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Report to Environment Committee  
from Annette McGovern, Resource Advisor

## **Options for Reducing Water Abstractions on Small Streams in Times of Low Flow**

### **1. Purpose**

To present to the Committee options for reducing water abstractions on small streams that are not currently monitored.

Many of the significant streams and rivers in the Region have their flow continuously monitored. Where consent holders abstract from these rivers or streams it is easy to impose conditions that require the consent holder to reduce the amount they abstract, depending on the flow in the river. The difficulty arises on streams that are not continuously monitored or where there is a lack information about their flow.

### **2. Background**

At the last meeting of the Environment Committee, Councillor Turver raised the possibility of reducing consent holders' water abstractions in times of low flows.

There are a number of streams in the Region that are presently part of a low flow gauging programme implemented by the Resource Investigations Department. This programme, however, does not include many small streams or unnamed tributaries of other streams. A number of small streams in the Region that are not monitored have both consented and permitted water takes on them.

This summer has seen water levels in streams fall to low levels and in some cases completely dry up. Small streams with low water levels and consented takes have the possibility of reducing downstream flows. This can mean that there is less water available for people who, as a permitted activity, can take water from the streams for domestic supply, irrigation and stock watering purposes.

The ability of the Council to provide a consent holder with some certainty over when they will have to reduce their abstraction in order to increase or maintain downstream flow has become a topic of interest.

### 3. **Case Study**

A situation arose this summer in an unnamed tributary of the Pukenuamu Drain in Te Horo. This particular stream flows from the foothills of the Tararua down in a westerly direction through rural farmland, crosses under State Highway One and out to the West Coast. In this instance, Stanmore Farms hold a water permit (WGN000105) to abstract up to 540m<sup>3</sup> per day at a rate of no more than 8 l/s from this tributary for irrigation, stock watering and orchard use.

When this consent was granted the two downstream neighbours were considered affected parties and consulted. Both these properties take water as a permitted activity under rule 7 of the Regional Freshwater Plan. A third neighbour (considerably further downstream) however, was also relying on the stream for stockwatering purposes and ran into difficulties when the stream periodically dried up through her property.

After numerous investigations, a stream walk and a concurrent stream gauging, it would appear that there are several factors that have influenced the stream drying up at this property. These factors included a dry summer, the upstream water abstraction, two permitted water takes, and a significant area of swamp on the upper boundary of the property, which causes the stream to dry up.

It appears that this area of swamp is acting like a big sponge. When there is no abstraction the stream flows continuously and the swamp is saturated. However, when pumping begins upstream, there is less water flowing downstream and into the swamp. The swamp then acts like a big sponge absorbing all the incoming water and not releasing it again downstream until it is fully saturated. Therefore, at times, the third downstream neighbour was experiencing periods of dry stream.

In this situation a water shortage direction was considered, but it appeared that the third downstream neighbour had liaised with the consent holder to work out a pumping scheme that would result in water being available in the stream during the day for stock. The consent holder has recently acquired a resource consent to drill a bore to investigate whether groundwater is a more suitable option.

### 4. **Our Options**

Assessing the water levels in small unmonitored streams and judging when is the appropriate time to reduce the amount consented water permits can abstract is difficult. Section 14 (3)(b) of the Resource Management Act 1991 states that, in the case of freshwater, a person is not prohibited from taking the water for an individual's reasonable domestic needs or for the reasonable domestic needs of an individual's animals for drinking, so long as there is no adverse effect on the environment. The Regional Freshwater Plan allows up to 20,000 litres per day to be taken as a permitted amount, which is considered to be efficient to meet the reasonable domestic needs of a

household and animals. Permitted abstractions do not have precedence over consented takes and vice versa.

The use of the water is perhaps more of an issue that we could attach precedence to in times of water shortages. For instance, irrigation and industrial uses could be possibly be reduced before that of domestic needs, stock watering and public water supply.

In the eastern part of the Region, small streams known to run dry or very low over summer are sometimes assessed by marking a level on culverts and reducing abstractions when the flows reach this level. This is an option that the western part Wellington Region could possibly implement, However an initial preparation period of identifying susceptible streams and suitable culverts would be necessary.

The difficulty with this option is that often there are permitted takes between a culvert and an upstream water take (as in the Stanmore case) which would also contribute to reductions in flow downstream, i.e. it is not solely the influence of the consented take. In this situation, we would be reducing the flow of a larger take while the permitted takes continue to have an influence.

Other options for the Council are:

- Monitor streams that are known to have problems to gain a better understanding of flow regimes.
- Add streams that have become susceptible to low flows to the lowflow stream-monitoring programme for a year to increase our information on small streams.
- On future consents, reduce the amount of water able to be taken over the summer months as a condition of the resource consent.
- Add and implement a review condition on resource consents to reduce the take when we become concerned about low flows and downstream effects. (Make this option clear to the consent holder in the officer's report.)
- Implement Water Shortages Directions under s.329 of the Act.
- Through the review of the Regional Freshwater Plan, look at having different permitted volumes for summer versus winter.

All these options are likely to be effective but most cannot be implemented immediately. Monitoring programmes take time to gather reliable data and review of the Freshwater Plan is at least 4 years away.

## 5. Conclusion

Water Shortage Directions appear to be the most appropriate way of ensuring that all water takes (consented and permitted) are reduced in the immediate future. A Water Shortage Direction can ensure that a permitted take, which may be solely used for irrigation, is ceased and water remains for 'essential users'.

The difficulty with this option is that a stream walk is required to determine where the permitted takes are on the stream. Water Shortage Directions rely on the honesty of the public to adhere to the Direction. Enforcement options can be implemented should someone ignore the Water Shortage Direction. Water Shortage Directions only last 14

days but can be imposed again for more 14 periods if a reduction in water takes is still required.

In the long term we will look at placing conditions on future consents to allow a reduction in volume when necessary and look into the suitability of the permitted volume through the first Regional Freshwater Plan Review.

## 6. **Communications**

No further communication is necessary.

## 7. **Recommendations**

*That this report be received and its contents noted.*

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