

modern sciences. If the Board is to continue its existing scope and level of research with modern instrumentation, a cumulative increase in operational expenses of about 11 per cent annually is required. The topics which follow demand expansion beyond this maintenance level. Flexibility and adaptability are required to benefit from programming which originates continuously from new scientific advances.

The Environment. In the depths of the open ocean there is a "deep scattering" layer. The name arises from the signals reflected to sonic detection apparatus on board ships. Large numbers of fish may be associated with this layer but so far no one has been able to make any commercial use of them. Ships and the development of sensing apparatus and gear will be required to explore this and other new segments of the environment. Any country which can make this potential crop available to its industry will reap strong economic advantages.

Contamination of the Great Lakes and other inland waters is another pressing problem of the times. Under a charge from the International Joint Commission, a multi-discipline effort was launched to investigate (and eventually alleviate) this pollution. In addition to the Province of Ontario, the federal agencies concerned are : Energy, Mines and Resources (water quality, circulation, chemistry), National Health and Welfare (fitness for human use) and the Fisheries Research Board.

The FRB task is to understand the mechanism and the biological effects of man-made increases in the nutrient level of lakes and to seek efficient means of controlling the process. It is analogous to the medical problem of a widespread ailment like rheumatism, for which no alleviation has been discovered beyond aspirin and massage. The research will include field studies on the Great Lakes, laboratory studies, and pilot plant operations on smaller lakes. The Great Lakes situation, basically a rescue operation, affects nearly half of Canada's population.

In order to maintain the fisheries the federal government has a direct interest in preserving the aquatic environment from pollution.