

**2019 MRG Presentation**



# Angling

- The Manuherikia River is the 5th most fished river in Otago with over 2000 angler days reported (NAS 2014/15)
- It is ranked 49<sup>th</sup> out of over 500 river fisheries in NZ
- It is classified as a regionally significant trout fishery

- Several different fisheries exist in the catchment
  - The mainstem can be divided into 3 sections
    - Above Falls Dam – backcountry characteristics
    - Between Falls Dam and the Ophir gorge (middle reach)
    - Below the Ophir gorge through to the confluence with the Clutha Mata-Au (lower reach)
  - Dunstan Creek and other tributaries
  - Large Irrigation Reservoir's – Falls Dam, Poolburn and Manorburn



# National Angler Survey

- Angler usage in days

Fishery	2014/15	2007/08	2001/02	1994/95
Mainstem	2,100 ± 820	1,880 ± 640	5,630 ± 2,060	3,570 ± 840
Dunstan Creek	210 ± 150	230 ± 170	40 ± 40	160 ± 140
Poolburn Dam	5,090 ± 1,280	3,650 ± 700	2,810 ± 600	2,270 ± 540
Manorburn Dam	1,240 ± 650	3,220 ± 610	2,350 ± 540	510 ± 130

# Recreational Opportunities Spectrum

Fishery	Setting	Activity	Users
Above Falls Dam	Backcountry	F, S, B	L, R, N, I, C
Falls Dam	Natural	F, S, B, T, H	L, R, N, J
Dunstan Creek	Backcountry	F, S, B	L, R, N, C, J
Below Falls Dam	Rural	F, S, B, H	L, R, J, C
Manorburn Res	Natural	F, S, B, T, H	L, R, N, C, J
Poolburn Res	Natural	F, S, B, T, H	L, R, N, C, J

Activity: Fly(F), Spin(S) and Bait(B) fishing, Trolling(T) and Waterfowl hunting(H)

Users: Local(L), regional(R), national(N), international(I), commercial(C) and junior(J)

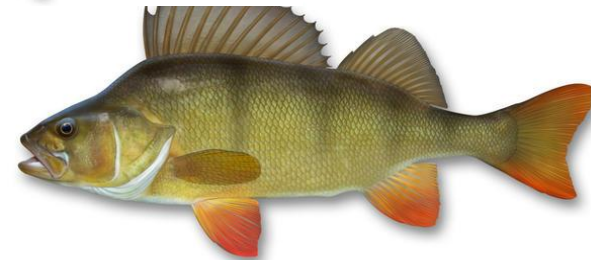
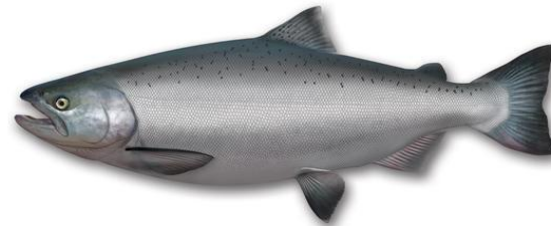
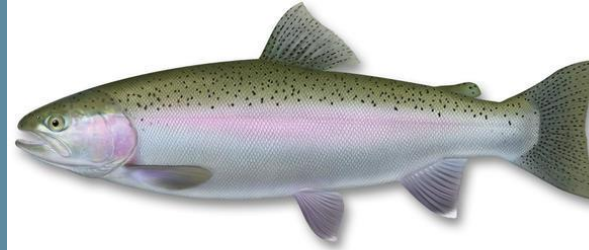
# Values of NZ Angling

- Unwin survey on what makes a river enjoyable – Manuherikia River
  - Mean enjoyment score out of 5
    - 90<sup>th</sup> percentile is 2.92 and mean is 2.38
  - % of respondents who placed the relevant attribute in their top 3 for the Manuherekia

Mean enjoyment score	Close to home	Close to holiday home	Ease of access	Area of fishable water	Scenic beauty	Wilderness feeling	Angling challenge	Good catch rate	Anticipate large fish
2.09	32%	17%	55%	34%	14%	8%	26%	17%	0

# • Sports Fish

- Brown Trout – most abundant species and widely distributed
- Rainbow trout – less abundant than brown with a similar distribution
- Brook Char – widely distributed in headwaters and smaller tribs
- Chinook Salmon – occasionally documented in lower river
- Perch – occasionally documented in lower river



# Sports Fish Spawning

- Spawning is difficult to monitor as fish can spawn in a variety of places and only when conditions are suitable – almost impossible to predict
- Spawning in the upper catchment is widespread, providing recruitment both into the Upper Manuherikia River and downstream into Falls Dam reservoir.
- Spawning is widespread across the Lower Manuherikia catchment with many tributaries and streams, as well as the mainstem river, providing important sports fish spawning habitat.



# Spawning sites identified

- Upper catchment

- Pig Gully Creek, Johnstone's Creek, Spring Creek, Healey's Creek, Hut Creek, Rocks Creek, West Branch, Manuherikia River (mainstem)

- Lower Catchment

- Manor Burn, Chatto Creek, Lauder Creek, Ida Burn, Dunstan Creek, Cambrian Creek, Thomson's Creek, Miller's Creek, Home Hills Run Creek, Shepherds Creek, Pleasant Valley Creek, Hills Creek, Lower Pool Burn, Becks Creek, Young Hill Creek, Mata Creek, Gorge Creek



- Poolburn Reservoir Spawning
  - largely reliant on spawning in Cranky Woman Creek and Pool Burn Creek
- Manorburn Reservoir
  - has a good area of spawning habitat available and the fishery has been observed to be very productive



- A review of fishery information is suggesting rainbows are more prevalent than had been thought in the lower reaches



# Hunting & Gamebirds

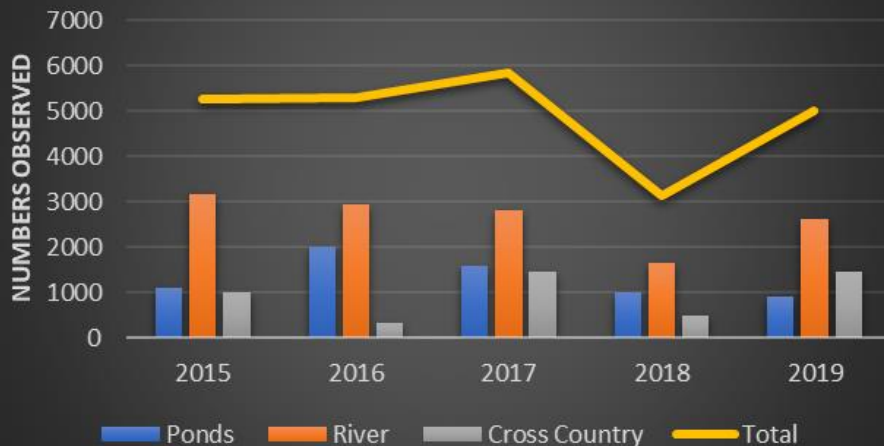
- Waterfowl
  - Mallard
  - Grey
  - Shoveler
  - Paradise
  - Pukeko



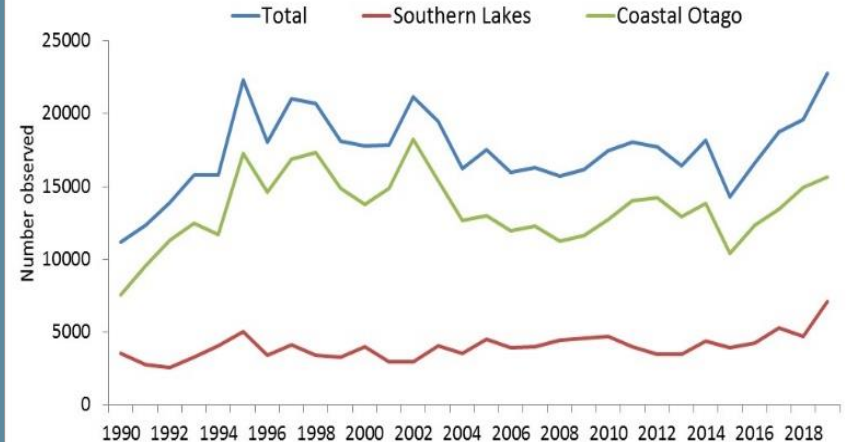
# Population trend counts

- Draining of wetlands will have had an impact on populations but irrigation dams will provide some habitat

## Mallard Count by Feature



## Otago Paradise Shelduck Trend Counts, 1990 -2019



- Upland gamebirds such as California Quail are present in the catchment
- Pukeko and paradise ducks are iconic NZ bird species



- Protected species – not hunted

- Pukeko
- Grey Teal
- Scaup



# Our experience with the catchment



- Highly modified catchment which has been of concern to Fish & Game and the Acclimatisation Society for decades
- A degraded ecosystem still in parts



# Historical Flow Data

## MAHUHERIKIA FLOWS AT OPHIR FROM M.O.W. FIGURES

Year	Annual Mean	Yearly Minimum	Monthly Means (Cumeecs)			
	(Cumeecs)	(Cumeecs)	Dec.	Jan.	Feb.	Mar.
1920	10.23	2.49 (March)	8.53	5.92	3.29	3.28
1921	12.40	4.50 (March)	8.20	5.30	5.80	5.70
1922	11.0	4.7 (Nov.)	12.4	11.9	10.9	9.0
1923	22.8	4.2 (Dec.)	6.1	41.3	16.8	11.6
1924	10.47	3.19 (Feb.-March)	11.57	6.78	4.56	5.46
1925	20.0	5.3 (Dec.)	14.6	12.8	6.4	15.5
1926	18.9	5.0 (Dec.)	20.9	6.7	15.5	22.0
1927	13.86	4.2 (Dec.)	9.62	11.73	7.02	22.45
1928	13.70	2.8 (Jan.-Feb.)	18.7	5.3	4.0	4.2
1929	19.3	3.1 (Feb.-March)	33.4	10.8	6.2	15.6
1930	15.0	3.5 (Apr.)	10.6	27.7	18.7	5.7
Means	15.24	3.91	14.06	13.29	9.01	10.95
1971	11.4	0.2 (Feb.-Mar.)	5.1	2.2	1.1	1.9
1972	15.5	2.5 (Mar.)	6.3	5.3	4.1	4.5
1973	11.4	0.9 (Apr.)	6.2	3.1	2.1	1.4
1974	—	1.3 (Feb.)	—	1.68	1.32	7.33
	12.76	1.22	5.86	3.07	2.15	3.78

# Desirable outcomes

- Restoration of ecosystems
- Diverse, productive, resilient habitat
- Good water quality
- Recreational opportunities for all
- Excellent mahinga kai and food gathering opportunities
- Natural form & character

# More than minimum flows

- FMU process is about more than minimum flows
- F&G would like to see scope that includes wetlands, vegetation protection, water yield, water quality, gravel management ect.
- Social and economic analyses which consider more than reliability of supply and recognize out of catchment users

# A path forward?

- Community proposition developed through MCWSG
  - Vision
    - “A thriving valley community that uses its water resources in a sustainable and cooperative way”
  - Fundamental Principles and considerations
    - Sustainable management, Guardianship, Kaitiakitanga, Priority uses, Natural character, Biodiversity, Water quality and effects, Integration, Infrastructure, Access, Community and commercial use