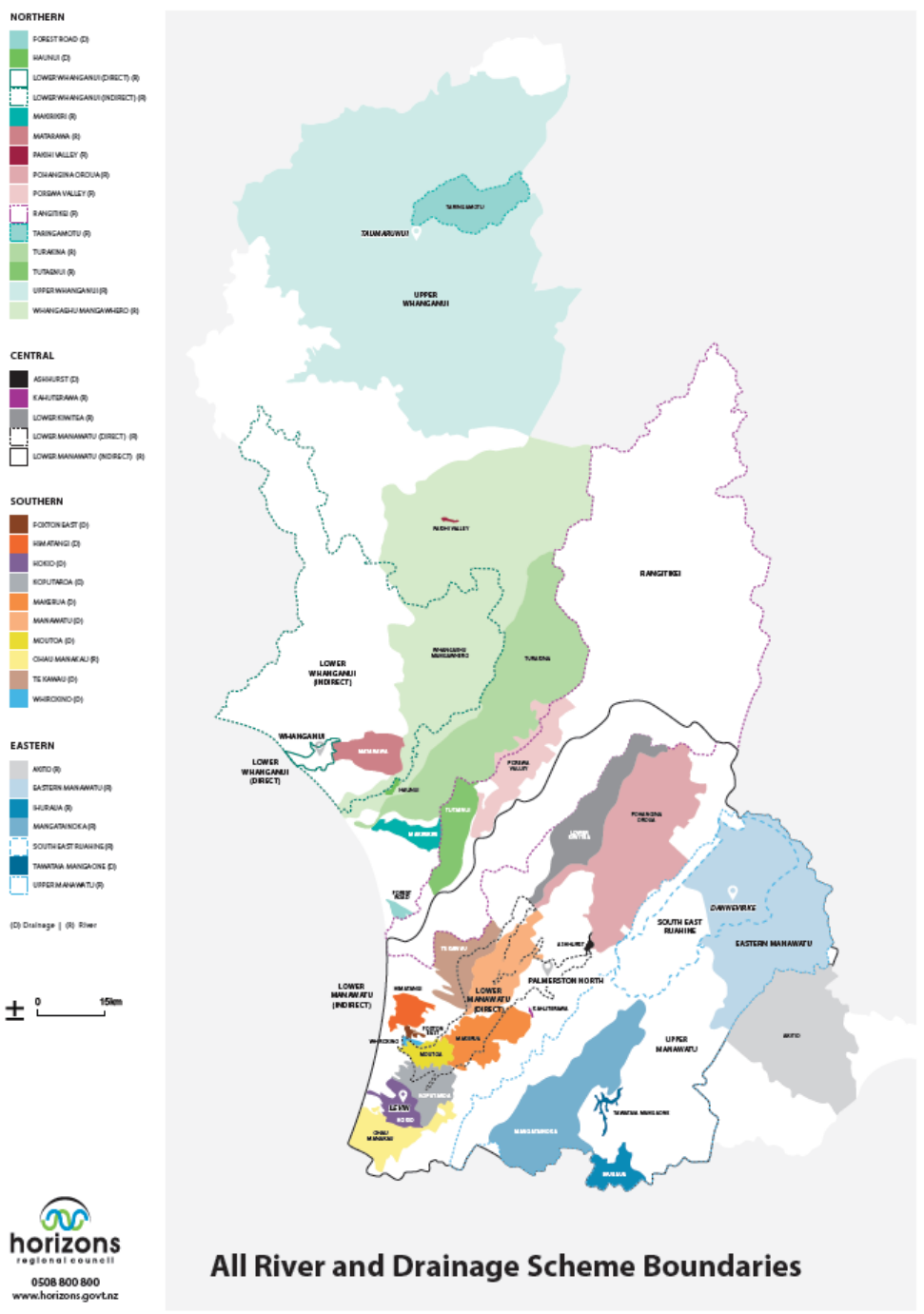




2020-21 Annual Plan Consultation
River Management Activity Group
MAKERUA DRAINAGE SCHEME

Horizons River Management

- 32 staff with a current operating budget of \$11.8M
- 32 River and drainage schemes
- Providing protection/benefit to 10 urban areas and 75,000 hectares of rural land



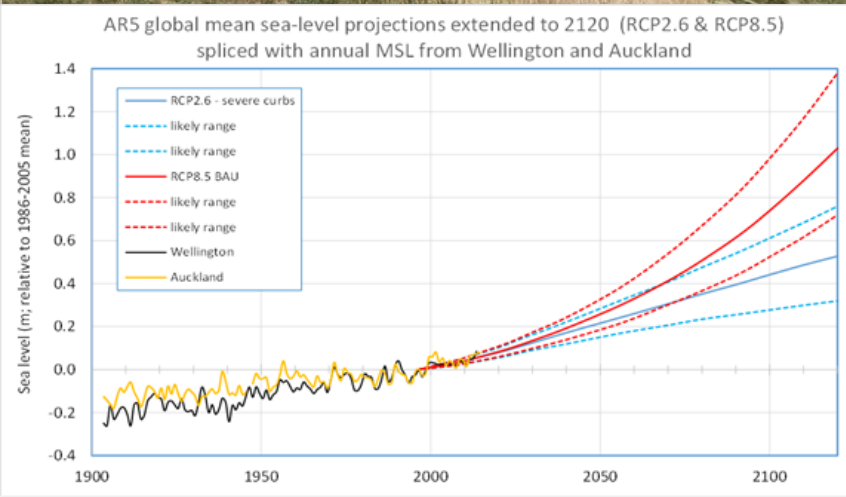


- 1,270km of river channel
- 1,100km of drain
- 23 pump stations with a total discharge capacity of 43m³/s
- 53 detention dams that store 4.3 million cubic metres of floodwater
- 500km of stopbanks

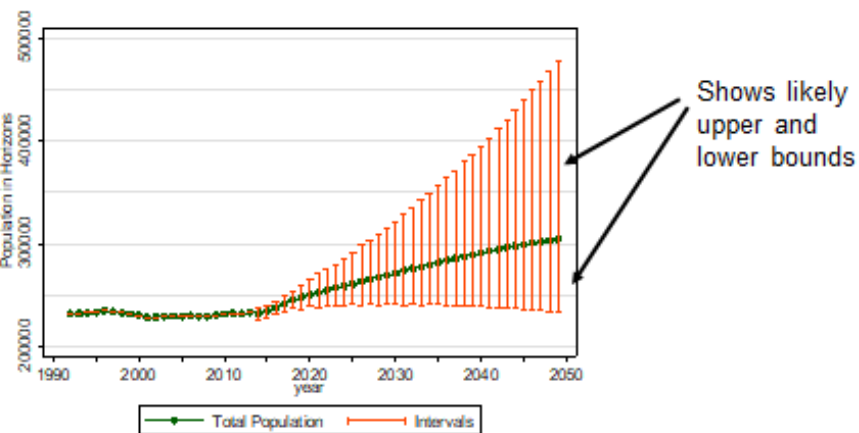


Significant river management issues for the Region

The population within the region is likely to grow to over 300,000 by 2050.

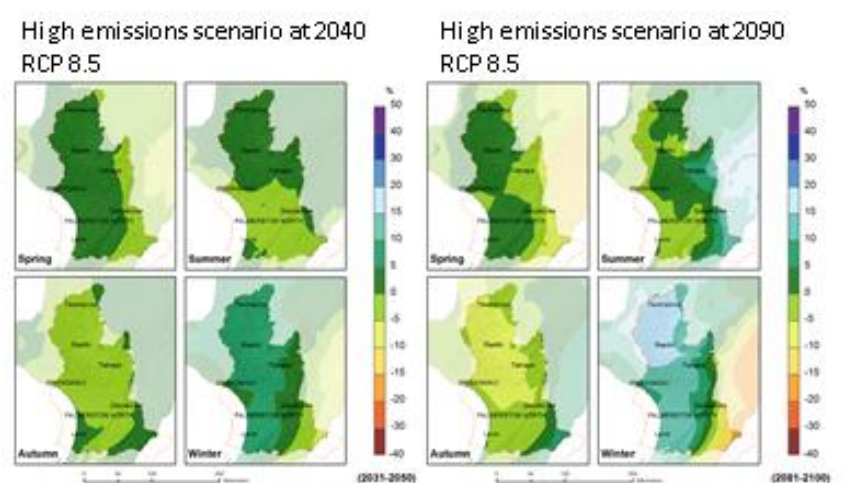


- Operational reliability
- Sediment build-up reducing flood protection standards



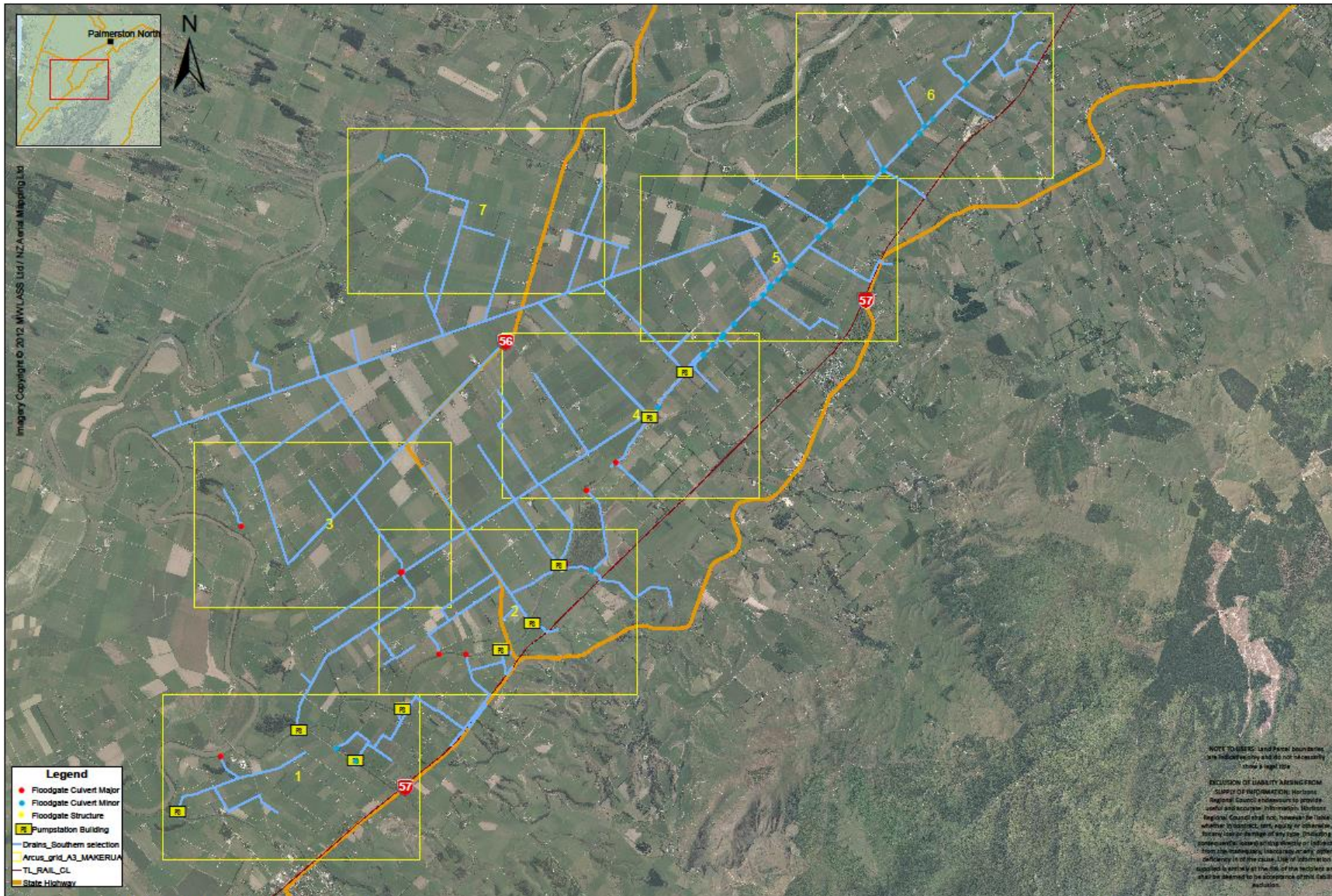
Annual growth for 1995-2015 was almost 0%
 For 2015-2048 population projected to grow at an average of 0.9%

Horizons rainfall projections



- Urban growth
- Climate change

Makerua Drainage Scheme



Scheme Facts

- Scheme Assets.
 - 55 floodgated culverts
 - 1066 km of drainage channels
 - 9 Pump station
 - 19 km Stopbanks
- Total Asset Value: \$10,145,772.
- Scheme Area 14,600ha.
- Predominantly servicing dairy, horticultural land.

MAKERUA DRAINAGE SCHEME

Strategic Direction

The focus of the Scheme over the next 3 years to review the operational reliability of the existing infrastructure.

Aim

Maintain the existing network of drainage channels and flood protection and review the remaining life of the scheme major assets.

Scheme Design Criteria

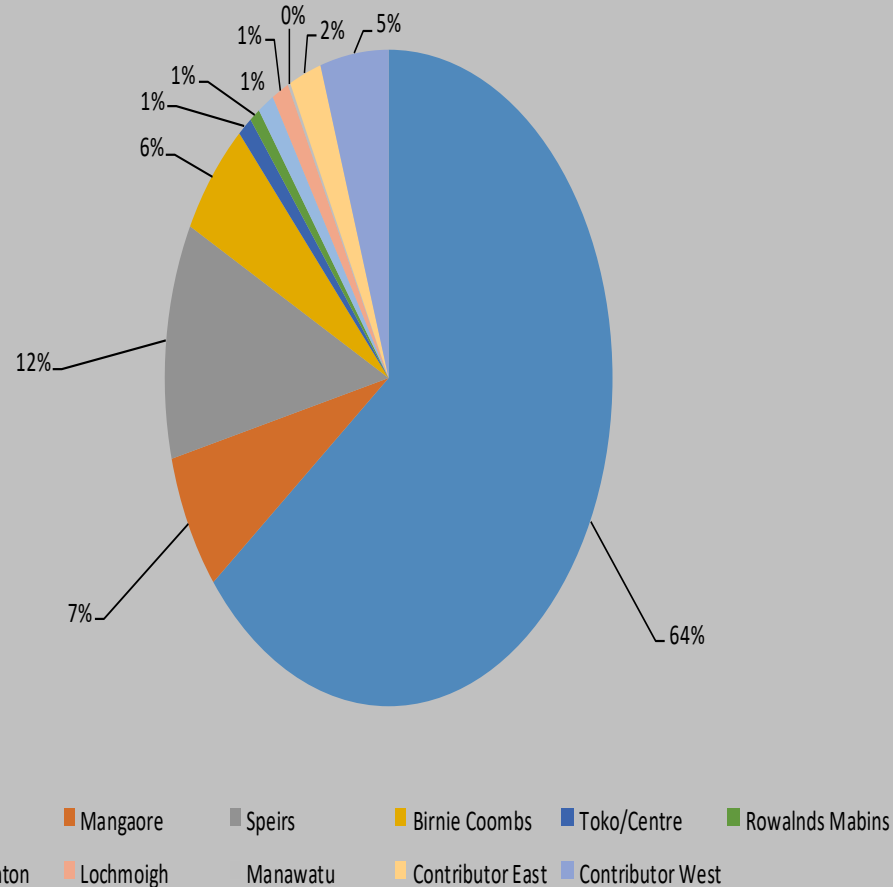
- Drainage Channels:
 - Design is based on a 2-5 year rainfall event.
 - Drain full drainage coefficient of 30mm/day.
- Culverts:
 - Designed based on drain full plus 30%.
 - Designed for a 50mm head loss over the culvert.

MAKERUA DRAINAGE SCHEME

Scheme Design Criteria Continued

- Stopbanks:
 - Linton Main Drain banks above Mabins Drain are designed for a 10 year, 12 hour rainfall event.
- Pumping
 - Designed to provided a minimum 16mm/day discharge.

Scheme Funding



Funding Policy

The Schemes funding comes from three revenue sources:

- Targeted Rates – differential targeted rates levied on properties directly benefiting from or causing the need for the work. 80% of scheme cost.
- General Rates – uniformed rate levied over all properties in the Horizons Region. 20% of the scheme cost.
- Other income – Revenue from lease land, forestry blocks, scheme reserves, etc. held by the scheme. This is used to reduce the level of the targeted rate

Makerua

Scheme Presentation Map

Contributor

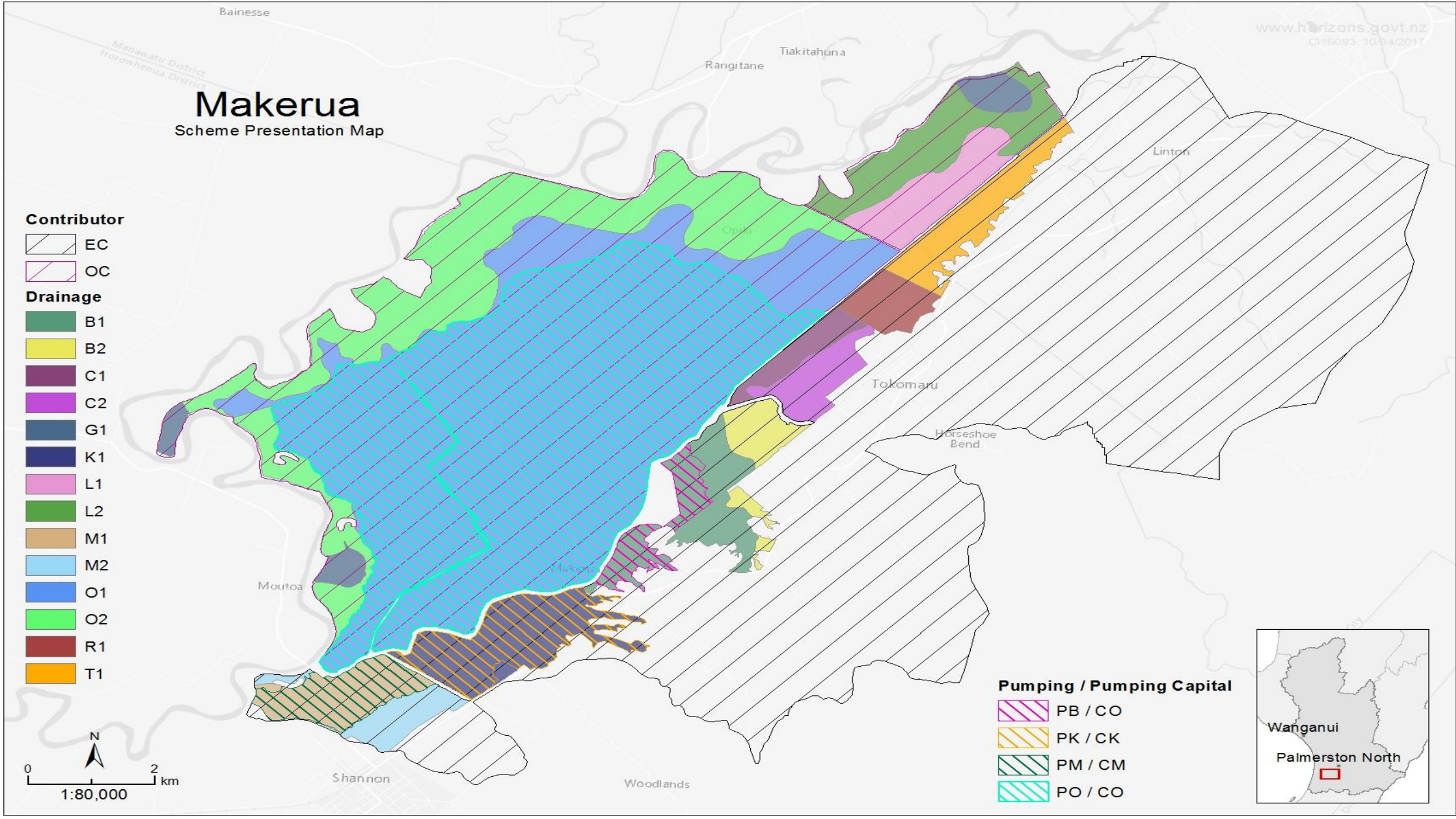
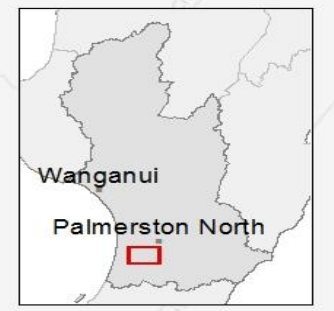
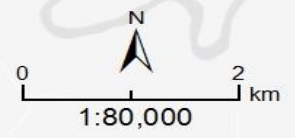
- EC
- OC

Drainage

- B1
- B2
- C1
- C2
- G1
- K1
- L1
- L2
- M1
- M2
- O1
- O2
- R1
- T1

Pumping / Pumping Capital

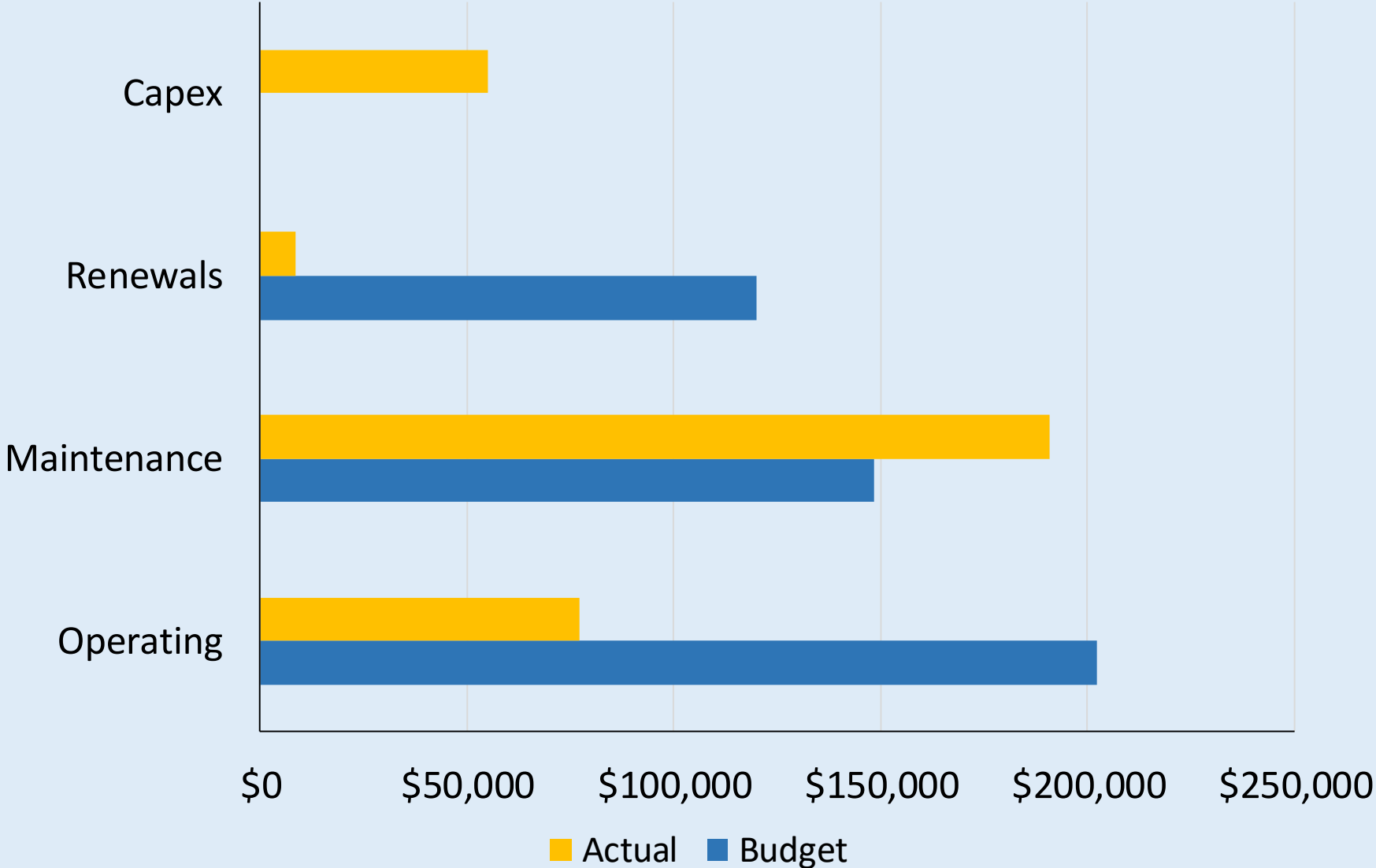
- PB / CO
- PK / CK
- PM / CM
- PO / CO



Key Activities and Issues: 2019-2020

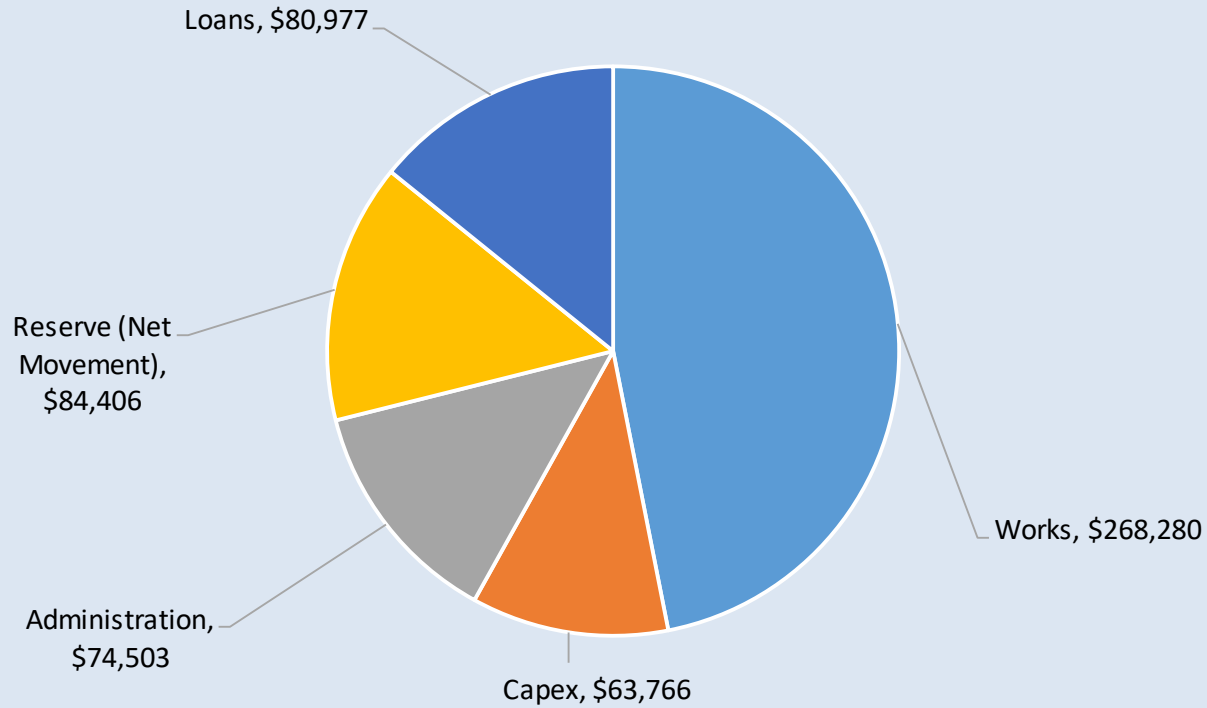
- **Scheme Expenditure**
 - Expenditure is on track with the original budget slightly.
 - Drain maintenance expenditure is up but this is being compensated by reduced expenditure on pump station power and R&M
- **Works Activity**
 - Drain maintenance on track with 90% of drains either being machine cleaned or sprayed with herbicides.
 - A number of the key drainage channels are likely to be cleaned at least twice this period.
 - New Floodgated culvert installed upstream of Tane Road Bridge to help with the removal of floodwaters between the Railway and Linton Main Drain.

Works Budget vs Actual: 2019-20

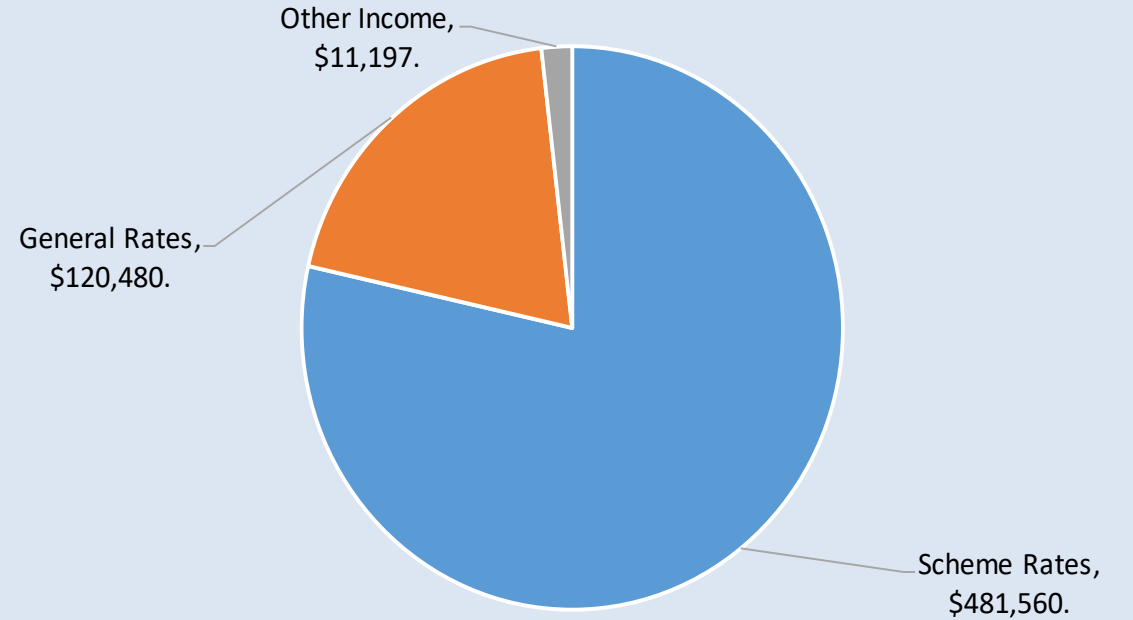


Income and Expenditure: 2019-20

Operating Expenditure



Income



Key Activities and Issues: 2020-21

- **Scheme Budget**

- \$15,000 increase in works expenditure.
- Scheme Rate increase of 1%. (\$4,257)
- Draw down on Emergency Reserves of \$10,000.
- On Track with LTP budget expectations.

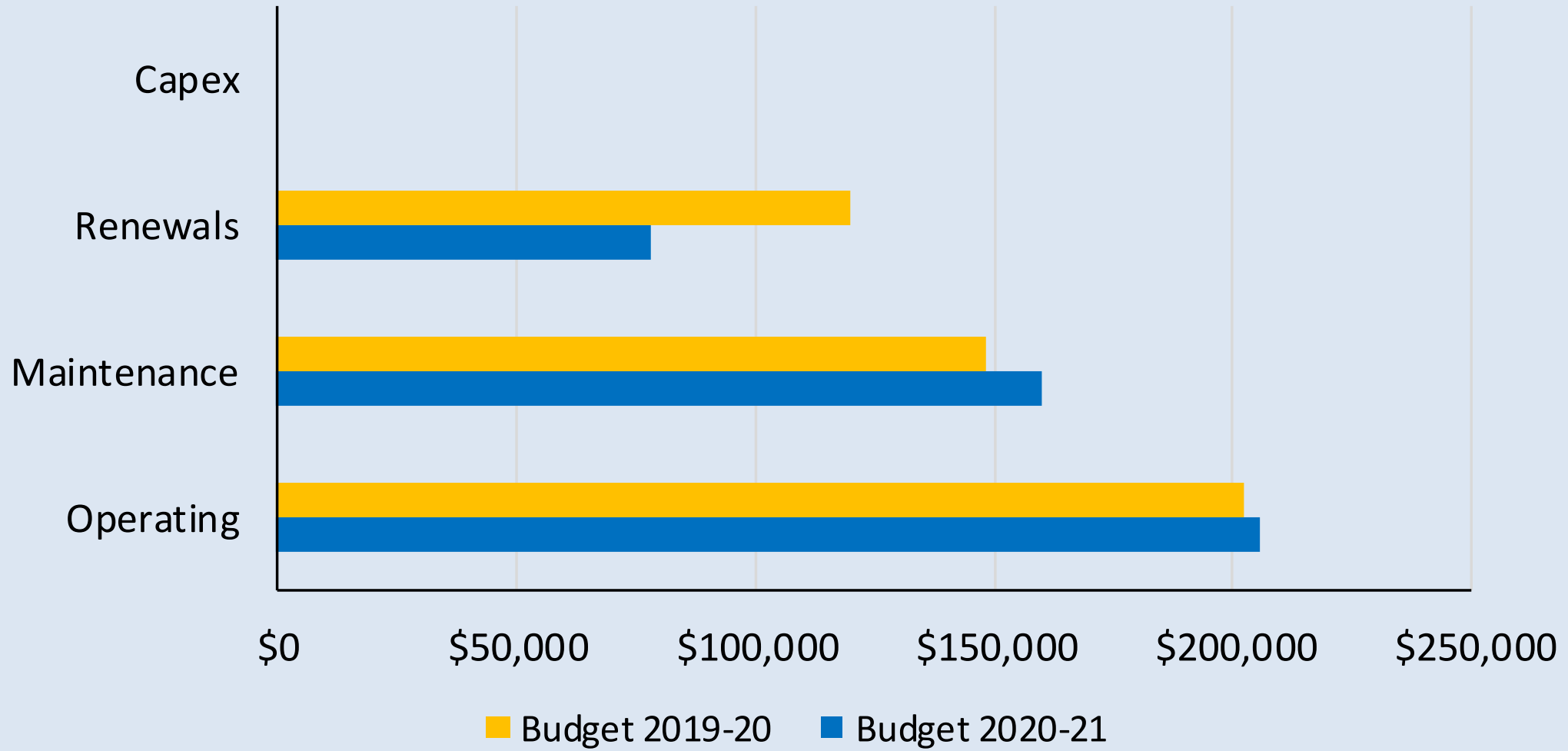
- **Works Activity**

- Increasing demand for drain maintenance and pump station maintenance.
- Safety improvements around pump stations.

- **Review/Audit**

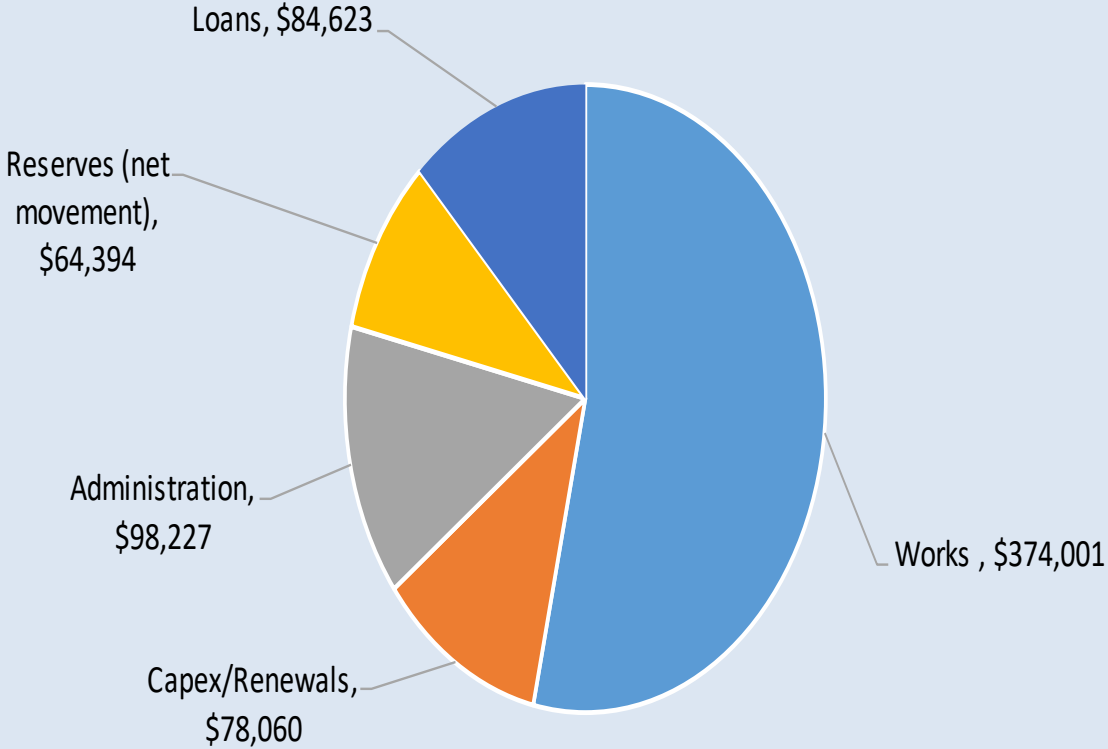
- Review of floodgates and Pump stations and development of O&M Manuals starting 2020-21.

Works Budget 2019-20 vs 2020-21

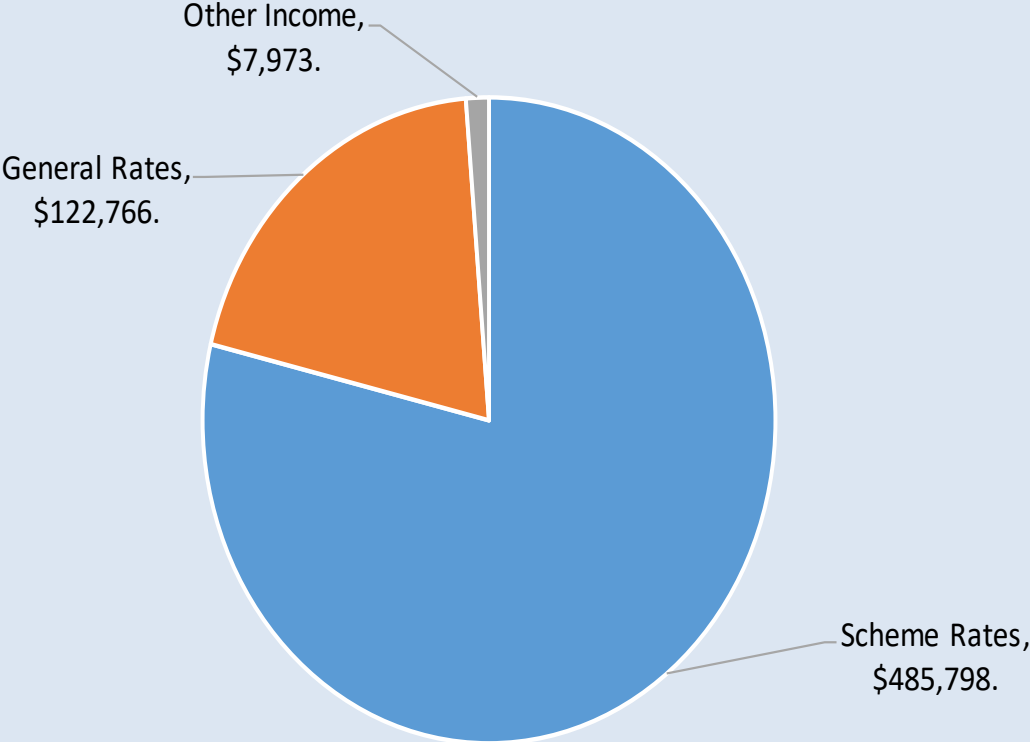


Income and Expenditure 2020-21

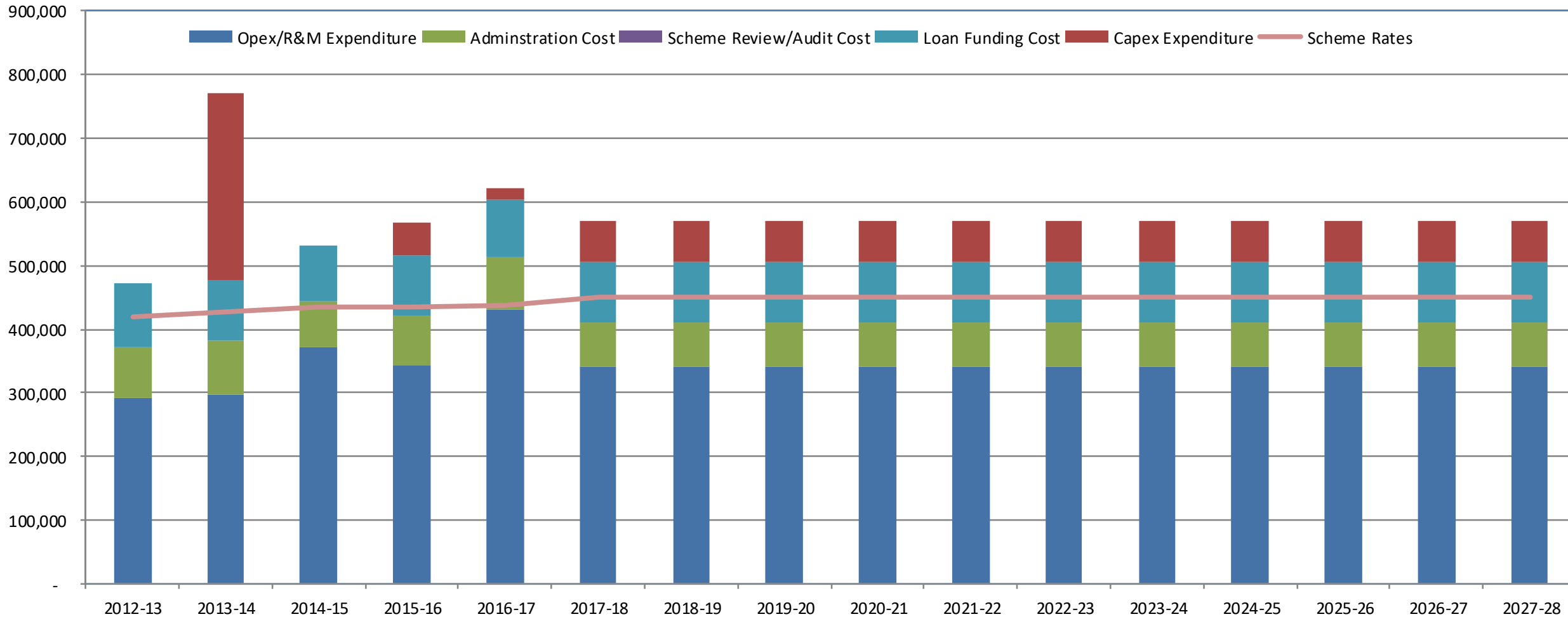
Operating Expenditure



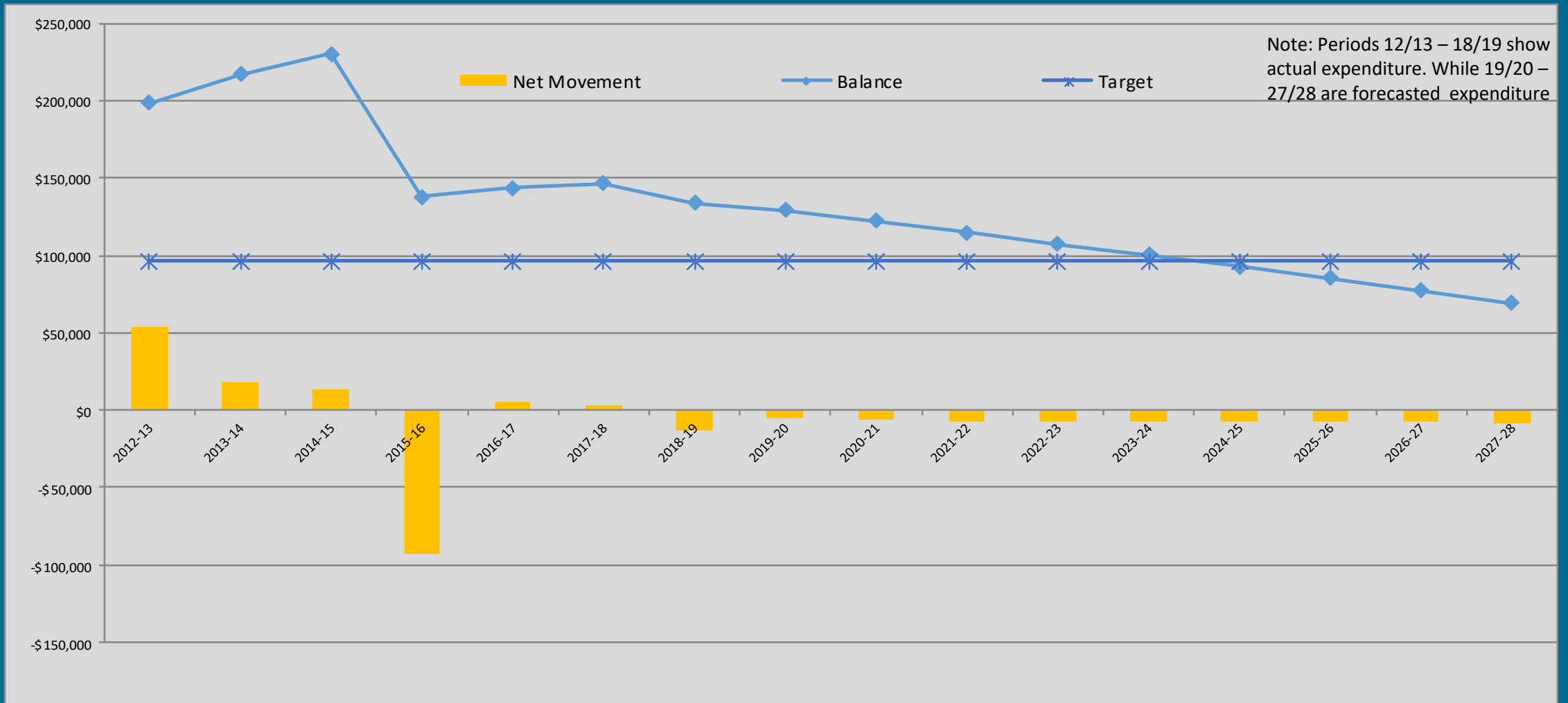
Income



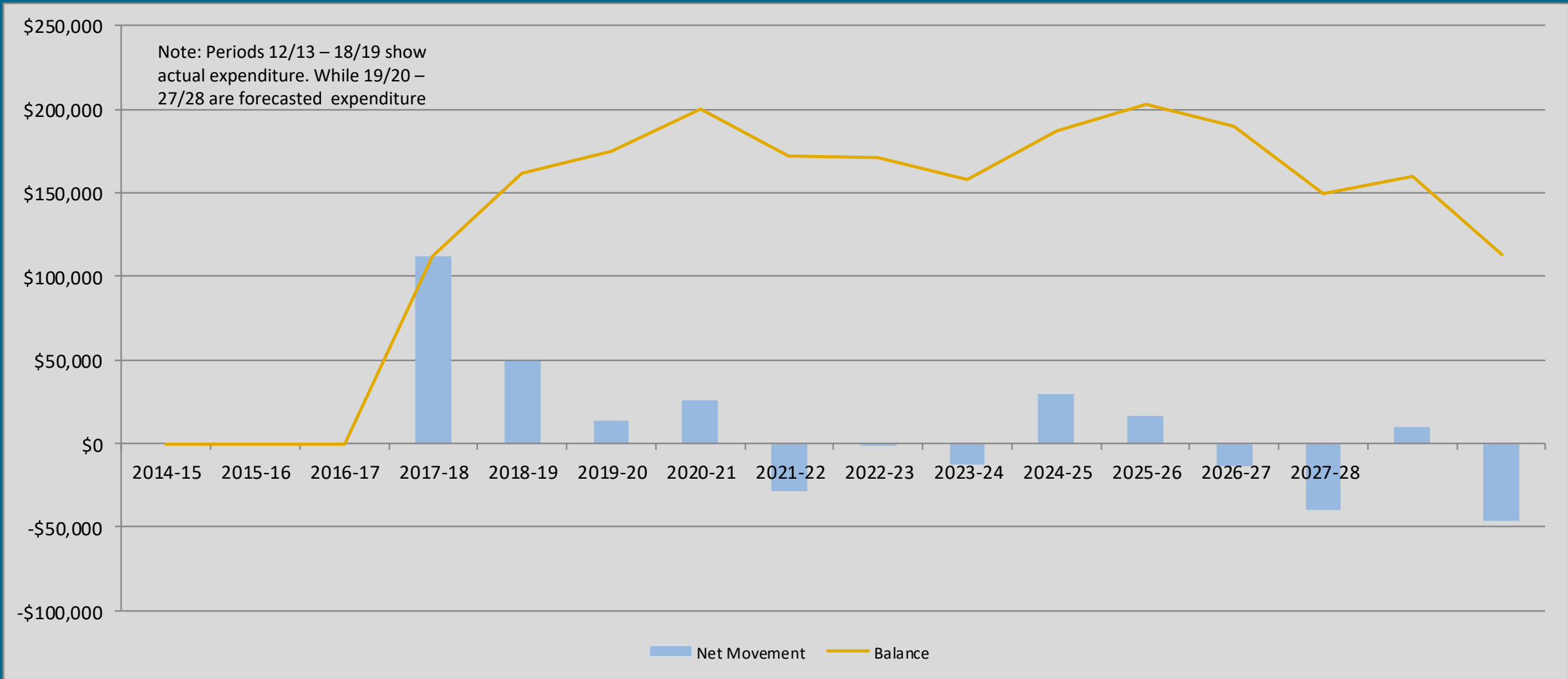
Makerua Drainage Scheme



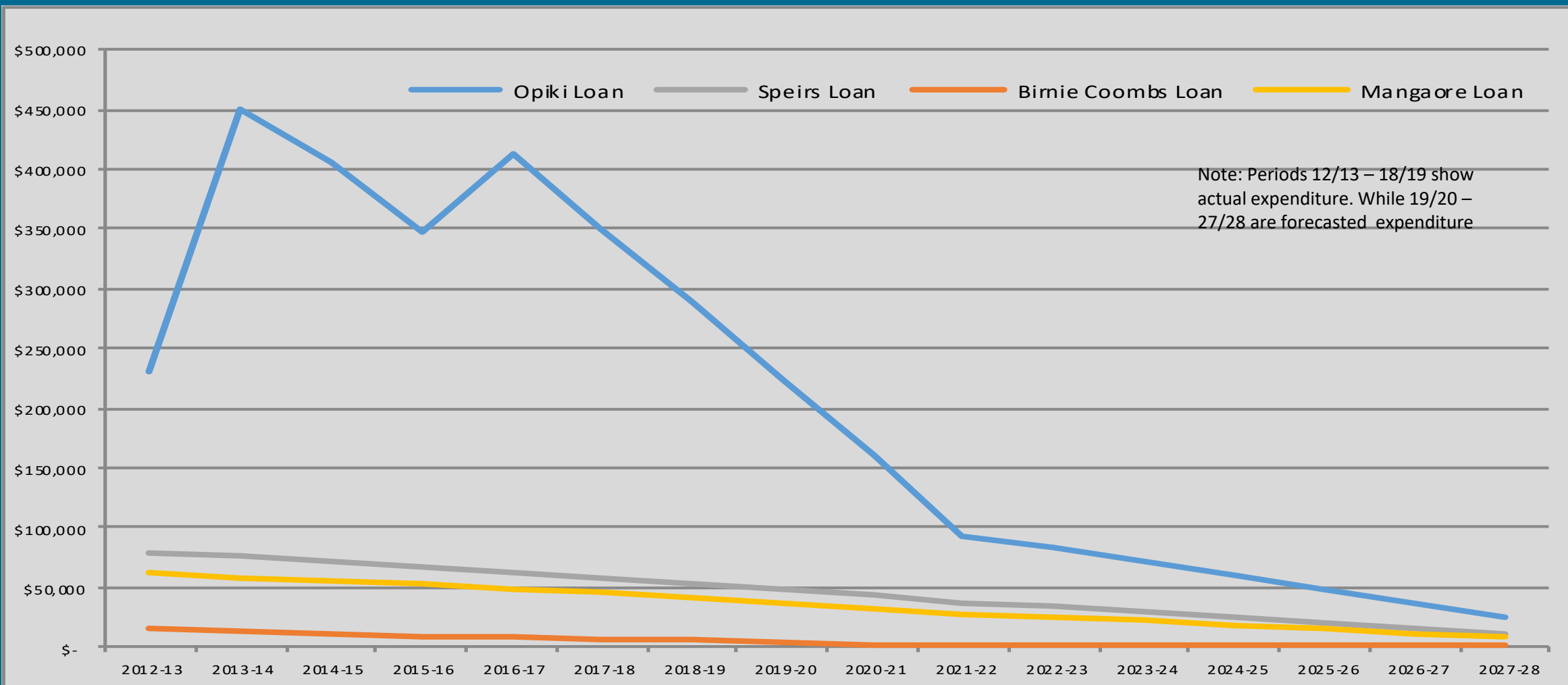
Emergency Reserve Balance



Renewal Reserve Balance



Loan Account Balances



Loan	Closing Balance 2019-20	Closing Balance 2020-21
Opiki Loan	\$ 224,563	\$ 159,449
Speirs Loan	\$ 47,685	\$ 42,522
Birnie Coombs Loan	\$ 3,434	\$ 1,740
Mangaore Loan	\$ 36,274	\$ 32,150

Issues Arising from the 2019 Catchment Community Meeting

Issues	Action Required	Who	Comment
Drain Spraying	<ul style="list-style-type: none"> • Drain spraying- needs to be a priority scheme for spraying – to many being sprayed to late in the season • Check to see when Boundary and Akers drains were sprayed 	John	Staff have taken this on board and working with the contractors to ensure this happens
Drain Access	Drain access issues need to be investigate so land owners know the rules – newsletter to be sent out	John	It is intended to send out an information sheet to all landowners which will provided information regarding the scheme and the scheme’s expectations around access to scheme drains.
HRC powers in regards to drain maintenance	Investigate what powers HRC have to undertake the work on a individuals property	Ramon	

The End