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Environmental Assessment of the Effects of the 2007 “Management Guidelines for the Red-cockaded Woodpecker on Army Installations”

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Abstract: This environmental assessment provides an analysis of the environmental and socioeconomic effects of the 2007 “Management Guidelines for Red-cockaded Woodpeckers (RCW) on Army Installations.” This action is a Department of Army initiative to meet conservation requirements for the RCW on Army lands while accomplishing the Army’s primary mission of training and preparing troops for military conflict. This environmental assessment is programmatic in nature and does not provide analysis of site-specific environmental and socioeconomic effects. Installations will prepare installation Endangered Species Management Components (ESMCs) of their Integrated Natural Resource Management Plans (INRMPs) in accordance with the preferred alternative and Chapter 11, AR 200-3. Installation ESMCs and future project-level activities associated with the preferred alternative on Army installations will require disclosure of site-specific effects in compliance with National Environmental Policy Act (NEPA) requirements, the Endangered Species Act (ESA), and other applicable laws as required.

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Preface

This study was conducted for the U.S. Army Environmental Center under Military Interdepartmental Purchase Request (MIPR) No. 6G48R00027, Work Unit 6BK83L, “Research support for NEPA and ESA data requirements and analysis.” The technical monitor was Steven Sekscienski, SFIM-AEC-CDN.

The work was managed and executed by the Ecological Processes Branch (CN-N), Installations Division (CN), Construction Engineering Research Laboratory (CERL). The CERL principal investigator was Dr. Timothy J. Hayden. Alan B. Anderson is Chief CN-N; Dr. John T. Bandy is Chief CN. The associated Technical Director was Dr. William D. Severinghaus, CEERD-CV-T. The Director of ERDC-CERL is Dr. Ilker R. Adiguzel.

CERL is an element of the U.S. Army Engineer Research and Development Center (ERDC), U.S. Army Corps of Engineers. The Commander and Executive Director of ERDC is COL Richard B. Jenkins, and the Director of ERDC is Dr. James R. Houston.

Unit Conversion Factors

Multiply	By	To Obtain
acres	4,046.873	square meters
hectares	1.0 E+04	square meters
miles (U.S. statute)	1,609.347	meters

1 Introduction

1.1 Background

This environmental assessment provides an analysis of the environmental and socioeconomic effects of the 2007 “Management Guidelines for Red-cockaded Woodpeckers (RCW) on Army Installations.” This action is a Department of Army initiative to meet conservation requirements for the RCW on Army lands while accomplishing the Army’s primary mission of training and preparing troops for military conflict. To meet these requirements, the Army initially considered five alternatives (see Chapter 3, “Alternatives” [p 8]). The first alternative was continued implementation of the 1996 Army RCW guidelines (Appendix A; hereafter referred to as the 1996 guidelines). The other four alternatives considered were various revisions of the 1996 guidelines. The first alternative is the “No Action” alternative, which provides the baseline for assessing cumulative environmental and socioeconomic effects of the Army’s preferred alternative (Appendix B; hereafter referred to as the 2007 guidelines). The environmental and socioeconomic effects of the 1996 guidelines were disclosed in an environmental assessment.*

This environmental assessment is programmatic in nature and does not provide analysis of site-specific environmental and socioeconomic effects. Installations will prepare installation Endangered Species Management Components (ESMCs) of their Integrated Natural Resource Management Plans (INRMPs) in accordance with the preferred alternative and Chapter 11, AR 200-3. Installation ESMCs and future project-level activities associated with the preferred alternative on Army installations will require disclosure of site-specific effects in compliance with National Environmental Policy Act (NEPA) requirements, the Endangered Species Act (ESA), and other applicable laws as required.

A biological assessment has been prepared to assess the effects of implementation of the preferred alternative on threatened and endangered spe-

* Hayden, T. J. 1997. Biological Assessment of the Effects of the Proposed Revision of the 1994 “Management Guidelines for the Red-Cockaded Woodpecker on Army Installations”. USACERL Special Report 97/48. Champaign, IL: Construction Engineering Research Laboratory (CERL).

cies in compliance with Section 7 requirements of the ESA, and has been published as a separate ERDC/CERL Special Report.*

1.2 Need for the action

This action is revision of the 1996 “Management guidelines for RCWs on Army Installations.” The preferred alternative, the 2007 guidelines, would supersede the 1996 guidelines.

In spring 2005 the Department of Army, Office of the Director of Environmental Programs (ODEP) determined that a revision of the 1996 guidelines was necessary. The decision by ODEP to proceed with this revision was driven by several events occurring subsequent to approval of the 1996 Army guidelines. First, the U.S. Fish and Wildlife Service (USFWS) Recovery Plan for the RCW (hereafter referred to as the 2003 Recovery Plan) underwent a major revision in 2003.† The 2003 Recovery Plan detailed recovery goals for RCW populations, including Army installations, and established specific criteria and recommendations for RCW conservation, management and recovery. The 1996 guidelines required updating to be in accordance with the 2003 Recovery Plan. Second, research activities since 1996 have provided significant new information on the effects of military training activities on RCWs on Army installations that was not available during development of the 1996 Army guidelines. Third, Army organizational changes required updating of Army roles and responsibilities for RCW management on Army installations. Fourth, Army installations have been successful in promoting significant population gains, with a 53 percent increase from 595 to 903 RCW potential breeding groups (PBGs) between 1997 and 2005 on installations implementing the 1996 Army guidelines. Finally, the combination of new research findings on effects of military training activity and population increases on installations, resulted in an internal Army recommendation to ODEP to propose a decrease in training restrictions associated with the 1996 Army guidelines that would be tied to demonstrated population increases on installations.

* Timothy J. Hayden. 2007. Biological Assessment of the Effects of the Proposed Revision of the 1996 “Management Guidelines for the Red-cockaded Woodpecker on Army Installations.” ERDC/CERL SR-07-12. Champaign, IL: Construction Engineering Research Laboratory (CERL).

†U.S. Fish and Wildlife Service. 2003. Recovery plan for the red-cockaded woodpecker (*Picoides borealis*); second revision. U.S. Fish and Wildlife Service, Atlanta, GA. 296 pp.

1.3 Scope

The scope of this environmental assessment is limited to assessing the environmental and socioeconomic effects resulting from revision of the 1996 guidelines. The preferred alternative for revision of the 1996 guidelines is a Department of Army initiative. No other Department of Defense (DoD) service branch (Air Force, Navy, Coast Guard) currently would be subject to the 2007 guidelines. Army installations subject to the 2007 guidelines revision are limited to those with lands under Department of Army management authority with currently active RCW cluster sites. Eight installations (Table 1) meet these criteria.

Table 1. Army installations subject to the proposed revision of the 1996 “Management Guidelines for RCWs on Army Installations.”

Installation	State	Population Status
Camp Blanding	Florida	RCWs present
Fort Benning	Georgia	RCWs present
Fort Bragg	North Carolina	RCWs present
Fort Gordon	Georgia	RCW present
Fort Jackson	South Carolina	RCWs present
Fort Polk	Louisiana	RCWs present
Fort Stewart	Georgia	RCWs present
Sunny Point Military Ocean Terminal	North Carolina	RCWs present

1.4 Revision development process and public review

To address the need to revise the 1996 guidelines, ODEP established an Army Working Group to draft the 2007 “Management Guidelines for RCWs on Army Installations” (Appendix B) in spring 2005. The Army Working Group was comprised of representatives of ODEP, Army Environmental Center (AEC), Installation Management Agency (IMA), Major Commands, installations, the U.S. Army Engineer Research and Development Center (ERDC), and the USFWS. The working group initially reviewed alternatives for revision of the 1996 guidelines during May through July of 2005. These alternatives are described in Chapter 3 of this environmental assessment (p 8). Based on the working group consensus on the preferred alternative, an initial draft revision of the 1996 guidelines was prepared by ERDC in November 2005. Subsequent to preparation of this initial draft, the Army working group conducted several rounds of review and revision of the draft guidelines from November 2005 through August 2006. The Army provided drafts of the 2007 guidelines to the USFWS RCW Recovery Coordinator for review and comment during the revision

process. The Recovery Coordinator's comments were incorporated in subsequent drafts. The Army submitted a request to USFWS to initiate formal consultation on 13 November 2006. The biological assessment for the preferred alternative was received by USFWS on 4 December 2006.

A Notice of Availability (NOA) for the environmental assessments and draft Finding of No Significant Impact (FNSI) were published in a total of 12 newspapers that were selected as serving the city/county in which the eight affected installations are located. The NOA for the environmental assessment and draft FNSI were published in the following newspapers:

- The Columbus Times, Columbus, GA
- Columbus Ledger-Enquirer, Columbus, GA
- The Herald of Savannah, Savannah, GA
- The Savannah Morning News, Savannah, GA
- Augusta Chronicle, Augusta, GA
- The Florida Times Union, Jacksonville, FL
- Fayetteville Observer, Fayetteville, NC
- Wilmington Morning Star; Wilmington, NC
- Free Times, Columbia, SC
- The State Newspaper, SC
- Town Talk, Alexandria-Pineville, LA
- The Northside Journal, Pineville, LA.

The NOA was published in these papers between 30 December 2006 and 10 January 2007. The FNSI and the supporting EA were available through the Army Environmental Command Public Affairs Office (USAEC PAO) and the USAEC official website from 30 December 2006 until 10 February 2007. The period for public comment closed on 10 February. No requests for copies of the draft FNSI and EA were received by USAEC PAO. No public comments were received.

The USFWS submitted its Biological Opinion on the preferred alternative on 24 April 2007, which determined that implementation of the 2007 guidelines (preferred alternative) is not likely to jeopardize the continued existence of the RCW. The Army made the 2007 guidelines final on 1 May 2007.

2 Affected Environment

Detailed descriptions of ongoing military and natural resource management activities on installations subject to the 2007 guidelines are provided in the biological assessment (ERDC/CERL SR-07-12) and installations' Integrated Natural Resource Management Plans (INRMP) and the Endangered Species Management Component (ESMC) of INRMPs (both incorporated by reference). Installation ESMCs are approved for implementation through consultation with USFWS. The following is a brief synopsis of information available in these documents.

2.1 Mission and history

The eight installations subject to the 2007 guidelines have military training and support mission that support the Army's mission to be ready to fight and win military conflicts anywhere in the world on terms favorable to the United States and its allies. With the exception of Military Ocean Terminal, Sunny Point, these installations were initially established to meet national defense requirements associated with World Wars I and II.

2.2 Physiographic and habitat features

Installations considered in this environmental assessment are located in five southeastern states: North Carolina, South Carolina, Georgia, Louisiana and Florida. 2003 Recovery Plan recovery units represented by installations include the Sandhills, the South Atlantic Coastal Plain, the Mid-Atlantic Coastal Plain, the South/Central Florida, and the West Gulf Coastal Plain recovery units. Upland habitats on these installations typically are dominated by pine and mixed pine-hardwood forest. Mixed hardwoods dominate low lying mesic sites and stream bottoms. Predominant pine species on these installations include longleaf, loblolly, and slash pines. Pre-colonial upland habitats on most of the installations likely were dominated by fire-maintained longleaf pine forest and longleaf pine savanna. The 2003 Recovery Plan cites post-colonial practices of naval stores production, logging and fire suppression as significant factors in depleting the availability of live, old-growth pine trees throughout the southeastern United States that are a critical habitat component for the endangered RCW. A variety of aquatic and wetland communities found in the southeastern United States are represented on installations considered in this environmental assessment.

2.3 Mission activities

Although mission activities vary among installation, the full range of training, maneuver, and combat support activities conducted by the Army in support of its mission are conducted among the subject installations. These activities include the full range of troop and mechanized maneuver, live-fire training from small arms through tank and heavy artillery, paradrops, and aviation training. Training is conducted from small-unit through brigade-sized exercises.

2.4 Current RCW populations and habitat

Table 2 shows 2005 RCW population status and 2003 Recovery Plan goals for installations subject to the 2007 guidelines. Population data for 2005 are from installation reports to USFWS presented at the February 2006 annual Army/USFWS RCW meeting in Atlanta, GA. Details on installation population status and distribution are found in installation ESMCs and annual reports to USFWS.

Virtually no true old-growth RCW habitat occurs on these installations today. Existing pine forests generally represent second- and third-growth stands. RCWs typically are found nesting in relict trees that were left because of defects or remain from seedtree cuts that were never harvested. Some pine stands, particularly in live-fire areas, have reached an age class suitable for RCW nesting because they have not been accessible to commercial harvest.

Table 2. 2005 population status and recovery goals for installations subject to the 2007 guidelines. (Recovery goals are in accordance with 2003 Recovery Plan).

	2005		
	Active Clusters	PBGs	Recovery Goal
Camp Blanding	24	21	25 ^a
Fort Benning	254	191 ¹	350 ^a
Fort Bragg	414	347 ²	350 ^b
Camp Mackall ³	14	10	100 ^c
Fort Gordon	8	6	25 ^d
Fort Jackson	34	22	126 ^d
Fort Polk	52	43	350 ^e
Peason Ridge ⁴	37	31	120 ^d
Fort Stewart	283	263	350 ^a
Sunny Point Military Ocean Terminal	6	5	17 ^d
¹ Estimated from sample clusters. In 2006 Fort Benning has documented 265 active clusters and 253 PBGs. ² Estimated from sample clusters. ³ A sub-installation and under the management authority of Fort Bragg ⁴ A sub-installation and under the management authority of Fort Polk ^a 2003 Recovery Plan goal of PBGs for the property. ^b 2003 Recovery Plan goal of PBGs for the North Carolina Sandhills East Primary Core population that includes the properties of Fort Bragg, Calloway Tract, Carver's Creek Tract, McCain Tract, and Weymouth Woods State Nature Preserve. ^c 2003 Recovery Plan goal for North Carolina Sandhills West Essential Support population that includes the properties of Camp Mackall and Sandhills Game Lands. ^d 2003 Recovery Plan estimate of potential number of active clusters that could be supported by the property for "significant and important support populations." ^e 2003 Recovery Plan goal of PBGs for the Vernon/Fort Polk Primary Core population that includes the properties of Fort Polk and Vernon Unit of Kisatchie National Forest.			

3 Alternatives

Alternatives for the proposed action initially were developed from meetings and correspondence among representatives of the Army Working Group during May-July 2005. This chapter provides an outline of the five alternatives considered for revision of the “1996 Guidelines for Management of RCWs on Army Installations.” Alternative 1 is the “no action” alternative with continued implementation of the 1996 Army guidelines. Alternative 2 incorporates actions to conform to the 2003 Recovery Plan. Alternatives 3-5 incorporate actions to conform to the 2003 Recovery Plan and present alternative approaches for designating protected (primary recruitment clusters, PRCs) versus unprotected clusters (supplemental recruitment clusters, SRCs). This chapter discloses the major actions, advantages and disadvantages for each alternative considered in reaching a decision on the Army’s preferred alternative.

The two alternatives that receive further analysis of environmental and socioeconomic effects in this environmental assessment are alternative 1, the “no action” alternative, which is continued implementation of the 1996 “Management Guidelines for RCWs on Army Installations,” and alternative 3, the Army’s preferred alternative, the 2007 guidelines (Appendix B). Alternatives 2, 4 and 5 were dropped from further analysis for the reasons listed below.

3.1 **Alternative 1 (no action alternative): Continue implementation of the 1996 Army guidelines**

3.1.1 Actions

This is the “No action” alternative that retains existing Army RCW guidance and policies for training restrictions and designation of protected and unprotected clusters.

3.1.2 Advantages

1. Would not require any changes in current installation ESMCs/INRMPs.
2. Would not require any changes in cluster marking.
3. Would not require formal or informal consultation.

3.1.3 Disadvantages

1. Would not provide any additional relief for training.
2. Would have limited statistical power to determine effects of training on unprotected clusters.
3. Would not conform in many aspects to the current 2003 Recovery Plan.
4. Would continue to hold the Army to higher standards than required for other Federal agencies under terms of the 2003 Recovery Plan
5. Does not take advantage of new knowledge gained through Army research investment.
6. Continues practice of assuming all SRCs are subject to incidental take, thereby not crediting installations for actual RCW populations.

3.1.4 Decision

Establishes baseline “no action” alternative for considering effects of the Army’s preferred alternative. Implementing this alternative would not meet requirements established by the Army for revising the 1996 guidelines.

3.2 Alternative 2: Revise 1996 guidelines to conform to USFWS RCW recovery plan

This suite of actions also would be incorporated in Alternatives 3-5, but the advantages and disadvantages are only disclosed here.

3.2.1 Actions

1. Revise population goal definitions to reflect terminology of Recovery Plan.
2. Establish guidance that would allow counting of all clusters that meet Recovery Plan criteria for counting toward population goals.
3. Revise as necessary habitat management guidance in accordance with Recovery Plan.
4. Establish baseline monitoring requirements for active clusters and potential breeding groups consistent with Recovery Plan.
5. Establish concurrence between Army reporting thresholds versus 2003 Recovery Plan thresholds.

3.2.2 Advantages

1. Reduces inconsistencies in Army versus USFWS terminology and recovery criteria.
2. Would allow maximum credit for clusters toward population goals.

3. By permitting the Army to take fuller credit of the actual RCW population, time to achieve recovery goals and secure elimination of all training restrictions would be reduced compared to Alternative I.
4. Would potentially reduce monitoring costs for some installations.
5. Change in reporting threshold would likely reduce requirement for consultation.
6. Army recovery responsibilities would be brought in line with those of other Federal agencies.

3.2.3 Disadvantages

1. Might result in significant alteration of current installation monitoring programs and ESMCs.
2. Further evaluation of training impacts on unprotected clusters would not be possible.
3. Does not provide a process for alleviating training restrictions as populations approach recovery goals.

3.2.4 Decision

Implementing this alternative would not meet the Army's objective to establish a process to reduce training restrictions associated with RCW clusters as populations approach recovery goals. Actions under this alternative that are retained under the Army's preferred alternative are considered in the analyses of environmental and socioeconomic effects for the preferred alternative. Therefore this alternative is not considered reasonable and is not the subject of further evaluation.

3.3 *Alternative 3 (preferred alternative): Phased in designation of unprotected clusters*

3.3.1 Actions

1. Incorporate actions under Alternative 2, above.
2. Training restrictions will be removed incrementally from potential breeding groups as populations increase according to the following schedule (cf. Table 3; Appendix B gives details from the 2007 guidelines).

Table 3. Training restrictions schedule.

Total PBGs	Restrictions Removed	Incremental Total
251-275	25	75
276-300	50	125
301-350	150	275
>350	Restrictions removed on all PBGs.	

3.3.2 Advantages

1. Provides increased, incremental relief of training restrictions prior to reaching recovery goal.
2. Reduced restrictions linked to increasing populations rewards good RCW management.
3. Maximum flexibility for training operations with regard to designation of unprotected clusters.
4. Provides consistency with 2003 Recovery Plan.

3.3.3 Disadvantages

1. May increase monitoring costs in the short-term until recovery goals are achieved; however, if determination of effects of military training on unprotected clusters is a requirement, results may be biased by non-random designation of clusters, and statistical power to evaluate differences between protected and unprotected clusters likely would be low until populations reach an adequate size.
2. Would likely require formal consultation, thus delaying implementation.
3. May not take full advantage of Army research results and installation monitoring data in terms of accelerated removal of training restrictions.

3.3.4 Decision

Implementing this alternative would meet the Army's objective to conform to the 2003 Recovery Plan and to establish a process to reduce training restrictions associated with RCW clusters as populations approach recovery goals. This alternative is the Army's preferred alternative and is considered further in this assessment's analyses of environmental and socio-economic effects.

3.4 **Alternative 4: Immediate removal of training restrictions on 50 percent of RCW clusters**

In addition to actions implemented under Alternative II:

3.4.1 Actions

1. Incorporate actions under Alternative 2, above.
2. Immediately eliminate all RCW-related training restrictions on 50% of RCW clusters on Army installations. RCW population growth on Army installations and Army research data would provide the basis for this increase in unprotected clusters.
3. Detailed analysis of effects of training on unprotected clusters would be implemented for 3 years on two installations.
4. Designation of unprotected clusters would be random or random-block design to minimize bias.
5. If these data document positive recruitment in all clusters after 3 years, then all training restrictions would be removed.

3.4.2 Advantages

1. Provides immediate, significant relief of training restrictions on Army installations.
2. Would provide data for potentially accelerated removal of training restrictions on all Army installations.
3. Randomized allocation would provide unbiased estimates of training effects on unprotected clusters.
4. Would provide information on actual level of take in unprotected clusters because of military training.

3.4.3 Disadvantages

1. Formal consultation would likely be required.
2. Randomized allocation of unprotected clusters may conflict with operational requirements.
3. May increase monitoring costs in the short-term until completion of the 3-year analysis is completed or until recovery goals are achieved.
4. If adverse effects were documented, it would impose significant operational constraints to reinstate restrictions after they had been removed.

3.4.4 Decision

The potential risk of adverse effects and subsequent potential constraints on military operations do not meet the Army's requirements for operational flexibility while meeting conservation objectives for RCW. Therefore this alternative is not considered reasonable and is not the subject of further evaluation.

3.5 *Alternative 5: Immediate removal of all RCW training restrictions*

3.5.1 Actions

1. Incorporate actions under Alternative 2, above.
2. Immediately remove all training restrictions on all Army installations, except for protection of cavity trees from direct damage

3.5.2 Advantages

1. Would provide the most immediate and significant training relief at all installations.
2. All installations would receive some level of relief from training restrictions.
3. Would potentially reduce monitoring costs.

3.5.3 Disadvantages

1. Would require formal consultation and would likely involve a high level of scrutiny from outside agencies.
2. Based on currently available data it would be difficult to make a determination that there would be low risk of adverse effects. This could lead to a Jeopardy Opinion, which could lead to a severe curtailment of training activities.
3. If RCW declines were to occur, the Army would not be able to definitively determine whether training activity was a factor.

3.5.4 Decision

The potential risk of adverse effects and subsequent potential constraints on military operations do not meet the Army's requirements for operational flexibility while meeting conservation objectives for RCW. Therefore this alternative is not considered reasonable and is not the subject of further evaluation.

4 Environmental and Socioeconomic Effects

This chapter discloses environmental and socioeconomic effects anticipated from implementation of the Army's preferred alternative, the 2007 guidelines (Appendix B). The "No Action" alternative continues implementation of the 1996 Army RCW guidelines and provides the baseline for assessing effects of implementing the preferred alternative. The biological assessment (ERDC/CERL SR-07-12) for the preferred alternative details changes from the 1996 guidelines. Effects of these changes are limited to RCWs and associated habitats. In summary, the preferred alternative incorporates:

- changes to clarify actions, terms and definitions
- changes to provide consistency with current army policy, regulations and management structure
- changes to provide consistency with the 2003 Recovery Plan
- changes to reduce training restrictions in association with increasing RCW populations on Army installations.

Environmental and socioeconomic values considered in this assessment are:

- Biological
 - o Red-cockaded woodpecker
 - o Other threatened or endangered species
 - o Timber stand development and management
 - o Biodiversity
- Physical Environment
 - o Air quality
 - o Soils
 - o Water quality
- Socioeconomic
 - o Cultural Resources
 - o Recreation
 - o Construction
 - o Noise
 - o Economics.

The preferred alternative represents the Army's programmatic guidance specifically for management of the RCW. The preferred alternative does not supersede requirements of the Endangered Species Act, National Environmental Policy Act, or Chapter 11 AR 200-3. Installations cannot conduct any significant Federal actions or make a commitment of resources that may affect other listed species until installation ESMCs are revised in accordance with the 2007 guidelines and approved in consultation with USFWS and meets requirements for compliance with NEPA.

4.1 Biological Effects

4.1.1 Red-cockaded Woodpecker

The biological assessment (ERDC/CERL SR-07-12) for the preferred alternative discloses effects of the 2007 guidelines on the RCW relative to the no action alternative. This analysis is included in this environmental assessment by reference. The biological assessment determines that the preferred alternative will meet conservation objectives for the RCW, assist species recovery, fulfill regulatory requirements of the ESA, and alleviate current restrictions on military training. Although individual RCWs may be affected because of the potential for greater training activity in proximity to RCW clusters, no adverse effect at the population level is anticipated. The preferred alternative incorporates changes to conform to the 2003 Recovery Plan. The 2003 Recovery Plan incorporates input from leading experts representing multiple Federal, state, and non-governmental agencies on the "best practices" for RCW management, conservation and recovery. The 2003 Recovery Plan represents the "best scientifically and commercial data available" for management of RCW populations and habitats.

Under the no action alternative, monitoring and management guidance under the 1996 Guidelines would not be consistent with the 2003 Recovery Plan. Although installations would still be required to meet population goals under the no action alternative, failure to update guidance with most current scientific guidance may unnecessarily retard recovery efforts. Also, no process is established for reducing restrictions on military operations as RCW populations reach installation goals.

4.1.2 Other threatened or endangered species

The biological assessment (ERDC/CERL SR-07-12) for the preferred alternative lists other threatened and endangered species occurring on in-

installations subject to the 2007 guidelines. The biological assessment determines that the programmatic guidance of the preferred alternative will not adversely affect populations of other threatened or endangered species. Individuals of other listed species with occurrences in RCW habitats may be adversely affected by disturbance from increased access for military training activities in unprotected RCW clusters under the 2007 guidelines. However, under both the no action alternative and the preferred alternative, installations cannot conduct any significant Federal actions or make a commitment of resources that may affect other listed species in accordance with either alternative until installation ESMCs are revised and approved in consultation with USFWS. Under both alternatives, installations are required to determine effects and avoid unauthorized “take” of other listed species in consultation with USFWS for any implementing actions that are in accordance with the programmatic guidance of the no action alternative or the preferred alternative. As disclosed in the 2003 Recovery Plan, habitat management practices for RCW (e.g., prescribed burning and silvicultural prescriptions) generally support ecosystem management objectives and likely will have a net benefit for listed species occurring in RCW habitats.

4.1.3 Timber stand development and management

The preferred alternative adopts recommendations and criteria from the 2003 Recovery Plan for silvicultural practices in RCW habitats. Both the no action alternative and the preferred alternative emphasize maintenance of quality RCW habitat over commercial timber production. Recommendations in the 2003 Recovery Plan, adopted in the preferred alternative, emphasizes silvicultural practices that provide “...a substantial amount of large pines, low densities of small and medium sized pines, sparse or absent hardwood midstory, and abundant diverse herbaceous groundcovers.” Also emphasized is the development of forest structure suitable to carry frequent growing season fires and the conversion of off-site pine stands to native, site-appropriate pine species. Adopting the 2003 Recovery Plan standards for silvicultural practices under the 2007 guidelines will assist in recovery and maintenance of RCW populations and also provide quality habitat for many other associated threatened or endangered species.

Under the no action alternative, assessment of foraging habitat availability follows the outdated “Henry guidelines,” which does not provide the most current standards for RCW foraging requirements. Silviculture prescriptions under the no action alternative are general and do not take into ac-

count the wide range of site conditions and silvicultural systems that are addressed under the 2003 Recovery Plan.

4.1.4 Biodiversity

Both the baseline no action alternative and the preferred alternative incorporate the concepts of promoting biodiversity and ecosystem management practices. The 2003 Recovery Plan states that “management for red-cockaded woodpeckers provides strong benefits for entire ecosystems.” According to the 2003 Recovery Plan, these benefits are derived primarily from broad-scale prescribed burning programs and broad-scale silvicultural practices that restore open conditions and retain old trees across the landscape. Habitat management practices under the 2007 guidelines that conform to the 2003 Recovery Plan will support objectives for maintenance of biodiversity associated with native, fire-adapted upland pine ecosystems of the southeastern United States.

4.2 Physical environment

4.2.1 Air quality

Implementing the preferred alternative will not significantly change the level of prescribed burning relative to the no action alternative. Prescribed burns potentially increase atmospheric smoke levels and potentially increase safety risks on nearby public roads because of decreased visibility and because of the potential increase in atmospheric irritants to humans in nearby urban areas. Under both the no action alternative and the preferred alternative, installations are required to conduct prescribed burns in accordance with all local, state, and Federal air quality laws and regulations. All installations subject to the preferred alternative are responsible for coordinating prescribed burning activities with city, county, or state agencies responsible for smoke management to minimize human and air quality impacts. The preferred alternative will not reduce the installations' responsibility for safety and air quality standards associated with a prescribed burn program.

4.2.2 Soils

No significant effects on soils are anticipated under the preferred alternative relative to the no action alternative. Soil disturbance due to military training activities may increase in some areas under the preferred alternative relative to baseline conditions. Under the preferred alternative, military units, under some conditions, will have increased access to previously

restricted areas. Assuming no changes in the overall training levels on an installation, this will represent a redistribution of soil-disturbing activities rather than a net increase in disturbance activities. Under both the preferred alternative and the no action alternative, military units are required to report excessive soil disturbance, and installations are required to repair this damage within 3 working days. In addition, units are required to fill any military excavations upon completion of training and mechanical digging is not permitted within clusters unless approved through consultation with USFWS.

4.2.3 Water quality

No significant effects on water quality are anticipated under the preferred alternative relative to the no action alternative. Use of potential water contaminants, such as herbicides and pesticides, are not anticipated to increase under the preferred alternative relative to the no action alternative. Potential for increased runoff because of loss of soil cover from prescribed burns is not anticipated to increase under the preferred alternative relative to the no action alternative. Increased soil disturbance and erosion associated with increased sedimentation of surface waters may occur at some locations under the preferred alternative. No net increase in erosion potential is anticipated, however, assuming no overall change in training levels. Requirements to report and repair soil disturbance under both the preferred alternative and the no action alternative will minimize the potential for sedimentation of surface waters.

4.3 Socioeconomic effects

4.3.1 Cultural resources

No effects on cultural resources are anticipated under either the preferred alternative or the no action alternative. Under both alternatives, installations are required to meet survey and protection requirements under current laws for cultural and historic artifacts. The preferred alternative would not alter this requirement.

4.3.2 Recreation

No effects on recreation activities are anticipated under the preferred alternative relative to the no action alternative. Recreation activities on Army lands are restricted due to security and safety considerations. Neither of these alternatives directly addresses restrictions on recreation activities related to RCW management. If installations designate recreation

areas in RCW habitat management units, restrictions on recreational activities may be required; however, such designation is considered unlikely. Continuation of recreational activities in areas with RCWs would require consultation with the USFWS. Hunting activities on installations are typically short-term and transient in nature and would be consistent with guidelines for transient troop movements through RCW clusters.

4.3.3 Construction

No effects on construction activities are anticipated from implementing the preferred alternative relative to the no action alternative. Planning requirements under both alternatives assist in minimizing conflicts between construction requirements and development and designation of RCW habitat. All construction activities that potentially affect RCW habitat are subject to consultation with USFWS.

4.3.4 Noise

No effects of noise are anticipated under the preferred alternative relative to the no action alternative.

4.3.5 Economic

No economic effects are anticipated from implementing the preferred alternative relative to the no action alternative. Forest products revenues are not anticipated to significantly change under the preferred alternative. In the long-term, silvicultural practices under both alternatives would provide a stable, sustainable yield of high-quality timber products due to longer rotation schedules and native, site-appropriate pine stands.

Increased monitoring costs may be associated with the preferred alternative to evaluate potential effects of removing training restrictions from RCW clusters. It is anticipated, however, that these costs will be offset by increased efficiencies in military operations due to increased operational flexibility and access to training lands under the preferred alternative.

5 Cumulative Effects and Conclusion

No significant, cumulative adverse effects on biological, physical, social, or economic resources are anticipated under the preferred alternative. The preferred alternative will maintain progressive and proactive biological management practices for RCWs and provide mechanisms for continued population growth on installations while maintaining the Army's ability to effectively train. Monitoring, research, and mitigation requirements under the preferred alternative will provide a mechanism to recognize, evaluate, and rectify any adverse effects before cumulative, irreversible impacts occur. Changes under the preferred alternative to conform to the 2003 Recovery Plan will support local and regional objectives for conservation and recovery of the RCW.

The scope of Federal actions considered for all the alternatives in this assessment does not include potential changes in mission requirements or staffing. Such changes would be considered separate Federal actions and would be subject to all compliance requirements of relevant state and Federal environmental regulations including the ESA and NEPA.

Appendix A: 1996 “Management Guidelines for the Red-cockaded Woodpecker on Army Installations”

1996
“Management Guidelines
for the Red-cockaded Woodpecker
on Army Installations”

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**Management Guidelines
for the Red-cockaded Woodpecker
on Army Installations**

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I. General.

A. Purpose. The purpose of these guidelines is to provide standard RCW management guidance to Army installations for developing installation endangered species management plans (ESMPs) for the Red-cockaded Woodpecker (RCW). Installation RCW ESMPs will be prepared according to these guidelines and chapter 11, AR 200-3, Natural Resources - Land, Forest, and Wildlife Management. These guidelines establish the baseline standards for Army installations in managing the RCW and its habitat. Installation RCW ESMPs will supplement these guidelines with detailed measures to meet installation-specific RCW conservation needs. The requirements in RCW ESMPs will apply to all activities on the installation.

B. Applicability. The guidelines are applicable to Army installations where the RCW is present and to installations with inactive clusters that the installation, in consultation with the U.S. Fish and Wildlife Service (FWS), continues to manage in an effort to promote reactivation.

C. Revision. These guidelines will be revised as necessary to be consistent with the latest RCW recovery plan and to incorporate the latest and best scientific data available.

D. Goal. The Army's goal is to implement management guidelines which will allow the Army to train for assigned combat and other missions while concurrently developing and implementing methods to assist in the recovery and delisting of the RCW.

E. Existing Biological Opinions. Installations will continue to comply with the requirements of existing biological opinions until RCW ESMPs are prepared in accordance with these management guidelines and chapter 11, AR 200-3 and are approved through consultation with the FWS. RCW ESMPs should be drafted to incorporate the requirements of existing biological opinions, as modified to conform to these management guidelines through consultation with the FWS.

II. Consultation.

A. In preparing RCW ESMPs and taking action that may affect the RCW, installations will comply with the consultation requirements of section 7 of the Endangered Species Act (ESA); the implementing FWS regulations at 50 CFR part 402; and chapter 11, AR 200-3.

B. Early entry into informal consultation with the FWS is key to resolving potential problems and establishing the foundation to address issues in a proactive and positive manner. If, through informal consultation, the FWS concurs in writing that the RCW ESMP or other action is not likely to adversely affect any endangered or threatened species, formal consultation

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is not required. Issue resolution through informal consultation is the preferred method of consultation.

C. When consulting with the FWS on RCW ESMPs and other actions that may affect the RCW, the opinions of the FWS will normally be consistent with these guidelines. In exceptional cases, however, FWS opinions may require installations to take measures inconsistent with these guidelines. After every effort has been made at the installation and MACOM levels to resolve inconsistencies, installations will report, through MACOM channels, to the Office of the Director of Environmental Programs (ODEP), Headquarters, Department of the Army, FWS opinions that are not consistent with these guidelines. ODEP will expeditiously review these reports and determine if HQDA-level action is necessary. If feasible, installations should delay implementation of measures recommended by the FWS that are inconsistent with these guidelines until after the ODEP review is completed.

III. Army Policies Applicable to RCW Management.

A. *Conservation.* Implementation of RCW ESMPs, prepared in accordance with these guidelines, will meet the Army's responsibility under the ESA to assist in conservation of the RCW. Conservation, as defined by the ESA, means the use of all methods and procedures which are necessary for endangered and threatened species survival and to bring such species to the point of recovery where measures provided by the ESA are no longer necessary.

B. *Mission Requirements.* Installation and tenant unit mission requirements do not justify violating the ESA. Mission considerations are necessary in determining the installation management and recovery goals. The keys to successfully balancing mission and conservation requirements are long-term planning and effective RCW management to prevent conflicts between these interests. In consultations with the FWS, installations will preserve the ability to maintain training readiness, while meeting ESA conservation requirements.

C. *Cooperation with U.S. Fish and Wildlife Service.* The Army will work closely and cooperatively with the FWS on RCW conservation. Installations should routinely engage in informal consultation with the FWS to ensure that proposed actions are consistent with the ESA requirements.

D. *Ecosystem Management.* Conservation of the RCW and other species is part of a broader goal to conserve biological diversity on Army lands consistent with the Army's mission. Biological diversity and the long-term survival of individual species, such as the RCW, ultimately depend upon the health of the sustaining ecosystem. Therefore, RCW ESMPs should promote ecosystem integrity. Maintenance of ecosystem integrity and health also benefit the Army by preserving and restoring training lands for long-term use.

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E. *Staffing and Funding.* Installation commanders are responsible for ensuring that adequate professional personnel and funds are provided for the conservation measures prescribed by these guidelines and RCW ESMPs. Commanders are responsible for accurately identifying the funding needed to meet the requirements of these guidelines. RCW conservation projects are funded through environmental channels and will be identified in the Environmental, Pollution Prevention, Control and Abatement Report (RCS 1383).

F. *Conservation on Adjacent Lands.* Necessary habitat for the RCW includes nesting and foraging areas. Both of these RCW habitat components may be located entirely on installation lands. There may be instances, however, where one of these components is located on installation land, while a portion of the other is located on adjacent or nearby non-Army land. The FWS and installations should initiate cooperative management efforts with these landowners, if such efforts would compliment installation RCW conservation initiatives.

G. *Regional Conservation.* The interests of the Army and the RCW are best served by encouraging conservation measures in areas off the installation. The FWS and installations should participate in promoting cooperative RCW conservation plans, solutions, and efforts with other federal, state, and private landowners in the surrounding area.

H. *Management Strategy.* These guidelines require installations to adopt a long-term approach to RCW management consistent with the military mission and the Endangered Species Act. First, installations are required to establish installation RCW population goals in consultation with the FWS using the methodology described in para V.B below. Once established, the installation must designate sufficient nesting and foraging habitat to attain and sustain the goals. The goals will also dictate the required management intensity level. Next, installations must develop an ESMP to attain and sustain the installation RCW population goals in accordance with chapter 11, AR 200-3. Fourth, installations are required to ensure that all units and personnel that conduct training and other activities at the installation comply with the requirements of the installation RCW ESMP.

IV. Definitions.

Augmentation - Relocation of an RCW, normally a juvenile female, from one active cluster to another active cluster.

Basal area (BA) - The cross-sectional area (in square feet) of trees per acre measured at approximately four and one-half feet from the ground.

Biological diversity - The variety of life and its processes. It includes the variety of living organisms, the genetic differences among them, and the communities and ecosystems in which they occur.

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Buffer zone - The zone extending outward 200 feet from a cavity tree or cavity start tree in an active or primary recruitment cluster.

Cavity - An excavation in a tree made, or artificially created, for roosting and nesting by RCWs.

Cavity restrictor - A metal plate that is placed around an RCW cavity to prevent access by larger species. A restrictor also prevents a cavity from being enlarged, or if already enlarged, shrinks the cavity entrance diameter to a size that prevents access by larger competing species.

Cavity start - An incomplete cavity excavated by, or artificially created for, RCWs.

Cavity tree - A tree containing one or more active or inactive RCW cavities or cavity starts.

Cluster - (formerly called "colony") - The aggregate area encompassing cavity trees occupied or formerly occupied by an RCW group plus a 200 foot buffer area.

Effective breeding pairs - Groups that successfully fledge young.

Group - (formerly called "clan") - A social unit of one or more RCWs that inhabits a cluster. A group may include a solitary, territorial male; a mated pair; or a pair with helpers (offspring from previous years).

Habitat Management Unit (HMU) - Designated area(s) managed for RCW nesting and foraging, including clusters and areas determined to be appropriate for recruitment and replacement stands.

Impact areas - The ground within the training complex used to contain fired or launched ammunition or explosives and the resulting fragments, debris, and components from various weapons systems.

Population - A RCW population is the aggregate of groups which are close enough together so that the dispersal of individuals maintains genetic diversity and all the groups are capable of genetic interchange. Population delineations should be made irrespective of land ownership.

Population goals - A desired RCW population. For purposes of these guidelines, terms for three types of population goals may be relevant to developing an installation's ESMP:

1. Recovery population goal - The number of groups required in a physiographic region to ensure recovery of the RCW in that region.

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2. Installation Regional Recovery Goal - The number of groups which FWS identifies as the installation's potential contribution toward meeting the recovery population goal.

3. Installation Mission Compatible Goal - The number of training-restricted clusters which the installation identifies as currently compatible with the installation's on-going operations, suitable habitat, and missions considering its conservation responsibilities.

Provisioning - The artificial construction of cavities or cavity starts.

Recovery population - A total of 250 or more effective breeding pairs annually, for a five year period.

Recruitment - The designation and management of habitat for the purpose of attracting a new breeding group to that habitat.

Recruitment stand - A stand of trees, minimum of 10 acres in size, with sufficient suitable RCW nesting habitat identified to support a new RCW group. Stand and supporting foraging area should be located $\frac{3}{8}$ mile to $\frac{3}{4}$ mile from a cluster or other recruitment stand.

Recruitment cluster - A cluster site designated and managed for the purpose of attracting a new breeding group to that habitat. Installations may have two types of recruitment clusters:

1. Primary recruitment cluster - A recruitment cluster managed for the purpose of attracting the growth of additional RCW groups toward meeting the Installation Mission Compatible Goal; generally applicable training restrictions will apply to recruitment clusters.

2. Supplemental recruitment cluster - A recruitment cluster managed for the purpose of attracting the growth of additional RCW groups over and above the mission compatible goal needed for the installation to reach the Installation Regional Recovery Goal; training restrictions will never apply to supplemental recruitment clusters.

Relict tree - a pine tree usually more than 100 years old having characteristics making it attractive to the RCW for cavity excavation.

Replacement stand - a stand of trees, minimum of 10 acres in size, identified to provide suitable nesting habitat for colonization when the current cluster becomes unsuitable. The stand should be approximately 20 - 30 years younger than the active cluster. While it is preferable for replacement stands to be contiguous to the active colony, at no time should they be more than $\frac{1}{4}$ mile from the cluster, unless there is no suitable alternative.

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Stand - an aggregation of trees occupying a specific area and sufficiently uniform in species composition, age, arrangement, and condition so as to be distinguishable from the forest on adjoining areas.

Sub-population - the aggregate of groups which are close enough together to allow for demographic interchange between groups. A sub-population does not have a significant demographic influence on adjacent sub-populations, but there is sufficient genetic interchange between the sub-populations to be considered one population.

Suitable acreage - installation acreage determined to be currently suitable for occupation by RCWs based upon vegetation and dominant land uses and acreage potentially suitable for occupation by RCWs through reasonable and practicable management practices - for example, acreage with severe mid-story encroachment would be considered as potentially suitable acreage and therefore suitable acreage; however, urban-type areas, the cantonment, impact areas, or areas free of vegetation, such as drop-zones, field landing strips, or gun positions, would not be considered suitable or potentially suitable acreage.

Translocation - the relocation of one or more RCWs from an active cluster to an inactive cluster or recruitment stand that contains artificially constructed cavities.

V. Guidelines for Installation RCW ESMPs.

Installations will prepare RCW ESMPs and manage RCW populations according to the following guidelines. Installations will update ESMPs every five years or when circumstances dictate.

A. RCW ESMP Development Process.

Preparation of installation RCW ESMPs requires a systematic, step-by-step approach. RCW populations (current and goal), RCW habitat (current and potential), and training and other mission requirements (present and future) must be identified. Detailed analysis of these factors and their interrelated impacts are required as a first step in the development of an ESMP. Installations should use the following or a similar methodology in conducting this analysis:

1. Identify the current RCW population and its distribution on the installation.
2. Identify areas on the installation currently and potentially suitable for RCW nesting and foraging habitat.
3. Establish the installation RCW population goal(s) with the FWS according to the guidance in B below.

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4. Identify installation and tenant unit mission requirements. Overlay these requirements on the RCW distribution scheme.
5. Identify mission requirements that are incompatible with the conservation of RCW habitat.
6. Identify areas on the installation where conflicting mission requirements could be relocated to avoid RCW habitat.
7. Identify critical mission areas where activities cannot reasonably be relocated.
8. Identify areas which could support RCW augmentation or translocation.
9. Identify areas suitable for RCW habitat and free of conflicting present and projected mission activities. These are prime areas for designation as recruitment stands.
10. Analyze the information developed above using the guidance contained in these guidelines.
11. Prepare the RCW ESMP to implement the best combination of options, consistent with meeting the established RCW population goals, while minimizing adverse impacts to training readiness and other mission requirements.

B. RCW Population Goals.

1. The first step in RCW management is to determine the Installation Regional Recovery Goal and Installation Mission Compatible Goal in accordance with paragraph V.B.2 below. Once the goals are established, they will be used to designate the amount of land needed for RCW HMUs and the appropriate level of management intensity. Goals should be considered long-term but are subject to change, through consultation with the FWS, based upon changing circumstances, changing missions, or new scientific information. In conjunction with the 5 year review of ESMPs, installations will reexamine population goals to reflect changing conditions.
2. ESMPs must clearly state the installation RCW population goals. The goals will be established through informal or formal consultation with FWS using the following methodology:
 - a. Installation Regional Recovery Goal. Through consultation with FWS determine the installation "share" of the recovery population goal.

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- (1) Determine the number of active clusters required in the population to achieve recovery.
- (2) Count RCW groups on other federal, state or private lands that are demographically functioning as part of the regional population as contributing to the overall regional recovery goal.
- (3) Determine the installation's carrying capacity to support RCWs based upon suitable acreage and known ecosystem attributes..
- (4) Any deficit between steps (1) and (2), considering the limitations of step (3), will be considered the installation's potential contribution toward the overall recovery goal and will be termed, for ESMP purposes, the Installation Regional Recovery Goal.

b. Installation Mission Compatible Goal. The installation will determine its known capacity to integrate RCW management with on-going and planned mission requirements and dominant land uses. During this process, the installation will seek input from FWS.

- (1) Determine suitable acreage.
- (2) Determine the installation carrying capacity to support RCWs , the calculation of suitable acreage, known ecosystem attributes, and acreage required as exempt for critical and essential mission requirements. Installations may only exempt acreage as essential for mission requirements when, considering their conservation responsibilities under the Endangered Species Act, they determine that imposing generally applicable training restrictions upon such certain specific lands would unacceptably hinder mission accomplishment. The mission compatible goal should be carefully calculated considering the current and future installation and tenant unit missions, the amount and distribution of suitable habitat on the installation, the quality of the habitat, the distribution of clusters, the configuration of sub-populations, the recovery potential and the RCW Recovery Plan objectives, etc. The Installation Mission Compatible Goal should strike a reasonable balance between the present and future installation and tenant unit missions and the installation's duty to conserve the endangered species.

c. ESMP goals. If the Installation Regional Recovery Goal is less than the Installation Mission Compatible Goal, then the installation will use the Installation Regional Recovery Goal as the ESMP Goal. If the Installation Regional Recovery Goal is greater than the Installation Mission Compatible Goal, then the installation will use both goals in the ESMP. The installation ESMP will include maps for planning and future reference which show the configuration of all active clusters and primary recruitment clusters required to reach the Installation Regional Recovery Goal. These maps will also show the supplemental recruitment

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clusters scheduled for management in the 5-year planning period. These maps will be updated during the 5-year revision process. If the number of recruitment sites identified in the initial 5-year plan falls short of the Installation Regional Recovery Goal, the installation will also identify the additional habitat management areas where supplemental recruitment clusters will be added to meet this goal. Installations will identify and manage a minimum of 200 acres of suitable habitat for each identified recruitment cluster.

d. Maintenance of ESMP goals. A population that has achieved the installation regional recovery goal need only be maintained at that level; however, installations should continue to encourage population growth where feasible and compatible with the military mission. A maintenance strategy is also appropriate for populations which have attained the maximum population that can be supported by available suitable habitat, irrespective of population size. Maintenance activities will, however, also vary according to the population size. For example, smaller, nonviable populations may require occasional augmentation, predator control, etc.

3. The population goal established for an installation will dictate the required RCW management intensity level. An installation which has not achieved its population goals requires an active recruitment/augmentation strategy. Annually, the installation will determine the number of recruitment clusters to provision with artificial cavities, cavity restrictors, etc., and concurrently manage those recruitment clusters using the following methodology:

a. Primary recruitment clusters. The installation will annually add recruitment clusters within the limitations of available nesting and foraging habitat of at least the optimum rate of growth of the RCW. The optimum rate of growth of an installation's RCW population will be determined by the installation's population size and population distribution and will be detailed in the installation's ESMP.

b. Supplemental recruitment clusters. If the installation recovery goal is greater than the Installation Mission Compatible Goal, the installation will annually add supplemental recruitment clusters within the limitations of available nesting and foraging habitat. These supplemental will be added over and above the recruitment clusters described in paragraph V.B.3.a above, at the rate of at least one-half of the rate of growth to attain the installation regional recovery goal. The installation will identify and subsequently manage these supplemental recruitment clusters in areas not already selected by the installation as a recruitment cluster in paragraph V.B.3.a above. Installations will manage these supplemental clusters concurrently and in addition to recruitment clusters managed for the purpose of meeting the Installation Mission Compatible Goal.

(1) Management of these supplemental recruitment clusters will be closely coordinated with FWS. FWS will provide incidental take provisions for supplemental recruitment clusters occupied as part of the authorized program to exceed the mission compatible

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goal in order to reach the installation regional recovery goal. Training or other land use restrictions will never apply to recruitment clusters managed under this approach; however, this does not authorize installations to engage in non-training related construction activities in occupied supplemental recruitment clusters absent consultation with FWS.

(2) The installation will separately manage and track the supplemental recruitment clusters as contributing to the installation regional recovery goal. As with other recruitment clusters, the supplemental recruitment clusters will be provisioned and managed in woodpecker-suitable habitat. The installation will give priority to adding supplemental recruitment clusters in training area acreage previously exempted from consideration as RCW habitat because of critical or essential mission requirements under paragraph V.B.2.b. Installations may elect to count as either supplemental recruitment clusters or primary recruitment clusters, those clusters where RCWs voluntarily move into a stand which has not been designated previously as a recruitment cluster.

c. During the development of the installation's ESMP, and at the 5-year review, if a cluster or recruitment cluster identified previously as active has no RCW activity for a period of five consecutive years, the installation may cease actively managing that cluster.

C. Surveys, Inspections, Monitoring and Reporting Programs.

1. Installations will conduct the following surveys and monitoring programs.

a. Five-Year installation-wide RCW surveys. Effective management of the RCW requires an accurate survey of installation land for RCW cavity and cavity-start trees. The survey must document the location of RCW cavity and cavity-start trees as accurately and precisely as possible (using Global Positioning System and Geographic Information System, if available) and the activity within all clusters. An installation-wide survey will be conducted every five years. Installations may conduct the survey over the five year period, annually surveying one-fifth of the installation.

b. Project surveys. Prior to any timber harvesting operations, construction, or other significant land-disturbing activities, excluding burning, a 100-percent survey of the affected area will be conducted by natural resources personnel trained and experienced in RCW survey techniques and supervised by a RCW biologist, if such survey has not occurred within the preceding year. Installations will conduct project surveys in accordance with the survey guidance in V. Henry, Guidelines for Preparation of Biological Assessments and Evaluations for the Red-cockaded Woodpecker, U.S. Fish and Wildlife Service, Southeast Region, Atlanta, Georgia (September 1989). When conducting project assessments, installations may, through informal consultation with FWS, reduce the forage habitat requirements from the Henry guidelines by one-third, or as specified in paragraph V.D.2.d below. In the case of range

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construction, the survey will also include the surface danger zone for the weapons to be used on that range except for new ranges which use existing dedicated impact areas.

c. Inspections. Active clusters that have not been deleted from management in accordance with paragraph V.D.2.b below must be inspected annually. Recruitment clusters must be inspected twice per year (fall and pre-breeding dispersal periods) to document RCWs occupancy; once occupied, use monitoring criteria in paragraph V.C.1.e. These are prescriptive inspections, used to develop treatments and modifications of treatments to maintain suitable nesting habitat. At a minimum, installations will inspect and record data for:

- (1) density and height of hardwood encroachment;
- (2) height of RCW cavities;
- (3) condition of cavity trees and cavities;
- (4) a description of damage from training (to include: damage to cavity and cavity start trees requiring remedial measures if any, soil disturbance adjacent to cavity and cavity start trees requiring remedial measures if any, and general condition of the forage habitat of the cluster being monitored if impacted by training activities), fires (prescribed or wild), etc.; and
- (5) evidence of RCW activity for each cavity tree (includes each cavity in the tree) within the cluster. See 2a below for guidance on the maintenance of survey and monitoring records.

d. Ten-year forest survey. In addition to the RCW survey required in 1a above, installations will conduct, as required by AR 200-3, an installation-wide forest survey at least every ten years. In conducting the forest survey, data will be gathered to determine accurately the quantity and quality of available foraging and nesting habitat for the RCW. Alternately, installations may survey over the 10 year period, e.g., ten percent of the installation annually. Forest surveys will be conducted using a recognized plot sampling technique, such as the random line plot cruise, the random point sample cruise, or the line strip cruise method. Forest surveys in impact areas may be conducted using scientifically accepted, aerial photography interpretation methods.

e. Monitoring. Installations will conduct monitoring programs to scientifically determine demographic trends within the population as a whole. Sample sizes will be determined by the number of clusters and their dispersion on the installation by habitat category (e.g., longleaf pine/scrub oak, pine flatwoods, pine mixed hardwoods) and by category of use (e.g., non-dud producing ranges, mounted and dismounted training areas, cantonment areas, bivouac areas, etc.). Sample sizes will be of sufficient size to have statistical validity and

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to ensure that population trends and important biological information can be determined for the entire installation. Monitoring activities will be done annually to acquire data to determine the number of adults and fledglings per site, sex of birds, number of breeding groups, number of nests, and number of cavity trees. Monitoring will include color banding of birds. Installations will coordinate with FWS to determine if additional monitoring, in other than impact areas, may be required to address installation specific issues, e.g., fragmented populations or on-going translocation programs.

(1) Active Clusters. Installations with 25 active clusters or fewer will monitor all sites annually. Installations with more than 25 active clusters will annually monitor sample sizes based on the following: 25 percent of the RCW active clusters located in each habitat and usage category on the installation, with a minimum of three RCW clusters per habitat type or a total of 25 clusters, whichever is greater.

(2) Recruitment Clusters. Installations with recruitment clusters designed to attain either the mission compatible goal or the installation regional recovery goal will conduct additional monitoring and reporting of monitoring results. Installations will monitor all recruitment clusters for at least five years after occupation. In addition to the monitoring in paragraph V.C.1.e, installations with supplemental recruitment clusters will monitor and record the following information of military training and activities occurring within all training areas containing recruitment clusters: a) type of training that took place, b) duration of training, c) date of training, d) units and approximate numbers of soldiers involved in the training, e) approximate number and types of vehicles and equipment involved in the training, and f) other relevant information that would contribute to an understanding of the effects of military training upon RCW habitat.

2. Results from surveys and monitoring will be recorded and reported as follows:

a. Survey/monitoring records. Survey and monitoring results for all clusters will be recorded and retained permanently allowing for trend analysis.

b. Research on compatibility of military training with RCWs. ODEP will ensure that monitoring of population data gathered from all installations with primary recruitment clusters and supplemental recruitment clusters is evaluated for trend analysis and will share this analysis with FWS. Research data will be analyzed at least once every five years for population trends. In consultation with FWS, trend analysis from paragraphs a and b above, and other outside 5 year research programs, will dictate the revision, continuation, or cancellation of military training restrictions for all clusters considered part of the mission compatible goal. Trend analysis will not effect supplemental recruitment clusters.

c. Annual Reporting. Installations will annually report RCW population data to FWS. Along with the population data, installations will report all actions taken to recruit

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RCWs or improve RCW habitat (see Appendix 2 for content and format of report). A copy of this report will be furnished through command channels to ODEP. The Army will host an annual meeting with FWS and the installations to discuss installation RCW population data. During these meetings, if it becomes clear that an installation is accomplishing less than 50% of its ESMP growth goals over a period of several years, then the installation will informally consult with the FWS to determine if reinitiating formal consultation is desirable.

d. Notification. The installation will immediately notify FWS and their MACOM in the event of incidental take. The installation will notify FWS and their MACOM, and reinitiate consultation with FWS, within 30 days of discovering a 5% population decrease. MACOMs will report either of these occurrences to ODEP. In the event of an incidental take, the installation will also comply with AR 200-3, paragraph 11-9. Upon discovery of a 5% population decrease, the installation will continue to abide by these guidelines and will conduct a systematic review of available data including regional trends to determine the cause of the decrease within 90 days. If the cause is training related, within 150 days the installation in consultation with FWS will develop and implement a plan to prevent further population decline.

e. RCW maps. Survey data will be used to generate installation RCW maps accurately depicting the location of RCW clusters, RCW-related training restricted areas, HMUs, cavity trees, etc. A copy of these maps will be included in the ESMP. The initial ESMP produced according to these guidelines will identify the clusters where the area subject to training restrictions have changed as a result of implementation of these guidelines as opposed to the 21 June 1994 guidelines. Relevant maps will be widely distributed for use by those conducting land use activities on the installation, including military training, construction projects, range maintenance, etc. Maps will be updated at least every five years to coincide with the installation-wide RCW survey or when a 20 percent change in the number of clusters occurs, whichever is sooner.

D. RCW Habitat Management Units.

1. Designation of habitat management units (HMUs). Installation RCW ESMPs will provide for the designation of nesting and foraging areas within HMUs sufficient to attain and sustain the installation RCW population goals. Determination of the installation's population goals is a prerequisite to HMU designation. HMU delineation is an important step in the planning process because it defines the future geographic configuration of the installation RCW population. Areas designated as HMUs for all active and recruitment clusters must be managed according to these guidelines.

2. Areas included within HMUs.

a. HMUs will encompass all clusters, areas designated for recruitment and replacement, and adequate foraging areas as specified in d below.

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b. During the development of the installation's ESMP, and at the 5-year review, in consultation with the FWS, clusters that have been documented as continuously inactive for a period of five consecutive years or more may be deleted from HMUs. Designated recruitment clusters that have not been occupied for a period of five consecutive years may also be deleted from HMUs. Once deletion of a cluster from management is approved by the FWS, existing cavities may be covered to discourage reactivation.

c. In designating HMUs, fragmentation of nesting habitat will be avoided. Installations will attempt to link HMUs with HMU corridors, allowing for demographic interchange throughout the installation population.

d. Adequate foraging habitat, in size, quality, and location, must be provided within HMUs. The foraging habitat needed to support active clusters will be calculated and designated according to the range-wide guidelines in V. Henry, Guidelines for Preparation of Biological Assessments and Evaluations for the Red-cockaded Woodpecker, U.S. Fish and Wildlife Service, Southeast Region, Atlanta, Georgia (September 1989) or other physiographic-specific guidelines approved by the FWS. While the Henry guidelines are used to establish minimum forage acreage requirements, some installations may have data to support forage habitat minima below the Henry standard. If installations can provide data to support forage habitat requirements different from the Henry guidelines, the installation, in consultation with FWS, may establish installation specific forage minima for recruitment sites, project assessments, and habitat management. These forage requirements will apply to all active sites and recruitment sites identified for management in the ESMP. Recruitment sites identified to meet long-term population goals will be evaluated with the same criteria used in the goal setting procedure. A minimum of 200 acres of potential/suitable habitat will be identified and managed for recruitment sites to meet the Installation Mission Compatible Goal and the Installation Regional Recovery Goal. The underlying strategy is to identify and actively manage RCW habitat in the short to mid-term with the long-term population goal always in sight. Adhering strictly to the Henry guidelines, or applying forage habitat requirements to areas presently lacking RCW groups, may preclude long-term habitat management. This could increase the time required to reach installation RCW population goals.

3. Minimization of RCW management impacts on the installation's mission. To the extent consistent with RCW biological opinions, HMUs should be located where there will be a minimum impact upon current and planned installation missions/operations and should be consistent with land usage requirements in the Real Property Master Plan.

4. Demographic and genetic interchange. Installations should delineate HMUs to maximize the linkage between sub-populations on and off the installations and with populations off the installation. Where fragmentation exists, installations should develop plans to link sub-populations on the installation by designating habitat corridors where practical.

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E. *HMU Management Practices.* All HMU management activities and practices will be consistent with the conservation of other candidate and federally listed species.

1. Clusters and recruitment stands within HMUs.

a. Due to RCW biological needs, clusters require a higher management intensity level than other areas within HMUs. Within HMUs, maintenance priority will be given to active clusters over both inactive clusters and recruitment stands.

b. Clusters and recruitment stands will be kept clear of dense midstory. An open, park-like pine stand is optimal. All midstory within 50 feet of cavity trees will be eliminated. Beyond 50 feet, some pine midstory will be retained for regeneration and some selected hardwoods may be retained for foraging by species other than the RCW. Hardwoods will not exceed 10 percent of the area of the canopy cover nor 10 percent of the below canopy cover within the cluster or recruitment stand. Hardwood stocking will be kept below 10 square feet per acre.

c. The priority of forest management in cluster sites and recruitment stands is to maintain and produce potential cavity trees greater than 100 years of age. For this reason, no rotation age shall be set in these areas. In thinning clusters and recruitment stands, dead, dying, or inactive cavity trees will be left for use by competitor species. Thinning should occur only when pine species basal area (BA) exceeds 80 and should not exceed the removal of more than 30 BA to avoid habitat disruption (timber prescriptions within clusters should normally be on a 10 year cycle). Pine species basal areas should be kept within the range of approximately 50 to 80 square feet, maintaining average spacing of 20 to 25 feet between trees, but retaining clumps of trees.

d. Trees within HMUs affected by beetle (e.g., Ips beetle, southern pine beetle) infestation should be evaluated and treated appropriately. Treatment options will be developed in consultation with the FWS. Possible treatments include the use of pheromones or cutting and leaving, cutting and removing, or cutting and burning infected trees. Cavity trees may be cut only with the approval of the FWS. Prior to cutting an infected cavity tree, a suitable replacement cavity tree will be identified and provisioned.

e. Timber cutting, pine straw harvesting, and habitat maintenance activities, with the exception of burning activities, will not be conducted in active sites during the nesting season, occurring from April through July depending upon the installation's location. If a biologist, experienced in RCW management practices, determines that habitat maintenance activities, exclusive of timber cutting and pine straw harvesting, will have no effect on nesting activities, they may be conducted at anytime.

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2. Other areas within HMUs. While not requiring the same level of intense management for clusters and recruitment stands, the quality of foraging and replacement stands should be maintained by a prescribed burning program sufficient to control hardwood growth and ground fuel buildup and to eliminate dense midstory. Improving the quality of foraging habitat will reduce the quantity (acreage) required to maintain the installation RCW population.

3. Midstory control. Prescribed burning is normally the most effective means of midstory control and is recommended as the best means of maintaining a healthy ecosystem. Prescribed burning will be conducted at least every three years in longleaf, loblolly, slash pine, and shortleaf pine systems. Burning must be conducted in accordance with applicable Federal, state, and local air quality laws and regulations. With the agreement of the FWS, the burn interval may be increased to no more than five years after the hardwood midstory has been brought under control. Mechanical and chemical alternatives should only be used when burning is not feasible or is insufficient to control a well-advanced hardwood midstory. Application of herbicide must be consistent with applicable Federal, state, and local laws and regulations. Cavity trees will be protected from fire damage during burning. Burning should normally be conducted in the growing season since the full benefits of fire are not achieved from non-growing season burns. Winter burns may be appropriate to reduce high fuel loads. Use of fire plows in clusters will be used only in emergency situations.

4. Erosion control. Installations will control excessive erosion and sedimentation in all HMUs. Erosion control measures within clusters will be given priority over other areas within HMUs.

5. Impact and direct fire areas.

a. Impact areas.

(1) Impact areas that contain or likely contain unexploded ordnance or other immediate hazardous materials (radiological or toxic chemicals) can pose danger to personnel. Natural resources conservation benefits to be gained by intensive management in high risk areas generally are not justified. Certain installations may have impact areas or other areas that have been contaminated with improved conventional munitions or submunitions where entry by personnel is forbidden.

(2) Designation of impact areas, safety restrictions on human access to impact areas, range operations in impact areas, and the associated effects of these actions on RCW management activities may adversely affect the RCW and other federally listed species within impact areas. These actions may lead to the possibility and necessity of incidental take. FWS will provide incidental take provisions for impact areas where it is not feasible or economical to either relocate or protect the RCW.

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(3) To the degree practicable, clusters and surrounding foraging area should be designated as "no fire areas" to protect clusters from projectile damage.

b. Direct fire areas.

(1) Direct fire, non-dud producing impact areas that do not contain unexploded ordnance or other immediate hazardous materials may be included within HMUs, subject to the guidelines set forth below.

(2) In HMUs which are not impacted upon by weapons firing, RCW management will be the same as for HMUs outside of impact areas. In HMUs where there is a significant risk of projectile damage to foraging or nesting habitat, the following guidelines apply:

(a) Range layout will be modified/shielded where practical and economically feasible to protect HMUs from projectile damage. Protective measures that will be considered include reorienting the direction of weapons fire, shifting target arrays, establishing "no fire areas" around RCW clusters or HMUs, revising maneuver lanes, constructing berms, etc.

(b) Installations should develop alternate HMUs near existing HMUs but outside the affected range complex. Augmentation and translocation should be considered as a means of removing RCWs from high risk areas.

F. Timber Harvesting and Management in HMUs.

1. Timber harvesting in HMUs will be permitted if consistent with the conservation of the RCW. If permitted, a harvest method will be implemented that maintains or regenerates the historical pine ecosystem. In most ecosystems inhabited by the RCW, historical conditions are characterized by old-growth longleaf pines in an uneven-age forest, with small (1/4 to 2 acres) even-age patches varying in size. Timber harvesting methods must be carefully designed to achieve and maintain historical conditions through emulation of natural processes.

2. Longleaf sites will not be regenerated to other pine species. Where other species have either replaced longleaf pine (due to fire suppression) or been artificially established on sites historically forested with longleaf, forest management should be directed toward regeneration back to longleaf by natural or artificial methods.

3. At a minimum, sufficient old-growth pine stands will be maintained by: lengthening rotations to 120 years for longleaf pine and 100 years for other species of pine; indefinitely retaining snags, six to ten relict and/or residual trees per acre when doing a seedtree cut, or shelterwood cut; and indefinitely retaining snags, all relicts, and residuals in thinning cuts.

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No rotation age will be established for cluster sites or replacement stands. The above rotation ages and retention rates do not apply to off-site stands of sand pine, loblolly pine, or slash pine that will be converted back to longleaf.

G. *Pine Straw Harvesting within HMUs.* Sufficient pine straw must be left in HMUs to allow for effective burning and to maintain soils and herbaceous vegetation. Areas within HMUs will not be raked more than once every three to six years. Baling machinery will not be used or parked within clusters.

H. *Restoration and Construction of Cavities.*

1. *Restoration.* Active and inactive cavities found to be in poor condition during periodic inspections will be repaired whenever feasible to prolong their use. Cavity restrictors can be installed on enlarged RCW cavity entrance holes (greater than two inches in diameter) to optimize the availability of suitable cavities. They also may be installed to protect properly-sized cavities where suitable cavities are limited, the threat of enlargement is great, or where another species is occupying a cavity. Priorities for the installation of restrictors, in descending order, will be: (a) active single tree clusters, (b) single bird groups, (c) clusters with less than four suitable cavities, and (d) others. Restrictors will be installed according to scientific procedures accepted by the FWS. Restrictors will be closely monitored, especially in active clusters. Adjustments to the positioning of the restrictors will be made to ensure competitors are excluded and RCW access is unimpeded.

2. *Construction.* Artificial cavities will be constructed in areas designated for recruitment or translocation and in active clusters where the number of suitable cavities is limiting. The objective is to provide at least four suitable cavities per active cluster and two cavities plus three advanced starts for each recruitment stand. Priorities for installation of artificial cavities in descending order will be: (a) single cavity tree active clusters, (b) active clusters with insufficient cavities to support a breeding group, (c) inactive clusters designated as and managed for replacement or recruitment stands with an insufficient number of usable cavities within one mile of an active cluster, (d) new replacement/recruitment stands within one mile of an active cluster, (e) inactive clusters designated as and managed for replacement or recruitment stands within three miles of an active cluster, (f) recruitment or potential habitat within three miles of an active cluster, and (g) replacement/recruitment stands beyond three miles of an active cluster. Cavity construction may be by either the drilling or insert techniques. Construction must be according to scientific procedures accepted by the FWS and accomplished by fully trained personnel.

I. *Protection of Clusters.*

1. *Markings.* Installations will implement the following marking guidance by 1 Jan 1998.

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a. Cavity and cavity-start trees in active and primary recruitment clusters.

These trees will be marked with two white bands, approximately four to six inches wide and one foot apart. The bands will be centered approximately four to six feet from the base of the tree. Warning signs (e below) may be posted on or immediately adjacent to the cavity and cavity start trees. A uniquely numbered small metal tag will be affixed to the cavity tree for monitoring and identification purposes.

b. Cavity and cavity-start trees in supplemental recruitment clusters.

These trees may be marked with one white band approximately one inch wide. The band will be centered approximately four to six feet from the base of the tree. Warning signs (e below) will not normally be posted. A uniquely numbered small metal tag will be affixed to the cavity tree for monitoring and identification purposes.

c. Buffer zone for cavity and cavity start trees within active clusters and primary recruitment clusters. Warning signs (e below) will be posted at reasonable intervals along the 200 foot perimeter of cavity trees facing to the outside of the buffer zone and along roads, trails, firebreaks, and other likely entry points into the buffer zone.

d. The installation will mark all cavity and cavity start trees in a managed cluster in accordance with paragraph V.I.1.a and b, above. At a minimum, four suitable cavity or cavity start trees will be marked and protected within each cluster (see paragraph V.H.2). Based on the installation biologist's determination, if more than four cavity trees are required to support the cluster, the required number of trees will be protected.

e. Warning sign. Signs will be posted and will be constructed of durable material, ten inches square (oriented as a diamond), white or yellow in color, and of the design in Figure 1. The RCW graphic and the lettering "Endangered Species Site" and "Red-cockaded Woodpecker" will be printed in black. The lettering "Do Not Disturb" and "Restricted Activity" will be printed in red. All lettering will be 3/8 inches in height.

f. Training on non-Army lands. Installations conducting long-term training on private, state, or other federal lands with RCW habitat will attempt to obtain agreement from the landowners on compliance with these markings guidelines. If a landowner does not agree to comply with these guidelines, even with the installation paying the costs associated with compliance, installations will educate troops training on such lands to help them recognize the markings used by the landowner.

2. Training within RCW clusters.

a. RCW and RCW habitat will be managed biologically by clusters. Training restrictions will apply to marked buffer zones around cavity trees.

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b. The training restrictions in this section apply to buffer zones within marked active clusters and primary recruitment clusters. RCW-related training restrictions do not apply to supplemental recruitment clusters, inactive clusters and foraging areas.

c. Standard training guidelines within active clusters and primary recruitment clusters:

(1) Military training within marked cavity tree buffer zones is limited to military activities of a transient nature (less than 2 hours occupation). A list of prohibited and permitted training activities within buffer zones is contained at Appendix 1.

(2) Military vehicles are prohibited from occupying a position or traversing within 50 feet of a marked cavity tree, unless on an existing road, trail, or firebreak.

3. Training throughout the installation. Installations will give priority to maintaining and improving the habitat of RCW clusters; however, in addition to the HMU management practices at para. V.E, installations will observe the following measures to maintain and improve potentially suitable habitat for the RCW throughout the installation

a. Military personnel are prohibited from cutting down or intentionally destroying pine trees unless the activity is approved previously by the installation biologist and/or forester and is authorized for tree removal. Hardwoods may be cut and used for camouflage or other military purposes.

b. Units will immediately report to range control known damage to any marked cavity or cavity start tree and/or any known extensive soil disturbance in and around RCW clusters.

c. The installation will immediately (within 48 hours) reprovision a cavity tree if one is destroyed.

d. Installations will as soon as practicable (normally within 72 hours) repair damage to training land within a cluster to prevent degradation of habitat.

e. All digging for military training activities in suitable acreage will be filled within a reasonable time after the completion of training

f. Training guidelines will be actively enforced through installation training and natural resources enforcement programs, prescribed in chapters 1 and 11, AR 200-3, and installation range regulations.

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J. Augmentation and Translocation.

1. Augmentation can be a useful tool to expand and disperse the RCW population into designated HMUs. Augmentation also provides a means to maintain genetic viability in populations with fewer than 250 effective breeding pairs. Installation plans will provide for the augmentation of single-bird groups. Clusters will be made suitable in accordance with the requirements/procedures outlined in paragraph V.H. above before augmentation is attempted.

2. In exceptional situations, installations may translocate RCWs from active clusters to inactive clusters or recruitment/replacement stands where cavities have been artificially constructed. For example, translocation could be used to move RCWs from live fire areas where there is a significant risk of harm to the birds. The current scientific literature indicates serious limitations in successfully translocating adult RCWs, in particular, adult territorial males. Translocation will be accompanied by an intensive monitoring program.

3. In areas to receive RCW, habitat designation and improvement work ensuring that nesting and foraging habitat meet the standards established by these guidelines (V.E.1.b and c, V.E.2, V.D.2.d) must be completed before augmentation or translocation is attempted.

4. Neither augmentation nor translocation will be undertaken without the approval of and close coordination with the FWS. Installations must obtain an ESA section 10 permit (scientific purposes) or an incidental take statement under ESA section 7 and all applicable marking, banding, and handling permits prior to moving any RCW through augmentation or translocation.

APPENDIX 1

TRAINING ACTIVITY WITHIN MARKED BUFFER ZONES	
MANEUVER AND BIVOQUAC:	
HASTY DEFENSE, LIGHT INFANTRY, HAND DIGGING ONLY, 2 HOURS MAX	YES
HASTY DEFENSE, MECHANIZED INFANTRY/ARMOR 24 HOURS	NO
DELIBERATE DEFENSE, LIGHT INFANTRY 48 HOURS	NO
DELIBERATE DEFENSE, MECHANIZED INFANTRY/ARMOR	NO
ESTABLISH COMMAND POST, LIGHT INFANTRY 36 HOURS	NO
ESTABLISH COMMAND POST, MECHANIZED INFANTRY/ARMOR 36 HOURS	NO
ASSEMBLY AREA OPERATIONS, LIGHT INFANTRY/MECH INFANTRY/ARMOR	NO
ESTABLISH CS/CSS SITES	NO
ESTABLISH SIGNAL SITES	NO
FOOT TRANSIT THRU THE COLONY	YES
WHEELED VEHICLE TRANSIT THRU THE COLONY (1)	YES
ARMORED VEHICLE TRANSIT THRU THE COLONY (1)	YES
CUTTING NATURAL CAMOUFLAGE, HARD WOOD ONLY	YES
ESTABLISH CAMOUFLAGE NETTING	NO
VEHICLE MAINTENANCE FOR NO MORE THAN 2 HOURS	YES
WEAPONS FIRING:	
7.62mm AND BELOW BLANK FIRING	YES
.50 CAL BLANK FIRING	YES
ARTILLERY FIRING POINT/POSITION	NO
MLRS FIRING POSITION	NO
ALL OTHERS	NO
NOISE:	
GENERATORS	NO
ARTILLERY/HAND GRENADE SIMULATORS	YES
HOFFMAN TYPE DEVICES	YES
PYROTECHNICS/SMOKE:	
CS/RIOT AGENTS	NO
SMOKE, HAZE OPERATIONS ONLY, GENERATORS OR POTS (2)	YES
SMOKE GRENADES	YES
INCENDIARY DEVICES TO INCLUDE TRIP FLARES	NO
STAR CLUSTERS/PARACHUTE FLARES	YES
HC SMOKE OF ANY TYPE	NO
DIGGING:	
TANK DITCHES	NO
HASTY INDIVIDUAL FIGHTING POSITIONS, HAND DIGGING ONLY, FILLED AFTER USE	YES
DELIBERATE INDIVIDUAL FIGHTING POSITIONS	NO

CREW-SERVED WEAPONS FIGHTING POSITIONS	NO
VEHICLE FIGHTING POSITIONS	NO
OTHER SURVIVABILITY/FORCE PROTECTION POSITIONS	NO
VEHICLE SURVIVABILITY POSITIONS	NO
NOTE:	
YES means that activity may be conducted within 200 feet of a marked cavity tree	
NO means the activity may not be conducted within 200 feet of a marked cavity tree	
NOTE:	
1. Vehicles will not get any closer than 50 feet of a marked cavity tree unless on existing roads, trails or firebreaks.	
2. Smoke generators and smoke pots will not be set up within 200 feet of a marked cavity tree, but the smoke may drift thru the 200 feet circle around a cavity tree.	
NOTE: The above training restrictions apply to RCW cavity trees in training areas but not to cavity trees located in dedicated impact areas.	

Appendix B: 2007 “Management Guidelines for the Red-cockaded Woodpecker on Army Installations”

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Management Guidelines For the Red-cockaded Woodpecker On Army Installations

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1. General

A. *Purpose.* The purpose of these guidelines is to provide standard Red-cockaded Woodpecker (RCW) management guidance to Army installations for developing endangered species management components (ESMCs) for the RCW as part of an installation's integrated natural resource management plan (INRMP). Terminology has been revised from endangered species management "plans" to "components" to reflect that endangered species management on installations is an integral component of natural resource management activities on Army installations. Installation RCW ESMCs will be prepared according to these guidelines and chapter 11, AR 200-3, Natural Resources – Land, Forest, and Wildlife Management and subsequent policies and guidance published by the Army¹. These guidelines establish the baseline standards for Army installations in managing the RCW and its habitat. Installation RCW ESMCs will supplement these guidelines with detailed measures to meet installation-specific RCW conservation needs and unique military mission needs. The requirements in RCW ESMCs will apply to all activities on the installation.

B. *Applicability.* The guidelines are applicable to Army installations where the RCW is present. These guidelines replace 1996 Management Guidelines for the Red-cockaded Woodpecker on Army Installations, 30 October 1996.

C. *Revision.* These guidelines will be revised as necessary to be consistent with the 2003 U.S. Fish and Wildlife Service (USFWS) RCW Recover Plan and to incorporate the latest and best scientific data available. These guidelines are the third major revision. Previous guidelines were dated 30 October 1996, 21 June 1994 and 1986.

D. *Goal.* The Army's goal is to implement management guidelines which will allow the Army to accomplish military readiness missions while concurrently developing and implementing methods to assist in the conservation, downlisting and recovery of the RCW.

E. *Existing Biological Opinions (BOs).* Installations will continue to comply with the requirements of existing BOs until RCW ESMCs are prepared in accordance with these management guidelines and are approved through consultation with USFWS. To the extent practicable RCW ESMCs should be drafted to incorporate the requirements of existing BOs, as modified to conform to these management guidelines through consultation with the USFWS.

II. Consultation

A. *Consultation Requirement.* In preparing RCW ESMCs and taking action that may affect the RCW, installations will comply with the consultation

¹ The Army will be replacing AR 200-3 with AR 200-1, Environmental Protection and Enhancement and Natural Resource Implementation Guidance for Active Installations.

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requirements of section 7 of the Endangered Species Act (ESA); the implementing USFWS regulations at 50 CFR part 402; chapter 11, AR 200-3, and subsequent policies and guidance published by the Army.

B. Informal Consultation. Early entry into informal consultation with the USFWS is critical to resolving potential problems and establishing the foundation to address issues in a proactive and positive manner. If, through informal consultation (which may include preparation of a biological assessment or evaluation), the USFWS concurs in writing that proposed actions are not likely to adversely affect any endangered or threatened species, formal consultation is not required. Issue resolution through informal consultation is the preferred method of consultation.

C. Formal Consultation. If development and implementation of an installation ESMC is likely to result in adverse effects and, particularly incidental take beyond existing authorization in an installation's BO, the installation must initiate formal section 7 consultation in accordance with the procedures in 50 CFR 402.14 and Army Regulation 200-3, Chapter 11. The purpose of formal section 7 consultation is to obtain a Non-Jeopardy BO with authorization for incidental take sufficient to implement the ESMC. When consulting with the USFWS on RCW ESMCs and other actions that are likely to adversely affect the RCW, the BOs of the USFWS are expected to be consistent with these guidelines. Installations will make every effort to resolve potential inconsistencies during consultation. Installations will report USFWS guidance that is not consistent with these guidelines, through command channels, to the Office of the Director of Environmental Programs (ODEP), Headquarters, Department of the Army. ODEP will expeditiously review these reports and determine if HQDA-level action is necessary. Installations should report any inconsistencies for action by ODEP prior to USFWS issuing the final BO.

D. Incidental Take. Military training activities and other land use activities may affect RCWs resulting in "take" as defined under section 9 of the ESA. As part of the consultation process for revision of ESMCs, installations will estimate the potential level of take associated with military mission and prescribed burning on the installation based on historical records, long-term monitoring results, and research data. If the estimated level of take does not restrict population growth and maintenance of population goals, the USFWS normally will provide an incidental take statement allowing the conduct of military mission and prescribed burning. Potential incidental take that is not identified within the ESMC consultation will require additional project-level formal consultation. The installation will immediately notify USFWS in the event of incidental take that exceeds authorization or meets other criteria established in the consultation process.

E. Reinitiation. After receiving a Non-Jeopardy BO, an installation is required to re-initiate consultation if: (i) new information arises concerning effects

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to the RCW not previously considered; (ii) the ESMC is modified resulting in effects on the RCW that were not considered in the BO; or (iii) implementation of the ESMC exceeds the amount or extent of take specified in the incidental take statement. The installation will notify USFWS and reinstate consultation within 30 days of discovering a 10 percent decline in active clusters from the previous year or a 10 percent decline in active clusters over a five-year period. Upon discovery of a 10 percent decline, the installation will conduct a systematic review of available data to evaluate the potential causes of the observed decline, e.g. declines due to forest senescence, and present the results of this review to the USFWS. Consultation with USFWS will determine actions required to prevent further population decline. Unpredictable catastrophes such as significant hurricane damage may present conditions that cannot be anticipated under these guidelines. In the event of catastrophic impacts on RCW habitats and populations, installations will reevaluate population goals and management requirements in consultation with USFWS.

III. Army Policies Applicable to RCW Management.

A. *Conservation.* Implementation of RCW ESMCs, prepared in accordance with these guidelines, supports the Army's responsibility under the ESA to assist in conservation of the RCW. Conservation, as defined by the ESA, means the use of all methods and procedures which are necessary for endangered and threatened species survival and to bring such species to the point where measures provided by the ESA are no longer necessary.

B. *Mission Requirements.* Installation and tenant unit mission requirements do not justify violating the ESA. Mission considerations are necessary in determining the installation management and recovery goals. The keys to successfully balancing mission and conservation requirements are long-term planning and effective RCW management to prevent conflicts between these interests. In consultations with the USFWS, installations will preserve the ability to maintain training readiness, while meeting ESA conservation requirements. Small installations with small populations should be especially sensitive to developing innovative strategies to maintain this balance.

C. *Cooperation with U.S. Fish and Wildlife Service.* The Army will work closely and cooperatively with the USFWS on RCW conservation. Installations should routinely engage in informal consultation with the USFWS to ensure that proposed actions are consistent with ESA requirements.

D. *Ecosystem Management.* Conservation of the RCW and other species is part of a broader goal to conserve biological diversity on Army lands consistent with the Army's mission. Biological diversity and the long-term survival of individual species, such as the RCW, ultimately depend upon the health of the sustaining ecosystem. Therefore, RCW ESMCs should promote ecosystem integrity. Maintenance of ecosystem integrity and health also benefit the Army by

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preserving and restoring training lands for long-term use.

E. *Staffing and Funding.* Garrison commanders are responsible for ensuring that adequate professional personnel and funds are provided for the conservation measures prescribed by these guidelines and RCW ESMCs. RCW conservation projects are critical requirements of the Army Environmental Conservation program element of Base Support.

F. *Conservation on Adjacent Lands.* Necessary habitat for the RCW includes nesting and foraging areas. Both of these RCW habitat components may be located entirely on installation lands. There may be instances, however, where one of these components is located on installation land, while a portion of the other is located on adjacent or nearby non-Army land. The USFWS and installations should initiate cooperative management efforts with adjacent landowners, if such efforts would complement installation RCW conservation initiatives.

G. *Regional Conservation.* The interests of the Army and the RCW are best served by encouraging conservation measures in areas off the installation. The USFWS and installations should participate in promoting cooperative RCW conservation plans, solutions, and efforts with other federal, state, and private organizations and landowners in the region. Examples of such programs include, but are not limited to, Safe Harbor agreements, the Army Compatible Use Buffer Program, and regional translocation cooperation.

H. *Management Strategy.* These guidelines require installations to adopt a long-term approach to RCW management consistent with the military mission and the ESA. First, installations are required to establish installation RCW population goals in consultation with the USFWS using the methodology described in paragraph V.B, below. Once established, the installation must designate sufficient nesting and foraging habitat to attain and sustain the goals. The goals will also dictate the required management intensity level. Next, installations must implement an ESMC to attain and sustain the installation RCW population goals in accordance with Chapter 11, AR 200-3. Fourth, installations are required to ensure that all units and personnel that conduct training and other activities at the installation comply with the requirements of the installation RCW ESMC.

IV. Definitions

Active Cavity - A completed cavity or start exhibiting fresh pine resin associated with cavity maintenance, cavity construction, or resin well excavation by RCWs.

Active Cavity Tree - Any tree containing one or more active cavities.

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Active Cluster - A cluster containing one or more active cavity trees.

Buffer zone - The zone extending outward 200 feet from a marked cavity tree or cavity start tree in clusters with training restrictions.

Cavity - An excavation in a tree made, or artificially created, for roosting and nesting by RCWs.

Cavity restrictor - A metal plate that is placed around an RCW cavity to prevent access by larger species. A restrictor also prevents a cavity from being enlarged, or if already enlarged, shrinks the cavity entrance diameter to a size that prevents access by larger competing species.

Cavity start - An incomplete cavity excavated by, or artificially created for, RCWs.

Cavity tree - A tree containing one or more active or inactive RCW cavities or cavity starts.

Cluster - The aggregation of cavity trees previously or currently used and defended by a group of RCWs and a 200 foot wide buffer of continuous forest.

Deleted cluster - a cluster that has not been active in the last 5 years, including recruitment clusters that were established more than 5 years ago and have never activated. Deleted clusters may also include inactive clusters that have not been active and not been managed for several years and are proposed for removal from long-term management.

Group - A social unit of one or more RCWs that inhabits a cluster. A group may include a solitary territorial male or female, a mated pair, or a pair with helpers (offspring from previous years).

Habitat Management Unit (HMU) - Designated area(s) managed for RCW nesting and foraging, including clusters and areas determined to be appropriate for population maintenance and recruitment.

Impact areas - The ground within the training complex used to contain fired or launched ammunition or explosives and the resulting fragments, debris, and components from various weapons systems.

Inactive cluster - a cluster that is suitable* for RCW occupancy, has been active in the last 5 years, but has no active cavities during the breeding season of the reporting year (*suitable means midstory in cluster and foraging habitat is controlled (i.e., less than 7 feet tall) and suitable cavities are available).

Population - An aggregate of groups that function as a closed population,

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demographically. Limited genetic interchange may occur between populations. Population delineations should be made irrespective of land ownership.

Potential Breeding Group (PBG) - An adult female and adult male that occupy the same cluster, with or without one or more helpers, whether or not they attempt to nest or successfully fledge young.

Population goal - A desired RCW population size. On installations the population goal will be the number of RCW PBGs that are in accordance with population goals established in the RCW Recovery Plan.

Protected Clusters - Clusters subject to training restrictions identified in Appendix 1 and paragraph V.C.5, and guidance for certain activities identified in paragraph V.C.

Recruitment cluster - A cluster designated and managed for the purpose of attracting a PBG to that territory.

Stochasticity - Random events.

Training Area - A distinct unit of land on an installation that is scheduled for training events by specific units on specific dates.

Translocation - The relocation of one or more RCWs from an active cluster to a recruitment cluster that contains both suitable cavities and foraging habitat, or the relocation of an individual to stabilize a group, e.g. a female to a solitary male cluster.

Unprotected clusters - Clusters not subject to training restrictions identified in Appendix 1 of these guidelines. These clusters are still subject to guidance for certain activities under paragraphs V.C. and V.C.5 of these guidelines, unless otherwise authorized through consultation with USFWS (preferably through the ESMC process).

V. Guidelines for Installation RCW ESMCs.

Installations will prepare RCW ESMCs and manage RCW populations according to the following guidelines. Installations will update ESMCs in conjunction with the INRMP as required by the Sikes Act and Army guidance or sooner if circumstances dictate.

A. RCW ESMC Development Process.

Preparation of installation RCW ESMCs requires a systematic, step-by-step approach. RCW populations (current and goal), RCW habitat (current and potential), and training and other mission requirements (present and future) must

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be identified. Detailed analysis of these factors and their interrelated impacts are required as a first step in the development of an ESMC. Installations should use the following or a similar methodology in conducting this analysis:

1. Identify the current RCW population and its distribution on the installation.
2. Identify areas on the installation currently and potentially suitable for RCW nesting and foraging habitat.
3. Establish the installation RCW population goal with the USFWS according to the guidance in B. below.
4. Identify installation and tenant unit mission requirements. Overlay these requirements on the RCW distribution scheme.
5. Identify mission requirements that are incompatible with the conservation of RCW habitat.
6. Identify critical mission areas where activities cannot reasonably be relocated.
7. Identify areas which could support RCW recruitment clusters.
8. Identify areas suitable for RCW habitat and limited conflict with present and projected mission activities. These are prime areas for designation as recruitment clusters.
9. Analyze the information developed above using the guidance contained in these guidelines.
10. Identify important RCW populations, habitats, cooperators, and partnership opportunities outside the installation boundaries.
11. Prepare the RCW ESMC to implement the best combination of options, consistent with meeting the established RCW population goals, while minimizing adverse impacts to training readiness and other mission requirements.

B. RCW Population Goals.

1. The USFWS 2003 RCW Recovery Plan establishes Recovery Units and population goals for federal, state, and private lands within those recovery units. Installation population goals (measured as the number of "potential breeding groups"; see V.B.3, below) established under the ESMC will be in accordance with goals established under the RCW Recovery Plan. The

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installation population goal should be considered long-term but is subject to change, through consultation with the USFWS, based upon changing circumstances, changing missions, or new scientific information. In conjunction with the 1-year and 5-year reviews of ESMCs, installations will reexamine population goals to reflect changing conditions. The biological significance of different population thresholds are described in paragraphs a-e, below.

a. A population size of 350 PBGs is considered highly robust to threats from environmental stochasticity as well as inbreeding and demographic stochasticity. It is the lowest current estimate of the minimum size necessary to offset losses of genetic variation through genetic drift.

b. A population size of 250 PBGs is the minimum size considered robust to environmental stochasticity, and is well above the size necessary to withstand inbreeding and demographic stochasticity.

c. A population size of 100 PBGs is considered sufficient to withstand threats from demographic stochasticity and inbreeding depression.

d. A population size of 70 PBGs is midway in estimates of sizes necessary to withstand threats from inbreeding depression and is considered robust to demographic stochasticity if territories are moderately aggregated in space.

e. A population size of 40 PBGs is at the lower end of estimates of sizes necessary to withstand inbreeding depression and is considered robust to demographic stochasticity if territories are highly aggregated in space.

2. ESMCs must clearly state the installation RCW population goal. If this goal is not provided in the RCW Recovery Plan, it will be determined by availability of suitable habitat, ecosystem attributes, and current and future mission requirements. Installations should not stop establishing recruitment clusters or conducting other proactive management actions once the population goal is reached, but should continue to manage to achieve habitat carrying capacity consistent with mission requirements.

3. Installation population goals will be established as the number of PBGs in accordance with population goal definitions of the RCW Recovery Plan. PBGs may be estimated as a percent of active clusters, using criteria established in the RCW Recovery Plan.

4. Installations that have not yet achieved their population goals will implement actions to achieve a five percent annual increase in active clusters. To achieve recommended rates of increase installations will provide a constant supply of unoccupied recruitment clusters equal to 10 percent of the current number of active clusters. Installations that do not meet this target will informally

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consult with USFWS to determine whether actions are necessary to achieve this population growth rate.

5. All clusters on installations that support PBGs will count toward the installation population goal. This will include clusters where training restrictions are implemented, clusters where training restrictions are not implemented, and clusters in impact areas as long as they can be monitored in accordance with Recovery Plan criteria to determine group status (i.e., solitary bird or PBG). If the installation's estimate of population size (number of PBGs) is based on the percentage of active clusters in a sample set that support a PBG, then the number of active clusters from which the number of PBGs is estimated will only include clusters that can be accessed for management (installation of artificial cavities, midstory control, augmentation, etc.). This will help ensure validity of the assumption that the percentage of clusters that support a PBG is applicable to all active clusters from which population size is estimated. In clusters where management access is limited, PBGs may be included in the population estimate only if their presence in a specific cluster in a specific year is determined by direct observation. In addition to installation groups, clusters on state and private lands that are functioning demographically with the installation's population and are secured by an enduring covenant and are not counted as part of another agency's clusters may be counted toward the installation population goal.

C. Training in Clusters.

The purpose of training restrictions associated with RCW clusters is to avoid or minimize the potential for "take" as defined under section 9 under the ESA. Implementation of training restrictions on Army installations will balance support of RCW population growth to achieve installation population goals and flexibility to achieve training mission requirements. ESMCs, with appropriate consultation, may contain provisions to remove or add restrictions in HMUs.

Certain activities (refueling points, generators, smoke generators, smoke pots, and mechanical digging) are by their nature likely to disrupt the ability of RCWs to roost or nest (or conduct nesting activities; e.g., incubating, brooding, feeding) if conducted in proximity to cavity trees, or have potential for significant habitat damage. These activities will be conducted only at locations approved by Directorates of Plans, Training, and Mobilization (DPTMs) either IAW provisions of the Installation Range Regulation or by case-by-case evaluation. DPTMs must consult with the installation biologist to ensure that such activities are avoided in buffer zones and minimized elsewhere in RCW HMUs. These activities will not be approved within buffer zones of protected clusters or within 200 feet of unprotected cavity trees unless authorized through consultation with USFWS (preferably done during the ESMC process).

1. Designation of Protected Clusters.

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a. Installation ESMCs currently identify the current and projected number of clusters that are subject to training restrictions. The number of these protected clusters has been established in installation-specific consultations with the USFWS and includes active clusters (solitary birds and PBGs) and currently inactive recruitment clusters. Installations will modify the current number of protected clusters in accordance with criteria established in paragraph V.C.2., below.

b. Locations of protected clusters will be determined by installation natural resources management personnel in coordination with the installation Director of Training and the Senior Mission Commander or a designee. Locations of protected clusters will be based on biologically sound principles to reduce risk of disturbance, demographic isolation, and habitat fragmentation, while minimizing effects on training operations.

2. Removal of Training Restrictions.

a. Installations with a population of ≤ 250 PBGs will maintain the currently negotiated number of protected clusters for both active clusters and recruitment clusters.

b. Installations with populations > 250 PBG may remove training restrictions from clusters according to the following schedule:

Total PBGs	Restrictions Removed*	Cumulative Total**
251-275	25 (1:1)	25
276-300	50 (2:1)	75
301-350	150 (3:1)	225
>350	Restrictions removed on all clusters***	

* Installations with 250-275 PBGs may remove restrictions from one protected cluster for each PBG over 250. Installations with 276 or more PBGs may remove restrictions from 25 protected clusters, plus two additional clusters for each PBG over 275. Installations with 301-350 PBGs may remove restrictions from 75 protected clusters plus 3 clusters for each PBG over 300. Restrictions will continue to be removed annually based on the documented growth in the installation's RCW population. For example, if the population increases from 255 to 260 PBGs, training restrictions will be removed from 5 clusters. If it increases from 275 to 285, training restrictions will be removed from 20 clusters, etc.

**These are in addition to the current and/or projected number of clusters that do not have training restrictions in populations under current installation ESMCs.

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***Installations will specify in their ESMCs a schedule for removing training restrictions from all clusters upon reaching ≥ 350 PBGs. This schedule will be implemented after appropriate consultation with USFWS.

c. The number of clusters eligible for removal of training restrictions is dependent on the number of PBGs; however, clusters selected for removal of restrictions may include unoccupied recruitment clusters, solitary bird clusters, or clusters with PBGs. Removal of training restrictions according to the above schedule is dependent on growth of installation RCW populations. Restrictions will be removed incrementally. Depending on population size; 1, 2, or 3 clusters may be unprotected for each additional new PBG. If installation RCW PBGs fail to increase, the proportion of clusters without training restrictions cannot be increased. For populations >350 PBGs or populations exceeding the installation population goal, all new clusters (natural or recruitment clusters) may be unprotected, based on the best judgment of the biologists and DPTM.

d. For installations where the current population goal does not exceed 250 PBGs, the number of clusters with and without training restrictions will remain in accordance with levels under the current installation ESMC. Typically, reduction of training restrictions on installations with population goals ≤ 250 PBGs will occur when recovery goals are reached. However, prior to achieving their population goal, reduction of some restrictions may be possible as data become available from installations where training restrictions have been decreased or removed in entirety and critical population benchmarks are met. These benchmarks, in part, would be tied to population sizes (e.g., 100 PBGs) that are sufficient to withstand threats from such factors as demographic stochasticity and inbreeding depression. Determining whether training restrictions could be reduced prior to reaching population goals would be evaluated by considering factors such as the training mission, population aggregation (e.g., dispersed or highly aggregated), and results (based on monitoring and/or research) of training impacts on unprotected clusters from the subject and other installations. Installations may specify in their ESMCs a schedule for removing training restrictions upon attaining or exceeding the population goal or other population benchmarks. Removal of training restrictions is dependent on growth or maintenance of installation RCW populations. Schedules for removing training restrictions will be implemented after appropriate consultation with USFWS.

e. Once the installation has reached its population goal (or 350 PBGs, whichever is less), any and all training restrictions may be removed subject to the following guidelines and precautions.

(1) Installation staff will continue to identify clusters where training restrictions are warranted (and conversely where they are not warranted)

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as described in paragraph V.C.1.b. Deliberations will weigh the risks and benefits to RCWs, habitat, and training. Data and observations of training impacts (or lack of same) during the population's growth from 250-350 PBGs will also be considered in assessing the risk of impacts from training. The installation will report annually to the USFWS the results of monitoring conducted IAW paragraph V.E.4. for protected and unprotected clusters as shown below.

	Protected Clusters	Unprotected Clusters
# Active Clusters		
# PBGs		
# Nests		
# of adult RCWs per PBG		
# of fledgling RCWs per PBG		

(2) Installation staff and USFWS staff will evaluate these data jointly to identify any trends that might indicate a need for modifications to the installation's application of training restrictions. Data from annual inspections of RCW clusters collected IAW paragraph V.D.5. will also be evaluated to assess habitat condition and trends. Factors such as adequacy of environmental awareness training should also be assessed. The goal will be to make any necessary adjustments and avoid population levels falling below 350 PBGs (or the installation population goal, whichever is less). If populations fall below this threshold for reasons that may be training related (i.e. not explained by habitat conditions, hurricane damage, disease, etc.), training restrictions will be re-implemented IAW Appendix 1 for all training areas containing inactive or single-bird clusters that supported a PBG at the time restrictions were removed, and formal consultation with the USFWS will be reinitiated. In this way, installations will be free to remove restrictions based on their determination of risk, but they will also bear the consequences of their decisions.

(3) Installations should use caution and discretion before reducing training restrictions as soon as 350 PBGs are met because falling back below 350 will require reinstitution of restrictions (see C.2.e.(2) above). Therefore, it is recommended that prior to implementing restriction reductions, installations should provide a reasonable number of "buffer" PBGs (e.g., 10 percent beyond the goal) to ensure that if some losses occur, restrictions do not

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have to be re-implemented.

(4) In cases where continued protection is deemed appropriate even though the population exceeds 350 PBGs or the Installation Goal, protected cavity trees will be marked by two white bands. No military maneuver is authorized within 50 feet of marked cavity trees except for foot traffic and vehicles traveling on existing roads and trails. Additional "Off-Limits" areas may be marked with Seibert Stakes or by other means IAW the installation's established practices for protection of sensitive/hazardous areas.

(5) Once restrictions are removed, incrementally or in total at a later date, it is imperative that installations maintain both: (1) the level of habitat management required, particularly prescribe burning, to sustain recovery standard foraging habitat, and (2) an adequate level of monitoring (negotiated via consultation with the USFWS) to document that the population remains stable, or indeed, increases to a higher level.

3. Marking of Clusters

a. Cavity and cavity start trees in protected clusters will be marked for easy recognition. Trees will be marked with two white bands no more than four inches wide and no more than eight inches between them. Bark will only be scraped lightly to remove loose bark or not scraped at all. The bands will be centered approximately four to six feet from the base of the tree. A uniquely numbered small metal tag will be affixed to the cavity tree for monitoring and identification purposes.²

b. In protected clusters, buffers for all suitable cavity or cavity start trees will be marked. Warning signs will be posted and will be constructed of durable material, ten inches square (oriented as a diamond), white or yellow in color. The RCW graphic and the lettering "Endangered Species Site" and "Red-cockaded Woodpecker" will be printed in black. The lettering "Do Not Disturb" and "Restricted Activity" will be printed in red. All lettering will be 3/8 inches in height. Warning signs will be posted at reasonable intervals along the 200 foot perimeter of cavity trees facing to the outside of the buffer zone and along roads, maintained trails and firebreaks, and other likely entry points into the buffer zone.

c. Installations conducting long-term training on private, state, or other federal lands with RCW habitat will attempt to obtain agreement from the landowners on compliance with these marking guidelines. If a landowner does not agree to comply with these guidelines, even with the installation paying the costs associated with compliance, installations will educate troops training on

² Studies in community ecology are showing that rat snakes predate kleptoparasites and usually cannot overcome the resin barriers on active RCW trees. Thus rat snakes provide a net benefit to RCWs. Impediments which prevent rat snakes from climbing cavity trees (especially inactive trees) should be avoided.

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such lands to help them recognize the markings used by the landowner.

d. Cavity and cavity start trees in unprotected clusters may be marked for management and monitoring purposes at the installation's discretion. Warning signs will not be posted. A uniquely numbered small metal tag will be affixed to the cavity tree for identification purposes. Marking will be distinctively different than that used for protected clusters.

4. Training in Protected Clusters

a. The training restrictions in this section apply to buffer zones within protected clusters. RCW-related training restrictions do not apply to foraging areas or unprotected clusters as designated in the first two paragraphs under V.C.

b. Standard training guidelines in protected clusters are:

(1) Military training within 200 feet of marked cavity trees is limited to military activities of a transient nature (less than two hours occupation). Appendix 1 provides a list of prohibited and permitted training activities within buffer zones.

(2) Military vehicles are prohibited from occupying a position or traversing within 50 feet of a marked cavity tree, unless on an existing road or maintained trail or firebreak.

5. Training Activities in All Habitats. In addition to training restrictions associated specifically with RCW clusters, the installation will implement the following guidelines for habitats throughout the installation to maintain and improve potentially suitable habitat for the RCW. These guidelines will remain in effect even if restrictions under paragraph V.C.4. above are discontinued upon reaching 350 PBGs or the installation population goal, whichever is less.

a. Military personnel are prohibited from cutting down or intentionally destroying pine trees unless the activity is approved previously by the installation biologist and is authorized for tree removal. Hardwoods may be cut and used for camouflage or other military purposes. If removal of hardwoods would damage a cavity tree, approval from the installation biologist would be required.

b. Units will immediately report to range control known damage to any marked cavity or cavity start tree and/or any known extensive soil disturbance in and around RCW clusters. Range control will notify installation biologists immediately.

c. The installation will immediately (within 2 working days of

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notification) re-provision a cavity tree if one is destroyed due to training activity.

d. Installations will as soon as practicable (normally within 3 working days of notification) repair damage to training land within a cluster to prevent degradation of habitat.

e. All digging for military training activities in RCW habitat management units (HMU; see V.F.1., below) will be filled and inspected upon completion of training.

f. Training guidelines will be actively enforced through installation training and natural resources enforcement programs, prescribed in chapters 1 and 11, AR 200-3, and installation range regulations.

D. Habitat Monitoring

1. Surveys for New Cavity Trees and Clusters. Comprehensive surveys for new cavity trees and clusters have already been conducted on Army lands that may support RCWs. Normally, detection of previously unknown cavity trees or clusters will occur coincident to annual inspections of known clusters and adjacent habitat areas. Foresters and biologists will report any new activity observed during the routine process of other work. Surveys in previously unoccupied habitats should also be conducted by qualified biologists following protocols of the RCW Recovery Plan if the land has not been previously surveyed, or if the installation biologist determines that changing habitat conditions or changes in the distribution of known populations increases the likelihood of RCW occurrence.

2. Project Surveys. The installation will conduct surveys prior to timber harvesting operations, construction, or other significant land-disturbing activities, excluding prescribed fire, in accordance with recommendations of Chapter 8.I. of the RCW Recovery Plan. These surveys will be conducted by natural resources personnel trained and experienced in RCW biology, and must be conducted within a year of project initiation. The guiding principle of these surveys, as noted in the RCW Recovery Plan, is that, if the installation can demonstrate reasonable progress toward and support of installation population goals, most projects can be implemented.

3. Foraging Habitat. Installations will assess quality and quantity of installation-wide foraging habitat using the USFWS Matrix tool at a minimum of once every 10 years and midstory at a minimum frequency of once every five years in RCW HMUs. Foraging habitat will be assessed for all foraging elements identified in the RCW Recovery Plan under paragraph 8.I. The desired future condition of foraging habitat for RCW territories counted toward an installation's recovery goal is to meet criteria of the RCW Recovery Plan's foraging habitat "recovery standard". Foraging habitat data collected will be appropriate to the

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forestry management practice (e.g. uneven versus even-aged management).

4. Prescribed and Wildfires. Installations will keep accurate records of the timing and extent of all prescribed and wild fires in RCW HMUs.

5. Cluster Status and Condition. Active and recruitment clusters that have not been deleted from management in accordance with paragraph V.F.2.b. below must be inspected annually. These are prescriptive inspections, used to develop treatments and modifications of treatments to maintain suitable nesting habitat. At a minimum, installations will inspect and record data for:

- a. Density and height of hardwood encroachment (using Matrix standards).
- b. Height of RCW cavities.
- c. Condition of cavity trees and cavities.
- d. A description of damage from training including: damage to cavity and cavity start trees requiring remedial measures if any, soil disturbance adjacent to cavity and cavity start trees requiring remedial measures if any, and general condition of the forage habitat of the cluster being monitored if impacted by training activities.
- e. Effects of fire (prescribed or wild) on midstory and cavity trees.
- f. Evidence of RCW activity for each cavity tree (includes each cavity and cavity start in the tree) within the cluster.

E. Population Monitoring

1. Installations will conduct monitoring programs to determine scientifically demographic trends within the population as a whole. At a minimum, installations will follow standards established in the RCW Recovery Plan for sampling schemes, sample sizes, frequency of monitoring and data parameters to be collected. To annually monitor population trend and size, the RCW Recovery Plan requires monitoring of cluster activity status and the presence/absence of PBGs. The RCW Recovery Plan recommends the following sample sizes for monitoring number of active clusters (ACT) and PBGs in red-cockaded woodpecker populations, by population size.

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Parameter	Population Size (PBG)				
	<30	30-99	100-249	250-349	>349 or at approved property goal
ACT	100% of potentially active clusters per year	100% annually	100% annually	100% annually	Consult with USFWS
PBG	100% of potentially active clusters per year	100% annually	50% annually	33% annually	Consult with USFWS

2. To track population size relative to status of training restrictions in clusters, installations conducting < 100 percent survey of PBGs will allocate sample clusters proportional to the ratio of the number of clusters with training restrictions and the number of clusters without training restrictions. Sampling design and allocation of sample clusters will be established in consultation with USFWS.

3. All recruitment clusters, regardless of status of training restrictions, must be inspected annually for five consecutive years to document RCW occupancy. Once recruitment clusters are occupied, use monitoring criteria for active clusters.

4. To track effects of reducing training restrictions and other land use activities, installations will compare fecundity of active clusters, recruitment rates, and demographic stability between protected clusters and unprotected clusters. Input from a qualified wildlife statistician is expected at appropriate organizational levels to assure the best comparisons possible. All sampling and statistical comparisons will follow the guidance of the RCW Recovery Plan where it is applicable and will include USFWS input, especially when the RCW Recovery Plan does not provide sufficient guidance.

a. To compare fecundity between protected and unprotected clusters, installations with 30 or fewer active clusters will monitor all clusters to determine number of adults, nesting status, and number of fledglings per group. This monitoring will require color banding of birds. Installations with >30 active clusters will annually monitor these parameters in a random sample of all clusters in excess of 30, stratified by protected and unprotected clusters. Sample size in each stratum will be the greater of 25 percent of the number of clusters in the stratum, or 30 clusters. The sample should not include clusters that have been active for fewer than 3 years. Typically, recruitment clusters have a disproportionately high incidence of being occupied by a single RCW and/or low

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productivity due to lack of breeder experience in their first 2 years of occupancy. Excluding recently activated clusters from the sample will help make comparisons between protected and unprotected clusters more meaningful.

b. To compare recruitment rates and demographic stability between protected clusters and unprotected clusters, installations will use monitoring data collected in accordance with paragraph V.E.1.

5. The monitoring standards established in the preceding paragraphs are the minimum requirement. Any time RCWs are banded, the RCW Recovery Plan sets the minimum data collection standards. Installations may implement additional monitoring activities or programs in support of other management and research objectives as necessary, e.g. translocations.

F. Habitat Management

1. Installation RCW ESMCs will identify nesting and foraging areas sufficient to attain and sustain installation RCW population goals. These areas will be designated RCW HMUs. HMU delineation is an important step in the planning process because it defines the future geographic configuration of the installation RCW population. Areas designated as HMUs for all active and recruitment clusters, regardless of training restriction status, must be managed according to these guidelines. HMUs should be large enough to enable the installation to meet or exceed its recovery goal as identified in the Recovery Plan.

2. Areas Included in HMUs

a. HMUs will encompass all clusters, areas designated for recruitment, and adequate foraging areas as specified in d., below.

b. Clusters that have been documented as continuously inactive for a period of five consecutive years or more may be deleted from RCW management requirements. Designated recruitment clusters that have not been occupied for a period of five consecutive years may also be deleted from HMUs. Once deletion of a cluster from management is approved by the USFWS, existing cavities may be covered to discourage reactivation.

c. In designating HMUs, fragmentation of nesting habitat will be avoided. Installations will attempt to link HMUs with corridors, allowing for demographic interchange throughout the installation population.

d. Adequate foraging habitat in acres, quality, and location must be provided with HMUs. Installations will determine availability of and manage for foraging habitat in accordance with guidelines established in Chapter 8.I. of the RCW Recovery Plan, i.e., the recovery standard.

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e. Installations may formulate population-specific foraging guidelines in consultation with the USFWS. Population-specific guidelines must be based on site-specific study consisting of multi-year (typically 3-5 years) data on RCW group and population health and their relationships to quantity and quality of foraging habitat. Chapter 8.1.4. of the RCW Recovery Plan provides guidelines for determining population-specific foraging guidelines.

f. HMUs should be located where there will be a minimum impact upon current and planned installation missions/operations and should be consistent with land use requirements in the Real Property Master Plan.

g. Installations should delineate HMUs to maximize demographic linkage among groups on and off the installations. Where fragmentation exists, installations should develop plans to link groups on the installation by designating habitat corridors where practical.

3. Management Within Clusters.

a. Due to RCW biological needs, clusters, including the area within 200 feet of cavity trees, require a higher management intensity level than other areas within HMUs. Within HMUs, maintenance priority will be given to active clusters over both inactive and recruitment clusters (see definitions).

b. Installations will manage habitat within active and recruitment clusters in accordance with guidelines established in the RCW Recovery Plan. In general, recommended management practices in the RCW Recovery Plan include:

(1) Protection of existing cavity trees from damage due to fire, human disturbance (including erosion and sedimentation and logging activities), southern pine beetle infestations, and damage from high winds.

(2) Maintain sufficient large and old pines to serve as cavity trees.

(3) Control hardwood and pine midstory.

(4) Encourage restoration and maintenance of native grasses and forbs by using prescribed burning, minimizing soil disturbance, and implementing appropriate timber management to promote adequate light at ground level.

(5) Reduce excessive overstory hardwoods within the cluster

(6) Establish recruitment clusters in upland sites whenever

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possible, consistent with demographic and habitat considerations.

(7) Retain dead and dying cavity trees and all other snags, unless they present a safety hazard.

c. Active and inactive cavities found to be in poor condition during periodic inspections will be repaired whenever feasible to prolong their use. Cavity restrictors can be installed on enlarged RCW cavities or where threat of cavity enlargement of properly-sized cavities is probable. Restrictors will be installed according to guidelines of the RCW Recovery Plan with the following priority: (a) active single tree clusters, (b) solitary bird groups, (c) clusters with less than four suitable cavities, and (d) others.

d. Artificial cavities and cavity starts will be constructed in areas designated for recruitment or translocation and in active clusters where the number of suitable cavities is limiting. Construction must be accomplished by fully trained and permitted personnel. Artificial cavities and cavity starts will be constructed using the following priorities: (a) active single tree clusters, (b) solitary bird groups, (c) clusters with less than four suitable cavities, and (d) others.

e. Avoid timber harvesting, pine straw harvesting, and habitat maintenance activities, with the exception of burning activities, during the nesting season. If a biologist, experienced in RCW management practices, determines that habitat maintenance activities are not likely to adversely affect nesting activities, they may be conducted after coordination with USFWS. Consultation on these activities may be accomplished through a programmatic consultation or on a case-by-case basis, and will typically be "informal consultation".

4. Management in Other Areas of HMUs

a. Silviculture. Forest management and timber harvest on installations will be consistent with achieving and maintaining installation RCW population goals. In general, silvicultural practices in HMUs will have the objectives of ecosystem management including maintaining adequate old-growth pine, reducing midstory encroachment, and meeting recovery standard foraging habitat requirements. Silviculture in HMUs will include: (a) maintenance of sufficient large and old pines to serve as cavity trees; (b) control of hardwood and pine midstory, encouragement of restoration and maintenance of native grasses and forbs by using prescribed burning, minimizing soil disturbance, and implementing appropriate timber management to promote adequate light at ground level; (c) reducing excessive overstory hardwoods; and (d) retaining dead and dying trees and all other snags, unless they present a safety hazard. Installations will follow guidelines for silvicultural methods and objectives that are established in Chapters 8.J. and 8.I. of the RCW Recovery Plan.

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b. Prescribed Burning. Prescribed burning is normally the most effective means of midstory control and is recommended as the best means of maintaining a healthy ecosystem. Prescribed burning will be conducted at least every three years in longleaf, loblolly, slash pine, and shortleaf pine systems. Burning must be conducted in accordance with applicable Federal, state, and local air quality laws and regulations. With the agreement of the USFWS, the burn interval may be increased to no more than five years after the hardwood midstory has been brought under control. Cavity trees will be protected from fire damage during burning. Burning should normally be conducted in the growing season because the full benefits of fire are not achieved from non-growing season burns. Winter burns may be appropriate to reduce high fuel loads. Use of fire plows in clusters will be used only in emergency situations.

5. Management in Impact and Direct Firing Areas.

a. Impact Areas

(1) Impact areas that contain or likely contain unexploded ordnance or other immediate hazardous materials (radiological or toxic chemicals) can pose danger to personnel. Natural resources conservation benefits to be gained by intensive management in high risk areas generally are not justified. Certain installations may have impact areas or other areas that have been contaminated with improved conventional munitions or submunitions where entry by personnel is forbidden.

(2) Designation of impact areas and the associated effects of these actions on RCW management activities may affect the RCW and other federally listed species within impact areas. These actions may lead to the possibility and necessity of incidental take.

(3) To the degree practicable, clusters and surrounding foraging area should be designated as "no firing areas" to protect clusters from projectile damage.

b. Direct Firing Areas.

(1) Direct fire, non-dud producing impact areas that do not contain unexploded ordnance or other immediate hazardous materials may be included within HMUs, subject to the guidelines below.

(2) In HMUs in direct fire areas that are not directly impacted by weapons firing, RCW management will be the same as for HMUs outside of impact areas. In HMUs where there is a significant risk of projectile damage to foraging or nesting habitat, the following guidelines apply:

(a) Range layout should be modified/shielded where

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practical and economically feasible to protect HMUs from projectile damage. Protective measures that will be considered include reorienting the direction of weapons fire, shifting target arrays, establishing “no firing areas” around RCW clusters or HMUs, revising maneuver lanes, constructing berms, etc.

G. *Translocation*

1. Translocation can be a useful tool to expand and disperse RCW groups into unoccupied areas of designated HMUs. Translocation also provides a means to maintain genetic viability in populations with fewer than 350 PBGs. Installation plans will provide for translocation to augment solitary bird groups, where appropriate. Installations participating in translocation activities will follow guidelines established in chapter 8.H. of the RCW Recovery Plan.

2. Installations may translocate RCWs from active clusters to recruitment clusters that meet standards for translocation for strategic recruitment. This will only include translocation of subadult birds from their natal territories. Within-population translocations that do not meet these criteria must be approved on a case-by-case basis through consultation with the RCW Recovery Coordinator.

3. In areas to receive RCWs, habitat inspection and improvement work must be completed before translocation is attempted to ensure that nesting and foraging habitat meets the standards established by these guidelines.

4. Installations should support regional translocation efforts by supplying or receiving donor birds provided the installation meets criteria established in the RCW Recovery Plan for donor or recipient populations.

5. Translocation will not be undertaken without the approval of, and close coordination with, the USFWS. Installations must obtain an ESA section 10 permit (scientific purposes) or an incidental take statement under ESA section 7 and all applicable marking, banding, and handling permits prior to moving any RCW through translocation.

H. *Data Records, Reporting, and Coordination.*

1. Installations will record and retain permanently all survey, inspection and monitoring data for RCW populations and habitats for trend analysis.

2. Installation biologists and foresters will maintain close coordination and, at a minimum, will conduct an internal RCW installation progress review twice a year.

3. Installation Management Agency (IMA) Southeast Region will serve as integrator and facilitator for Army RCW management throughout all installations with RCW. IMA Southeast Region will host an annual RCW meeting for RCW

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installations, USFWS, ODEP, United States Army Environmental Center, National Guard Bureau, and other organizations.

4. ODEP will provide RCW oversight. ODEP will ensure that data collected in accordance with paragraph V.E. above for protected and unprotected clusters will be evaluated for trend analysis. These data will be analyzed at least every five years, and the results will be presented to USFWS for review. Results of this trend analysis will be used to determine revision, continuation, or cancellation of military training restrictions in consultation with USFWS.

5. Installations annually will report results of RCW inventory and monitoring programs to USFWS, IMA Southeast Region, and ODEP through command channels. These data will be reported in formats agreed upon between the Army and USFWS. These data will include measures of population status and actions taken to recruit RCWs and improve habitat. These data will normally be presented to USFWS at the annual meeting hosted by IMA Southeast Region. All installations will report at the meeting in a standard format agreed upon by the USFWS and IMA Southeast Region.

6. RCW maps will be included in the ESMC using survey data to accurately depict the location of RCW clusters, RCW-related training restricted areas, HMUs, and cavity trees. Maps will be updated at least annually or when a 20 percent change in the number of active clusters occurs, whichever is sooner. Maps used internally will be tailored to the users, e.g. trainers, foresters, etc. and will be widely distributed for use by those conducting land use activities on the installation, including military training, forest management, construction projects, and range maintenance.

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Appendix 1

TRAINING ACTIVITY WITHIN BUFFER ZONES (1)	
MANEUVER AND BIVOUAC:	ALLOWED
Hasty defense, light infantry, hands and hand tool digging only, no deeper than 2 feet, 2 hours MAX	Yes
Hasty defense, mechanized infantry/armor	No
Deliberate defense, light infantry	No
Deliberate Defense, mechanized infantry/armor	No
Establish command post, light infantry	No
Establish command post, mechanized infantry/armor	No
Assembly area operations, light infantry/mech infantry/armor	No
Establish CS/CSS sites	No
Establish signal sites	No
Foot transit thru the cluster	Yes
Wheeled vehicle transit thru the cluster (2)	Yes
Armored vehicle transit thru the cluster (2)	Yes
Cutting natural camouflage, hardwood only	Yes
Establish camouflage netting	No
Vehicle maintenance for no more than 2 hours	Yes
WEAPONS FIRING	
7.62mm and below blank firing	Yes
.50 cal blank firing	Yes
Artillery firing point/position	No
MLRS firing position	No
All others	No
NOISE:	
Generators	No
Artillery/hand grenade simulators	Yes
Hoffman type devices	Yes
PYROTECHNICS/SMOKE	
CS/riot agents	No
Smoke, haze operations only, generators or pots, fog oil and/or graphite flakes (3)	Yes
Smoke grenades	Yes
Incendiary devices to include trip flares	Yes
Star clusters/parachute flares	Yes
HC smoke of any type	No

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Appendix 1 (continued)

DIGGING	ALLOWED
Tank ditches	No
Deliberate individual fighting positions	No
Crew-served weapons fighting positions	No
Vehicle fighting positions	No
Other survivability/force protection positions	No
Vehicle survivability positions	No
NOTES:	
(1) These training restrictions apply to RCW cavity trees in training areas but not to cavity trees located in dedicated impact areas.	
(2) Vehicles will not get any closer than 50 feet of a marked cavity tree unless on existing roads, trails or firebreaks.	
(3) Smoke generators and smoke pots will not be set up within 200 feet of a marked cavity tree, but the smoke may drift thru the 200 feet circle around a cavity tree.	

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