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Worldwide Report

ENVIRONMENTAL QUALITY

No. 406

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18 July 1983

WORLDWIDE REPORT ENVIRONMENTAL QUALITY

No. 406

CONTENTS

ASIA

AUSTRALIA

Environmental Laws in West Australia Up for Review (THE WEST AUSTRALIAN, 25 May 83).....	1
Offshore Drilling Rigs Pose Threat to Environment (Stephen Rice; THE SYDNEY MORNING HERALD, 17 May 83).....	2
Latest Developments in Dispute Over Tasmanian Dam (Various sources, various dates).....	5
Tasmania Slap at World Heritage Evidence of Damage So Far, by Stephen Mills Hawke-Gray Talks, by Brian Hill, Ellen Peterson Legal Issues, by Verge Blunden	
BHP New Target of Antidam Conservation Groups (THE AUSTRALIAN, 18 May 83).....	9
West Australia Plans Large, New Wildlife Reserve (THE WEST AUSTRALIAN, 23 May 83).....	10
West Becoming Focus of Efforts To Control Salt Pollution (Alex Harris; THE WEST AUSTRALIAN, 25 May 83).....	11
Politics Surface in Row Over Logging in Victorian Park (Rosslyn Beeby; THE AGE, 30 May 83).....	13
Raw Sewage Threatens Entire Fishing Industry in South (THE WEEKEND AUSTRALIAN, 21-22 May 83).....	15

EAST EUROPE

POLAND

Current State of Environment Assessed (NAUKA POLSKA, Apr, Mar 83 TRYBUNA LUDU, 23 Feb 83).....	16
Scientific Report on Environment, by Wlodzimierz Michalow Michalow	
Report on Environmental Danger, by Roman Teisseyre, Boleslaw Malisz	
Outlays for Environmental Protection	

LATIN AMERICA

BERMUDA

Briefs	
Oil Spill Fine	29

COSTA RICA

Deforestation in Country Serious Problem (LA NACION, 10, 30 May 83).....	30
Situation in North, by Levi Vega M 'Drastic' Measures Adopted	

MEXICO

Lack of Irrigation Intensifies Drought in Veracruz (Rogelio Freyre; EXCELSIOR, 12 May 83).....	33
---	----

TRINIDAD AND TOBAGO

Action Plan for Tobago Government Environmental Meeting (TRINIDAD GUARDIAN, 16 Jun 83).....	34
--	----

NEAR EAST/SOUTH ASIA

ISRAEL

Ongoing Seashore, Groundwater Pollution Examined (Aharon Priel; MA'ARIV, 10 May 83).....	36
---	----

Situation at Waste Disposal Site Criticized (Liora Moriel, Patricia Golan; THE JERUSALEM POST, 12 Jun 83).....	38
--	----

SUB-SAHARAN AFRICA

INTER-AFRICAN AFFAIRS

EEC To Aid Drought-Stricken Countries (AFP, 24 Jun 83).....	41
--	----

USSR

Costs of Maintaining Nature Preserves Discussed (A. Ryzhikov; EKONOMICHESKAYA GAZETA, No 23 Jun 83).....	42
---	----

WEST EUROPE

DENMARK

Agency Reports Dioxin Was Released Into Atmosphere (Stig Albinus; INFORMATION, 14-15 May 83).....	44
Environment Affairs Minister Comments on Policies (Christian Christensen; BERLINGSKE TIDENDE, 9 Jun 83)...	46
Environment Ministry Book: New Policy To Stress Balance (Jens J. Kjaergaard; BERLINGSKE TIDENDE, 2 Jun 83).....	49
Paper Says New Environment Ministry Book Promises Too Much (Editorial; BERLINGSKE TIDENDE, 7 Jun 83).....	51
Book Describes Environmental Threat to Danish Seals (J. J. Kjaergaard; BERLINGSKE TIDENDE, 29 May 83).....	53
Briefs Lead Content in Gasoline Cut	56

FINLAND

New Environment Ministry To Face Problem of Wilderness Areas (HELSINGIN SANOMAT, 20 Jun 83).....	57
--	----

NORWAY

Liberal Party Leader Discusses Country's Major Problems (Odd Einar Dorum; DAGBLADET, 3 Jun 83).....	63
--	----

ENVIRONMENTAL LAWS IN WEST AUSTRALIA UP FOR REVIEW

Perth THE WEST AUSTRALIAN in English 25 May 83 p 4

[Text]

THE WA Government hopes to have legislation improving the State's environmental laws prepared for the Budget session of Parliament due to start in July.

The Minister for the Environment, Mr Davies, said yesterday that a review of the current legislation was on the way.

Soon after taking office Mr Davies said he thought the State had the worst environmental legislation in Australia. It was unen-

forceable in a number of areas and it was badly in need of updating.

Mr Davies said he was also considering whether to reverse the previous Government's decision to remove the Director of the Department of Conservation and the Environment, Mr Colin Porter, from the Environmental Protection Authority.

The move in 1980 was bitterly opposed by the ALP and the conservation movement.

CSO: 5000/7588

OFFSHORE DRILLING RIGS POSE THREAT TO ENVIRONMENT

Sydney THE SYDNEY MORNING HERALD in English 17 May 83 p 7

[Article by Stephen Rice]

[Text]

OFFSHORE oil platforms operating in Australian waters have it easy by international standards. They do not, for example, have to contend with attacks by Iraqi helicopter gunships.

It was one such attack, on an Iranian oil well in March, which has sent up to 10,000 barrels of crude oil a day spilling into the Persian Gulf.

The resulting oil slick now covers more than 20,000 square kilometres and extends two-thirds the length of the Gulf. It has devastated marine life and threatens to disrupt vital power and water desalination plants.

But not all the oil is coming from the well destroyed by the Iraqis. A nearby rig was destroyed when accidentally hit by a ship; and that is the type of hazard faced daily by the 11 offshore platforms operating in Australian waters.

The Gulf oil slick disaster has focused attention on the safety and environmental standards required of oil operators under Australian law. The results have not been encouraging.

Only two days before the Iraqi helicopter attack, Australian oil exploration companies operating in Bass Strait agreed to pay fishermen for losses and damage caused by oil production debris dropped in Bass Strait.

A \$5 million suit against Esso-BHP and other oil companies was settled out of court for an undisclosed sum.

The fishermen had claimed the oil venturers polluted their traditional fishing grounds — not only with oil, but cables, 300 acetylene gas bottles, concrete, drums of pitch, a steel door and even a diesel engine.

Oil pollution from tankers and other ships has long been a cause of concern both to legislators and to the general public. Tankers today account for a great proportion of sea pollution.

In future that is likely to change. As onshore gas and petrol resources dwindle and exploitation of offshore resources becomes more technologically and economically viable, the number of platforms will increase.

In Australia, the best prospects for finding large accumulations of petroleum lie offshore.

But legislation like the Commonwealth's Protection of the Sea (Discharge of Oil from Ships) Act, 1981, and various equivalent State Acts apply only to ships, not to offshore platforms.

The recent Environment Protection (Sea Dumping) Act prohibits the deliberate disposal of waste into the sea from platforms, but not disposal "incidental to, or derived from the normal operations of platforms." In practice it may not cover the discharge of drilling muds or unprocessed water/oil mixtures.

The House of Representatives Standing Committee on Oil Spills found that "although the probability of a major oil spill from Australian offshore oil and gas operations may be low, if a spill occurred it would be a major disaster."

This was a rather more realistic assessment than that submitted to the Royal Commission into oil drilling on the Great Barrier Reef by the Queensland Minister for Mines, who, after "a careful analysis of the evidence," rated the risk as "nil."

Effective environmental standards have been delayed for years by arguments about State rights. In 1967, following what was billed as "a historic agreement" between the

Commonwealth and the States, a piece of legislation was passed which in effect shelved the question of constitutional responsibility.

The uncertainty produced by the Petroleum Acts led a Senate Select Committee in 1971 to admit: "The question of who has authority or responsibility to act is unknown."

The legislation allows regulations to be made for preventing the escape of petroleum and drilling fluids and for the clean-up of pollution which does occur. But no regulations have been made under either the State or Commonwealth Acts.

The legislation also provides that an operator must not interfere with the conservation of the resources of the sea and seabed to a greater extent than is "reasonable."

The Barrier Reef Royal Commission regarded the word "reasonable" as allowing too wide an escape for the operators, but the provision was left untouched by amendments made in 1980.

The chairman of the Royal Commission, Sir Gordon Wallace, formerly president of the NSW Court of Appeal, recommended that parts of the legislation be amended to cover contractors, not just the titleholder. But this too remains unchanged.

The major changes brought about by the 1980 amendments did not concern the environment, but questions of jurisdiction.

The High Court decided in 1975 that the Commonwealth had sovereignty over the territorial sea and the continental shelf. But later the Fraser Government agreed to hand back considerable control to the States.

In the negotiations which took place there was no opportunity provided for public, industry or Opposition participation. The Labor Party voted against the legislation, declaring it a "sell-out" to the States.

Under the new arrangements, Commonwealth legislation applies beyond the three-mile limit and State legislation within the three-mile limit. It means, for example, that oil exploration companies holding title to areas straddling the boundary will operate under two separate permits and two separate sets of directions on safety standards.

In February, Senator Peter Walsh, now Minister for Resources and Energy, reiterated that Labor would dismantle the Act as soon as it gained office. It has not yet done so.

It goes without saying that the environmental standards required of offshore drilling operations vary significantly between States. Each State has standard directions

which it issues to individual companies involved in exploration and production.

These are largely based on draft regulations drawn up in 1969 but never enacted.

The Barrier Reef Royal Commission referred to the draft regulations as "inadequate and insufficient" to cover the subject of safety precautions.

The draft specifically covered matters such as safety procedures and equipment, drilling, use of explosives, seismic surveys, blow-out prevention equipment, testing of equipment and pipelines.

It provided (not entirely unequivocally) that where there was waste or contamination, "the operator shall forthwith carry out such measures as may be necessary to remedy or prevent it."

This standard may be contrasted with the recommendation of the Barrier Reef Royal Commission that no substances of any kind should at any time be disposed of into the waters of the Great Barrier Reef.

The Commission also recommended that drilling and production facilities be inspected daily to determine if pollution was occurring; any escaped oil would be contained immediately and removed physically. Although the recommendation is expressed in regard to the Barrier Reef region, the Commission felt it "may contain much in common with regulations intended to have a wider application."

The directions issued by the designated authority in each State are not subject to public scrutiny.

When the Barrier Reef Royal Commission finally gained access to directions issued by the Queensland Mines Department to one company, it discovered serious inadequacies. The document "left much to be desired in clarity, comprehensiveness and enforceability."

There is only one petroleum exploration licence in force for waters off NSW, issued to Sydney Oil, whose operations so far have been largely confined to seismic surveying.

Environmental impact studies, required for most land-based developments as a matter of routine, are rarely carried out to determine the hazards involved in offshore drilling.

The Commonwealth's Environment Protection (Impact of Proposals) Act, of 1974, does not compel the preparation of an environmental impact study.

Approval for projects depends greatly on the "contingency plans" prepared by individual companies to deal with any oil spill involving one of their offshore installations.

The Australian Petroleum Exploration Association (APEA) has its own code dealing, in very general terms, with oil spills, seismic operations and drilling and production operations.

A joint industry pool of facilities and manpower is available in the event of an accident, but operators rely heavily on a joint Commonwealth-State plan, the National Oil Spills Plan (NOSP), to deal with any large-scale disaster.

But in 1978 a House of Representatives standing committee concluded that NOSP, designed primarily to cope with pollution from shipping, would be ineffective in dealing with even a moderately large spill — through lack of equipment and delays in transporting it to the spill site.

The oil industry can take much of the credit for the fact that Australia has never suffered a major offshore oil disaster. But the more the industry grows, the less appropriate it becomes for environmental standards to be laid down on such a piecemeal basis.

CSO: 5000/7589

LATEST DEVELOPMENTS IN DISPUTE OVER TASMANIAN DAM

Tasmania Slap at World Heritage

Perth THE WEST AUSTRALIAN in English 24 May 83 p 27

[Text]

CANBERRA: The Tasmanian Government has claimed that concern by the World Heritage Committee about the State's south-west wilderness region is irrelevant to federal legal action against the Gordon-below-Franklin Dam.

The claim is one of several issues of law raised by Tasmania in the latest legal pleading in the High Court case due to begin next week.

The pleading, a defence to an amended statement of claim by the Commonwealth, was filed in the High Court registry here yesterday.

The defence also reveals that the Tasmanian and Commonwealth governments remain far from agreed on the factual situation surrounding their legal battle.

For instance, the Tasmanian pleading refuses to admit that, as claimed by the Commonwealth, the Tasmanian wilderness area:

- Is of outstanding value from the scientific and aesthetic points of view.
- Is the habitat of threatened species of universal value.
- Contains archaeological sites of univers-

al value, and

- Is a natural area of outstanding value for science, conservation and natural beauty.

The Tasmanian pleading raises the prospect that the High Court cases on the wilderness area will be prolonged by arguments about the facts before the legal issues can even be addressed.

On the legal questions, yesterday's plea denies that Australia has the duty under the World Heritage Convention of ensuring the identification, protection and preservation of significant items of the south-west Tasmania wilderness region.

The Tasmanian defence also claims that Australia's obligations under the international convention are qualified by what is commonly known as a "federalism clause" in the convention itself.

That clause requires the central government in a federation to "inform" competent authorities of its constituent States about the provisions of the convention, and to "make recommendations" for their adoption.

The Tasmanian plea lodged yesterday raised a number of questions of law on the dam case.

Some had been made

public before, but the Tasmanian Government claimed that many of the issues raised by the Commonwealth were legally immaterial to the case. These included Commonwealth claims that:

- The matter was one of international concern.

• Protection and conservation of the south-west Tasmania wilderness was necessary if Australia was to claim benefits under the international convention.

• Australia was bound to take appropriate measures for the protection and conservation of the area.

• The committee had expressed serious concern about the proposed dam construction, particularly about its capacity to destroy cultural and natural features of great significance.

All of these, the Tasmanian Government said, were immaterial to the Commonwealth's moves to have the High Court stop construction.

The pace of legal action is expected to increase between now and the scheduled beginning of the week-long hearing of the case next week.

Evidence of Damage So Far

Melbourne THE AGE in English 25 May 83 p 4

[Article by Stephen Mills]

[Text]

CANBERRA. — Federal police and environment experts have provided the Federal Government with a dossier of evidence that Tasmanian efforts to build the Gordon-below-Franklin Dam have already caused grave damage to the wilderness region.

Evidence filed in the High Court yesterday by the Commonwealth show five Federal police were sent last month to collect photographs, sound recordings and videotapes of the construction work at the dam site.

The evidence will be used to back the Federal argument for an immediate injunction preventing construction work, when the High Court starts hearing the case next Tuesday.

Five sitting days in the court's largest court room have been set aside to hear the Tasmanian and Federal Governments argue over

whether the dam work is constitutional.

The affidavits and statements filed claim that work being carried out on and near the dam site has already caused grave damage to natural ecosystems.

The Federal police team led by Detective-Inspector Adrian Whiddett collected videotape and sound recordings as well as still photographs and binocular observations during two days of investigations from a hired boat on the Gordon River.

One member of the police team also took photographs of the activities of the Tasmanian Hydro-Electric Commission from a chartered civil aircraft.

The result is a dossier which contains allegations ranging from the destruction of huge rainforest trees to the identification numbers of trucks and earthmoving equipment being moved into the area.

Hawke-Gray Talks

Canberra THE AUSTRALIAN in English 27 May 83 p 1

[Article by Brian Hill and Ellen Peterson]

[Text]

THE Tasmanian Premier, Mr Gray, left Canberra empty-handed last night after his talks with the Prime Minister, Mr Hawke, ended in acrimony — and with the Federal Government raising the possibility of further action to stop the Franklin Dam, regardless of the High Court decision.

The Attorney-General, Senator Evans, said in the unlikely event that the Commonwealth lost its case, the matter of alternative action would be considered.

"Of course we will abide by, as I have indicated publicly before, any order that may be made by the High Court," Senator Evans told the Senate.

'Disappointed'

"As to the possible taking of any other action, reliance on other powers or other execu-

tive measures, that remains a matter for consideration when that particular hypothetical event occurs."

The case is due to start next week and is expected to take six days, after which Senator Evans said the Federal Government would make a formal application for an interim injunction to prevent work continuing on the dam.

Mr Gray had originally planned to spend last night in Canberra. But he emerged from the meeting with Mr Hawke grim-faced and said he would fly home immediately.

He said: "We're not powerless — we'll win the High Court action and the Prime Minister will be shown to have broken his promises, not only to Tasmanians but Australians generally.

"I think he now has a very, very serious credibility problem.

"There were some very firm words spoken. We disagreed on a number of issues."

Mr Gray said he had come to Canberra to try to establish a basis of understanding and that basis had not been arrived at. The results had been "totally unsatisfactory".

Mr Hawke said he was disappointed that again Mr Gray had "chosen to substitute invective for constructive discussion".

Mr Hawke said Mr Gray had deliberately prejudiced the interests of Tasmanians.

The Federal Government's attitude to other programs raised in Mr Gray's letter of May 20 was that existing pro-

jects would be given fair consideration in the Budget context.

"In relation to the Gordon-below-Franklin dam, the Federal Government indicated it was willing, without prejudice to the interests of Tasmanians, to identify, in conjunction with Tasmanian officials, employment-generating projects for which planning can start as soon as possible.

"At the insistence of the Federal Government discussions between a Federal minister and Commonwealth officials and Tasmanian Government representatives will be held next week."

Legal Issues

Sydney THE SYDNEY MORNING HERALD in English 31 May83 p 7

[Article by Verge Blunden]

[Text]

THE FUTURE balance of power between the Commonwealth and the States hinges on the outcome of the Gordon-below-Franklin dam dispute which begins in the High Court today.

On any view a win for the Commonwealth must represent a significant expansion of Federal power at the expense of the States.

In this context it should be remembered that the Commonwealth can win the case by convincing the High Court that it has validly used only one of the constitutional powers in question.

This means, for instance, that if the High Court upholds the Commonwealth's contention that the Tasmanian Hydro-Electric Commission is a trading corporation, and subject to the Commonwealth's constitutional power over corporations, then the World Heritage Act would be valid under the corporations power alone.

In that event the High Court need not even consider the other issues such as the limits of the external affairs power or the validity of the use of the race power and so on.

But this has not escaped the attention of the team of lawyers who have been preparing the case for the Tasmanian Government and who plan to attack the Commonwealth on all fronts.

Constitutional lawyers believe Tasmania may even have sneaked in a king-hit by placing section 100 of the Constitution before the High Court for the first time.

Section 100 says: "The Common-

wealth shall not by any law or regulation of trade or commerce, abridge the right of a State or of the residents therein to the reasonable use of the waters of rivers for conservation or irrigation."

This section has not yet been subjected to interpretation by the High Court and Tasmania plans to argue that it acts as a prohibition against all of the powers the Commonwealth is attempting to use to stop it building the dam.

The powers the Commonwealth is relying on are derived from section 51 of the Constitution and this section is qualified by the words "subject to this constitution" which, Tasmania claims, means subject to section 100.

The case will begin with an examination of the relevant Commonwealth and Tasmanian legislation.

The dam is being built under the provisions of the Tasmanian Hydro-Electric Commission Act, 1944, and the Gordon River Hydro-Electric Power Development Act, 1982.

The Commonwealth will argue that these two acts are inconsistent with the provisions of the World Heritage Regulations and the World Heritage Act, and are therefore invalid by reason of section 109 of the Constitution.

Section 109 of the Constitution provides that where a State law is inconsistent with a law of the Commonwealth, then the law of the Commonwealth will prevail.

If the argument over inconsistency is to succeed, the Commonwealth legislation and regulations

must be valid — Tasmania says they are not.

The questions for the High Court to consider in determining whether the regulations and legislation are valid fall into these main categories:

External Affairs Power (Section 51(29) of the Constitution):

The Commonwealth will argue that because the Tasmanian south-west wilderness area has been placed on the World Heritage List, under the terms of the World Heritage Convention of 1972, there is an obligation on the Federal Government to protect it.

It is claimed to come within the external affairs power because the Commonwealth is putting an international convention into effect.

This argument derives support from the High Court's decision in the Koowarta case last year when, by a four to three majority, the court upheld the validity of the Federal Racial Discrimination Act, 1975. This act gives effect in Australia to the international convention on the elimination of all forms of racial discrimination.

Tasmania will argue that the damming of a river within an Australian State is not a matter of international concern and therefore not subject to the Commonwealth's external affairs powers.

The State will submit that the signatories to the World Heritage Convention did not intend that the convention should be used to frustrate resource development within a State forming part of a Federal unit such as Tasmania.

Constitutional lawyers say race discrimination is accepted fairly universally as a matter of international concern, but the issues in the present case raise a borderline argument.

They say the High Court could easily distinguish the Koowarta case because of the different facts and circumstances.

If the Koowarta case represent the outer limits of the external affairs power, then the Commonwealth's submissions in the dam case may well fail.

If the Commonwealth succeeds

on the external affairs argument, then its power in this area will be greatly expanded, probably giving it the right to intrude further into areas presently thought to be wholly within the control of the States.

Corporations power (section 51(20):

Some constitutional lawyers believe the dam case will stand or fall on the corporations power alone.

The Commonwealth plans to argue that the Tasmanian Hydro-Electric Commission is a trading corporation within the meaning of that phrase in section 51(20) of the Constitution.

Under the provisions of the World Heritage Act a trading corporation is prohibited from doing anything which might damage a proclaimed area such as excavation, cutting down trees, making roads, erecting buildings or using explosives.

Tasmania will submit to the High Court that the commission is a Government undertaking subject to State control and regulation and not a trading corporation.

The State will further say that High Court decisions have applied the corporations power to matters concerning trading and commerce and that a law about heritage and culture is not a law about corporations.

The Commonwealth can derive support from a recent case in which the court ruled that the Victorian State Superannuation Board was a financial corporation and subject to the provisions of the Trade Practices Act. The board had unsuccessfully claimed to be a Government administrative body.

However, Tasmania can point to the recent Fontana case where the court ruled that certain provisions of the Trade Practices Act were invalid because they were a law about trade unions and not corporations.

Race power (section 51(26):

The Constitution makes provision for the Commonwealth to make laws with respect to the people of any race for whom it is deemed necessary to make special laws,

The Commonwealth claims that the dam site includes Aboriginal sites which are of particular significance to the Aboriginal people. It is further alleged that construction of the dam will damage or destroy Aboriginal artifacts and relics and that Aboriginal sites would be flooded if the dam were allowed to be completed.

All of these matters are said to be in contravention of the World Heritage Act.

Tasmania denies that it has damaged or intends to damage any Aboriginal sites, but the constitutional argument the State will mount will be that the World Heritage Act purports to be a law with respect to environment and not a special law with respect to Aborigines or their culture.

Recent judgments by the High Court seem to indicate an increasing sensitivity by the court to issues regarding Aborigines, and the Commonwealth may be on strong ground in using this power.

In addition to its argument about the use of rivers, Tasmania intends to claim the Commonwealth is attempting to acquire property from the State otherwise than on "just terms" in contravention of section 51(31) of the Constitution.

Tasmania will submit a general proposition that the Commonwealth lacks any inherent power to interfere with a matter which is within the right of a State to carry out.

There are numerous subsidiary grounds which both sides will put before the court to tie up their cases.

An analysis of judgments by members of the present Bench show that Justice Mason, Justice Murphy, Justice Brennan and Justice Deane have given the most liberal interpretation to Commonwealth power.

A much more restricted interpretation has been given by the Chief Justice, Sir Harry Gibbs, Justice Wilson and Justice Dawson.

But the way the dam case has progressed so far makes the course it will take quite unpredictable, let alone the possible outcome.

BHP NEW TARGET OF ANTIDAM CONSERVATION GROUPS

Canberra THE AUSTRALIAN in English 18 May 83 p 3

[Text]

CONSERVATION groups have taken on a new fight to save the Tasmanian wilderness, this time against BHP.

BHP has applied for a licence to carry out mineral exploration in a 236km zone in south-west Tasmania.

In a "No Mines" protest outside the BHP offices in Sydney and Melbourne yesterday, spokesmen for the Tasmanian Wilderness Society condemned the plans of BHP as "insensitive and hypocritical".

One Wilderness Society spokesman in Sydney, Mr Randall King, said: "We will

fight the application with all the means at our disposal - to the limits of our finances. If necessary, we will go to the High Court.

"The area BHP wants to open to mining is totally within the National Estate boundaries. In 1975, the Tasmanian Government imposed a moratorium on development of these regions until a proper management plan had been drawn up. This has not happened."

Mr Jack Mundy of the NSW Conservation Council and the promoter of the "green ban"

campaigns of the 1970s, said it was well-known that the Federal Government was assisted into power by the conservation vote "yet it has shown little sensitivity to the problems of ecology".

All objections to the application have to be lodged at the Mining Warden's Court by June 1.

Meanwhile, the Prime Minister, Mr Hawke, will this week invite the Tasmanian Government to talks on an employment strategy capable of replacing jobs lost if the Franklin dam project is stopped.

CSO: 5000/7588

WEST AUSTRALIA PLANS LARGE, NEW WILDLIFE RESERVE

Perth THE WEST AUSTRALIAN in English 23 May 83 p 4

[Text]

THE State Government will create a big new nature reserve between Brand Highway and the coast north of Jurien.

The 278 square kilometres of land will be named the Mt Lesueur reserve and will be vested in the WA Wildlife Authority.

The Minister for the Environment, Mr Davies, said that the reserve would help in the conservation of native flora and fauna.

It had been created by consolidating several existing reserves and adding two abutting strips of vacant crown land in line with recommendations in the Environmental

Protection Authority's red-book report.

Mr Davies said that most of the land—which included a diverse range of landscapes, rock types and vegetation—was in its natural state.

The area was the natural habitat of 700 species of plants including seven gazetted rare flora species, many species of tree-hollow nesting birds and a wide variety of vertebrate fauna.

It had special biological significance as it was believed to have been a refuge for many species of plants and animals during dry periods in the past 5000 years.

CSO: 5000/7589

WEST BECOMING FOCUS OF EFFORTS TO CONTROL SALT POLLUTION

Perth THE WEST AUSTRALIAN in English 25 May 83 p 10

[Article by Alex Harris]

[Text]

IT WILL be more than good luck if 100 years hence, Perth householders can turn on their taps and get the same kind of drinking water we get now.

It is more likely to be the outcome of a research programme being put together at CSIRO's Floreat laboratories to help manage the city's groundwater reserves in perpetuity.

Like everything else on this planet, water is a finite resource.

The earth has about the same quantity as it had when the planet cooled 3500 million years ago. Since then it has been endlessly recycled and redistributed.

Unprecedented demands on fresh supplies and threats to its purity have become problems only in the past 50 years.

Key

Management has become the key to the future and WA, with its low rainfall and ancient soils, is becoming a focal point for a new approach to Australian water studies.

A big part of the thrust will be spearheaded by the Division of Groundwater Research, set up nine months ago after a major overhaul of CSIRO water activities throughout Australia.

The new division will carry on where the old Division of Land Resources Management left off, to investigate studies into the behaviour of water through the soil and the huge aquifers over which much of the metropolitan area is built.

"Perth was the logical centre and WA the logical State for this work," the division's chief, Mr Ray Perry, said this week.

"Water is crucial to WA's future. Salinity in the South-West has affected 39 per cent of all surface water.

"With 264,000 hectares of farmland suffering from salt pollution the cost is about \$31 million a year.

"Our salinity problems are the worst in Australia so we have plenty to do on our own doorstep."

Pioneer

The old LRM Division, of which Mr Perry was also chief, was a pioneer in the study of underground water.

Investigations into water salinity have been going on with State authorities for more than a decade, a level of collaboration unequalled anywhere else in Australia.

So far as the public is concerned, the CSIRO reorganisation is little more than a formality.

Internally, however, it will have far-reaching effects.

The 76 scientists formerly with LRM have moved over to the new division and another five specialists will take up postings by the end of September.

Their field of study will include natural interactions between surface and underground waters, soils and rocks, as well as responses to man-made stresses like mining, waste disposal, agriculture, artificial recharge and pumping.

The information will be passed on to agencies like the WA Geological Survey and the Commonwealth Bureau of Mineral Resources, the Metropolitan Water Authority, the Public Works Department and private consultants — authorities who map, develop and have a big say in putting water management policies into effect.

The spinoffs will be felt all over Australia which, because of man's atrocities, carries a full complement of all the world's major water problems.

Mr Perry said the new division would put more effort into the study of water recharge and geochemistry — two areas which were understaffed in LMR.

This would extend the new division's expertise to produce a better understanding of water generally.

The work would begin with the chemistry of rain water and follow it through the soil into the aquifers to plot its changes.

As an example of what is involved, water in Perth's biggest aquifer, the Gnangara Mound, moves horizontally from 10 to 100 metres a year.

Centuries

It can take centuries to reach the ocean.

Salinity, however, remains the overriding problem. "It is actually two problems," Mr Perry said.

"We want to try to reverse what has happened and stop it getting worse.

"A lot of land has been cleared in WA during the past 20 years and in terms of salt the full effects of that clearing still have to be felt.

"Some have shown up already but there is more to come.

"Salinity will probably continue to increase and more farmland will be lost—but we don't know how much."

He said some of the recently-cleared lands might not affect urban water supplies but no one could be certain.

Salinity had a greater effect on water—as a commodity—than on land, so careful monitoring of streams was needed to maintain the quality of water piped

to towns and reticulated farms.

"We also have to be aware of salt intrusions into the aquifers," he said.

"If you pump too much from an underground source, other water seeps in from the sides. If salt is present the water quality suffers.

"This has already happened in several parts of the metropolitan area a few hundred metres from the Swan River, especially around Melville.

"It is not serious but it has to be watched."

Watching means detailed studies to find a balance between the seasonal inflow and the annual draw through the bores if Perth is not to repeat the experience of Carnarvon, where over-pumping two decades ago caused an intrusion of sea water into the fresh water wells.

Result

"One of the advantages of groundwater is that what you pump out is the result of many years' accumulation," Mr Perry said.

"It does not fluctuate like rainfall and it is enormously important to cities like Perth, where it helps equalise the supply in bad seasons.

"But there is a debit. What you put into the system today may take hundreds or even thousands of years to reach the point where you can taste it in the cooking."

POLITICS SURFACE IN ROW OVER LOGGING IN VICTORIAN PARK

Melbourne THE AGE in English 30 May 83 p 10

[Article by Rosslyn Beeby]

[Text]

The director of the Australian Conservation Foundation, Dr Geoff Mosley, has accused the Land Conservation Council of breaching a State Government directive to create a large alpine national park in Victoria.

Dr Mosley said the council's proposals to retain a fragmented alpine national park system, and to permit grazing, mining and logging of native forest within the parks were "grossly irresponsible and absurd".

"The council's failure to create a single national park cuts right across ALP election promises made by the Minister for Conservation, Mr Walker," he said.

The council report recommends that logging be allowed in forests proposed as additions to the parks system. These areas, including the Dargo River catchment, would be logged before becoming parkland. Under the new proposals, about 135,000 hectares of parkland will be logged. No changes are proposed to existing grazing leases.

The conservation council, a non-ministerial body which advises the Government on public land use, was directed by the Governor last year to conduct a special investigation of the Alps. The Order in Council directed it to investigate areas that could be added to the existing park system, "bearing in mind the Government's conservation policy".

In an outline of Labor's conservation initiatives, published last

year, Mr Walker said it was ALP policy to phase out logging, mining and grazing in national parks. He also stated that the ALP would "complete the task of creating a single contiguous alpine national park, adjoining Kosciusko Park".

The council's preliminary proposals, released at the weekend, recommend an increase of 235,000 hectares to the present parks system. This would increase the total alpine national park area to 565,000 hectares. Victoria presently has four alpine national parks — Wonnangatta-Moroka, Bogong, Cobberas-Tingaringy and Snowy River.

The report says the council is aware that community groups have been seeking the creation of one alpine national park, contiguous with Kosciusko National Park, but at this stage links between the four Victorian parks are not proposed. This is largely because the long-term significance of timber resources in the area is unclear.

Dr Mosley said exclusion of land which would link Kosciusko National Park, in New South Wales, with Cobberas-Tingaringy National Park amounted to "spitting in the eye" of the NSW Government. The Premier of NSW, as well as Victorian conservationists, had written to the council asking that the land known as Davies Plains be included in the new parks system, he said.

The report also failed to recommend the creation of a reserve for the endangered mountain pygmy possum, he said. The possums' habitat is threatened by proposed ski resort development at Mt

Hotham and Dinner Plains.

A spokeswoman for the Victorian National Parks Association, Ms Carmel McPhee, said 39 per cent of the new areas proposed as national park land would be logged, and 94 per cent would be subject to long-term grazing leases. Both uses were incompatible with the United Nations definition of national parks, she said.

Jobs threat

"This is a long way from the alpine park major conservation organisations have proposed for the past 50 years," she said.

The chairman of the conservation council, Mr Sam Dimmick, yesterday refused to comment on criticisms of the alpine park proposals. Written submissions could be lodged by the public by 26 July, and would be considered by the council before final recommendations were made on land use in the area, he said.

Although the report proposes 135,000 hectares of national parkland remain available for timber production, the general manager of the Victorian Sawmillers' Association, Mr Bruce Strange, claimed the gradual loss of alpine forests as parkland would cause the eventual loss of 2000 jobs.

Mr Strange said sawmills supplied with logs from alpine forests had already lost 30 per cent of their resources in the council's previous alpine inquiry, completed only three years ago. It was feared that the latest proposals could further reduce resources, he said.

The Minister for Conservation, Mr Walker, said last night he believed the recommendations had maintained a balance between competing interests for the parkland. Mr Walker refused to comment further, saying he would take "a neutral and objective" stand until all public comment had been considered.

CSO: 5000/7589

RAW SEWAGE THREATENS ENTIRE FISHING INDUSTRY IN SOUTH

Canberra THE WEEKEND AUSTRALIAN in English 21-22 May 83 p 5

[Text]

RAW sewage spewing into the sea near prime crayfish and abalone grounds in the south-east of South Australia is threatening the area's entire fishing industry, fishermen and conservationists warned yesterday.

The untreated effluent is being pumped from Mount Gambier into the sea only 6km west of the famous cray centres at Port Macdonnell.

Concerned fishing and conservation interests are angry over the State Government's decision not to construct a sewage treatment plant.

Representatives from the Mount Gambier District Council, the Port MacDonnell District Council, and local fishermen, will seek an audience with the State Premier, Mr Bannon, asking him to reverse the decision.

One local fisherman, Mr Jim Frost, who has been in the crayfishing business for twenty years, warned yesterday that "one bad cray" could ruin South Australia's reputation as a supplier.

The Port MacDonnell area alone exports crays and abalone worth an estimated \$12 million each year, and much is sent to the lucrative — and expanding — American market.

The President of the Conservation Council of South Australia, Ms Betty Fisher, attacked the Government yesterday for its recent showing on construction promises.

"The Minister for Fisheries, Mr Blevins, can afford to recommend a casino which will spend a great deal of the State's money in its construction, but refuses a proposal for a vital project which will guard the health and industries of people in a wide area of the south east," she said.

She said the Government should not expect rural communities to tolerate a situation which would not be tolerated by suburban residents.

Fishermen have been warned by Mr Blevins not to fish within a 1000m radius of the sewage spill.

CSO: 5000/7589

CURRENT STATE OF ENVIRONMENT ASSESSED

Scientific Report on Environment

Warsaw NAUKA POLSKA in Polish No 4, Apr 83 pp 33-39

[Article by Wlodzimierz Michalow: "The State of the Environment in Poland as Presented in a Report by PAN"]

[Text] The "Man and Environment" Committee of the PAN [Polish Academy of Sciences] presidium reviewed from 1970-1971 research work which was conducted in Poland on the problems of development and protection of the environment. At that time there came into being the first reports initiated by the committee. Those reports were an attempt to put into order and complete uncoordinated and chaotic research work in assessing the state of the environment and means for preventing its further deterioration.

With much spirit and a great outlay of forces, the committee also participated in the development of the "Comprehensive Program for Preserving and Developing the Environment in Poland Until 1990" which was prepared in the early 1970's by the Ministry of Territorial Management and Environmental Protection.

Approved in 1975 by decisive figures, this program contained both a diagnostic and a prognostic portion. It still befits us to return to both parts of this program.

At the end of the 1970's, the "Man and Environment" Committee along with the Council of Ministers Planning Committee organized scientific-training conferences in the 7 macro-regions of Poland (except the GOP [Upper Silesia Mining District]). Participating in these conferences were committee members, scientific workers in different specializations, deputy chairmen of the Planning Commission, representatives of its regional branches, voivodes and other representatives of regional administration and the directors of the larger factories. As a result of these conferences, there was produced a large body particular works which also contained data mainly on the large industrial plants but also on prognoses of further development of the situation in certain areas and constructive proposals aimed at changing the present and for the most part highly unfavorable state of affairs. Only some of the projects and provisions enacted at these conferences were properly employed. The majority of those resolutions and

recommendations then adapted have remained on paper only. One could make a relatively short list of resolutions that have been put into practice and a much longer one of those that have not yet been implemented. For this reason, all of this material is still topical and may be successfully put to use as may data contained in materials submitted by the committee (concerning in the most drastic cases, the threats to human health and life) to the directors of particular ministries and the central authorities. Presently, this is a matter of rational utilization of these materials in new and changing socioeconomic conditions and of implementing the most important of these recommendations after determining their priorities.

At the end of the 1970's, the presidium of PAN ordered the "Man and Environment" Committee to perform an entire analysis and assessment of the state of the environment in Poland and to work out prognoses in this area.

A report entitled "Assessment of the Current State of the Environment in Poland" came out as a result of several years of work by 8 teams of scientists with the participation of 54 of the most well-known Polish specialists. The range of this report was somewhat restricted in subject on account of its departures from discussion of direct medical threats to human health and life. A separate expert's report was prepared on that subject by the PAN Committee on Human Ecology.

Directly, however, the majority of pollution and anthropogenic deformations of the environment should be of course considered with comprehensive understanding of the health problems of the nation's population.

The report came out under a particular set of conditions: the deepening of the nation's economic crisis, widespread social changes and a lack of precise long-term plans for social and economic development with which any planning in environmental protection should be closely connected. In connection with this, the report fell short of an effort to make a particular prognosis of environmental perspectives. However, the general diction of the contents of this document is unambiguous and leads to the conclusion that if the present trends, which are an expression of peculiar voluntarism by decision-makers, their lack of consideration of the laws of nature and endeavors to industrialize the nation at any price, continue, it will bring about disaster throughout Poland. There have already been threatening signs of this in the Gulf of Gdansk and in Silesia.

In the course of work on the "Assessment", it should have been considered that the work until now of the Central Office of Statistics has not been sufficiently reliable since it has mainly relied on information from sources within sectors of the economy more interested in an optimistic assessment of their own activity in enterprises preventing damage to the environment. Responsible GUS [Central Office of Statistics] officials talked about this at meetings of the committee and its presidium.

Thus, in order to gain an objective and true assessment of the situation, it was necessary in many cases for the committee to do its own research and realize partial reports and this in turn lengthened the time needed to

write the "Assessment". It was only at the beginning of 1982 that this report was readied by its respective organs in PAN to be sent to all interested state institutions and social organizations for its practical implementation.

Along with these difficulties and problems in writing a comprehensive expert's report on the state of the nation's environment, there were also positive moments that facilitated objective assessment and conclusions. The State Council on Environmental Protection emerged and became active in making summary evaluation of the state of the environment. Similar papers, coming out on a wave of general social interest in environmental problems, were prepared by the State Council on the Protection of Nature, the League for Protection of Nature and other organizations. A social movement for the environment developed and found expression in, among other things, the creation of the Environmental Protection Culb in Krakow and its filials.

The economic reform currently being carried out by utilization in plants of proper economic management taking into consideration the rational protection of the environment and the workers' material interest in this, creates a new opportunity for putting into practice the scientific recommendations contained within reports such as that put out by PAN. It is also a significant fact that trends and recommendations in the realm of environmental protection directly correspond to the economic necessity of limiting materials-, energy- and water-intensive production processes, making full use of waste products and introducing nonwaste and low-waste technologies. This will make it possible to count on ever-increasing practical application of environmental principles despite current economic difficulties.

In connection with the circumstances mentioned above, the prognostic part of PAN's expert report does not contain particularized data and proposals but only recommendations of a general character and their specification will be possible during the formation and development of the nation's social and economic growth plans. Full expression of expression of these proposals should take place in the next 5 year planning period.

Within a concise report, there is, of course, no way to cite the data of the "Assessment" even in a synthetic summary. In view of this, I will only be able to discuss the main parts of its diagnostic portion and, in order to better portray the situation and the directions of changes, compare where possible this data to analagous pre-1973 data considered in the government "Program" and state predictions for the program for 1990.

Any discussion of environmental dangers usually begins with matters concerning atmospheric pollution by means of which harmful substances enter the soil, surface waters or the human organism directly.

According to the "Assessment", the sources of air pollution are: mining, the power industry, metallurgy, factories, especially those of the construction materials and chemical industries, uncontrolled use of agricultural chemicals and motor vehicles. A particular threat to the environment comes

from sulfur compounds (mainly SO₂), nitrous oxides (mainly NO₂ and NO), and fine dusts containing toxic metal compounds, especially lead, cadmium and organic hydrocarbons. The provinces most seriously threatened by SO₂ emissions are: Katowice, in which in 1978 an average of 170 tons of SO₂ fell on 1 square kilometer of surface, the Krakow region--75 tons, Konin--74 tons, the Lodz city region--56 tons, Legnica--53 tons, Walbrzych--52 tons, the Warsaw region--35 tons, Plock--30 tons, Tarnobrzeg--22 tons and in Szczecin Province--19 tons.

One of the most harmful pollutants (and the hardest to control at its sources of emission) is sulfur dioxide itself. The government "Program" has determined the amount of SO₂ annually discharged into the atmosphere to be 2,900,000 tons and has predicted that the emission will be doubled by 1990 due to further development of industry. According to data of the Commission of experts of the PAN Committee led by Professor J. Juda which was prepared for the "Assessment", the annual rate of SO₂ emissions in 1980 was 4,341,000 tons which already approaches the figures foreseen by the state "Program" for 1990. Dust content of the atmosphere has also increased, although it can be noted that it has not increased proportionally to the opening of new plants and thus to new sources of dust emission. The prognosis included in the state "Program" has predicted that dust content of the atmosphere in 1990 will remain principally within the levels stated at that time, which also appears to be unrealistic.

The second important element from a point of view of pollution is surface water. Surface water absorbs pollutants from both industrial and communal sewage and from the atmosphere.

In the "Program", the state of rivers in Poland was evaluated in the following manner: first class purity--24 percent of river length, second class--30 percent, third class--18 percent and entirely polluted--28 percent. According to PAN's "Assessment", at the present time, almost half of the nation's rivers area already unsuitable for economic uses and there are already almost no more class-I waters. In the period not covered by the study campaign, water not meeting the standards takes up nearly 31 percent of river length in Poland. Especially bad throughout the year is the water quality of the rivers Ner, Utrata, Czarna Przemsza, Welna, Bug, Bzura, Bystrzyca, Wierzyca and considerable sections of the Mala Panwia, Bobr, Ina, Warta, Kamienna, Notec, Odra and Vistula. Only about 50 percent of lake surface in Poland is clean. In the prognostic part of the "Program", it was only said that the amount of sewage requiring treatment will grow from 5.7 billion cubic meters in 1972 to 8.7 billion cubic meters in 1980 and 12.4 billion cubic meters in 1990. In connection with the slow tempo of construction of sewage treatment plants in the 1970's and the growth in number and development of industrial plants, the amount of untreated sewage has grown considerably. In a paper presented to the PAN Committee at the end of 1980 by the deputy chairman of the Central Statistical Office, we read "the state of the environment has undergone further degradation as a result of things such as the growth in water pollution. Out of 4.7 billion cubic meters of industrial and communal sewage requiring treatment and

discharged into surface waters, around 57 percent was treated, and 36 percent was treated exclusively by mechanical methods. The data presented shows that in 40 percent of industrial plants exerting a decisive influence on water and sewage management and in over 50 percent of the cities, including Warsaw and Lodz, there were no waste treatment plants."

According to the data of the "Program", in 1970 over 4.5 percent of forest area was in zones endangered by air pollution. This threatened surface area has now grown and according to the "Assessment" data, about 500,000 hectares of forest have been damaged by emission of dusts and gases and the situation in the Upper Silesian Industrial District is especially serious as all of its forests have become endangered. In recent years, major damage in the northern regions of the country has been caused by the increasing numbers of gypsy moths. In 1979, the area threatened by this highly destructive nuisance covered about 180,000 hectares of forest, in 1980 it rose to 500,000 hectares and in 1981, catastrophic growth was estimated, as much as 1,600,000 hectares of forest area. At a scientific session of the Division of Biological Sciences of PAN, the positive relationship between atmospheric pollution and the increasing insect damage to forests was convincingly pointed out.

The comparative data above relative to the opinions expressed in PAN's "Assessment" and the 1975 state "Program" was quoted as examples only. I think that evaluation of the performance of the "Program" as a whole, including its prognostic part, viewed in light of PAN's "Assessment" and other such works, should be done in the near future by a competent and responsible body, under the authority perhaps of the State Council on Environmental Protection. This will involve not only the compilation of numerical data, but will also concern the methods of gaining data, and problems of methodology.

Let us still briefly consider the most telling data from the Committee's "Assessment". What draws attention is the statement that as a result of change in the use of land (construction of cities, settlements, industry, transportation routes, and forestation of the weakest soils) and the annual growth in population, the available cropland per capita has decreased. In 1946, cropland per capita was 0.86 hectares and in 1980, a little more than 0.50 out of which barely 0.13 hectares consisted of class I-IIIb lands. In 1946-1980, about 1,500,000 hectares of cropland disappeared, 596,400 of which were lost in the years 1971-1980.

Industrial and communal wastes also constitute a serious problem. In industrial wastes, there are often accumulated very harmful substances (nitrates, arsenic compounds, zinc, lead, manganese, etc.) which, dissolved in effluents, are spread to the soil and the water table. Communal wastes are predominantly infected with bacteria and other disease-causing microbes. Insufficient utilization of industrial wastes as secondary materials has been brought about by the economic conditions and especially the lack of suitable interest in this type of activity by both the producers and the potential users. Of course, as a result of harmful activity by various antropogenic factors, remaining natural areas that have not been developed or threatened to a considerable degree by man are also endangered.

The most valuable remains of primordial nature are preserved in national parks and reservations. However, even there the harmful effects of air and water pollution and mass tourism have begun to be felt. The Ojcow National Park is in an especially dangerous situation. Other national parks threatened by pollution are the Babia Gora, Karkonosze, Swietokrzyze, Tatra and Wielkopolska parks.

PAN's expert report also includes an attempt to assess the losses incurred by the national economy as a result of irrational use of the environment and improper environmental policy.

The general size of loss due to pollution and environmental damage in 1979 has been estimated to be 61.8 billion zlotys, or 3.4 percent of the generated national income. The actual dimension of these losses considerably exceeds this figure if one takes into consideration more hidden losses such as those in agriculture and horticulture resulting from air and water pollution, the lowering of the population's general state of health, the development of communicable diseases, lowering of work efficiency and productivity, increased absenteeism due to illness, earlier retirements from work, the lowering of health standards for food products, etc.

What mistakes have their roots in what is now commonly called the environmental policy?

The majority of incurred losses have been brought about more than anything by too little investment in protection of the environment. Estimated expenditures for this purpose amounted to 27.3 billion zlotys, 4.9 percent of overall investment in the national economy (in 1978--5.1 percent) and 1.4 percent of the generated national income. In highly-developed western nations, the scale of investment on environmental protection ranges from 3 to 3.5 percent of the gross national income, thus, twice that which is invested in Poland. It has been estimated that full satisfaction of our environmental needs would require a growth of investment to 6 percent. There has been a great deal of reservation about the efficiency and method of using environmental protection devices to control polluting activities and the effectiveness of those processes.

As previously mentioned, the prognostic section of PAN's "Assessment" contains certain general conclusions and recommendations. Above all, there is the statement that reduction of investments for environmental protection in relation to other investments may bring about irreversible environmental consequences and that in the future they will then require disproportionally high expenditures.

Forming a rational environmental policy at the present time will without doubt be favored by economic restructuralization consisting above all in limitation of materials-, power-, and water-intensive areas of industry, especially those industries that are a great burden on the environment, for greater development of production in industries reprocessing materials on a large scale and utilizing wastes. An important component of this policy should be recognition of the fact that properly undertaken social

and economic development requires an ecological criterium be a decisive factor in any economic activity. For this reason, protection and development of the environment should be an important factor shaping the nation's development in the present realization of economic reform. Beyond doubt, serious research and thought will be demanded by the establishment as a result of broad economic reform of conditions that implant economic accounting that considers the effects of environmental protection and degradation in economic and territorial planning. Consideration of tasks to be undertaken in environmental protection, especially in long-range social and economic and territorial planning should become fundamentally important. If territorial management plans are to take their proper role, their projection and ratification must be done with the participation of interested organs and institutions as well as the people.

The prognostic section of the "Assessment" also includes somewhat more specific recommendations concerning such things as plans for waste treatment plant construction, the suitability of revising plans for construction of 45,500 small waste treatment plants, means of controlling soil erosion, research on soil contamination, improving the state of health of forests, quick development of nuclear power plants, etc. Realization of a proper environmental policy also demands raising the level of public ecological awareness. In connection with this, further development of environmental education in schools of all levels as well as in informal education is necessary. Introduction of environmental studies in institutions of higher learning of all types, education of specialists in this area, improvement of worker cadres as well as setting up a center for coordinating environmental education throughout the nation in concert with respective organizations abroad will all become especially important. Also indispensable is an increase of publications on teaching environmental protection and development. In accordance with the recommendations by the UNESCO and UNEP Conference on Environmental Education (Tbilisi, 1977), there has been proposed the establishment in Poland of a coordinating and information center for environmental education. I personally feel that, at the present time and in the near future, making use of all forms of environmental education such as formal (school) and informal education, dissemination of environmental knowledge and rational use of the press, radio and television in activities of the Society for the Popularization of Knowledge and other social organizations may be especially important.

Understanding of the necessity, appropriateness and profitability of using all forms of protection and rational development of the environment should become one of the elements of current movement for national rebirth.

Warsaw, May 1982

Report on Environmental Danger

Warsaw NAUKA POLSKA No 3, Mar 83 pp 61-89

[Article by Roman Teisseyre and Boleslaw Malisz: "State of Earth Sciences and Their Role in Scientific Advice*"]

[Excerpts] Part One

The subject of earth science and mining science team is recognition and rational use of the resources of the natural environment for the needs of man. Research in this broad area concerns the natural phenomena and physicochemical processes of the planet earth, its geological evolution and mineral resources, protection and development of its natural environment and the regularities governing relationships of widespread geographical areas in a physical, social and economic aspect.

In the Division of Earth and Mining Sciences at PAN, there has been concentrated a natural science section as well as a section for interdisciplinary knowledge of man and the environment. Within this wide range of studies, there has been conducted basic research, cognitive research and also applied study, especially regional studies. This has embraced both the problems of natural and economic systems connected with either exploitation of natural resources or with the development of industry, human settlement and infrastructure. Numerous aspects of this work attest to the direct or indirect links of the disciplines represented in the Division with the nation's economic growth. At this point, one could especially mention:

- cognitive and applied research connected with the search, recognition and exploitation of natural resources;

- study and control of physical phenomena and processes in relation to the planet and its surroundings and in regional and local relationships as well;

- study of the effects of resources exploitation and economic development on the natural environment for purposes of its protection;

- research on systems for management of raw material resources and their optimalization as well as on development of territorial management systems.

*The first part of this report was written on the basis of partial reports by: J. Jankowski (geophysics), J. Paszynski (atmospheric physics), T. Biernacki and Z. Mikulski (water management), C. Druet (oceanography), M. Szulezewski and M. Borkowska (geological sciences), B. Ney (geodesy), J. Kostrowicki (geography), B. Malisz (land management), S. Jarzebski and C. Cala (environmental engineering), S. Knothe and R. Ney (mining and mineral resource management).

The second part is based on expert reports compiled under the direction of Division Seven of PAN and other materials of science committees.

3. Environmental Protection

The state of endangerment of Poland's natural environment has recently been the subject of many reports. The basic body of information in this area is published annually by the Central Office of Statistics. The most recent such publication was "Ochrona srodowiska i gospodarka wodna 1981" [Environmental protection and water management, 1981].

The State Environmental Protection Inspectorate recently published a report entitled "Ocena stanu srodowiska w Polsce" [State of the Environment in Poland], the League for the Preservation of Nature published the "Raport o stanie srodowiska przyrodniczego w Polsce i zagrozeniu zdrowia ludzkiego" [Report on the state of the environment in Poland and the human health threat] and the PAN Science Committee "Man and the Environment" wrote an expert report (in 9 volumes) on the subject. The last document from that series is the report by the State Environmental Protection Council titled "Ocena stanu srodowiska i trendow jego zmian oraz propozycje w sprawie polityki rzadu w dziedzinie ochrony srodowiska" [Assessment of the state of the environment, its trends of change and proposals for a government policy on environmental protection].

There is no way that all of these reports can be cited here. However, it has to be said that a gloomy picture of the quickly increasing ecological dangers in which we live in Poland unambiguously emerges from them. Based mainly on the last of the named documents, we can most briefly characterize the present situation by the following:

-The threat to inland waters is very serious. About half of our rivers carry untreated waters beyond the level of all standards and 46 percent of lakes are polluted by industrial and communal sewage. The purest waters (class I), which in 1967 still amounted to 31.6 percent, considering all hydrological indicators, have practically disappeared (0.6 percent). Pollution of coastal waters in the Baltic prohibits swimming there and, in the region of the Gulf of Gdansk, has taken on the character of an ecological disaster.

-A large role in pollution of the atmosphere is played by transport of pollutants over long distances. Over half of the pollutants of our "background" originate in Czechoslovakia or the German Democratic Republic. Emissions from our own industry are added to this. Thanks to the installation of dust trappers, dust emissions have remained at the same level (2.2 million tons) since 1975. On the other hand, gaseous emissions (mainly SO₂) have grown alarmingly from 3.0 million tons in 1975 to 5.1 million tons in 1980. Reduction of these pollutants has amounted to barely 11.4 percent.

-Noise and vibration pollution (mainly in industrial work sites and on transportation routes) has been marked by the rise in deafness, amounting to 32 percent (since 1972) of the overall number of cases of persons losing their ability to work and 18 percent due to vibration.

-The threat to soils and agricultural production surfaces has many causes. The first of these is the loss of crop areas. In terms of actual figures, the loss is not that great. It has been estimated that for the needs of city development, industry and systems of technical infrastructure, we lost 16-18,000 hectares annually (i.e., 0.07 percent of agricultural area) which unfortunately includes 16 percent of our fertile soils. On the other hand, what is worse (as the "Spring 82" campaign has shown) is that 230,000 hectares lie unused! Loss of land to mining operations, due to drought or excessive flooding amounts to almost 100,000 hectares. Water or wind erosion threatens 2 million hectares. Large-scale soil degradation is being caused moreover by: heavy agricultural equipment, industrial gas emissions ("acid rain"), improper use of man-made fertilizers and pesticides as well as dung piles from giant farms and poor methods of land reclamation often consisting only of drainage (drying). Recultivation mined land is being conducted with difficulty and incompetently. In the years 1976-1980, only 50 percent of land mined in this period was reclaimed and that was not fully reclaimed.

-The chief threat to flora is the constant tendency of man to lower the variety of the plant world which is necessary for ecological balance. Out of 2,300 species of spermatophytes and ferns in Poland, 50-60 percent have noticeably declined in their range and numbers. One result of this has been the spreading plague of parasites. Forest regions are especially threatened by losses to parasites. Their surface area did increase in the period of 1945-1980 from 22.2 percent to 27.6 percent of Poland's land area but 8 percent of forest land is unforested. The greatest threat to our forests has been excessive felling of trees beyond the "extent" of timber acquisition. The growth in timbering throughout this period amounted to an annual average of 2 percent while the increment in timber mass was only 1 percent. This has led to a poor structure of forest age, i.e. an excess of young forest and a shrinking of the number of tree stands over 60 years in age. Moreover, two-thirds of tree stands are in the zone threatened by industrial gas emissions, lowering of the water table and harmful insects and funguses.

-The endangerment of our wildlife has been expressed by the fast rate at which species are disappearing. It has been figured that 41 species (i.e. 10 percent of the vertebrates) are dying out and 66 percent of species are very much in danger of disappearing. These losses in animal life have many causes, most of all, application of chemicals to the environment (by industry and agriculture) and destruction of natural ecosystems.

All of these harmful actions on the environment accumulate in their effects and lead to enormous losses to the national economy and endangerment of human health. Residence in areas where air and water pollution standards have been exceeded leads to the growth of many diseases, weakening of the human organism and poisoning of food which causes diseases of the digestive system. According to materials of the Central Office of Statistics, almost one-fourth of such food articles as butter, milk, and fish do not meet health standards.

The state of the environment throughout the country is of course varied. The reports have described regions with especially endangered environments. Among those regions are Katowice Province which has 30 percent of the nation's dust emissions and 40 percent of its gaseous emissions. 60 percent of all wastes in Poland are gathered in the small area of this province and 22 percent of all of Poland's industrial and communal wastes. As a result of air pollution, the Krakow region has, in the last 10 years, seen a decline in the health of its population and an acceleration of damage to its architectural monuments and works of art. Environmental problems in the Gulf of Gdansk have acquired the character of an ecological disaster. The Legnica-Glogow Copper District, with 38,000 tons of dust emissions annually, 64 percent of which is made up of copper, lead, zinc, cadmium and selenium compounds, and 500,000 tons of gaseous emissions, one-third of which is SO_2 , the lead content found in blood samples taken there are double the NDS standards and the psychological and somatic development of its children is threatened. The police region's air is polluted with chemical compounds (sulfur and fluorine) and this has brought about figures for human mortality (including infants) and domestic animal death higher than the average for Szczecin Province.

Areas renowned for their landscapes and natural beauty are shrinking more every year under anthropogenic pressure. Area under legal protection are becoming poorer and are being degraded. 10 National Parks and 7 valuable natural areas outside of the parks as well as many health resorts are endangered.

The picture of environmental danger which has been so briefly drawn in this article is a true one. However, it has to be said that all of reports discussed here have limited themselves to pointing out environmental damages and dangers. Some of them go as far as the causes for the poor state of environmental affairs but they are mainly concerned with the direct causes (such as gaseous emissions) without more deeply analyzing the underlying processes. Only in the report by the State Council on Environmental Protection has a more active approach been taken and proposals made for action to improve the environment. Among the most important recommendations in this report are:

- an urgent need to put into order the organization of environmental protection, including the setting up of a supreme organ and establishing the legal areas of action by various agencies of environmental protection;

- the necessity of creating strong economic incentives for independent, autonomous and self-financing enterprises to respect demands for protection of the environment;

- the need to work out a comprehensive government program for protecting the environment both in long-term planning (improving the state of the environment) and in the near future (stopping the progress of pollution);

- the necessity of setting up a form of constant monitoring of environmental changes throughout the country and effective means of control and sanction.

All of these recommendations are entirely appropriate but they are not sufficiently operative. In order that these postulates in actuality (and not only in declarations) be brought into the management process of the national economy, cooperation is necessary between the sciences and the state administration apparatus. Above all, it is necessary to apply scientific study and the establishment of policy to the activities of various departments and independent enterprises.

The essence of the matter lies in the fact that there are two approaches to conducting an environmental policy. The first approach is traditional conservation activity to repair damage already done to the environment. These forms of action include installation of filters in industrial plants, construction of sewage treatment plants and reclaiming damaged land. It must, however, be understood that, in view of the universality of danger to the environment throughout Poland, these activities demand constant monitoring and control, and thus an enormous environmental protection apparatus.

Such activities, especially now, are possible and necessary but they still do not guarantee substantial improvement and achievement of a healthy and friendly environment. In order to accomplish that, work on the second approach must be intensified. This approach involves activity designed to eliminate emergence of environmental dangers. This can be made possible only through the introduction of nonwaste and low-waste technologies. These "clean" technologies consist of interception of wastes (dusts, gases, sewage and solid wastes) during the production process and using them in the national economy through a properly-designed cycle of interconnected factories. This applies to both mining and industry, agriculture (horticulture) and fish husbandry and to closed water (and waste) recycling.

Such "clean" technologies have already been developed at this time in many countries and this action has been patronized by the European Economic Commission of the United Nations. The advantages are obvious. On the one hand, the human environment is efficiently protected and on the other hand, valuable elements and materials are regained, which would otherwise be literally "gone up in smoke" or poured into a river. For that reason, there is in environmental protection no more important task for science than to work out "clean" technologies and production cycles and for politics and the economy, to create the organizational and financial conditions for transforming our present technologies to low-waste and nonwaste technologies.

Outlays for Environmental Protection

Warsaw TRYBUNA LUDU in Polish 23 Feb 83 p 3

[Text] The policy in the 1983-1985 National Social and Economic Plan for the nation's territorial management and protection of the environment was the subject of a session of the State Council on Territorial Management Affairs on the 22 of this month in Warsaw.

One of the momentous results of the council's work is the naming of 27 environmentally endangered areas in Poland. They cover, aside from the great urban agglomerations and industrial basins, such health resorts as Naleczow, Ciechocinek, Karpacz, and Szklarska Poreba, the island of Wolin with its national park and the vacation area of Gdansk seacoast. Also included in ecologically endangered areas were Krakow, Torun, Kazimierz Dolny and Wieliczka.

There has been proposed a ban on placing new industrial sites and expansion of existing ones if they employ more than 200 persons in the urban regions of Gdansk, Krakow, Lodz, and Katowice. As has already been done by local decisions in the case of Warsaw and Katowice, this only allows investment connected with the immediate needs of the inhabitants of those areas.

An estimated figure of 84 billion zlotys has been quoted for investment on environmental protection. This is all that can with any certainty be invested in view of the state of the economy.

Chairman of the State Council for Territorial Management Affairs, Prof Kazimierz Secomski said that "In view of the nation's ecological situation, the existing endangerment of the environment must be presented in all its harshness. The council has submitted a proposal for creating a situation in which enterprises operating under the new economic conditions will be under constant financial pressure to deal with these problems."

12261

CSO: 5000/3016

BRIEFS

OIL SPILL FINE--The captain of a Honduras-registered tramp steamer was fined \$3,000 in Magistrates' Court yesterday after he admitted that his ship has discharged oil into St. George's Harbour on May 15. Crown counsel Mr. Barrie Meade told the court that Police had responded to a complaint about an oil slick in the harbour that day. Analysis later confirmed that the oil had come from the Alanje, docked at Penno's Wharf. Mr. Alan Dunch, defending, said that the discharge was accidental and occurred while the chief engineer was pumping oil from the engine-room bilges into the ship's double-bottomed tanks. The discharge valve was accidentally left open and about ten gallons of the oil entered the harbour. Captain Alan Knox noticed the discharge immediately and crew members were sent to mop it up. Mr. Dunch said the clean-up operation was done entirely by the crew at no expense to the Government. He said the tramp steamer is due to leave Bermuda on Wednesday. Senior Magistrate the Wor. Gerald Price said local waters were "an integral part of the lifestyle of Bermuda" and must be protected. He said the maximum fine for this offence was \$100,000. [Hamilton THE ROYAL GAZETTE in English 21 May 83 p 3]

CSO: 5000/7590

DEFORESTATION IN COUNTRY SERIOUS PROBLEM

Situation in North

San Jose LA NACION in Spanish 10 May 83 Agricultural Supplement p 1C

[Article by Levi Vega M]

[Text] From Sarapiquí to Upala, including the territory along the border with Nicaragua, forest fires in the whole northern sector of the country are so frequent that you lose count when you try to find out how many there are.

When you go farther into the Los Chiles area, for example, traveling is often impossible when the rural road your vehicle is following is surrounded by flames on both sides.

The atmosphere in all of that sector is extremely oppressive, and the heat is well above normal.

The destruction to the forests has been terrible, not only because of the flames but also because of the fallen trees. Dozens of trucks move along the roads from those areas toward the Central Valley every night, carrying timber in the form of logs or sawed up pieces of logs.

It might be supposed that when they move freely over the highways, which bear the daily weight of all those loads, the people engaged in this traffic have the proper permits from the Directorate of Forests and the Costa Rican Association for Nature Conservation (ASCONA), as otherwise it would be impossible to conceive of this happening, to the detriment of our forests.

Each day, because of the fires, and due to the axe and saw an unknown number of hectares of mountain forest is cut down by man. In the case of Los Chiles and San Carlos it appears that some fires are set to turn the forest into cattle grazing pasture.

The fires which take place very near the border are attributed by residents of the area to the fear spreading among the Sandinists who, some of the residents say, set the fires to clear the ground and let them check on any movement by subversives.

All of this is worrisome when, day by day, we see the destruction of the forests and the onward march of uncontrollable deforestation.

This is especially so when we have been assured by experienced forestry specialists that Costa Rica is at an historic crossroads, "because all forests producing logs will be cut down in the next decade." (This is what Aserraderos Unidos, S. A. [United Sawmills Company] has said in its protection of forestry production.)

The same company states: "If we do not begin immediately to set up programs for the proper management of what remains of our natural forests and for planting rapidly growing trees on a massive scale, in about 10 years we will have to import the wood needed for domestic consumption, at a cost which might reach \$500 million by the year 2000."

And to provide an idea of what the destruction of the forests means, either in an intentional way (or in an uncontrolled way in the case of forest fires), we might quote here another comment by the company referred to above, which states: "In our country we use about 2,000 cubic meters (1 million cubic inches) of logs per day, and that level of consumption will normally increase in direct proportion to the growth of our population."

'Drastic' Measures Adopted

San Jose LA NACION in Spanish 30 May 83 p 4A

[Text] The Directorate General of Forestries has announced that drastic measures are being taken in various parts of the country to halt the deforestation which is taking place.

Dr Jorge Eduardo Rodriguez, the director general of forestries, has stated that after Monday, 30 May, the issuance of logging permits will be suspended in the northern part of the country. From 30 June onward the issuance of logging permits will be suspended in the rest of the country.

He said that the next period for which permits will be issued begins on 1 December and that permits will only be issued when certain requirements have been complied with, such as no logging in the so-called protected forests or in forest wild life refuges.

The measures to be taken, among which may also be included a decision not to issue commercial logging permits throughout 1984 in the lowland zone of Guanacaste and in the upland regions of Puriscal, San Ramon, Naranjo, and Grecia, have been discussed with commercial logging interests, and several meetings have been held this past week for this purpose.

The companies consulted disagree with some of the measures which have been announced. In the case of suspending the issuance of permits after 30 May and 30 June in different parts of the country, they say that they cannot go without wood for 5 months because of the various commitments which they have made.

If deforestation continues at the rate of 60,000 hectares per year, these two professional foresters say, within 18 years our producing forest will be completely wiped out.

The officials explained that if the Directorate General of Forestries were prepared to provide what the lumber industry requires, that could be done by making available 26,600 hectares of forest per year, which would extend the life of our forests to the year 2012.

They said that the directorate general has the power to establish the rules of the game for the management of our forest resources and that it would be possible to maintain a level of 800,000 hectares continuously in the forests. It would also be possible to make use of some areas of protected forest and arrive at 1 million hectares of productive mountain forests, which the directorate general would be very much in favor of.

Rodriguez and Solorzano stated that the country in fact is already faced with a shortage of lumber, even if our forest resources are properly managed. This shortage will increase after the second decade of the next millennium and will require the importation of \$2.5 billion in wood products annually.

They said that if immediate action is taken on reforestation programs and adequate programs of forest management, this could ease the problem to some extent.

Among the actions taken within the Directorate General of Forestries is an exhaustive investigation of complaints which have been made that forest employees take bribes to permit logging to go on.

This case was originally sent to the Office of the Prosecutor General, which then raised it with the Judicial Investigation Organization (OIJ) for appropriate action, so that, if these allegations are proved, appropriate punishment will be ordered.

5170

CSO: 5000/2037

LACK OF IRRIGATION INTENSIFIES DROUGHT IN VERACRUZ

Mexico City EXCELSIOR in Spanish 12 May 83 p 31 A

[Article by Rogelio Freyre]

[Text] Alto Papaloapan, Veracruz, 11 May--The drought has caused over 200 million pesos in losses of crops and livestock in the state's coastal region due to damaged pastures and delayed plantings.

Maximino Lopez Diaz, president of the supervisory board of the Lazaro Cardenas farm commune, indicated that some 14,000 hectares of the irrigated districts in the municipalities of Joachim and Piedras Negras in this state are only being partially used because the district's irrigation systems have not been repaired, as a result of the scarcity of water.

In the lower Papaloapan basin, some of the most important lands because of their good quality, he said that things are at their worst, because some 100,000 hectares have been affected by the drought, leaving pastures dry and scores of head of cattle dead.

The fact that the hydraulic infrastructure jobs are not finished is the reason that, each year, the drought affects the agricultural and livestock sector of the state, which must implement programs to save the sector's produce.

He added that in the Los Naranjos area, about 40 fitted wells are useless because of the lack of irrigation ditches, which has caused some 3,000 hectares to go unused for raising basic grains.

8587

CSO: 5000/2033A

ACTION PLAN FOR TOBAGO GOVERNMENT ENVIRONMENTAL MEETING

Port-of-Spain TRINIDAD GUARDIAN in English 16 Jun 83 p 22

[Text] SCARBOROUGH--THE TOBAGO House of Assembly is to hold a conference on the environment.

Disclosing this, Assemblyman Kenneth Jones, Secretary for Health and Environment in the Assembly, said that a committee was appointed to plan the conference.

That committee comprises representatives of both the public and private sectors such as the Forestry Department, the Solid Waste Department, the Institute of Marine Affairs, the Chamber of Commerce and the Tourist Board.

In a paper put to the Assembly recommending the conference, Mr. Jones has stressed that it is the Assembly's responsibility to implement Government policy with respect to the conservation and improvement of the environment.

Environmental issues have become of worldwide and increasing concern because of the threat to mankind from pollution.

The Tobago Development Plan recognised this concern and was equally concerned about "the dangers to the unique ecology of Tobago, to the health of residents and to the island's "social and economic development," according to Mr. Jones.

The Development Plan calls for action in the following areas:

(1) An immediate conference of representatives of shipping services, airlines, health and sanitation authorities and community leaders.

More Roads

(2) Urgent review of procedures for the approval of building plans.

(3) Organisation of a permanent environmental campaign through village councils, district organisations and all the authorities concerned with health and sanitation.

(4) Opening of roads to more beaches and the provision of more beach facilities which would lead to greater dispersal of crowds.

- (5) Provision of more bins for garbage.
- (6) More extensive grassing, landscaping and planting of trees.
- (7) Use of notices in conspicuous places emphasising the beauty of the environment and the pride of the people who inhabit it.

It was against this background, said Mr. Jones, that the Conference was being organised.

CSO: 5000/7591

ONGOING SEASHORE, GROUNDWATER POLLUTION EXAMINED

Tel Aviv MA'ARIV in Hebrew 10 May 83 p 8

[Article by Aharon Priel: "120 Million Cubic Meters of Waste Materials Are Polluting Israel's Seashores and Ground-water Each Year"]

[Text] About 120 million cubic meters of residential and industrial waste, only a small percentage of which undergoes treatment, is pouring into the sea and is polluting the seashores and the ground-water. This became clear from data presented yesterday to the interior committee for the quality of life in the area near the Knesset by the chief engineer for the health of the region in the Ministry of Health, Rami Halperin.

Experts at the Ministry of Health warned yesterday of the ecological dangers and of the threats to public health if local authorities and the Ministry of Interior do not find a solution to the waste or the effluent (waste that has undergone treatment). The engineer Rami Halperin mentioned yesterday 12 areas which are "hot spots" and represent serious health nuisances in the short run and potential dangers in the long run. Among the spots is one in Tel Aviv near Redding Station, which sends about 70 million cubic meters of waste each year from all the settlements in the Dan sector. In the winter, according to the data presented by Halperin, treated waste comes from Herzliya to the Hanakim beach in Tel Aviv and the waste from southern Tel Aviv goes to the beach in Assa. In the summer, they save the effluent for irrigation and agriculture, but it is not possible in all areas of Israel, due to the lack of appropriate treatment plants, to save the treated wastewater for irrigation.

In the central region, about 30 million cubic meters of waste flows to the sea each year. In experiments conducted recently, it is also clear that all the waste from Or Yehuda and part of the waste from other settlements in the central area arrives at the seashore of Tel Aviv via the Yarkon River.

The chief engineer for the health of the area added that in the industrial area, "Miluz," north of Nahariya, the industrial wastes flow to the sea. "All the waste from Nahariya and Akko also streams to the sea without any treatment," the engineer Halperin pointed out. In contrast, in Ashdod, waste from industrial works, from refineries and from a chemical plant streams into the sea in an orderly and correct fashion by means of passageways and an exit to the sea.

"In Elat, the city's waste which is streaming into the sea is threatening the existence of rare fish. The treatment machinery in Elat is not set up to treat the quantities of the city waste, and the surplus waste of the city pour undisturbed to the sea and causes serious health problems on their way to the sea," warns Halperin. The Dead Sea also sometimes gets treated wastes from Kibbutz En Gedi and from the hotels in the area.

9348

CSO: 5000/4523

SITUATION AT WASTE DISPOSAL SITE CRITICIZED

Jerusalem THE JERUSALEM POST in English 12 Jun 83 pp 1, 5

[Article by Liora Moriel and Patricia Golan]

[Text]

On April 2, 1982 a huge black mushroom of smoke inched towards Beersheba from the south. It was accompanied by an acrid, nauseating odour that caused panic among residents. Anxious citizens called the authorities, asking if they should flee the city. The army considered moving troops out of the area.

The cloud had been caused by a fire at the national toxic-waste disposal site, 12 kilometres south of the city at Ramat Hovav. The following day the site was closed by court order, at the request of the Health Ministry.

Ironically, this was probably the best thing that happened to the site in its 2½ years of operation. In November 1979, before basic facilities had been prepared, the Ramat Hovav toxic-waste site was opened for business. Although there was no access road, no water, no electricity and no telephone (government promises notwithstanding), trucks began delivering oil sludge and other dangerous materials to the site. Sometimes they were met by the operator, a private contractor, and sometimes by an elderly, illiterate Beduin guard. If neither was present, the drivers had keys to the gate.

According to a survey carried out before the opening of the site, there was an annual 30,000 tons of industrial toxic wastes that had to be disposed of. This was a conservative

estimate, since the survey did not consider the numerous small, and often unlicensed factories around the country that produced toxic wastes.

But even this estimate made it evident that something had to be done on a national level.

Detailed studies carried out by experts in many fields concluded that Ramat Hovav was an ideal site. It has no access to the water table, and thus could not pollute water sources, and it is remote from any authorized settlements. The original concept was that the site was to be operated as a treatment plant, and not merely a dumping ground.

Logically, one would expect a project of this magnitude — the only place that would deal with the nation's toxic wastes — to be administered directly by a government agency, such as the Environmental Protection Service.

In fact, the site was turned over to a private developer, a new immigrant from England. He had a background as an industrial chemist. But he was not required to be at the site very often.

The Ministry of Industry and Trade vested full administrative authority over the site in the hands of the National Physical Laboratory headed by Dr. Avinoam Shenhar. In an attempt to economize, as well as to keep a supervisory eye on the private developer, Shenhar installed him in the National Physical Lab on the Givat Ram campus of this

Hebrew University of Jerusalem. The private contractor was set up for the inevitable fall.

At the time, no one seemed troubled by the remote-control operation of such a hazardous site.

Dr. Violetta Turek, the southern district's chief public health officer has very definite views about the outcome: "The administration of the site was a total failure. There was no guard, and there was no water, although this was a primary condition for the opening of the site in the first place. The contractor was not here but in Jerusalem. If someone wants to manage this kind of project seriously, he must live in the area and consider its importance accordingly. The Negev must not become the nation's garbage can."

The wastes that arrived at the site during its more than two years of operation were haphazardly received, haphazardly stored and haphazardly safeguarded. This, despite the contractor's undertaking to "receive certain poisonous substances and store them according to safety criteria; and to treat the wastes, at least minimally, by burying solid materials."

By the time the site was forced to close, far less than the estimated amount of the country's toxic wastes had been stored there. For one thing, there was not then, nor is there today, any law which forces industries to take their toxic wastes to the national site. And even when a plant was willing to cooperate, there was no guarantee that once its truck, loaded up with toxic wastes, left the factory's gate it would actually be unloaded at Ramat Hovav, and not into the most convenient ravine along the way.

In this respect, the Haifa refineries set an admirable example by keeping strict controls over outgoing wastes. The refineries contracted for the disposal of several types of materials, particularly acid tar, and set up a system of making sure the waste actually arrived at the site. But the refineries did not send all its wastes, preferring to wait and see how things developed.

An estimated three-quarters of the country's oil sludge arrived annually at the site during its opera-

tion. This made the cleaning up of the Yarkon River possible, although bringing it back to life is a different matter.

On a smaller scale, the site was used for the disposal of used pesticides containers and surplus poisons through the services of the Nature Reserves Authority. Two or three times a year, during the brief period the site was open, accumulated piles of herbicides and insecticides were collected from small wooden shacks in the fields around the country and taken to Ramat Hovav.

The army also took advantage of the Ramat Hovav facilities to dump out of date medicines, plastic-covered mattresses and cadmium batteries.

Dr. Uri Marinof, head of the Environmental Protection Service (EPS) described his dismay after an early visit to Ramat Hovav when he saw thousands of barrels just sitting on the ground. "Who knows what could happen to them. Heavy black liquids are accumulating in the pools, and maybe some day they'll escape. This is a primitive method. The place is already crowded and we don't have more land."

Still, most environmentalists felt that the place, mismanaged as it may have been, was better than no site at all. But this is open to question.

Dr. Itamar Vilner, a Hebrew University chemist advising the EPS, recalls that the site was to have opened only as an experimental facility during its first year of operation, so that government agencies involved in the project (Health, Interior and Industry) would be able to gauge what wastes arrived and, consequently, to devise ways of treating these substances.

"This means that this site is really a chemical plant, with reactors and safety measures. What actually happened was that even the storage was done in an uncontrolled and inefficient way. The man who took upon himself to operate the site did not develop it as expected. Moreover, when the site is not administered in a professional way, various toxic materials lying side by side may cause a dangerous

chemical reaction to take place."

The hot summer sun is enough to cause spontaneous combustion, he added.

In fact, during the time of its operation, both Health Ministry officials and advisers for the EPS warned that the site's administration was dangerously negligent. The officials found that poisonous materials were being stored in rusty containers, and unlabelled, leaking barrels were placed near barrels of cyanide, a situation that can result in the release of highly poisonous gases in the event of spontaneous combustion.

Morton Barlaz, a visiting American chemical engineer attached to the EPS, warned three months before the outbreak of the fire, that the "effects of a fire should be discussed with an air-pollution expert to decide what emergency evacuation procedures may be necessary."

But no one thought of consulting with the regional fire chief in

Beersheba.

When the fire did break out on the site, the fire department heard of it only an hour later and no one was sure what measures to take.

Beersheba fire chief Avner Mordechai told *The Jerusalem Post* that he had never been given a plan of the site.

"The fire itself was tremendous," recalled Dr. Meir Englert, "the flames and the smoke rose up dozens of metres. There were multi-coloured explosions and barrels flying in the air. It took four hours to get the fire under control."

The toxic-waste disposal site at Ramat Hovav was opened hastily under pressure, and was underfunded and mismanaged from the start. Nearly everyone agreed that the site needed to be closed, and then re-opened under a new system. The fire provided a convenient legal excuse for closure, but that was 14 months ago.

CSO: 5000/4528

INTER-AFRICAN AFFAIRS

EEC TO AID DROUGHT-STRICKEN COUNTRIES

AB240840 Paris AFP in English 0833 GMT 24 Jun 83

[Text] Harare, 24 Jun (AFP)--The European Economic Community (EEC) will give food aid worth 1.2 million U.S. dollars to three drought-stricken southern African countries, an EEC spokesman said here.

Friedrich Nagel, EEC agricultural representative in Zimbabwe, said yesterday that Zimbabwe would be given between 1,200 and 1,500 tons of beans worth 450,000 dollars. The beans would probably be bought in Kenya.

Mozambique would get 2,300 tons of cereals and 350 tons of vegetable oil worth 500,000 dollars and Lesotho unspecified food aid worth 300,000 dollars, Mr Nagel said.

South Africa, Zimbabwe, Mozambique, Botswana, Lesotho, Swaziland and part of Zambia have been hard-hit by a two-year dry spell that is the worst in memory in many of the countries. Crops of staples such as maize (corn) and wheat have failed across the region and livestock has had to be slaughtered.

Zimbabwe and South Africa, normally net food exporters, are having to import foodstuffs and the other countries that depend on them have had to look elsewhere.

The U.S. State Department announced earlier this month that Washington was making available 25 million dollars worth of emergency food aid for southern Africa, on top of 68.2 million dollars in food supplies already being distributed this year in the region.

CSO: 5000/201

COSTS OF MAINTAINING NATURE PRESERVES DISCUSSED

Moscow EKONOMICHESKAYA GAZETA in Russian No 23, Jun 83 p 19

/Letter to the editor by A. Ryzhikov, land management engineer and acting member of the USSR Geographical Society: "What a Nature Preserve Costs"

/Text/ Our country has established many nature preserves in various zones. They carry out their activities with funds from budget appropriations. On average, the maintenance of one hectare of nature preserve territory costs two rubles. In practice, however, this indicator fluctuates within a very wide range. For example, in Moldavia 32 rubles 21 kopecks are spent to maintain one hectare of nature preserve, while in Turkmenia only 84 kopecks are spent. We have cited the highest and lowest figure. But, after all, in both cases the nature reserves fulfill the same task of protecting natural ecological systems.

Of course, the nature preserves are not identical in the conditions and the content of their operations. But there should be a definite, planned order in this matter.

On what does the size of appropriations for nature preserve maintenance depend? It depends primarily on which department a given nature preserve belongs to. At present they are subordinate to 27 departments, which also finance them. Naturally, this lack of uniformity makes it impossible to be guided by any single principle in the financing of nature preserves.

Analysis shows that when the average size of nature preserves is reduced, the cost of maintaining a hectare of nature preserve territory increases. The establishment of large nature preserves is much more beneficial from the viewpoint of preserving natural complexes. The effect of man's economic activities has less influence on these territories.

Of course, expenditures for the maintenance of nature preserves depend on many factors, and not only on the size of the area. For example, nature preserves which are located in the more densely populated regions of the country require greater expenditures for their maintenance than do nature preserves which are rarely visited by people. But at the same time nature reserves which are located on the periphery require greater expenditures for

the organization of their work. Transportation costs are increased; the delivery of supplies is more costly, and employees are paid various wage supplements.

However, sometimes the cost indicators for nature preserve maintenance are not amenable to any logical explanations. For example, the Voronezh and Khoperskiy nature preserves are located in the same oblast; the former is twice as large but has a per-hectare cost which is 4-fold larger.

Given the further growth in the number of nature preserves and their size, the study of the economic side of these operations is acquiring ever greater significance. A careful analysis of utilization patterns for financial resources to run a nature preserve will make it possible to finance in a more rational manner every nature preserve in accordance with the specific conditions under which it operates.

Putting the nature preserves under a single department would make it possible to manage in a more flexible manner the financial side of nature preserve operations, and this, in turn, will make it possible to preserve natural complexes with greater certainty.

8543
5000/130

AGENCY REPORTS DIOXIN WAS RELEASED INTO ATMOSPHERE

Copenhagen INFORMATION in Danish 14-15 May 83 p 6

[Article by Stig Albinus]

[Text] There no longer is any doubt that the highly toxic chemical dioxin is formed in flue gases and fly ash during waste combustion, according to a report from the Environmental Board on the release of dioxins from waste disposal facilities.

The release of dioxins from Danish waste disposal plants has not been measured, but the Environmental Board can speak with great certainty on the basis of numerous reports on the release of dioxins from waste disposal plants in other countries, including the United States, the Netherlands, Norway, and Sweden.

The board stressed, however, that it is extremely difficult to evaluate the environmental and health effects of pollution levels cited in foreign studies.

This is because there are no standardized, internationally recognized and used methods for collecting samples of fly ash and flue gases from incinerators.

It was previously believed that if the flue gases were held at a sufficiently high temperature for a sufficiently long time the toxic dioxins would be broken down. More recent studies indicate, however, that even high temperatures (1,200 to 1,500°) cannot insure the elimination of dioxins from flue gases, according to the Environmental Board.

At the same time, the board pointed out that waste incinerators may not be the primary source of dioxins in the environment.

Experiments have detected dioxins in automobile exhaust, flue gases from small heating plants, cigaret smoke, and even smoke from grilling meat.

Quantities of dioxins also can be produced during the uncontrolled combustion of some wood impregnating agents and impregnated wood, such as during a fire, in which they represent a considerable danger to fire fighters and others.

Lower Particle Emissions

The Environmental Board has found that it is extremely difficult and costly to examine dioxins in waste combustion. The board concluded that the problem should be examined through international cooperation.

Based on the present evidence, however, the board believes it is important to limit dioxin emissions, keep particle emissions at their present level, or possibly reduce these levels if further studies indicate that this is necessary.

Now the board will thoroughly examine the Norwegian studies to see if that material is applicable to Danish conditions.

In addition, the board will attempt to discover the health effects of low dioxin concentrations. The board will work together with the Institute of Toxicology at the State Food Institute.

On the basis of these studies, the Environmental Board will decide whether or not tests will be made at one or two Danish waste disposal facilities.

Insufficient

Member of parliament Ole Kalnaes (Socialist People's Party) who brought up the matter of dioxin emissions from Danish incineration plants said that the Environmental Board's initiative was good, but insufficient.

Ole Kalnaes pointed to conditions at old waste disposal facilities that do not meet environmental standards because they were put into use before the environmental law took effect in 1973.

"No one knows how many of these facilities there are in Denmark. This is a scandal, since no one knows what particle levels are emitted by these plants. For this reason, no one knows what quantities of dioxin are being released from these facilities," Ole Kalnaes said.

For this reason, the Socialist People's Party would like to present a proposal by fall on environmental standards for older waste disposal facilities.

Ole Kalnaes also proposed the immediate measurement of dioxin levels in the environment around the waste disposal facility in Nybro near Varde. It is estimated that over a 10-year period 2,700 mg particles per cubic meter have been released from this plant, according to Kalnaes. This may be compared to the maximum level of 150 mg per cubic meter recommended by the Council on Pollution in 1971.

The Socialist People's Party also has asked the Environmental Ministry for cooperation in measuring dioxin levels at the incineration plant in Nybro and in the removal of particles at older waste disposal plants.

ENVIRONMENT AFFAIRS MINISTER COMMENTS ON POLICIES

Copenhagen BERLINGSKE TIDENDE in Danish 9 Jun 83 p 8

[Article by Christian Christensen, Danish Environment Minister]

[Text] The other day we celebrated Constitution Day throughout the country. But 5 June is not just a national holiday. It also is World Environment Day.

From a political standpoint, the environment may be the issue that points out most clearly that no individual country can be self-sufficient. We all live on the same globe. Our environment is the environment of others and vice versa. For this reason, it might be of interest to evaluate the status of international cooperation on the environment and our role in it.

We have a great responsibility for the environment. We have an obligation to our own future and to that of our children. We have a responsibility to help other countries in areas in which they do not know as much as we do about taking care of the environment. If they damage the environment, intentionally or otherwise, it could affect us. We have a duty to utilize our knowledge in such a way that the help we extend to the poorest countries does not destroy the environment.

In practice, Denmark cannot force any other country to take care of its environment. We must follow the often longer and more difficult task of international cooperation on environmental issues.

Here we must attempt to create a feeling of responsibility by playing a particularly active role.

We must do everything we can. For even though we have worked internationally on environmental issues for a dozen or so years, the world environment hardly has improved. On the contrary, in some areas it has become worse.

One example is air pollution, which now is a problem that is causing great concern, especially in the industrialized nations. The main cause is the colossal quantities of fossil fuels--coal and oil--burned at power plants and factories. Sulfur dioxide is released into the atmosphere from the stacks of these plants. It later returns to us in the form of acid rain. The results

gradually become apparent: who has not seen pictures in the newspapers and on television of barren forests and lifeless lakes, for example in Sweden and West Germany?

The threat is enormous: It is directed against forest and lake regions many times larger than Denmark.

Why, then, do we not stop it? Why does Denmark's environment minister not simply tell power plants and factories that they must stop releasing sulfur from their stacks immediately?

I do not believe it is that simple to solve this and other major environmental problems. Denmark's contribution to sulfur pollution is only a drop in an extremely large bucket.

We must proceed in a different manner. This will involve a broad international effort to protect the environment.

For this reason, I recently was in Geneva to participate in the first meeting on the United Nations convention on air pollution across national boundaries. This is the type of forum where Denmark must act to accomplish its goals: To improve the environment in such a way as to achieve noticeable results in return for the economic sacrifices that must be made to protect the environment. We can take our case to international meetings so that the various countries can agree on how to solve these problems. In this way, we can avoid making a few countries go so far in advance of the others that an unfair burden is placed on their industries.

Denmark is a small country and it might seem that the task we have assumed is too great.

Here we can be helped by our own previous efforts. We can point to a social system and other circumstances that have put us in the forefront of environmental protection. We can show other countries that we have solved problems in the field of chemical waste, for example. We have done this by creating the municipal chemical system, which has created interest in many countries.

For this reason, I believe the government has taken an extremely important step by stressing from the very beginning that we will not let up in our environmental policies in Denmark. Even though the government sees economic recovery in Denmark as its most important task, it has made clear that this must not be done at the expense of the environment.

Many goals still remain. We still are moving slowly, since much of what we know about the environment was learned only in recent years. One example is buried chemical waste. We discovered only recently what must be done about it. We still lack knowledge in certain areas. One example is soil pollution, which we have begun to examine in detail only now. We are still planning vital actions that have become necessary in a time of economic austerity. We

must not waste public funds. And we are just now starting to put together a comprehensive policy in the area of nutrition.

Thus, we cannot boast, but we can point to results that are at least as good as those achieved in other countries and, in many areas, even better. Most important of all, we can benefit from the broad political unity that has characterized our environmental policies in every major respect. This broad agreement that we have a duty to manage nature responsibly is of great value when we discuss environmental problems with other nations.

Other countries agree with our position. Thus, in Geneva, my Nordic counterparts and I presented a joint Nordic proposal for international cooperation in limiting sulfur pollution. According to the proposal, each of the nations participating would reduce its 1980 sulfur emissions by 30 percent. This would occur between 1983 and 1993, after which the levels could be reduced even more. The Nordic countries hope that their proposal can become a starting point from which all nations can effectively eliminate the danger.

Over the years, the Nordic countries have supported one another in concrete measures to protect their common environment. This gives each individual country a stronger voice in international cooperation.

In the near future, the environmental ministries of the EC will examine the possibility of establishing regulations for reporting the transport of hazardous waste across national boundaries. Behind this initiative is the Seveso affair, which recently showed us clearly how important and necessary it is to hold international discussions on pollution across national boundaries.

The Seveso affair showed us that our EC membership makes it possible to solve environmental problems quickly and effectively. Otherwise, these problems would require prolonged negotiations between the individual countries.

It is important for Denmark to take a firm stand within the EC, based on our broad unity on environmental issues.

In this area, Denmark possesses great strength--and a responsibility to the rest of the world.

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ENVIRONMENT MINISTRY BOOK: NEW POLICY TO STRESS BALANCE

Copenhagen BERLINGSKE TIDENDE in Danish 2 Jun 83 p. 6

[Article by Jens J. Kjaergaard]

[Text] "We are entering a new phase of environmental policies. We will not only concentrate on prevention, but we also will evaluate new technology so that we can take into account its long-term effects on the ecological balance and the social changes that can be brought about by new inventions and methods," Environment Minister Christian Christensen said.

The Environment Ministry is publishing a book entitled Environment and Technology: New Challenges, written by a number of experts.

"One definite conclusion can be drawn," Christensen said. "The technological evaluation is not a battle against machines. It does not oppose technological advances, but accepts the challenge of active participation."

"We are challenging the primitive philosophy of growth that has reigned throughout most of this century, in all types of social systems. The basic assumption that all progress is good and that material riches are the goal of life has become less convincing," Christensen said.

Traditions

"It may seem strange that a ministry is releasing a book written by authors who do not agree among themselves and whose views do not necessarily correspond to those of the government," the minister continued. "But a modern administration cannot simply expect to have complete solutions presented to it. Many resources must be utilized so that we may keep up with the latest developments and deal with these problems in time."

The idea of publishing this type of book was conceived when Erik Holst was environment minister.

"It has become a tradition at the ministry to ask outside experts to contribute their knowledge," Christian Christensen said. "This is a good tradition. With this book, we also are continuing the tradition of openness. We are making this information public so that people can see what we are up to."

The authors did not choose the others who contributed to the book. The ministry assigned the various topics to the authors, but they were completely free to express their opinions.

Stone Age Minds

Prof Bent Muus, zoologist and chairman of the ministry's conservation council, stated that all living things from human beings to the lowliest worm were the "splendor and abundance that crown 1 billion years of development. But now we are in a difficult situation. Despite all our ingenuity, we are still equipped with a stone age mind and we do not know if it is good enough to make the decisions required for us to make it through the next century in one piece."

"In any event, we will have to reorganize our utilization of nature's resources," Prof Muus said. "Either we will do this voluntarily, collectively, and in a well organized manner, or our stone age minds will win their final victory!"

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PAPER SAYS NEW ENVIRONMENT MINISTRY BOOK PROMISES TOO MUCH

Copenhagen BERLINGSKE TIDENDE in Danish 7 Jun 83 p 12

[Editorial]

[Text] Environment Minister Christian Christensen said that we were entering a new phase of environmental policies. The trend is moving from prevention to so-called technological evaluation. Instead of trying to limit the quantity of waste and the consumption of raw materials by altering production methods, we must now become more interested in the overall environmental impact of technology. This was the main idea in his introduction to a book on the environment and technology, published by the Environment Ministry.

Most of the articles presented in the book, written by officials and independent experts, seem to present a sober and varied examination of the topics dealt with in the book, although it contains certain mistakes, as well.

It is problematic, however, that the minister has so bombastically introduced the term technological evaluation. Of course, much can be said about the great significance of technology with regard to social development and the environmental effects. But it is difficult to imagine, when new technology is introduced, that it would be possible in any reasonable manner to give a satisfactory account of its overall environmental impact. If we also assume that such an evaluation would determine the possible utilization of the new technology, we are in jeopardy of coming to a complete standstill, which would be an extremely unfortunate development.

Of course, it is utopian to believe that a little country such as Denmark, in the long run, could be instrumental in changing the pattern of technological development in other developed countries. But the danger is that such restrictive regulations could be introduced that would force us to wait for the results of more or less meaningless studies, so that Danish business would have a difficult time keeping up with the development of new production methods that will be decisive in establishing our competitiveness.

In 1980 a report was published by a committee appointed by the Council on Technology. This report proposed that a so-called technology evaluation council be established that would solicit evaluations from the traditional

parties involved in the labor market. This concept also has been taken up by leftist circles within the Social Democratic Party and the labor movement, who would like to see limitations on the power of business leaders.

Fortunately, the proposal never has been approved, but it is disturbing that the environment minister now has lent support to these efforts to establish a new institute to delay progress. In the future, we should avoid this type of organization and, if worse comes to worst and it is established, it at least should not be placed under the Environment Ministry, which lacks the necessary understanding of the problems of business.

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BOOK DESCRIBES ENVIRONMENTAL THREAT TO DANISH SEALS

Copenhagen BERLINGSKE TIDENDE in Danish 29 May 83 p 27

[Article by J. J. Kjaergaard]

[Text] "The seals are in the public eye. To a certain extent, they have replaced the whale as the favorite topic of sentimental letters to editors. This is understandable, but unfortunately it is more well-meant than useful," said Torben W. Langer, who believes we are being hypocritical and using a double standard in this matter.

"So far the discussion has dealt with Canadian and Greenlandic conditions, but strangely enough not with the situation closest to us, our own seals in the Baltic Sea, Baelthavet, Kattegat, Limfjorden, and Vadehavet."

Despite numerous articles by experts, the entire problem is a mishmash of zoological and geographic confusion, accompanied by political publicity-seeking and misplaced sentimentality.

As so often in the past, it is much easier to tell others what they should do than to do something positive about the problems that are within our own reach. Esbjerg, one of the world's finest research centers where seals are studied, is about to run out of funds," Torben W. Langer said.

"The Greenlandic seal is not threatened today, despite the slaughter of the so-called baby seals in Canada, but the Baltic Sea seals are in serious danger. The rest of the seals in Danish waters were seriously endangered, but their living conditions have improved. At the same time, there is the danger that they may be 'loved to death,' as so much else in Danish wildlife. It is a paradox."

Torben W. Langer cannot understand the strong opposition to the preservation of seals on Saltholm, which would give the last seals in Oresund a chance.

He presented his views in Lademanns Naturarbog 83, which is almost a battle cry against the enemies of nature and against the most trigger-happy hunters. Many believe, however, that the author went to far when he compared hunting with the eradication of nature!

In the foreword to this book, Torben W. Langer wrote that "one of the worst scourges of our time is the constant use of emotionally charged words that sound so good that no one would dare oppose the person who used them."

According to Langer, these are just empty words designed to suppress the objective debate over the environment.

"It is possible to reverse a political decision concerning benefits, property tax, or energy," the author said.

"But it is wrong to think and legislate in this same manner when it comes to the environment. A deal is a deal! A wrong decision in the beginning can lead to the point of no return at which no remedy is possible."

"Water pollution is a good example. This is what makes environmentalists throughout the world protest. They know that nothing can be done after agricultural poisons have reached the groundwater. In comparison to this, the ban on old oil tanks is simply ludicrous."

"They know that the way we are treating the ocean today can be catastrophic to our children and our grandchildren. And now they are saying it--loudly. The politicians and officials listen politely, but continue to think the same old way and act according to more short-term motives, especially the number of votes they will receive in the next election. Future generations will have to fend for themselves!"

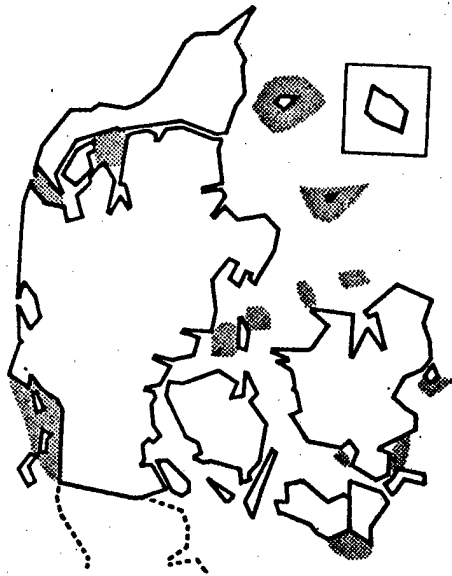
In the new magazine LIVING NATURE, which has replaced the 10 year old PANDA NEWS of the World Wildlife Fund, biologist Mads-Peter Heide-Jorgensen wrote in a similar manner on the seals in Kattegat.

"It is easy enough to let environmental protection be something that occurs in distant, exotic lands, but when it comes to a small pond, a beach, or a rare plant in Denmark, the slogans about the global catastrophe suddenly become legal gibberish, administrative inaction, and narrow economic considerations," he said.

"Thus, we have been amazed by the debate surrounding the seal preserve on Anholt. This is especially true because everyone agrees this site is vital to the animals' survival in Denmark. In addition, only 500 meters of the island's 22 km of beaches would be blocked off, in a region that is far from inhabited areas and where building permits never will be granted."

"A temporary arrangement has been made, in that an experimental preserve has been established under pressure from the World Wildlife Fund. Last year 90 percent of the tourists were kept away from the area inhabited by the seals. This is a satisfactory result," Mads-Peter Heide-Jorgensen said.

"The spotted seal population has increased to about 400, but an oil leak from a passing tanker could kill many of them at any time."



Seal habitats during the mid-seventies are shown on this map. On Anholt, which hopefully will become a permanent preserve in the near future, the spotted seal population has increased to about 400 animals.

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DENMARK

BRIEFS

LEAD CONTENT IN GASOLINE CUT--Beginning on 1 January the lead content in gasoline will be cut. Yesterday parliament approved a joint proposal by the Social Democrats and the Socialist People's Party that will result in a reduction in the lead content to one third its present value--to 0.15 grams per liter. The Social Democrats and the Socialist People's Party had recommended that the reduction take effect on 1 July of this year, but Environment Minister Christian Christensen (Christian People's Party) told the parliamentary environmental committee he was not sure that all the oil companies could comply with the law. As a result of this uncertainty, it was decided that the law would not take effect until 1 January 1984. [Text] [Copenhagen AKTUELT in Danish 20 May 83 p 18] 9336

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NEW ENVIRONMENT MINISTRY TO FACE PROBLEM OF WILDERNESS AREAS

Helsinki HELSINGIN SANOMAT in Finnish 20 Jun 83 p 12

[Article: "Purchase of Protected Areas About To Be Stalled: Environment Ministry Lacks Personnel to Acquire Lands"]

[Text] With hard work and a lot of noise Finland has created programs to protect original wilderness areas, but the implementation of these programs seems to pass on to the future. A big part of the sites reserved for conservation areas are facing a threat of being destroyed, especially in southern Finland, before they become protected.

Acquiring land for conservation purposes has made poor progress even up until now but next October this work might stop altogether. The Environment Ministry, which will begin its work then, has no staff at all for this task. Environment Minister Matti Ahde [Social Democrat] promises to clear this matter up before October, but at this point he does not know whose task the acquisition of wilderness areas will be either.

The best prospect for establishing wilderness areas is usually where the state owns land, or primarily in northern Finland. A report released recently by the Founding Committee of the Wilderness Areas includes 400,000 hectares of state-owned land that should be protected. However, in areas other than northern Finland, private lands should be bought or paid off or exchanged because wilderness areas are mostly located on private lands.

Landowners have, in many places, become warmed up to the conservation idea and they themselves suggest deals or exchange of land with the state, but then the difficulties start. Usually even an enthusiastic seller must wait for years for the outcome of his deal, and an exchange of land with that of corresponding value does not usually succeed at all.

Confusing System

At the end of 1982 the Council for Natural Resources under the Ministry of Agriculture and Forestry inquired with the Provincial Boards how the establishment of wilderness areas was progressing. The answers were depressing.

"The present system is so confusing and complicated that you cannot expect it to have any chance of success even in theory," said the Provincial Board in Vaasa.

At present, the landowner always has to deal with a different official every time he wants to establish a wilderness area voluntarily on his land, sell it or exchange it for state-owned land.

If the landowner himself has applied for the protection of an area from the Provincial Board and presupposed that he would get a reimbursement as stated in the conservation law, the Provincial Board would have handled the negotiations with the landowner but the estimate of the reimbursement would have been taken care of by the Board of Survey.

On the other hand, if the landowner has been willing to sell the area to the state, the estimates and negotiations have been the business of the Ministry of Forestry. Allocating land for exchange would also belong to the Ministry of Forestry but, in practice, the farm administration has had to take care of exchanges. Repurchases have been handled by the surveyor general's office when needed.

Ministry of Forestry Slow

The Ministry of Forestry is not praised by the Provincial Boards but is criticized for inefficiency, slowness and rigidity.

Last time, the environment and nature group in the Parliament paid attention to the slowness of the Ministry of Forestry last April. "For the whole task of procuring and appraising wilderness areas and for the negotiations, the Ministry of Forestry has assigned just one full-time person to whom this task is naturally overwhelming, as areas targeted for protection programs consist of about 170,000 hectares of private land and about 20 million marks is spent yearly even today," the group pointed out to the Parliament.

"The landowner's patience is about to run out. When you don't hear about the final fate of the area for years, they drive their machines to the protected swamp and start digging," says bureau chief Esko Rasanen in the Provincial Board of Vaasa.

Environment Minister Ahde defends the Ministry of Forestry. "In my opinion, the procurement of the Ministry of Forestry has gone pretty well. There's been enough time to use up all the money that has been put aside for the purchases. More purchases could not have been afforded."

Exchange Would Work Best

Most preferably, the landowners would exchange their lands targeted for wilderness areas with state-owned land. "In Helsinki they tend to forget that it's a question of the viability of the farm. To replace an area that is to be protected, the landowner would often want usable land elsewhere,"

The provincial boards consider it important that the landowner could exchange land if he wants to. In the opinion of the Hame Provincial Board, the farm administration and the agricultural district under it could procure the land. The Provincial Board would, for its part, act as a link between the two parties. Decisionmaking would be left to the ministry.

"State-owned lands do not usually exist in areas where there's need for exchange. Lands have been bought for exchange purposes near the wilderness areas as far as they have been on sale," says department chief Pertti Seiskari in the Ministry of Agriculture and Forestry.

The Environmental Ministry, which will begin its work in the fall, does not have the authority to procure private land for protection purposes because the Ministry of Forestry will stay in the Ministry of Agriculture and Forestry. The Ministry of Forestry has also said that it will stop buying wilderness areas completely in the beginning of October.

In Seiskari's opinion it's high time to see who will do the field work. Ahde agrees.

"There are two alternatives. Either the Ministry of Forestry continues buying or it will be assigned to the Provincial Boards," says Ahde.

"The Provincial Boards are willing to take more responsibility in establishing wilderness areas if they get more staff and help from the surveyor general's administration.

The Council for Natural Resources proposed last March that an office be established for the provincial boards, the holder of which would mainly take care of procurement of wilderness areas.

The provincial boards are generally satisfied with their cooperation with the surveyor's office because it has quickly and flexibly dealt with the handling of appraisals necessary in paying out the reimbursements. Therefore the appraisal of lands that are to be bought, repurchased or exchange should be assigned to the surveyor's office, the Council for Natural Resources states.

The Nature Fund Has Negotiators

The environmentalists have, on many occasions, tried to speed up the establishment of wilderness areas. Last fall the League of Environmental Protection warned the committee of the Environment Ministry about the confusing situation that is about to arise.

The World Wildlife Fund has employed two people to try to negotiate purchases of protected areas, protection secretary Ritva Veijonen says.

In the beginning of May the fund employed a man to buy wilderness areas picked up from the swamp conservation program. They are mostly small quagmire swamps.

According to Viejonen, the other buyers' task is to buy groves in southern Finland which do not have a protection program. Together with the Council for Natural Resources, the fund has picked up the 20 most important groves out of 150.

Not Much Money from the Government for Implementing the Programs

More funds for procuring wilderness areas have been demanded in numerous communications, proposals and initiatives. Their leading idea has been that implementing the programs with the amount of money presently available takes an unreasonably long time. The landowners especially must suffer from the fact that their land has been reserved for protection purposes but cannot be bought.

For procurement of private lands for protection purposes, the state put aside 19 million marks for this year. The Council for Natural Resources has proposed, for example, that the yearly allowance be 77 million marks.

Environment Minister Matti Ahde would be satisfied with even less. "It would be good if the allowance could be doubled."

For next year the ministry will propose 30 million for procurement of wilderness areas.

In Ahde's opinion, lack of money is one of the worst problems that hamper the establishment of wilderness areas. There would be buyers if only money could be allocated for their use.

The Founding Committee of the Wilderness Areas estimated in 1981 that almost 400 million marks are needed for the purchase of wilderness areas. At that time, however, the calculations were based only on the Cabinet's decision of principle about the program of developing a network of national and nature parks and about a basic program for swamp protection. After that there's also been a decision of principle to implement a conservation program to cover areas with water fowl, which will increase the expenses.

Most private lands belong to the swamp conservation program, amounting to 149,000 hectares. In the water fowl protection program there are 81,900 hectares of private lands and 11,500 hectares in the national park programs.

In 1981 the most expensive single targets were estimated to be the national parks of Saaristomeri, Tammisaari's archipelago and the eastern gulf of Finland and the extension of Linnansaari National Park. The price of these went up because they border the water.

Appraisal of Swamps the Most Difficult

Usually the wilderness areas are priced in the same way as agricultural lands on the basis of the value of soil, timber resources and stands of saplings. On many swamps the appraisal of the value of peat has hampered the deals. So far the price of peat has been estimated on 500 to 1,500

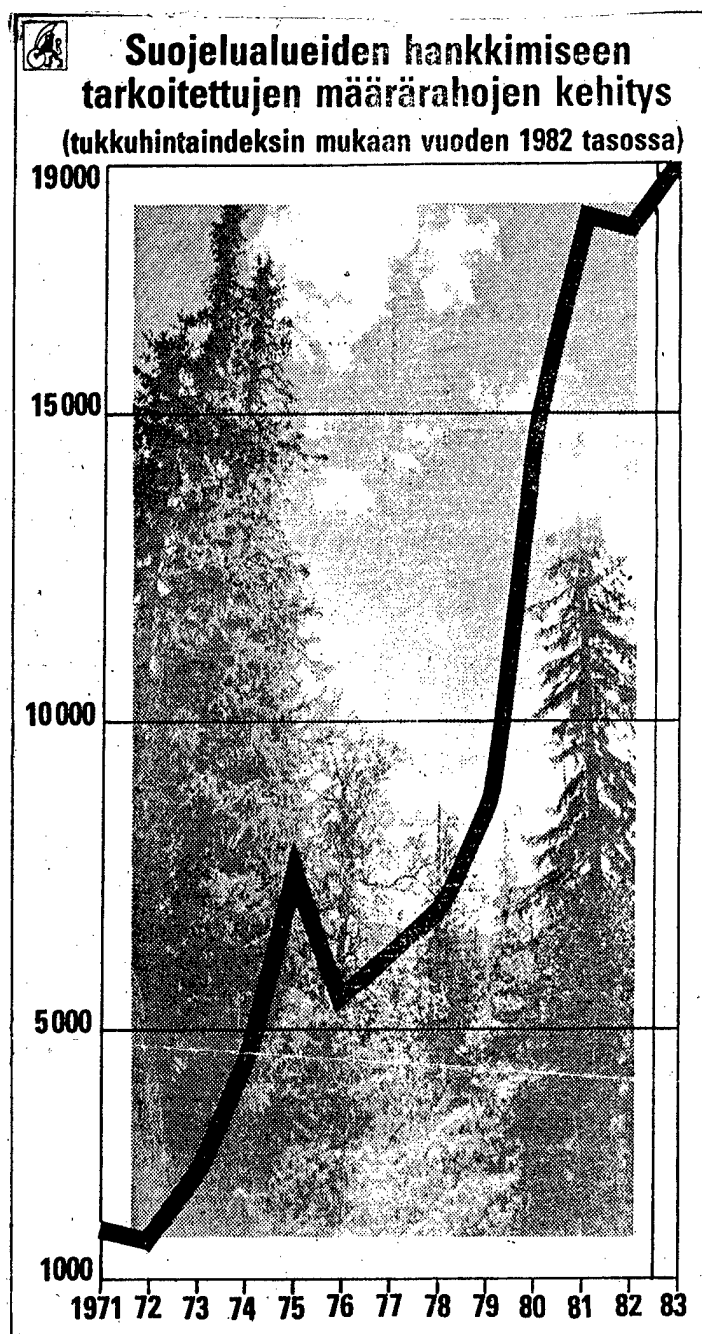
marks a hectare. The price of peat has, however, gone up and in the future one might have to pay more and more for swamp conservation areas if they are well suited for the production of peat.

However, often the landowners' expectations about the value of their swamp are too great, the Council for Natural Resources pointed out to the ministry in the spring. After all the investments, there's little real "base value" left for peat on remote and small swamps.

According to the calculations by the council, implementation of the swamp conservation program by voluntary purchases would cost about 293 million for the state. In the council's opinion the repurchase process should be used more often in targets that are unique and in danger of being destroyed.

(see figure on next page)

Figure 1. Development of funds allocated for procurement of wilderness areas (on the basis of Gross Price Index for 1982).



Even though the state has increased the funds allocated for the acquisition of environmental protection areas, the purchase of private lands still primarily depends on money the amounts in the figure represent.

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LIBERAL PARTY LEADER DISCUSSES COUNTRY'S MAJOR PROBLEMS

Oslo DAGBLADET in Norwegian 3 June 83 p 4

[Article by Odd Einar Dorum: "What is the Status of Environmental Protection?]

[Text] This Sunday we are celebrating global environmental protection day. We have therefore asked the chairman of the green party, Liberal leader Odd Einar Dorum to undertake a survey of unsolved environmental protection issues and future challenges to the Norwegian environment.

Sunday, June 5th is international environmental protection day. It will be observed in Norway and in other countries. From official sources we will hear many good words on how important it is to protect our environment and about all the positive measures now being applied to environmental protection.

But what about reality? It is correct that we have gotten many laws in the past decade which regulate the environment and pollution. It is also correct that we have gotten an administrative apparatus which is to implement these laws. The question is whether this is sufficient to solve the environmental questions. There is reason to be apprehensive about the consequences for environmental and nature protection when public budgets become tighter.

The signals from the current government have been quite clear in this matter. The conservative government has cut back. It has chosen to give priority to good words and participation in the international conferences and to concentrate on measures that do not cost anything.

If I may point to two of the most pressing current environmental problems in Norway, they would be that we now are nearing a decisive year for the Norwegian waterfalls and that we confront an increasing and dangerous pollution situation with toxic materials.

Toxic Substances Everywhere

The decisive year for waterfalls: It is thought-provoking that this occurs at a time of greater electric power exports than earlier and where there

appears to be the case that growth in electrical power demand is more favorable than for a long time. In this situation there is reason to question the authorities as to why one must accelerate the development plans for the Breheimen and the Etna-Dokka hydroelectric installations. In part, it appears that one is tied by prestige to earlier decisions and in part that one is tied to an incorrect evaluation. In a situation where the government itself admits the need for restructuring and a partial reduction in the productive capacity of energy intensive industries, and at a time where we have a significant power export, there can be no reason for the sake of security to accelerate power development.

We must insist that a plan of action for energy conservation be adopted before the new development plans are adopted. Drafts for such an action plan have been presented to public hearings, but there is little to indicate that the government wishes to expedite such a plan. In this connection it is important for the environmental movement to insist upon and demand that the gains from energy conservation be included in the energy calculations. This has not yet happened. This would further reduce the pressure against the last important waterfalls worthy of preservation in our country.

The work for development of a new protection plan for waterfalls, protection plan III, is in full swing. In this regard it is important to recall a condition for the protection plan efforts. It is a condition that most of the temporarily protected waterfalls be given permanent protection. This must not be forgotten when the plan proposals are made in the autumn, and the political consideration seriously begins.

There is every possible reason to demand improvements in the waterfall regulation law after the Supreme Court decision in Alta. The industrial committee's comments on the proposal for a unified plan for waterfalls also emphasizes this. The committee seeks to maintain the possibility to undertake concession negotiations before all impact evaluations are reached. The central demand which must be made on the basis of the experience of recent years and on the basis of the experience in the Alta case is that all impact evaluations must be made before concession negotiations are started. Otherwise we risk new administrative scandals similar to those we saw in the Alta case.

Another demand which must be made in connection with environmental protection day is to get an environmental protection committee in the Storting. This would assure better comprehensive evaluations of environmental protection questions than is currently the case.

Judgement in Alta Requires Reform

Two dramatic cases in recent times have reminded us of the pollution situation in our country. The first is the press reports of creosote wastes in Hommelvik in Southern Trondelag. The second are reports of increasing pollution from cars, especially in the Oslo region. The cases concern

long-term and frightful future consequences. It is worrisome that the authorities appear to indulge themselves with some sort of satisfaction that some of the problems are in the process of being solved with regard to pollution from organic materials in our waterfalls.

Pollution from toxic materials appears to be increasing. It appears that there is no satisfactory system to be had for registering and controlling the use of chemicals, nor any satisfactory system for destroying and storing this toxic waste and emissions. Neither do the authorities have the political will to introduce such a system. All the signals which one can interpret on the basis of press reports on the debate about chemical substances and the product register indicate that the authorities place technical and economic considerations first when there is a conflict between these considerations and health and environmental concerns.

On the basis of the serious pollution situation which we have, we must demand the following from the authorities:

1. There must be an immediate and energetic program to fight air pollution in Oslo, especially from automobile traffic.
2. Departments and the government must decide to expedite the development of a product register. One must act decisively here in order that this register which is so central for control of dangerous substances and products be developed.
3. Preparations must be made immediately for an action program to guarantee control of dumping and removal of toxic wastes. It is especially necessary that sufficient resources be made available to carry this out in practice.
4. Health and environmental considerations must always receive priority. There must now be made a challenge to the government in regard to all regulation and requirements with regard to toxic substances and products.

Oslo Air Must Be Cleaned

The challenge to the government and to the three party coalition which we probably will get, is the will it shows through the autumn's budget procedures to assure that the policies I have mentioned in this article are carried out in practice. If sufficient resources are not made available through the Environmental Protection Department's budget for public and voluntary environmental protection measures, all of the goals which are the official basis for environmental protection policy will be further undermined. Then we must simply recognize that the political will of the government and its supporting parties is insufficient to place environmental questions on the political agenda.