Fisheries panel Meeting (BOPRC Office Rotorua

9am - 3.30pm 2nd November 2012

Present Richard Barker (Otago University), Michel Dedual (DOC), Ian Kusabs (Fisheries Consultant), Rob Pitkethley (ERFG)., Matt Osborne (ERFG), Dave Rowe (NIWA), Brendan Hicks (UoW), Jennifer Blair (UoW)

Chair Andy Bruere (BOPRC)
Secretary Andy Woolhouse (BOPRC Contractor)

Refer also to handouts/support report documents. NB Because many of the topics are inter-related, most of the discussion and proposed outcomes occurred at the end of the meeting

Item 1 NIWA 2011 Smelt Report – Dave Rowe

The weir doesn't seem to be a barrier since the stock logs were removed. The Okere Gates may have an effect since level of Rotoiti cannot rise, so excess volumes go straight down the Kaituna - therefore higher velocity in channel. Brendon asked if stock logs could go back in to check velocities and effects on smelt runs.
Smelt move downstream and upstream, but mainly upstream. More juveniles run at low flows in summer. Juveniles need temp of 15^{o}C to run. MD - changes in flow stimulate smelt runs previously there was higher flow variability.

Difficult to link cause and effect changes in flows coincided with installation of the wall. Density of adult smelt hasn't changed in last 5 years. If there was a large effect, there would be no smelt runs. We are seeing lots of runs, but the size and frequency is more difficult to assess. But if there is any effect, it is small

No obvious change in runs of smelt since the wall was constructed.

Item 2 Electric Fishing Results – Brendan Hicks

Electric fishing isn't linked to the NIWA monitoring but provides good background. There is only one sample pre wall for comparison.
Bullies most numerous - no change in last 5 years
Few smelt, but poor clarity on day of monitoring effects efficiency
Goldfish in low velocity areas near Rotoiti
L F Eels spread throughout
Rainbow and brown trout both present (Brown not recorded before), more juveniles close to the weir
General decline in numbers 2008-12, IK noted same decline in koura. Could be linked to water clarity. Rotorua has met the TLI target.
Improved water quality could mean fewer bullies. Windy last year so lake didn't stratify.

Item 3 Trout Fishery Data - Matt Osborne

Two years ago, reduction in condition of 2 year rainbow. This year, condition improved, but still lower than immediately post-wall. In 2010 3,000 extra rainbows were liberated in Rotoiti. This year did two liberations each over 4 months; Autumn Feb-May, Spring Sept-December. There is no evidence that food availability is an issue. Food supply varies annually and will affect condition.
30% of open day catch were 'wilds' as before, but the % was lower before the wall. Lake Rotorua has been below average. Improved clarity will improve the water, but improved clarity = less plankton which is a food source for the smelt.

There was a bloom in Rotoiti which was expected to negatively affect numbers, but the numbers were good.

Ohau Channel- The fishing was poor compared to previous years. Angler satisfaction levels were lower, but these correlate to number and size of fish caught.

Rob thinks the information should get out to the angling community. RP and AB to produce a public statement. Concern about how to enhance smelt population at the top of the channel - velocity may be a key issue.

No evidence that the wall is reducing the wild recruitment

Item 4 Otolith Update – Jenifer Blair

Almost all rainbow trout caught in Lake Rotorua, Ohau Channel and Lake Rotoiti originated from Waingaehe Stream (L.Rotorua).
92% of smelt caught in Lake Rotorua has Otolith signatures from Lake Rotorua
26% of smelt in Rotoiti had Rotoiti signatures. Indicates that L. Rotorua may be an important source of recruits for the L. Rotoiti population.
This year fish were manly 2-3 years old ie born after wall construction.
Rob questioned accuracy of individual stream linkage, but the lake level correlation is very strong.
Public perception that fish are not getting around the wall. These results disprove that theory. Maybe the scientists need to present data to anglers. Panel suggest that no more monitoring is needed, but continue in order to convince anglers. - All agreed to keep it going

Migration of Trout and Smelt does not appear to have been interrupted by the diversion wall. Recommend that monitoring continues

Item 6 Koura and Kakahi Monitoring Progress – Ian Kusabs

Ian presented report ' *Ohau Channel Diversion Wall – Monitoring of koura and kakahi populations in the Okere Arm and Lake Rotoiti October 2012'*.
Sampling method has been used since 2005.

The Okere Arm and Lake Rotoiti continue to support abundant koura and kakahi populations 4 years after completion of the wall but there have been some significant changes in koura and kakahi populations in the Okere Arm and Lake Rotoiti over the sampling period 2005-2012.

Koura - There has been significant decline in abundance and yield at the treatment site and the Te Akau (control). Reasons for decline at the Okere site are unclear, but decline at the control site could be due to inundation by dislodged decaying hornwort.

Kakahi remain abundant in the Okere Arm and Lake Rotoiti. Whilst abundance has remained stable in Lake Rotoiti there has been a significant increase in Kakahi at the boat ramp, no significant change at the rest area and significant decline at the ditch. Since the construction of the diversion wall there has been a noticeable accumulation of silt in the Okere Arm sites, particularly the Ditch. However shallow areas of the Okere Arm have been colonised by extensive growth of low turf species which has consolidated the lake bed creating more habitat. This may be due to shelter provided by the wall reducing easterly wave action.

Hornwort is still a concern, not as bad as last year possibly due to wind direction

Overall Recommendations

- Need smelt run support if varying the weir. May be better to spend $$ on weir manipulation and impartial monitoring (maybe by Frank or George)
- Going from 4 to 2 traps didn't save much money. This year just missed the peak; most members think monitoring should be done for 1 more year. Check resource consent condition re 5 yearly review.
- No spring run yet. Extend contract to December 2013.
- Manipulation- EBOP happy to work with F&G to get technical data re velocities. DR can link this to knowledge on smelt and velocities. EBOP have tech expertise, DR has biological expertise.
- Drop Netting- DR says this is not adding to the wall data, but is good background data at minimal cost, suggests keeping it in until April 2014.
- Acoustic - Assesses smelt population abundance but is not linked to the lake modelling. Data to be provided to David Hamilton to see if it can be incorporated into the model. PR suggests this is not cost effective. Net sampling can be used to assess relative abundance. Smelt in Rotoiti are not a problem; F&G are putting more trout in Rotoiti. Next year the panel will advise on mitigation requirements. By then we will have 5 years of data and channel velocity information.
- F&G to continue their trout perception survey

- Otolith - Keep trout, but do we need analysis to stream level? The key information is lake correlation which is 95-97% accurate whereas the stream level accuracy is variable. The cost to identify to stream level is no greater than to lake level, so keep programme as it is, but no new stream base studies.
- Koura kakahi - Continue
- Angler Experience RP/AB to prepare information sheets to disseminate to the anglers.