Te Aroturukitanga o te Mahere ā-Wae
ki Tāmaki Makaurau

Auckland Unitary Plan Section 35 Monitoring

B7.3 Freshwater systems and
B7.4 Coastal water, freshwater and geothermal water

Summary Report
October 2022

Contents

Overview

Protecting our streams, rivers, lakes, aquifers and harbours is a top priority for Aucklanders, and a key requirement for mana whenua. Waterways provide spaces for recreation and amenity, connection to the natural environment, drinking water, regulate runoff during storms, receive and filter contaminants, and are home to a diverse range of ecosystems.

Auckland has many different freshwater and coastal environments (Figure 1). Collectively, they are showing the stress of decades of pressure from urban and rural activities (Figure 2).

The Auckland Unitary Plan (AUP) manages the impacts of activities on water through a wide range of controls relating to water takes, discharges, works in waterways, and restrictions on how and where development occurs.

All of these controls work together to achieve the outcomes set out in the AUP Regional Policy Statement (RPS) in Chapter B7.3 Freshwater systems and Chapter B7.4 Coastal water, freshwater and geothermal water:

1. Water quality is maintained where it is excellent or good, and improved where it is degraded
2. Water is allocated and used efficiently
3. Loss of streams and wetlands is minimised
4. Discharges are managed to minimise adverse effects
5. Adverse effects of land use change on water are avoided, remedied or mitigated.

This summary report presents the key findings from the monitoring technical report that examines whether the AUP is being effective and efficient in achieving each of the B7.3 and B7.4 outcomes.

The report is divided up into 10 topics which cover these outcomes.

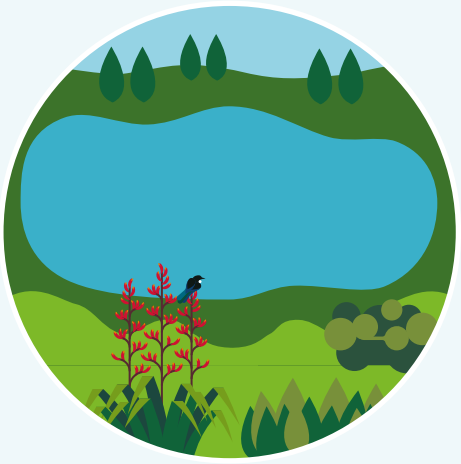
The main information sources for the assessment were the council's environmental monitoring and modelling programmes; assessment of resource consents; and discussion and workshops with council staff who implement the AUP water provisions. The resource consent information generally relates to consents granted between December 2016 and March 2021.

This report will contribute to Auckland Council's work in implementing the National Policy Statement for Freshwater Management 2020 (NPS-FM) which requires that a plan change be notified by December 2024. The report is also important for achieving the Auckland Water Strategy (2022) vision: 'Te mauri o te wai, the life-sustaining capacity of Auckland's water, is protected and enhanced'.

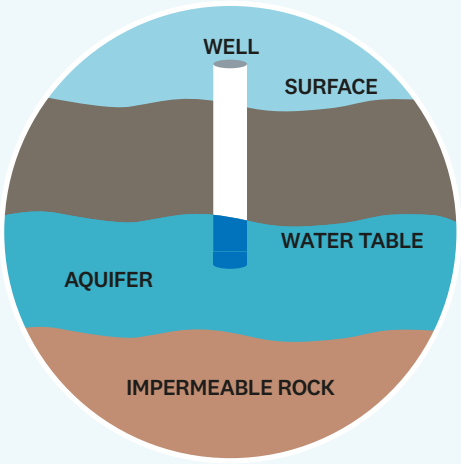
11,117km²
of ocean

3200km
of coastline

16,500km
of permanently flowing rivers



72
natural and artificial lakes



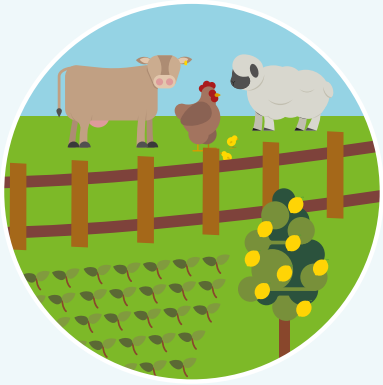
multiple aquifers

Figure 1 Quantifying Auckland's water resources.[1]

1 From the Water Strategy discussion document Our Water Future (Auckland Council 2019, page 4)
2 From the Water Strategy discussion document Our Water Future (Auckland Council 2019, page 20)

Causes of degradation of our waterways

Rural activity



Livestock
Fertiliser
Forest harvesting

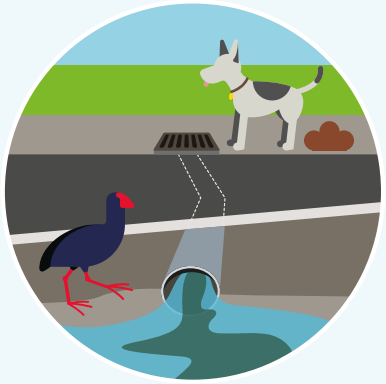
Development

Earthworks
Paved surfaces
Stream modification

Transport

Brake linings
Tyre abrasion
Road runoff

Faecal contamination



Animals
Birds
Wastewater leaks

Littering and spills

Litter
Chemical spills
Illegal drainage

Key impacts

Sediment | Nutrients | Contaminants | Heavy metals | Pathogens | Erosion

Figure 2 Ecosystem stressors impacting Auckland's waterways.[2]

1. Water quality

What does this topic cover?

Water quality is fundamental to a range of uses and values, to ecosystem functions and to the life-supporting capacity of freshwater systems and coastal waters.

The AUP seeks that water quality is maintained where it is excellent or good, and progressively improved over time where it is degraded. Many parts of the AUP must work together to achieve this, meaning this topic reflects the outcome of the whole plan rather than provisions relating to particular discharges or land uses.

It is important to understand the environmental issues that the AUP water provisions aim to address when assessing the effectiveness of the activity-based provisions.

The water quality topic looks at three questions:

1. Where is Auckland's water degraded?
2. Is it getting better?
3. How does that relate to the AUP?

Findings

There is evidence of water quality degradation across Auckland's coastal water, rivers, lakes and groundwater.

Coast

- Nutrients and sedimentation are elevated in the upper parts of estuaries. This is affecting ecological values (Figure 3).
- There are some heavy metals hotspots in inlets by urban catchments.
- Some beaches are not swimmable at times (but there have been general improvements in the percentage of time that monitored beaches were swimmable).
- Litter and microplastics are widespread.

Rivers

- All streams (other than in native forest) are degraded in at least one attribute for ecosystem and or human health.
- There are widespread issues with *E. coli*[3], some nutrients and fine sediment.
- Some south Auckland rural streams are at risk of nitrate toxicity.
- Many urban streams are at risk of ammonia toxicity.
- Some urban streams are contaminated with zinc and copper.

3 *Escherichia coli (E. coli)* is a type of bacteria commonly found in the intestines of warm-blooded animals, including people. *E. coli* in freshwater can indicate the presence of pathogens (disease-causing organisms) from animal or human faeces.

Findings continued...

Lakes

- The water quality status is unclear due to limited historic monitoring
- There are indications of concern relating to clarity and elevated nutrients

Groundwater

- Rural Franklin aquifers have elevated nitrates
- The Three Kings volcanic aquifer has elevated nitrates, zinc and *E. coli*

In general, areas that are excellent and good are being maintained, and degraded areas are improving. There are localised areas where the state is getting worse.

Where there is improvement, it is very slow, and it will take a long time to change a degraded area to a 'good' state.

Many of the issues with water quality, and related ecosystem health, reflect the history of land use change and contaminant inputs, and cannot be directly attributed to particular actions under the AUP in the last five years. Factors that affect water quality include consents granted before the AUP was operative, climate change, and national regulations.

The findings demonstrate the need for comprehensive and extensive action, including in ensuring that each relevant part of the AUP is effective in protecting and enhancing water quality.

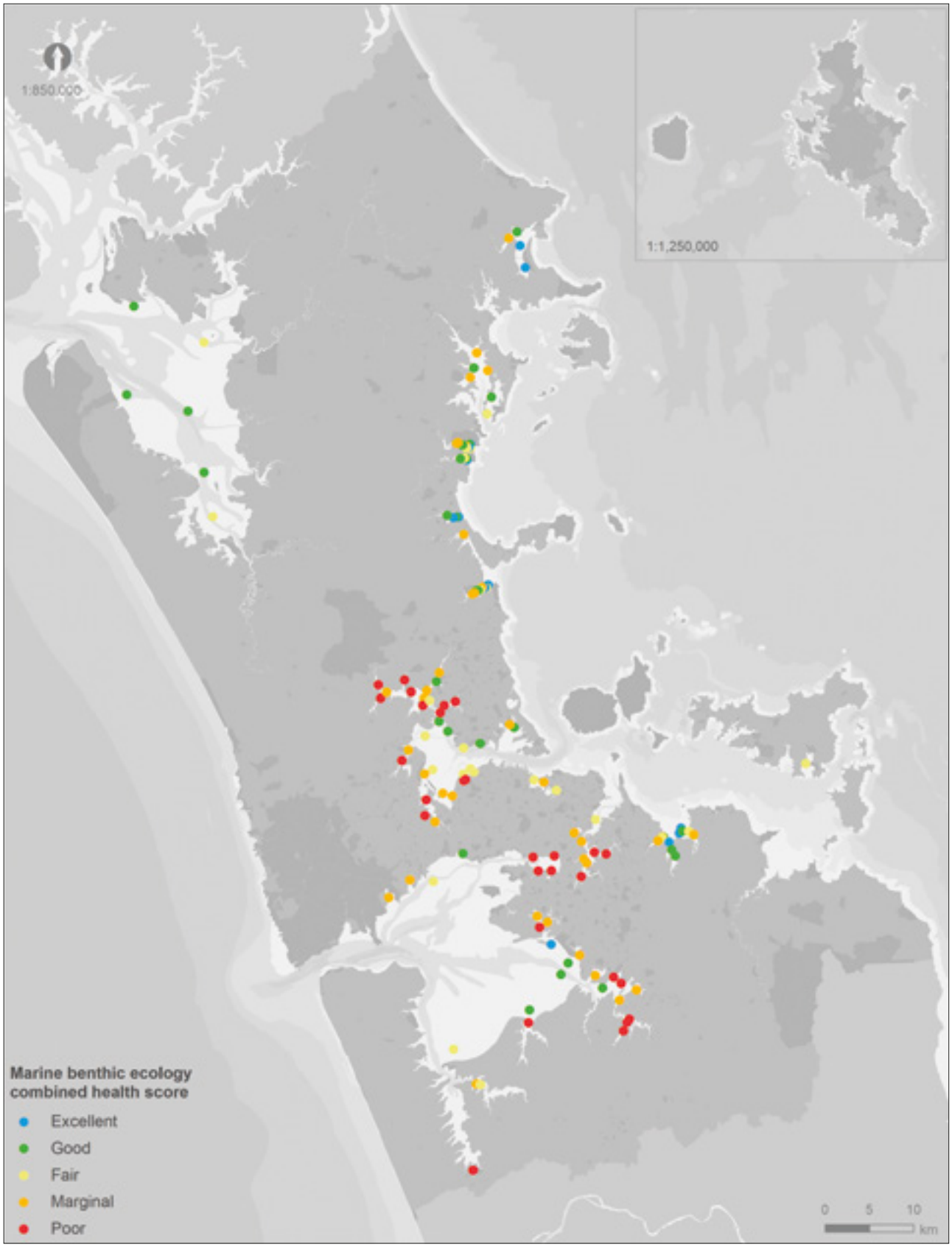


Figure 3 An example of a coastal monitoring indicator showing that environmental health is generally worse in sheltered inlets near urban areas.[4]

4 Auckland Council (2021) The health of Tāmaki Makaurau / Auckland's natural environment in 2020 – A synthesis of Auckland Council's state of the environment reporting, page 34. Report available at the Knowledge Auckland website.
'Benthic' relates to the bottom of a waterbody and to the organisms that live there, for example the shellfish living in and on the seabed.

2. Water allocation

What does this topic cover?

Across Auckland, water is taken from streams, rivers and aquifers and used for a broad range of purposes. The intent of the AUP is that water is made available to be allocated to Aucklanders to provide for social, economic and cultural purposes within limits that protect values and ensure that the future needs of Aucklanders are met.

To measure the efficiency and effectiveness of the plan in meeting this objective, a number of indicators were developed that related to setting limits to protect values, allocating water efficiently and within the established limits, promoting efficient water use, and protecting the values identified in the relevant AUP overlays.

Findings

- 10 per cent of the region's aquifers are overallocated (that is, more water has been allocated than is deemed available). Conclusions could not be established for allocation of surface water bodies.
- While the AUP provides little direction about what is meant by 'efficient allocation', decision makers are drawing on a wide range of resources to ensure that the water allocated through the consent process is reasonable and justified.
- The efficient use of water is being promoted through the consenting process, with requirements for efficiency reporting and water metering and reporting. However, water metering and reporting compliance dropped from 86 per cent in 2013 to 25 per cent in 2022, meaning there is an opportunity to better promote efficient use and better utilise water use data to support robust decision making.
- The AUP utilises high-use stream and aquifer overlays, natural stream and natural wetland overlays to protect specific values of water bodies, but the effectiveness of these is varied. There is a need to undertake further work to ensure that water bodies with specific values are adequately protected.
- There is no formal or agreed region-wide approach to managing water takes in drought conditions. The operational management of water takes in times of low stream flow needs to be improved to ensure that the values of waterbodies are safeguarded.
- The current approach to data management is no longer fit for purpose and the management of water availability, water allocation and water use data must be improved. This will support the effective implementation of the AUP and ensure that statutory responsibilities are being met, water is sustainably managed, and that future generations of Aucklanders are provided for.
- There is a need for further guidance to support the implementation of the AUP across many aspects of water allocation and use.

3. Streams and wetlands

What does this topic cover?

Auckland's streams and wetlands are at risk of incremental loss and degradation from piping and infilling, in both rural and urban areas.

The AUP seeks to minimise the loss of streams and wetlands, and to minimise the adverse effects of activities in the beds of streams and in wetlands. The objectives and policies set out a range of criteria that must be met for resource consent to be granted. Where the adverse effects of reclamation or diversion cannot be fully avoided, remedied or mitigated, there is a requirement for the residual adverse effects to be offset by providing environmental benefits through other works.

The key questions examined by this topic were:

- How much stream or wetland has been lost under the AUP?
- Was the loss of extent and values minimised by addressing all the matters set out in the AUP?

Findings

- Under the AUP, 75 resource consents allowed for the reclamation of:
  - 10.5 km of permanent streams
  - 9.6 km of intermittent streams
  - 5.5 ha of wetland.
- This is a very small proportion of Auckland's freshwater systems (approximately 0.06 per cent of the region's permanent streams, 0.2 per cent of the intermittent streams and 0.09 per cent of the wetlands).
- There was considerable variation in the amount consented in any one year, with only a few consents accounting for much of the consented works (see Figure 4 and Figure 5).
- Much of the stream and wetland loss was for residential development in greenfield areas.
- It is difficult to comment on whether this was an appropriate extent of loss, noting that the AUP seeks for loss to be 'minimised' rather than 'avoided'.

Findings continued...

- Comparison with earlier data is difficult. In 2009 it was reported that over the previous nine years, an average of 8.9 km of permanent streams were subject to a resource consent for 'stream disturbance'. This study found an average of 3.4 km of permanent streams were reclaimed per year. A greater length was subject to 'stream disturbance' but that was not quantified for this work.
- Analysis of the consent decisions indicates there are decision making gaps in assessing relevant policy matters. It appears the AUP is not fully effective in limiting stream and wetland loss to instances where the specified criteria have been met.
- The consent decisions appeared to have had little consideration of the requirement to consider the 'availability of practicable alternatives' and to only allow reclamation where it was needed for specific activities. In some cases, the protection of streams and wetlands has been de-prioritised when considered alongside other AUP provisions. The most common way this was justified by the decision maker related to the need to give effect to residential zoning or precinct development expectations.
- Almost all (96 per cent) of the stream reclamation consents included conditions requiring offset works. The most common offset action is riparian planting but often the consent conditions do not ensure that the values of the planting will be maintained in the long term.
- While offset actions have been secured to address residual adverse effects, and the majority of consents were projected to achieve no net loss or net gain in ecological values, generally there was still an overall loss of stream or wetland extent. This reflects that 'no net loss' is stated in the AUP as a consideration rather than a requirement.

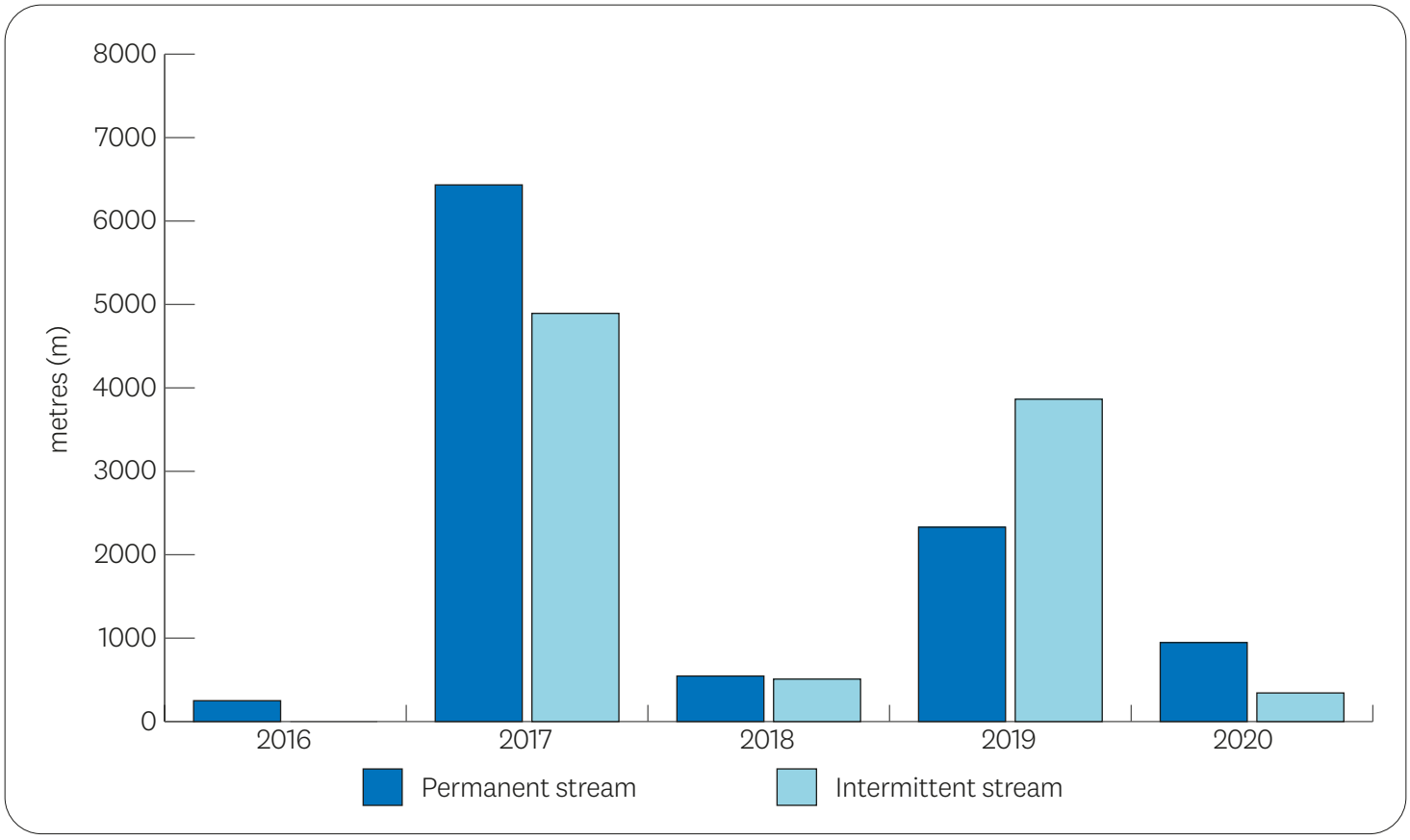


Figure 4 Consented extent of stream reclamation in the period December 2016 – March 2021 (note that the 2016 is only for one month).

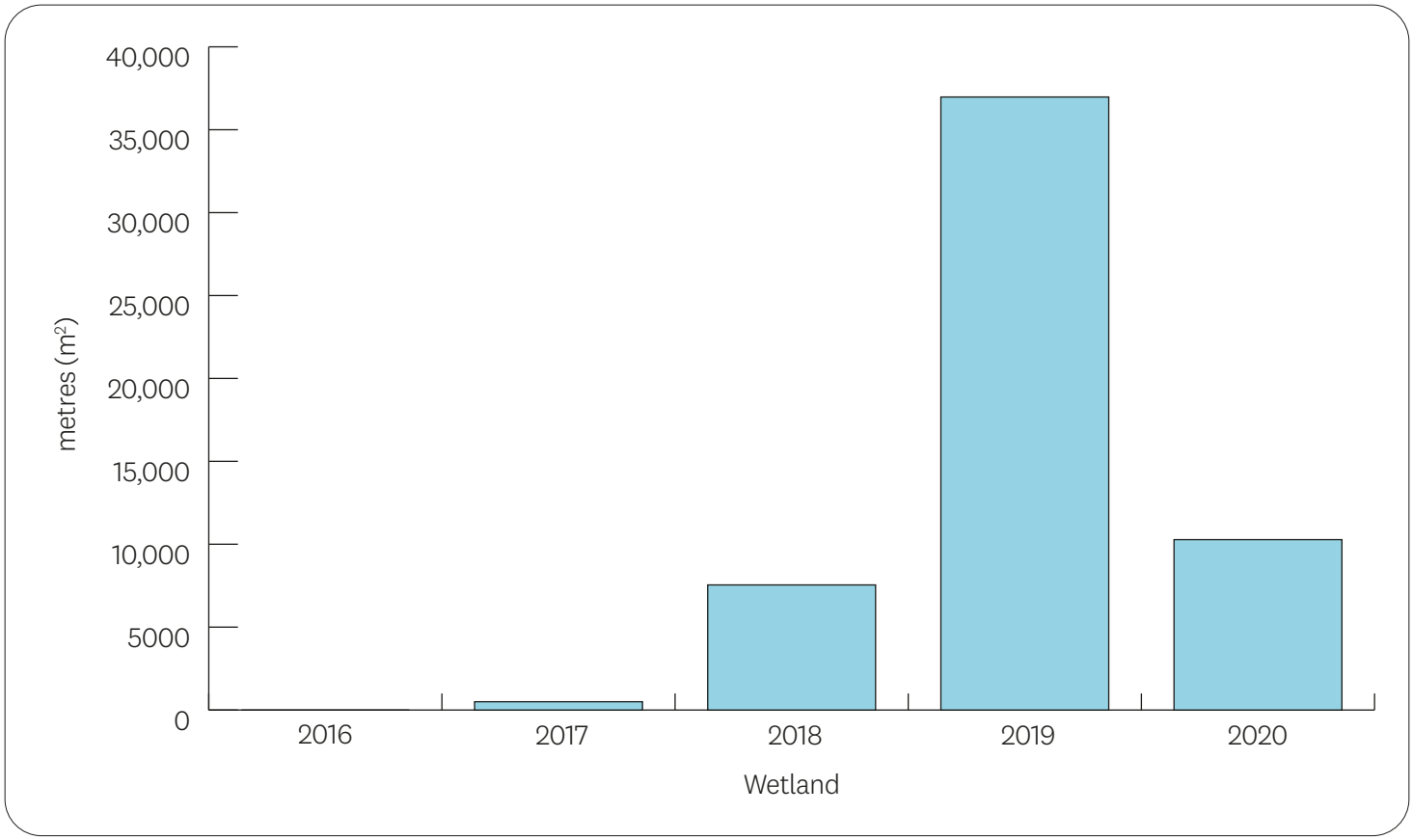


Figure 5 Annual consented extent of wetland reclamation in the period December 2016 – March 2021.

4. Wastewater networks

What does this topic cover?

The AUP defines a wastewater network as a "system of wastewater pipes and associated structures which convey, divert, store, treat, or discharge wastewater". Networks produce discharges of wastewater overflows, as well as discharges of treated wastewater from wastewater treatment plants.

Discharges from the network need to be managed to minimise their adverse effects, in line with direction from the RPS. The indicators for this topic considered how wastewater overflows are managed and how growth is supported by infrastructure provision which uses the 'best practicable option' to minimise adverse effects.

Findings

- Only 13 wastewater network consents have been granted under the AUP. Eight of these consents were for discharges to land or freshwater, and five of these consents were for discharges from wastewater treatment plants to the coastal marine area.
- A high-level assessment of these consents suggests that they are giving effect to the AUP policies.
- The majority of Auckland's wastewater overflow discharges are consented under Watercare's comprehensive network discharge consents (NDC) granted prior to the AUP, under the Auckland Council Regional Plan: Air, Land and Water. There is an overall alignment between the outcomes sought in the NDC and the AUP. In particular, both seek to reduce wet weather overflows to an annual average of two events per overflow point.
- Watercare reported a slight improvement in the wet weather overflow target trends in 2020-21.[5] A limitation of considering this target on its own is that it does not illustrate the volume of overflows, or changes to the number of overflow points in the network.

5 Watercare (2021). Auckland-wide Network Discharge Consent 2020-2021 Annual Report. [Online]. Available: https://wslpwstoreprd.blob.core.windows.net/kentico-media-libraries-prod/watercarepublicweb/media/watercare-media-library/reports-and-publications/2021_09-ndc-annual-performance-report-final-with-appendices.pdf

Findings continued...

- A decreasing trend of uncontrolled wet weather overflows was also reported and linked to drier weather[6]. This analysis highlights that climate variability may have an increasing impact on overflow trends in the future.
- There was an increase in uncontrolled dry weather overflows under the NDC in the last reporting year (2020-21)[7]. Fats and rags have been an increasing cause of overflows; however, the apparent increase may also relate to improved reporting processes[8]. These results illustrate the importance of other methods (such as public education) in addressing overflows.
- It is difficult to attribute wastewater outcomes to the AUP provisions, due to the limited time that the AUP has been operating. Network improvement projects have a significant influence on wastewater discharge outcomes and are influenced by the AUP, but also significantly by factors beyond this, particularly financial.

6 Watercare (2021). Auckland-wide Network Discharge Consent 2020-2021 Annual Report. [Online]. Available: https://wslpwstoreprd.blob.core.windows.net/kentico-media-libraries-prod/watercarepublicweb/media/watercare-media-library/reports-and-publications/2021_09-ndc-annual-performance-report-final-with-appendices.pdf

7 Ibid

8 Ibid

5. On-site wastewater systems

What does this topic cover?

On-site wastewater systems provide a method of wastewater disposal for properties not serviced by a wastewater network. The plan provides for on-site systems to be established as a permitted activity where they meet the relevant standards. A resource consent is required if the standards are infringed. Figure 6 shows where consents have been processed for on-site wastewater systems under the AUP.

Discharges from the on-site wastewater systems need to be managed to minimise their adverse effects, in line with direction from the RPS. The indicators for this topic considered whether consented on-site systems are being appropriately designed and located, and whether on-site systems (consented and permitted activities) are being operated effectively, in order to minimise adverse effects.

There are approximately **45,000** on-site wastewater systems in Auckland

Approximately **900** of these are consented

Approximately **325** of these consents were granted under the AUP

Findings

- A significant number of on-site wastewater systems operate as a permitted activity in Auckland. These systems have historically been subject to little regulatory oversight.
- The Water Quality Targeted Rate is funding an on-site wastewater compliance programme. This is playing an important role in improving the council's understanding of how effectively on-site wastewater systems are being operated across the region.
- An assessment of a sample of resource consents for on-site wastewater systems showed that consents are generally being granted in appropriate locations in relation to the expected delivery of network infrastructure.
- Some small site sizes and waste disposal reserve areas were found in the sample. These constraints were able to be managed through appropriate consent conditions. However, these consents highlight the importance of maintenance and monitoring in ensuring the effective operation of systems.

There are some aspects of AUP Chapter E5 On-site and small-scale wastewater treatment and disposal which impact the efficiency of the provisions and are in need of improvement.

- Subdivision for smaller sites has been enabled in Whenuapai Village, prior to the provision of a wastewater network. The subdivision provisions have not contributed to the efficient achievement of the AUP's water outcomes in this scenario, as there is an increased risk of cumulative adverse effects from on-site systems with increasing density of development.

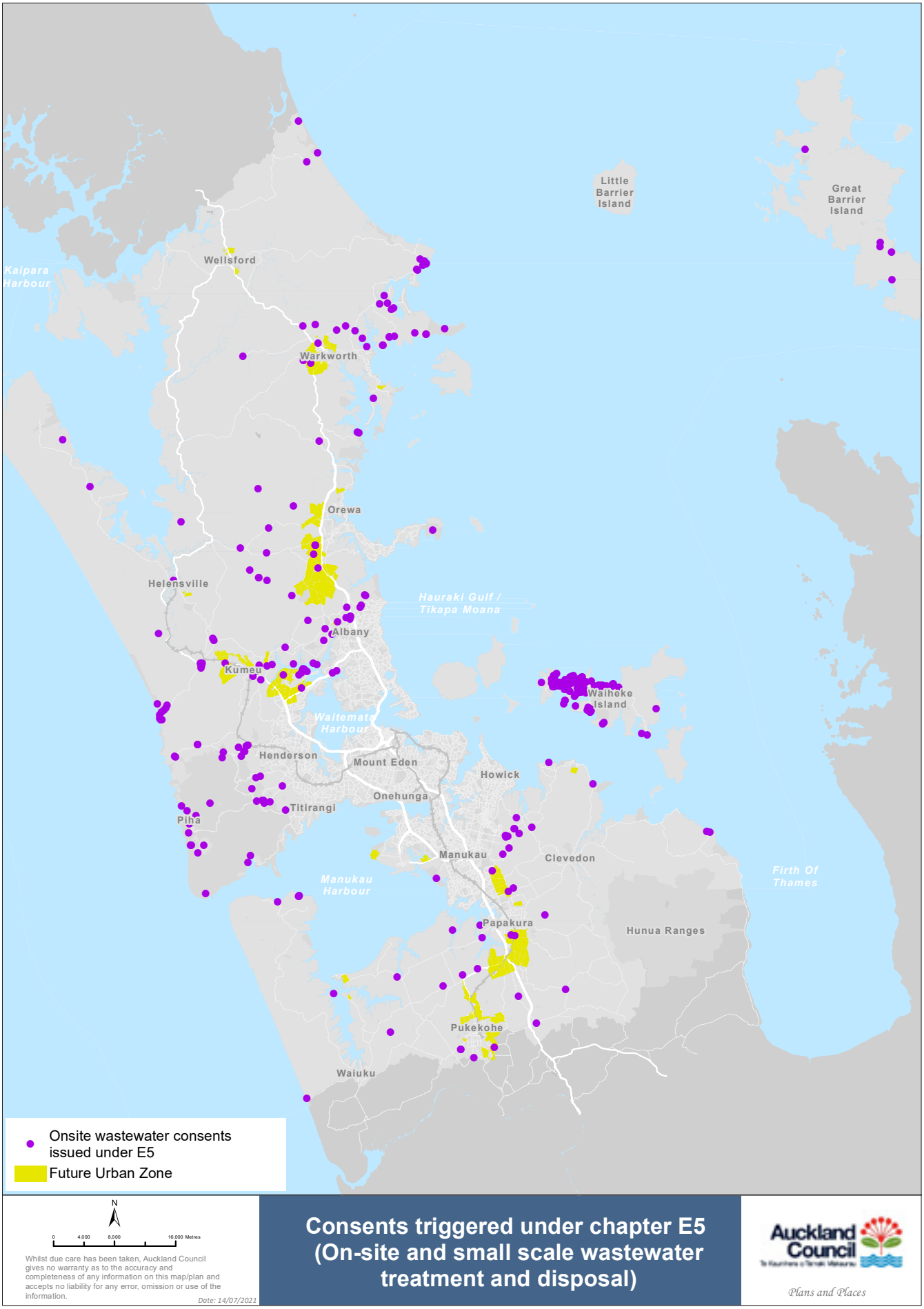


Figure 6 On-site wastewater consents processed under the AUP.

6. Stormwater

What does this topic cover?

Stormwater runoff is a key contributor to water quality and the health of freshwater and coastal receiving environments throughout the region. Stormwater runoff from impervious surfaces can contain a number of significant water pollutants (e.g. *E. coli*, sediment and heavy metals) and result in changes to peak flow and velocity and in-stream temperature that can have significant adverse effects on receiving environments (Figure 7).

The indicators in relation to stormwater assessed the effectiveness of the AUP provisions in managing the adverse effects of stormwater, including the effects of changes in hydrology due to increasing areas of impervious surfaces and the discharge of contaminants.

Findings

- Auckland's urban streams continue to be impacted by the effects of stormwater pollutants.
- The AUP provisions pre-date the Regionwide Stormwater Network Discharge Consent (2019) and through inconsistencies and lack of aligned activity standards, do not maximise the opportunities for integrated management of the stormwater network and achievement of the outcomes sought by this comprehensive consent.
- There is a lack of clarity and inconsistent use of terminology throughout the stormwater provisions, which makes interpretation and implementation difficult.
- The treatment of stormwater is largely limited to the high-risk areas of high contaminant producing car parks and high use roads, and opportunities for stormwater treatment in other areas should be pursued.
- Implementation of the Stormwater Management Area Flow Control AUP provisions requires greater technical specialist oversight, as high numbers of consents are being granted without the stormwater mitigation sought by the AUP.
- Stormwater mitigation is not being consistently required for residential development that exceeds the maximum impervious area thresholds.

Findings continued...

- The AUP provisions are not effective at protecting the function of riparian areas. Clearer guidance and direction, particularly with regard to the role of riparian areas and riparian vegetation in maintaining and improving water quality is required.
- The AUP has policies that encourage elements of 'water sensitive design' and the use of green infrastructure. They have not been fully effective due to issues with the terminology used and a lack of integration between provisions.

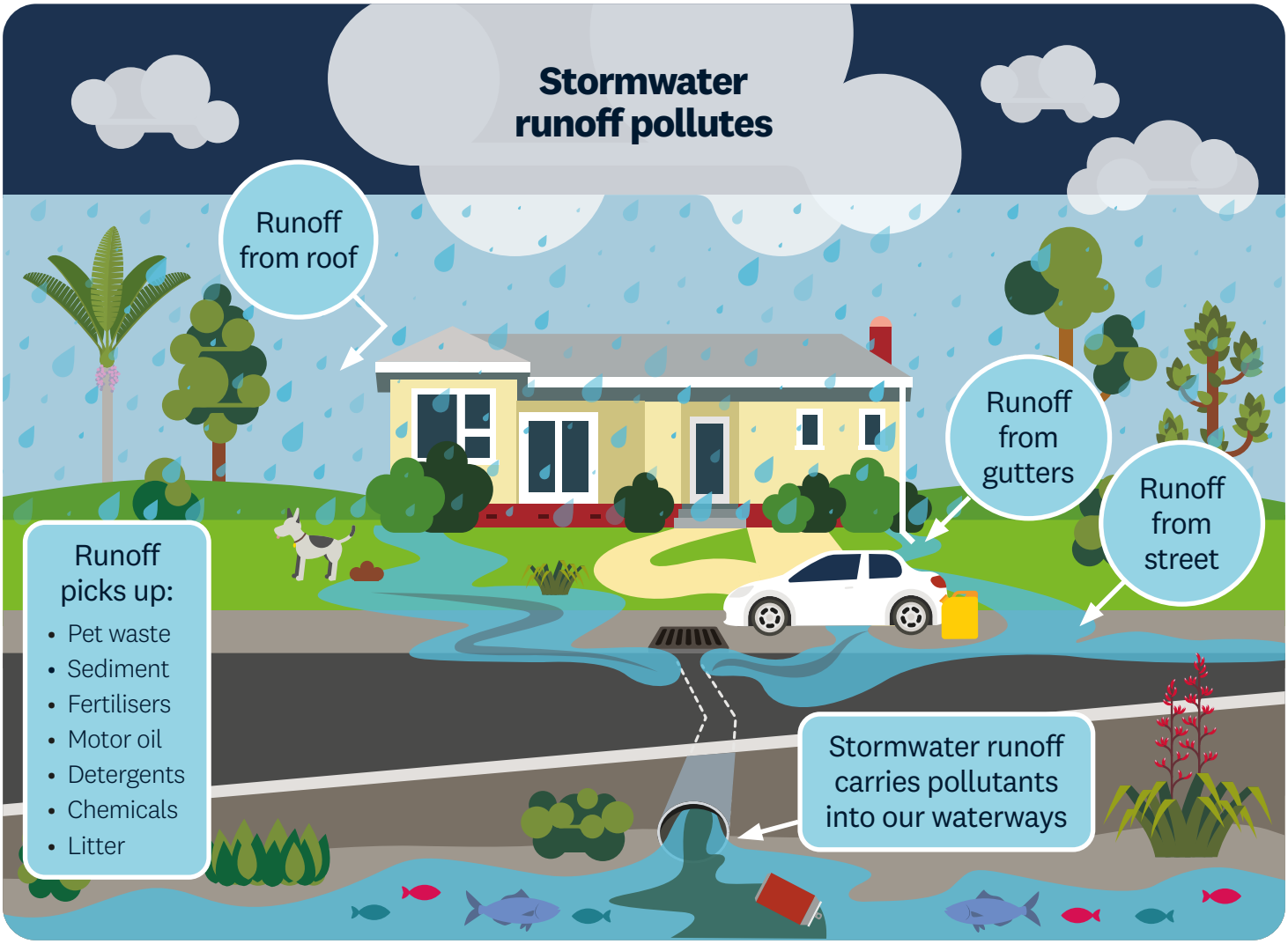


Figure 7 Management of stormwater to reduce effects on waterways.

7. Rural production discharges

What does this topic cover?

Some of the most common discharges from rural production activities that need to be managed are the disposal of effluent from dairy sheds, leachate from offal holes, silage storage and composted materials. The application of fertiliser can also contribute to nutrient enrichment (where a water body receives elevated nutrients, leading to excessive growth of plants and algae) (Figure 8). The reuse of discharges from common farming activities such as effluent and compost can have a sustainable benefit if they are handled appropriately.

For example, the AUP promotes the land application of production land discharges subject to controls based on underlying soils, minimisation of nutrient leaching and adequate contingency plans.

The AUP aims to ensure that discharges from rural production activities are managed to protect the life supporting capacity of land and water resources, that the adverse effects on coastal waters and freshwater are minimised, and existing adverse effects are progressively reduced.

Findings

- Nitrate in groundwater is a key issue, particularly in the Franklin area where some volcanic aquifers have high nitrate readings that exceed drinking water standards. Two Franklin streams (Waitangi and Whangamaire) are failing the NPS-FM National Bottom Line for nitrate toxicity.
- Only four consents have been granted under the AUP for rural production discharges. Most nutrient discharges from farming activities fall within the permitted activity status.
- The AUP has specific limits for nitrogen application onto grazed pasture. In other areas, nitrogen application must 'not exceed the reasonable nitrogen requirements of the crop being grown'. There is no industry standard relating to this requirement, hence the AUP relies on the industry best practice. The council cannot accurately assess whether the permitted activity rule is being met as no information is held on how many growers have adopted best practice and what the outcomes of best practice implementation are. The effectiveness and efficiency of the AUP's nitrogen limits and the methods (best practice) in achieving the water quality objectives cannot be measured given the lack of monitoring and the inability to assess nitrogen loadings.

Findings continued...

- As the AUP does not require fertiliser and effluent application records (except for dairy activities), council is unable to assess whether water quality objectives are being met.
- Limited information and monitoring of greenhouses does not enable the council to assess whether the permitted activity rule can reasonably be implemented.
- The AUP does not include an upper limit on nitrate application in the discretionary activity rule for all permitted activities that do not meet the standards. Nor is there any policy direction on an acceptable level of non-compliance. This means that for each consent application the council must determine the maximum nitrate load to 'avoid more than minor adverse effects of discharges from rural production activities on waterbodies, aquifers and artificial watercourses'. This creates uncertainty and inconsistency as to what is an acceptable load.
- Limited permitted activity compliance monitoring means that the council does not know the scale of discharges (by site, and cumulatively). Given that most rural discharges are permitted activities, the effectiveness of the AUP regarding water quality cannot be fully understood.

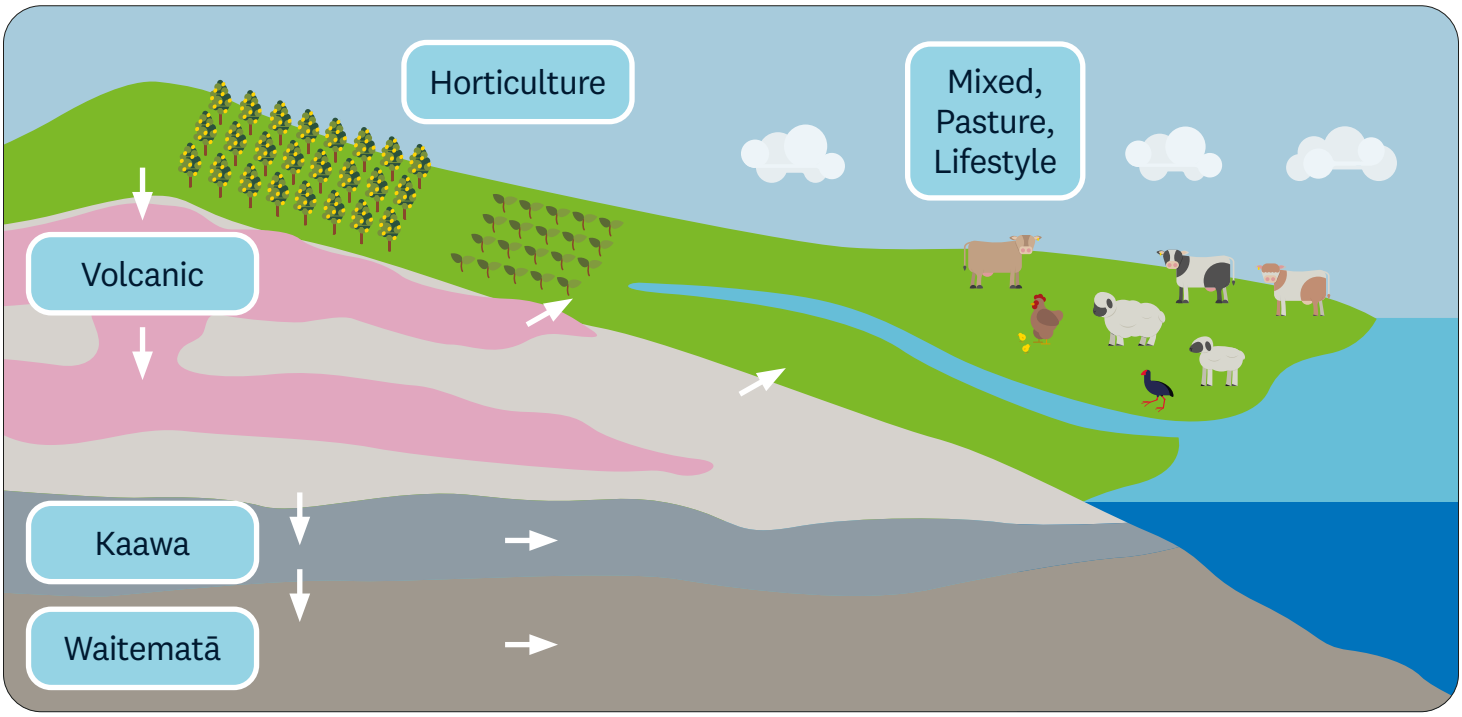


Figure 8 The management of nutrients from farming activities needs to address inputs to aquifers and streams to improve water quality.


MELODIE

8. Discharges from boats

What does this topic cover?

Auckland has 50,000 boats that are larger than kayaks and dinghies. Discharges from these boats include sewage, litter and contaminants coming from hull antifouling paints. These can have significant localised effects on water quality, amenity and cultural values.

The outcome sought by the RPS in relation to discharges from boats is that the adverse effects of discharges are minimised and that existing adverse effects are progressively reduced.

Discharging untreated sewage into water from a boat is a permitted activity except in the area shown on the map in Figure 9. Sewage should be treated, pumped out on-shore or dispersed in deep water, away from marine farms and marine reserves.

The AUP requires that upgrades at marinas, ferry terminals and ports include facilities for collecting and disposing of boat sewage, litter and boat maintenance residues. On-shore facilities enable boat owners to minimise the effects of their discharges and maintenance.

Findings

Sewage discharges

- The AUP restrictions on the discharge of untreated sewage from boats rely on self-regulation, and so it is difficult to assess their effectiveness in terms of managing the effects on water quality. It is not possible to monitor when and where boats are discharging their sewage.
- Boat owners need to be aware of the rules for them to be effective. The council has undertaken a range of work to increase awareness of the AUP restrictions. This includes developing a webpage, distributing a leaflet, putting the restriction area on a phone app, and making the restriction area available on electronic charts.
- There was a large increase in website visits[9] just after an email was sent out to boat clubs about the phone app, indicating that there has been an increase in awareness of the rules.
- More targeted research with boat owners is needed to determine whether the permitted activity and awareness raising is an effective way of managing untreated sewage discharges, or whether there should be new requirements for sewage holding tanks or treatment systems on boats.

9 https://www.aucklandcouncil.govt.nz/environment/looking-after-aucklands-water/looking-after-our-waterways/Pages/boat-sewage-discharges.aspx

Findings continued...

Ferry terminal, port and marina consents

- A review of resource consent decisions showed that relevant facilities were provided for in all of the relevant developments. This included the new marina at Kennedy Point, the extension of the Half Moon Bay marina, the Tamaki minor port zone redevelopment, and the downtown ferry terminal upgrade.
- The two marina consents also included innovative new conditions that require berth holders to use low-copper antifouling paints to avoid contamination of the seabed. Future reviews of the AUP should consider whether to include more explicit controls relating to antifouling paints to ensure that similar conditions are applied in other areas.

Where can I discharge?

If you need to discharge untreated sewage, make sure you are underway, well offshore, in open water and away from other boats.

You must be in water more than five metres deep, and be more than:

- 500 metres from shore
- 500 metres from a marine farm
- 500 metres from a customary fishing reserve (mataitai)
- 200 metres from a marine reserve.

Our rules also specify that you cannot discharge in:

- Waitemata Harbour
- Mahurangi Harbour
- Bostaquet Bay, Kawau Island
- Port Fitzroy, Great Barrier Island
- Nagle Cove, Great Barrier Island
- Tryphena Harbour, Great Barrier Island.

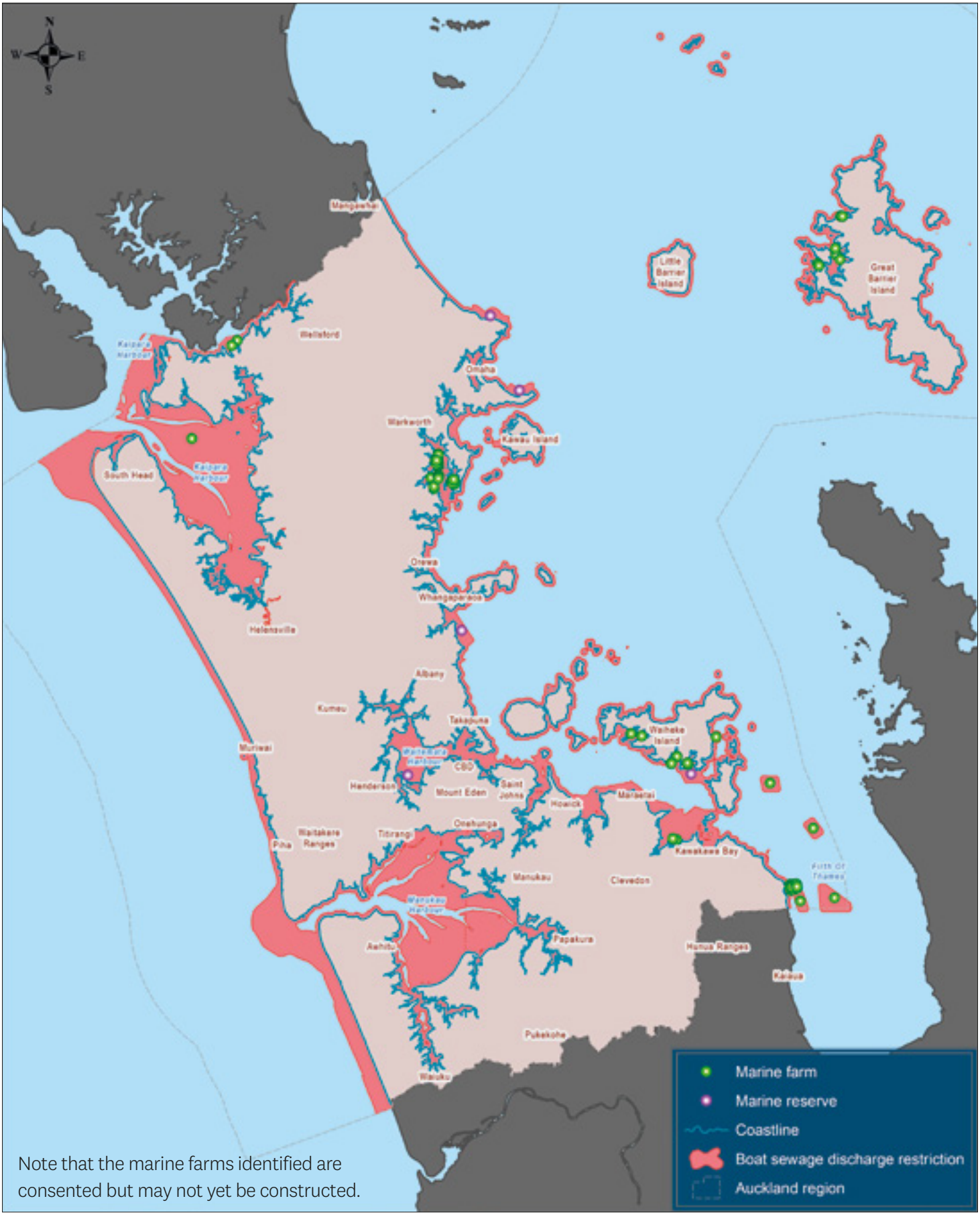


Figure 9 The Auckland restriction area for untreated sewage discharges from boats.

9. Land disturbance

What does this topic cover?

Excess sediment can have significant effects on water quality, including through transporting contaminants, reducing water clarity, smothering the stream bed and accumulating in low energy coastal receiving environments, such as estuaries. These effects directly impact aquatic plants and animals and disrupt ecosystems. While the movement of sediment is a natural process within freshwater systems, human activities that expose bare earth can greatly increase the amount of sediment that enters the system.

The indicators in relation to land disturbance assessed the effectiveness of the AUP provisions in managing the adverse effects of sediment derived from land disturbing activities, including through soil conservation and minimising erosion, managing discharges, and requiring the use of industry best practice erosion and sediment control.

Findings

- Increased sedimentation continues to have ecological impacts in all harbours and estuaries.
- Over 6,600 resource consents for land disturbance have been granted since the AUP became operative.
- Large-scale land disturbance activities are subject to comprehensive erosion and sediment control measures through resource consent conditions and are a priority for compliance monitoring.
- Small-scale land disturbance activity is estimated to equate to two thirds of land disturbance regionally yet is a low priority for compliance monitoring. There is heavy reliance on compliance with permitted activity standards and a lack of direction in the AUP district plan provisions regarding best practice erosion and sediment control.
- The AUP provisions do not effectively address the cumulative effects of sediment generated by land disturbance activities.
- The best practice erosion and sediment control standards require regular evaluation to ensure they are up to date and reflect any advances, particularly in response to the challenges of climate change and more frequent storm events.
- Non-regulatory measures, including industry education, play an important role in managing sediment from land disturbance.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PLEASE STOP
ON REQUEST
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10. Land use change in growth areas

What does this topic cover?

Large-scale greenfield development introduces new sources of contaminants, modifies the hydrological regime and often involves piping streams. It also allows for integrated consideration of how the location and form of development can be planned to retain and enhance natural waterways and include mitigation measures, such as riparian planting and runoff treatment systems.

The AUP establishes that greenfield development should be preceded by structure planning (a non-statutory process) and sets out several water-related requirements for structure plans to ensure that effects on waterways are minimised. Plan changes then give effect to a structure plan by amending the regulatory planning regime through a public process of submissions and hearings.

The indicators for this topic looked at whether the AUP has been effective in directing how structure plans and plan changes manage the effects of large-scale land use change on waterways. The structure plans and plan change locations are shown in Figure 10.

Findings

- Monitoring has shown that stormwater management, and effects on waterbodies, have been key considerations in structure plan and plan change processes.
- Five structure plans have been prepared by Auckland Council since the AUP became operative. These structure plans have included strong integration with water infrastructure provision and have included catchment management plans or stormwater management plans in their development process in order to direct how the effects of land use change on water are avoided, remedied or mitigated.
- The strategic nature of structure plans means that some responses are at a very general level. The plans have indicative maps and aspirational statements but the detail of how any particular goals will be achieved is often left for the plan change and consent stages.
- Plan changes providing for urban growth have generally addressed the majority of the AUP requirements relating to effects on freshwater systems. However, some plan changes rely on zone and Auckland-wide provisions and so do not make a step forward in introducing targeted place-based rules to address cumulative effects and enhance local waterways. Most of the greenfield land is being zoned through private plan change applications which are not required to be consistent with structure plans.

Findings continued...

- The areas of the AUP that were shown to be less effective in directing the content of structure plans and plan changes include provisions relating to contaminants (other than for high contaminant generating areas), hydrology, litter, and the efficient use of water. This may be because the relevant policies indicate they are desirable or optional rather than required.
- The AUP could be more effective if it had greater recognition that new plan changes that provide for greenfield growth need to include controls relating to contaminants and changes in hydrology in order to achieve a multi-stage, 'treatment train' approach and to protect sensitive receiving environments.
- Some plan changes (and existing AUP provisions) have issues with requiring riparian enhancement only in relation to streams or wetlands that are shown on a particular map, rather than all waterways found on the site. Some maps have subsequently been found to not include all of the streams and wetlands. There is also a lack of clarity regarding whether the riparian enhancement required in relation to subdivision and land use change is the same or additional to the offset works that will be required for stream works in the same area.

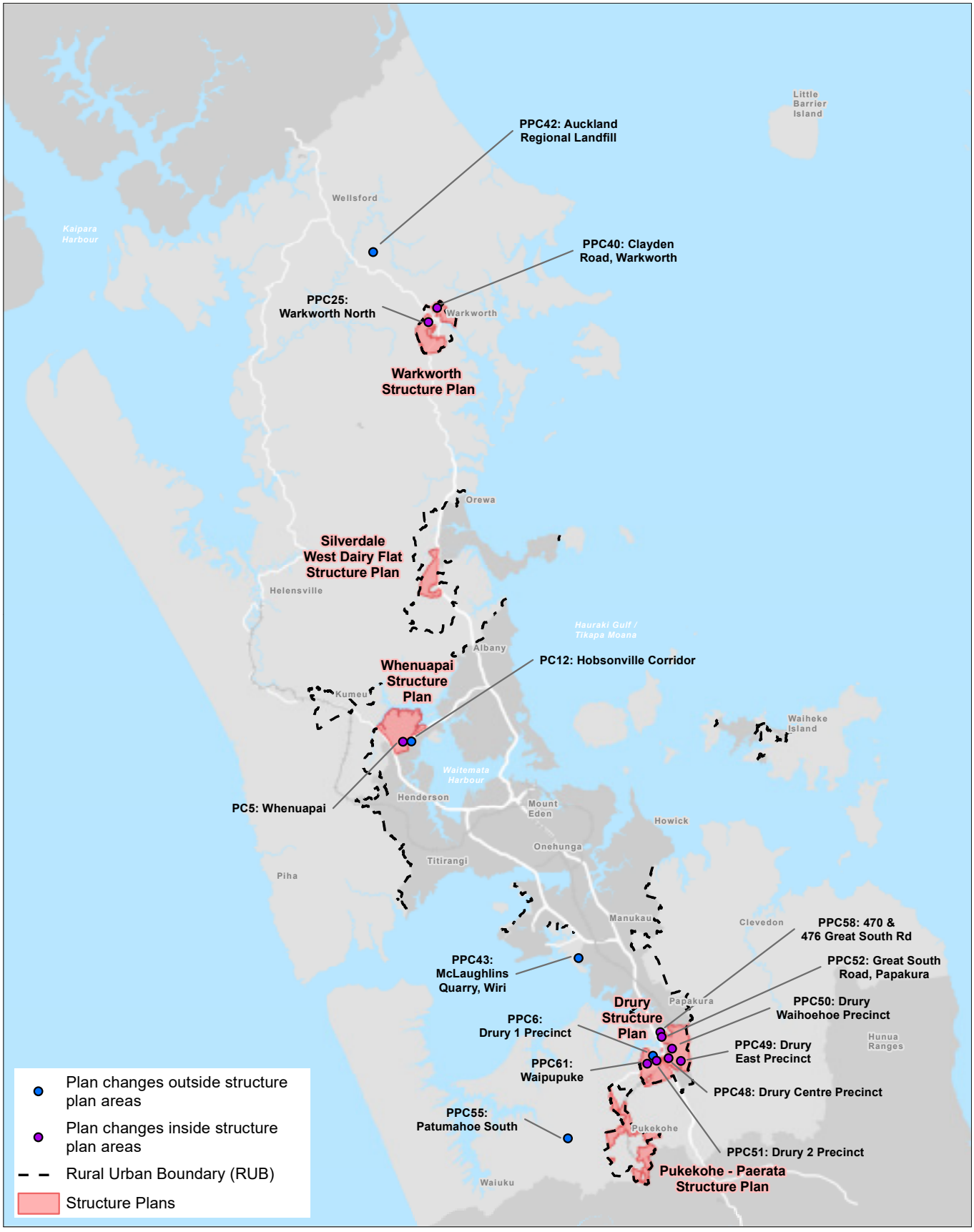

Figure 10 Location of areas with structure plans and plan changes that were assessed for the monitoring topic.

Summary of main findings

The AUP has a comprehensive range of provisions that aim to protect Auckland's water resources. Generally, the provisions address all the relevant matters, but there is still degradation of waterways occurring. Given the complexity of the outcomes sought in B7.3 Freshwater systems and Chapter B7.4 Coastal water, freshwater and geothermal water, it is difficult to draw definitive conclusions on the AUP's performance. Notwithstanding this, the monitoring has provided some overall observations.

Where is the plan performing well?

- In much of the region, the water quality and ecological health of Auckland's waterways have been maintained or had minor improvements since the AUP became operative.
- The plan is providing flexibility in determining allocation limits for water takes, and allowing for water to be used for a range of purposes.
- A relatively minor amount of stream and wetland loss has been enabled by the plan, and almost all of the relevant consent processes have included requirements for offset works.
- Discharges are being managed to minimise adverse effects, with consents for discharges from wastewater treatment plants and on-site wastewater systems generally addressing all the requirements set out in the plan.
- Large-scale land disturbance activities are subject to comprehensive erosion and sediment control measures through resource consent conditions and are a priority for compliance monitoring.
- The assessment of structure plans and plan changes showed that the AUP has ensured that effects on waterways are a key consideration in planning for large-scale land use change in greenfield areas.

Where is the plan underperforming?

- Integrated management is lacking. Improving the management of Auckland's water will require improved integration across the different stages and aspects of development and water use.
- The management of cumulative effects is poor. Resource consent processes have a limited ability to manage cumulative catchment wide effects because they principally relate to the effects of the activity applied for, not the activity plus all earlier and subsequent potential works in the catchment. It is also very difficult to assess the effectiveness of permitted activity provisions that may be resulting in cumulative effects. The AUP has many permitted activities for small-scale activities that individually have only minor effects but can be widespread and numerous (including for small-scale land disturbance, culverts in streams, discharges from boats, and rural production discharges).
- Riparian management in the AUP includes a range of measures relating to building setbacks, impervious areas limits, earthworks and vegetation control, but there is little direction in the plan to link these provisions to a clear common purpose to assist with assessing consent applications.
- Several of Auckland's aquifers are over allocated and there is little information on the allocation of surface water bodies.
- The management of water takes in times of low stream flow needs to be improved to ensure that the values of waterbodies are safeguarded.
- The plan is not minimising stream and wetland loss effectively as the matters set out in the policies are not always being addressed.
- The stormwater provisions do not integrate with the stormwater Network Discharge Consent, are limited in where they require stormwater treatment, and are not always achieving greater use of water sensitive design and green infrastructure.
- The AUP district plan provisions have a lack of direction for small-scale land disturbance with respect to best practice erosion and sediment control.
- The plan provides greater direction for structure plans than plan changes. It could be more directive regarding the water related matters that plan changes should address to ensure that large-scale land use change achieves improvements in waterways and protects sensitive receiving environments.

Further comments

- Permitted activities rely on people being aware of any relevant standards and best practice approaches, and complying with the requirements. The wide range of permitted activities in the AUP need to be supported by targeted education, monitoring and enforcement. The monitoring identified several examples of education and compliance programmes that are resulting in significant improvements in the council's understanding of water related issues or in rates of compliance with the relevant requirements (for example, with respect to on-site wastewater systems, land disturbance and discharges from boats). Such programmes need to be supported and expanded to support the effective implementation of the AUP.
- Issues were identified with the council's consenting and compliance databases not being set up to facilitate RMA section 35 evaluative reporting. At present, individual consents need to be manually examined to determine matters such as the extent of stream loss or area of earthworks, rather than a summary being readily generated from an automated database. There is also a need for improved systems that can integrate monitoring by consent holders and consent compliance monitoring with State of the Environment monitoring to give a fuller picture of the effectiveness of plan provisions and the processes that implement them.
- Significant change will be needed across almost all of the topics covered in this report in response to the NPS-FM 2020. A plan change to the AUP is required by December 2024. The plan change will need to give effect to Te Mana o te Wai which sets a hierarchy of priorities for water management. The changes will need to be accompanied by a significantly enhanced freshwater accounting system based on extensive monitoring (of the environment directly, and of resource management actions) and modelling of freshwater values and attributes. This report is a key step in understanding the effectiveness of the current management regime, as the council works to develop improvements that meet the new requirements of the NPS-FM.

Recommendations from these findings are not included in this summary report. See the technical report for more detail and recommendations.

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