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Enquiries to: Alicia Catlin
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10 July 2018

Edgar & Nona Henson
15 Ellerslie Park Road
Ellerslie
Auckland 1051

401 Grey Street
Hamilton East
Hamilton 3216

Private Bag 3038
Waikato Mail Centre
Hamilton 3240

Dear Sir/Madam

ph +64 7 859 0999
fax +64 7 859 0998

www.waikatoregion.govt.nz

Letter to Landowners 2018: This year's results of stream monitoring

Every summer the Waikato Regional Council carries out a REMS (Regional Ecological Monitoring of Streams) project where we monitor indicators of stream life in the region's waterways. The types of insects and other invertebrate life in the stream can tell us about the health of waterways. We combine all this information from around the region to provide a general picture of the overall state of streams throughout the Waikato.

Last summer you may recall that we sampled a stream on your property and you expressed an interest in the results. It is best to summarise information from invertebrates collected in the stream as single numbers called indices. The most commonly used index to reflect stream health is the Macroinvertebrate Community Index (MCI). The categories associated with the MCI are: Excellent >119; Good 100 – 119; Fair 80 – 99; Poor <80. I have included a brief summary of the results of this season's stream survey for your information.

As we can't possibly visit all streams in the area we select only a few to monitor. This year we randomly selected 60 sites on developed land from across the region to sample. We also sample a group of pristine native forest sites to compare these streams to. Below is the average MCI value for the 60 randomly selected sites across the region, the average of the native forest sites, and the value for the site on your property for comparison.

Average for the 60 randomly selected sites: 102 - Good.

Average for the sites in native forest: 134 – Excellent

Value for the stream on your property: 109 - Good

We also undertook a fish survey at the site. We found **longfin eel, cran's bully, koura** at the site on your property. I have included a brief summary page on the fish species found.

If you have any questions about this work please contact us on 0800 800 401 ext. 8907 or email on Josh.Smith@waikatoregion.govt.nz or Alicia.Catlin@waikatoregion.govt.nz

Thank you for your help and permission to access the stream.

Yours faithfully

A handwritten signature in black ink, appearing to read "Josh Smith".

Josh Smith
Senior Environmental Scientist
Freshwater Ecology

A handwritten signature in black ink, appearing to read "Alicia Catlin".

Alicia Catlin
Environmental Scientist
Freshwater Ecology

Waikato Regional Council's Freephone 0800 800 401

Paeroa phone +64-7-862 8376

Taupo phone +64-7-378 6539

Whitianga phone +64-7-866 0172

Kōura/freshwater crayfish (*Paranephrops planifrons*) – Native (threatened)

Kōura are native non-migratory crustaceans. There are two species present in New Zealand the North Island species being smaller (about 70mm long) than the east and south of the South Island (about 80mm long).

These crustaceans are generally found in areas of low flow between stones or burrowed into muddy bottoms of fresh water bodies (including streams, lakes, ponds and sometimes swamps). They prefer native forest but are also found in exotic forest and pastoral waterways.

Kōura are scavengers and feed on old leaves and small insects floating by in the water or that have settled on the bottom. Their two front pincers tear the food up and push it into their mouth. They emerge mostly at night and stay hidden during the day.



Longfin eel (*Anguilla dieffenbachii*) – Native (Declining)

The longfin eel is a native, endemic species classified as ‘declining’. Their distribution is widespread including streams some 314km inland. They are skilful climbers, especially when small (<120mm) and can negotiate very steep waterfalls.

Longfin eels are relatively long lived animals (100+ years) which can only reproduce once. Like many other New Zealand native fish, longfin eels require access to both freshwater and marine environments at some stage in their lives. Spawning grounds are unknown but thought to be somewhere near Tonga. Before migrating, the shape and physiology of the longfins change with the heads becoming less dome-like in shape and enlarging of the eyes.

The most distinctive feature is the difference in origin between the top (dorsal) and bottom (anal) fins. On the shortfin, the difference in origin is small (both originating halfway along the eel) whereas on the longfin, the dorsal fin begins two-thirds of the way along the back (see photo).

Longfin eels are highly valued commercially and by Maori. However, longfins are less abundant than the shortfin eel, and it is appreciated if any longfins caught are returned to the stream.



Fin origins of the longfin eel (top) and shortfin eel (bottom). Photo: Bruno David

Cran's bully (*Gobiomorphus basalis*) - Native (Not threatened)

Widely distributed through the North Island except in the Bay of Plenty region. Of the seven bully species in NZ it is most often confused with the common and upland bully. Adult males are easily distinguishable as the edge of their dorsal fin is bright orange.

Unlike many other native fish which require access to the sea to complete their lifecycle. Cran's bully larvae are able to grow within the stream without being carried downstream to the sea. Therefore, this species is generally found far inland as no ocean migration is necessary.

Cran's bullies are solitary and prefer boulder / cobble streams or weedy spring fed systems where they feed on a variety of stream insects. Females lay several hundred eggs on the bottom of large rock which are guarded by the males.



Photo: Bruno David

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Enquiries to: Alicia Catlin
Site Code Reference: 2034_1



1 November 2017

Edgar Henson
15 Ellerslie Park Road
Ellerslie
Auckland 1051

401 Grey Street
Hamilton East
Hamilton 3216

Private Bag 3038
Waikato Mail Centre
Hamilton 3240

ph +64 7 859 0999
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Dear Sir / Madam

REMS & Fish Survey - Letter to Landowners: Access Request

Every summer the Waikato Regional Council carries out our REMS (Regional Ecological Monitoring of Streams) project where we monitor indicators of stream life in the region's waterways. The types of insects, other invertebrate life and fish communities in the stream can tell us about the state of streams. We combine all this information from around the region to provide a general picture of overall stream health throughout the Waikato.

As we can't possibly visit all streams we select only a few to monitor. Three years ago we visited this property and sampled a stream there as part of our stream sampling programme. We used a computer programme to randomly select the site located on your property. We are requesting permission to return to your property to collect samples from the stream again this coming summer. I have attached an aerial photograph which marks the intended sampling location with a red dot. If you believe the site marked on the map is not on your property please let us know.

We will be undertaking the monitoring from December to April and we will attempt to ring you prior to visiting the site to discuss access onto your property and the location of the sampling site. The stream monitoring involves 2 site visits, one collecting stream invertebrates and noting stream characteristics such as water temperature, plant cover and which fish monitoring method to use. This process generally takes about an hour. The second visit involves undertaking a fish survey and will take 2 to 5 hours. We will attempt to make these 2 visits within 3 weeks of each other.

If you have any concerns about allowing Waikato Regional Council staff access to the site on your property or if you have any other queries or relevant information about this work please contact us on 0800 800 401 or email at Josh.Smith@Waikatoregion.govt.nz or Alicia.Catlin@waikatoregion.govt.nz. Otherwise we will be in touch closer to the time.

Thanks in anticipation of your help.

Yours faithfully

A handwritten signature in blue ink, appearing to read "Josh Smith".

Josh Smith
Senior Environmental Scientist
Freshwater Ecology

A handwritten signature in blue ink, appearing to read "Alicia Catlin".

Alicia Catlin
Environmental Scientist
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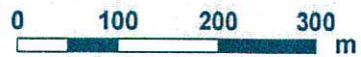
Legend

- REMS fish sites
- Property boundaries
- Waikato regional boundary

Acknowledgements and Disclaimers
 1. Environmental Data Location information sourced from Waikato Regional Council database and may be subject to Privacy regulations. COPYRIGHT RESERVED.
 2. Cadastral information derived from Land Information New Zealand's Landonline Cadastral Database. CROWN COPYRIGHT RESERVED. Valuation Data Sourced from Territorial Authority District Valuation Roll.
 3. © Waikato Regional Aerial Photography Service (WRAPS) 2012. Imagery sourced from Waikato Regional Council. Licensed under CC BY 3.0 NZ.

REMS fish sites: 2018

Site located number: 2034_1
 Site type: REMS Random Year 1
 Site name: Taringapeka Stm @ NZR08704-019
 Site coordinates: 1765439 mE, 5852351 mN
 Property owner name: HENSON EDGAR, HENSON GERALDINE
 Property location: 2705 WAIRAMARAMA ONEWHERE RD TUAKAU



Scale at A3
 = 1:5,000

Created by: A Jeffries
 Date: 5/10/2017
 Version: 1
 Job No.: REQ125527
 File: REQ125527 REMS 2018 Fish Sites Aerial.mxd



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