

# Tomahawk Lagoon Catchment Outline Management Plan

## Vision

A thriving Tomahawk Lagoon catchment, where water quality and biodiversity are enhanced through community action to contribute to a healthy ecosystem for all to enjoy.

## Values

- The natural environment of Tomahawk Lagoon and the ecosystem is to be protected and enhanced
  - Land use within the catchment has been altered over time with the removal of native vegetation with associated increased sedimentation and contamination within the catchment. There are both historic and current causes to these issues and finding a balanced solution in some cases will be complex. The health of the catchment as a whole is important and links to how it is functioning and enjoyed. Tomahawk Lagoon is a significant ecological area.
- Appropriate recreational uses to align with the wildlife refuge status of Tomahawk Lagoon are to be protected and enhanced
  - Tomahawk Lagoon has many recreational assets such as fishing, walking, kayaking. By improving public access the recreational capacity and ability of people to enjoy the lagoon is enhanced. It is important that recreational use of Tomahawk Lagoon respects the environment, mana whenua values and property rights. A connection between the environment, the local community and visitors to the area is important. Opportunity for community to contribute to the enhancement of the Lagoon.

## Issues

- Algal Blooms
- Minimal Environmental Data
- Water Quality
- Pest management (animals and weeds)
- Weir
- Flooding
- Sedimentation
- Access
- Biodiversity (Food Webs and Habitat)

## Objectives

- To improve the water quality and meet the National Freshwater and Otago Regional Council Land and Water Plan standards in Tomahawk Lagoon and the catchment which feeds this for environmental, mana whenua, and recreational uses
- Working with mana whenua to identify projects of significance to collaborate on and bring to fruition.
- Support a healthy ecosystem which sustains and enables mahika kai and improves biodiversity
- Improve water quality to allow for recreational fishing

- To preserve and protect the wetlands and streams, their margins and the saline environment within the catchment so that there is no further degradation of water within the catchment
- To encourage and support soil conservation to minimise sedimentation
- To maintain and improve for accessible public access around Tomahawk Lagoon
- To ensure there is no toxic algae present in the water and that the water is suitable for recreational contact year-round.
- Collation of existing data and define future research direction

## Potential Projects

- **Ecological Assessment**  
Investigate the balance between the needs of human interaction with the lagoon and wildlife (hydrological function, ecology, wildlife, walking tracks, flood hazard, core sample). Include assessment of what the limits are for the system in this catchment (tipping point). What are the key stressors and how resilient is the catchment. What actions do we need to undertake to make the catchment more resilient.
- **Water Quality Data**  
Have a permanent water quality monitoring site installed to establish baseline data and ensure mahika kai safety.
- **Outlet**  
Sediment management around the outlet to ensure that there is flushing and better flow of water in and out of the lagoon.
- **Citizen science**  
Support ongoing water quality monitoring programme as a way to generate data for the catchment and as an important community engagement tool.
- **Education and awareness**  
Engaging, educating and inspiring the local community to support this action plan. This area is to be a source of learning for local schools. Development of resources to assist with this engagement and education
- **Pest and weed programme**  
Support and provide resources to assist neighbours to form groups to tackle weed and pest species in a combined and aligned effort. The aim is to control predators of birds and to minimise impacts on the native forest in the area and to control weeds where fast growing exotic species out compete natives.
- **Fencing project to exclude stock from waterways**  
Support for landowners to exclude stock from waterways
- **Native plant restoration**  
Support, advice and resources provided to aid landowners with riparian planting projects to restore the ecosystem (planting plans provided? Plants provided/co funded)
- **Research which riparian plants will be most effective** – leverage off relationships with university/schools
- **Community Planting Events**  
Community planting days and events where people can come together to help restore the lagoon and its catchment.
- **Catchment group formed and supported**  
Joining of agencies and the community. Establish a 'Friends of Tomahawk Lagoon' with members of the community and stakeholder representatives

- **Recreation (boardwalk, walkway, boat ramps)**  
Identify opportunities with DoC and private landowners for sections surrounding the lagoon to be restored and developed for public access.
- **Nursery- Support Yellow Eyed Penguin Trust or Tomahawk Smalls Beach Care Trust**  
To provide locally grown plants for planting within the catchment
- **Study of flora and fauna** present in this area as an engagement and education tool. A reason why we should protect the area. (Leverage University, Otago Botanical Society may have done a study)
- **Algae Removal**  
Use technology to reduce the frequency of algal blooms in the lagoon and enhance mahika kai and recreational opportunities.  
Investigate floating wetlands [Algae Removal and Wildlife Habitat Using Floating Treatment Wetland Technology | Case Study | Aquabio Environmental Technologies, Inc.](#)
- **Sediment Removal around Weir (top lagoon)**  
Remove sediment from around weir to improve water quality by increasing the turnover of water between upper and lower lagoons. Upgrade weir.
- **Stormwater from urban area**  
Knowledge lacking in the public – education – stormwater drains to sea. Developers, and general public. Improve general water literacy levels.
- **Storytelling exercises**  
What did the catchment look like historically and how was it used. Use visuals and tie this into the ecological assessment. Stories from mana whenua.
- **Pest fish in the lagoon**  
Investigate the impacts environmentally vs recreationally.

## Indicators of success

- Number and size (area) of riparian enhancement projects completed each year.
- Metres of riparian margin fenced each year
- Metres of riparian margin planted each year
- Water quality indicators (macro-invertebrates, Nitrate and Phosphate levels etc)
- Number of and quality of public access points
- Number of community members engaged in work/workshops in the area
- Number of hours doing pest control, types of pests removed.
- Number of community members undertaking citizen science and how often this is done

## Opportunities

The restoration of Tomahawk Lagoon will require the collaboration of partners and stakeholders working together.

- Collaboration with neighbouring catchment groups
- Biosecurity programmes incorporated
- Community planting programmes
- Million Metres crowd funding campaign
- Walkway
- Motivated property owners

## **Priority Actions:**

Following engagement with the Tomahawk Lagoon community and key stakeholders in April 2021 the three projects which are to be prioritised are:

### **1) Catchment group formed and supported**

Joining of agencies and the community. Establish a 'Friends of Tomahawk Lagoon' with members of the community and stakeholder representatives

### **2) Ecological Assessment**

Investigate the balance between the needs of human interaction with the lagoon and wildlife (hydrological function, ecology, wildlife, walking tracks, flood hazard, core sample). Include assessment of what the limits are for the system in this catchment (tipping point). What are the key stressors and how resilient is the catchment. What actions do we need to undertake to make the catchment more resilient.

### **3) Water Quality Data**

Have a permanent water quality monitoring site installed to establish baseline data and ensure mahika kai safety.