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Report to Environment Committee
from Jon Marks, Section Leader, Resource Information

Annual Hydrology Report 2000

1. Purpose

To inform the Committee of the completion of the Annual Hydrology Report and to summarise its key findings.

2. Background

The Council monitors the Region's hydrology for the following reasons:

- To fulfil its obligation to monitor the state of the Region's environment (Resource Management Act 1991);
- To record flooding and associated hazards (Civil Defence Act 19, Soil Conservation and Rivers Control Act 19);
- To monitor the effectiveness of policies, plans, consents, and other management;
- To describe the Region's hydrological resources, including opportunities and limitation on their use; and
- To identify issues which may require a management response.

The information is used internally (especially for consent applications, plan preparation and State of the Environment reporting) and is available to the public and external agencies.

The Annual Hydrology Report presents the following information:

- Regional hydrological summary
- Analysis of the data
- Identification of data trends
- Comment on exceptional events
- Description of special projects

3. **Significant Findings**

Rainfall

The year 2000 began with a moderate to strong La Nina climate pattern that persisted through summer and autumn before weakening during winter, only to strengthen again towards the end of the year.

The Region's rainfall was generally below the annual average during 2000, with February and November being particularly dry. At the end of spring, forecasts were made for low summer rainfall based on the prevailing La Nina climate conditions. These predictions were proved correct with very dry conditions experienced during summer and autumn of 2001.

The attached figures summarise the rainfall patterns at Karori and Otaki for the year 2000. They show that the rainfall was about average from January to June. Then, as extended periods of below average rainfall occurred, the running total started to flatten out sharply. It quickly became drier than the average of the three driest years.

A very wet two week period at the end of September and start of October saw as much as 1700mm of rain fall in parts of the Tararua Ranges. This caused two large spring flood events.

River Flows

Prolonged rainfall in the Tararua Ranges from 29 September to 2 October had many of the Region's rivers in flood and experiencing high flows between 5 and 25 year return period magnitude. Less than two weeks later a more intense band of rain fell in the Tararua Ranges causing extreme flows in most rivers particularly in the Wairarapa with up to 50 year return periods flows being recorded.

Throughout 2000 river and stream flows across the Region were below average. Low flows were not particularly severe.

4. **Communication**

Copies of the report are available to councillors on request.

Copies of the report will be sent to territorial authorities, the National Institute of Water and Atmosphere (NIWA), and Victoria University.

5. **RPS Implementation**

The monitoring to which this Report refers also helps implement the Regional Policy Statement. It provides the information basis for a range of freshwater quantity and freshwater efficiency and conservation implementation methods (section 5.5), contributes to the Regional Monitoring Strategy described in section 15.7, and helps

assess the extent to which the anticipated environmental results set out in the Policy Statement are being achieved.

6. Recommendation

That this report be accepted by the Committee.

Report prepared by:

Approved for submission:

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Attachments: 1