North Pole, South Pole Resources Eyed

The intensified worldwide quest for new energy and fuel resources is causing many nations to turn their attention to the polar regions. The quest has led to some new diplomatic issues, such as how to adapt the Antarctic Treaty to permit orderly resource exploitation. And it has aroused environmentalists, who are concerned with preserving the poles as much as possible from development, for they affect the rest of the world's oceans, climate, and living organisms.

In a potentially significant change of policy, the United States and the other nations who are parties to the Antarctic Treaty have agreed to seek an international solution to the thorny issue of exploitation of the mineral and fuel resources of that continent.

This was the result of a 2-week meeting held in Oslo, Norway, 9–20 June. The question of mineral and fuel exploitation was the first substantive, controversial question to be taken up by the 12-nation group in the treaty's history. The treaty reserves the continent for peaceful, scientific purposes and holds all territorial claims in abeyance. Exploitation, however, if undertaken unilaterally by any one of the nations, could revive these territorial claims and void the treaty, which has governed the region successfully since coming into force in 1961.

The nations meeting in Oslo approved a statement recommending that they exercise restraint from commercial exploration and exploitation as long as an international solution to the problem is being sought. This will be done at a special meeting in Paris next year. "I think all governments showed a very deep resolve to preserve the treaty," says Robert Hughes, who headed the U.S. delegation to Oslo and is assistant director of the National Science Foundation for national and international programs.

The treaty nations also agreed to another conference, to be held within a year, to look at the ecology of Antarctic marine resources, such as the krill, which may soon be commercially harvested in great numbers.

The United States went to Oslo fully committed to finding an international solution to the Antarctic mineral resource issue, according to recently released Senate testimony by Dixy Lee Ray. Until her resignation last month, Ray had effective control of U.S. Antarctic policy as Assistant Secretary of State for Oceans and International Environmental and Scientific Affairs. This is a turnaround from the situation earlier this year, when representatives of energy and resource agencies had succeeded in tying the hands of U.S. negotiators by arguing that the United States should retain the option of developing Antarctic resources unilaterally (*Science*, 7 March).

Environmentalists should be pleased with the change in U.S. Antarctic policy, but, because the two poles have different environments and are governed by different political arrangements, there are plenty of problems that still need to be solved. That environmentalists are increasingly interested in these problems was demonstrated in early June in New York when "Earthcare," a meeting sponsored by the Audubon Society and the Sierra Club, devoted several sessions to the polar regions.

In the Arctic, established American and Canadian environmental groups have lobbied for some time to save endangered species: seals, wolves, caribou, and birds against various threats brought on by economic activity. To this effort, the native American rights movement more recently has added its own arguments for perserving the Northern wilderness.

Now, the anxiety of the oil and gas industries to develop Arctic sources poses the most obvious threat. The Canadian government since 1970 has offered more leases for offshore drilling in the Beaufort Sea than ever before. But environmentalists worry that this is being done without accompanying long-term research to study Arctic ecology and the impact of spills and leaks (some of which have already occurred). Potential threats include the impact of oil slicks on the nesting grounds of whistling swans, on snow geese, and on colonies of murres, a common sea bird in the region. In addition, the oil companies are accused of having inadequate arrangements for plugging a leak or cleaning up a spill in the windy, stormy Arctic environment. Their plans include drilling directly through the ice cap, but environmentalists complain that next to nothing is known about the ecological impact of this or how to clean up a spill under the ice.

Onshore in the Arctic, there are plans for a gas pipeline to parallel the coast of the Beaufort Sea across Alaska and Northwest Canada to the Mackenzie River valley. Ecologists fear that this will interfere with the migration of caribou; they want the Canadian government to establish a wildlife refuge along the Alaskan border. On the American side, conservationists want to see the pipeline rerouted along the trans-Alaska highway and the 8.9-million-acre Arctic National Wildlife Range extended to complement the proposed Canadian one, thus creating a giant wildlife sanctuary immune from future development.

In the Antarctic, the ecological threats are less immediate, with the exception of the designs of fishing fleets on Antarctic krill, a small crustacean which inhabits Antarctic waters in such numbers that its total protein content is estimated to equal that of all the world's oceans. They are also an important link in the oceanic food chain and a major food for some whales.

Several distant water-fishing nations, including Japan, Norway, and the United Kingdom, are reportedly getting ready to harvest the krill. However, neither scientists nor the fishing industry know much of anything about the krill; hence out of ignorance fishing fleets could irreparably deplete this species.

Other pollution problems loom in Antarctica for the long term. The human waste and garbage from the McMurdo Sound base, which in that climate takes very long to decompose, is accumulating; despite pledges the government has not built a treatment plant to process it. There is also evidence of microbiological pollution on the ice cap and continent itself.

If one lesson emerged from the "Earthcare" meeting's recital of the threats to polar regions, it was that the issues constitute a new class of environmental problem. The polar regions are by definition multinational in character and jurisdiction over a specific problem can be vague or nonexistent. Hence one cannot simply take someone to court, or get a law passed. In addition, each pole has different biota and different resources; hence those who are knowledgeable about the problems of one are not always knowledgeable about the problems of the other. In fact, the scientists and environmentalists who spoke at the polar sessions seemed more a collection of individual experts than a unified group with a defined political strategy. But perhaps meetings like this will produce a minimovement, at least.—DEBORAH SHAPLEY