



**Lincoln  
University**

*Te Whare Wānaka o Aoraki*

AOTEAROA • NEW ZEALAND



# Native Fish and Fisheries Hamish Rennie & Adrienne Lomax



- Data sources poor
- 47 species of fish in lake or tributaries (8 exotic – e.g., goldfish & catfish)
- Lake is a place as both a:
  - Migration route
  - Residence
- Pressures
  - Catch
    - Competition
    - Environment (water, bed, vegetation)
  - Habitat

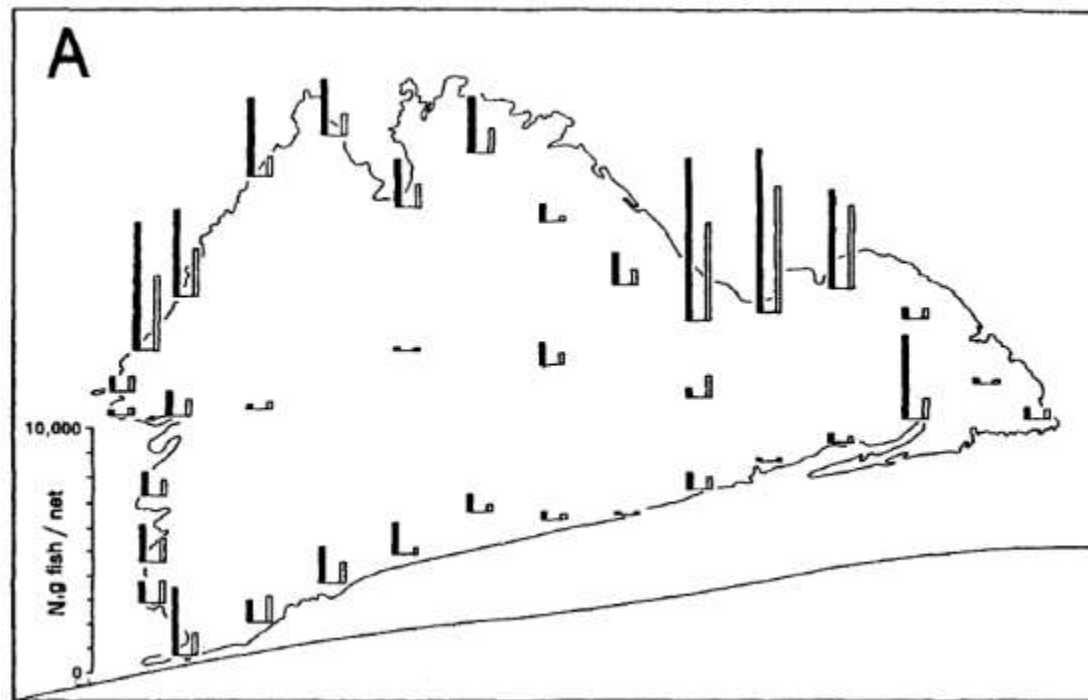


- Customary – achieving fulfilment
- Commercially Sustainable
  - Shortfin eel – 122 t TACC (Longfin negligible)
  - Flounder – variable catch (FLA3 ave 1700t)

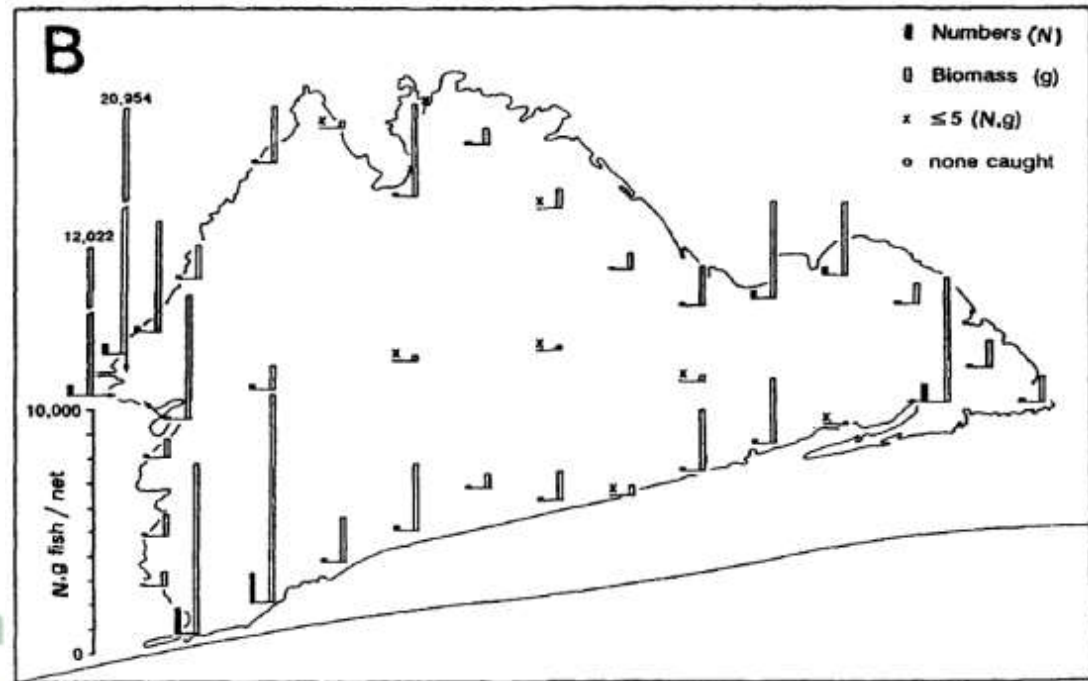


# Summer 1995 distribution of fish

Bully



Short finned eel



Glova, G.J.; Sagar, P.M.  
2000

New Zealand's specialist la

# The objectives and indicators for the tuna/eel fishery from the MPI Annual Review of Freshwater Fisheries 2011/12



| stock | Trend in Real Quota Value                                      | Trend in Amateur Participation                            | Trend in Customary Authorisation Fulfilment   | Trend in CRL/ACE value  | Stock sustainability performance measures   | Habitats of significance for eel management   |   | Policy objectives for effects of fishing on the environment   |
|-------|--|---|---|---|---|---|---|---|
|       |  |   |   |   |   | Policy objectives   | Resource management protection  |   |
| ANG13 | ?<br>Estimated quota value for 2008/09 was \$10,652 per tonne. | ?<br>No amateur participation data for freshwater stocks. | G<br>Consistent reporting of authorisations and catch. Stable fulfilment of authorisations between 2006 and 2012 (average 73%). Inability to fish according to tikanga. | G?<br>Not enough ACE value information available. However, declining trend in cost recovery levies. | G?<br>No target level set. However, CPUE series shows increase in shortfin abundance since introduction to the QMS up to 2006, then abundance relatively stable until 2010. | ?<br>Habitats of significance not yet determined. A number of areas closed to commercial fishing. | G?<br>Areas of significance to Ngāi Tahu for eel fishing identified in Canterbury Coastal Plan. | G?<br>Policy objectives for managing effects of fishing on the environment have not been determined. Fishing method impacts considered low. Regulated and voluntary measures in place to address biosecurity risks. |

- Output
  - Restrictions on catch
- Input
  - Restrictions on gear type and use
- Habitat management
  - Lake opening regime
  - Habitat restoration



# Measuring to manage?

- Need a coherent, consistent and integrated monitoring programme for Lake and tributary fisheries.
- Data needed:
  - size, distribution and abundance of key species.
  - pest species and their impact on indigenous fish and habitat
  - Habitat health and change
- All data gathered should be publicly accessible.
- Research:
  - Habitat requirements for key species need to be better refined
  - Robust monitoring tools for all the above