervain HABITAT: open ground, fields, woods, pinelands, roadsides, railroad embankments	Most of Texas	Illinois to Tennessee, southern Pennsylvania, Virginia, and Florida, west to Colorado; introduced in Connecticut, New York, Michigan, and Minnesota	Common	Low as food, seeds eaten by marshbirds and songbirds, plants eaten by rabbits	Aesthetic	None
**Verbena bipinnatifida Nutt. Small-flowered verbena HABITAT: dry plains, prairies, meadows, pastures, roadsides, streamsides	Statewide, except in most of the Trans-Pecos	South Dakota to Missouri and Alabama, west to Colorado and Arizona; cultivated elsewhere	Rare	Low as food, seeds eaten by songbirds, plants eaten by rabbits	Aesthetic	None
Verbena pumila Rydb. Pink vervain HABITAT: fields, prairies, chaparral, meadows, pastures, river terraces, woods, sandy slopes and hillsides	Most of Texas	Texas, Arkansas, Oklahoma, New Mexico,	Common	Low as food, seeds eaten by songbirds, plants eaten by rabbits	Aesthetic	None

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
Stylodon carneus (Medic.) Moldenke Carolina vervain HABITAT: sandy barrens, woods, and upland pinelands	From Newton and Jefferson Counties, southwest to Kleberg County	North Carolina to Florida, Louisiana, and Texas	NA	NA	Aesthetic	None
Lantana horrida H.B.K. Texas Lantana HABITAT: fields, thickets, swamps, rich sandy woods, scrub, gravelly hills, flats, chaparral, roadsides	Almost throughout Texas, except the northwestern area	Cultivated in southwestern United States	Common	Fruit eaten by winter songbirds	Aesthetic, fruit edible	None
**Phyla lanceolata (Michx.) Greene Northern frog-fruit HABITAT: moist soil of river bottoms, lake shores, and coastal marshes	Eastern half of Texas, Panhandle	Ontario to Minnesota, New Jersey, Illinois, Kansas, Florida, Texas, and California	NA	NA	Aesthetic	Moderately beneficial
**Phyla incisa Small Texas frog-fruit HABITAT: open ground, fields, pastures, clay or sandy flats, dry riverbanks and bottoms, damp shady woods, seashores	Throughout Texas	Texas, Colorado, Oklahoma, and Missouri to New Mexico, Arizona, southern California, and northern Mexico	Common	NA	Aesthetic	None
**Phyla nodiflora (L.) Greene Common frog-fruit HABITAT: wet or moist soil, fields, clearings, hillsides, ditches, thickets, and beaches	Along the coast from Chambers to Cameron Counties, inland to Kendall, Tom Green, and Childress Counties	Pennsylvania to Florida, Kentucky, Arkansas, Louisiana, Oklahoma, Texas, and California	Uncommon	NA	Aesthetic	Slightly adverse
**Callicarpa americana L. American beautyberry HABITAT: woods, moist thickets, wet slopes, low rich bottomlands, fencerows, and the edges of swamps	Eastern third of Texas	Eastern Texas, North Carolina to Florida and Arkansas, sometimes cultiveted	Common	High as food for deer, birds, raccoons, squirrel, opossum, and fox; excellent browse plant	Ornamental, erosion control	Slightly adverse
**Vitex Agnus-castus L. Chaste lamb-tree HABITAT: Widely cultivated	Escaped in every part of Texas, except Trans-Pecos, and plains country	Very widely cultivated, naturalized in various parts of southern United States, native of southern Europe and Orient	Common	NA	Ornamental	None

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
LABIATAE (mint family)						
Trichostema setaceum Houtt. Trichostema HABITAT: dry sandy soil in open woods	Eastern Texas	From Connecticut and New York, south to Florida and eastern Texas	NA	NA	NA	None
**Trichostema dichotomum* L. Forked blue curls HABITAT: sandy soil in open wood and on stream banks	Eastern Texas	New England, south to Florida and Texas	Common	NA	Aesthetic	Slightly adverse
**Teucrium canadense* L. American germander HABITAT: in water and mud along streams and canals, about lakes, in marshes and wet grassy swales	Statewide	From Quebec to British Columbia, south to Cuba and Mexico	Common	NA	Aesthetic	Moderately beneficial
Scutellaria parvula Michx. Skullcap HABITAT: sandy soils or clays on the edge of and in open woods, roadside banks and flats	Eastern and north-central Texas	Eastern half United States	Common	NA	NA	None
Scutellaria Drummondii Benth. Skullcap HABITAT: sandy, gravelly, clayey or rocky soils, or on rocks, ledges and flats in thickets, chaparral, or on open plateaus and slopes	Statewide	Texas, western Oklahoma, southeastern New Mexico, and northern Mexico	Common	NA	Aesthetic	None
Scutellaria integrifolia L. Rough skullcap HABITAT: borders of woods, thickets, and clearings along streams, on seepage slopes, and about ponds	Eastern Texas	Florida to Texas, north to New England, Ohio, Kentucky, and Missouri	NA	NA	Aesthetic	None
**Scutellaria cardiophylla* Engelm. and Gray Skullcap HABITAT: sandy or rocky soils on the edge of woods and in grassy areas in open woods, on banks, in seepage areas, and old fields	Eastern fourth of Texas, west to Kaufman, Freestone, and Madison Counties	Texas, Arkansas, and possibly western Louisiana	NA	NA	Aesthetic	Unknown

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
Scutellaria ovata Hill Skullcap HABITAT: open woodlands, along roads and on brushy slopes	Eastern and southern Texas	Eastern and central United States	Common	NA	Aesthetic	None
Scutellaria elliptica Muhl. Hairy skullcap HABITAT: dry woods and thickets	Southeastern Texas	Florida to Texas; north to New York, New Jersey, Pennsylvania, West Virginia, Michigan, Ohio, and Missouri	NA	NA	Aesthetic	None
Hyptis alata (Raf.) Shinners Cluster bushmint HABITAT: low pinelands, seepage areas, swamps, and marshes	Southeastern Texas	Florida to Texas, north to North Carolina	NA	NA	Aesthetic	None
**Marrubium vulgare L. Common horehound HABITAT: waste places, along roadsides, about corrals, animal pens, and along roadsides	Statewide	Naturalized throughout much of North America, native of Eurasia	Common	NA	Aesthetic, flowering tips and dried leaves used medicinally and as flavoring	None
**Prunella vulgaris L. Common self-heal HABITAT: low meadows, open woodlands, along roadsides and pasturelands	Eastern fourth of Texas	Widespread throughout Northern Hemisphere	Common	NA	Aesthetic	None
Brazoria pulcherrima Lundell Brazoria HABITAT: sandy soils along roadsides and open fields	Leon County	Endemic to Texas	On Texas rare and endangered plant list	NA	High aesthetic, scientific	None
**Physostegia intermedia (Nutt.) Engelm. and Gray Intermediate lions heart HABITAT: wet periodically flooded areas, or aquatic along ditches, in swamps, marshes, and bottomlands	Eastern and most of southern half of Texas	Kentucky to Kansas, south to Alabama, Louisiana, and Texas	Common	NA	Aesthetic	None
Physostegia angustifolia Fern. False dragon-head HABITAT: marshy areas, along streams, roadsides, fields, and meadows	Eastern and central Texas	Illinois to Tennessee; south to Mississippi, Louisiana, and Texas	Common	NA	Aesthetic	None

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
Physotegia praemorsa Shinners False dragon-head HABITAT: along streams and ditches, in moist grasslands	Eastern and north-central Texas	Texas, Louisiana, and New Mexico; probably Oklahoma	Common	NA	Aesthetic	None
**Physostegia Digitalis Small Finger lions heart HABITAT: sandy open pinelands, edge of forests, prairies, grasslands, and swampy areas	Eastern Texas	From eastern Texas to Louisiana, Arkansas, and probably Oklahoma	NA	NA	Aesthetic	Unknown
Physostegia pulchella Lundell False dragon-head HABITAT: wet soil of bottomlands along streams	Eastern Texas	Endemic to Texas	NA	NA	Aesthetic	Unknown
**Stachys crenata Raf. Shade betony HABITAT: shaded rocky or gravelly soils in woods, ravines in prairies, on banks, and in open grounds	Eastern, central, and southern Texas	Texas, also northeastern Mexico	NA	NA	Aesthetic	Unknown
Stachys tenuifolia Willd. Hedge-nettle HABITAT: rich bottomlands, lake shores, muddy bayous, low woods, and meadows	Eastern fourth of Texas	New York to Minnesota; south to South Carolina, Tennessee, Louisiana, and Texas	NA	NA	Aesthetic	None
Stachys floridana Shuttlew. Hedge-nettle HABITAT: wet sandy soils	Southeastern Texas	Florida to Texas, north to North Carolina	NA	NA	NA	None
Lamium amplexicaule L. Henbit HABITAT: cultivated places, among grasses, waste places, along roadsides	Statewide	Naturalized throughout United States, native of Europe	Common	NA	Aesthetic	None
Lamium purpureum L. Red henbit HABITAT: waste places and cultivated ground	Eastern Texas	Naturalized in much of North America, native of Europe	Common	NA	Aesthetic	None
Leonurus sibiricus L. Motherwort HABITAT: fields, open woods, waste grounds	Northeastern and south-central Texas	Introduced in much of eastern United States, native of Europe	Common	NA	Aesthetic	None

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
Leonotis nepetaefolia A. Br. Lion's-ears HABITAT: cultivated grounds, roadsides, waste places	Eastern and central Texas	From Florida to Texas, north to Tennessee and North Carolina	Common	NA	Aesthetic	None
**Salvia lyrata L. Lyre-leaf sage HABITAT: sandy open woods, meadows and clearings	Eastern fourth of Texas	Florida to Texas; north to Connecticut, New York, New Jersey, Pennsylvania, West Virginia, Ohio, Indiana, Illinois, Missouri, and Oklahoma	NA	Nectar for hummingbirds and bees	Aesthetic	None
Salvia farinacea Benth. Mealy sage HABITAT: limestone soils in prairies, thickets, meadows, hillsides, and floodplains	Statewide, mostly in central and western Texas	Texas and New Mexico	Common	Nectar for hummingbirds and bees	Aesthetic	None
**Salvia azurea Lam. Blue sage HABITAT: dry prairies, oak-cedar hills, flats, and openings	Statewide	South Carolina to Florida; west to Nebraska, Colorado, Arkansas, Texas, and Mexico	Common	Nectar for hummingbirds and bees	Aesthetic, ornamental	None
Salvia coccinea Murr Tropical sage HABITAT: sandy soils in thickets, chaparral, on edge of and in open woods	Eastern and southern Texas	South Carolina to Florida and Texas	NA	Nectar for hummingbirds and bees	Aesthetic	None
Monarda Lindheimeri Gray Horsemint HABITAT: sandy soils in and on the edge of woods, in meadows, on slopes and flats	Eastern fourth of Texas	Texas and Louisiana	NA	NA	Aesthetic	None
Monarda fistulosa L. Wild bergamont HABITAT: dry open woods, old fields, wet meadows and ditches, edge of woods and marshes	Eastern fourth of Texas	Eastern half United States	NA	NA	Aesthetic	None
**Monarda citriodora Cerv. Lemon beebalm HABITAT: sandy loams or rocky soils on slopes and hills, or in prairies, meadows and savannahs	Statewide	Missouri and Kansas, south to Texas and northeastern Mexico, adventive eastward	Common	NA	Aesthetic, ornamental	None

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
**Monarda clinopodioides Gray Basil beebalm HABITAT: sandy or caliche soils, occasionally on granite in meadows, fields, grassy flats, and grassy areas in open woodlands	Eastern half of Texas	Kansas through Oklahoma, south to Atascosa County, Texas	NA	NA	Aesthetic	Unknown
**Monarda punctata L. Spotted beebalm HABITAT: dryish or sandy soils	Statewide	Eastern half United States	Common	NA	Aesthetic	None
Perilla frutescens (L.) Britt. Beefsteak plant HABITAT: damp woods, along open-wooded streams and seepage areas	Eastern Texas	Florida to Texas, north to New England, New York, Ohio, Indiana, Missouri, and Kansas	Common	NA	Aesthetic, seeds produce an edible oil used in commerce	None
**Lycopus virginicus L. Virginia bugle-weed HABITAT: marshy soils and along woodland streams	Southeastern Texas	Eastern half United States	Rare	NA	Aesthetic	Slightly adverse
**Lycopus rubellus Moench Water-horehound HABITAT: marshes, swamps, bogs, meadows, ditches, seepage areas, and shallow water	Eastern Texas	Florida to Texas; north to New England, New York, Ohio, Michigan, Illinois, and Missouri	Common	NA	Aesthetic	Slightly beneficial
**Hedeoma Drummondii Benth. Mock pennyroyal HABITAT: limestone soil, roadcuts, bluffs and rocky shoulders	Statewide, rare in extreme eastern Texas	NA	Common	NA	Aesthetic	None
**Hedeoma hispidum Pursh Mock pennyroyal HABITAT: loamy soil of prairies and pastures	Eastern half of Texas	Texas to the Atlantic coast, north to Alberta, and east to New York	NA	NA	Aesthetic	None
Rhododon ciliatus (Benth.) Epl. Rhodon HABITAT: sandy soil	Smith and Robertson Counties to Refugio County	Endemic to Texas	Uncommon	NA	Aesthetic	None
Satureja arkansana (Nutt.) Briq. Satureja HABITAT: on calcareous rocks in ravines, on banks, and in barrens	Eastern and central Texas	From Ontario to Minnesota, south to Arkansas and Texas	NA	NA	Aesthetic	None

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
Pycnanthemum tenuifolium Schrad. Mountain-mint HABITAT: grassy moist open woods, bogs, savannahs, old fields, meadows, and marshes	Eastern fourth of Texas	Georgia to Texas; north to New England, New York, Ontario, Ohio, Michigan, Wisconsin, and Minnesota	NA	NA	Aesthetic	None
Pycnanthemum albescens T. & G. Mountain-mint HABITAT: low open woods, often along streams, in savannahs, and in thicket areas	Eastern Texas	Florida to Texas, north to Missouri and eastern Oklahoma	Common	NA	Aesthetic	None
Cunila origanoides (L.) Britt. Stone mint HABITAT: dry open woods and thickets	North-central Texas	Florida to Texas, north to New York, Pennsylvania, West Virginia, Ohio, Indiana, Illinois, Missouri, and Oklahoma	NA	NA	Aesthetic	Unknown
SOLANACEAE (potato or nightshade family)						
Physalis viscosa L. Ground cherry HABITAT: in and near woods	Northeastern Texas	Texas, Arkansas, and Oklahoma	Common	Low as food, fruit eaten by birds, foliage eaten by rabbits	Aesthetic, poisonous	None
**Physalis pumila Nutt. Prairie ground cherry HABITAT: prairies and open woods	Northeastern Texas to Brazos County	Texas, eastern Oklahoma, Kansas, and Missouri	Common	Low as food, fruit eaten by birds, foliage eaten by rabbits	Aesthetic, poisonous	None
**Physalis heterophylla Nees Clammy ground cherry HABITAT: various habitats	Eastern Texas to Kenedy County	Widespread eastern United States and Canada, local in northern and central Rocky Mountains and Great Basin	Common	Low as food, seeds occasionally eaten by upland gamebirds and songbirds	Aesthetic, poisonous	None
**Physalis virginiana Mill. Ground cherry HABITAT: open woods, adjacent prairies and disturbed areas	Eastern Texas	Eastern United States	Common	Low as food, fruits eaten by gamebirds and small mammals	Aesthetic, poisonous	None
**Physalis angulata L. Ground cherry HABITAT: open woods and disturbed habitats	Eastern and coastal Texas	Southern half United States	Common	Low as food, fruits eaten by gamebirds and small mammals	Aesthetic, poisonous	None

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
Physalis turbinata Medic. Ground cherry HABITAT: open woods, brushland, and valleys	Eastern Texas and along the Gulf to the lower Rio Grande	Southern United States	Common	Low as food, fruits eaten by gamebirds and small mammals	Poisonous	None
**Physalis pubescens L. Downy ground cherry HABITAT: open woods, thickets, and adjacent areas	Eastern half of Texas	Southern United States	Common	Low as food, fruits eaten by upland gamebirds and small mammals	Aesthetic, fruit edible	None
**Lycopersicon esculentum Mill. Tomato HABITAT: cultivated	Statewide	Introduced widely in United States, native of western South America	Uncommon, escape from cultivation	Low value as food	Fruit edible, commercial crop	None
**Solanum elaeagnifolium Cav. Silver-leaf nightshade HABITAT: dry sterile soils in open woods, prairies, waste places, and disturbed soils	Statewide	From Missouri and Kansas, south to Louisiana, Texas, and Arizona; adventive elsewhere in the United States	Common	Moderate as food, fruit eaten by wood duck, sora rail, gamebirds, songbirds, and some fur and game mammals; fruit and leaves eaten by small mammals	Aesthetic, poisonous	None
**Solanum carolinense L. Carolina horse-nettle HABITAT: fields, open woodlands, waste places. sandy or light soils	Eastern Texas	From Texas, north to Minnesota and east to the Atlantic Ocean	Common	Low as food, fruit eaten by birds and mammals	Aesthetic, poisonous	None
**Solanum dimidiatum Raf. Western horse-nettle HABITAT: prairies, and sandy soils	Statewide, except extreme eastern and western areas	From Kansas, Missouri, and Arkansas, south to Texas	Common	Low as food, fruit eaten by birds and mammals	Aesthetic, poisonous	None
**Solanum rostratum Dun. Buffalo bur HABITAT: over-grazed land, flats, and waste places	Statewide	From Nebraska to Texas, adventive eastward and northward	Common	Low as food, fruit eaten by wildlife	Aesthetic, very poisonous	None
Solanum sisymbrifolium Lam. Sticky nightshade HABITAT: roadsides, waste places, and other such areas	Eastern Texas	Adventive or escaped from cultivation from Texas to Florida, north to New England and Ohio, native of Brazil	Common	Low as food, fruit eaten by wildlife	Aesthetic, poisonous	None

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
Solanum aculeatissimum Jacq. Cockroach berry HABITAT: open woodlands, along rivers and in waste grounds	Southeastern Texas	Southern United States	NA	Low as food, fruit eaten by wildlife	Aesthetic, poisonous	None
**Solanum triquetrum Cav. Texas nightshade HABITAT: low hills, slopes, and in thickets, and on breaks	Central, southern, and western Texas	Texas and Mexico	Common	Low as food, fruit eaten by wildlife	Aesthetic, poisonous	None
**Solanum americanum Mill. American nightshade HABITAT: rocky or dry open woods, thickets, shores, or openings, often spreading to cultivated or waste ground	Statewide	New England to North Dakota, south to Florida, Louisiana, and Texas	Common	Low as food, fruit and leaves eaten by wildlife--including upland gamebirds, songbirds, fur and game mammals	Aesthetic, poisonous	None
Lycium carolinianum Walt. Carolina wolfberry HABITAT: ponds, along and in ditches, marshes, on wet clay flats, salt flats, in sandy-gravelly soil or brush-covered hills	Coastal and southern Texas	Mississippi to Texas	Common	Low as wildfowl food	Aesthetic, fruit edible, poisonous	None
Petunia parviflora Juss. Wild petunia HABITAT: moist or wet soil in beds of streams, along beaches and on muddy flats	Statewide	Southern Florida to California, north to Virginia, south to tropical America	Common	NA	Aesthetic	None
Datura Wrightii Regel Jimson-weed HABITAT: loose sand, on floodplains and bottomlands	Eastern Texas to Trans-Pecos	From Texas, west to California and northern Mexico	Common	Low as food	Aesthetic, toxic plant to humans	None
**Datura Stramonium L. Jimson-weed HABITAT: cultivated areas and waste places	Statewide	Widely distributed in the World	Common	Low as food	Aesthetic, ornamental, toxic plant to humans	None
SCROPHULARIACEAE (figwort family)						
**Bacopa Monnieri (L.) Wettst. Water-hyssop HABITAT: mud and sand in depressions among dunes, ponds, streams, and ditches	Eastern, central, and southern Texas	Florida to Texas, north to Virginia	Common	Low as food, minor duck food	NA	Slightly adverse

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
Bacopa caroliniana (Walt.) Robins. Blue hyssop HABITAT: on margins of ponds and streams, in bogs in pinelands	Eastern Texas	From Florida to Texas, north to Virginia	Common	Low as food, minor duck food	Aesthetic	None
Bacopa rotundifolia (Michx.) Wettst Disc water-hyssop HABITAT: mud and water in and about lakes, pools, ditches, and ponds	Statewide	Mississippi to Texas; north to Indiana, Illinois, Minnesota, North Dakota, and Montana	Common	Low as food, minor duck food	Aesthetic	None
Mecardonia acuminata (Walt.) Small Mecardonia HABITAT: ditches, bogs, depressions in fields and prairies, swamps and flat pinelands	Eastern Texas	Delaware and Maryland; south to Florida, Texas, and Missouri	Common	NA	NA	None
Gratiola pilosa Michx. Hairy hedge-hyssop HABITAT: bogs, swamps, and moist sandy woods	Eastern third of Texas	Florida to Texas; north to New Jersey, Maryland, North Carolina, Kentucky, Arkansas, and Oklahoma	Common	NA	Aesthetic	None
**Gratiola brevifolia Raf. Sticky hedge-hyssop HABITAT: bogs, marshes, wet meadows, and in and on the edge of water in ponds and lakes	Eastern Texas	Georgia to Texas and Arkansas	Common	NA	Aesthetic	Slightly beneficial
Gratiola neglecta Torr. Hedge-hyssop HABITAT: wet or muddy places about ponds and in woods	Eastern third of Texas	Much of United States	Common	NA	Aesthetic	None
Gratiola virginiana L. Hedge-hyssop HABITAT: water of streams, lakes, ponds, and ditches, in boggy areas and in open flats in forests	Eastern third of Texas	Flordia to Texas; north to New Jersey, Maryland, West Virginia, Ohio, Indiana, Illinois, Iowa, and Kansas	Common	NA	Aesthetic	None

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
**Leucospora multifida (Michx.) Nutt. Leucospora HABITAT: mud and sand-gravel along streams and on shores	Central and eastern Texas	Ontario to Iowa and Kansas; south to Georgia, Alabama, Louisiana, and Texas	Common	NA	Aesthetic	Slightly adverse
Scoparia dulcis L. Sweet broomwort HABITAT: disturbed soils, and moist or dry soils in open woods	Eastern Texas	From southern United States to South America	Common	NA	Aesthetic	None
**Mimulus alatus Ait. Monkey-flower HABITAT: wet areas, especially along wooded streams	Eastern Texas, west to blackland prairies	Massachusetts, south to South Carolina and west to Texas	Common	NA	Aesthetic	Slightly adverse
Lindernia dubia (L.) Penn. False pimpernel HABITAT: mud of swamps, and stream margins	Eastern Texas	Throughout most of United States	Common	NA	Aesthetic	None
**Lindernia anagallidea (Michx.) Penn. False pimpernel HABITAT: sandy margins of streams and ponds	Throughout most of Texas, except the Trans-Pecos	Throughout most of United States	Common	NA	Aesthetic	Moderately beneficial
**Micranthemum umbrosum (Walt.) Blake Shade mud-flower HABITAT: mud or wet sand in low woods and along streams	Eastern Texas	Florida to Texas, north to Virginia	NA	NA	Aesthetic	Slightly adverse
**Verbascum Thapsus L. Flannel mullein HABITAT: in fields, on rocky or gravelly banks and in open woodlands	Throughout most of Texas	Adventive from Europe in much of North America	Common	NA	Aesthetic	Slightly adverse
Verbascum Blattaria L. Moth mullein HABITAT: roadsides and old fields	Eastern Texas	New England to Ontario, south to Florida and Texas, adventive from Europe	Common	NA	Aesthetic	None
Verbascum virgatum Stokes Mullein HABITAT: along roadsides	Eastern Texas	Canada, south to Texas and westward, adventive from Europe	Common	NA	Aesthetic	None

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
Penstemon Murrayanus Hook Beard-tongue HABITAT: sandy soil	Eastern Texas	Texas; adjacent parts of Oklahoma, Arkansas, and Louisiana	Common	Low as food	Aesthetic	None
**Penstemon tenuis Small Beard-tongue HABITAT: low poorly drained loamy soils	Gulf prairies and marshes	Texas, Louisiana, and Arkansas	Uncommon	Low as food, seeds rarely eaten by birds and small mammals	Aesthetic	Slightly adverse
**Penstemon laxiflorus Penn. Beard-tongue HABITAT: acid soils	Gulf coastal plain, eastern Texas	Gulf coastal plain	Common	Low as food, seeds rarely eaten by birds and small mammals	Aesthetic	Slightly adverse
Collinsia violacea Nutt. Violet collinsia HABITAT: sandy post oak woods	North-central Texas	Missouri to Kansas, south to Texas	Common	Low as food, minor quail food	Aesthetic	None
**Linaria vulgaris Mill. Butter-and-eggs HABITAT: NA	North-central Texas	Introduced in various parts of North America, native of Eurasia	Rare	NA	Aesthetic	Unknown
**Linaria texana Scheele Texas toad-flax HABITAT: sandy soils in fields, open woods, and grassy pinelands	Mostly eastern two-thirds of Texas	British Columbia to Mexico, east to the Atlantic coast	Common	NA	Aesthetic	None
**Linaria caradensis (L.) Dum. Old field toad-flax HABITAT: sandy-grassy areas in open woodlands, rare in caliche	Eastern third of Texas	Widespread over much of United States	Common	NA	Aesthetic	None
**Veronica peregrina L. Purslane speedwell HABITAT: water of tanks and streams, open flatwoods, swamps, prairies, and dune areas	Statewide	Throughout most of North America.	Common	NA	Aesthetic	Slightly adverse
Veronica arvensis L. Common speedwell HABITAT: moist open-wooded slopes, in fields and sandy flatwoods	Eastern Texas	Throughout most of United States, naturalized from Eurasis	Common	NA	Aesthetic	None

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
Veronica polita Fries Wayside speedwell HABITAT: waste places, lawns, and along roadsides	Eastern and north-central Texas	Eastern United States, naturalized from Eurasia	Common	NA	Aesthetic	None
Aureolaria pectinata (Nutt.) Penn. False foxglove HABITAT: sandy soil of grasslands, open woods	Southeastern Texas	Florida to Texas, north to North Carolina, Kentucky, and Missouri	Common	NA	Aesthetic	None
Aureolaria grandiflora (Benth.) Penn False foxglove HABITAT: dry open woods, and along streams in woods	Forest belt of eastern Texas	From Lake States, south to Texas	Common	NA	Aesthetic	None
Aureolaria dispersa (Small) Penn. False foxglove HABITAT: sandy soil of open woodlands and thickets	Southeastern Texas	Texas and east to Alabama	On Texas rare and endangered plant list	None	High aesthetic, scientific	None
Aureolaria flava (L.) Farw. False foxglove HABITAT: open-wooded slopes, edge of woods and along streams	Southeastern Texas	Maine to Ontario, Michigan, and Wisconsin; south to Florida and Texas	Common	NA	NA	None
Dasistoma macrophylla (Nutt.) Raf. Mullein foxglove HABITAT: rich woods, banks of streams	North-central Texas	West Virginia to Wisconsin, Iowa, and Nebraska; south to Georgia, Alabama, Mississippi, Louisiana, and Texas	On Texas rare and endangered plant list	None	High aesthetic, scientific	None
Seymeria cassioides (Walt.) Blake Seymeria HABITAT: sandy pinelands	Eastern Texas	Florida, Louisiana, and Texas; north to Virginia, Tennessee, and Alabama	NA	NA	NA	None
Tomanthera auriculata (Michx.) Raf. Tomanthera HABITAT: prairies, open woods, and fields	North-central Texas	From New Jersey to Minnesota; south to Virginia, Alabama, Tennessee, Arkansas, and Texas	NA	NA	Aesthetic	None

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
**Agalinis Gattingeri (Small) Small Agalinis HABITAT: moist or dry soils on slopes and in open woodlands and barrens	Eastern Texas	Ontario to Minnesota and Nebraska; south to Alabama, Louisiana, and Texas	NA	NA	Aesthet:	None
**Agalinis viridis (Small) Penn. Green gerardia HABITAT: sandy soils in pinelands and prairies	Eastern Texas	Missouri to Louisiana, Texas, and Oklahoma	NA	NA	Aesthetic	None
Agalinis maritima (Raf.) Raf. Salt marsh gerardia HABITAT: salt marshes and beach dunes	Gulf coast	Nova Scotia to Florida and Texas	NA	NA	Aesthetic	None
Agalinis pulchella Penn. Agalinis HABITAT: sandy or clayey soils in longleaf pinelands and grasslands on slopes	Southeastern Texas	Northern Florida and Georgia to Texas	NA	NA	NA	None
Agalinis homalantha Penn. Agalinis HABITAT: sandy soil of post-oak woods, cut-over fields and plains	Eastern and north-central Texas	Texas, southern Oklahoma	NA	NA	Aesthetic	None
**Agalinis heterophylla (Nutt.) Small Prairie agalinis HABITAT: prairies and plains, grasslands and fallow fields, sometimes on rocky soils or in open woodlands, usually somewhat moist	Texas, in a line from Grayson County to Cameron County and eastward	Missouri and Oklahoma to Louisiana and Texas	NA	NA	Aesthetic	None
Agalinis oligophylla Penn. Agalinis HABITAT: sandy or clayey soils in prairies, savannahs, and longleaf pine regions	Southeastern Texas	Texas and Louisiana	NA	NA	NA	None
Agalinis purpurea (L.) Penn. Agalinis HABITAT: moist sandy soil in bogs, seepage areas, moist prairies, open pinelands, barrens, and along shores	Eastern Texas	Nova Scotia to Minnesota, south to Florida and Texas	NA	NA	Aesthetic	None

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
Agalinis fasiculata (Ell.) Raf. Agalinis HABITAT: Dry or mois. soils in savannahs, open flatwoods, tidal marshes	Eastern and north-central Texas	Florida to Texas; north to Maryland, Missouri, and Arkansas	NA	NA	Aesthetic	None
Buchnera americana L. Bluehearts HABITAT: moist sandy soil of open woods, prairies, meadows, and marshy areas	Eastern Texas	Florida to Texas; north to New Jersey, New York, Ontario, Michigan, Illinois, Missouri, and Kansas	NA	NA	Aesthetic	None
Buchnera floridana Gand. Bluehearts HABITAT: sandy or gravelly soils	Southern half of Texas	Southeastern United States	NA	NA	Aesthetic	None
Schwalbea americana L. Chaff-seed HABITAT: moist to dry pinelands, oak woods and clearings	Local eastern Texas	Local from Florida to eastern Texas; north to Massachusetts, Connecticut, New York, Kentucky, and Tennessee	Locally common	NA	NA	None
Pedicularis canadensis L. Common lousewort HABITAT: open forests, on the edge of forests, on open seepage slopes, also in clearings and prairies	Eastern Texas	Maine and Quebec to Manitoba; south to Florida, Mississippi, Louisiana, Texas, and northern Mexico	Common	NA	Aesthetic	None
Castilleja purpurea (Nutt.) G. Don Purple paintedcup HABITAT: usually on calcareous gravelly or sandy soils	Several varieties over much of Texas	Southern Kansas and southern Missouri through Oklahoma and Texas	Common	Flowers visited by bees and hummingbirds	High aesthetic	None
**Castilleja indivisa Engelm. Texas paintbrush HABITAT: wet sandy loam soils	Coastal plain and eastern half of Texas	Southeastern Oklahoma and Texas	Abundant	Flowers visited by bees and hummingbirds	High aesthetic	None
BIGNONIACEAE (catalpa family)						
**Campsis radicans (L.) Seem. Trumpet-honeysuckle HABITAT: various habitats, climbing over shrubs, trees, and fences	Eastern half of Texas	Southeastern United States	Common	Moderate as food for wildlife--including deer, squirrel	Aesthetic	None

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
**Catalpa speciosa Warder Catalpa HABITAT: damp woods and on the edge of swamps and along streams	Eastern Texas	Southern Illinois and Indiana, south to eastern Texas	Uncommon	Moderate as cover and nesting sites	Aesthetic, ornamental	Slightly adverse
Catalpa bignonioides Walt. Common catalpa HABITAT: cultivated	Eastern Texas	Southern United States, occasionally escapes cultivation	Uncommon	Moderate as cover and nesting sites	Aesthetic, ornamental	None
Paulownia tomentosa (Thunb.) Steud. Princess-tree HABITAT: escapes cultivation, along roadsides, in clearings and on the edge of woods	Eastern Texas	Florida to Texas, north to West Virginia Virginia, and New York	Common	Moderate as cover and nesting sites	Aesthetic, ornamental	None
LENTIBULARIACEAE (bladderwort family)						
**Utricularia subulata L. Bladderwort HABITAT: wet peat, sands, and on seepage slopes and pond shores	Eastern Texas, also Winkler County in western Texas	Florida to Texas and Arkansas; north to Long Island, southeastern Massachusetts, and western Nova Scotia	NA	NA	Aesthetic	Slightly beneficial
Utricularia cornuta Michx. Horned bladderwort HABITAT: wet peaty, sandy, or muddy shores or bogs, sometimes on edge of water	Eastern half of Texas	Eastern half of United States	NA	NA	Aesthetic	None
Utricularia inflata Walt. Floating bladderwort HABITAT: ditches, swamps, slow streams, lakes, and ponds	Eastern Texas	Florida to Texas, north to Delaware and New Jersey	NA	NA	Aesthetic	None
**Utricularia gibba L. Cone-spur bladderwort HABITAT: mud of marshes, bogs, and seepage areas, on floating debris in shallow water	Eastern half of Texas, south to Cameron County and west to Val Verde County	Florida to Texas and Mexico; north to Canada, Michigan, Wisconsin, Minnesota, and Oklahoma; west to California	NA	NA	Aesthetic	Slightly beneficial
Utricularia fibrosa Walt. Bladderwort HABITAT: floating on mats of debris and rooted in shallow water of slow streams, ponds, and lakes	Eastern Texas	Massachusetts to Florida; west to Texas, Arkansas, and Oklahoma	NA	NA	NA	Moderately beneficial

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ACANTHACEAE (acanthus family)						
Elytraria bromoides Oerst Wheatspike scaly-stem HABITAT: sandy soil	Gulf coast	Texas, eastern Mexico	NA	NA	Aesthetic	None
Thunbergia alata Sims Black-eyed susan HABITAT: in fields, along trails, edges of thickets, gardens, and open waste places, cultivated	Southern and eastern Texas	Cultivated, native of tropical America	Rare	NA	Aesthetic	None
**Ruellia nudiflora (Gray) Urban Ruellia HABITAT: various habitats, ubiquitous	Southern half of Texas	Texas, northeastern Mexico	Common	Low as food for gamebirds	Aesthetic	None
**Ruellia Corzoi Tharp and Barkl. Wild petunia HABITAT: in and along arroyos and draws, in depressions, and on limestone hills	Southwestern and southern Texas	Texas, northeastern Mexico	NA	Low as food for gamebirds	Aesthetic	None
Ruellia pinetorum Fern. Ruellia HABITAT: low pine barrens and prairies	Eastern Texas	Florida to Texas, north to South Carolina	On Texas rare and endangered plant list	None	High aesthetic, scientific	None
**Ruellia pedunculata Torr. Wild petunia HABITAT: open woods and along streams	Eastern Texas	Southern Illinois, Missouri, and Oklahoma to Louisiana and Texas	NA	Low as food for gamebirds	Aesthetic	Slightly adverse
**Ruellia strepens L. Wild petunia HABITAT: rich woods, talus slopes, and low woodlands, commonly in calcareous areas	Eastern and north-central Texas	Texas to South Carolina; north to New Jersey, Ohio, Pennsylvania, Indiana, Illinois, Missouri, and Kansas	Common	Low as food for gamebirds	Aesthetic	Slightly adverse
**Ruellia humilis Nutt. Ruellia HABITAT: open forests, savannahs, and old fields	Eastern fourth of Texas, rare on Edwards Plateau and in Panhandle	Most of eastern half United States	Common	Low as food for gamebirds	Aesthetic	Slightly adverse

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
**Ruellia caroliniensis (Walt.) Steud. Ruellia HABITAT: pinelands, thickets, and prairies	Eastern Texas	New Jersey to Ohio and southern Indiana, south to Florida and Texas	NA	Low as food for gamebirds	Aesthetic	Slightly adverse
**Dicliptera brachiata (Pursh) Spreng. Dicliptera HABITAT: sandy and moist places	Central and southern Texas	Florida to Texas; north to Virginia, Indiana, and Missouri	Common	NA	Aesthetic	None
Siphonoglossa pilosella (Nees) Torr. Tube-tongue HABITAT: rocky and gravelly soils in chaparral on hills, banks, and along streams	Southern two-thirds of Texas	Texas, adjacent Mexico	NA	NA	Aesthetic	Slightly adverse
Yeatesia viridiflora (Nees) Small Yeatesia HABITAT: pinewoods, gulf prairies and marshes	Eastern Texas	Florida to Texas, north to Georgia and Tennessee	NA	NA	Aesthetic	None
**Justicia americana (L.) Vahl American water-willow HABITAT: shallow water and mud	Eastern, southeastern, and north-central Texas; Edwards Plateau	Georgia to Texas; north to Quebec, Vermont, New York, Ontario, Wisconsin, Missouri, and Kansas	NA	NA	Aesthetic	Moderately beneficial
**Justicia lanceolata (Chapm.) Small Lance-leaved water-willow HABITAT: wet and swampy grounds	Southeastern Texas	Florida to Texas, north to Virginia	NA	NA	Aesthetic	None
PHRYMACEAE (lopseed family)						
Phryma leptostachya L. Lopseed HABITAT: open woodlands and thickets	Eastern Texas	Eastern two-thirds United States	NA	NA	Aesthetic	None
PLANTAGINACEAE (plantain family)						
**Plantago major L. Common plantain HABITAT: cultivated	Introduced statewide	Introduced throughout United States, native of Europe	Common	Low as food, some use as food for songbirds, small mammals	Weed	None

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**Plantago virginica L. Pale-seeded plantain HABITAT: thin soil over rocks, along roadsides, in open thickets and flat woods, salt marshes and dunes	Eastern third of Texas	Massachusetts and New York; west to Wisconsin, Iowa, and Kansas; south to Florida and Texas; introduced farther west	Common	Low as food, seeds eaten by songbirds, leaves eaten by grouse, small mammals, and deer	NA	None
**Plantago rhodosperma Dcne. Red-seeded plantain HABITAT: rocky soils in brushlands and on slopes, occasionally in sandy soils and on gravel bars of washes and streams	Almost entirely west of the blackland prairies	Missouri and Tennessee; west to Kansas, Texas, and Arizona; adventive farther west	Common	Low as food, seeds eaten by birds, plants eaten by rabbits	NA	None
**Plantago Hookeriana Fisch. and Mey. Tallow weed HABITAT: sandy, gravelly, or rocky soils in open woods, dunes, savannahs, and clay flats	Eastern Texas, along the coast to the Rio Grande valley, and inland west to the Trans-Pecos	Possibly endemic to Texas	Common	Low as food, some use of seeds as food by birds	NA	None
**Plantago Wrightiana Dcne. Plantain HABITAT: sandy, gravelly, or rocky soils	Edwards Plateau or adjacent to it	Texas, west to Arizona	Uncommon	Low as food, eaten by a variety of birds and small mammals	NA	None
**Plantago aristata Michx. Buckthorn HABITAT: dry sterile or sandy soils	Eastern fourth of Texas	Maine to Michigan, North Dakota, Montana, and Oregon; south to Florida, Texas, and northern Mexico	Common	Low as food, some use of seeds as food by birds	NA	None
**Plantago patagonica Jacq. Plantain HABITAT: sandy, gravelly, or rocky soils, prairies, plains, hillsides	Statewide, except extreme eastern area	Much of United States	Common	Low as food, eaten by variety of birds and small mammals	NA	None
**Plantago Helleri Small Plantain HABITAT: sand-gravel beds of dry washes, on limestone slopes and in sandy soils of flats	North-central Texas and Edwards Plateau, west to Rio Grande plains and Trans-Pecos	Texas and adjacent Mexico	Common	Low as food, eaten by variety of birds and small mammals	NA	None

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
Plantago hybrida Bart. Plantain HABITAT: wet sands and shallow soils in rocky areas, fallow fields and flat woods occasionally in salt marshes	Eastern third of Texas	Rather widespread, especially in southern United States	Common	Low as food, seeds eaten by songbirds, leaves eaten by grouse, small mammals, and deer	NA	None
Plantago elongata Pursh Plantain HABITAT: moist or dry sandy soil, commonly shallowly covering flat rocks	Eastern, southern, and north-central Texas	New England to the Lake States, south to Florida and Texas	Rare	Low as food, seeds eaten by birds, plants eaten by rabbits	NA	None
RUBIACEAE (madder family)						
Galium uniflorum Michx. Bedstraw HABITAT: rich woods	Eastern Texas	Florida to Texas, north to eastern Virginia	NA	Low as food for small mammals	Aesthetic	None
**Galium virgatum Nutt. Southwest bedstraw HABITAT: dry barrens, glades and rocky woods	Edwards Plateau, northwestern Texas	Louisiana and Texas, north to Tennessee and Missouri	NA	Low as food for small mammals	Aesthetic	None
**Galium obtusum Bigel. Bluntleaf bedstraw HABITAT: low woods, swamps, wet shores	Eastern Texas	From Florida to Arizona; north to southwestern Nova Scotia; southern and western New England, southern Ontario, Michigan, Wisconsin, Nebraska, and Minnesota	NA	Low as food for small mammals	Aesthetic	None
**Galium tinctorium L. Dye bedstraw HABITAT: swamps and damp places	Eastern fourth of Texas	Newfoundland to Ontario and Nebraska; south to South Carolina, Kentucky, Missouri, and Texas	NA	Low as food for small mammals	Aesthetic	None
**Galium pilosum Ait. Hairy bedstraw HABITAT: dry woods, flatwoods, prairies, and copses	Eastern third of Texas	Southern New Hampshire to southern Ontario and Michigan; south to North Carolina, Tennessee, Missouri, Oklahoma, and Texas	NA	Low as food for small mammals	Aesthetic	None

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**Galium texense Gray Texas bedstraw HABITAT: rocky slopes and bluffs, sandy open woodlands	Eastern part of Edwards PLateau, south to LIve Oak and Gonzales Counties, and north to Palo Pinto County	Texas, Oklahoma, and Arkansas	NA	Low as food for small mammals	Aesthetic	None
**Galium Aparine L. Catchweed bedstraw HABITAT: rich woods, thickets, prairies, seashores, waste ground	Eastern, central, and southern Texas	Newfoundland to Alaska; south to Florida, Texas, and California	Common	Low as food for small mammals	Aesthetic	None
Galium triflorum Michx. Fragrant bedstraw HABITAT: woods and thickets	Eastern, and north-central Texas	Newfoundland to Alaska; south through eastern Canada and the northern states and more sparingly to Virginia, Tennessee, Louisiana, Texas, California, and Mexico	NA	Low as food for small mammals	Aesthetic	None
Sherardia arvensis L. Spurwort HABITAT: fields, on road shoulders and thickets	Eastern Texas	Introduced from Old World	Common	NA	Aesthetic	None
**Hedyotis nigricans (Lam.) Fosb. Bluets HABITAT: variety of habitats	Statewide	Florida to Arizona; north to Georgia, Ohio, southern Michigan and Nebraska	Common	Low as food for some songbirds	Aesthetic	None
Hedyotis australis Lewis and Moore Bluets HABITAT: pastures, waste fields, roadsides	Eastern and southeastern Texas	Central Georgia, from eastern Mississippi to Texas, and southern Arkansas	Common	Low as food for some songbirds	Aesthetic	None
**Hedyotis crassifolia Raf. Small bluets HABITAT: pastures, prairies, waste fields, roadsides	Eastern third of Texas	Florida to Texas; north to Virginia, Illinois, and Kansas	Common	Low as food for some songbirds	Aesthetic	None
**Hedyotis uniflora (L.) Lam. Bluets HABITAT: wet sandy-loam banks	Eastern Texas	Florida to Texas, north to southern New York and south-eastern Missouri	Uncommon	Low as food for some songbirds	Aesthetic	None

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
Hedyotis Boscii DC. Bluets HABITAT: edges of ponds and rivers in lowlands, and savannahs	Eastern Texas, rare in south-central Texas	Florida to Texas, north to southeastern Virginia, Tennessee, and southeastern Missouri	Uncommon	Low as food for some songbirds	Aesthetic	None
**Cephalanthus occidentalis L. Common buttonbush HABITAT: swamps, about ponds, and margins of streams	Statewide	Florida to Mexico; north to eastern Canada, New York, and west to California	Common	Low as food for waterfowl	Aesthetic, shrub and tree bark poisonous	Moderately adverse
**Mitchella repens L. Two-eyed berry HABITAT: dry or moist knolls in woods	Eastern Texas	Florida to Texas, north to eastern Canada, Ontario, and Minnesota	NA	Low as food	Aesthetic, fruit edible	None
Richardia humistrata (Cham. and Schlecht.) Richardia HABITAT: dry sandy places	Gulf coast	Introduced from Brazil along the Gulf coast	Uncommon	NA	NA	None
**Spermacoce glabra Michx. Smooth buttonweed HABITAT: damp shores, low woodlands, in openings	Eastern third of Texas	Florida to Texas; north to Ohio, Indiana, Illinois, Missouri, and Kansas	NA	NA	Aesthetic	Moderately adverse
**Diodia virginiana L. buttonweed HABITAT: swamps, meadows, coastal prairies, in mud along streams	Eastern third of Texas	Florida to Texas; north to New Jersey, Illinois, and Missouri	NA	Low as food, seeds occasionally eaten by upland gamebirds, plants eaten by hoofed browsers	Aesthetic	Moderately adverse
**Diodia teres Walt. Poor Joe HABITAT: sandy soils in woodlands and open areas	Eastern two-thirds of Texas, rare on Edwards Plateau	Florida to Texas; north to New England, Ohio, Illinois, and Missouri	Uncommon	Low as food, seeds eaten by prairie chickens and turkey, plants eaten by deer	Aesthetic	None
CAPRIFOLIACEAE (honeysuckle family)						
**Viburnum nudum L. Possum-haw HABITAT: along streams in swamp forests, bogs, and in wet pinelands	Eastern Texas	Florida to Texas; north to New England, Kentucky, and Arkansas	Common	High as food for wildlife--including deer, squirrel, turkey; cover	Fruit edible	Moderately adverse
Viburnum nitidum Ait. Withe-rod HABITAT: swamps and wet woods	Eastern Texas	Newfoundland to Manitoba, south to Florida and Texas	NA	High as food for wildlife--including deer, squirrel, turkey; cover	NA	None

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**Viburnum rufidulum Raf. Southern black-haw HABITAT: edge of woods, along streams, open woods, thickets	Eastern and central Texas	Florida to Texas; north to Virginia, southern Ohio, southern Indiana, southern Illinois, and Missouri	Common	High as food for wildlife--including deer, squirrel, turkey; cover	Fruit edible, historical value	Moderately adverse
Viburnum prunifolium L. Black-haw HABITAT: woods, thickets, along roadsides, in moist or dry soil	Eastern Texas	Northern Florida to Texas; north to New England, New York, Ohio, Michigan, Illinois, Iowa, and Kansas	NA	High as food for wildlife--including deer, squirrel, turkey; cover	Fruit edible	None
Viburnum acerifolium L. Arrow-wood HABITAT: moist or dry woods	Eastern Texas	Eastern half United States	NA	High as food for wildlife--including deer, squirrel, turkey; cover	Fruit edible	None
**Viburnum dentatum L. Southern arrow-wood HABITAT: moist and dry woodlands and thickets	Eastern Texas	New England, south to Florida and Texas	Common	High as food for wildlife--including deer, squirrel, Turkey; cover	Fruit edible	Moderately adverse
**Sambucus canadensis L. Common elder-berry HABITAT: wet soil in low places, especially along streams and on edge of swamps	Eastern and central Texas	Nova Scotia and Quebec, west to Manitoba and South Dakota, south to Florida and Texas	Common	High as food for squirrel, cover	Fruit edible and used in in making jellies and wine	Moderately adverse
**Lonicera japonica Thunb. Japanese honeysuckle HABITAT: thickets, open woods, border of woods, along roadsides	Eastern and central Texas	Florida to Texas; north to Massachusetts, New York, Ohio, Indiana, Missouri, and Kansas; introduced--native of Asia	Common	High as food and cover, fruit eaten by many birds, plants eaten by deer	Aesthetic, ornamental, pernicious weed endangering native vegetation	None
Lonicera sempervirens L. Trumpet honeysuckle HABITAT: woods and thickets	Eastern Texas	Florida to Texas; north to southern Maine, Massachusetts, New York, Ohio, Iowa, and Nebraska	NA	Low as food for quail	May be cultivated	None
**Symphoricarpos orbiculatus Moench Coral-berry HABITAT: woods and thickets, especially along streams	Eastern third of Texas	New York, south to Florida, west to Texas	Common	Moderate as food for birds and mammals, cover	NA	Moderately adverse

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Triosteum angustifolium L. Feverwort HABITAT: woods and thickets	Eastern Texas	Texas to Alabama; north to Connecticut, Pennsylvania, Indiana, Illinois, and Missouri	NA	NA	NA	None
VALERIANACEAE (valerian family)						
**Valerianella Woodsiana (T. & G.) Walp. Woods corn salad HABITAT: moist lot sandy or clayey soils in woods and on prairies	Eastern Texas	Texas and eastern Oklahoma	NA	NA	Aesthetic	None
**Valerianella stenocarpa (Engelm.) Krok Narrow cell corn salad HABITAT: rocky ledges and low moist grounds, often along rivers	Central and eastern	Endemic to Texas	NA	NA	Aesthetic, scientific	Slightly adverse
**Valerianella radiata (L.) Dufr. Beaked corn salad HABITAT: low moist grounds	Central and eastern	Pennsylvania to Kansas, south to Florida and Texas	NA	NA	Aesthetic	Unknown
CUCURBITACEAE (gourd family)						
Momordica Charantia L. Wild balsam-apple HABITAT: Naturalized in thickets and waste places	Southeastern Texas	Florida to Texas, throughout tropical America	Common	NA	NA	None
Momordica Balsamina L. Balsam-apple HABITAT: cultivated and escaped to sandy soils	Eastern and southern Texas	Texas and Louisiana, throughout tropical America	Common	NA	NA	None
**Cucurbita foetidissima H.B.K. Buffalo-gourd HABITAT: sandy or gravelly soils in waste places, especially along roadsides	Western half of Texas	Missouri and Nebraska; south to Texas, Arizona, southern California and Mexico	Common	NA	Aesthetic	None
**Cucurbita texana Gray Texas gourd HABITAT: in debris and piles of driftwood, often climbing into trees, along several rivers	Edwards Plateau, central Texas	Endemic to Texas	Locally abundant	NA	Aesthetic	None

Species	State Range	United States Range	Abundant in Region	Use for Wildlife Habitat	Other Values	Project Impact
**Melothria pendula L. Melonette HABITAT: sandy and moist rich soils, climbing on shrubs and small trees	Near the coast and in southern Texas	Florida; west to Texas and Mexico; north to Virginia, southern Indiana, southern Missouri, and Oklahoma	Common	NA	Aesthetic, seeds are reputed to be purgative	None
**Ibervillea Lindheimeri (Gray) Greene Globe-berry HABITAT: open dry woodlands or thickets, among brush, in fencerows, open rocky soil	South-central Texas	Texas and southern Oklahoma	Common	NA	Aesthetic, ornamental	None
Sicyos angulatus L. Bur-cucumber HABITAT: wooded areas along streams and rivers	Eastern half of Texas	Southern Maine and western Quebec to Minnesota; south to Florida, Louisiana, and Texas	NA	NA	Aesthetic	None
CAMPANULACEAE (bluebell family)						
**Sphenoclea zeylanica Gaertn. Chicken spike HABITAT: wet places of lowlands and flats, especially rice fields	Eastern and southern Texas	Introduced in warm regions of the Western Hemisphere, native of Old World	NA	NA	Aesthetic	None
**Triodanis biflora (R. & P.) Greene Small Venus' looking-glass HABITAT: fields, forests and prairies, on dry hills, river banks, in canyons	Most of Texas	Virginia to Kansas, Arizona, Texas, and northern Mexico; west to Oregon and Baja California	Common	NA	Aesthetic	Slightly adverse
**Triodanis perfoliata (L.) Nieuw. Clasping Venus' looking-glass HABITAT: disturbed areas	Eastern two-thirds of Texas	Florida to Texas and northern Mexico; north to New England, southern Quebec; west to Montana	Common	NA	Aesthetic	None
**Triodanis texana McVaugh Venus' looking-glass HABITAT: woodlands and plains, on open banks, in depressions, mostly in sandy soils	Eastern Texas	Endemic to Texas	Common	NA	Aesthetic	None

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Lobelia appendiculata A. DC. Lobelia HABITAT: sandy open ground, moist places, prairies, pinelands, old fields	Eastern Texas	Alabama to Texas, Arkansas, Oklahoma, Missouri, and Illinois	Common	NA	Aesthetic	None
Lobelia spicata Lam. Balespike lobelia HABITAT: prairies, pastures, open woodlands, often in rich soils among herbs and grasses	Southeastern Texas	Eastern Canada to Minnesota; south to Arkansas, Oklahoma, and Texas	Common	NA	Aesthetic	None
Lobelia floridana Chapm. Lobelia HABITAT: in savannahs	Southeastern Texas	From North Carolina to Florida, west to eastern Texas	NA	NA	Aesthetic	None
Lobelia flaccidifolia Small Lobelia HABITAT: low moist pinelands, savannahs, prairies, wet places along streams and in river swamps	Southeastern Texas	Florida and Georgia in the Gulf coastal plain to Texas	Common	NA	Aesthetic	None
Lobelia Reverchonii B. L. Turner Lobelia HABITAT: bogs	Eastern Texas	Texas, east to Alabama	NA	NA	NA	None
Lobelia puberula Michx. Downy lobelia HABITAT: swamps, wet woods, bogs, prairies, open fields, usually in wet places, often in strongly acid soils in partial shade	Eastern Texas	Southeastern United States, west to Oklahoma and Texas	Common	NA	Aesthetic	None
Lobelia siphilitica L. Big blue lobelia HABITAT: moist woods and swampy places, low places in prairies, sandy or gravelly margins of ponds and streams, wet meadows	North-central Texas	Maine to Minnesota, and Colorado; south to Texas	Common	NA	Aesthetic	None
Lobelia Cardinalis L. Cardinal flower HABITAT: wet or moist soil, open places along streams, meadows, along roadsides, about springs and ponds, in swamps where shade is not too dense	Statewide, except the southern tip	Florida; north to northeastern New Brunswick, southern Quebec, Ontario, Michigan, Wisconsin, and Minnesota; west to Nevada, California and Mexico	Common	NA	Aesthetic	None

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COMPOSITAE (sunflower family)						
**Vernonia Baldwinii Torr. Baldwin ironweed HABITAT: NA	North-central Texas, Edwards Plateau, and plains country	Illinois to Minnesota, south to Louisiana and Texas	Uncommon	NA	Aesthetic	None
**Vernonia missurica Raf. Ironweed HABITAT: NA	Southeastern Texas, infrequent to rare in eastern Texas	Ontario to Iowa, and southwest to Mississippi, Louisiana, Texas	Uncommon	NA	Aesthetic	None
**Vernonia texana (Gray) Small Ironweed HABITAT: NA	Infrequent in eastern Texas, rare in southeastern and north-central Texas	Arkansas, Texas, and Louisiana	Uncommon	NA	Aesthetic	None
**Elephantopus carolinianus Raeusch. Elephant's-foot HABITAT: sandy forested areas	Eastern and southeastern Texas, rare west to north-central Texas	Southeastern United States	Uncommon	NA	Aesthetic	Slightly adverse
**Elephantopus tomentosus L. Tobacco-weed HABITAT: wooded sandy lands	Eastern and southeastern Texas	Southeastern United States	Uncommon	NA	Aesthetic	None
Liatris aspera Michx. Button-snakeroot HABITAT: sandy soils	Eastern and southeastern Texas	Eastern half United States	Common	Low as food for grazing animals	Aesthetic	None
Liatris acidota Engelm. and Gray Botton-snakeroot HABITAT: often wet areas	Eastern and southeastern Texas	Texas and Louisiana	Common	Low as food for grazing animals	Aesthetic	None
**Liatris pycnostachya Michx. Blazing-star HABITAT: open sandy areas often in or around moist bogs	Eastern and southeastern Texas	Indiana to South Dakota, south to Louisiana and Texas	Common	NA	Aesthetic	Slightly adverse
**Liatris elegans (Walt.) Michx. Gay-feather HABITAT: deep fine sandy soil	Eastern, southeastern, and north-central Texas, the Rio Grande plains	Coastal states, South Carolina to Texas, inland to Arkansas and Oklahoma	Common	Low as food for grazing animals	Aesthetic	None
Liatris bracteata Gaiser Button-snakeroot HABITAT: prairies	Southeastern Texas	Endemic to Texas	Common	Low as food for grazing animals	Aesthetic	None

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Liatris squarrosa (L.) Michx. Button-snakeroot HABITAT: sandy areas	Eastern and southeastern Texas	From Delaware to Illinois and South Dakota, south to the Gulf states	Common	Low as food for grazing animals	Aesthetic	None
**Mikania scandens (L.) Willd. Climbing hemp-weed HABITAT: river bottoms and other moist woods	Eastern, southeastern, and north-central Texas, and Edwards Plateau	Warmer parts of America, north to New England and southern Ontario	Uncommon	NA	Aesthetic	Slightly adverse
Eupatorium capillifolium (Lam.) Small Dog-fennel HABITAT: sandy soil	Eastern and southeastern Texas	Southeastern United States	Common	Low as food, seeds eaten by some songbirds	Aesthetic	None
Eupatorium compositofolium Walt. Yankee weed HABITAT: overgrazed pastures, disturbed areas of sandy soil	Eastern and southeastern Texas, coastal parts of Rio Grande plains	Southeastern United States	Abundant	Low as food for some birds	Aesthetic	None
Eupatorium glaucescens Ell. Boneset HABITAT: sandy soil	Eastern and southeastern Texas, south to Aransas County	Southeastern United States	Common	Low as food for some birds	Aesthetic	None
**Eupatorium rotundifolium L. Thoroughwort HABITAT: sandy loam (often moist), forested areas	Eastern and southeastern Texas, rare inland to north-central Texas	Southeastern United States, and near the coast north to New York	Common	Low as food, seeds eaten by some songbirds	Aesthetic	Moderately adverse
**Eupatorium perfoliatum L. Thoroughwort HABITAT: moist sand	Eastern Texas	Most of eastern United States	Uncommon	Low as food, seeds eaten by some songbirds	Aesthetic	None
**Eupatorium serotinum Michx. Late-flowering thoroughwort HABITAT: open places	Eastern, southeastern, and north-central Texas; south to Kleberg County, and west to Llano region	Southeastern United States; north to New Jersey, Ohio, Indiana, Wisconsin, and west to Kansas, Oklahoma, and Texas	Common	NA	Aesthetic	None
Eupatorium odoratum L. Crucita HABITAT: NA	Southeastern Texas, and Rio Grande plains	Gulf states	Uncommon	Low as food for some birds	Aesthetic	None
**Eupatorium coelestinum L. Mist-flower HABITAT: Moist sandy wooded areas	Eastern and southeastern Texas, south to Kleberg, less frequent west to north-central Texas	New Jersey to Kansas, south to Gulf states	Common	Low as food, seeds eaten by some songbirds	Aesthetic	Slightly adverse

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**Eupatorium incarnatum Walt. Thoroughwort HABITAT: thickets on loamy soil	Rio Grande plains, southeastern Texas, inland to north-central Texas	Mexico; north to West Virginia, Ohio, Indiana, Illinois, Missouri, Oklahoma, and Arizona	Common	Low as food, seeds eaten by some songbirds	Aesthetic	Slightly adverse
Eupatorium rugosum Houtt. White snakeroot HABITAT: various habitats	Eastern, south-eastern, and north-central Texas, Edwards Plateau	Most of eastern United States	Locally common	Low as food for some birds	Aesthetic	None
Baccharis texana (T. & G.) Gray Groundsel-tree HABITAT: various habitats	Local throughout most of Texas	Oklahoma and Texas to Mexico	Locally common	Low as food for grazers	NA	None
**Baccharis halimifolia L. Sea-myrtle HABITAT: open sandy places	Eastern and southeastern Texas, less common west to north-central Texas	Coastal states, Massachusetts to Texas, inland to Oklahoma	Uncommon	Low as food for grazers	Slight ornamental value	None
**Baccharis neglecta Britt. Roosevelt weed HABITAT: roadsides, disturbed areas, usually in calcareous soil	Statewide, except in dense forests of eastern Texas and the higher elevations of plains country	North Carolina to Arizona and south to Mexico	Common	Low as food for grazers	NA	None
**Croptilon divaricatum (Nutt.) Raf. Scratch-daisy HABITAT: NA	Eastern, south-eastern, and north-central Texas, Rio Grande plains, central mineral region of Edwards Plateau	Gulf states, north to North Carolina, Arkansas, Kansas, and Texas	Common	NA	NA	None
**Bradburia hirtella T. & G. Rauchia HABITAT: open sandy usually gravelly areas	Eastern, south-eastern, and north-central Texas, northern part of Rio Grande plains	Endemic to Texas	Locally common	NA	Aesthetic	None
Heterotheca subaxillaris (Lam.) Britt. and Rusby Camphor weed HABITAT: coastal sands	Eastern and southern Texas	Coastal states from New Jersey to Mexico	NA	NA	Aesthetic	None
**Heterotheca latifolia Buckl. Golden aster HABITAT: sandy soil,	Throughout most of Texas	Texas, west to Arizona, north to Kansas and eastern Colorado, expanding to North Carolina	Abundant	NA	Aesthetic	None
**Heterotheca pilosa (Nutt.) Shinners Golden aster HABITAT: dry open sandy areas	Eastern, south-eastern, and north-central Texas	Missouri and Kansas to Louisiana and Texas	Abundant	NA	Aesthetic	None

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**Xanthisma texanum DC. Sleepy-daisy HABITAT: open sandy places	Rio Grande plains, plains country, and the Llano region of Edwards Plateau, rare east to north-central Texas	Texas and Oklahoma	Rare	NA	Aesthetic	None
**Grindelia microcephala DC. Gumweed HABITAT: poorly drained clay	Rio Grande plains; north-central, and southeastern Texas; Edwards Plateau	Texas and Mexico	Common	NA	Aesthetic	None
**Grindelia squarrosa (Pursh) Dun. Curly-cup gumweed HABITAT: open areas	Eastern to north-central Texas, plains country, Edwards Plateau, and Trans-Pecos	Most of United States, except southeastern states	Uncommon	Low as food for grazing animals	Aesthetic, ornamental	None
**Prionopsis ciliata (Nutt.) Nutt. Prionopsis HABITAT: open ground	Plains country and north-central Texas, less common in southeastern Texas, rare in eastern Texas and Trans Pecos	Missouri, Kansas and Colorado; south to Texas and New Mexico	Common	NA	NA	None
Xanthocephalum sphaerocephalum (Gray) Shinners Broomweed HABITAT: various habitats	Statewide, except extreme eastern and northern parts of Texas	Texas, New Mexico, into Mexico	Common	NA	NA	None
**Xanthocephalum texanum (DC.) Shinners Broomweed HABITAT: various habitats	Statewide	Oklahoma, Texas, into Mexico	Abundant	NA	Aesthetic	None
**Xanthocephalum dracunculoides (DC.) Shinners Broomweed HABITAT: various habitats	Statewide, abundant in north-central Texas	Texas and Oklahoma	Abundant	NA	Aesthetic	None
Machaeranthera phyllocephala (DC.) Shinners Camphor daisy HABITAT: subsaline areas near the coast	Southeastern Texas, Rio Grande plains, coastal areas	Coastal areas from Louisiana to Mexico	Abundant	NA	Aesthetic	None
Solidago delicatula Small Goldenrod HABITAT: loamy soil	Eastern, south-eastern, and north-central Texas	Kansas, Missouri, Arkansas, Oklahoma, and Texas	Common	Low as food	Aesthetic	None

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Solidago Boottii Hook. Goldenrod HABITAT: moist sandy soil	Eastern and southeastern Texas	Southeastern United States: north to New Jersey, Kentucky, and Arkansas	Common	Low as food	Aesthetic	None
Solidago sempervirens L. Fern. Seaside goldenrod HABITAT: marshy often slightly brackish swales and ditches	Southeastern Texas, inland in eastern Texas to Austin and Gonzales Counties	Coastal plains from Massachusetts to Veracruz	Common	Seeds low as food for small birds and mammals	Aesthetic, some ornamental value	None
Solidago rugosa Ait. Goldenrod HABITAT: sandy soil	Eastern and southeastern Texas	Quebec, Ontario, and eastern United States; west to Michigan, Indiana, Missouri, Arkansas, and Texas	Common	Low as food	Aesthetic	None
**Solidago altissima L. Goldenrod HABITAT: open low areas, stream margins	Statewide, most frequent in eastern, southeastern, and north-central Texas	Quebec, Ontario, and eastern United States; west to Wisconsin, Nebraska, Oklahoma, and Texas	Common	Low as food, seeds and leaves eaten by birds and small mammals	Aesthetic	None
Solidago gigantea Ait. Goldenrod HABITAT: open low areas, stream margins, tight moist calcareous soil	Plains country, north-central Texas, Edwards Plateau, less frequent southeast to eastern and southeastern Texas	Southern Canada and most of United States; south to Utah, Colorado, Texas, and Gulf states	Common	Low as food	Aesthetic	None
**Solidago odora Ait. Sweet goldenrod HABITAT: open moist sandy places	Southeastern Texas, south to Aransas County, less frequent inland to eastern Texas	Southeastern United States; north to New England, Ohio, Missouri, and Oklahoma	Common	Low as food, seeds and leaves eaten by birds and small mammals	Aesthetic	None
**Solidago nemoralis Ait. Goldenrod HABITAT: dry open areas, calcareous soils, sandy soils	Edwards Plateau and north-central Texas, less common in plains country, and rarely in eastern Texas	Canada; south to Georgia, the Gulf states, New Mexico, and Arizona	Common	Low as food, seeds and leaves eaten by birds and small mammals	Aesthetic	None
Solidago rigida L. Goldenrod HABITAT: dry open places	North-central Texas; rare to eastern and southeastern Texas, and plains country	Massachusetts to Saskatchewan; south to Georgia, Louisiana, Texas, and Colorado	Uncommon	NA	Aesthetic	None
**Solidago nitida T. & G. Goldenrod HABITAT: open sandy places	Eastern and southeastern Texas, south to Aransas County	Texas, Louisiana, and Oklahoma	Common	Low as food, seeds and leaves eaten by birds and small mammals	Aesthetic	None

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**Aster texanus Burgess Texas aster HABITAT: loamy soils or well-drained clay, open woods and prairies	Eastern, southeastern, and north-central Texas; and eastern margin of Edwards Plateau	Arkansas, Louisiana, and Texas	Common	Low as food for birds and mammals	Aesthetic	None
Aster vernalis Burgess Aster HABITAT: openings in woods on sandy soil	Eastern Texas and rare in southeastern Texas (Harris County)	Missouri, Arkansas, and Texas	Uncommon	Low as food, seeds eaten by birds	Aesthetic,	None
**Aster Eulae Shinners Aster HABITAT: in usually heavy clay or clay-loam soil, ditches, banks, and openings in river bottom woods	North-central Texas, infrequent to the southern part of eastern and southeastern Texas--perhaps as far south as Nueces County	Endemic to Texas	Common	Low as food for birds and mammals	Aesthetic	None
**Aster lateriflorus (L.) Britt. Aster HABITAT: sandy usually moist or boggy areas	Eastern Texas, rare to southeastern Texas	Southeastern Canada; south to Georgia, Tennessee, Arkansas, and Texas	Common	Low as food for birds and mammals	Aesthetic	None
Aster ericoides L. Aster HABITAT: variety of open situations	North-central and southeastern Texas, plains country, southern and western parts of East Texas, northern part of Rio Grande plains, Trans-Pecos	Southern Canada; south to Gulf states, except Florida and Louisiana; Mexico and Arizona	Common	Low as food, seeds eaten by birds	Aesthetic	None
**Aster patens Ait. Aster HABITAT: open dry situations	Eastern Texas, infrequent west to north-central Texas, rare in northern part of Rio Grande plains and in Edwards Plateau and lower plains country	Eastern temperate North America; west to Minnesota, Kansas, and Texas	Uncommon	Low as food for birds and mammals	Aesthetic	None
**Aster pratensis Raf. Aster HABITAT: prairies and open woods, usually sandy soil	Eastern, southeastern, and north-central Texas--south to Aransas and DeWitt Counties	Texas and Louisiana	Common	Low as food for birds and mammals	Aesthetic	None
**Aster subulatus Michx. Hierba del marrano HABITAT: ditches, swales, margins of ponds, lakes, and streams, poorly drained areas	Statewide, most abundant aster	Widespread in warmer parts of America; north to South Carolina, Missouri, Kansas, New Mexico, Arizona, and California	Abundant	Low as food for birds and mammals	Aesthetic, weed	None

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
**Chaetopappa asteroides (Nutt.) DC. Chaetopappa HABITAT: open sandy places	Eastern, southeastern, and north-central Texas; Rio Grande plains; and the Llano region of Edwards Plateau, rarely west of eastern part of plains country	Missouri, Kansas Arkansas, Louisiana, and Texas	Common	NA	Aesthetic	None
Erigeron philadelphicus L. Philadelphia fleabane HABITAT: moist loam	Eastern, southeastern, and north-central Texas; Edwards Plateau	Most of United States, and southern Canada	Common	NA	Aesthetic	None
**Erigeron annuus (L.) Pers. Daisy-fleabane HABITAT: open ground	Eastern and north-central Texas	Most of United States, and southern Canada	Rare	NA	Aesthetic	None
**Erigeron strigosus Willd White-top daisy HABITAT: open loamy ground	Eastern and north-central Texas, plains country, extreme northern Rio Grande plains	Most of United States, and southern Canada	Uncommon	NA	Aesthetic	None
**Erigeron tenuis T. & G. Fleabane HABITAT: open often tight clay soils	Eastern, southeastern, and north-central Texas; rare west to Burnet County on Edwards Plateau	Missouri, Arkansas, Louisiana, Oklahoma, and Texas	Common	NA	Aesthetic	None
Erigeron myrionactis Small Fleabane HABITAT: coastal sands	Southeastern Texas, Rio Grande plains	Louisiana, Texas, and Mexico	Common	NA	Aesthetic	None
**Conzya canadensis (L.) Cronq. Horse-weed HABITAT: various habitats	Statewide	Widespread in temperate North America	Common	NA	Aesthetic	None
Boltonia asteroides (L.) L'Hér. Doll's daisy HABITAT: NA	Eastern and southeastern Texas	Most of eastern United States	Rare	NA	Aesthetic, ornamental	None
**Boltonia diffusa Ell. Boltonia HABITAT: NA	Eastern and southeastern Texas	Georgia and Gulf states; north to Kentucky, Illinois, and Missouri	Uncommon	NA	Aesthetic	None

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Astranthium integrifolium (Michx.) Nutt. Astranthium HABITAT: open sandy places	North-central, eastern, and southeastern Texas; eastern part of plains country, Rio Grande plains	Southeastern United States	Abundant	Low as food	Aesthetic	None
Aphanostephus skirrhobasis (DC.) Trel. Lazy daisy HABITAT: open sandy places, coastal sands	Eastern, southeastern, and northcentral Texas, plains country, Edwards Plateau, and Rio Grande plain	Texas, Arkansas, Oklahoma, Florida, and Louisiana	Abundant	NA	Aesthetic	None
Evax candida (T. & G.) Gray Rabbit-tobacco HABITAT: sandy prairies	Eastern, southeastern, and northcentral Texas	Endemic to Texas	Locally abundant	NA	Aesthetic	None
**Gnaphalium obtusifolium L. Fragrant cudweed HABITAT: various habitats	Eastern, southeastern, and northcentral Texas, infrequent west to Edwards Plateau	Gulf states, north to eastern Canada	Common	NA	Aesthetic	None
**Gnaphalium pensilvanicum Willd. Cudweed HABITAT: common in sandy soils	Widespread but scattered in eastern half of Texas, Rio Grande plains	Gulf states, north to Pennsylvania; southern California	Common	NA	Aesthetic	None
**Gnaphalium purpureum L. Purple cudweed HABITAT: sandy soils	Eastern half of Texas, as far west as the Llano region of Edwards Plateau	Widely distributed in warmer parts of America; north to New England, New York, Ohio, Indiana, Illinois, Missouri, Kansas, and Oregon	Common	NA	Aesthetic	None
**Gnaphalium falcatum Lam. Cudweed HABITAT: NA	Eastern half of Texas	Introduced in the southeastern states and occurring west to Texas	Locally common	NA	Aesthetic	None
Antennaria fallax Greene Pussy's toes HABITAT: sandy forested areas	Eastern Texas, west to north-central Texas	Most of eastern United States	Common	Low as food	Aesthetic	None
**Pterocaulon virgatum (L.) DC. Blackroot HABITAT: sandy soils	Eastern and southeastern Texas, Rio Grande plains	Texas, and eastern Mexico	Uncommon	NA	Aesthetic	None
**Pluchea camphorata (L.) DC. Camphor-weed HABITAT: moist places	Eastern, southeastern, and northcentral Texas	Southeastern United	Common	Food for small rodents	Aesthetic	None

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**Pluchea purpurascens (Sw.) DC. Canela, marsh-fleabane HABITAT: muddy places	Statewide, most abundant species	Southern half of United States, south to South America	Common	Low as food for small rodents	Aesthetic	None
**Plunchea foetida (L.) DC. Stinking-fleabane HABITAT: mud	Eastern and south-eastern Texas, south to Aransas County	Southeastern United States	Uncommon	Low as food, sometimes eaten by small rodents	Aesthetic	None
**Polymnia Uvedalia (L.) L. Bear's-foot HABITAT: moist crevices of limestone soil near streams	North-central Texas and eastern edge of Edwards Plateau	Much of eastern United States, west to Oklahoma and Texas	Uncommon	NA	Aesthetic	None
**Silphium Simpsonii Greene Rosin-weed HABITAT: NA	North-central and eastern Texas	Louisiana, Texas, and Florida	Uncommon	Low as food, seeds eaten by grouse and small rodents	Aesthetic	None
Silphium gracile Gray Rosin-weed HABITAT: sandy soil	Southeastern Texas, south to Aransas County	Texas and Louisiana	Uncommon	Low as food	Aesthetic	None
**Berlandiera pumila (Michx.) Nutt. Green-eyes HABITAT: along roadsides and grazed areas, woodland borders and open woodlots, often in deep loose sandy soils	Eastern Texas	South Carolina, Georgia, Florida, Alabama, Louisiana, and Texas	Common	NA	Aesthetic	None
**Lindheimera texana Gray and Engelm. Texas yellow star HABITAT: prairies	North-central and southern part of eastern Texas and Edwards Plateau, less abundant in plains country	Texas and Mexico	Abundant	NA	Aesthetic, ornamental	None
**Engelmannia pinnatifida Nutt. Engelmann daisy HABITAT: calcareous open uplands	North-central Texas and Edwards Plateau	Nebraska, Colorado, Kansas, Oklahoma, Texas, and New Mexico	Common	NA	Aesthetic, ornamental	None
**Parthenium Hysterophorus L. False ragweed HABITAT: disturbed ground	Rio Grande plains and southeastern Texas, less frequent north into north-central Texas	Very widespread in warmer parts of America; adventive as weed north to Massachusetts, Michigan, and Oklahoma; perhaps adventive to Texas	Common	NA	Aesthetic	None

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Iva frutescens L. Marsh-elder HABITAT: mud flats and shallow water in coastal areas	Southeastern Texas, southwest as far as San Patricio County	Along the coast from Nova Scotia to Texas	Uncommon	Low as food, minor food for quail; cover	NA	None
**Iva annua L. Marsh-elder HABITAT: various habitats	Eastern half of Texas; west to Wheeler, Taylor, Travis, DeWitt, and Hidalgo Counties	Most of eastern United States; west to Nebraska, Kansas, Oklahoma, and Texas	Common	Low as food, minor food for quail	NA	None
**Iva angustifolia DC. Marsh-elder HABITAT: various habitats	Most of Texas except Panhandle	Arkansas, Oklahoma, Texas, and Louisiana	Locally abundant	Low as food, minor food for quail	NA	None
**Ambrosia trifida L. Giant ragweed HABITAT: seasonally moist stream bottoms and overflow areas	Throughout the eastern and northern halves of Texas	Throughout the midwest, and central United States to the Rocky Mountains; and from southern Canada to northern Mexico; adventive in New England, Florida, and the far west	Abundant	Low as food, minor food for quail	Sometimes noxious weed	Slightly adverse
**Ambrosia artemisiifolia L. Short ragweed HABITAT: various habitats	Scattered in local populations through much of Texas, except the extreme southern and western areas	Throughout the United States, except the far southwestern area	Uncommon	High as food; seeds eaten by teal, marshbirds, gamebirds, songbirds, and small mammals; foliage eaten by rabbits and deer	Source of allergenic pollen	None
**Ambrosia psilostachya DC. Western ragweed HABITAT: various habitats	Coastal plain, central Texas, plains country, and Trans-Pecos	Throughout most of United States, except Rocky Mountains and east-central states; south to central Mexico	Abundant	High as food; seeds eaten by teal, marshbirds, gamebirds, songbirds, and small mammals; foliage eaten by rabbits and deer	NA	None
**Xanthium strumarium L. Cocklebur HABITAT: various habitats	Statewide	Widespread throughout United States	Common	Moderate as cover	Burs sometimes become matted in livestock's hair	None

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
Heliopsis gracilis Nutt. Bushy sea ox-eye HABITAT: loamy soil	Southeastern Texas	Florida, Georgia, Alabama, Louisiana, and Texas	Uncommon	Moderate as cover	Aesthetic	None
**Heliopsis helianthoides (L.) Sweet Ox-eye HABITAT: open sandy woods	Northern part of eastern Texas	Illinois, Missouri, Arkansas, Oklahoma, Texas, and Louisiana	Uncommon	NA	Aesthetic	None
Tetragonotheca repanda (Buckl.) Small Nerve-ray HABITAT: sandy prairies	Southeastern Texas and coastal part of Rio Grande plains	Endemic to Texas	Common	NA	Aesthetic	None
**Eclipta alba (L.) Hassk. Yerba de tago HABITAT: mud at the edges of fresh water bodies	Statewide	Warmer areas of United States	Common	NA	Aesthetic	Moderately beneficial
**Spilanthes americana (Mutis) Hieron. Creeping spot-flower HABITAT: mud along streams, bayous, lakes, ditches	Eastern, southeastern, and north-central Texas	Southeastern United States	Locally common	NA	NA	Moderately beneficial
Echinacea sanguinea Nutt. Purple cone-flower HABITAT: sandy open prairies and pine barrens	Eastern and southeastern Texas	Southwestern Arkansas, southeastern Oklahoma, western Louisiana, and Texas	NA	NA	Aesthetic	None
**Rudbeckia hirta L. Cone-flower HABITAT: sandy wooded areas, various situations	Eastern two-thirds of Texas	Eastern half United States	Common	NA	Aesthetic	None
Rudbeckia grandiflora (Sweet) DC. Brown-eyed susan HABITAT: NA	Eastern and southeastern Texas	Arkansas, Oklahoma, Louisiana, Georgia, and Texas	Locally abundant	NA	Aesthetic	None
**Dracopis amplexicaulis (Vahl) Cass. Dracopis HABITAT: moist places	Eastern two-thirds of Texas, rare in plains country and Rio Grande plains	Coastal states. Georgia to Texas	Common	NA	NA	None
**Ratibida columnaris (Sims) D. Don Mexican hat HABITAT: open usually calcareous soils	Western two-thirds of Texas, absent only from extreme eastern Texas	Central United States	Abundant	NA	Aesthetic, ornamental	None

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
Ratibida peduncularis (T. & G.) Barnh. Mexican hat HABITAT: sandy (usually loose) soils	Eastern and southeastern Texas, and extreme coastal part of Rio Grande plains	Texas and Louisiana	Common	NA	Aesthetic	None
Borrichia frutescens (L.) DC. Sea ox-eye daisy	Coastal areas of Texas, inland in local areas of poor drainage and salt accumulation	Coastal areas, District of Columbia to Veracruz	Abundant	NA	Aesthetic	None
**Helianthus grosse-serratus Martens Sunflower HABITAT: NA	North-central Texas, and near Gonzales, Gonzales County in south-central Texas	Ohio to North Dakota and south to Texas	Rare	Low as food for quail	Aesthetic, sometimes cultivated	None
**Helianthus Maximiliana Schrad. Maximilian sunflower HABITAT: seasonally moist ditches, depressions or prairies	North-central and southeastern Texas, Edwards Plateau, plains country, Trans-Pecos	Southern Canada; south in central United States to Texas and in coastal states to North Carolina	Uncommon	High as food, seeds important food for gamebirds, songbirds, and small mammals	Aesthetic, ornamental	None
**Helianthus hirsutus Raf. Sunflower HABITAT: variety of habitats	Eastern, southeastern, and north-central Texas, infrequent to eastern Edwards Plateau	Most of eastern United States	Uncommon	Low as food for quail	Aesthetic	None
Helianthus mollis Lam. Sunflower HABITAT: sandy soil	Eastern, southeastern, and north-central Texas	Most of eastern United States	Common	Low as food for quail	Aesthetic	None
**Helianthus angustifolius L. Sunflower HABITAT: moist places	Eastern and southeastern Texas	New Jersey, south to Florida, west to Iowa and Texas	Rare	Low as food for quail	Aesthetic	None
Helianthus argophyllus T. & G. Silverleaf sunflower HABITAT: deep loose sandy soils	Southeastern Texas and Rio Grande plains; scattered and perhaps introduced in eastern Texas	Perhaps endemic but now introduced widely in the Gulf states	Locally abundant	Low as food for quail	Aesthetic, ornamental, cultivated	None
**Helianthus annuus L. Common sunflower HABITAT: various habitats	Eastern and southern halves of Texas	Eastern and central United States and southern Canada	Common	High use by gamebirds, songbirds, and rodents for food	Aesthetic, seeds edible, cultivated	None

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
**Helianthus debilis Nutt. Sunflower HABITAT: sandy soil	Eastern Texas and coastal plains	Endemic to Texas	Uncommon	Low as food for quail	Aesthetic	None
Simsia calva (Engelm. and Gray) Gray Bush sunflower HABITAT: various habitats	Abundant in Rio Grande plains, frequent in Trans-Pecos, north-central and south-eastern Texas, Edwards Plateau, plains country	Texas and Mexico	Common	NA	Ornamental	None
**Verbesina encelioides (Cav.) Gray Cowpen daisy HABITAT: disturbed soils	Statewide, although rare in extreme eastern Texas	Florida, Texas, and southeastern through most of the warmer parts of America	Abundant	Moderate as food for some birds and rodents	Aesthetic	None
Verbesina microptera DC. Capitana HABITAT: loamy soil	Rio Grande plains, southern part of Edwards Plateau, and southern part of southeastern and eastern Texas	Texas and Mexico	Abundant	Moderate as food for some birds and rodents	Aesthetic	None
**Verbesina virginica L. Frostweed HABITAT: loamy soil	Eastern, south-eastern, and north-central Texas	Gulf states; north to Pennsylvania, Kentucky, Missouri, and Kansas	Abundant	Moderate as food for some birds and rodents	Aesthetic	None
**Calyptocarpus vialis Less. Prostrate lawnflower HABITAT: various habitats	Widespread in eastern half of Texas	Gulf coastal plain	Common	Low as food, sometimes eaten by small rodents	Aesthetic, lawn weed	None
**Coreopis nuecensis Heller Tick-seed HABITAT: sandy soils, coastal areas	Coastal parts of Rio Grande plains, southeastern, north-central, and eastern Texas	Endemic to Texas	Abundant	NA	Aesthetic	None
**Coreopsis basalis (Otto and Dietr.) Blake Tick-seed HABITAT: sandy and limestone soils	Eastern half of Texas, and west on to Edwards Plateau and the lower parts of plains country	Endemic to Texas, perhaps venturing as far west as New Mexico infrequently	Abundant	NA	Aesthetic	None
**Coreopsis tinctoria Nutt. Tick-seed HABITAT: seasonally moist soils	Eastern half of Texas	Minnesota, Saskatchewan, and Washington; south to Louisiana, Texas, New Mexico, and California	Abundant	NA	Aesthetic	None

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**Coreopis cardaminaefolia (DC.) Nutt. Manzanilla silvestre HABITAT: seasonally moist soil	Statewide	Texas, Louisiana, Nebraska, New Mexico, and Arizona; south into Mexico	Abundant	NA	Aesthetic	None
Bidens aristosa (Michx.) Britt. Tickseed sunflower HABITAT: moist or seasonally moist soil	Eastern and southeastern Texas	Most of eastern United States	Uncommon	Minor as food	Aesthetic	None
Bidens polylepis Blake Beggar-ticks HABITAT: NA	Eastern and southeastern Texas	Midwest United States and south to Texas	Common	Minor as food	Aesthetic	None
**Bidens discoidea (T. & G.) Britt. Beggar-ticks HABITAT: NA	Eastern and southeastern Texas	Southeastern Canada and eastern United States	Common	Low as food, seeds of minor value to birds and fur-bearing mammals	Aesthetic,	None
Bidens frondosa L. Beggar-ticks HABITAT: near moist places	Eastern half of Texas, reported from Hemphill County in Panhandle	Eastern Canada, most of United States	Common	Minor as food	Aesthetic	None
**Bidens laevis (L.) B.S.P. Beggar-ticks HABITAT: near water	Eastern, southeastern, and north-central Texas; Edwards Plateau; Trans-Pecos	Most of United States, except higher mountain areas	Uncommon	Low as food, seeds of minor value to birds and fur-bearing mammals	Aesthetic, colonizes sand areas, roots poisonous	None
**Bidens bipinnata L. Spanish-needles HABITAT: moist places	Eastern Texas, Trans-Pecos	Most of eastern United States	Uncommon	Low as food, seeds eaten by wood duck, gamebirds, and songbirds; foliage eaten by rabbit	Aesthetic	None
Thelesperma filifolium (Hook.) Gray Green-thread HABITAT: various habitats	Widespread in north-central Texas, eastern part of plains country, extreme southern portion of eastern and southeastern Texas, infrequent in Rio Grande plains, and Trans-Pecos	Arkansas, Oklahoma, Louisiana, and Texas	Abundant	NA	Aesthetic	None

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**Thelesperma flavodiscum (Shinners) B.L. Turner Green-thread HABITAT: deep fine sandy soils in oak woods	Southern and southeastern portion of eastern Texas	Endemic to Texas	Common	NA	Aesthetic	None
Marshallia caespitosa DC. Barbara's-buttons HABITAT: limy cuestas, variety of habitats	Eastern half of Texas	Mississippi, Arkansas, Oklahoma, Louisiana, and Texas	Common	NA	Aesthetic	None
Marshallia tenuifolia Raf. Marshallia HABITAT: sandy usually moist soil, forests	Eastern and southeastern Texas	Coastal states, Georgia to Texas	Uncommon	NA	Aesthetic	None
**Gaillardia pulchella Foug. Indian blanket HABITAT: prairies, often sandy areas,	Statewide, but rare in densely forested eastern areas	Nebraska, Colorado, and Arizona, south to Mexico, rare east to Arkansas and along coastal sandy areas to Virginia	Common	NA	Aesthetic, ornamental	None
Gaillardia Amblyodon Gay Indian blanket HABITAT: sandy prairies, open woods	Southeastern and eastern Texas, Rio Grande plains	Endemic to Texas	Common	NA	Aesthetic, ornamental	None
**Gaillardia aestivalis (Walt.) Rock Indian blanket HABITAT: sandy soils, open woodlands and prairies	Eastern part of Texas, south to Willacy County and west to Medina County	Coastal states--South Carolina to Texas; inland to Illinois, Missouri, Arkansas, and Oklahoma	Common	NA	Aesthetic, ornamental	None
Gaillardia fastigiata Greene Indian blanket HABITAT: open woods and prairies, sandy soil	Eastern half of Texas	Kansas, Oklahoma, Arkansas, and Texas	Common	NA	Aesthetic, ornamental	None
**Helenium autumnale L. Sneezeweed HABITAT: moist usually calcareous places	North-central and eastern Texas, Edwards Plateau and plains country	Widespread in temperate North America	Uncommon	NA	Aesthetic	None
**Helenium microcephalum DC. Sneezeweed HABITAT: overgrazed areas, especially in low seasonally moist areas of clay soil	Western half of Texas, east to Brazos and San Patricio Counties	Texas into Mexico	Abundant	NA	Aesthetic, poisonous	None

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
**Helenium quadridentatum Labill. Sneezeweed HABITAT: variety of habitats	Trans-Pecos, Edwards Plateau, Rio Grande plains, and north-central Texas	Texas, Louisiana, Mississippi, Oklahoma, into Mexico	Common	NA	Aesthetic	None
**Helenium amarum (Raf.) Rock Bitterweed HABITAT: usually disturbed sandy or loamy soil	Eastern two-thirds of Texas	Southeastern United States	Common	NA	Aesthetic	Slightly beneficial
Helenium flexuosum Raf. Sneezeweed HABITAT: moist sandy places	Eastern and southeastern Texas	Eastern United States; west to Missouri, Oklahoma and Texas	Uncommon	NA	NA	None
Helenium Drummondii Rock Sneezeweed HABITAT: poorly drained areas	Eastern and southeastern Texas	Texas, Louisiana, and Florida	Uncommon	NA	Aesthetic	None
**Hymenoxys linearifolia Hook. Bitterweed HABITAT: prairies, flood-plains, weedy places, mountains, limestone soil	Statewide	Oklahoma, New Mexico, Texas, into Mexico	Locally abundant	NA	Aesthetic	None
Hymenoxys scaposa (DC.) Parker Bitterweed HABITAT: limestone soil, disturbed areas, sandy calcareous soil	Widespread over Texas except in extreme eastern area	West-central United States to Rocky Mountains	Common	NA	Aesthetic	None
**Dyssodia tagetoides T. & G. Marigold dogweed HABITAT: NA	North-central Texas; south to Bexar and Fayette Counties	Central Oklahoma, south to south-central Texas	On Texas rare and endangered plant list	NA	Aesthetic	None
**Palafoxia Reverchonii (Bush) Cory Palafoxia HABITAT: sandy forested areas	Eastern Texas	Endemic to Texas	Uncommon	NA	Aesthetic	None
Palafoxia Hookeriana T. & G. Palafoxia HABITAT: sandy soil	Southeastern Texas, southwestern part of eastern Texas, coastal parts of Rio Grande plains	Endemic to Texas	Common	NA	Aesthetic	None
**Palafoxia rosea (Bush) Cory Palafoxia HABITAT: sandy soil	Eastern, south-eastern, and west to north-central Texas	Endemic to Texas	Rare	NA	Aesthetic	None

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**Hymenopappus tenuifolius Pursh Woolly-white HABITAT: calcareous loamy soils	Plains country and north-central Texas, south to the northern edge of the Rio Grande plains	South Dakota and Colorado, south to Texas and New Mexico	NA	NA	Aesthetic	None
**Hymenoppapus scabiosaeus L'Hér. Old Plainsman HABITAT: calcareous often tight clay prairie soils	Lower parts of plains country, north-central, and south-eastern Texas, Rio Grande plains, Edwards Plateau, and Trans-Pecos	Central and south-eastern United States	Common	NA	Aesthetic	None
**Hymenopappus artemisiaefolius DC. Woolly-white HABITAT: sandy soils	Eastern, south-eastern, and north-central Texas	Texas and Louisiana	Common	NA	Aesthetic	None
**Anthemis Cotula L. Mayweed HABITAT: waste places, escape from cultivation	Eastern two-thirds of Texas	Adventive in the world, native of Europe	Uncommon	Low as food, seeds eaten by variety of songbirds	Aesthetic, source of "camomile", a useful stomach drug	Slightly beneficial
**Achillea millefolium L. Common yarrow HABITAT: disturbed soil	Northern half of Texas	Throughout most of North America, native of Europe and Asia	Common	Low use by wildlife for food	Aesthetic	Slightly beneficial
Artemisia ludoviciana Nutt. Western mugwort HABITAT: various habitats	Statewide, except extreme southern area	Widespread in temperate North America	Common	Low for food and cover	Aesthetic, ornamental, low quality forage for livestock	None
Soliva Mutisii H.B.K. Button burweed HABITAT: disturbed ground	Southeastern and eastern Texas, and Rio Grande plains	Adventive to Texas, from Colombia and Ecuador	Locally common	NA	Aesthetic, noxious weeds	None
Soliva stolonifera (Brot.) Loud. Burweed HABITAT: NA	Eastern and south-eastern Texas	Widely adventive, native of Uruguay, and Argentina	Rare	NA	Aesthetic, noxious weeds	None
Soliva pterosperma (Juss.) Less. Burweed HABITAT: NA	Eastern and south-eastern Texas	Native of South America, now widely adventive elsewhere	Locally common	NA	Aesthetic, noxious weeds	None
**Senecio ampullaceus Hook. Texas groundsel HABITAT: sandy soils	Rio Grande plains; north-central, eastern, and south-eastern Texas; plains country	Endemic to Texas	Abundant	Low as food	Aesthetic	None

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**Senecio obovatus Muhl. Golden groundsel HABITAT: calcareous soil	Edwards Plateau and north-central Texas, less common in eastern Texas	Most of eastern and southeastern United States; west to Illinois, Kansas, Oklahoma, and Texas	Common	Low food value	Aesthetic	None
**Senecio imparipinnatus Klatt Groundsel HABITAT: various habitats	Eastern half of State, plains country, Edwards Plateau	Texas Oklahoma, Louisiana, and into Mexico	Abundant	Low as food	Aesthetic	None
**Senecio glabellus Poir Butterweed HABITAT: sandy soil	Eastern Texas	Southeastern United States; north to North Carolina, Illinois and Missouri; west to Kansas, Oklahoma, and Texas	On Texas rare and endangered plant list	None	High aesthetic, scientific	None
Cacalia plantaginea (Raf.) Shinners Indian plantain HABITAT: open areas	Eastern, south-eastern, and north-central Texas	Widespread in eastern United States	Common	NA	Aesthetic	None
Cacalia lanceolata Nutt. Indian plantain HABITAT: NA	Eastern and south-eastern Texas	Coastal southeastern states	Uncommon	NA	Aesthetic	None
**Erechtites hieracifolia (L.) Raf. Fireweed HABITAT: muddy places	Southeastern and eastern Texas	Eastern United States	Uncommon	High as food, seeds eaten by birds and small mammals; valuable forb for browsers	High aesthetic, ornamental	None
**Centaurea americana Nutt. Basket-flower HABITAT: various habitats	Statewide, except sandy forested areas of eastern Texas	Missouri to Arizona and south to Louisian Louisiana and Mexico	Localiy abundant	Moderate for food, seeds eaten by upland gamebirds, songbirds, and small mammals	Aesthetic	None
**Centaurea solstitialis L. Barnaby star-thistle HABITAT: disturbed soil especially along roadsides	North-central Texas	Widely adventive in North America, native of Europe	Rare	Moderate for food, seeds eaten by gamebirds, song-birds, and small mammals	Aesthetic	None
**Cirsium horridulum Michx. Bull thistle HABITAT: open sandy places	Eastern and south-eastern Texas, coastal part of Rio Grande plains	Mostly on coastal plain--Maine to Texas	Common	NA	Aesthetic	None

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**Cirsium ochrocentrum Gray Yellow-spine thistle HABITAT: open areas, often disturbed soil	Trans-Pecos, plains country, Edwards Plateau, and eastern to north-central Texas	Nebraska south to Texas and west to Arizona	Common	NA	Aesthetic	None
**Cirsium texanum Buckl. Texas thistle HABITAT: disturbed soils, along roadsides and in fields	Statewide, except extreme eastern Texas, extreme western part of Trans-Pecos, and the higher parts of plains country	Oklahoma into Mexico	Locally abundant	NA	Aesthetic	None
**Onopordum Acanthium L. Cotton thistle HABITAT: near stockyards	North-central Texas	Adventive in North America, native of Europe	Rare	NA	Aesthetic	None
**Krigia Dandelion (L.) Nutt. Potato-dandelion HABITAT: sandy soils	Eastern, south-eastern, and north-central Texas	Gulf states; north to New Jersey, Indiana, Illinois, Missouri, and Kansas	Uncommon	NA	Aesthetic	None
**Krigia virginica (L.) Willd. Dwarf dandelion HABITAT: sandy soils	Eastern and north-central Texas	Eastern United States	Common	NA	Aesthetic	None
Krigia occidentalis Nutt. Dwarf dandelion HABITAT: various habitats	Eastern, south-eastern, and north-central Texas	Missouri, Oklahoma, Arkansas, and Texas	Common	NA	Aesthetic	None
**Krigia oppositifolia Raf. Dwarf dandelion HABITAT: various habitats, lawns, and roadsides	Eastern, south-eastern, and north-central Texas	Gulf states; north to North Carolina, Tennessee, Arkansas, and Kansas	Common	NA	Aesthetic, weedy	None
**Krigia gracilis (DC.) Shinners Dwarf dandelion HABITAT: seasonally moist clay loam	North-central and eastern Texas	Endemic to Texas	Uncommon	NA	Aesthetic	None
**Pyrrhopappus multicaulis DC. False dandelion HABITAT: sandy soil, high marsh	Eastern, south-eastern, and north-central Texas; Rio Grande plains, Edwards Plateau, and plains country	Oklahoma, Texas, and into Mexico	Abundance	Low as food, eaten by song-birds	Aesthetic	None
**Pyrrhopappus carolinianus (Walt.) DC False dandelion HABITAT: sandy soils	Eastern, south-eastern, and north-central Texas	Southeastern United States; north to Delaware, Indiana, Missouri and Kansas; west to Oklahoma and Texas	Common	Low as food, eaten by song-birds	Aesthetic	None

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
Lygodesmia texana (T. & G.) Greene Skeleton-plant HABITAT: open usually calcareous places	Eastern, south-eastern, and north-central Texas; Trans-Pecos; Rio Grande plains; Edwards Plateau; and plains country	Texas, Oklahoma, and into Mexico	Common	NA	Aesthetic	None
**Tragopogon porrifolius L. Salsify HABITAT: various habitats, cultivated	North-central Texas, Trans-Pecos, and plains country	Widely adventive in United States, native of Europe	Rare	NA	Aesthetic, root edible	None
**Sonchus oleraceus L. Sow thistle HABITAT: disturbed ground	Statewide	Widely adventive in United States, native of Europe	Common	NA	Aesthetic	None
**Sonchus asper (L.) Hill Sow thistle HABITAT: disturbed ground	Statewide	Widely adventive in United States, native of Europe	Common	NA	Aesthetic	None
**Lactuca Serriola L. Prickly lettuce HABITAT: disturbed soil	Eastern and north-central Texas, Edwards Plateau, Trans-Pecos, and plains country	Widely adventive in United States, native of Europe	Uncommon	Moderate as food, seeds eaten by songbirds, foliage eaten by deer	Aesthetic	None
**Lactuca ludoviciana (Nutt.) Ridd. Lettuce HABITAT: usually in calcareous soil	Scattered statewide	Ontario, Minnesota, Iowa, and Nebraska; south to Texas	Uncommon	Moderate as food, seeds eaten by songbirds, foliage eaten by deer	Aesthetic	None
**Lactuca floridana (L.) Gaertn. Lettuce HABITAT: various habitats	Eastern, south-eastern, and north-central Texas	Eastern United States	Common	Moderate as food, seeds eaten by songbirds, foliage eaten by deer	Aesthetic	None
**Crepis capillaris (L.) Wallr. Hawk's-beard HABITAT: NA	Trans-Pecos	Widely adventive, native of Europe	Rare	None	Aesthetic, lawn weed	None

Species	State Range	United States Range	Abundance in Region	Use for Wildlife Habitat	Other Values	Project Impact
**Taraxacum officinale Wiggers Common dandelion HABITAT: lawns, roadsides, disturbed areas	Statewide, except extreme south	Widely adventive, native of Europe	Abundant	High use for food by gamebirds, songbirds, small mammals, fur and game mammals	Aesthetic	None

*NA = data and/or information not available or known
**Plants identified by project personnel and consultants

Source: Addy and MacNamara (1948); Borden (1974); Boyd (1974); Carruth and Lewis (1973); Collins (1959); Darlington, Bessey, and Negee (1945); Dorman (1959); Jepson (1970); Kearney and Peebles (1942); Lay (1972, 1973, 1974); Martin, Zim, and Nelson (1951); Medsger (1972); Munz and Keck (1970); Nixon and Willett (1974); Parks, Cory, and others (1936); Rechenthin (1972); Rickett (1969); Rideout (1973); Shinners (1972); Texas Forest Service (1963, 1971); USDA, Soil Conservation Service (1972); Vines (1960)