

HCV Category 1 site: Shepherd Stream (Eldon's galaxias habitat).

Ecological Value

Eldon's galaxias, *Galaxias eldoni* (ranked "Nationally Endangered" by DOC) were first discovered in Shepherd Stream, Waipori Forest in 1990. Due to this conservation ranking City Forests classifies suitable habitat areas of Shepherds Stream as High Conservation Value (HCV). Incursions of Brown Trout, *Salmo trutta*, have occurred due to past flooding events and threaten the existing and future populations of Eldon's galaxias in Shepherd Stream. City Forests currently has a long-term, on-going project with the goal of removing trout from isolated tributaries in the upper part of Shepherd Stream to create pockets of suitable habitat for Eldon's galaxias.

Monitoring

City Forests annual monitoring of Shepherd Stream will consist of photo points established in at risk areas, such as barriers to fish entry, to directly monitor any changes. UAV flights will allow monitoring of difficult to access areas and provide a different monitoring perspective. Water monitoring of Shepherd Stream will be carried out annually until the surrounding forest matures. Professional fresh water fish assessments will be done throughout the project to track the effectiveness and understand any changes that may need to be made.

This ongoing monitoring will ensure Shepherd Stream remains in the same condition or better for future years, with the hope of sustaining populations of Eldon's galaxias.

Consultation

Consultation with a professional fresh water ecologist enables City Forests to create a well-informed plan for the project with the key milestones identified. Professional consultation also allows for specialised knowledge and skills to be applied to the project that are outside City Forests' normal operational capabilities. Regular visits from an independent professional allows for comparisons across visits as well as advice and feedback on annual monitoring results. Direct consultation with affected stakeholders including Iwi provides an opportunity for feedback with regard to City Forests management plan intentions.

The Shepherd Stream project is in collaboration with Trust Power who are a major stakeholder and infrastructure owner in the area. The water from Shepherd Stream feeds a water race which is an essential part of Trust Power's hydroelectric power generation scheme. For the project to be a success trout would have to be entirely removed from Trust Power's water race.

Targets

Removing Brown Trout from upper tributaries of Shepherd Stream will create suitable habitat for Eldon's galaxias populations. The other major requirement for successful habitat is centred around creating sections of the stream that are separated by fish barriers such as natural waterfalls or raised culverts that restrict trout migration. Once trout are removed and barriers are identified, the refined HCV areas will be added to GIS records and the existing populations of Eldon's galaxias in these areas will be protected and enhanced under City Forests management.

Tools

Professional fresh water assessments allow for electric fishing as a way of determining the presence of fish species. Once trout free areas of the stream are established it is also possible to gain resource consent to reintroduce Eldon's galaxias into areas of Shepherd Stream to increase population numbers.

Controls.

Removing woody debris from the protected areas of Shepherd Stream reduces the potential for damage to the existing fish barriers and allows for easier electric fishing. The forest area that surrounds Shepherd Stream is currently young trees, as the trees grow, they will provide shelter to the stream for next 20-30 years without any risk from harvesting activities.

Results

An update on the Shepherd Stream HCV project and any monitoring results will be published for public viewing on the City Forests website. These results will be updated annually. City Forests invites feedback on the Shepherd Stream project through our website's consultation page and also extends an invitation to anybody who would like the opportunity to visit the site.