

brought in focus, among federal officials, by means of an interdepartmental body known as the Advisory Committee on Water Use Policy.

The point I should like to make, however, is that this is a means of bringing into focus only the federal interests in water. What body is there, in Canada, to bring into focus the viewpoints of the provinces—as between themselves—and the provinces together with the federal government in their diverse responsibilities?

Apart from the fact that there is no one body or no group of regularly constituted bodies, save one which I shall refer to later, there are no individuals who have become, in Canada, authorities of river-basin management. We have no foundations in Canada which have supported such individual studies of the problems involved in the multi-purpose basin developments. We have not yet developed in Canada men such as Krutilla and Fox and others in the United States who have studied these matters and pointed the way to our own developments. I am referring to these authors here.

The development of our rivers must be planned to provide for domestic and industrial water supply, irrigation, recreation, power, navigation, flood control, pollution abatement, fisheries and other uses in such a way as to provide the maximum possible benefits to the nation.

Sound river basin development requires a clear recognition of the multi-purpose aspect of the problem. It requires the integrated planning of a single river basin as well as the coordinated development of several river basins within a region.

A river valley is a convenient natural area for the development of a regional conservation program because every aspect—soil, water and vegetation—is interrelated. If floods are washing away the soil, the forestry and farming practices should be reconsidered, and dams built to store the flash run-off of water. Large bodies of stored water offer possibilities for navigation, fisheries and recreation, and for the development of hydro-electric power. Alongside an improved agriculture, therefore, there may be built a new industrial complex, thus providing the balance of agriculture and industry most conducive to human welfare. This cause and effect is the basis for the planned development of river basins.

It might be useful to make a brief survey of the various regions of Canada and to point up in passing some of the emerging problems. This may help in the later examination and identification of some of the more urgent problems.

In the Pacific drainage area, such rivers as the Fraser and the Columbia require careful management and development to meet the needs of an expanding economy in that part of Canada.

The Fraser river is one which, traditionally, has provided not only a valued means of transportation but great wealth through the salmon fisheries. However, from time to time it has caused havoc to the alluvial lands on the lower mainland. One of the major problems has been to find ways of controlling the floods while preserving the navigability and fisheries of that river. The joint federal-provincial Fraser river board—which was reconstituted in 1959—is considering what means can be used to control the flood waters at an economic cost consonant with the preservation of the essential character of the river. It is thought that dykes built in conjunction with hydro-electric works on the upper tributaries of the Fraser could achieve this. However, studies costing close to \$2 million will have to be carried on by this board between now and September 1, 1963 before a decision can be made on the means of controlling these recurrent and disastrous floods.

The Columbia river problem is extremely complex. At present, Canada and the United States are engaged in negotiations to determine how best to develop the potential of this river from the viewpoint of both countries. Once agreement is reached on the sharing of hydro-electric and flood control benefits,