

United States and Canada Sign Agreement on Ocean Drilling Programme

The National Science Foundation (NSF) and the Canadian Department of Energy, Mines and Resources today (April 15) signed a Memorandum of Understanding for Cooperation in the Ocean Drilling Program (ODP), an international project to explore the ocean basins to find clues on how the Earth was formed and developed. The agreement calls for Canadian participation, in principle, for the nine-years' duration of the ODP.

ODP scientists use the 470-foot (*ca* 143-m), Nova Scotia-built, drillship JOIDES Resolution to study sediments and rocks that underlie the ocean basins, in order to gain more information on the structure of the planet, the structure of the Earth's interior, life in the oceans, and changes in global climate.

Under terms of the memorandum, Canada will contribute US \$2.5 millions annually to the project. This entitles Canadian research workers to have two scientific representatives on each cruise, and one co-chief scientist a year. Canadians will also take part in ODP planning, including the selection of drill-sites. In September and October of 1985, JOIDES Resolution will drill in the Labrador Sea and Baffin Bay. Co-chief scientists from the Bedford Institute, Dartmouth, Nova Scotia, and the University of Rhode Island, will lead the expedition.

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Pollution Threatening Swiss and German Forests

The battle to save Switzerland's forests from the effects of air pollution is now officially engaged. On one side is an influential automobile lobby opposed to lower speed-limits as a means of saving trees. On the other side are environment-conscious politicians and an array of conservationist interest-groups. And this is no local issue: neighbouring West Germany is already on the horns of much the same dilemma, and Switzerland's case could soon be repeated practically throughout Europe.

The crisis may have come to a head soonest in Switzerland because forest loss is a matter of life and death in some parts of such a mountainous country. Ironically, no nation has done more than Switzerland to make forest conservation a way of life, particularly in the interests of landslide and avalanche control. More than 100 years ago, Switzerland passed a tough, comprehensive law to make sure that its forests would be preserved into posterity. The 1876 measure of some Cantons, designed to halt overexploitation of forests, was extended nationwide in 1902. It required that all tree-cutting be followed by generous replanting. But now the nation is in the grips of a Man-made crisis that is threatening to undo over a century of disciplined good work.

Most existing studies of 'acid rain' pollution have blamed fallout from power-stations and factories as the main culprit. The Swiss national network of air-pollution monitoring stations (NABEL), however, published a bombshell report in 1983 which showed that Switzerland's share of the problem could not be blamed wholly on heavy industry at home or in neighbouring countries.

NABEL had figures to show that oxides of *nitrogen*, 80% of them produced by motor-vehicle exhausts, were building up in the environment at a rate exceeding 10% a year. NABEL also said that oxides of *sulphur* from other—mainly industrial—sources inside and outside Switzerland were building up at a similar rate. Both categories of oxides are known triggers of the 'acid rain' phenomenon, though the relative importance of the two varies considerably from country to country or from region to region.

Reinforcing the NABEL report, field studies produced a mass of evidence to show that, across the whole Swiss landscape of alps and river valleys, an average of one in three trees is 'doomed or dead'. In some areas, such as the heavily-populated northern region around Switzerland's largest city, Zurich, and in the southern alpine Cantons of the Grisons and Valais, the toll is nearer one in two.

Limits

Last year, in a move to counter the car-exhaust pollution threat, the Federal Government imposed speed-limits of

120 kph on *autoroutes* and 80 kph on minor roads.* It is now considering cutting the top speed on autoroutes to 100 kph. In 1986 motorists will face mandatory requirements to use exhaust catalysers and lead-free gasoline.

But the automobile lobby in Switzerland has recently succeeded in forcing a national referendum calling for the repeal of the speed-limits imposed last year! An inconclusive stand-off between 'Green' and 'Machine' is threatened in what is arguably Europe's most environment-conscious nation.

Yet Switzerland is not alone. In the Federal Republic of Germany, a quarter of which is still forest-covered, a recent study showed that as many as half of the nation's trees may have been damaged already by pollution. The Government is caught between pressure for lower speed-limits and other stricter controls from the Greens Party, and the reluctance of its Common Market partners to adopt such standards. †

'Five Minutes to Midnight'

Waldsterben, or death of the forests, is part of a growing problem in central Europe, Scandinavia, and North America. Events in Switzerland could be a significant test-case for state intervention to solve the frightening environmental problems that arise from acidic fallout wherever it occurs.

'It is five minutes to midnight', says Professor Pierre Goeldlin, Director of Lausanne's Zoological Museum and a Regional Councillor of IUCN. Goeldlin and like-minded conservationists have recently gained a wide audience in Switzerland, as public concern for the problem grows. Public concern, however, doesn't always translate immediately into swift action, and Goeldlin and others are concerned that measures to stop the killing of the trees aren't being taken quickly enough.

'I hope that the debate and the measures being proposed will induce our neighbours to move as far in the same

* We heard of these limits and at first tried to keep to them but, being chronically passed by a large proportion of cars and even heavier vehicles travelling in the same direction—often with impatient hoots from them to move on—did not long persist.—Ed.

† Latterly (June to September 1985) we have been appalled by the death or unhealthy appearance (especially die-back) of a shockingly large proportion of trees and shrubs not only around us in Switzerland but also very widely along the road and on the horizon when driving *slowly* from Oxford to Cambridge in England and subsequently in the Banff National Park and Kananaskis Provincial Park in Alberta, Canada.—Ed.