



**2020-2021 Annual Plan Consultation**  
**River Management Activity Group**  
**OHAU-MANAKAU RIVER SCHEME**

# Ohau-Manakau River Scheme



## Scheme Facts

- Scheme Assets.
  - 24 floodgated structures
  - 12.7km of stopbanks
  - 51,000 tons bank armouring
  - 11km tied trees
  - 19ha plantings
  - 47km drainage channels
- Total Asset Value: \$13,281,452.
- Scheme Area 28,700ha.
- Two main catchment Ohau and Manakau-Waikawa.
- Predominantly servicing dairy and horticultural land.

# OHAU-MANAKAU RIVER SCHEME

## Strategic Direction

The focus of the Scheme over the next 3 years is to continue to maintain existing infrastructure and to undertake and review of the scheme in light of the projected growth and changing land use within the catchment.

## Aim

To maintain a level of service that meets the expectation of the local community for both flood protection, drainage and recreational use.

## Scheme Level of Service

To ensure assets are managed in a consistent, efficient and sustainable manner.

To maintain river alignment in order to minimize river bank erosion.

To contain flood flows not exceeding 10% AEP within stopbanks to protect the lower sections of the Ohau River.

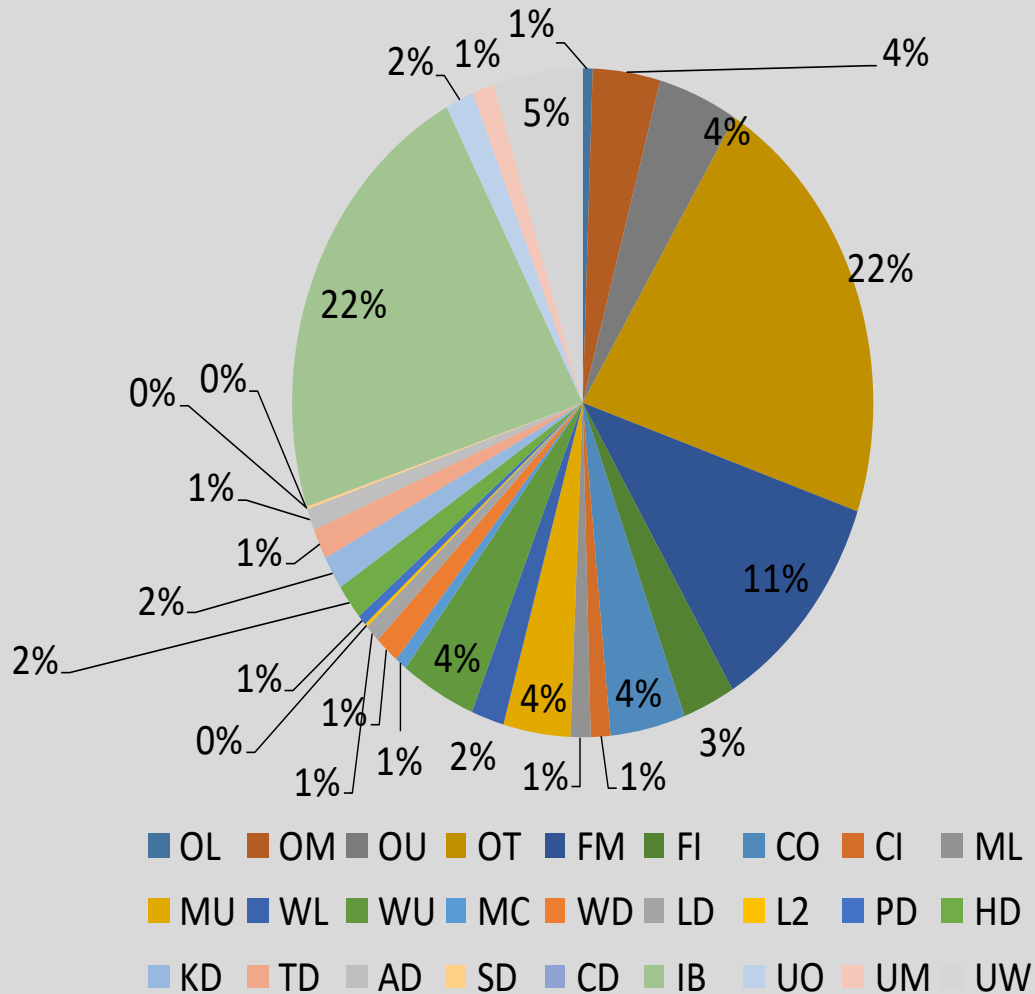
To maintain drainage capacity that facilitates maintenance of the groundwater levels.

# Scheme Funding

## Funding Policy

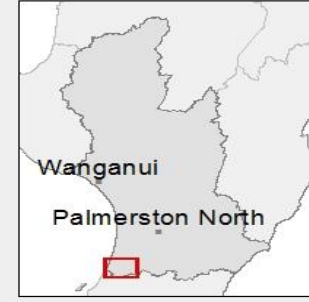
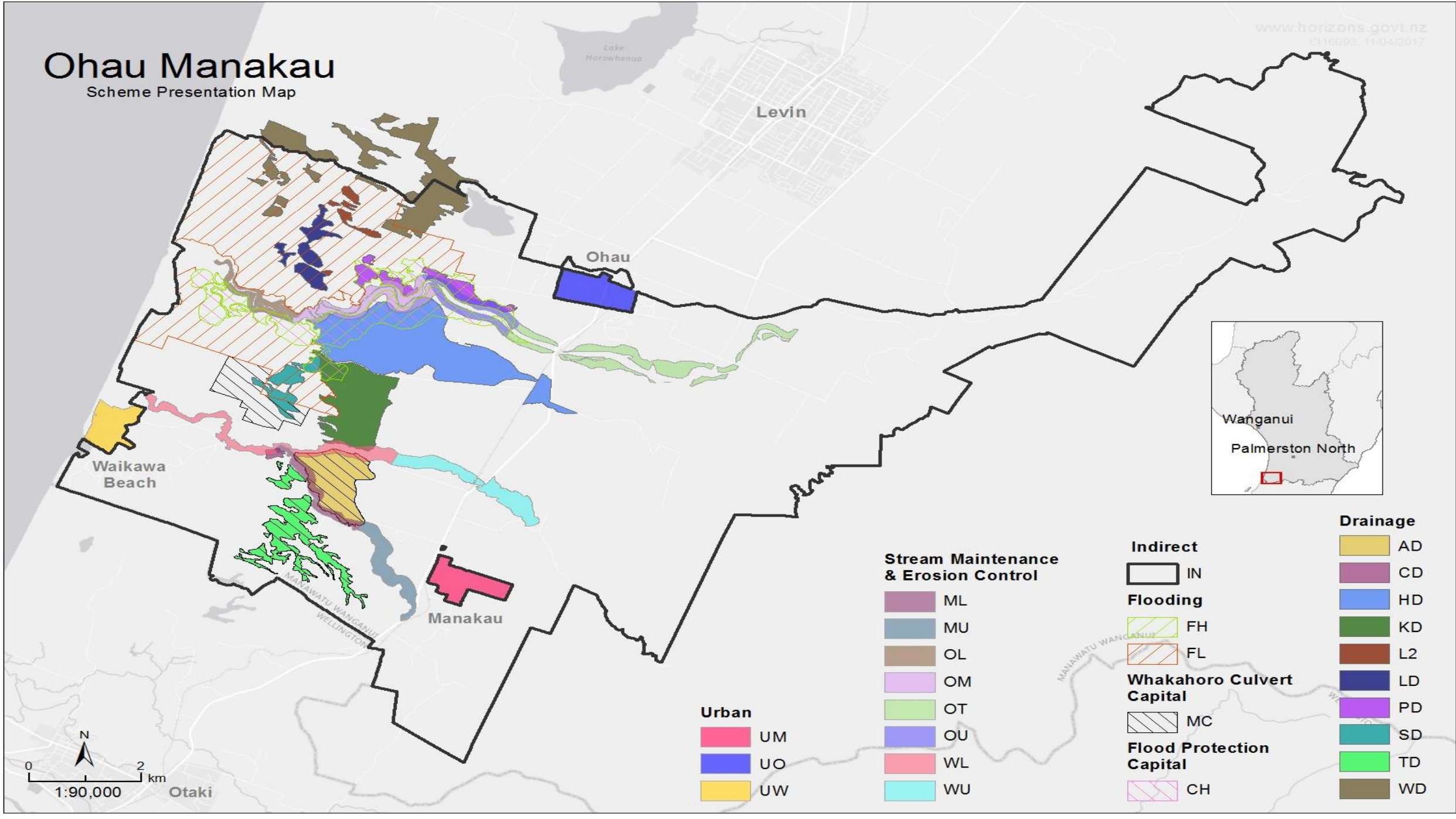
The Schemes funding comes from three revenue sources:

- 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



# Ohau Manakau

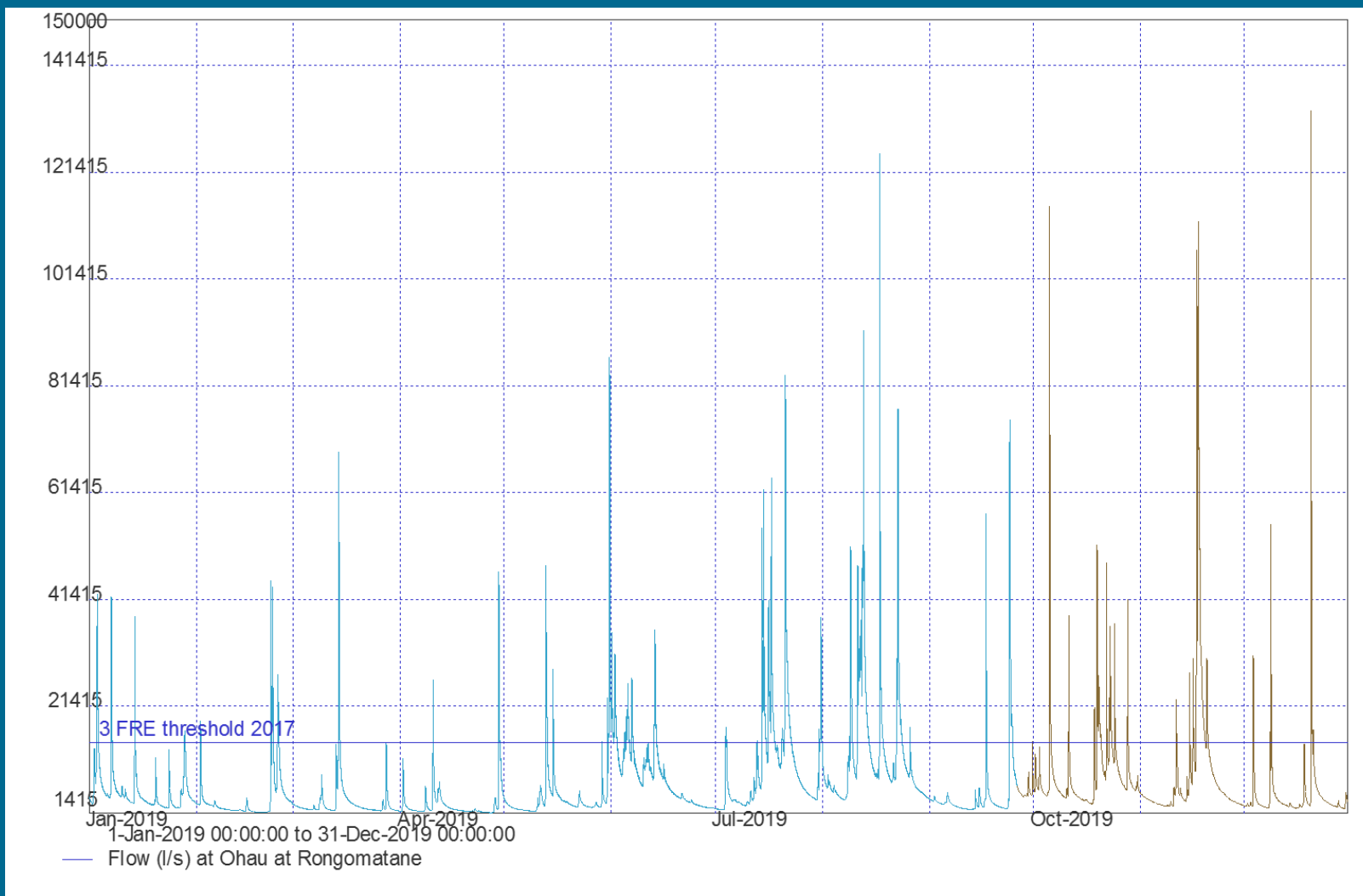
Scheme Presentation Map



- |              |    |   |    |                                  |    |                 |    |
|--------------|----|---|----|----------------------------------|----|-----------------|----|
| <b>Urban</b> |    | <b>Stream Maintenance &amp; Erosion Control</b> |    | <b>Indirect</b>                  |    | <b>Drainage</b> |    |
| UM           | UO | ML  | MU | IN                               | AD | CD              | HD |
| UW           | WU | OL  | OT | FH                               | LD | KD              | L2 |
|              |    | OM  | OU | FL                               | MC | PD              | SD |
|              |    | WL  |    | <b>Whakahoro Culvert Capital</b> | CH | TD              | WD |
|              |    | WU  |    | <b>Flood Protection Capital</b>  |    |                 |    |



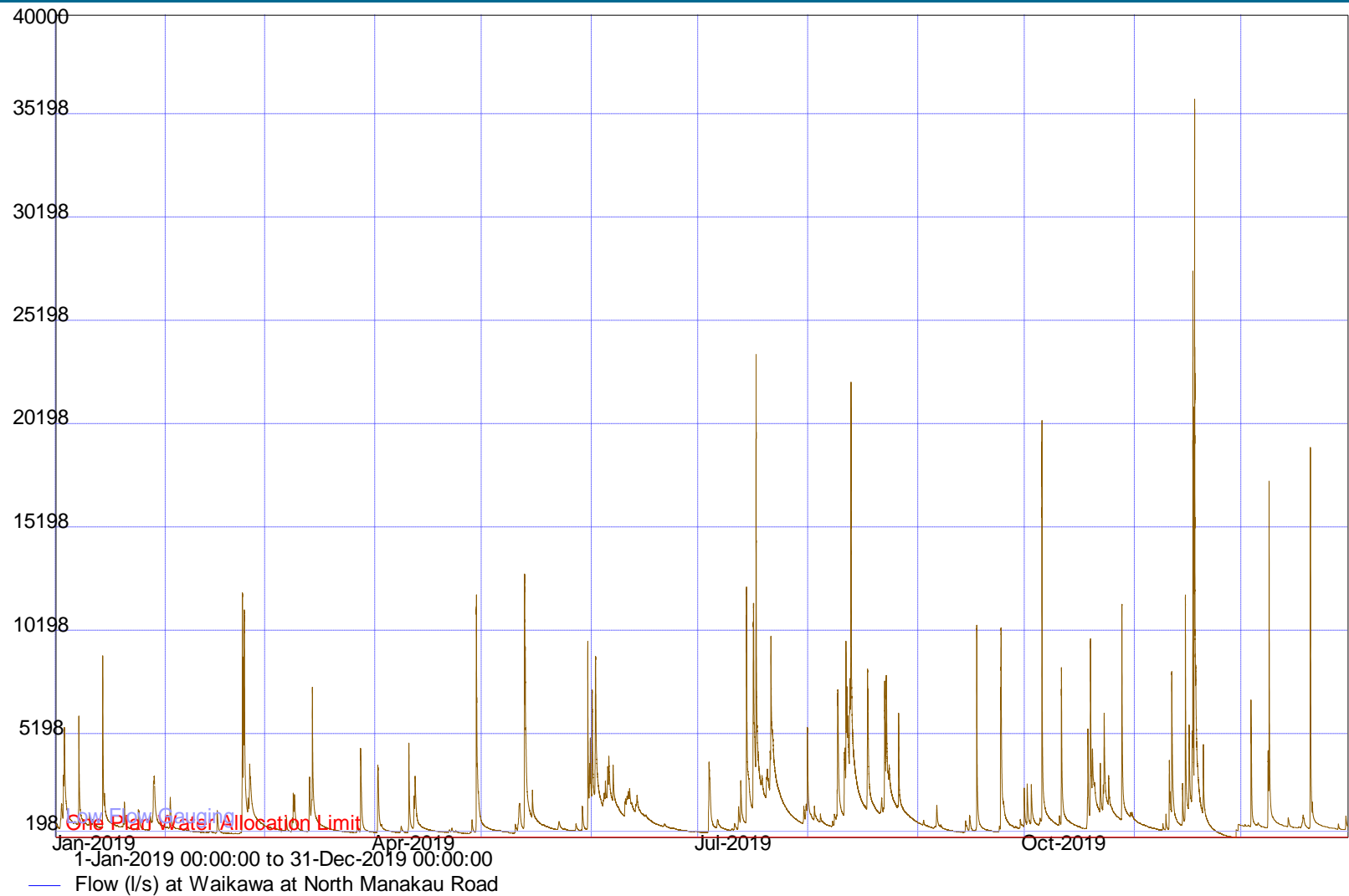
Annual maximum stage for the past decade



Year	Stage (m)	Flow (m <sup>3</sup> /s)	Date
2008	4.504	379	2008-01-08
2009	2.749	258	2009-12-27
2010	3.019	308	2010-09-06
2011	2.161	172.460	2011-11-09
2012	1.907	132.628	2012-03-01
2013	1.919	135.745	2013-09-11
2014	2.312	196.336	2014-12-10
2015	2.968	305.376	2015-06-19
2016	2.063	156.572	2016-11-11
2017	2.727	263.812	2017-02-02
2018	1.857	126.029	2018-08-07
2019	1.905	132.986	2019-12-20

Return Period	Flood Flow
2 year	50% AEP
5 year	20% AEP
20 year	5% AEP
50 year	2% AEP
100 year	1% AEP

Ohau River

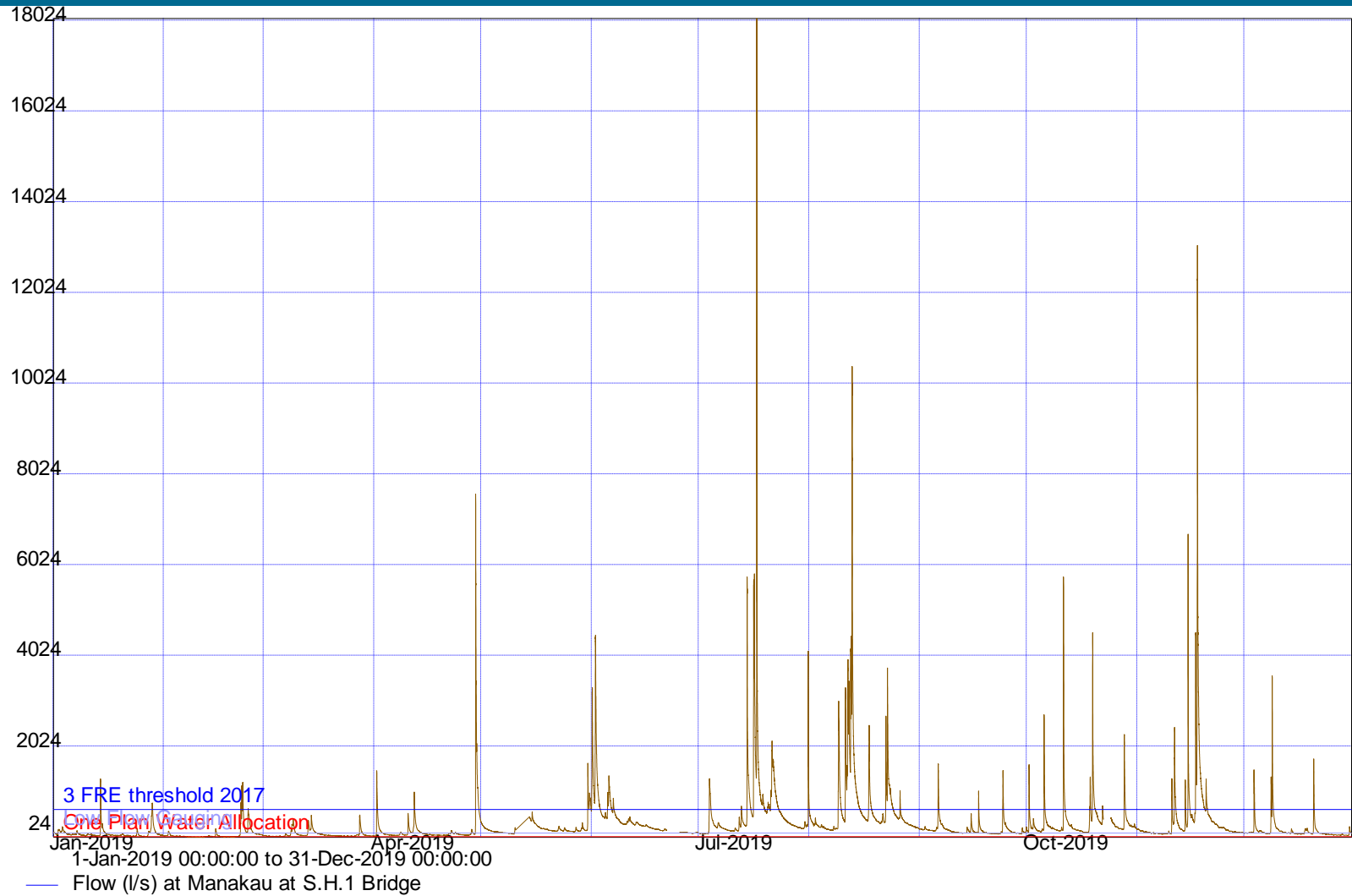


Annual maximum stage for the past decade

Year	Stage (m)	Flow (m <sup>3</sup> /s)	Date
2008	2.633	103.695	2008-01-08
2009	1.955	52.777	2009-12-27
2010	1.753	40.939	2010-09-06
2011	1.583	37.607	2011-10-26
2012	1.489	32.008	2012-12-30
2013	1.518	33.669	2013-09-11
2014	1.669	39.662	2014-12-10
2015	2.600	125.314	2015-06-19
2016	1.452	22.927	2016-02-19
2017	1.729	41.014	2017-02-03
2018	1.348	39.541	2018-02-12
2019	1.312	35.938	2019-11-17

## Waikawa Stream





*Annual maximum stage for the past decade*

Year	Stage (m)	Flow (m <sup>3</sup> /s)	Date
2008	2.873	58.355	2008-01-08
2009	2.450	30.669	2009-12-29
2010	2.085	15.058	2010-09-30
2011	2.173	18.133	2011-05-26
2012	1.876	9.223	2012-07-16
2013	1.850	8.646	2013-09-21
2014	2.455	31.734	2014-12-10
2015	2.999	69.458	2015-06-19
2016	2.004	15.395	2016-06-12
2017	2.347	27.198	2017-09-09
2018	2.531	35.454	2018-02-22
2019	1.927	18.079	2019-07-17

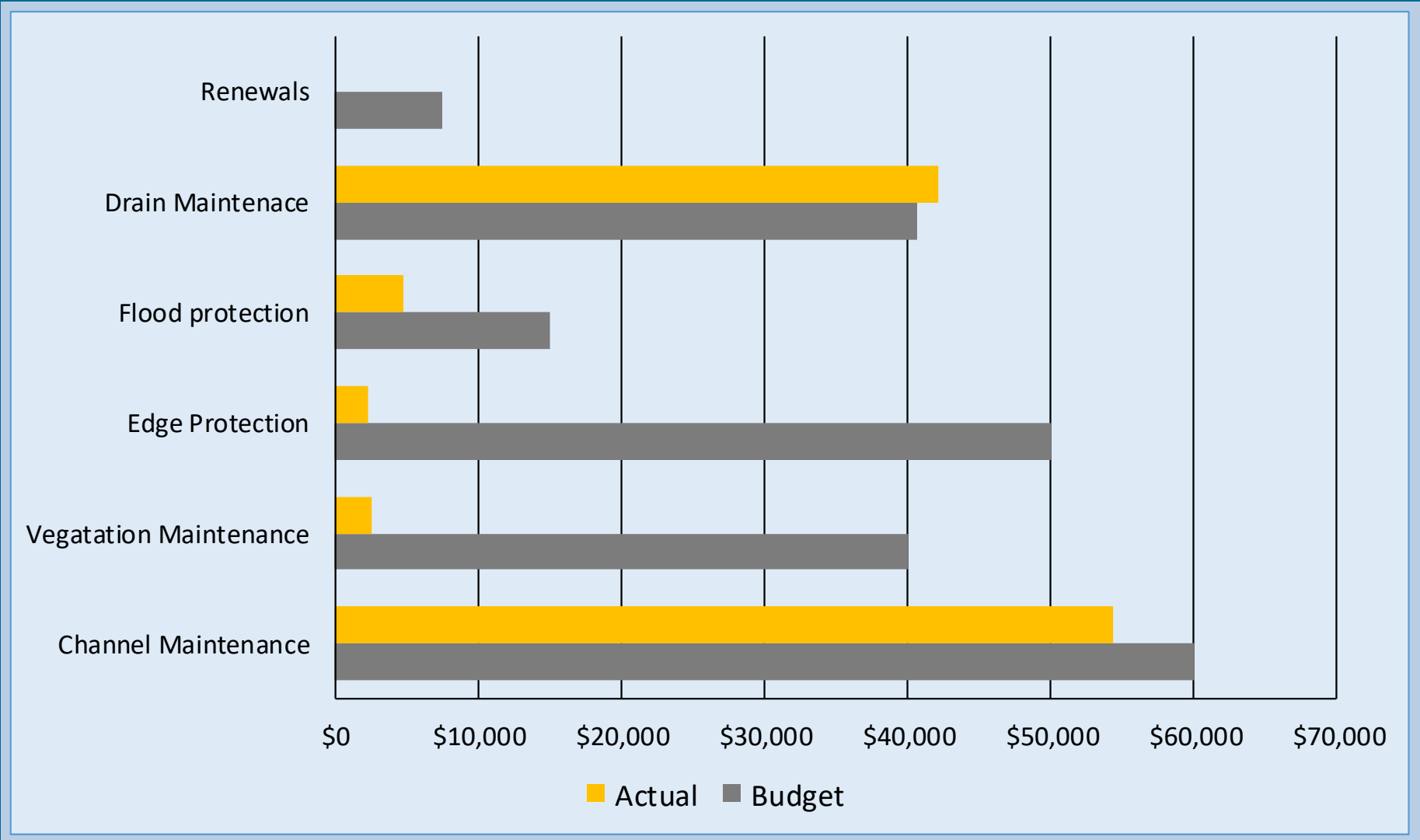
Manakau stream



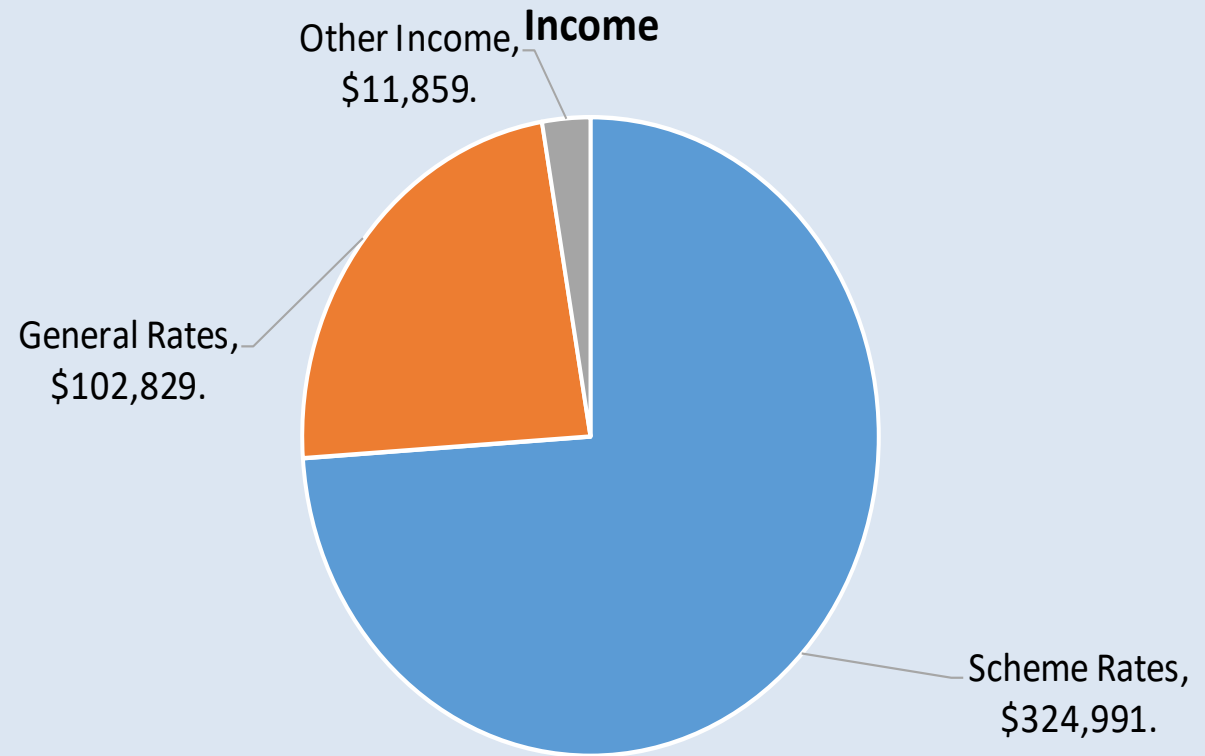
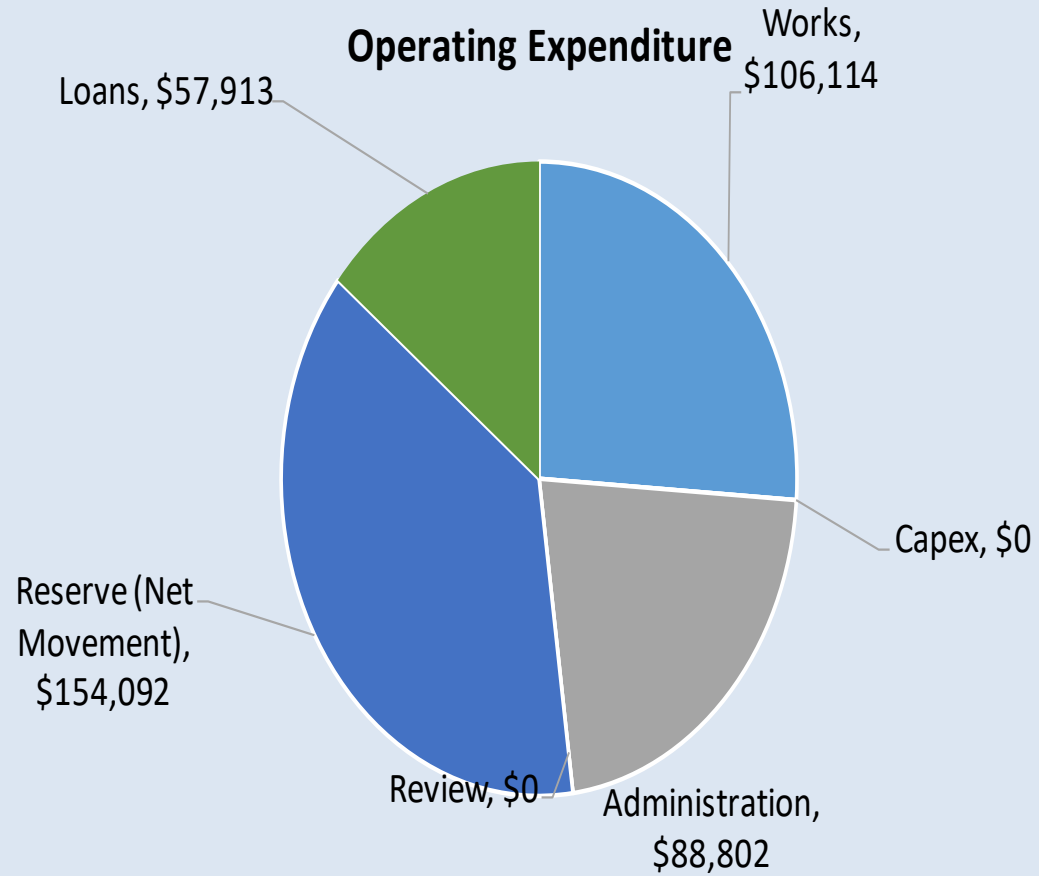
# Key Activities and Issues: 2019-20

- **Scheme Expenditure**
  - Expenditure is on track to finish year under budget
- **Works Activity**
  - Flood Damage
  - Channel Maintenance
- **Issues**
  - Kuku Stream Flooding at the State Highway
  - Environmental interest around Waiwiri Stream
  - Changing land use in upper catchments
  - Gravel extraction on the Ohau River
  - Waikawa Beach Investigation

# Works Budget vs Actual: 2019-20



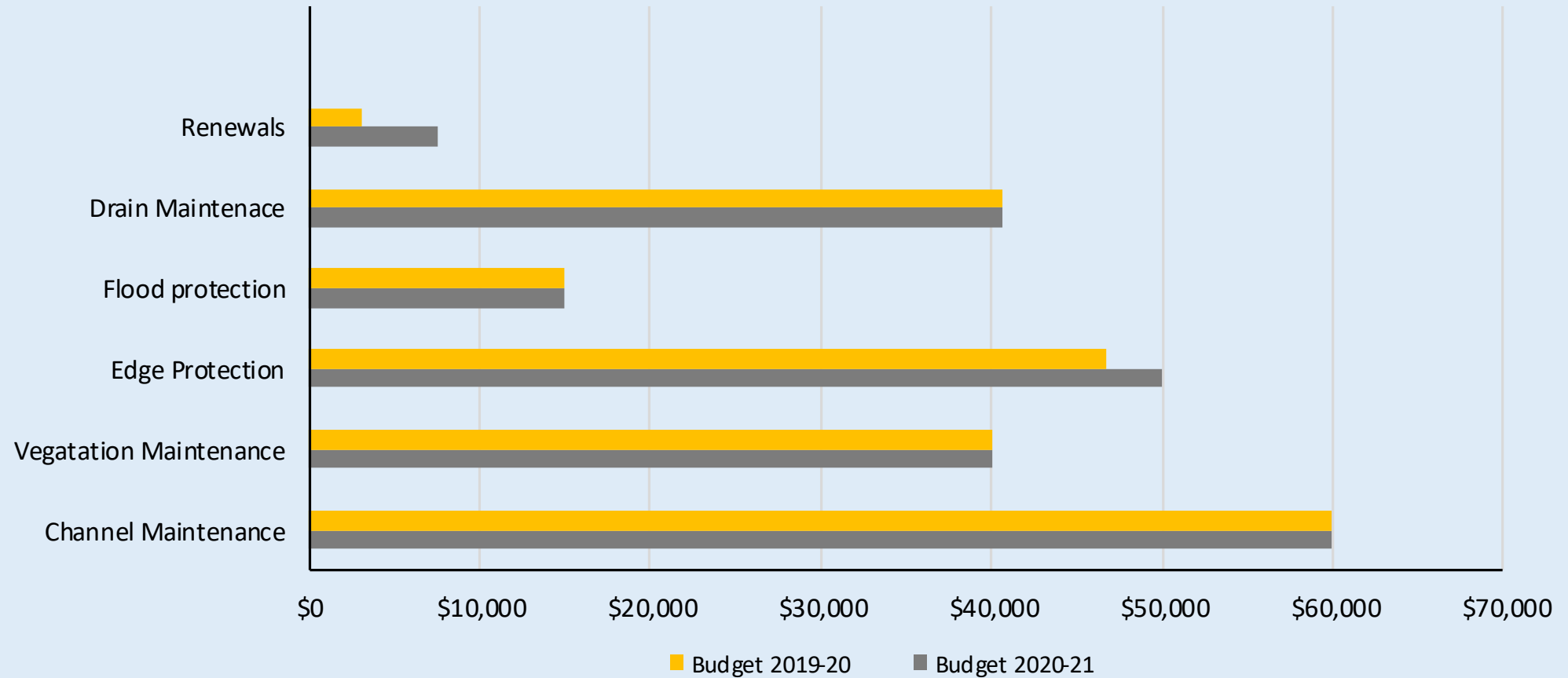
# Income and Expenditure: 2019-20



# Key Activities and Issues: 2020-21

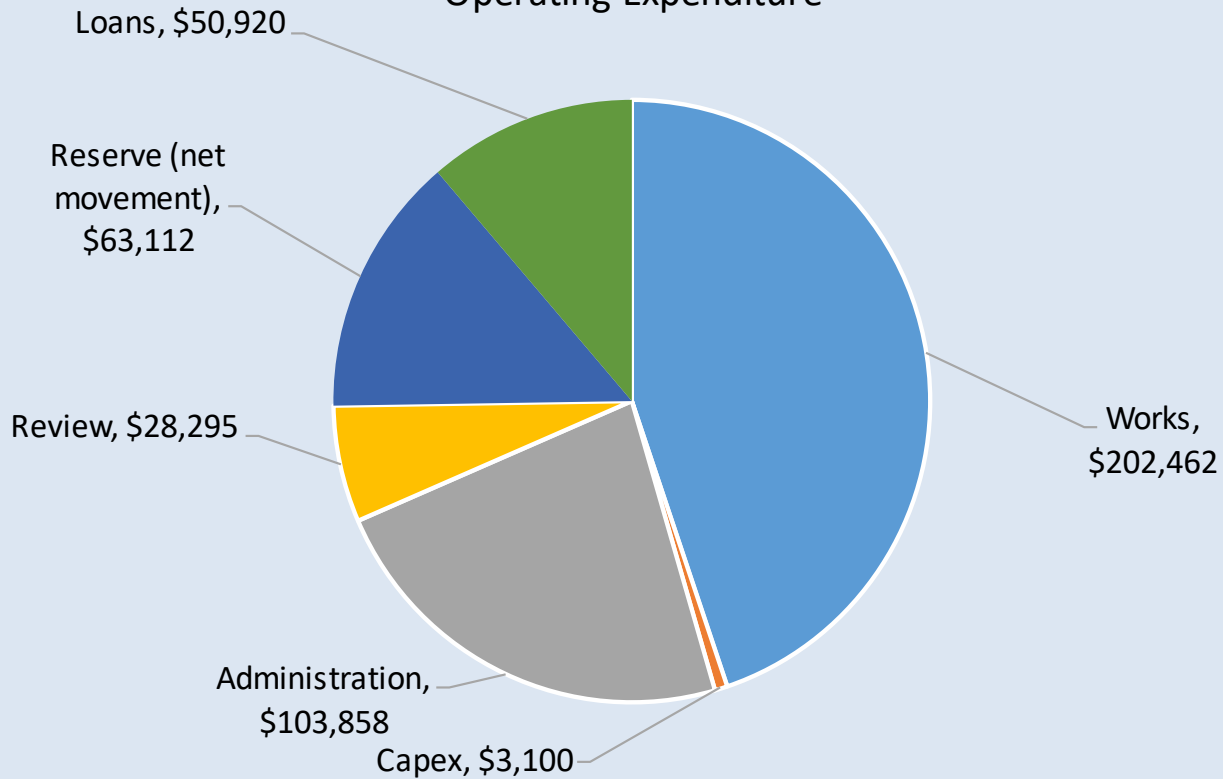
- **Scheme Budget**
  - \$3,222 reduction in works expenditure
  - \$45,000 contribution to the Emergency Reserve Fund
  - Scheme Rate increase of 2% (\$5,769)
- **Works Activity**
  - Increasing demand for drain maintenance.
  - Increased focus on channel and vegetation maintenance.
- **Scheme Review**
  - Comprehensive review programmed for this year with the option to review the classification in 2020-21 if required.

# Works Budget 2019-20 vs 2020-21

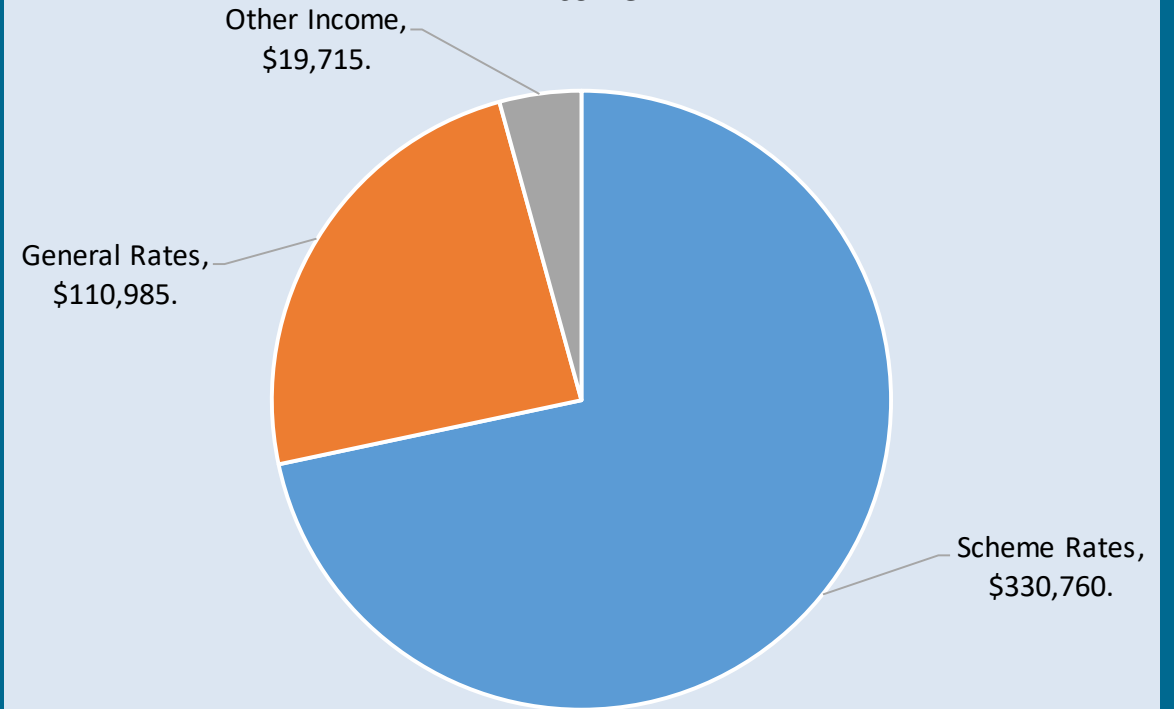


# Income and Expenditure 2020-21

## Operating Expenditure

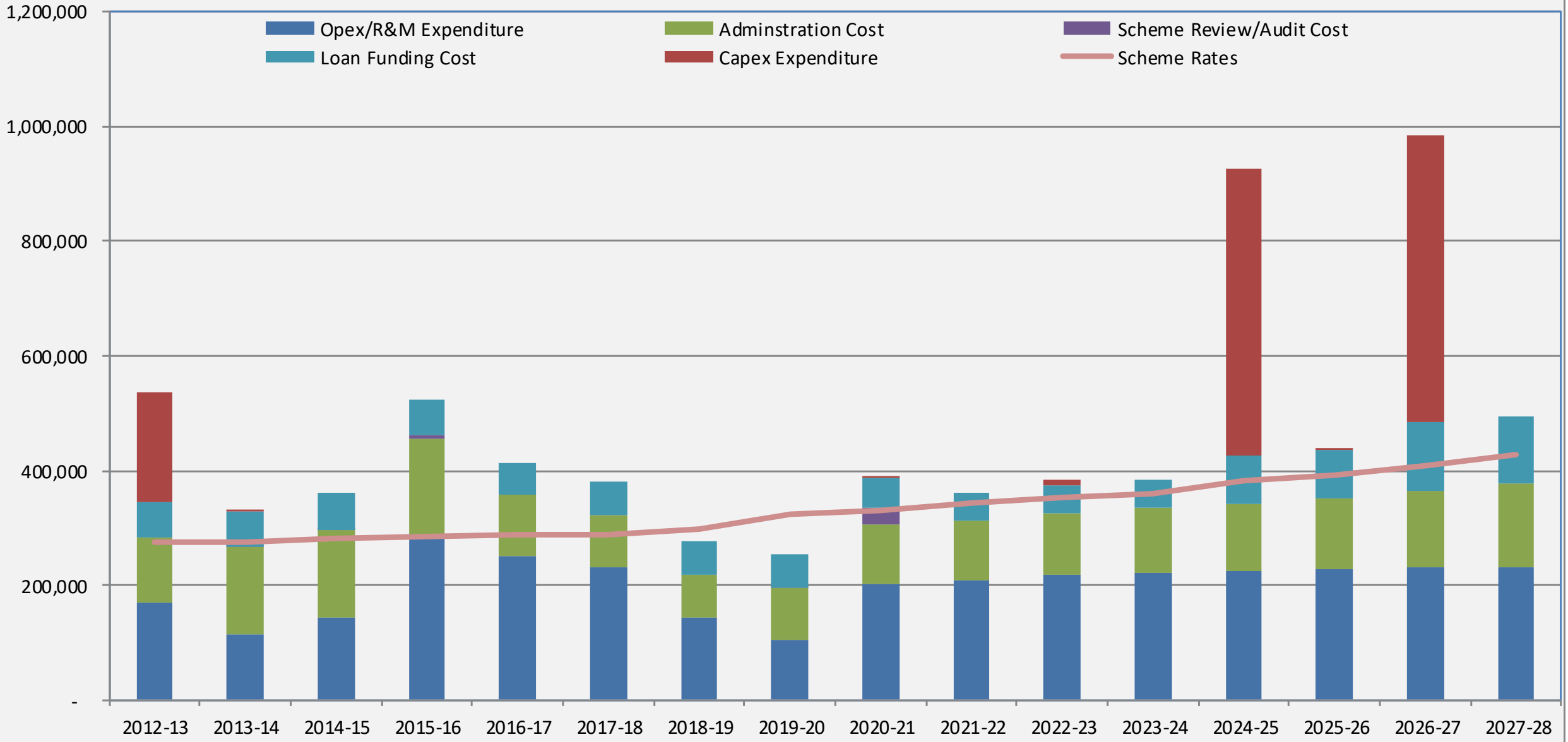


## Income

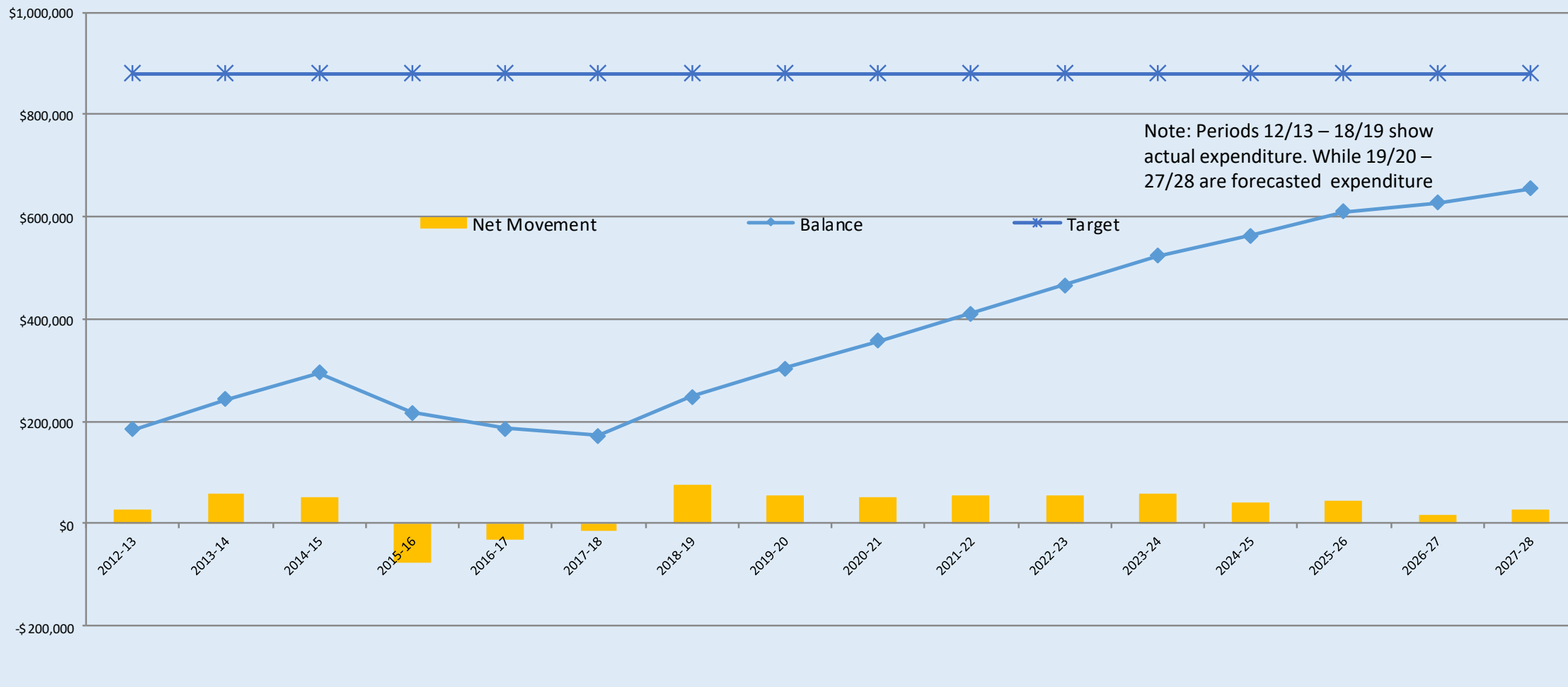


# Ohau Manakau River Scheme

Note: Periods 12/13 – 18/19 show actual expenditure. While 19/20 – 27/28 are forecasted expenditure

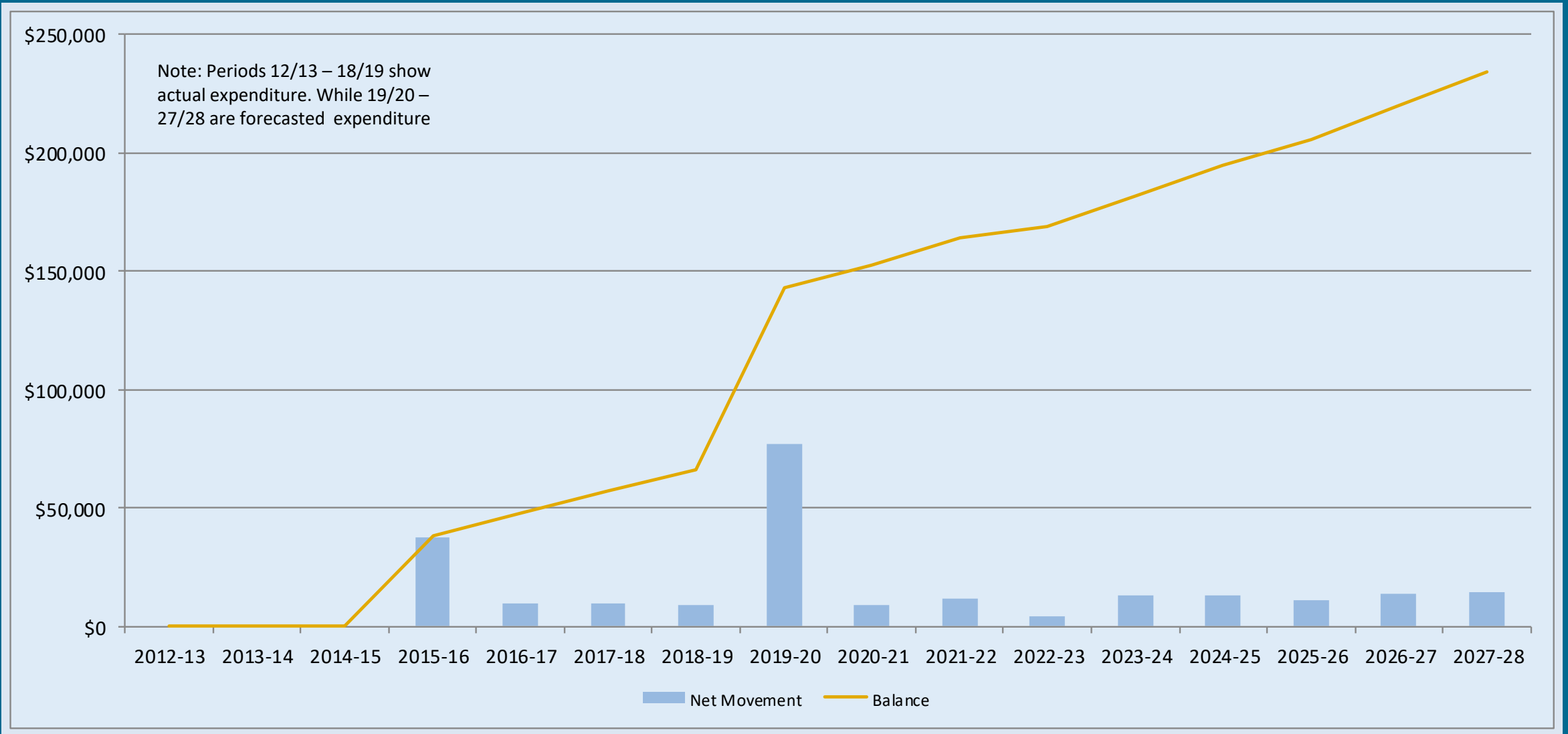


# Emergency Reserve Balance

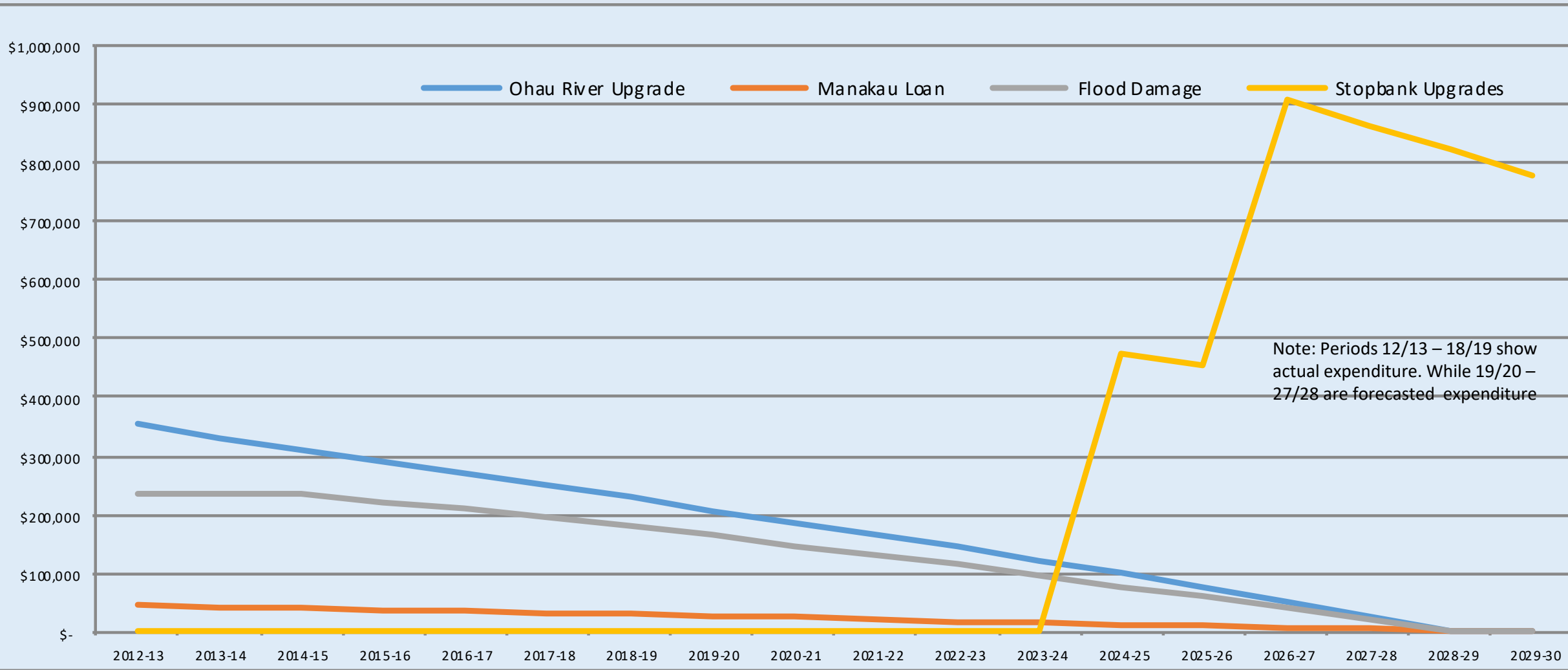




# Renewal Reserve Balance



# Loan Account Balances



Loan	Closing Balance 2019-20	Closing Balance 2020-21
Ohau Upgrade	\$206,857	\$186,043
Manakau Culvert	\$25,991	\$23,376
Flood Damage Repairs	\$163,575	\$147,116

# Issue Arising From 2019 Catchment Community Meeting

Issues	Action Required	Who	Comment
Documentation to be provided	<ul style="list-style-type: none"> <li>Requested a copy of the map of the horizons area that is in the presentation.</li> <li>Also requested a list of what the letters meant for each of the rating categories.</li> <li>Provide copy of x-sectional data from Burnell's Catley Bends</li> </ul>	Paul	
Meeting times and style	Would prefer public meeting over drop in session. Timing of meeting not good for farmers as it interferes with milking time	John	
Kimberley Reserve	Kimberley Reserve should be included in the scheme and concerned about the loss of land and native trees that is occurring in the reserve	Paul	

The End