JPRS L/10059 21 October 1981

## Worldwide Report

ENVIRONMENTAL QUALITY

(FOUO 6/81)



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# WORLDWIDE REPORT ENVIRONMENTAL QUALITY

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Soviet-U.S. Environmental Cooperation Promotes Mutual Understanding

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USSR

SOVIET-U.S. ENVIRONMENTAL COOPERATION PROMOTES MUTUAL UNDERSTANDING

Moscow VESTNIK AKADEMII NAUK SSSR in Russian No 8, Aug 81 (signed to press 4 Aug 81) pp 102-109

[Article by Doctors of Law O.S. Kolbasov and M.I. Kozyr': "Cooperation of Scientists of the USSR and the United States in Legal Protection of the Environment"]

[Text] In the latter half of the 20th century environmental protection has become a most serious problem of a global nature whose successful solution demands the concerted efforts of all peoples.

Tremendous and valuable practical experience has been accumulated in nature conservation and legislation in this sphere has been formulated and is being implemented successfully in the Soviet Union. The Communist Party and the Soviet Government attach great significance to the further strengthening of measures to protect the environment and devote constant attention to this issue.

Article 18 of the USSR Constitution proclaims: "In the interests of the present and future generations the essential measures are being adopted for the protection and scientifically substantiated, rational use of the land and its interior and water resources and flora and fauna and for preserving the purity of air and water, ensuring the reproduction of natural resources and improving man's environment." The "Main Directions of the USSR's Economic and Social Development in 1981-1985 and the Period Through 1990" adopted by the 26th CPSU Congress have a special section devoted to nature conservation, and the section naming the main tasks of the country's economic and social development for the impending period records: "To strengthen conservation of nature, the land and its interior, the atmosphere, water-storage basins and flora and fauna. To ensure the rational use and reproduction of natural resources."

The Soviet Union actively supports the further development and extension of international cooperation in environmental protection. Constructive proposals on this issue are constantly being put forward at party congresses and USSR Supreme Soviet sessions and in the speeches of Soviet representatives at various international forums.

A great deal of work on nature conservation is being performed in the United States; considerable experience has been accumulated there, particularly in refinement of the law and administration in this sphere.

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Taking into consideration the tremendous importance and acuteness of the problem and also the need for the unification of efforts in nature conservation, the governments of the USSR and the United States signed the Agreement on Cooperation in the Sphere of Environment Protection on 23 May 1972 in Moscow.

Soviet-American cooperation is aimed at solving the basic aspects of the problem of the environment and elaboration of the principles of regulation of the influence of man's activity on nature, with regard, of course, for the differences in the two countries' socioeconomic and political systems. The following are the main aspects of this cooperation: prevention of pollution of air and water (including the marine environment); and the protection of nature against the negative impact of agricultural and other works, an improvement in the ecological environment in the cities, the organization of reservations, earthquake prediction, study of the biological and genetic consequences of environmental pollution, regulation of the influence of climate control, research into the singularities of Arctic and sub-Arctic ecological systems and an analysis of various legal and administrative measures to preserve environmental quality.

One or several joint projects and collaborating organizations were earmarked for each of the above problems. Forms of work were determined: the exchange of scientists, specialists and those on special tours and also scientific-technical information, documentation and the results of research, joint symposia, conferences and meetings of experts, joint development of individual research programs and so forth. The plans of this work are adopted at annual meetings of a Soviet-American commission, joint leadership of which is exercised by the chairman of the USSR State Committee for Hydrometeorology and Environmental Control and the director of the U.S. EPA.

Taking into account the fact that the elaboration of legal and administrative measures of environmental protection affects many general problems of state and law, the USSR Academy of Sciences Institute of State and Law (a department for legal problems of environmental protection has been operating in the institute since 1972) was designated the head organization on the Soviet side. The Council for Environmental Quality under the jurisdiction of the U.S. President was designated the head organization on the American side.

During the period of cooperation five 2-week meetings of experts have been held (in the United States in 1973, 1976 and 1980 and in the USSR in 1974 and 1978), two American specialists have spent a 5-month tour of duty in the Soviet Union, literature and information on legislation and its practical implementation are regularly exchanged, expert opinion has been given on individual questions of law and administration in the sphere of environmental protection and nature-conservation public organizations of the USSR and the United States have been helped in the establishment of direct contacts. Personal meetings of specialists at the meetings of experts have also, of course, been of great significance.

The meetings of specialists have discussed such important topics as the correlation of international and national law in environmental protection; correlation of the law and administration at different levels (all-union-federal, republic-state and so forth, right down to individual enterprise level); and the legal forms of USSR and U.S. public participation in nature conservation.

The exchange of opinions, experience and information on these pertinent issues and the joint development of theoretical concepts in the sphere of law and administration are contributing to the mutual enrichment of the theory and practice of both sides, the dissemination worldwide of the nature-conservation experience of two major industrially developed countries and the strengthening of the spirit of mutual understanding of the Soviet and American peoples.

During the visit to the country in which the meeting of experts is being held the scientists of the other side acquire an opportunity to familiarize themselves with the organization of nature conservation in the host country, with the nature of the activity of the nature-conservation organizations and with the work of the reservations and national parks.

Thus American specialists who visited the Soviet Union in 1974 and 1978 familiarized themselves with the activity of the state authorities and public organizations involved in environmental protection issues in Moscow and Moscow Oblast, the Kazakh SSR, Kiev, Baku and Tashkent and in Vladimirskaya and Rostovskaya oblasts. They visited, in particular, the Botanical Gardens of the Azerbaijan SSR Academy of Sciences Institute of Botany imeni V.L. Komarov, the Kanevskiy Reservation and the offshore oilfields in Baku. They had talks with employees of the USSR Supreme Soviet Presidium, the chairman of the RSFSR Supreme Soviet Nature-Conservation Commission and employees of the AzSSR Supreme Soviet Presidium, representatives of the USSR Supreme Court, USSR Ministry of Justice, RSFSR Ministry of Agriculture, the Vladimirskiy and Rostovskiy oblispolkoms and fish conservation and hunting supervision authorities and with leaders of the All-Russian and Kazakh nature-conservation societies and also the Rostovskaya Oblast organization of the Ali-Russian Nature-Conservation Society and so forth. An agreement was reached in 1978 on the establishment of direct contacts between the All-Russian Nature-Conservation Society and the American Sierra Club, and in 1979, in accordance with this agreement, the first visit to the USSR of American public figures involved in nature conservation took place.

American specialists and public figures who have visited the USSR evaluate highly the work being performed on nature conservation in our country. Such an evaluation was heard in the speech of [Dzh. A. Basterud], member of the Council for Environmental Quality, at the Expo-74 World Exhibition in Spokane. Prof T. Schoenbaum, who studied organizational-legal measures for the protection of reservations in our country over a period of several months, published in 1976 in an American journal of comparative law the article "Protected Areas in the Soviet Union and the United States. A Comparative View," which illustrated our achievements in this sphere and recommended the use in the United States of certain elements of Soviet experience of the legal regulation of the protection of reservations. The representatives of American public organizations who visited the USSR in 1979 evaluated highly the provisions of the USSR Constitution devoted to nature conservation.

Soviet specialists, in turn, had an opportunity to familiarize themselves in 1973 and 1976 with the organization and content of the work of the Council for Environmental Quality and the EPA and some of its peripheral subdivisions and with the activity of permanent commissions of the U.S. Congress, the departments of justice, interior and agriculture, the Atomic Energy Commission, the U.S. Supreme Court and certain other district and state courts and nature-conservation organizations in Washington, New York, Boston, San Francisco and Los Angeles. They visited the Grand Teton, Yellowstone and Grand Canyon national parks, familiarized themselves

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with the work on recultivation of the land at the collieries of the Decker Mine Company (Montana) and the protection of water and the atmosphere at the "Konnecot Copper"copper-molybdenum enterprise (Utah) and participated in seminars in Denver (Colorado) and Salt Lake City (Utah).

The fifth meeting of Soviet and American specialists in the legal and administrative aspects of environmental protection was held in December 1980 in the United States (Washington, Miami, Atlanta and New York). The American delegation was headed by F. Knight, acting principal attorney of the host organization—the Council for Environmental Quality. The delegation included the following prominent specialists: N. Yost, director of a presidential work group for the preparation of a global ecological forecast up to the year 2000, J. Moorman, chief of the U.S. Justice Department's Land and Natural Resources Division, G. Widman, deputy head of the Department of the Interior's Solicitor's Office, E. Greenberg, head of the Solicitor's Office of the Commerce Department's National Oceanographic and Atmospheric Administration, W. Smith, chief economist of the EPA, N. Robinson, member of the Sierra Club Board of Directors, O. Hook, vice president of the National Wildlife Protection Federation, W. Futrell, president of the Institute of Environmental Law, and K. Hall, B. Bramble, H. Osherenko and D. Shea, employees of various departments and agencies.

The Soviet delegation included O.S. Kolbasov (leader), M.I. Kozyr', Yu.S. Shemshuchenko, A.M. Kaverin and Yu.A. Starikov.

Opening the meeting, F. Knight emphasized that cooperation between the United States and the USSR on a very complex problem affecting the interests of all countries—environmental protection—had proven quite fruitful.

O.S. Kolbasov noted the importance of Soviet-American cooperation in the nature-conservation sphere and pointed out its place and role in the system of measures to preserve peace and improve the general political climate and also people's living conditions. He informed those assembled in detail about the environmental protection measures which have been implemented in the USSR in recent years and emphasized that a place of particular importance is assigned nature-conservation measures in the draft "Main Directions of the USSR's Economic and Social Development in 1981-1985 and the Period Through 1990".

During the meeting the Soviet and American specialists discussed questions connected with the need for and the obligatory nature of the consideration of ecological aspects and questions concerning the environment in the elaboration of construction plans and with an analysis of the role in this process of the U.S. EPA and analogous national organizations. In particular, the question of the extent to which the agency takes account of economic factors in its decisions connected with environmental protection was inquired into. The agency's position betrayed concern at the fact that at the time of the 1980 election campaign in the United States allegedly unduly strict laws and also EPA rules pertaining to environmental protection which were allegedly holding back economic development had been criticized and that the opinion had been expressed on the need to strictly set EPA officials "straight" and reduce expenditure on environmental protection.

Global environmental problems were also examined and international mechanisms of environmental evaluation and questions of nature conservation worldwide were discussed during the meeting.

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The American specialists familiarized the Soviet scientists with a synopsis of a report to the U.S. President published in July 1980 which contained an ecological forecast for the year 2000.

In the opinion of the authors of the report, the Earth's population in the year 2000 will constitute 6.35 billion, and the developing countries will be responsible for 90 percent of the population increase, moreover. Food production will have almost doubled by this time, but its increase per capita will constitute less than 15 percent. There will be an even greater discrepancy in the economic provision of the population of the developed and developing countries: the industrially developed countries (one-fourth of the world's population) will, as before, consume three-fourths of the world extraction of mineral resources. The water shortage will increase in certain areas of the world. Reserves of growing timber of commercial proportions will decline by 50 percent (per capita); approximately 40 percent of remaining forests will have been felled in the developing countries. Up to 20 percent of existing animal and plant species could possibly have disappeared forever in connection with considerable changes in habitat. It is expected that the concentration of nitrogen dioxide and other ozone-depleting chemicals in the atmosphere will have increased at such a rate that by the year 2050 they will have appreciably altered the Earth's climate. Despite the fact that ever increasing efforts are currently being made with respect to environmental protection, they are, the authors of the report believe, manifestly inadequate and incapable of changing the negative ecological trends. At the same time the authors of the report have not taken account of the real economic and political difficulties preventing people organizing their relations with nature more intelligently, which increases the seriousness of the impending problems even more.

The report does not put forward any concrete plan of action to rectify the ecological situation (work on its third volume, which will contain recommendations on behavior models for the U.S. leadership in the realization of ecological policy, has yet to be completed). It merely makes recommendations of a general nature: display greater initiative in tackling ecological problems and create global comprehensive and long-term environmental protection programs which should "initiate an era of the unprecedented cooperation and self-sacrifice" of all peoples of the world. The authors of the report assert here that there are currently all the opportunities and compelling grounds for the United States to become the world leader in the movement for environmental protection.

The Soviet specialists recognized the report as being very interesting and its material as meriting attentive study. At the same time they emphasized that while, through the fault of the opponents of detente, the real threat of a thermonuclear war still exists and the arms race is intensifying it is difficult and unrealistic even to talk of "unprecedented international cooperation" in the environmental protection sphere. As far as U.S. leadership in an international nature-conservation movement is concerned, it could be accepted by the international community only in the event of it being exercised not to the detriment and not at the expense of other nations and it being a leadership of good example and assistance to peoples in need.

The scientific papers of the members of the Soviet delegation made an in-depth and diversified analysis of various aspects of current Soviet nature-conservation legislation, including preventive nature-conservation measures, and noted that there is all-around consideration of questions of environmental protection and thorough

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ecological appraisal by experts of construction plans in our country at the time of their elaboration. Those who submitted papers illustrated in detail the content of the new Soviet laws on protection of the atmosphere and the protection and use of the animal world and described the procedure of planning the rational use of nature and environmental protection in the sphere of agricultural production and legal guarantees of land protection and of an improvement in its fertility.

The American participants in the meeting received with great interest information on the development and application of nature-conservation legislation in the USSR and showed an interest in a strengthening of Soviet-American cooperation in the environmental protection sphere.

During the visit to the United States the Soviet specialists held thorough talks with the American specialists which touched on legal and administrative questions of environmental protection in the USSR and the United States in the EPA and the interior, commerce and justice departments and also in the Kennan Institute and the Institute of Environmental Law in Washington. They discussed with M. Wilkey, member of the Federal District of Columbia Court of Appeals, the question of the role of the U.S. courts in the sphere of environmental law. They held talks with officials of the legislatures of a number of states and certain local authorities on the effectiveness of the application of federal and state environmental protection laws, rules and procedures, with representatives of U.S. public organizations involved in nature conservation, particularly activists of the Sierra Club and the National Wildlife Protection Federation, and also with prominent practicing lawyers dealing with legal problems of environmental protection and with professors of the legal faculty of Pace University.

The members of the Soviet delegation visited the Everglades national reservation, a farm near Miami (Florida), the heat and electric power plant and the regional EPA office in Atlanta, the Environmental Protection Department of the state of New York and a gas works near Calvert Cliffs (Maryland) and were received by the mayor of [Grinburg] (New York state).

During these meetings the American figures in the nature-conservation sphere displayed great interest in the Soviet experience and evaluated it highly. Thus J.W. Moorman, deputy attorney general for environmental protection, expressed to the Soviet specialists his admiration for the well-organized protection of nature in the USSR, and Prof N.A. Robinson in several of his speeches characterized as positive the cooperation of the USSR and the United States in legal and administrative problems of environmental protection and repeatedly cited articles 18 and 58 of the USSR Constitution as a model of a responsible attitude toward nature conservation and called for the further expansion of cooperation in this sphere. The top American specialists N. Yost and O. Hook made similar statements.

How can we evaluate the current state of American law and administration and their role in environmental protection?

In the Soviet specialists' opinion, definite progress has been observed in the United States in the last decade in legal protection of the atmosphere and the offshore continental zones of adjacent seas (in previous years measures had been implemented mainly to protect waters and regulate land use on the basis of territorial zoning).

The experience of the effective application in the United States of a new legal institution—"Environmental Impact Statements"—upon the construction of various industrial projects and installations (gas mains and pipelines, dams, hydropower stations, irrigation canals and so forth), which is a comparatively strong means of preventive control which, the American specialists believe, has helped in increasing considerably the ecological justification of economic decisions, avoiding mistakes and increasing environmental protection effectiveness, merits particularly careful study, we believe. American specialists recommend the use of this form in the practice of other countries and also in international relations.

This system of preliminary ecological control in the production sphere is implemented in accordance with the National Policy in the Environmental Protection Sphere Act (January 1970) and the analogous laws of certain states. The laws stipulate that within a certain period prior to the start of the construction or modernization of enterprises and other operational facilities businessmen and state authorities are obliged to make a public "environmental impact statement" concerning these facilities. The contents of the statement are analyzed within a certain period of time by federal inspection authorities, public organizations and the local population, which may put forward objections to the implementation of this project or the other as a whole owing to environmental considerations and propose alternative versions of or amendments to the project. The businessmen and federal authorities are obliged to examine the amendments and within a certain period of time publicly announce their acceptance or rejection. If the authors of the observations and proposals are not satisfied with the results of this examination, they can strive for their compulsory implementation through the courts. As of now several tens of thousands of environmental impact statements have been examined at various levels of the American federal structure; up to 5 percent of them here have been challenged in the courts.

However, we have succeeded in studying far from all essential aspects of the legal protection of the environment in the United States in the years of cooperation. The system, functions and interaction in environmental protection of U.S. federal authorities, which include, inter alia, the U.S. Justice Department, the Council for Environmental Quality under the jurisdiction of the U.S. President and the EPA, are still in need of more in-depth study.

There has also been utterly inadequate study of the system of preventive nature-conservation measures in U.S. agriculture and also the negative influence of the industrialization and, particularly, the chemicalization of agriculture on the state of the natural environment.

Study of the practice of the hearing of nature-conservation cases in the American courts and an analysis of the measures of property liability for harm caused nature (for example, the imposition on those found guilty of large fines of the order of \$25,000 for each day of infringement) is also of great interest for Soviet legal experts—scientists and practitioners.

The United States' international nature-conservation measures and their place in this state's overall policy and in its application to various regions of the world as a whole, particularly in connection with food aid to the developing countries, also deserve to be studied. It is also necessary, finally, to study the aspects of American theory and practice which are connected with the development of an international law of the environment.

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As far as an evaluation of the current status of Soviet-American cooperation in legal and administrative problems of environmental protection is concerned, it was formulated thus in the meeting's summary protocol: "The sides observed that the fifth meeting was successful and that the exchange of information and experience was satisfactory. The specialists acknowledged the need to continue the exchange of opinions, information and documents and observed that cooperation on environmental issues on a world scale is of great significance and merits increasing attention."

The protocol also formulated the main areas of cooperation for 1981-1982. As before, the exchange of information and opinions concerning the elaboration and application of legislation on environmental protection in the USSR and the United States will be continued. There will also be a continuation of the exchange of information on a study and evaluation of environmental impacts both within each country and on the Earth as a whole, on the collation of economic factors with environmental factors and on the implementation of laws on the environment. The exchange of scientists and those on special tours studying legal and administrative aspects of environmental protection will continue.

It was also decided to study the question of paths of the further cooperation of the USSR and the United States in tackling the long-term tasks of environmental protection and making rational use of natural resources internationally.

It is proposed to discuss all these problems at the sixth meeting of Soviet and American specialists which is to be held in 1982 in the USSR.

The participants in the meeting agreed to ascertain the possibility of the joint preparation and publication in both countries of a collection of articles devoted to an evaluation of environmental protection at the national and international levels, the application of legislation and also an analysis of administrative measures in the sphere of environmental protection being implemented in the USSR and the United States.

In speaking of the results of the 9 years of Soviet-American cooperation in legal and administrative problems of environmental protection it should be mentioned that its main result has been deeper knowledge of the theory and practice of legal regulation in the sphere of nature conservation in both countries and in the system of international law.

In addition to its immediate professional usefulness, cooperation has contributed to maintaining a spirit of trust and mutual understanding between the Soviet and American peoples.

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FEDERAL REPUBLIC OF GERMANY

LOWER ELBE DEVASTATED BY POWER PLANTS, INDUSTRY

Hamburg STERN in German 17 Sep 81 pp 53, 54, 56, 60

Article by Christian Jungblut: "When a River Dies, the Fish Are the First To Go"

Text Blood-red tumors swell from the mouths, gills and flesh of eels in the Elbe River. Fishermen have to throw back a third of their catch. An official study found higher amounts of mercury than the food laws allow in 61 percent of the eels caught.

Old Harm is telling me to hurry up. "The water's leaving us behind," he calls, and casts off the lines. As the tide starts to go out, we leave Friedrichskoog harbor and set out for Trischen — the island bird sanctuary opposite the mouth of the Elbe. My ferryman's real name is Hermann Thormaehlen, but everyone on the coast just calls him Harm. The fisherman born in Finkenwerder has spent most of his 80 years on the lower Elbe.

Few people know the 100 kilometers of river between Hamburg and the North Sea as well as he does. Harm has seen how this original river landscape was devastated by a gigantic industrialization program within a period of 20 years. It began with the nuclear power plant at Stade, 30 km below Hamburg. When the atomic reactor was built in 1970, they said that private households needed more electricity. Shortly thereafter, two large users of electricity moved in 10 km downstream near the village of Buetzfleth: the American Dow Chemical Company and the United Aluminum Works foundry. The new Elbe tenants were in a hurry. Long after the two plants had started producing, not even a construction permit was in evidence.

A second aluminum plant was rising out of the ground at the same time on the outskirts of Hamburg, the American Reynolds company plant. Nor was there a permit when Hamburg's mayor at that time, Herbert Weichmann, ceremoniously broke ground for the building in 1970. The Hanseatics even got around the prescribed zoning procedure and overrode the residents' veto rights by simply declaring large parts of the island of Finkenwerder to be part of the harbor expansion district by law. The city's own Hamburg Electricity Works purchased a one-third interest in the Stade nuclear power plant so that it could supply Reynolds with electric power.

The wave of construction spilled over to the other side of the Elbe and descended upon Brunsbuettel, a provincial town in Schleswig-Holstein. The first structure to be built at the spot where the North Sea-Baltic Canal flows into the Elbe was a

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quay. A nuclear power plant soon followed -- the second one on the Elbe. Construction of the large Bayer, Huels and Schelde chemical plants began soon thereafter.

And finally, last year saw the beginning of a third stomic reactor, the Brokdorf nuclear power plant, 15 km downstream in the Wilster Marsh. And once again the allegedly rising electricity consumption by private households was cited as justification.

Scarcely a week has passed since the beginning of industrialization without new horror stories about the decline of the lower Elbe: toxic wastes, cooling-water that gives off heat, dying fish, corrosive aluminum sludge, lethal waste gases, mishaps at the nuclear power plant.

"This River Is Too Precious for Idylls"

Hermann Thormaehlen, the fisherman they call Harm, asks whether this Elbe is still a river at all or has already become the industrial canal which Hamburg's former economics senator Helmuth Kern probably had in mind when he declared: "This river is too precious for idylls."

Something of an idyll still remains at the spot where the Elbe flows into the sea and the broad funnel of the estuary opens to the north. Old Harm is guiding his small motorboat along here. Leaving Friedrichskoog as the water receded, the ebb tide drew us out into the almost endless gray expanse. The opposite shore at Cuxhaven was not to be seen. But now, after  $1\frac{1}{2}$  hours under way, the sea has shrunk to the size of a channel. Sandbanks stretch out around us as far as the eye can see.

Anyone can stick a flag in the sand here and establish his own state. There is enough room for a kingdom. At low tide, more than 100 square kilometers of land loom up out of the water. Monaco has only 1.8 square kilometers. But the conqueror's reign would last only until the next flood tide.

For thousands of years this kingdom has been surfacing in rhythm with the ebb and flow and sinki. g again after 12 hours like an eternal Atlantis. But already there are plans to rescue the land from the tides forever. They intend to pour vast quantities of sand on it. A gigantic artificial mainland is to arise — land for new industry to build on.

"Do you think there'll still be a Trischen then?", asks Harm, when we reach the island that rises out of the water even at high tide. I jump out on land — suddenly the keeper of the birds stands before me. He lives on a kind of raised platform and has seen us coming from a long way off. He now bars the way in a threatening manner. "I bring you the mail, "says Harm; "so let my guests go ashore with me."

With his thick black beard and tattered trousers, the custodian gives the impression of being shipwrecked on a lonely island. Yet he stays here only in the summer half of the year to count the birds as they brood and rest. For Trischen is one of northern Europe's most important landing grounds for migratory birds. Close to 150,000 birds stop over on this sandy spot every year on their way to far-off lands. Sometimes up to 8,000 pairs breed here. The island is one of the last great oases

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of nature on the lower Elbe. This is why keepers of birds here are always hunters of men as well. They defend this sanctuary against all intruders.

But what can they do if one day suction dredges move in to sluice up sand in front of their island and perhaps build a levee? They will be as helpless as old Harm, who today carries mail and supplies to Trischen, and who for a long time has been unable to make his living from fishing the way his father and his father's father used to do.

Harm's grandfather had become a wealthy man on the Elbe. Once he put out his nets and in a single sweep pulled from the water a catch worth half the actual value of his cutter. He collected 1,800 marks for the 60 sturgeon. A new boat cost 3,000 then.

Only a Handful of the Elbe's 10,000 Fishermen Remained

At that time the Elbe still teemed with snipe eel, pike perch and pike, bream, stuart and sturgeon. There were catches like the legendeary sturgeon that weighed 180 pounds, including the caviar, and brought as much money as a hog weighing 3 centners. Harm's grandfather spent the money on a fur-trimmed winter coat that was even worn by his grandson.

Barely a handful remain of the Elbe fishermen who used to number 10,000 — men like Hans-Heinrich Becker, who in the evening at the Neufeld village inn counts up last week's catch for me: Monday, 40 pounds of eel; Tuesday, 12 pounds; Wednesday, nothing; Thursday, 32 pounds of eel and 8 pounds of flounder. Friday was the best day: 60 pounds of eel. Nothing again on Saturday. On Sunday the Elbe belonged to the sailboat enthusiasts and weekend skippers — he turned right around and came back. Yet Hans-Heinrich Becker was lucky that week; he had to throw back only half of his catch — the fish with the ulcerous growths.

The fishermen know what is causing the fish to be diseased: the filth that comes from industry. The chemists call it gamma hexachlorine-cyclohexane, tin, chromium and phenol, polychlorinated biphenyls, dieldrin, heptachlorine and cadmium.

The water is no longer fertile. Nor is the land. From time immemorial, the Elbe has repeatedly washed the land in front of the levee, has fertilized and irrigated it. Generations of farmers dug ditches to provide drainage for their lush fields. Now new levees separate the headland from the river in many places, and the farmers often do not know where to find enough water for their livestock.

Only the old-timers still tell of the sught-after land, of the rich grazing land in front of the levee, where cows used to be sent from the hinterland to be put out to pasture — even horses from Westphalia. There are tales like the one about the knights of Kehding who once invited the peasants of Krummendeich to a feast in Stade; they then made sure in their fashion that only a few of them returned to their farms. Thus, in accordance with ancient law, their land passed to the nobility.

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Modern Levees Turning the River Into an Industrial Canal

The modern robber-barons stand at their drawing boards. They tinker with flow models, do computer calculations and build levees around the headlands — as was done at Neufeld, where the old levee jogs in two directions, toward Friedrichskoog and Brunsbuettel. This is the site of Delf Jans's house, a village inn frequented only by coastal folk. Delf is from Dithmarschen, and — as the saying goes — Dithmarscheners are hardheaded. People whom Delf Jans does not like will not even get an egg grog at his place — the punch made of beaten egg yolk and hot straight rum, a drink that you can take only in small sips but still gives you hot flashes.

I used to go to Neufeld quite often for an egg grog, following the bends of the inlet downstream in my boat through the broad headlands, past grazing sheep and goese to the house on the levee. At high tide during a storm, the water sometimes surges almost to its doorstep. Then a witches cauldron rages in the headlands. But the levee has always held.

A levec like this is more than just a piled-up wall of earth. It is a bulwark, a complicated set of defenses. "The levee is life for us all," says Delf Jans.

In earlier times, when everyone still had to lend a hand, anyone who did not do proper work on the levee was run off like the Pastor of Hollern because he was endangering them all. And the annual levee review, at which time its condition was assessed by experts, was more important than any church festival.

Delf Jans himself used to help build levees in his younger years. But today he grumbles: "They're planning to build a new levee that will close in the whole headland." What is his objection?

Did he not once acquire new land himself by building levees? "That's something entirely different," Delf Jans informs me. "At that time we built levees that were in keeping with nature. But they intend to just lop off a corner. No one who's from the coast does something like that. These who are doing the planning may have studied at the university, but they don't know the Elbe."

A look at the map shows what "the university men" have already done with the largest levee construction program in the history of the lower Elbe. In recent years they have built more than 300 km of the new levee. Tributaries were simply welled off, as at Haseldorf, 30 km below Hamburg. Old Elbe ports have been filled in or blocked off; islands became part of the mainland. In many places the new levee is situated miles in front of the old one and is forcing the once wide-branching riverbed of the Elbe in on itself like a canal.

The waves from the tides used to play themselves out on the corners and edges of the old angled levee. Today the smooth walls of the new one conduct the rising tide upstream via the shortest route. The new reeves of the levee have made a funnel out of the lower Elbe, an enormous hydraulic press that can be manipulated by any narrow-breasted northwest wind.

Remarkable Elasticity of Pollution Limits

A storm has already given the levee planners their comeuppance. Yet it was not nearly as strong and persistent as the one during the catastrophic flooding in 1962. But when this northwester on 3 January 1976 pushed the massive waves out of the North Sea into the Elbe, the water rose even higher — so high that the people of namourg feared that their downtown area would be inundated.

But the construction program will continue nevertheless, until the entire river has been straightened out into a streamlined waterway. Levee builders like these once would have been hounded out of town like the Pastor of Hollern. In those days leves were built to protect people, land and livestock. Levees are built today to obtain dry land for industrial construction projects.

New levees and chemical plants, atomic reactors and aluminum works — this is how the Elbe is being surgically destroyed. In this case the scalpels, clamps and swabs are called "area planning," "development model for the lower Elbe," "land planning in Schleswig-Holstein" and "development program in Lower Saxony." The head physicians are to be found sitting in parliaments, the operating surgeons in industries and the anesthetists in government agencies.

Dr. Ernst Hinze of the Harburg Health Office was one of them. When the Reynolds Aluminum plant was about to be built, and concerned citizens were asking bout the highly toxic fluorine waste gases, he informed them: "Fluorine in small doses is even good for the teeth."

Professor Hubert Caspers of the Hamburg Hydrobiological Institute sprinkled his expert water opinions over concerned fishermen. When the Bayer plant at Brunsbuettel was in the planning stage — a facility that in its final phase of development would put 1.8 million tons of waste water into the river every day — he had this to say: Yes. "But this infusion will probably bring the Elbe up to its pollution limit."

But when the issue arose of building the Brokdorf nuclear power plant only 15 km downstream — a plant whose cooling-water will raise the temperature of the river in the future — Professor Casper favored this project as well, but here again he added this proviso: "This infusion will probably bring the Elbe up to its pollution limit."

"The Waste Water Has Properties Like Those of Mosel Wine or Sauerkraut"

And when government experts are rendered truly speechless with indignation, environmental specialist such as Dr Hans Hermann Weber of the Bayer company step in. He had this to say about the acid content of the liquid wastes that are to flow into the Elbe when the Bayer plant at Brunsbuettel is completed: "The waste water has properties like those of Mosel wine or sauerkraut." He was talking bout these quantities: 1,300 kg of mercury; 130,000 kg of lead; 1,300 kg of cadmium and 2,600 tons of iron every year.

The planners thus go around pulling the wool over everyone's eyes, and more and more factories spring up. When they draw near, a flood usually precedes them —

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a flood of sand. Sand is flooding the outskirts of Hamburg harbor again right now. Altenwerder, the island in the Elbe, is to be covered with sand so that a container terminal can be enthroned upon it at a later date.

The sluicing area is still a bare wasteland crossed by a pipe that extends down to the water's edge, where the pumping ship and the sand-laden barges lie. There are gurgling and rustling noises in the tube. The pipeline spews out the barge's load. An unending deluge pours over the green meadow. Wet sand floods ditches and roads, pulls down trees and fences. A village is being entombed here. Only the church and the cemetery are to be spared, for the dead have a right to 25 years of peace. Residents of the village were laid to rest there only a short time ago.

But the living are pulling out. Not only in Altenwerder but also in Buettel, not far from the North Sca-Baltic Canal. From the Elbe levee, Buettel looks like many a village in Sleepy-Holstein. But the quiet in Buettel is a deathly silence. Houses still stand here, but only the wind moves the curtains now. Where a door stands open, as though someone had forgotten to close it a few minutes before, a spider spins its web. In the farmer's garden the weeds are taking over the last of the blooming dahlias.

The residents of Buettel had to make way so that the chemical industry in nearby Brunsbuettel can continue to blow pollutants into the air. Farmer Loft now has a new farm in the Wilster Marsh. But construction is due to begin there again as well — the Brokdorf nuclear power plant. And farmer Loft does not know what else is going to happen and whether he will be able to remain there.

Expellees of 1981: Becker, the Elbe fisherman, has moved to Finkenwerder from Altenwerder where the sluice field is growing. But sand is already being sluiced up right across from his new home so that industry can expand. It is driving the Lofts and the Beckers before it. And it is consuming the Duebbels.

New Jobs Are Already Being Rationalized Away

Erwin Dubbels was a baker in Krummendeich. He is now a foundry worker at the United Aluminum Works in Buetzfleth. Many colleagues used to be his customers—agricultural workers and part—time farmers for whom he baked bread. Now they bake little rolls together. Only the most menial jobs are for the local unskilled workers. The companies brought their foremen right with them to the coast. The locals switched professions because industry them regular working hours and secure positions. Operations are now being rationalized, people are losing their jobs and others are having to work overtime.

On the way home to Krummendeich in the bus, they argue vehemently over whether it would not have been better to give companies the government subsidies to build light industry. Or perhaps they should at least have imposed stricter conditions on the big factories.

After all, says someone, these plants came here not only because the water is deep enough for oceangoing ships and land in front of the levee is cheap. They came because no one would have them anywhere else.

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