

# Win prizes!

Tell us what you want to know about water and win!

[www.boprc.govt.nz/watersurvey](http://www.boprc.govt.nz/watersurvey)

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Enjoy reading this insert? Want to know more about Bay Of Plenty Regional Council's work to care for water quality and quantity? Complete our quick survey at [www.boprc.govt.nz/watersurvey](http://www.boprc.govt.nz/watersurvey) and you'll go in the draw to win a prize pack which includes:

- A \$100 clothing pack from Hunting & Fishing (his or hers)
- A stainless steel ECOTanka water bottle
- A fabulous, limited edition umbrella (valued at \$60).

## Water Quantity Plan change progress

More than 80 public submissions were made on the Proposed Bay of Plenty Region-wide Water Quantity Plan Change Nine last December. Submissions have now closed. A submissions summary and opportunity for further submissions will be notified in May 2017.

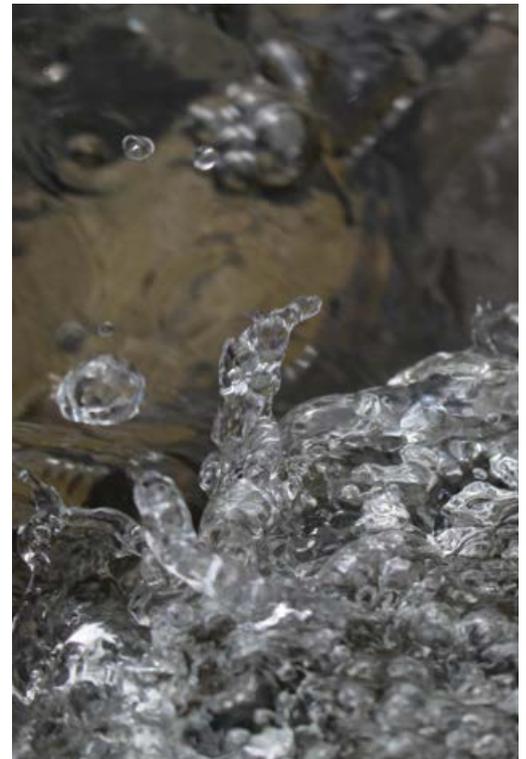
The Water Quantity Plan Change is the first step in a two stage approach to improving water management in the Bay of Plenty region. It proposes changes to the Bay of Plenty Water and Land Plan that include:

- new rules for water metering and reporting
- clear and robust limits to the total amount of water available for allocation
- new consent requirements for groundwater takes on properties smaller than five hectares
- a new rule for the renewal of municipal supply water take consents
- methods to encourage more sharing and effective use of consented water allocation
- timeframes for existing dairy shed operations to achieve compliance with water take consent requirements.

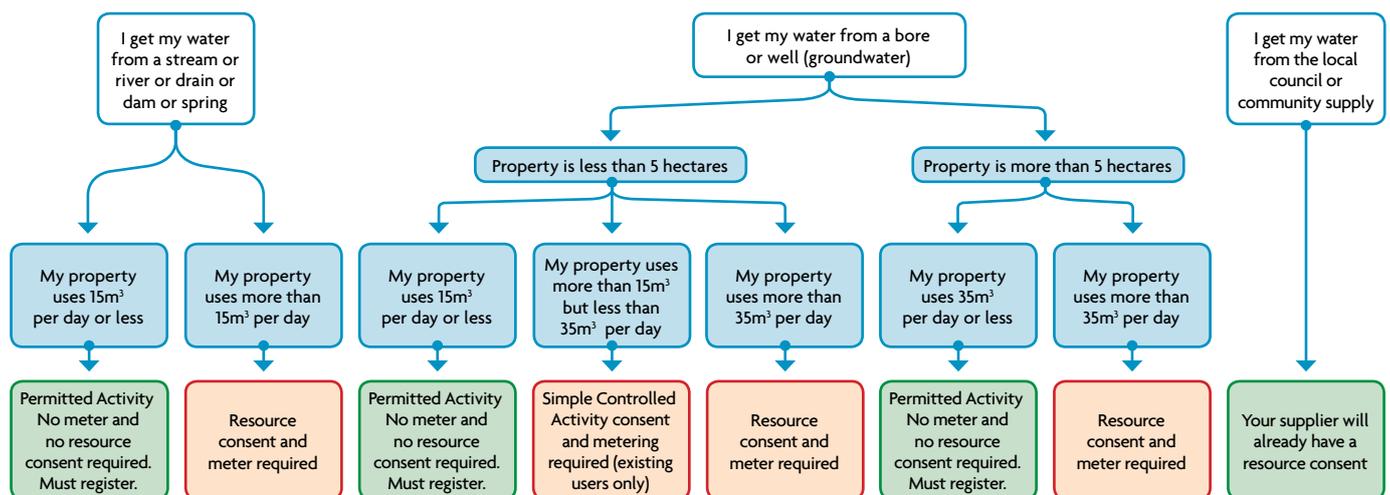
Submission hearings are scheduled for October this year. If there are no appeals, the plan change and associated new rules could become fully operative by March 2018.

The diagram below shows what consent and metering requirements apply to irrigators under the Bay of Plenty Water and Land Plan. Regional Council's duty planners offer free advice on what current and future rules might apply to your particular property or operation. You can call them on 0800 884 880.

Find out more at [www.boprc.govt.nz/waterquantity](http://www.boprc.govt.nz/waterquantity)



### Do I need a water meter or resource consent for my irrigation system?



Notes: 1. Water taken for a single household or stock drinking water does not require resource consent and is in addition to the Permitted Activity limits. 2. Plan Change 9 requires all Permitted Activity water users to register with BOPRC, within 12 months of the plan change becoming operative. 3. In most cases commercial scale irrigation will require resource consent.

Visit [www.boprc.govt.nz](http://www.boprc.govt.nz)





## Tuna sculpture at Lake Aniwanuiwa

A tuna (eel) sculpture has been installed as part of the new Holly Davis Memorial Playground at Lake Aniwanuiwa (formerly known as Lake Aniwhenua), near Galatea.

Bay of Plenty Regional Council Chair, Douglas Leeder, said the sculpture offers a great opportunity to engage both young and old in caring for their waterways.

“Tuna are iconic residents of the Rangitāiki River. They’re also a valued taonga (treasure)

for tangata whenua. What happens on the land affects our precious natural water resource.

Everyone, both rural and urban, has a part to play in making sure the region’s water quality and quantity is sustainably managed so that it can continue to support the needs of the community, as well as wildlife like tuna,” he said.

The playground development was a community initiative that Bay of Plenty Regional Council assisted by creating the tuna sculpture.

The new playground is located at the Lake Aniwhenua Camping Area off Galatea Road.

Both longfin and shortfin eels are found in the Rangitāiki River which flows through Lake Aniwanuiwa.

Longfin eels are the largest freshwater eel in the world and they’re found only in New Zealand. They can live to be 100 years old. Longfin eels spend most of their adult life in freshwater but return to the ocean to breed.

## Ongare orchardists clean up creek

Local creeks at Ongare Point are getting a makeover, thanks to a newly formed volunteer group helping to care for Tauranga Moana (Tauranga Harbour).

The Ongare Point Waterway Restoration Group planted more than 1300 native plants last year along 800 metres of stream banks that drain into the Tauranga Harbour. It’s the beginning of a project led by Ongare Point orchardists Phillipa Wright and Stephen Kenna, to improve water quality and wildlife habitat in their catchment.

“After orcharding in the area for many years we feel a responsibility to do everything we can to care for our local stream and reduce our impact on it,” said Ms Wright.

By combining our energy as a community we can really make a difference to water quality in our local streams and harbour. Establishing the Group makes it easier to co-ordinate that; we hope to be able to assist all Ongare Point landowners with waterway improvements

within four years,” she said.

The Group plans to progressively plant the stream edge and fence where necessary to provide a native corridor along its banks. Bay of Plenty Regional Council is providing funding support and practical advice to assist with the Group, and offers landowner subsidies of up to 50 percent for eligible work.

“Establishing even a small buffer of a few metres can help the stream a lot by intercepting contaminants coming off the land and, more importantly, shading the water. Lowering the water temperature has a huge impact on fish and insect life and provides habitat to encourage them to stay. What white-baiter wouldn’t like that?” Ms Wright said.

*Information about landowner assistance from Bay of Plenty Regional Council is available at [www.boprc.govt.nz/landmanagement](http://www.boprc.govt.nz/landmanagement) or by calling your local Land Management Officer on 0800 884 880.*



Stephen Kenna (left) and Barry Mitchell, planting in September 2016.

# Creepy crawlies show stable stream health



You may not have noticed them, but there are all sorts of insects and other wildlife living in your waterways.

Some aquatic 'creepy crawlies' are more tolerant than others to changes in water quality, stream habitat, flow or shade. They all play a part in stream food webs as they feed on algae, aquatic plants, dead leaves and wood, or on each other. They then provide a food source for other animals such as fish and birds. So checking out what lives in a stream can tell us a lot about the overall health of it.

A new report completed earlier this year by Bay of Plenty Regional Council scientists has collated findings from 1479 macro-

invertebrate (includes aquatic insects, snails, shrimps and worms) samples that have been collected from 120 different freshwater rivers and streams in the region since 1991. More than 135 different kinds of creepy crawlies (macro-invertebrates) were collected in the samples.

Different elements of stream health were assessed and scored based on what kind of creepy crawlies were present and how abundant they were in each sample. The different scoring systems tell us different things about stream health, in a similar way that a doctor will take different measurements from our own bodies to tell us how healthy we are.

Here are some key findings from the report:

- Streams with excellent health are mostly in the upper catchments or areas surrounded by native bush or exotic plantation forests. Streams were less healthy in areas draining agricultural land, and lowest in streams draining urban catchments (usually in lower lying coastal areas).
- Stream health levels have remained relatively stable over the past two decades. This is likely to be because the scale and methods of land-use change, that would have had the greatest negative impact on stream health prior to 1991, have not continued since monitoring began.
- Further research is needed to better understand the relationship of land use changes to stream health, and to identify the best methods for improving in-stream ecology. For example, while the fencing of stream banks (to prevent stock access) is useful for reducing nutrient, bacteria and sediment runoff into waterways; the scale, timing and location of restoration planting in a modified catchment may have a stronger influence on recovery of in-stream wildlife..

Monitoring of land, air and water quality is a key tool that Regional Council uses to detect environmental problems and inform solutions. It's also a task that regional councils are directed to do under the Resource Management Act.

To read the full report visit [www.boprc.govt.nz/freshwaterscience](http://www.boprc.govt.nz/freshwaterscience)



Macro-invertebrates on river rock.

Visit [www.boprc.govt.nz](http://www.boprc.govt.nz)



# Water quality 101

With all the talk about water quality, swimability, nitrates, phosphates and contaminants, it can be hard to make sense of exactly what people mean by water quality and what might be degrading it.

Good water quality is clean water that we can use to irrigate, swim, drink and fish from. It keeps rivers and streams healthy so they can support in-stream wildlife and thriving estuaries and harbours downstream.

It might seem obvious that if water is clear, it's good quality. But that's not always the case. Some clear water can be full of bacteria or pollution. Some murky water is good quality but it contains natural tannins, minerals or bottom-sediments that discolour the water.

Here's just a few of the basic indicators that Bay of Plenty Regional Council's science team use to assess water quality. There are many more.

## **Nutrients: nitrogen (N) and phosphorus (P)**

Excess nutrients encourage aquatic weed and algae growth, reducing dissolved oxygen levels and fish populations. Nutrients can

come from a range of sources including fertilisers, agricultural sprays, uncontained waste dumping, animal urine and sewerage overflows. They can percolate through soil into groundwater or be flushed off the land into rivers and streams when it rains.

See Bay of Plenty nutrient monitoring data at [www.lawa.org.nz](http://www.lawa.org.nz).

## **Suspended solids and turbidity**

High levels of soil (sediment) run-off can make water turbid (cloudy), raise water temperatures and smother wildlife that lives on the river-bed or in estuaries downstream. Poorly managed earthworks can increase suspended solid or turbidity levels. Hill country or stream bank erosion is another key contributor, often caused by stock traffic that loosens the soil in those sensitive areas.

See Bay of Plenty water clarity monitoring data at [www.lawa.org.nz](http://www.lawa.org.nz).

## **Temperature**

Warm water temperatures (usually caused by lack of shading) can reduce dissolved oxygen

and exacerbate aquatic weed and algae growth. Fish need cool (<20°C), well-oxygenated water to survive.

You can see real-time temperature monitoring for some Bay of Plenty waterways at [www.boprc.govt.nz/livemonitoring](http://www.boprc.govt.nz/livemonitoring).

## **Bacteria**

Elevated levels of faecal bacteria from animal dung, human waste and water birds can make the water unsafe for people to swim or gather kai from. This is the main measure of 'swimmability'.

See Bay of Plenty data at [www.lawa.org.nz](http://www.lawa.org.nz) or [www.boprc.govt.nz/swimmingwaterquality](http://www.boprc.govt.nz/swimmingwaterquality).

## **Aquatic life using the Macro-invertebrate Community Index**

The type and number of macroinvertebrates (including insect larvae, crustacea and small shellfish) that live in a waterway is used to describe its ecological health. A high Macro-invertebrate Community Index (or MCI) generally shows that the stream can support healthy populations of fish and other wildlife.

