



For **now** &
our future

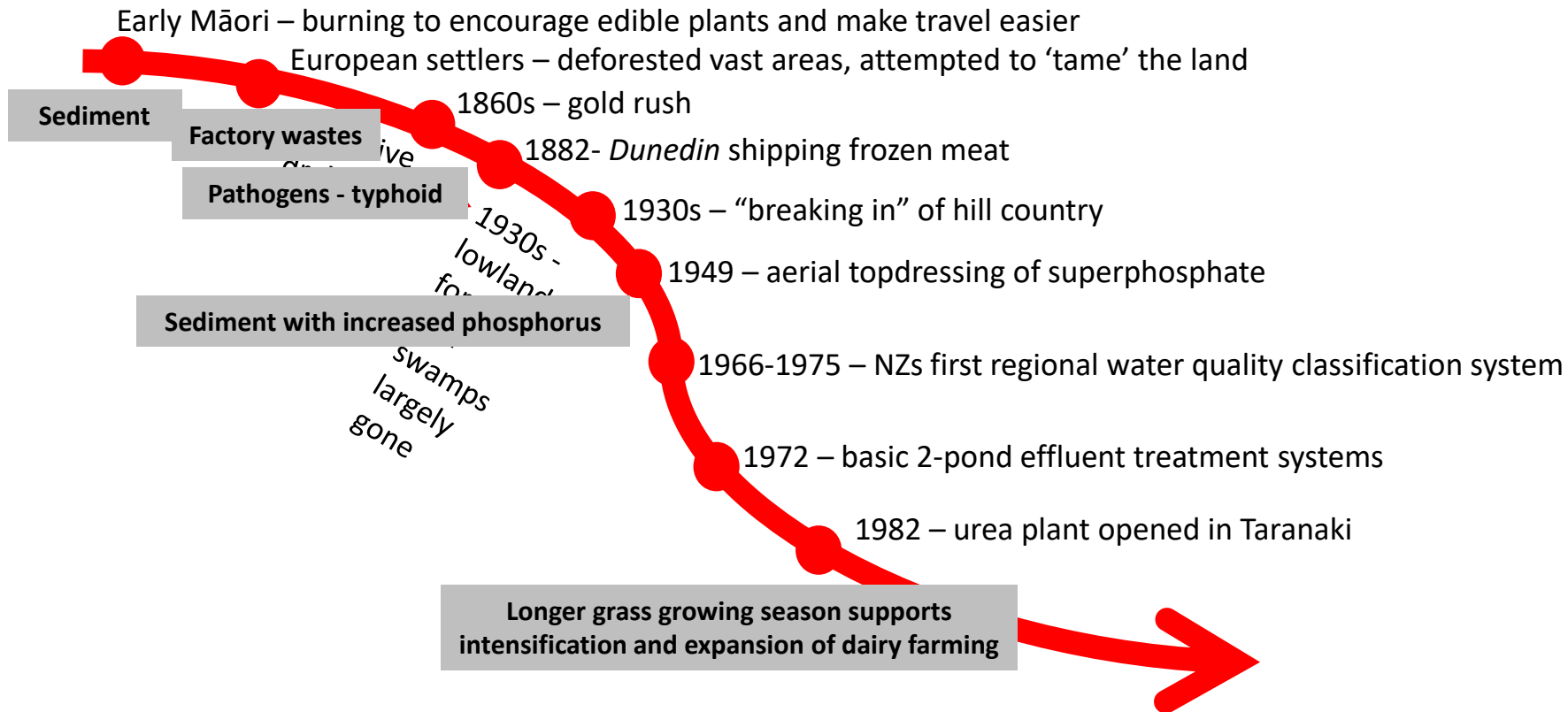
Southland Changes

11.50am - 12.45pm

Day 1 – Gore



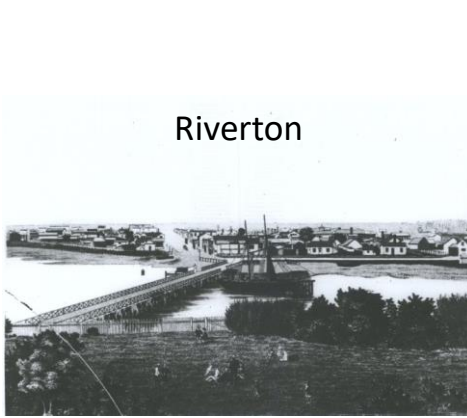
Brief History



Dipton, 1910

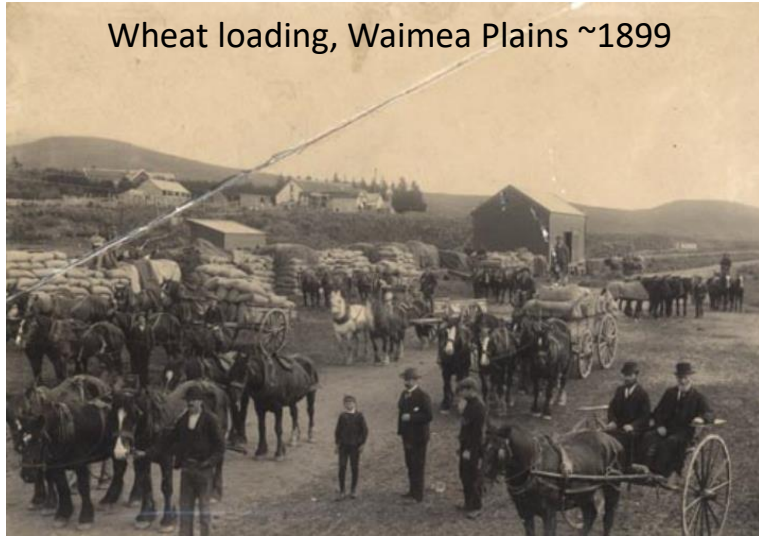


Riverton



Canton Village late 1880s

Wheat loading, Waimea Plains ~1899



Matura's first (shortlived) bridge, 1913

Colonist, 18 August 1883

TYPHOID PREVENTION.

Now that sickness is prevalent in the district, a few words on typhoid fever will doubtless be of interest (says the Tapanui 'Courier'). We notice at the present time that this fever is, we might almost say, raging in New Zealand, two deaths occurring therefrom last week in Invercargill alone. During the prevalence of an epidemic, great attention should be paid to the character of the water used for domestic purposes; drinking water should be boiled to obviate danger. Milk

should also be scalded. Typhoid poison may be and doubtless often is received into the system through aerated beverages; and we have no guarantee that any precaution is taken to ascertain that the water used in them is pure and free from the possibility of typhoid contamination. This matter should be thoroughly looked into by all boards of health, especially in large centres of population. Some people labor under the impression that typhus and typhoid fever are almost the same; but this is radically wrong. Typhus is highly contagious; typhoid is not. Attendants touching a person

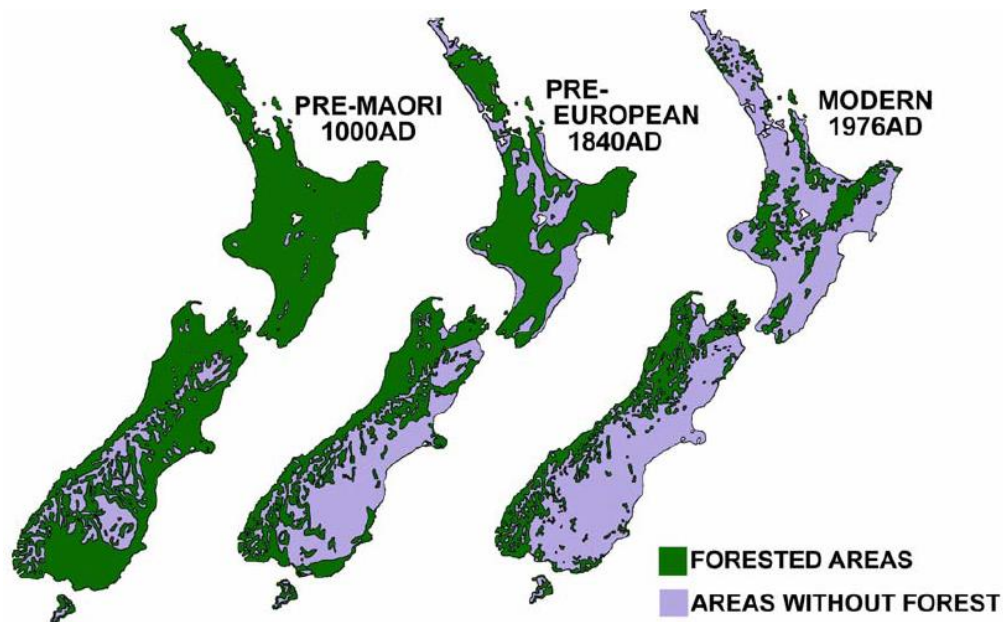
Typhoid camp



These modest tents were the only facilities for treating a typhoid outbreak in Te Urewera in 1924. Typhoid fever was always a threat in remote localities that lacked reliable means for separating water supply and human waste.

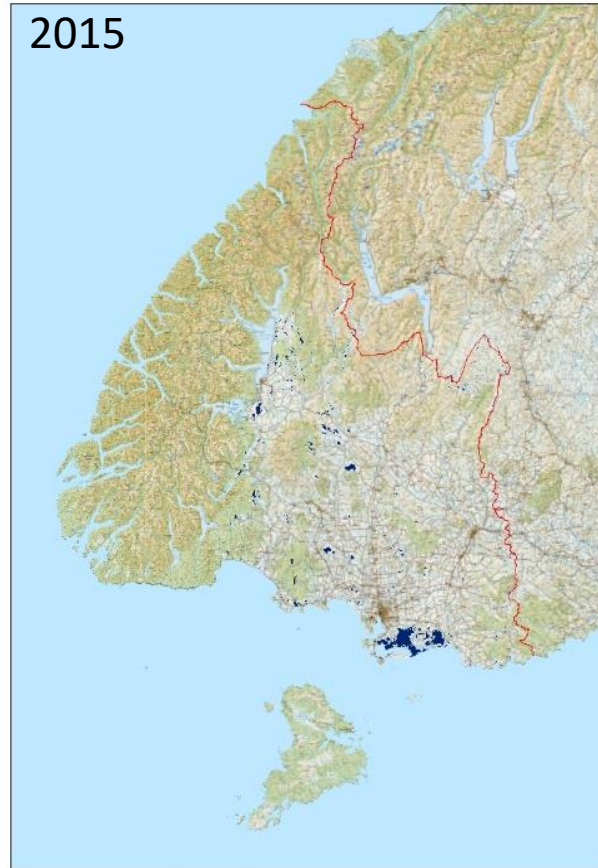
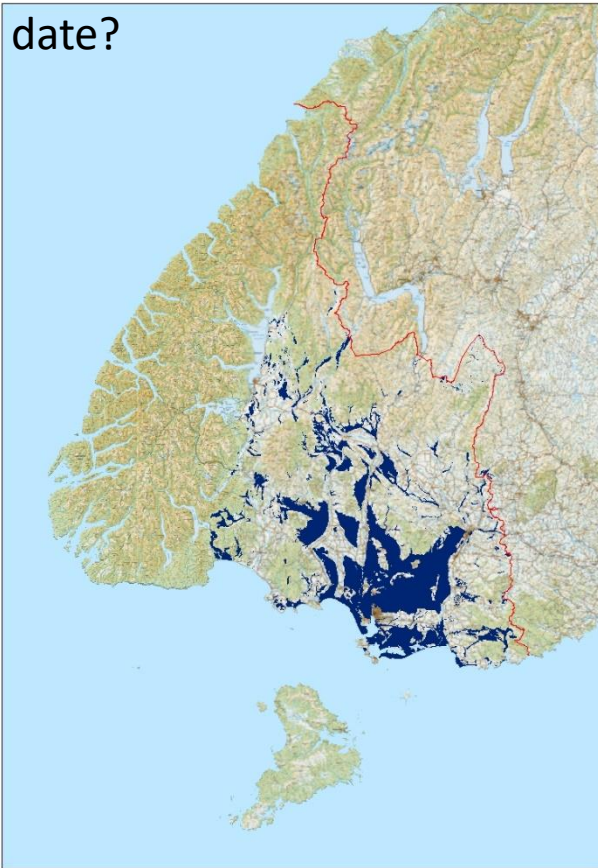
Alexander Turnbull Library, Sister Annie Henry Collection (PAColl-6098). Reference:1/2-030884

Deforestation

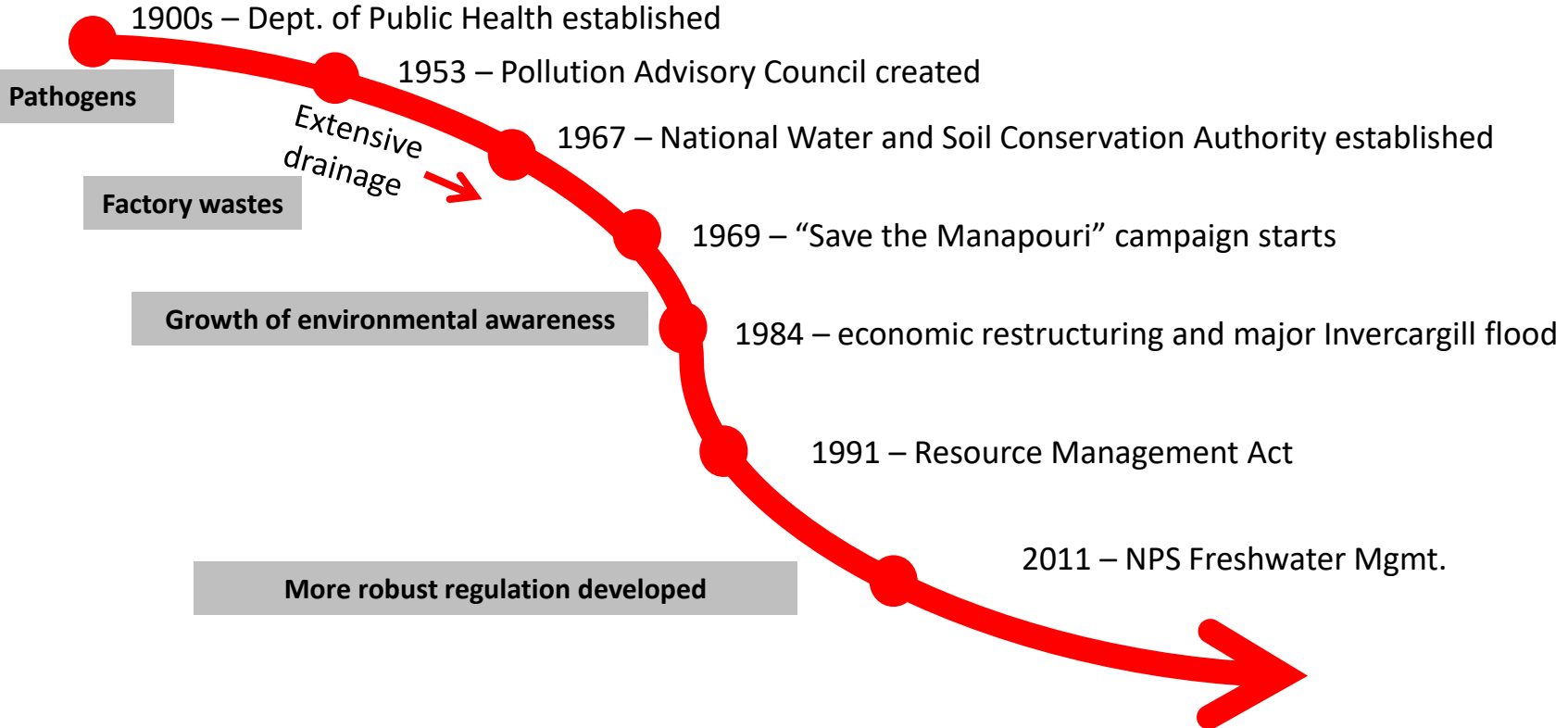


McGlone (2004)

Wetland loss



Brief Planning History



Regional Changes



1919 – Southland Electric Power Board formed

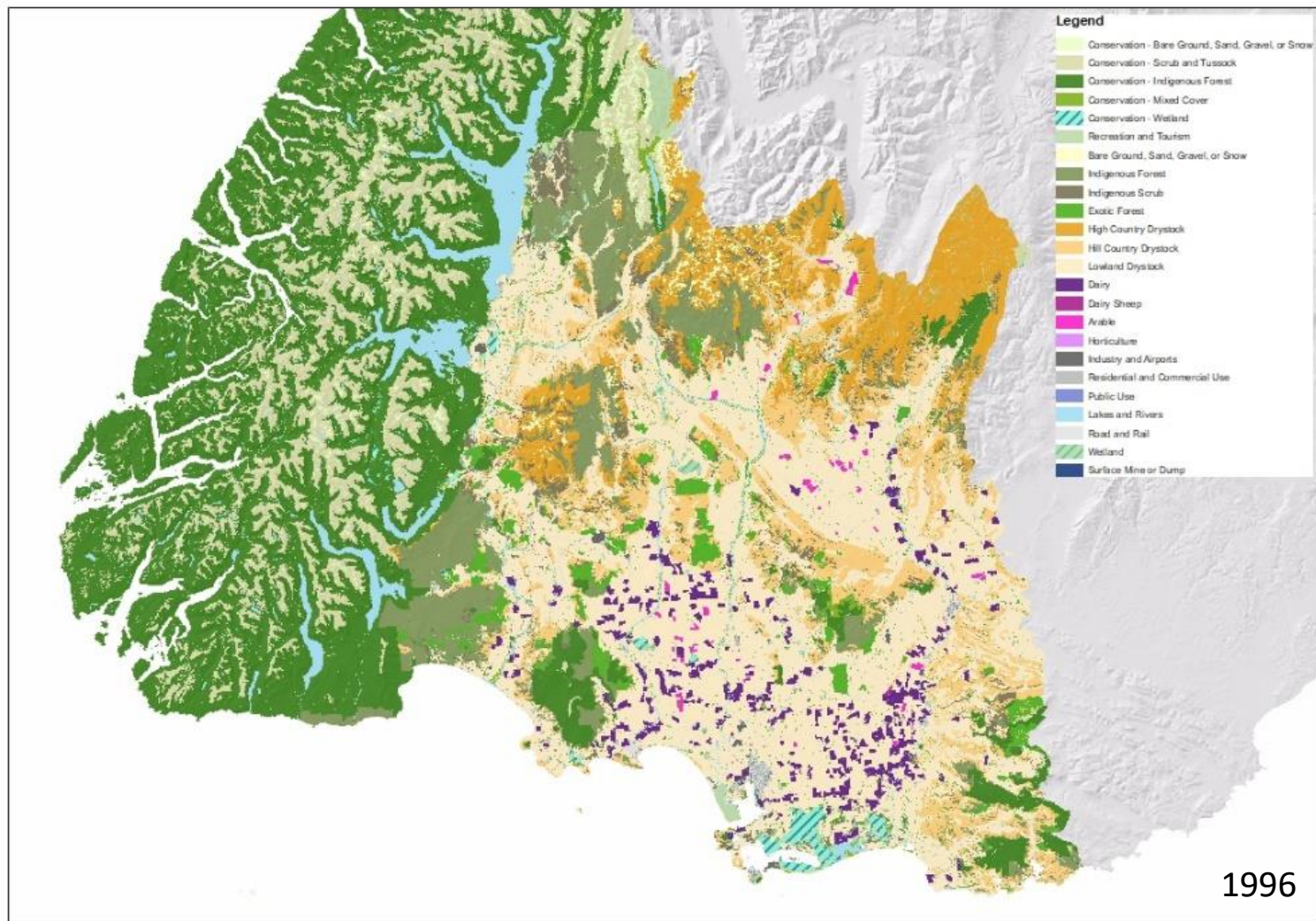


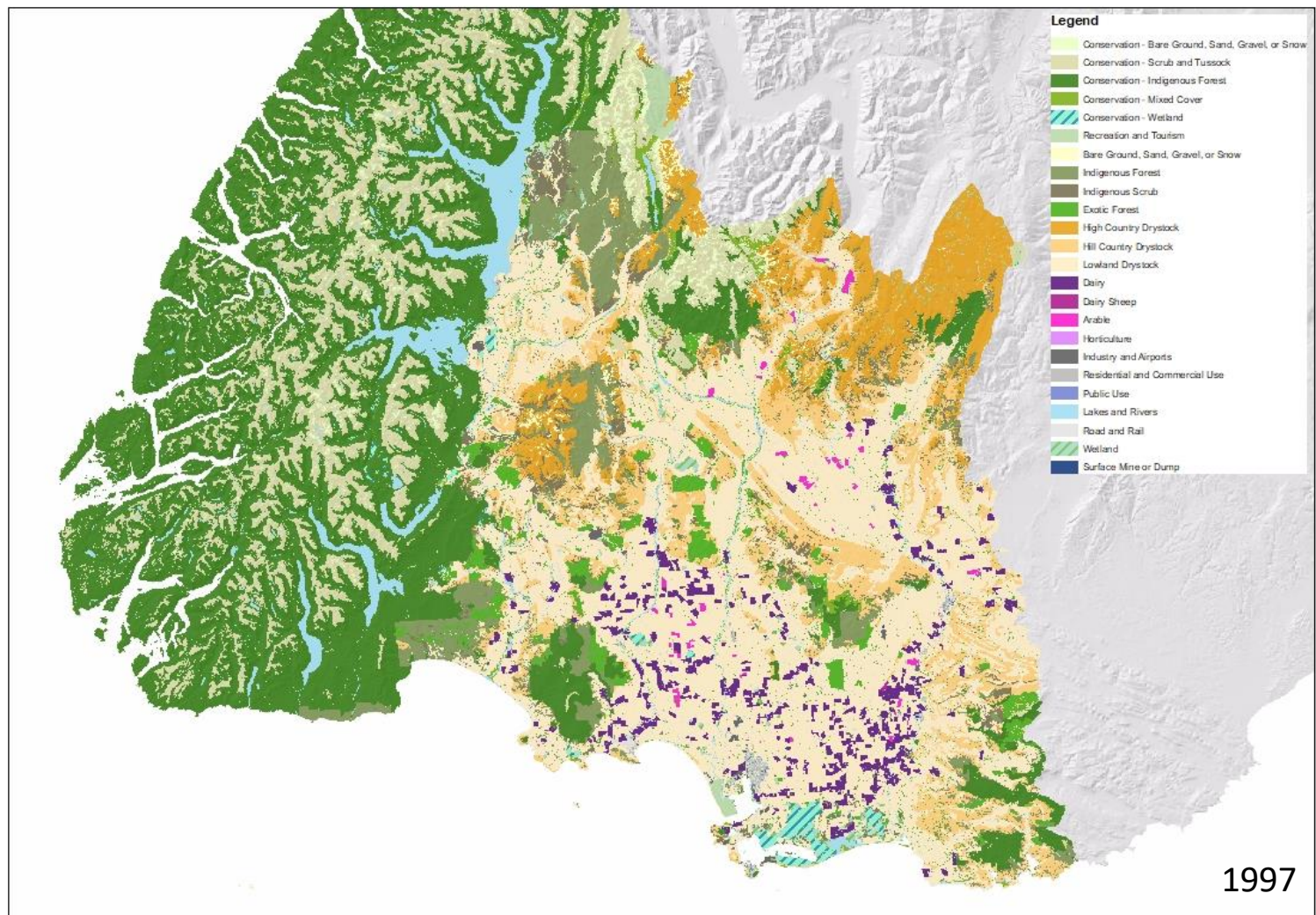
River cuts and flood channels

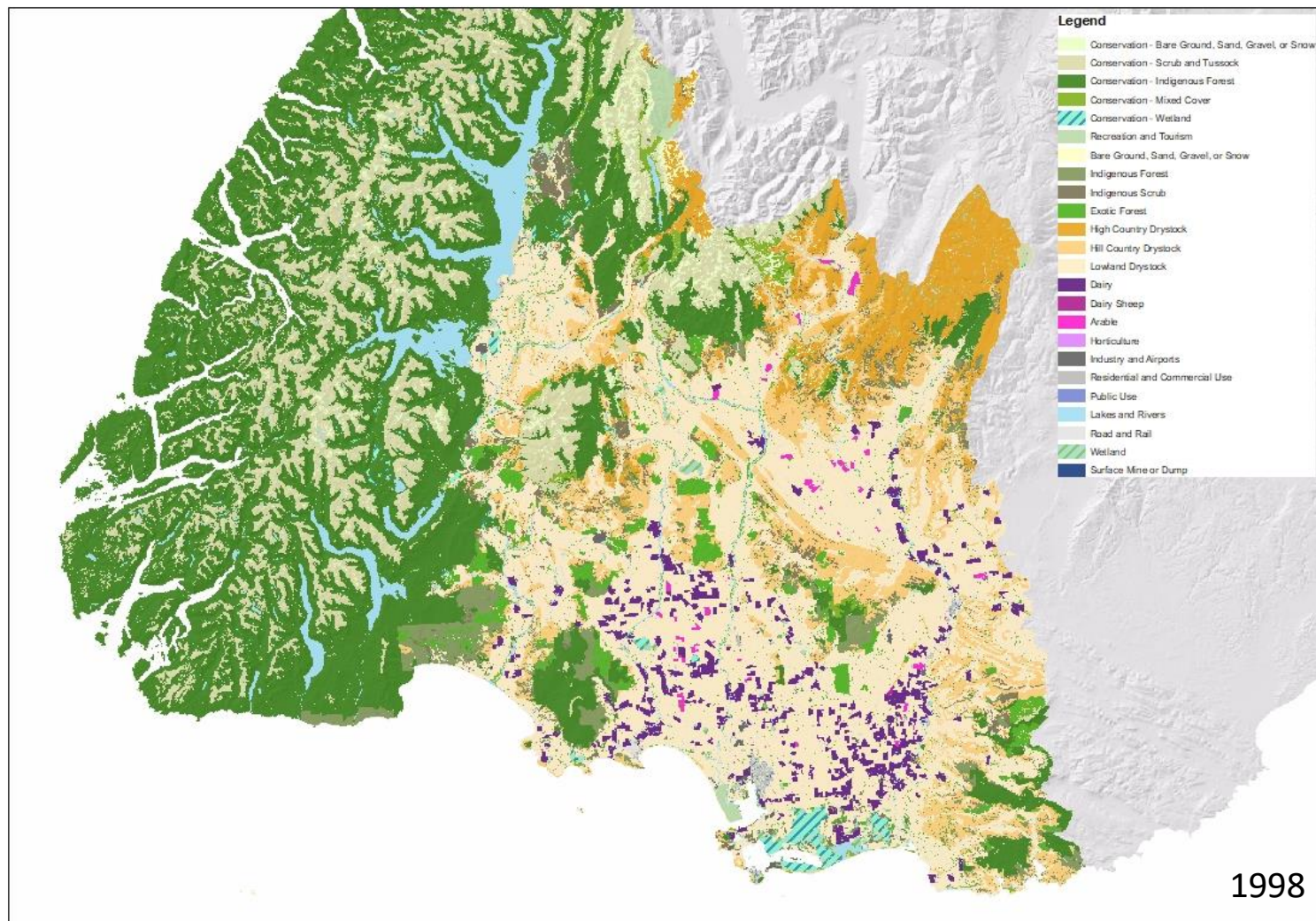


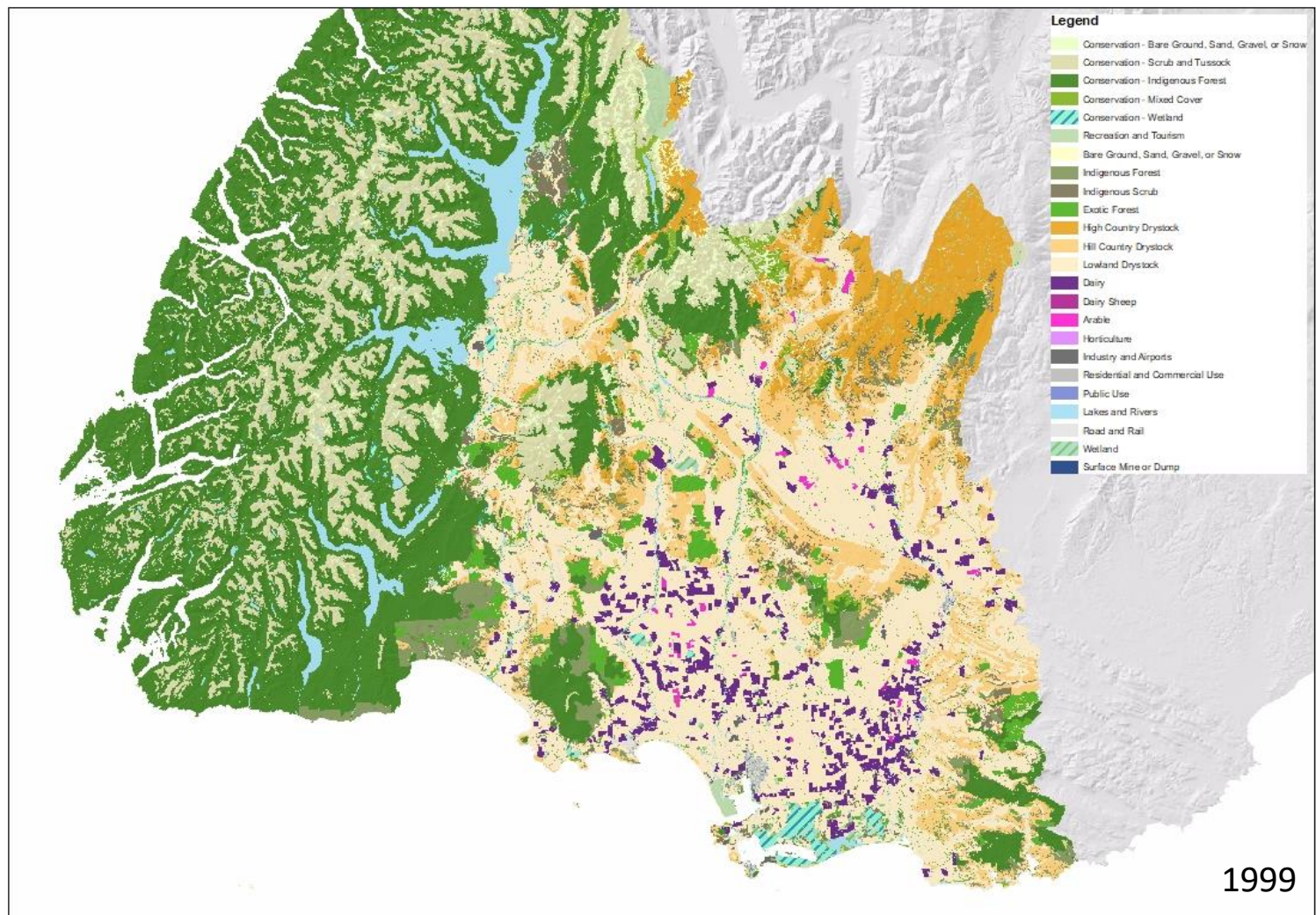
1984: Upheaval

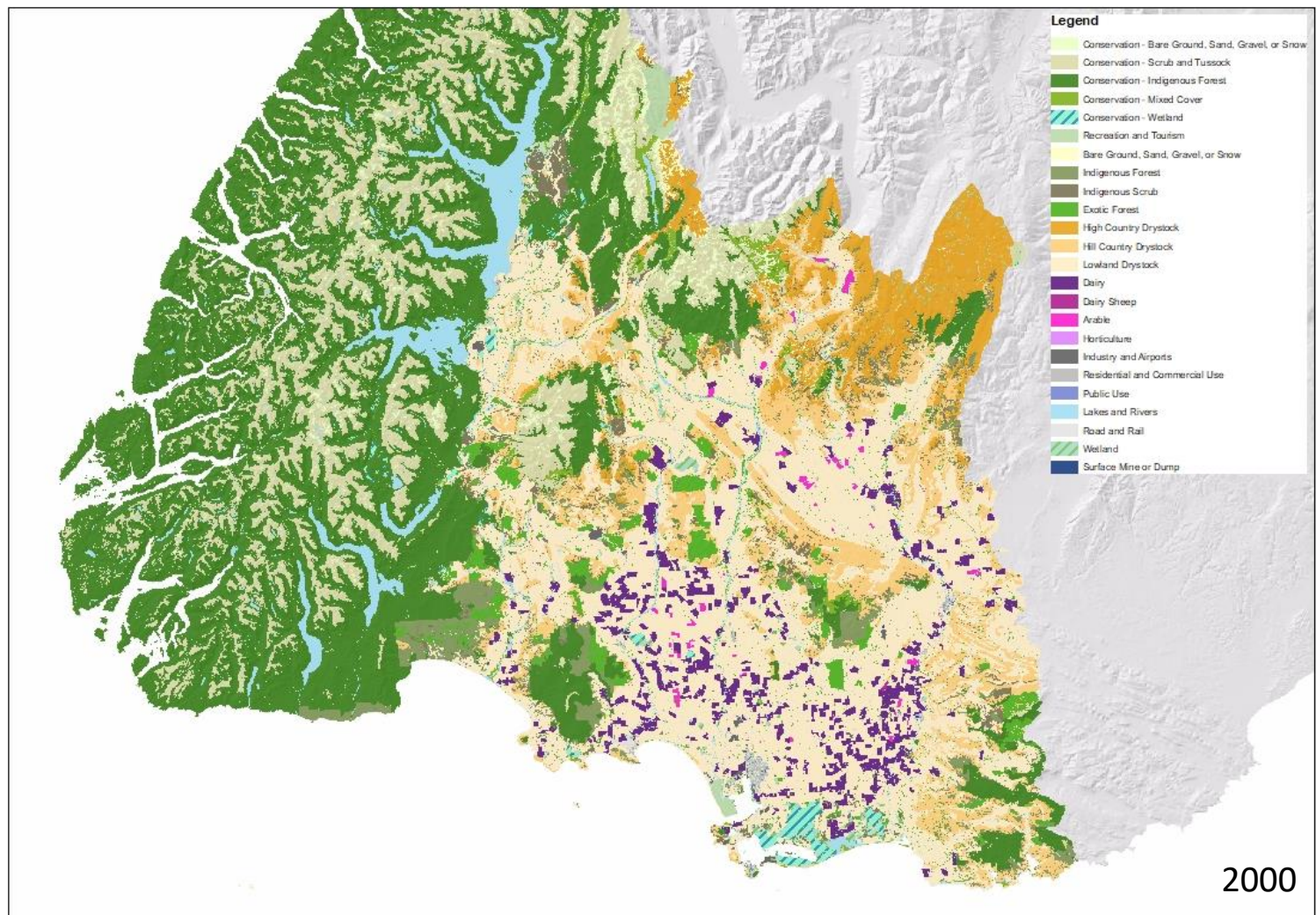


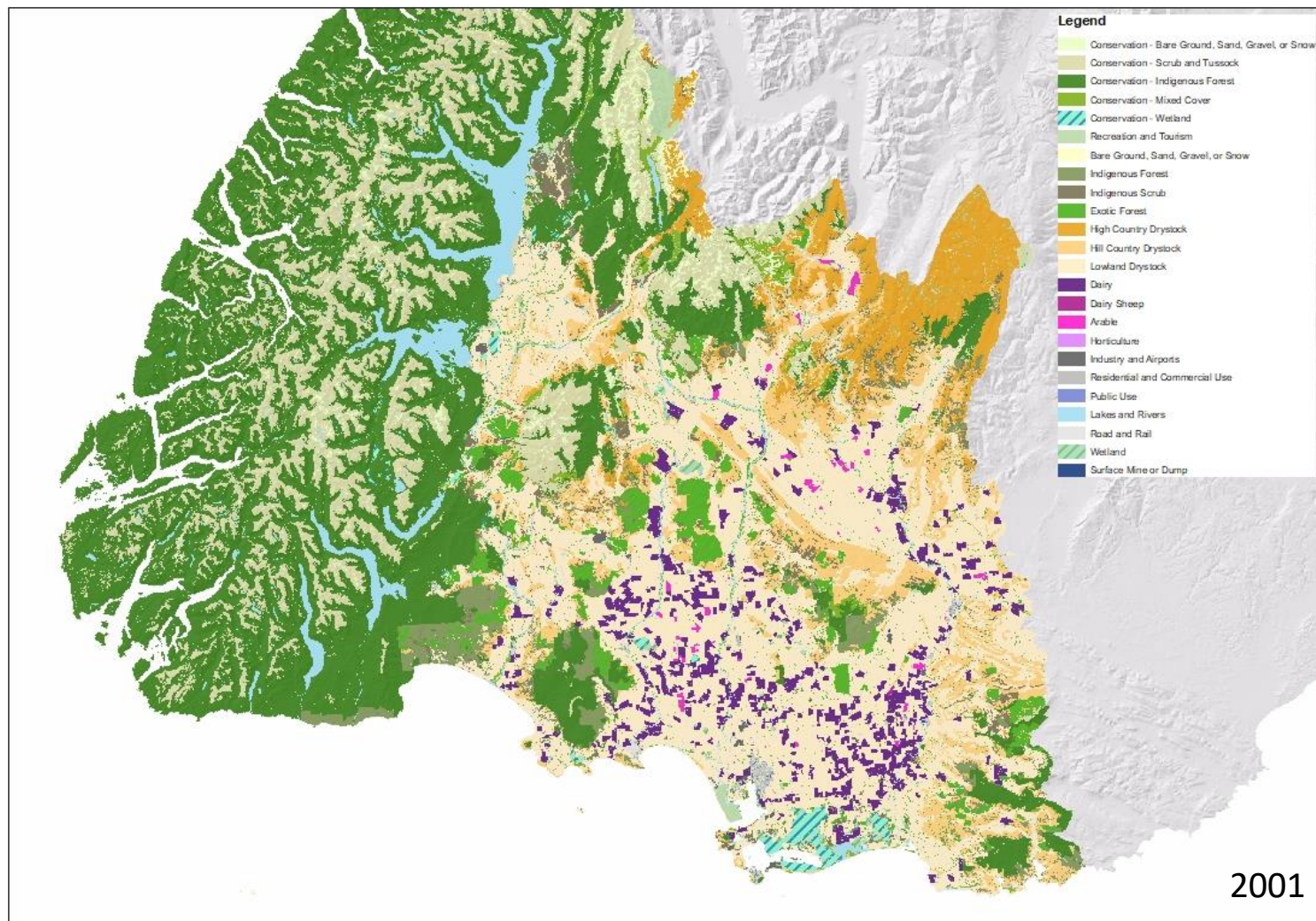


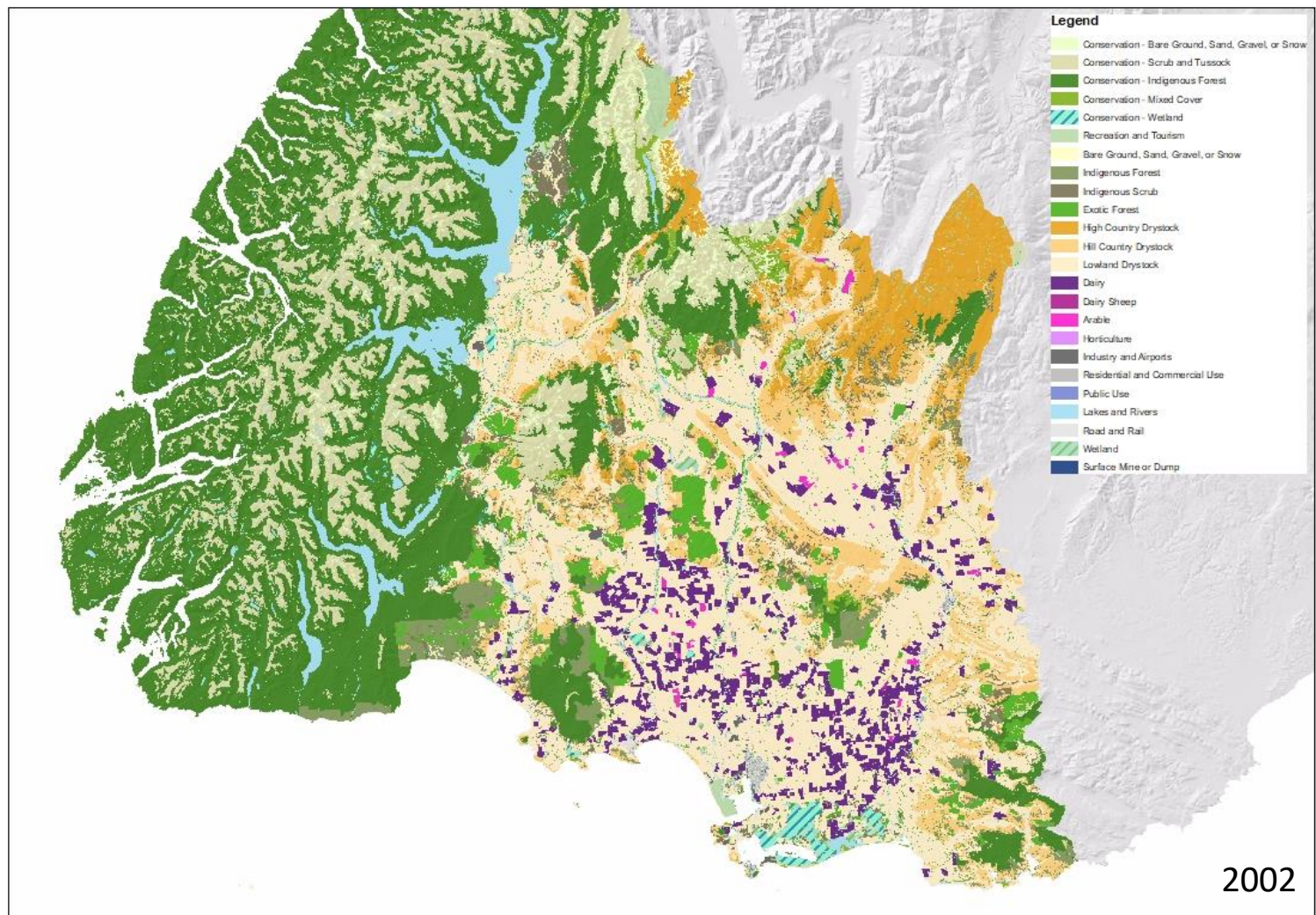


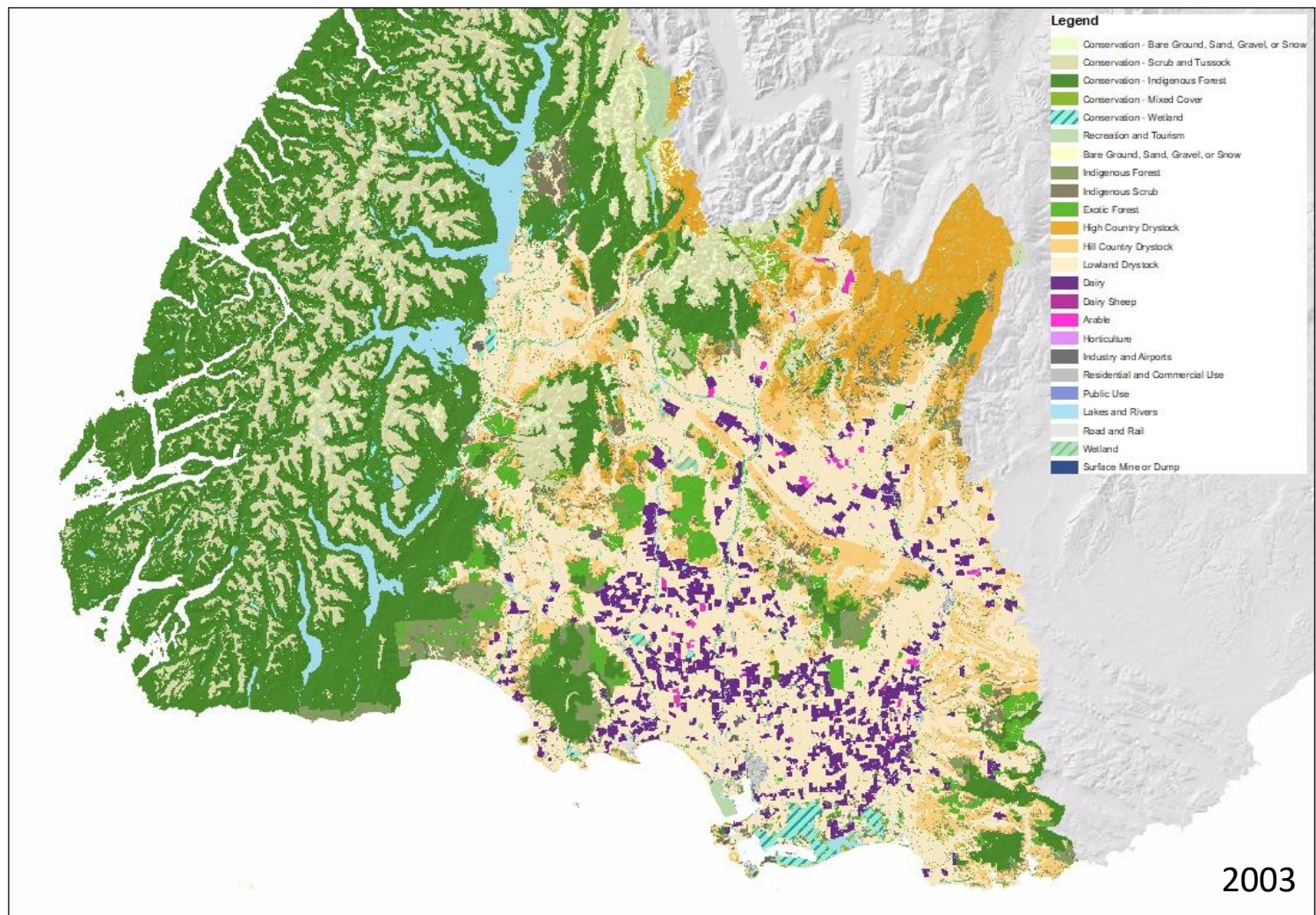


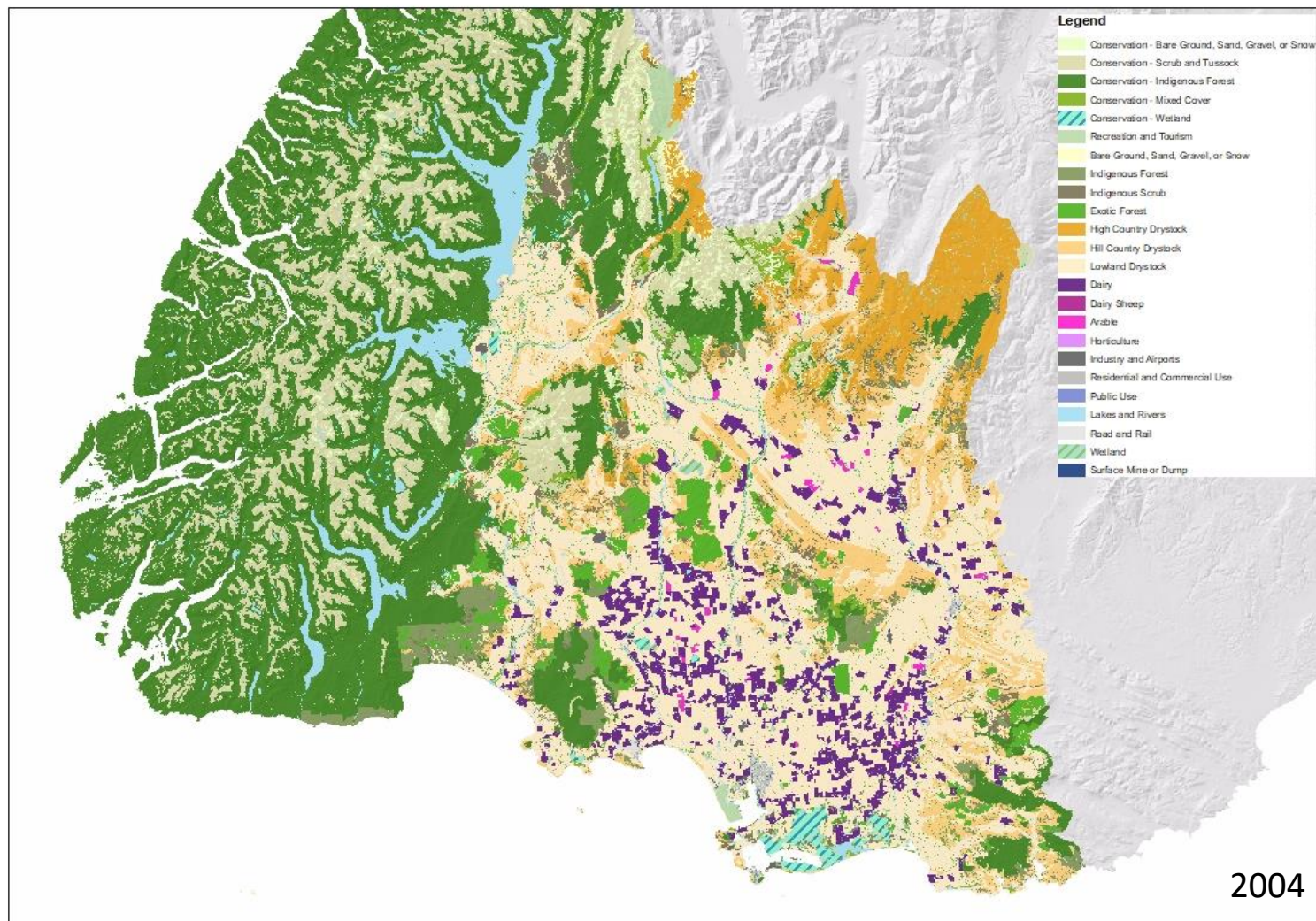


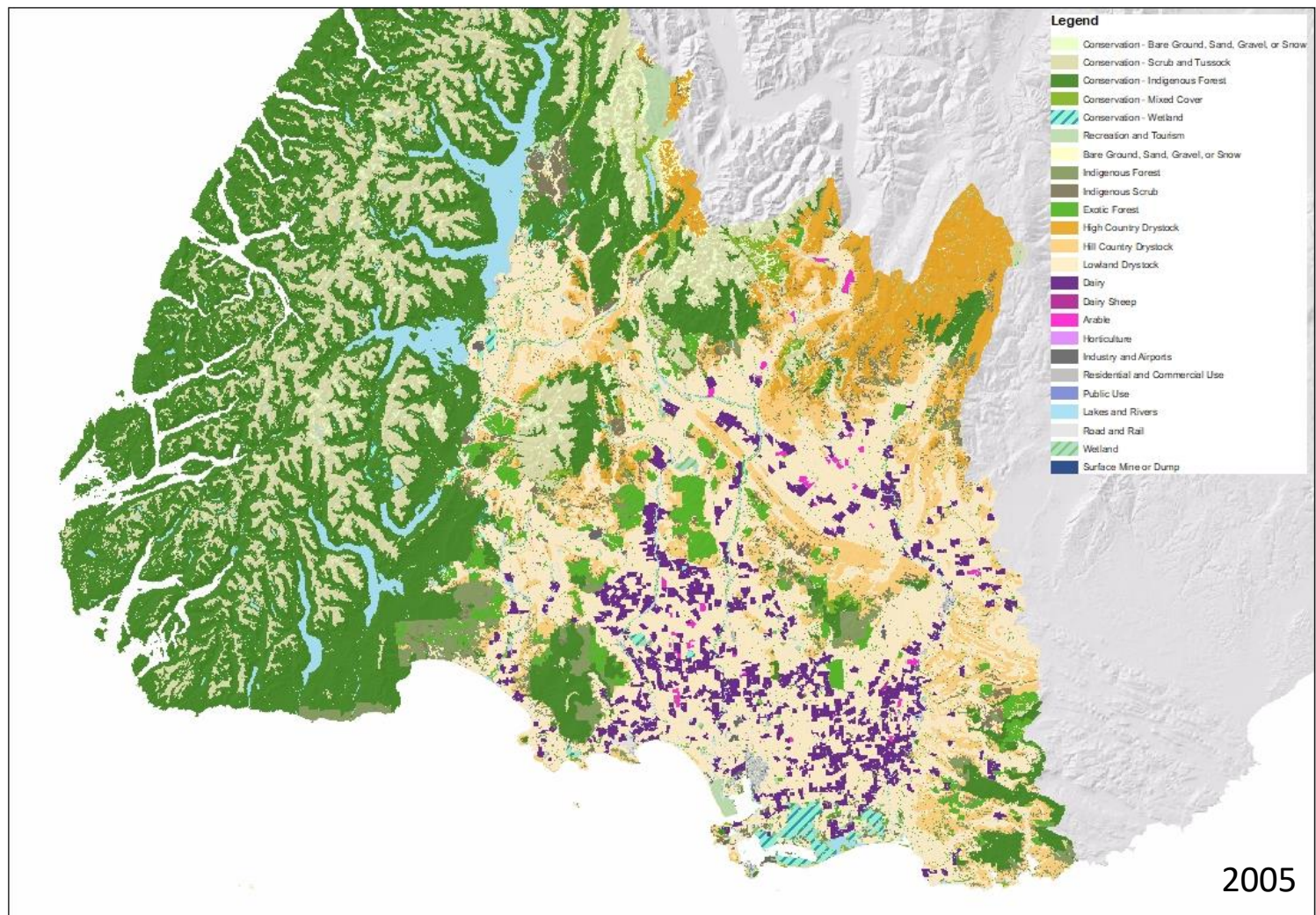


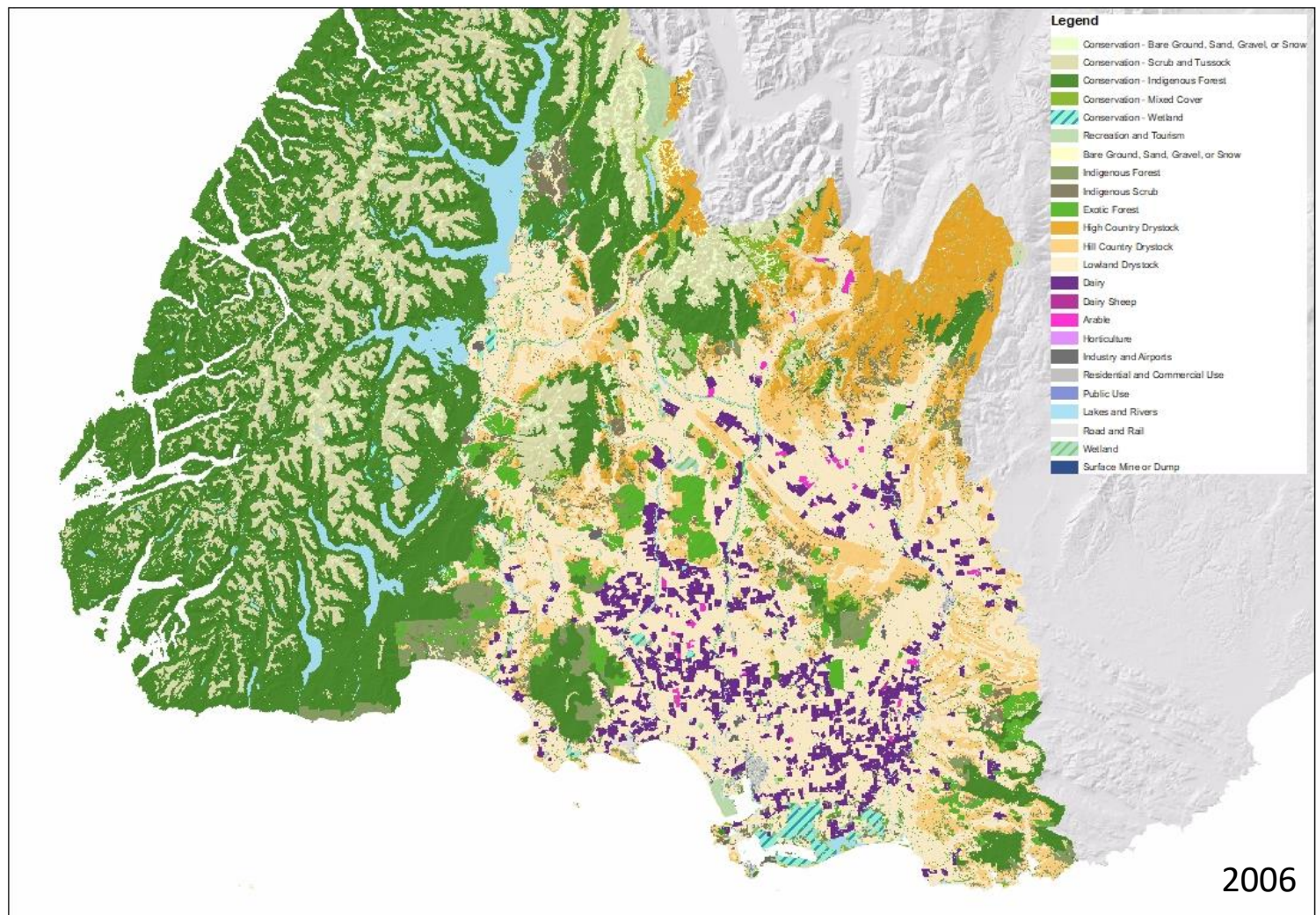


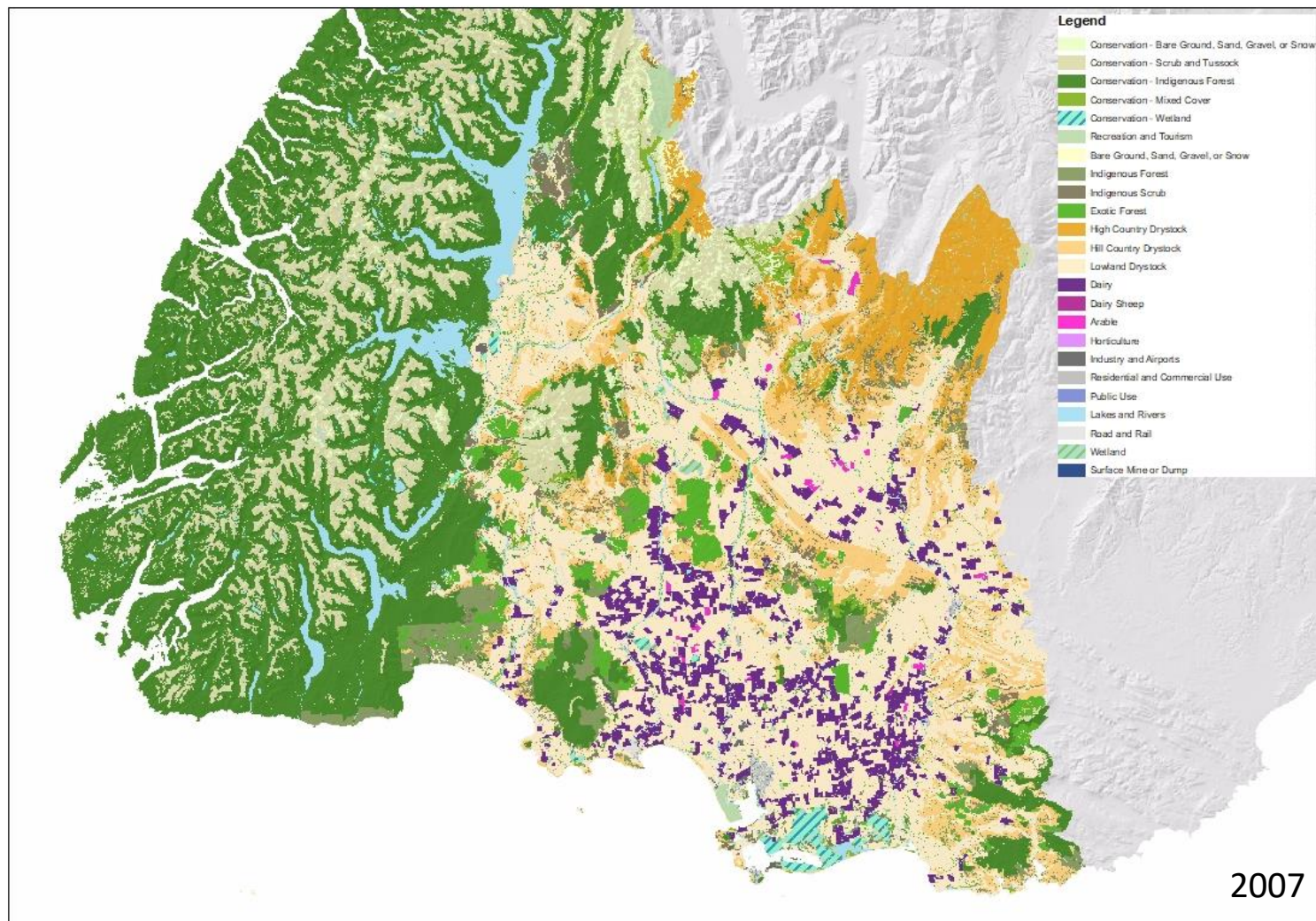


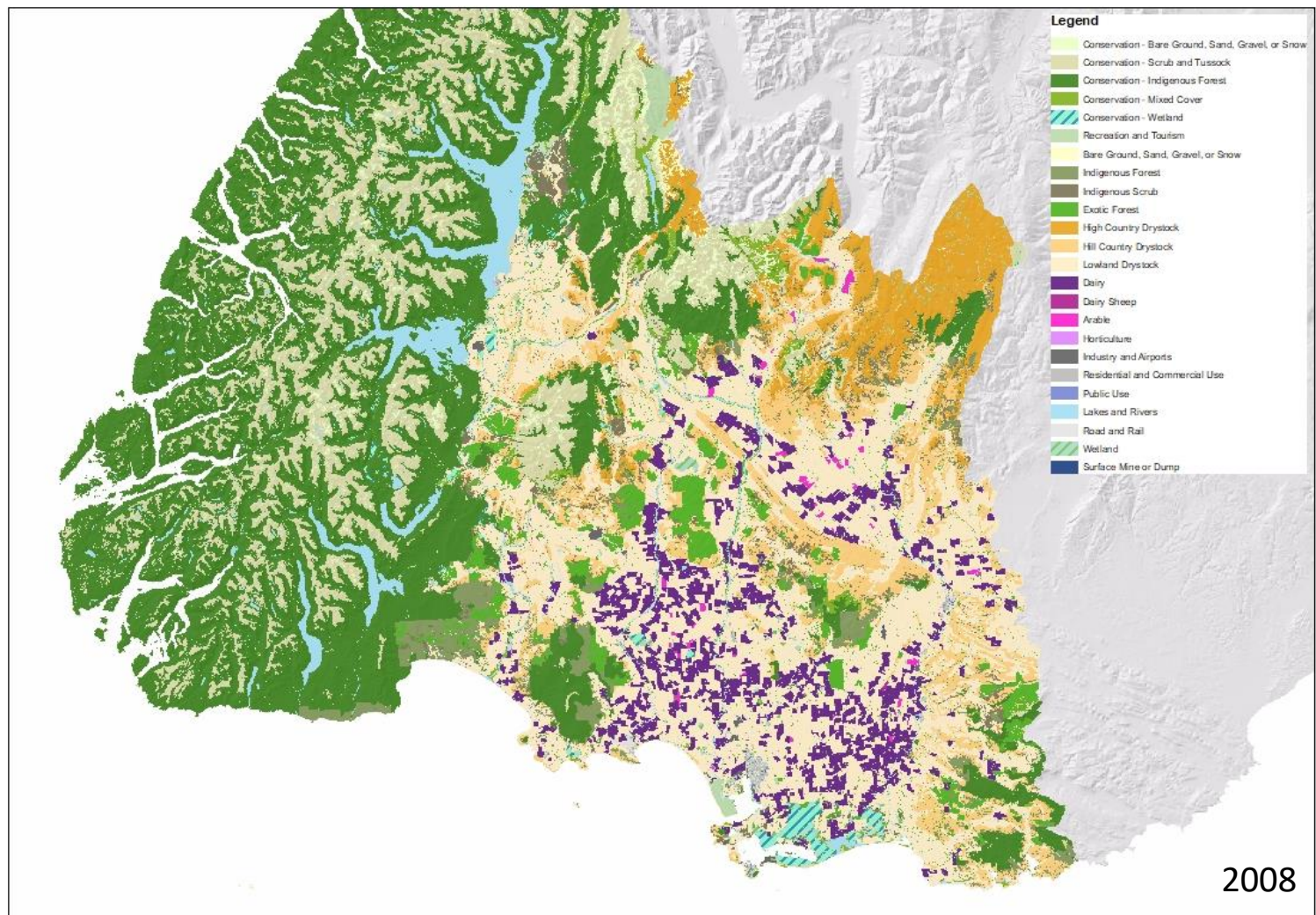


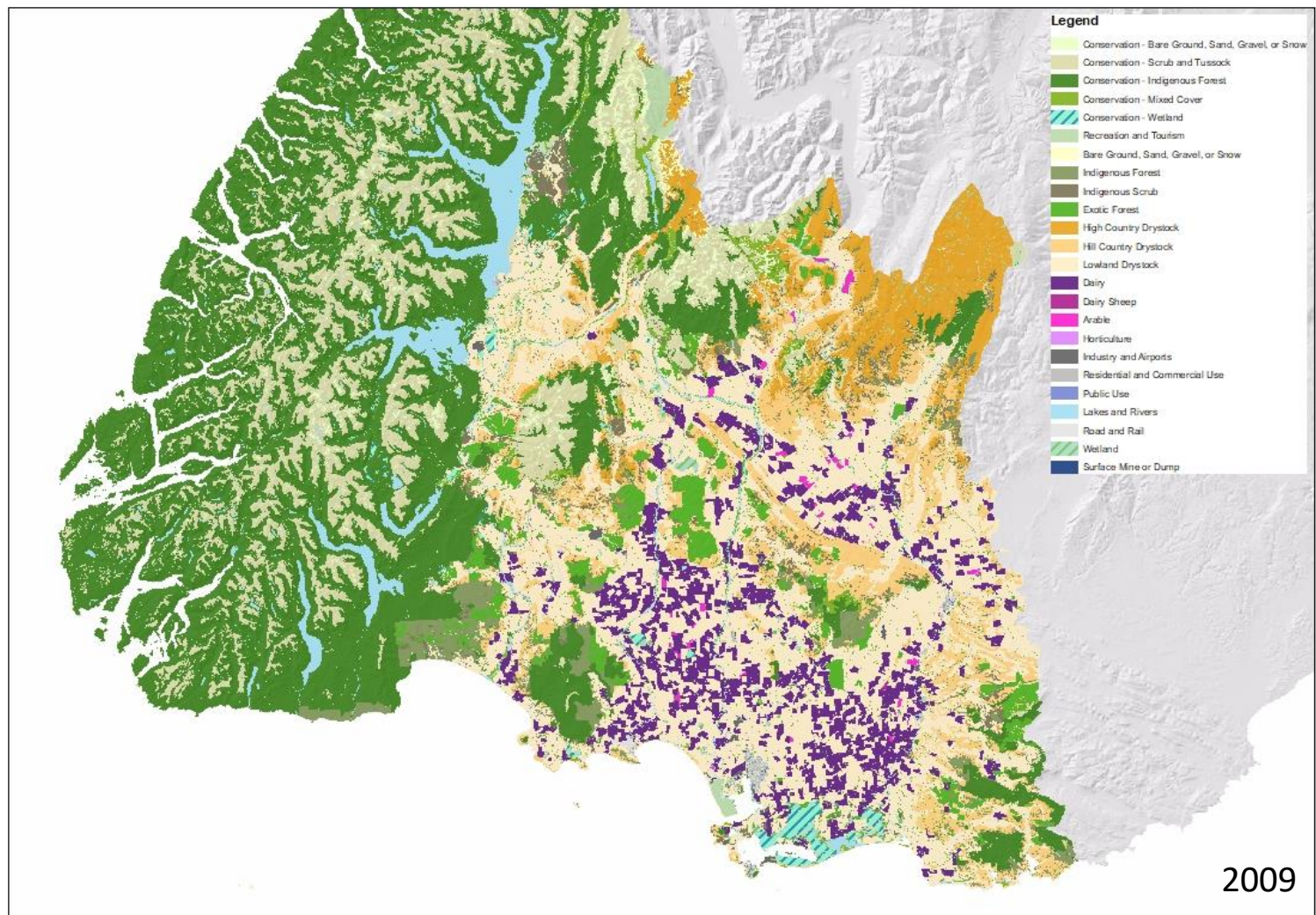


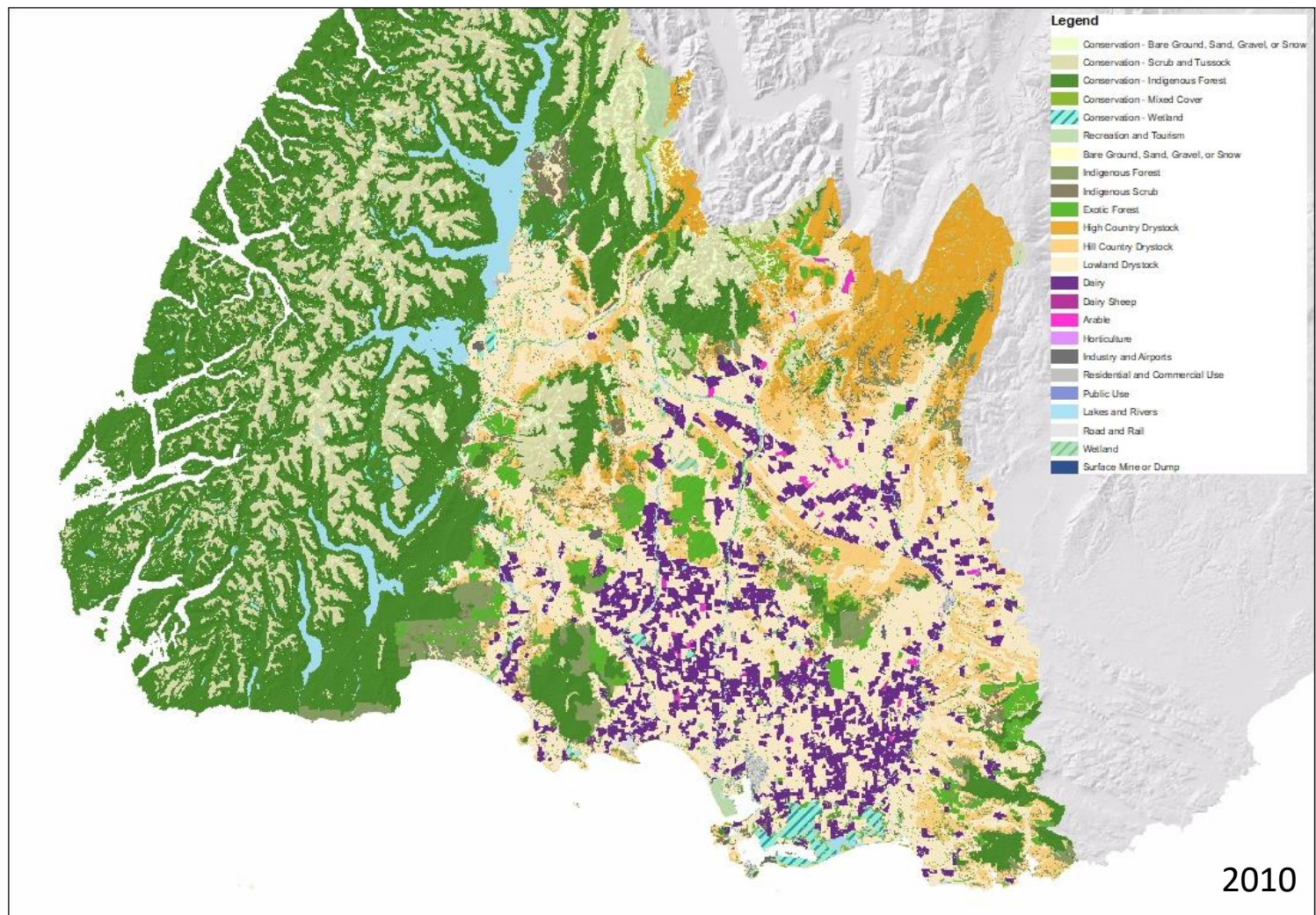


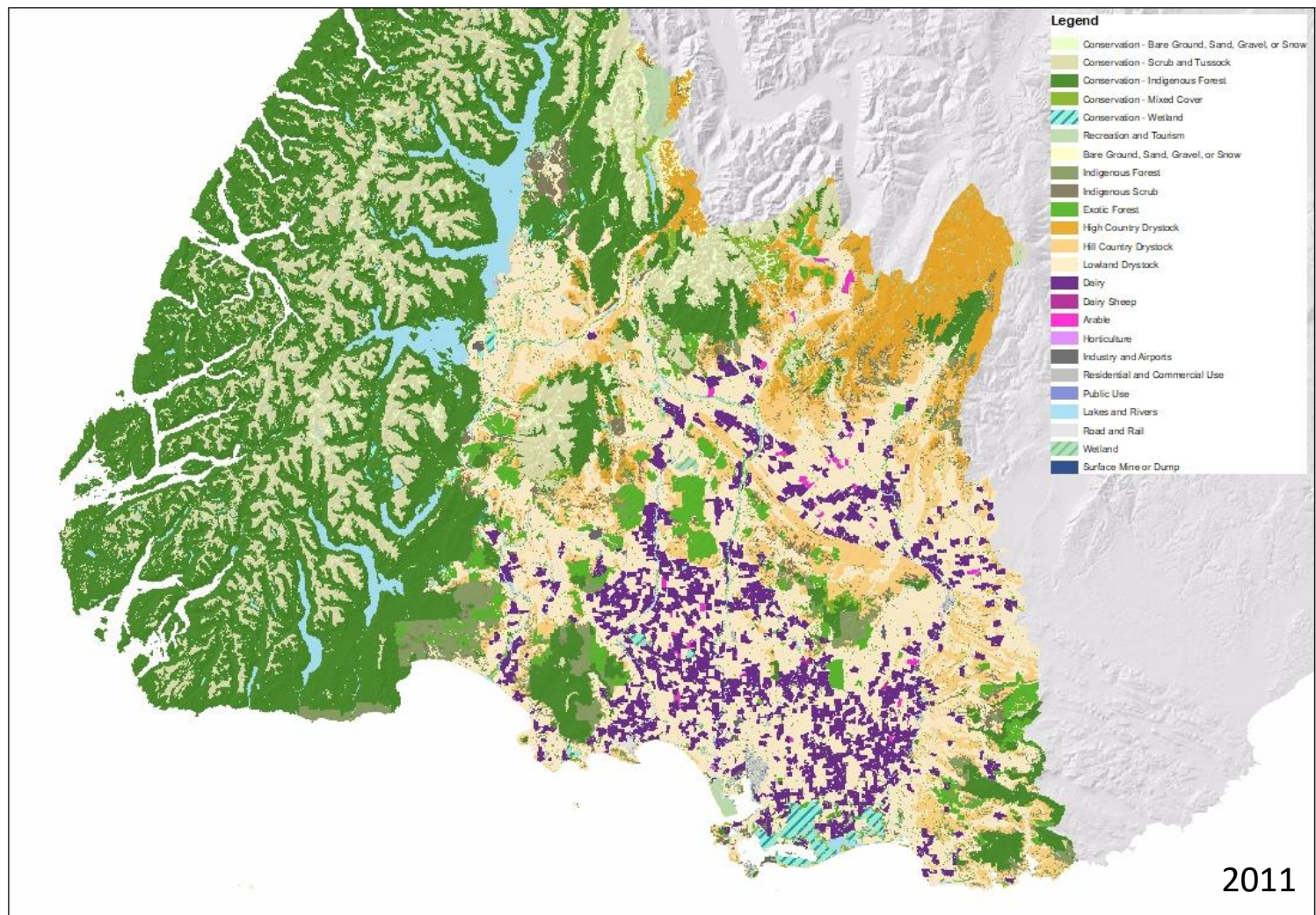




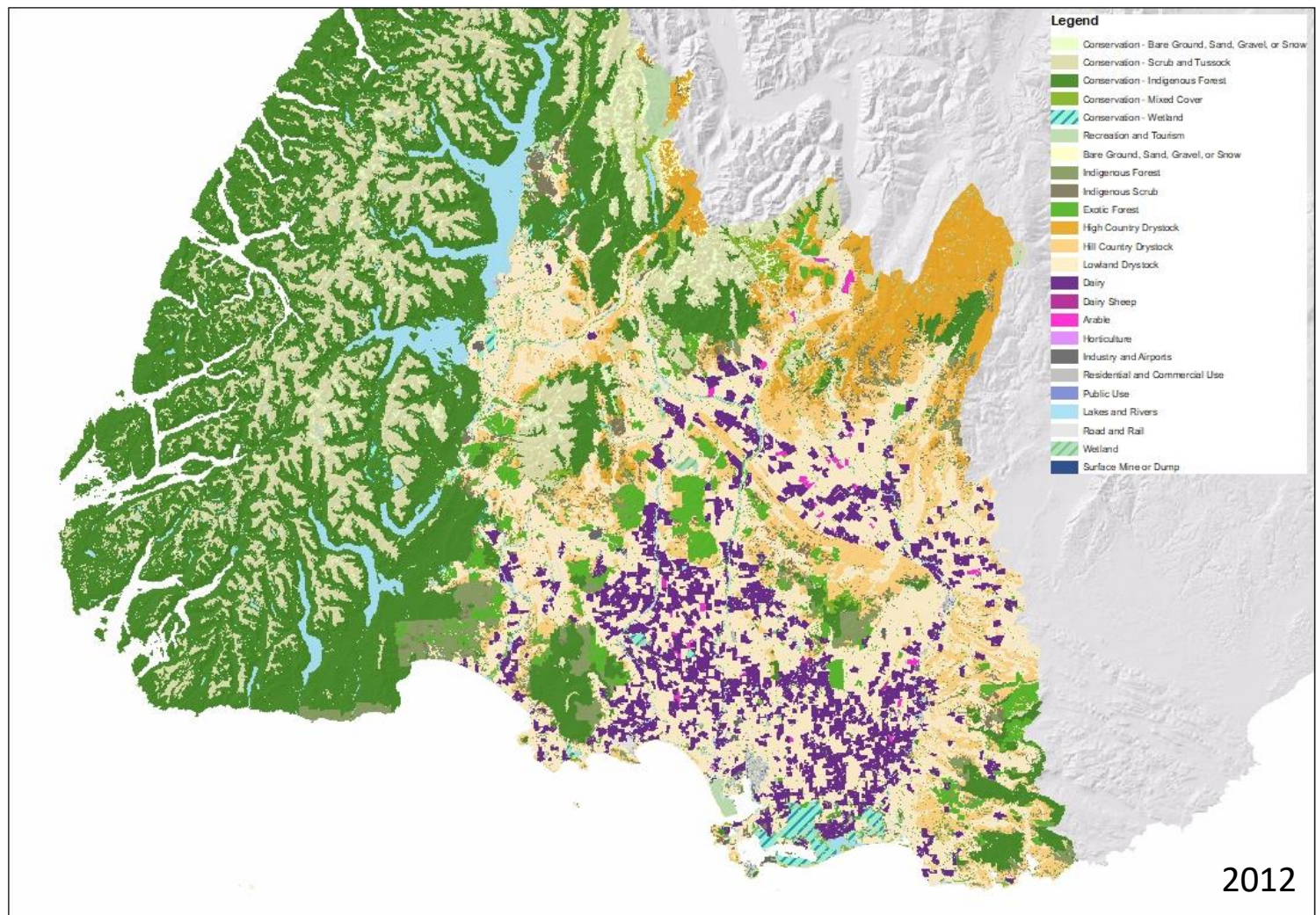




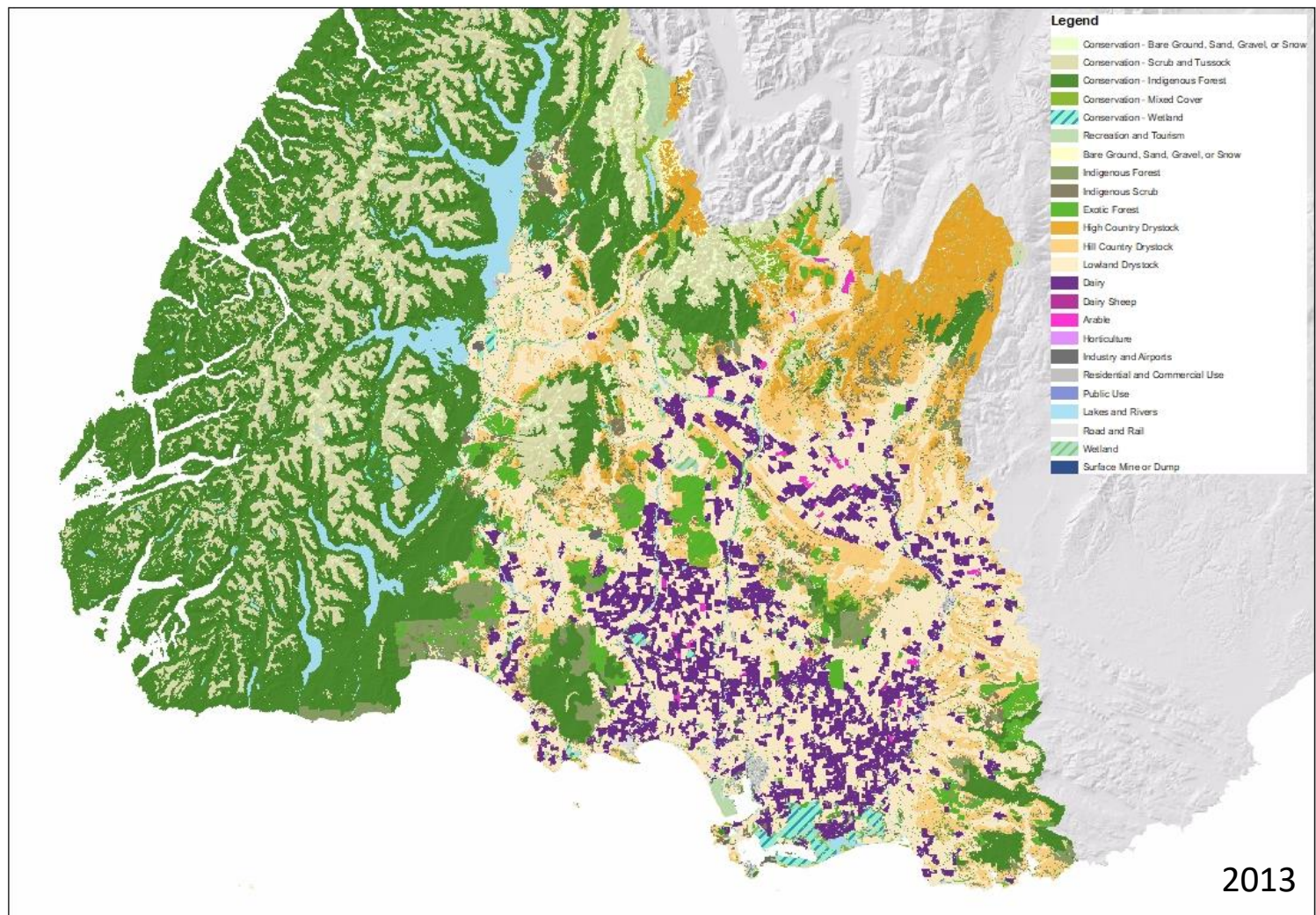




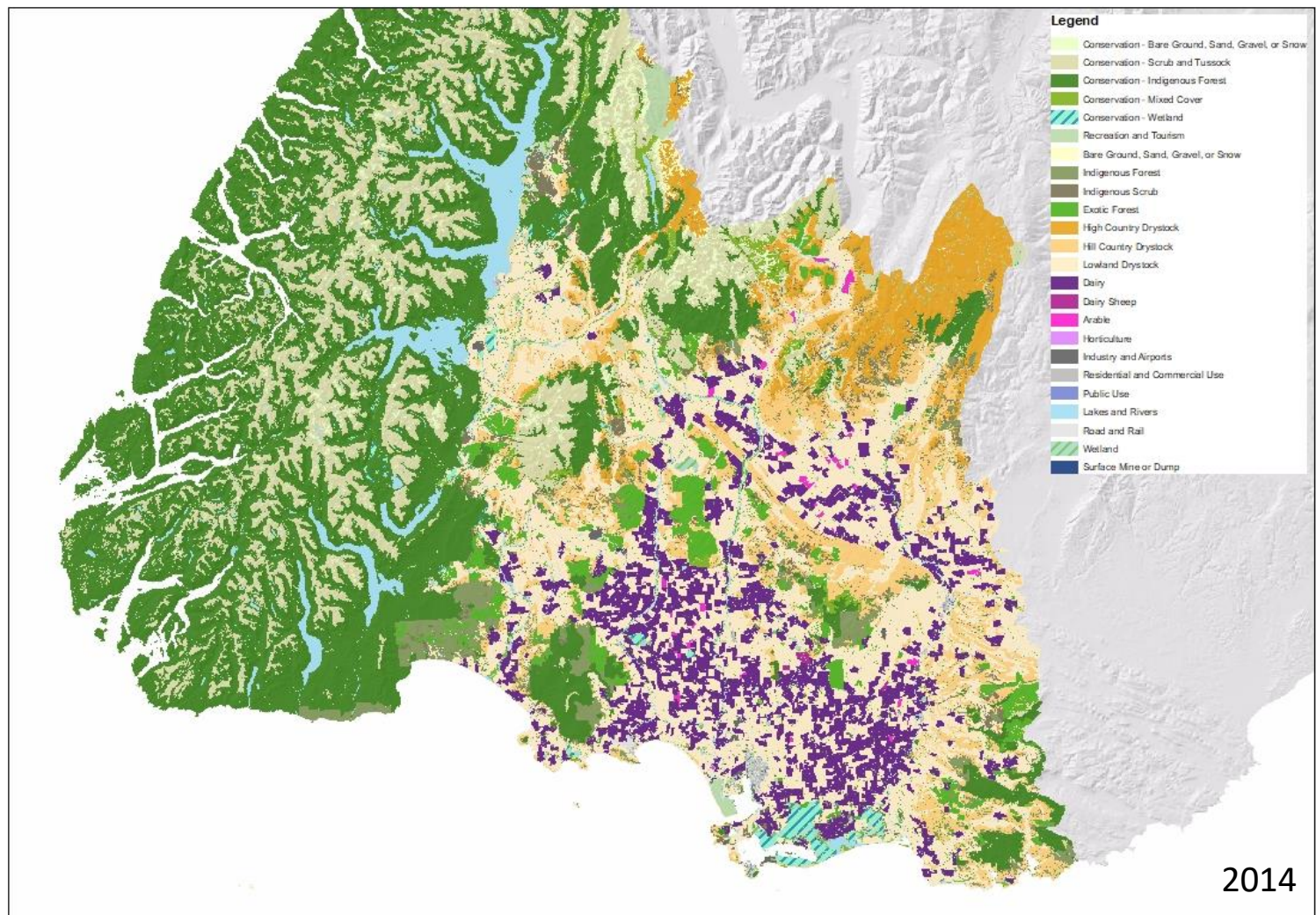
2011



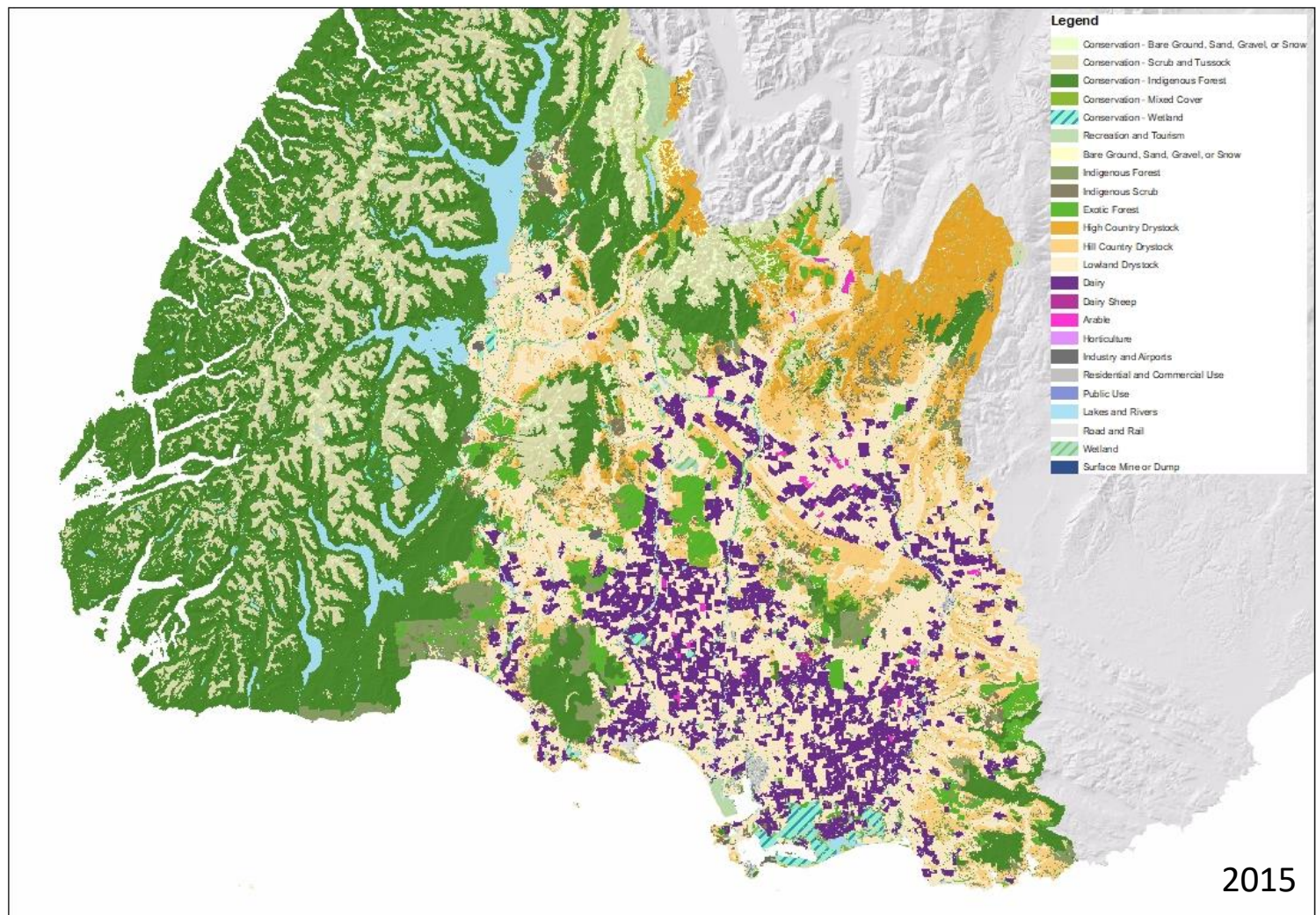
2012

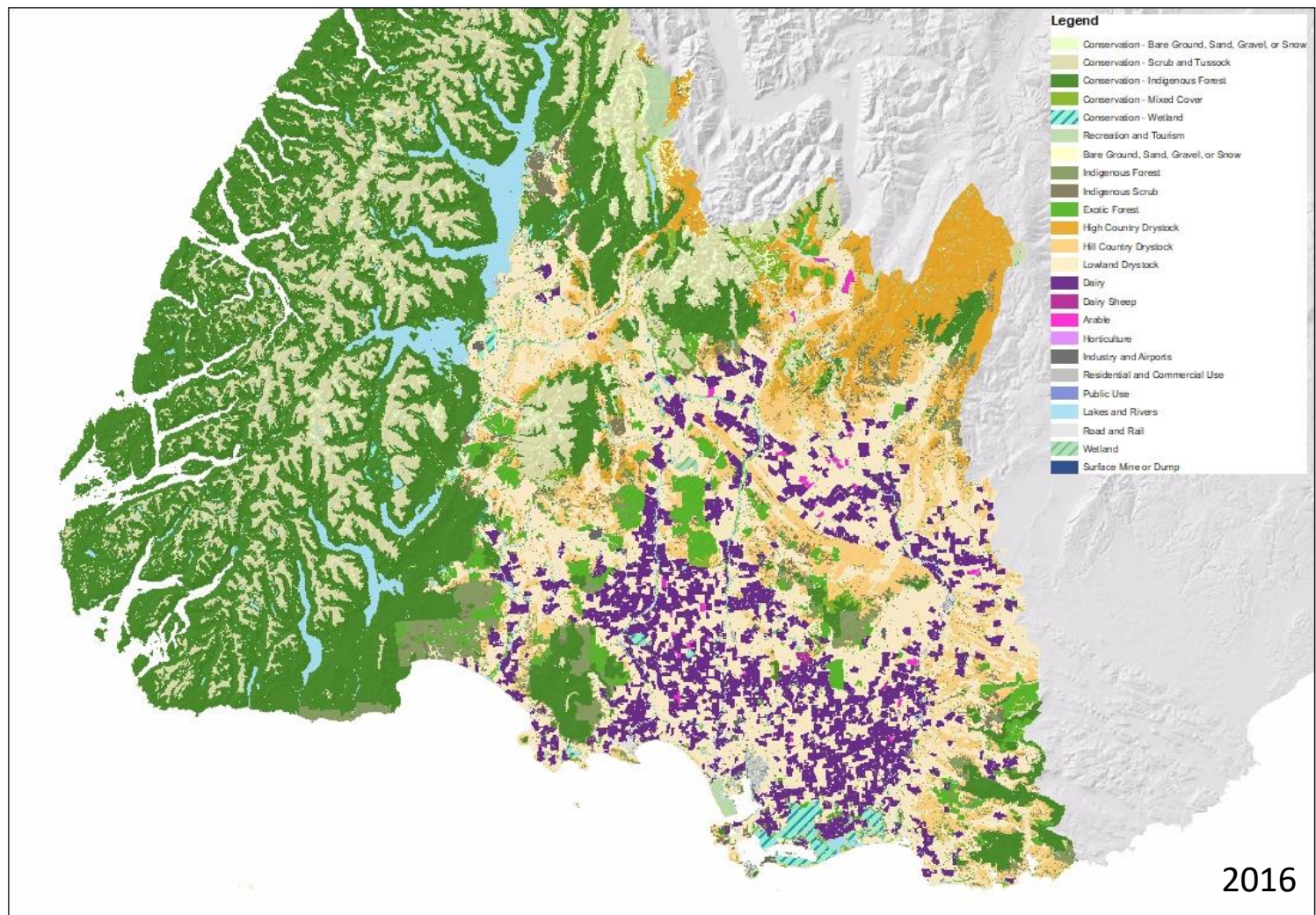


2013



2014






Engaged communities



Mataura Catchment



“...The Mataura River is fully committed carrying a full load of trade and human wastes out to sea. This situation has developed in an area where it is our proud boast that we have ample rainfall, fairly evenly spread over the year. The worst feature of this is that as yet only a handful of people are aware of this situation and even fewer are concerned about it”.

Dugald McKenzie in his 1977 presidential address to the Catchment Authorities' Association





- 1925 Water supply opened
- 1973 & 1982 Wastewater treatment schemes established
- 1984 Mātaura WCO applications
- 1997 WCO come into force



2013 - Matāura River Art Project



- **What do we monitor where?**
- **What do the results tell us?**

Types of monitoring programmes

- **Long-term (state of the environment)**
 - Required under the RMA
 - Sites selected to represent broader areas
- **Investigations**
 - Target specific activities or catchment pressure points
 - Shorter duration

What do we monitor?

What we measure	Indicators
Sedimentation	<ul style="list-style-type: none">• Muddiness• Area of soft mud• Sedimentation build-up
Habitat quality	<ul style="list-style-type: none">• Extent of seagrass beds• Estuary invertebrates
Sediment contamination	<ul style="list-style-type: none">• Heavy metal toxicity
Nutrient enrichment	<ul style="list-style-type: none">• Macroalgae cover• Sediment oxygen levels• Sediment nutrients concentrations

Physical and chemical characteristics

Microbial indicators (pathogens)

Periphyton (slime algae)

Macroinvertebrates (insects, worms and snails)

Estuaries

Broad & fine scale monitoring

1:37 1/FEB/2013

Environment
THLAND
RAL COUNCIL
onga

Where and how often?

Sites:

Mataura River 200m d/s Mataura Bridge

Mimihau Stream Trib at Venlaw Forest

Mimihau Stream at Wyndham

Mokoreta River at Wyndham River Road

Oteramika Stream at Seaward Downs

Mataura River at Mataura Island Bridge

Long-term monthly water quality
monitoring began 1996

Biomonitoring mostly occurs annually

