

cycle, and that in the 1950's there seems to be a period of recovery and running into a high cycle; and there have been one or two signs in the last year or two that perhaps the top of the cycle with respect to prairie waters has been reached again and we may be on the way down, but I do not know.

Mr. KINDT: Mr. McLeod, does your hydrometric work record the various stages during the flood periods?

Mr. McLEOD: Anywhere we have the equipment and the gauges, yes. On some occasions of extreme flood, when our equipment has been lost, nevertheless we have been able to pick up peak flood levels by means of field surveys, high water marks and so on.

Mr. PATTERSON: Mr. Chairman, Mr. McLeod I think has covered the points raised in the questions fairly well with the exception of one point which was directed toward the effect of earth tilt on flows, which I believe was raised by Mr. Slogan.

What happens with respect to earth tilt and its effect on waters such as those of lake Ontario is as follows: we recognize this tilt as going on. The outlet of the lake is rising relative to the Grimsby end or the west end of the lake, but it does not show any effect on the flow of the river downstream, due to the fact that the water will follow up. There will be some slight delay of course, but the water will rise, and it will still spill off in the same quantities as previously. The only time when it might reach a stage where it did show an effect would be if the outlet rose to a point when the water would find some other outlet and run out another way.

Mr. FLEMING (*Okanagan-Revelstoke*): There is one point I would like to have clarified in greater detail. In the Columbia basin where you have conducted very extensive surveys over the past few years, and at the same time where the water resources branch have been conducting surveys, as well as the British Columbia provincial water branch and so on, may I ask what relationship there is between these different surveys? What are their separate fields, and what is the point of coordination between the various types of federal and provincial surveys in matters of that kind?

Mr. McLEOD: As Mr. Patterson mentioned in his outline, the province of British Columbia in common with many others has requested the government of Canada to maintain and operate a stream flow hydrometric survey for them; and this is of course carried out. It includes work on the Columbia river as well as on many other rivers in British Columbia.

The province of British Columbia itself does work through its water rights branch. The water rights branch is the body which issues water licences for the use of water in the province under the British Columbia Water Act. That branch also provides some service to small communities when they have problems of water supply and so on. And it may provide engineering advice to them as well, but that is purely, of course, an internal matter.

In regard to the Columbia river surveys, this department—I think I might say—handled virtually the entire survey of the Canadian portion of the Columbia with, of course, assistance from the Department of Mines and Technical Surveys, the Department of Public Works, and so on. Those federal departments and the province of British Columbia participated in the survey of the Columbia river basin, particularly as far as the field work was concerned, and they participated quite actively in the studies that were made of the material obtained from the field investigation, which led to the Columbia river engineering board reports, and of course to subsequent information that has been obtained for the use of the two governments at the present time.