Fish & Game™
NEW ZEALAND

ANGLERS & HUNTERS FOR CONSERVATION

Fish Screens

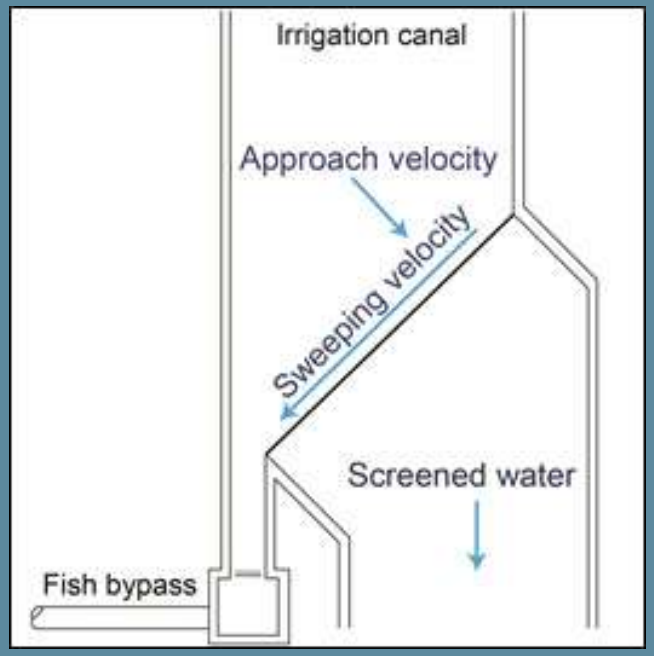
Purpose of a fish screen

The purpose of a fish screen is to prevent fish from being impinged or entrained into water takes and return the fish safely to the river.

In NZ regional councils are responsible for the consenting and monitoring of fish screens.

F&G do not have any authority to inspect, permit or design fish screens.

What does a fish screen look like



A brief history

Fish screens have been used in NZ since the 1980s (Part 6 of the Freshwater Fisheries Regulations 1983).

Resource consents were issued from the mid 1990s that required fish screens.

In 2004 ECan notified the requirement to have fish screens in the Natural Resources Regional Plan.

In 2005 a Fish Screen Working Party lead by ECan and including groups such as DOC, F&G, Irrigation NZ developed guidelines for fish screening in Canterbury.

NIWA later published this document as Fish Screening: Good Practice Guidelines for Canterbury.

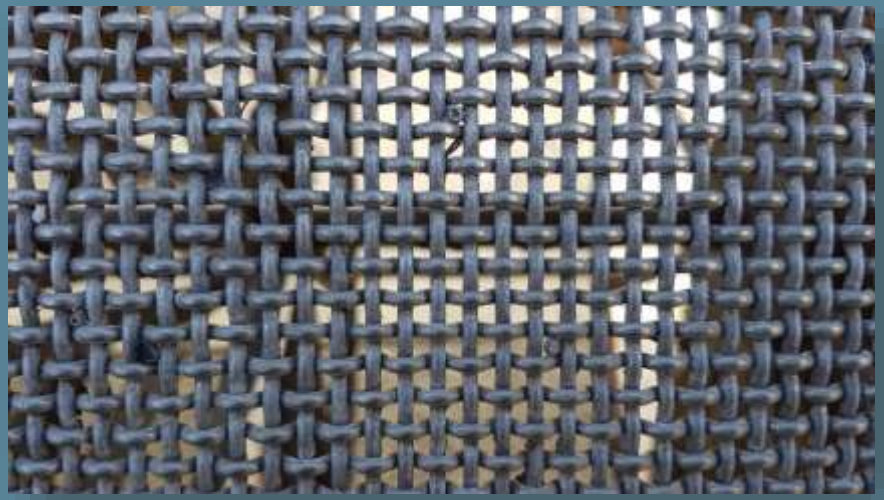
In 2012 ECan listed fish screen criteria in the Land and Water Regional Plan that follows the principles of the NIWA guidelines.

Location

Location needs to chosen so good fish screening practices can apply

Screen Aperture Size

2mm for slotted screens



3mm for mesh screens

Approach Velocity

Approach velocity should be a calculated maximum across the screen of 0.12m/s.

Sweep Velocity

Needs to be greater than the approach velocity. Screen needs to be at a maximum of 45°

Self Cleaning

Methods include high pressure water, brushes or rotation.

Fish By-pass

Fish need to be able to find it and they need to get back to the river

Operation and Maintenance

Needs to operate efficient in a variety of conditions.

Contingency plans and maintenance schedules need to be in place.

Guidelines must be followed as a package

All the criteria discussed needs to be met if the fish screen is going to be effective.

Why are Canterbury fish screens so ineffective

Before the NIWA guidelines were established consents issued before 2007 were vague, lacking in detail and did not contain prescriptive conditions.

Since 2007 the industry has deliberately avoided following the NIWA Guidelines.

Along side industry avoidance, ECan has issued consents that allow the deviation to be legitimised by using two methods of certification – Performance criteria and sign off by a “certified expert”.

What is being done now?

A working party has been established to review and update the NIWA guidelines as well as identify and advise on fish screen issues such as monitoring standardisation and affordability.

The working party includes ECan, F&G, DOC, Ngai Tahu, Irrigation NZ, Salmon Anglers Association and private irrigation companies such as RDR and BCI.

ECan developing a suite of prescriptive conditions for a range of different screen types.

How does that change the legacy issue?

Fish screens are just one of many legacy issues when it comes to water management in Canterbury.

One way to resolve them is introduce more specifications through consenting conditions to enforce replacement of ineffective fish screens.

Education

Alongside the consenting process we have a huge gap in educating water users on how to screen effectively

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Information

How many fish screens comply with the seven principles of the NIWA guidelines.

Currently ECan staff only assess compliance with consent conditions.

Shift emphasis from does the screen comply with the consent to “does the screen work”.

F&G want to be fully involved with this process whether it involves training of ECan staff to helping with site inspections.

Conclusion

NIWA guidelines are still relevant and if followed as a package offer the best solution to fish screening.

ECan review of consents is crucial to driving change in efficiency in fish screens.

Education tools need to be developed for irrigators and screen engineers.