
6.0 Appendices

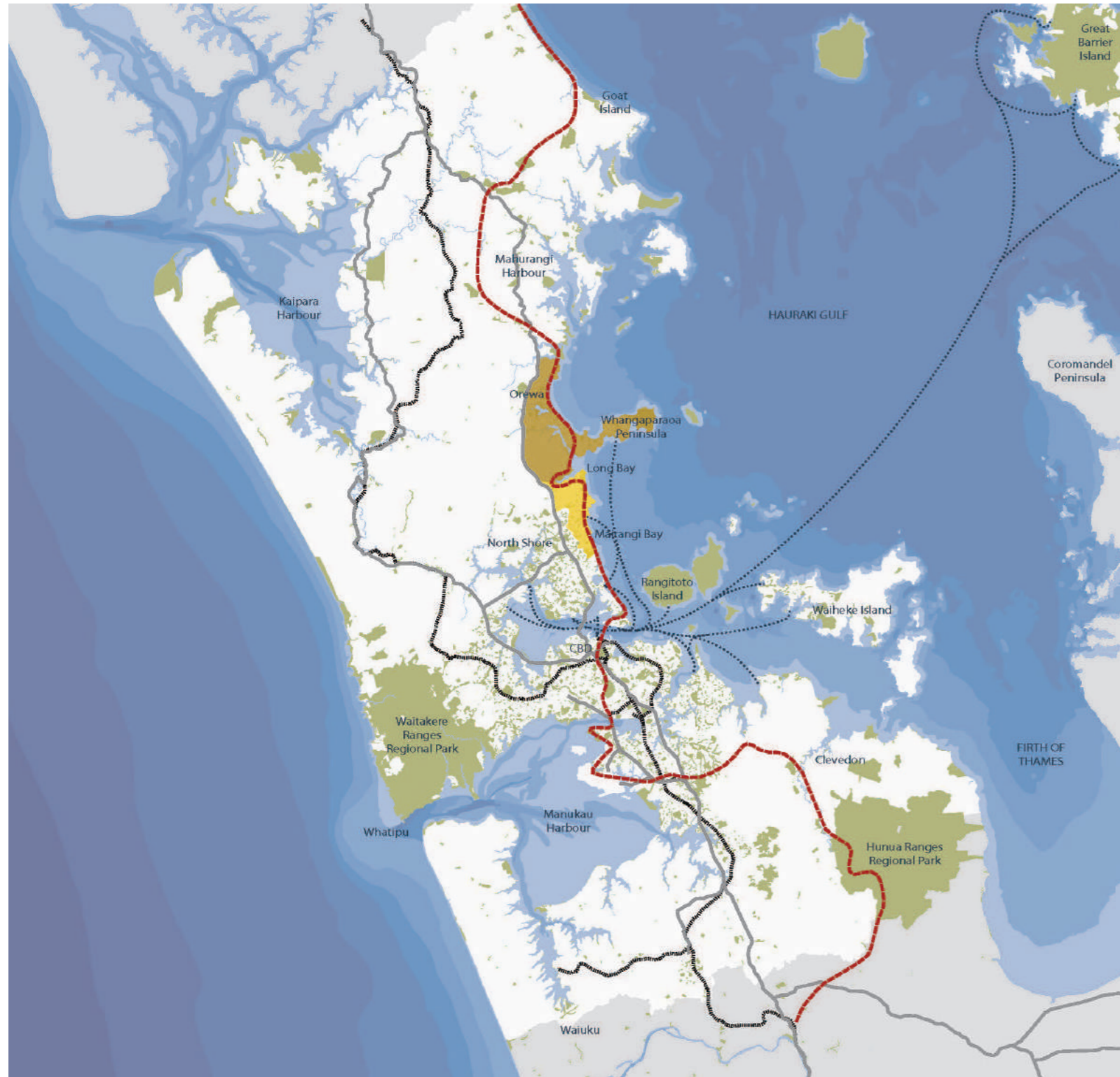
East Coast Bays Subdivision



Figure 30. Mairangi Bay Estuary. Charlotte Grieve. 2016.

6.2 Analysis Maps

East Coast Bays Subdivision



LEGEND:

- | | | |
|---|--|--|
| Hibiscus Coast Subdivision | State Highway network | Te Araroa Walkway (national walkway) |
| East Coast Bays Subdivision | Railway | Ferry Routes |
| Park and Reserve Land | | |



Not to scale

Auckland Context

This map shows the Hibiscus and Bays Local Board area in its wider context within the Auckland Isthmus, located along the east coast of the North Shore. The Hibiscus and Bays Local Board area is split into two subdivisions; Hibiscus Coast Subdivision and East Coast Bays Subdivision. For the purposes of the analysis mapping that follows, each subdivision has been presented separately in order to allow the information to be read at a legible scale.

The area is bordered by Rodney, Upper Harbour, and Devonport - Takapuna Local Board areas. The Hibiscus and Bays Local Board area is home to a number of local town centres, including Orewa, Whangaparaoa, Silverdale, Northcross, Browns Bay, and Mairangi Bay.

At this scale there are a number of items of interest to be considered in the creation of a Greenways network:

- The Te Araroa national walkway runs along the coast of this area.
- There are no rail services to the area.
- SH1 runs along the western edge of the Hibiscus Coast subdivision.
- The board area has an extremely high ratio of coastline to land area.
- In terms of overall size, this is one of the largest non-rural board areas.

A more detailed analysis of the underlying factors that have shaped this Greenways plan is explained in this section, the Hibiscus Coast subdivision first, followed by East Coast Bays.



Aerial

This aerial photograph shows the broad landscape patterns of the East Coast Bays division of the Hibiscus and Bays Local Board area, within its surrounding context.

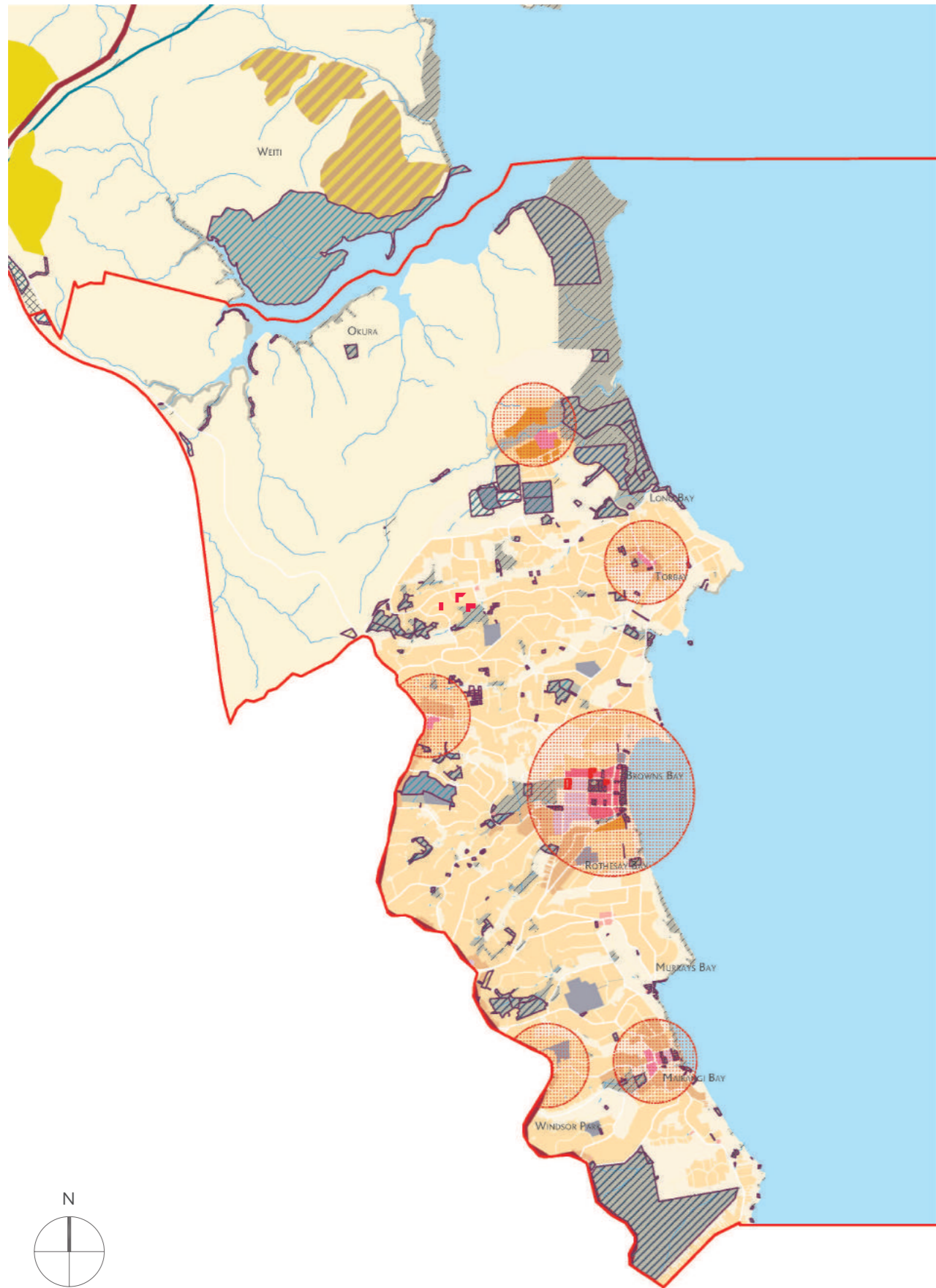
The area is bound to the east by the Hauraki Gulf, with magnificent views across to Rangitoto. The coastline is made up of a series of protected bays, plunging cliffs, and calm beaches. The Hibiscus Coast topography is comprised of elevated ridgelines rolling down towards coast, where they terminate in sandstone cliffs. To the west it is separated from the Upper Harbour local board area by the northern motorway, and East Coast Road.

The land use types of the East Coast Bays subdivision can be clearly seen in this aerial photograph - it is dominated by residential properties, with relatively little commercial and industrial land compared to other areas of Auckland. To the north, beyond Long Bay there remain areas of agricultural land, but the remainder is almost entirely residential land, with a strip of industrial land along the motorway, and pockets of commercial buildings surrounding the local town centres. Looking at this breakdown in more detail;

- Residential Land
 - Most houses in the area are single detached dwellings, with generous lots. The more recent subdivisions around Long Bay tend to be more compact and dense, with backyards replaced by shared open spaces, and this pattern of settlement is likely to continue in the upcoming developments around this area.
- Rural land
 - A number of lifestyle blocks and farms remain in the northern third of the subdivision area, to the west of Long Bay, and surrounding Okura township. These represent a gap in development between East Coast Bays and the Hibiscus Coast subdivisions, and under the new Unitary Plan zoning, are likely to develop over the coming years.
- Industrial land
 - There is very little industrial land exists in this area, with the exception being some light industrial at the back of Browns Bay.
- Commercial Town Centres
 - Most of the town centres in this area occur along, and some inland, with the key ones being; Okura, Northcross, Browns Bay, Rothesay Bay, and Mairangi Bay.

LEGEND:

- Local Board Boundary
- Streams / Rivers
- Road network
- Motorway



Future Projects and Growth Centres

The East Coast Bays is a fairly established area development-wise. The rural land in the northern third of the area is the least developed, but there are significant developments planned. It is at these early stages of planning that Greenways can be 'baked in' to the project, and delivered in the most efficient manner. There are two main development projects underway at the moment, both being carried out by the Todd Property Group, and these are:

Long Bay subdivision

This development is well underway, with much of the residential housing already constructed. There is a commercial centre planned, tentatively called 'Long Bay Village', and expected to be operational by the end of 2018. This will be included in the upcoming development release, north of Vaughans Stream.

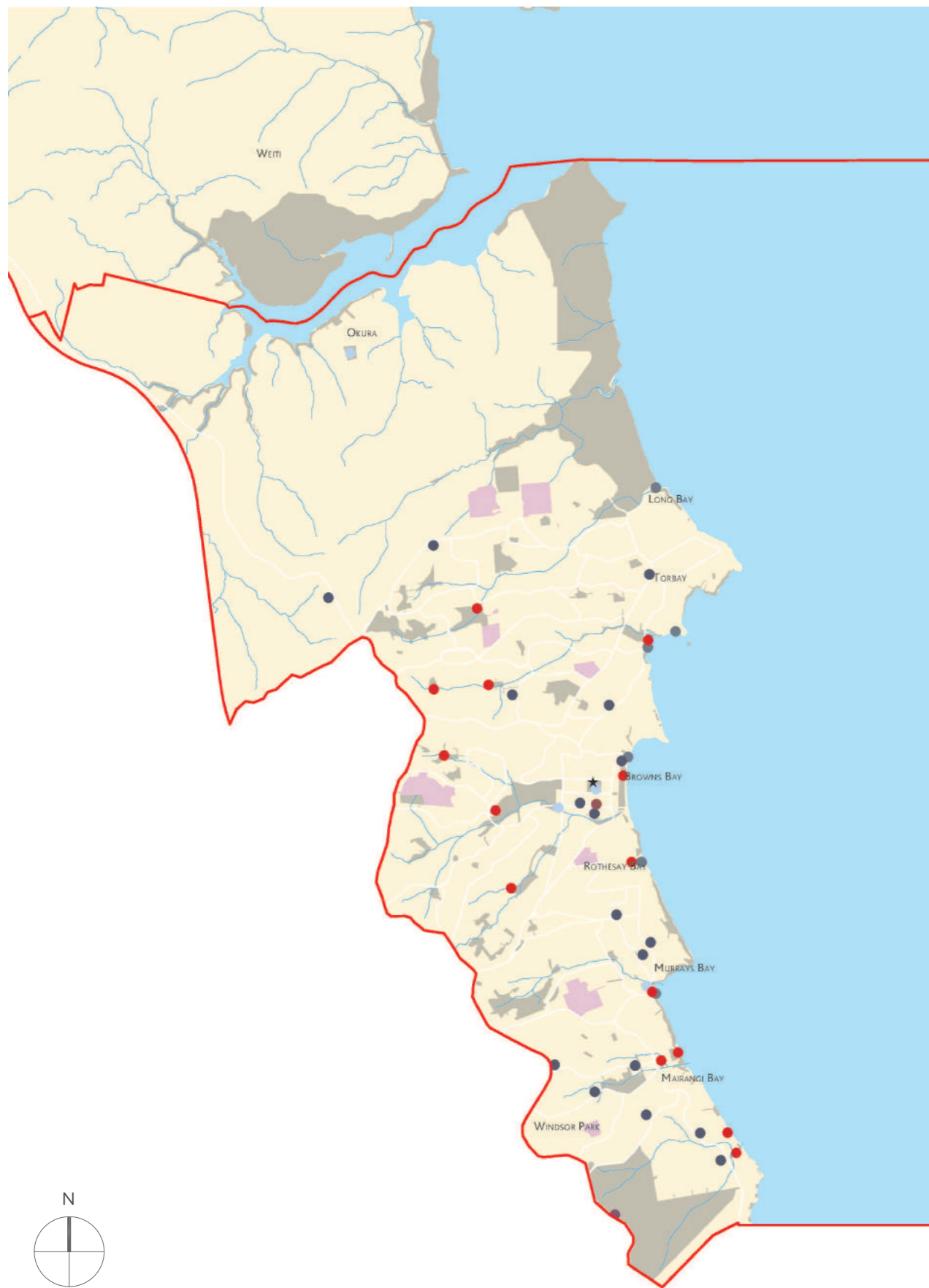
Okura development

Just north of the Long Bay development, a second phase of residential development, is planned, which would be set out around Long Bay Village. This land sits outside the Rural Urban Boundary (RUB), and plans for the area are yet to be finalised, after the draft Unitary Plan recommendation to move the RUB out to Okura Estuary was overturned in August 2016.

Additionally, there are a number of Special Housing Areas (SHAs) designated within the subdivision. These are housing development areas set out across the city where fast-track development of housing (including affordable housing) can take place. These were established as part of a housing accord, developed by Auckland Council and the Government, as part of a suite of measures intended to combat Auckland's housing crisis. As these areas are developed, there are further opportunities to deliver Greenways as part of the development, to provide access to recreational opportunities within what are likely to be compact, intense pockets of housing.

LEGEND:

- | | |
|-------------------------------|---|
| Local Board Boundary | Town Centre |
| Streams / Rivers | Mixed Housing Urban |
| Road network | Single House |
| Urban Centres Buffers | Mixed Housing Suburban |
| NZTA | Terrace Housing and Apartment Buildings |
| Auckland Council & former TAs | Neighbourhood Centre |
| Auckland Council | Mixed Use |
| Energy Company | Future Urban Zone |
| Her Majesty the Queen | Residential - Rural and Coastal Settlement Zone |
| Housing | |
| Watercare Services Limited | |
| Auckland Transport Projects | |
| Strategic Framework Line | |
| Special Housing Areas | |
| Special Purpose | |
| Local Centre | |



Not to scale

Schools and Community Facilities

This map provides detail on educational and community facilities in the East Coast Bays subdivision area.

Schools are critical points within the Greenways plan, providing both an opportunity to discuss connections via easements, while also providing destinations in their own right. These facilities are visited by large numbers of people on a frequent basis, and providing safer, higher amenity and more accessible connections has tremendous potential to reduce reliance on private vehicles, while also getting kids exercising and experiencing the natural environment.

Proposed Greenway connections to schools may be influenced by existing 'walking school bus' routes or may influence the development of the same. Funding is available for walking school bus routes, and it is possible that some connections could be supplemented by this funding stream.

Consideration of any easement proposal within the boundaries of a educational facility would need to be firstly consulted with the landowner or leaseholder, and should be carefully considered to ensure the safety of students, and minimise any risk of property damage. Some accesses may need to be limited to certain times of day for these reasons. Connections could not be made without the full support of the affected party.

Similarly community facilities such as churches, marae, halls and libraries are important nodes in the network, and Greenways routes can serve as an alternative way of accessing these areas, rather than using a motor vehicle, in order to unlock the benefits already stated.

This map shows 'high level' locations of schools and community facilities, but this information is also shown on the detailed network plans, where the connections can be more clearly illustrated and interpreted.

LEGEND:

- Local Board Boundary
- Streams / Rivers
- Road network
- Ministry of education
- Places of Worship, Church
- Recreational, Playground
- Shopping Centres, Shopping Centre
- Sports Complexes, Golf Club
- Water Transport Services, Boat Ramp
- Community Hall
- ★ Council Local Board Office



Topography

The adjacent map shows the topography of the East Coast Bays subdivision. In general terms, and when compared to much of Auckland, the area is relatively steep. The dominant landforms are the series of ridgelines which slope eastwards towards the coast, and which run off a major north-south ridge. East Coast Bays Road winds its way along this major ridge, and offers views over the Hauraki Gulf. The coast line of East Coast Bays dips in and out between sandy beaches in sheltered bays, and high plunging cliffs. The silted-up river mouth around Browns Bay offers the only truly flat section of the subdivision.

From a Greenways perspective, this steep topography presents challenges, as some gradients may not be suitable for all ages and physical abilities. The steep ridges present a physical challenge to beginner cyclists, wheelchair users and some walkers. Wherever possible, routes have been selected to minimise vertical climb, and are oriented along cross slopes.

The main roads that traverse the ridgelines themselves, at Glenvar Road, Vaughans Road, and East Coast Road present a challenge in Greenway route planning as they offer ideal connections with flatter gradients, and therefore provide a physically 'easier' route, however they conflict with the Greenways criteria of selecting quieter streets for safety and amenity reasons. Many of these ridgeline roads have been identified as part of the ACN network however.

In terms of the proposed Greenway routes, further investigation is required in places at a detailed stage to determine the feasibility of providing cycle access. There will be walking-only tracks where cycling is deemed to be unachievable.

LEGEND:

- Local Board Boundary
- Streams / Rivers
- Road network
- Contours (50 metre)
- Contours (25 metre)



Heritage Sites

This map shows sites that identified by the Cultural Heritage Inventory (CHI) that was created by the former Auckland Regional Council. The CHI was established to promote sustainable management of cultural heritage by providing easy access to cultural heritage information and should be used as a resource when developing the network.

CHI sites in this area include:

- Archaeological Sites - e.g. midden and pa sites;
- Historic Botanical Sites - e.g. specimen trees;
- Historic Structures - e.g. early European buildings; and
- Maritime Sites - e.g. shipwrecks, wharfs, boatsheds

Also shown on this map are all sites listed in the *Archsite* database. This database, set up as a partnership with Heritage NZ and the Department of Conservation is the national inventory of known archaeological sites.

In developing Greenways the preservation and protection of historic heritage must be ensured. Ideally, these sites would be avoided, but where this is not possible, consent under the Heritage New Zealand Pouhere Taonga Act will be required.

There are a very high number of recorded archaeological sites clustered around the Okura River and estuary (predominantly pre-European), illustrating the significance of the area to Maori. Such sites are commonly found around sites which were desirable for occupation and food gathering - notably the maunga, coastline and streams. In this case, the Okura River area is by far the most important area, but a number of sites are also known to exist around Long Bay (including koiwi sites), and also the less-modified waterways in the northern (rural) section of the subdivision.

Archaeological sites are much less common in the developed areas of the subdivision - not because these areas were necessarily of less significance, but more likely due to the destruction of such sites as residential development occurred.

LEGEND:

- Local Board Boundary
- Streams / Rivers
- Road network
- Priority Coastal And Waterway Areas For Survey
- ▲ NZAA ArchSite Archaeological Sites
- NZ Archaeological Association
- Historic Heritage Sites
- ◆ Crown Owned CHI Sites
- Archaeological Site
- ▲ Historic Botanical Site
- Historic Structure
- Maori Heritage Area
- Maritime Site
- ★ Reported Historic Site
- Archaeological Surveyed



Population Density

This 'heat chart' map, sourced from the Auckland Plan 2012, shows the classification of town centres in the area, along with population densities based on the 2006 Census meshblock data.

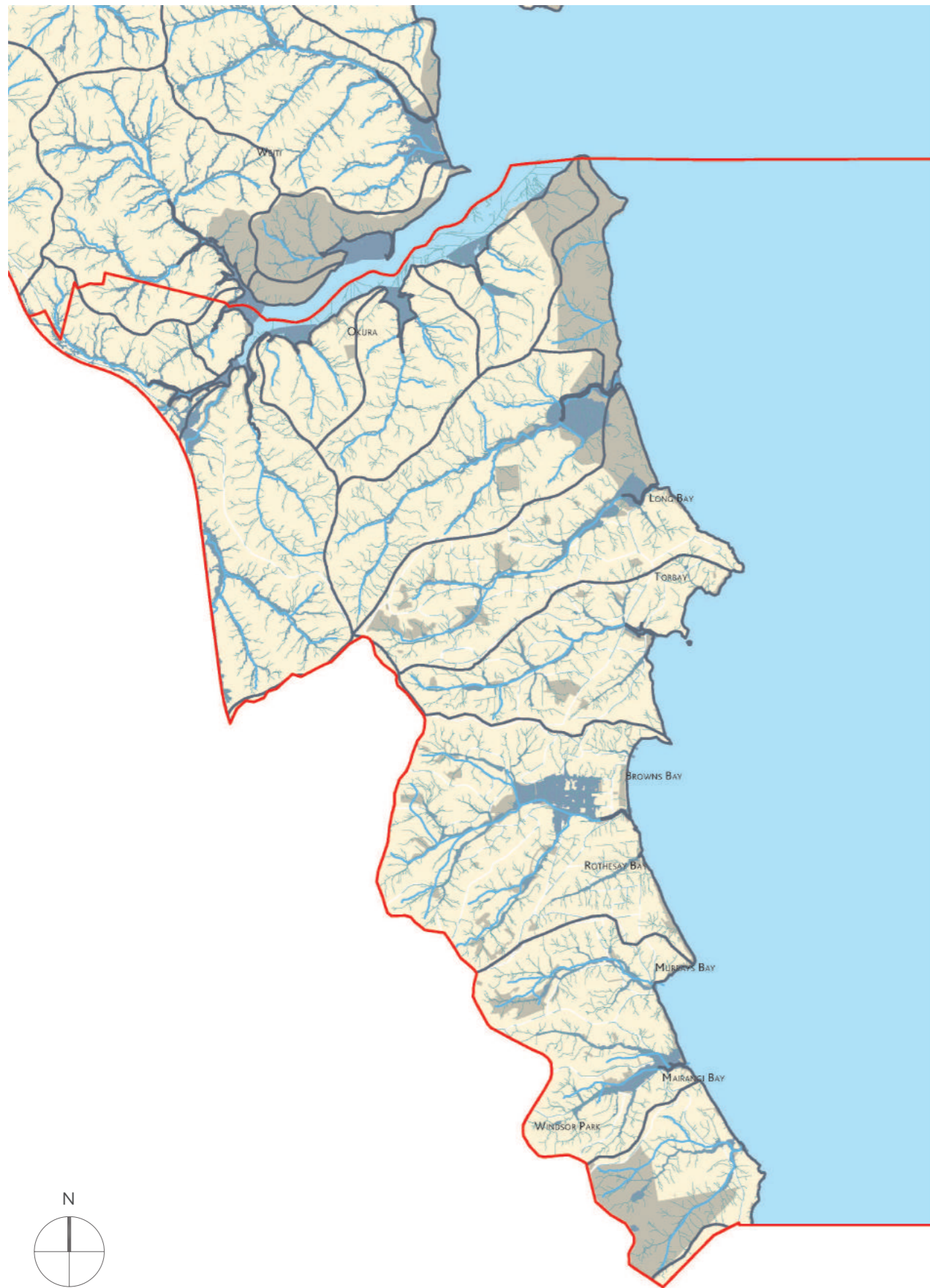
Population density is important in Greenways planning as it shows where potential users will be coming from, and it is logical to focus efforts in these areas (in addition to providing strategic regional connections, which are not as influenced by proximity to housing).

In general, as a city intensifies, residential section sizes become smaller, and residents require recreation facilities beyond their backyard. While this can be perceived as a negative impact of intensification, if well planned, these public open spaces can actually build communities by providing locations and facilities where people from different communities can come together and meet.

This map shows that by far the most residents and potential users reside in the southern half of the subdivision area, with a cluster of density in the more recent developments around Northcross. This is the likely density that will be seen in the majority of new developments across Auckland, and these feature a very small amount of 'private' open space (backyards).

LEGEND:

- Local Board Boundary
- Streams / Rivers
- Road network



Catchments / Hydrology

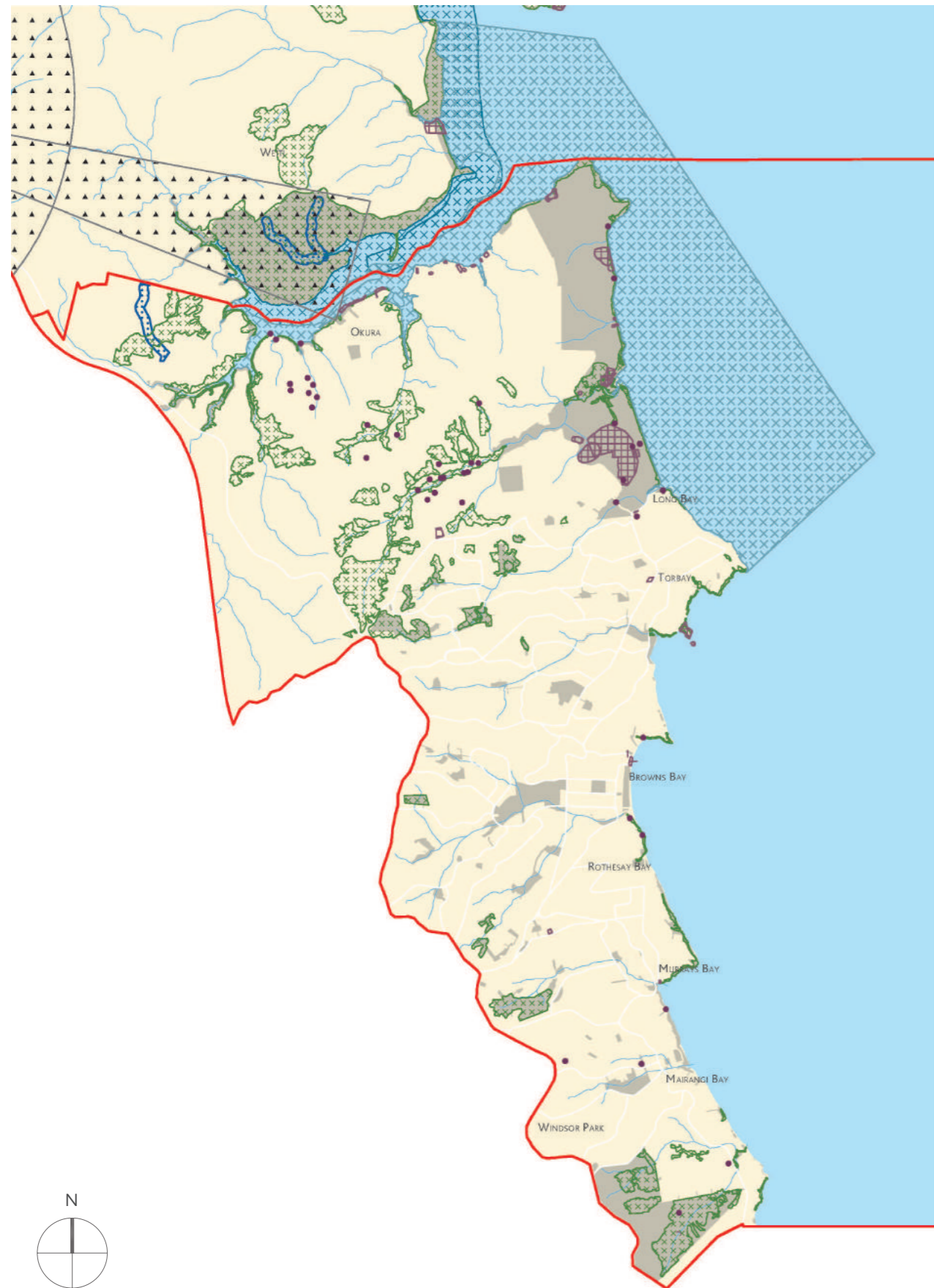
This map shows flood prone areas, flood plains, and flood sensitive areas as well as the streams and rivers within the study area. The Greenways network typically follows streams and their tributaries for a number of reasons, including:

- Routes along waterways offer opportunities to enhance the local ecology, by carrying out riparian planting, habitat restoration and daylighting/stream naturalisation, all of which have great potential in strengthening Auckland's network of ecological corridors.
- Riparian planting associated with Greenways development provides more absorption of overland rainwater runoff, which reduces pressure on peak flows and therefore reduces flooding frequency downstream.
- Riparian planting also acts as a filtration system, improving water quality as pollutants from overland flows are removed.
- The relatively consistent slope of waterways means that they are good 'connectors', offering comfortable, high amenity pedestrian and cycle routes to travel between places.
- Well planned planting and pedestrian/cycle facilities will ensure that Greenways along waterways will be highly used, which will in turn provide increased stewardship by users alerting authorities of incidents of pollution, dumping etc.
- There are educational benefits of opening up and restoring our stream corridors, to tell the stories of local ecology to our communities and this in turn can further increase stewardship.

There are many volunteer organisations throughout Auckland who are committed to improving the natural environment along our waterways. It is highly recommended that the council and Council Controlled Organisations (CCOs) continue to work together with these volunteer organisations for any Greenways projects involving aspects of waterway restoration.

LEGEND:

- Local Board Boundary
- Streams / Rivers
- Road network
- Natural Drainage Sub-Catchments
- Streams
- Overland Flow Paths
- Flood Plains



Significant Ecological Areas

Significant Ecological Areas

This map shows Significant Ecological Areas (SEA's) as identified within the Auckland Unitary Plan.

A SEA is an area of significant indigenous vegetation or a significant habitat of indigenous fauna, that is identified for protection within the Unitary Plan. Any vegetation removal or alteration within SEA would require a Resource Consent. More stringent provisions may also apply for earthworks and other activities, to ensure development is directed away from SEAs as much as possible.

Five criteria were used to assess whether or not a natural area was significant. Those criteria were: representativeness; threat status and rarity; diversity; stepping stones, migration pathways and buffers; and uniqueness or distinctiveness.

The Weiti Estuary which forms the northern boundary of this subdivision is of particular importance ecologically, being notable for the series of 'shell spits' which have formed within the estuary. These have been used to derive a sea level curve for the last 10,000 years and are considered to be internationally significant landforms. The estuary is not a significant wading bird feeding ground, but the shell spits are a good high tide roosting site for the wading birds that feed in the adjacent intertidal areas to the south and for the coastal birds that use the estuary itself. The most seaward shell bank is particularly important as one of the key breeding grounds in the Region for the threatened New Zealand dotterel (Source Auckland Regional Policy Statement, 2012).

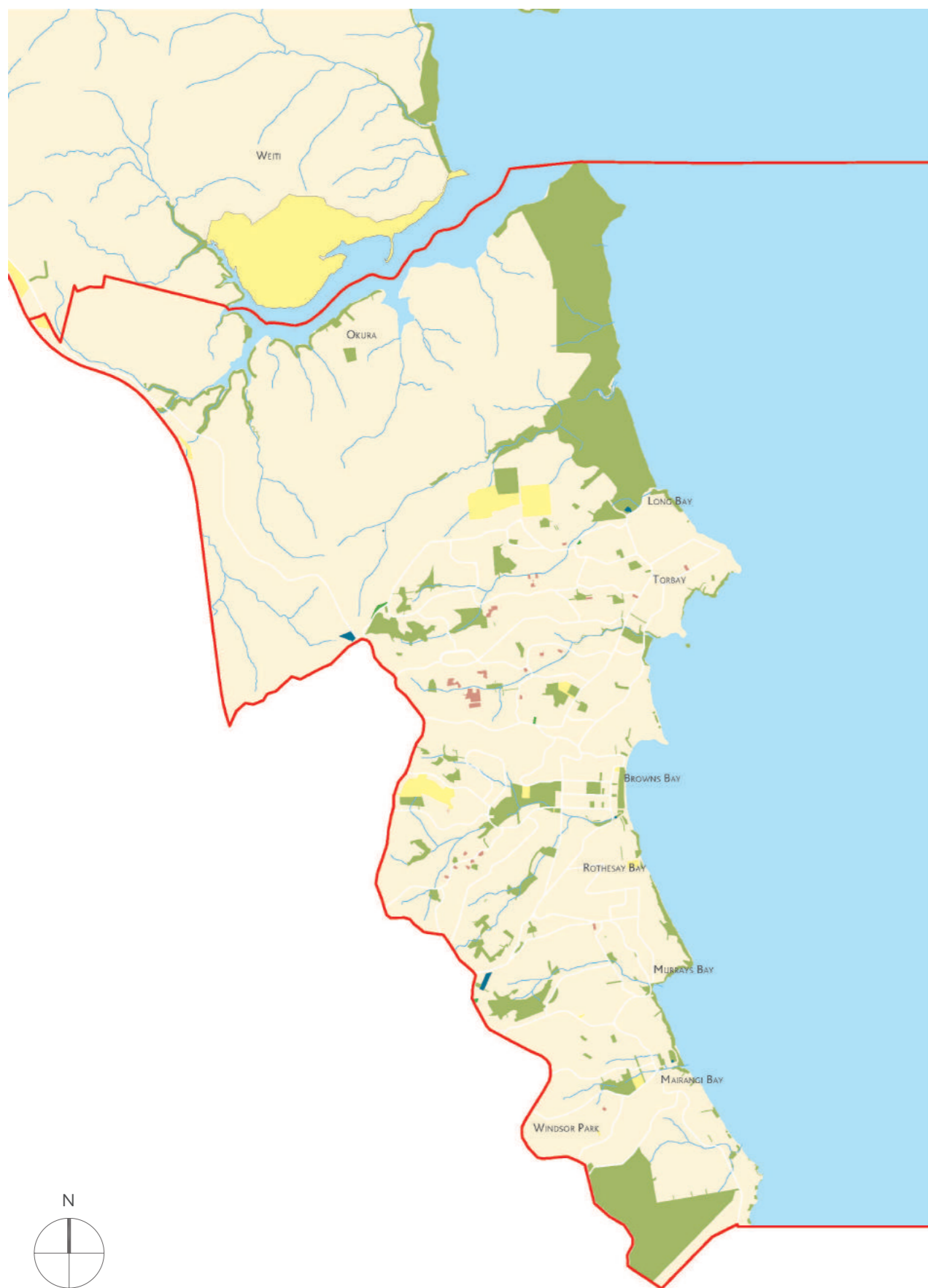
Another SEA of note is the marine area around Long Bay and the Okura Estuary. Within this area are a complex range of habitats which support a variety of animal and plant communities. The intertidal areas within the Okura Estuary and outside its entrance are used as a feeding ground by several hundred wading birds. Many of these birds roost on the sandy area at the entrance to the estuary at high tide. A variety of other coastal birds feed and roost within this area, including the threatened banded rail. The Okura River also provides habitat for giant Kokopu and long-finned eel (Source Unitary Plan).

There is also a document called the 'Northwest Wildlink Prioritisation Project' which sets out the ecological areas of most importance in the area, and identifies them as ecological stepping stones. These 'stepping stones' are shown generally on the map to the left; Long Bay Regional Park, Okura River, the area to the west of Long Bay, and Centennial Park, as well as the many streams and estuaries.

These SEA's have been considered in planning the network, and delivery of any Greenway project through these areas will need careful consideration with ecological experts relevant to that area. That said, carefully designed Greenways in these areas should provide not only ecological improvements, but also opportunities for people to be educated and better engaged with their local natural environment, so as to better ensure its long term protection and preservation.

LEGEND:

- Local Board Boundary
- Streams / Rivers
- Road network
- Historic Heritage Overlay Place
- Historic Heritage Overlay Extent of Place
- ▲ Airport Approach Surface Overlay
- X X X Terrestrial
- X X X Marine 1
- X X X Marine 2
- X X X Natural Stream Management Areas Overlay



Not to scale

Land Ownership

This map provides details of land within the study area that is in some form in public ownership. This information is of key importance, as connections on publicly-owned land are more readily achieved than those on privately-owned property.

The following public ownership types exist within the study area:

Auckland Council Land, Zoned Open Space: No access arrangements required to improve connections, although resource consent may be required, dependent on the proposal.

Auckland Council or Auckland Transport land, not zoned 'Open Space': This land may be available for Greenway connections, dependent on the current or proposed usage of the site.

Ministry of Education land: Educational institutions generally feature large areas of open space, and discussions may be held regarding public use and/or connection easements over this land.

New Zealand Transport Authority land (NZTA): NZTA holds land adjacent the motorways. Across other parts of Auckland, significant sections of cycleways and replanting have taken place within these corridors, and there is potential for further connections along NZTA landholdings, particularly in the northern half of the subdivision.

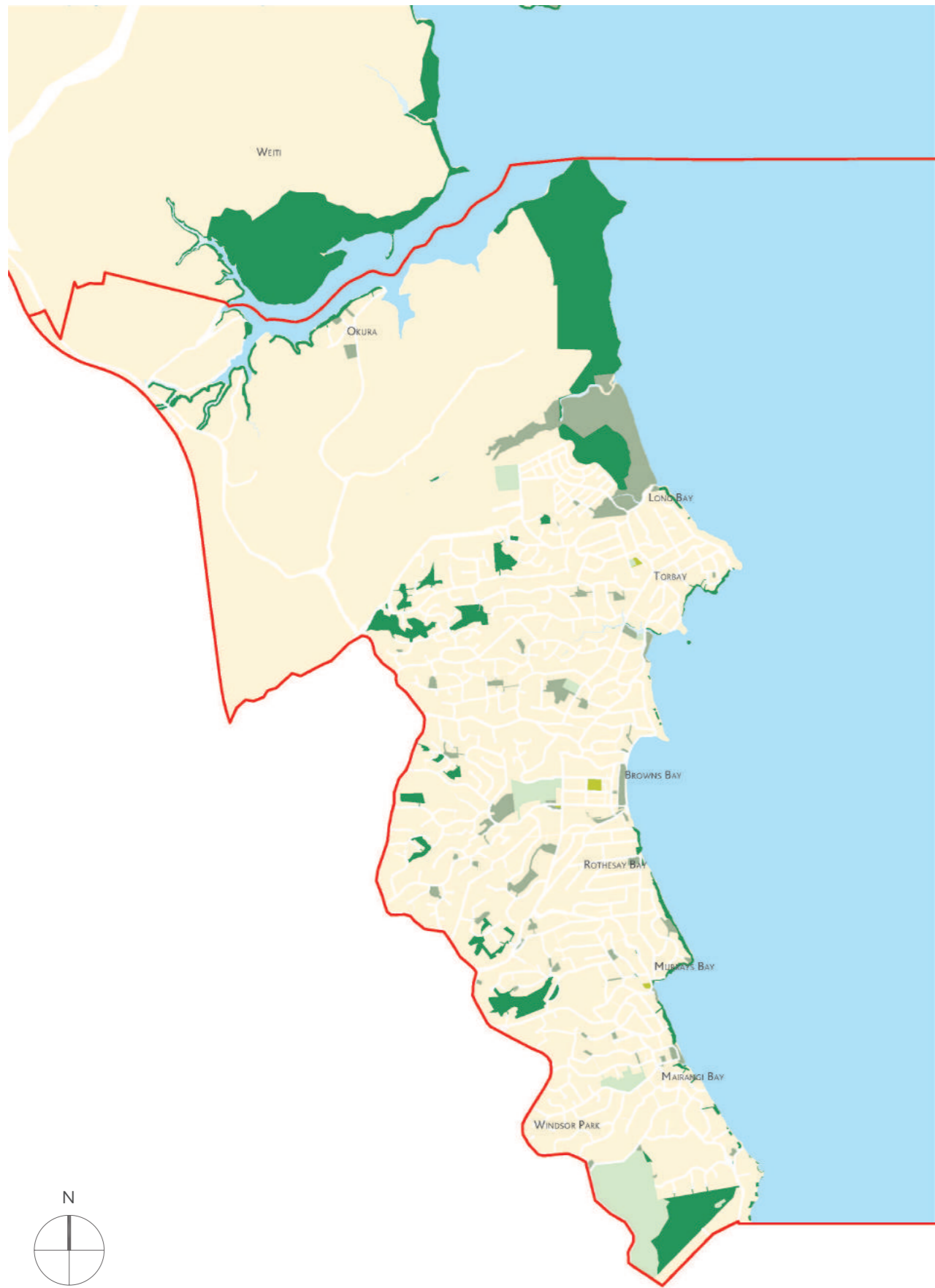
Housing New Zealand (HNZ) land: In areas where there is a cluster of HNZ properties, discussions may be held regarding redevelopment of housing stock, and the redistribution of public open space to a layout which suits both housing and recreational purposes better.

Her Majesty the Queen: Typically this is land that is owned by the Crown, and used for a specific purpose and a government agency is responsible for it, e.g. Department of Conservation land.

Energy Company land: Land that is owned by Transpower or Vector. In the East Coast Bays subdivision, these properties are small, isolated secure sites, that offer little potential to assist the greenway network.

LEGEND:

- Local Board Boundary
- Streams / Rivers
- Road network
- Auckland Council
- Energy Company
- Her Majesty the Queen
- Housing
- Watercare Services Limited



Not to scale

Parks and Open Space

This map shows all land zoned open space within the Auckland Unitary Plan, and is an important map as Greenways generally link areas of open space together, via quiet slow speed streets. The zoning breakdown of the open space is important as it sets out the types of planning controls that each project would be delivered under.

Compared to other areas of Auckland, the percentage of conservation zone in the East Coast Bays subdivision is relatively high, and this reflects the ecological and natural values around Okura, Weiti and Long Bay, as well as in the upper reaches of the area’s watercourses.

This map shows that open space is predominantly clustered around the area’s natural features - watercourses and the coast. Open space and recreational destinations are quite well spread across the subdivision, other than in the relatively undeveloped northern section, where it can be argued there is not the need yet. Open space in this area will develop as population grows there over time.

This map also shows that the area between Long Bay and Weiti has by far the largest area of open space, and that improved connections from the residential areas of the subdivision out to these outstanding natural areas will be of great value, and likely be highly used.

LEGEND:

- Local Board Boundary
- Streams / Rivers
- Road network
- Open Space - Conservation Zone
- Open Space - Informal Recreation Zone
- Open Space - Sport and Active Recreation Zone
- Open Space - Civic Spaces Zone
- Open Space - Community Zone
- Water



Road Hierarchy

Existing road hierarchy has been considered when determining the Greenways routes, in order to create safe, desirable and high-amenity environments, encouraging use by as many Aucklanders as possible.

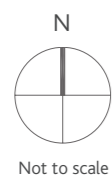
Arterial and Collector roads are typically busy roads that provide for a range of transport types, including cars, buses and trucks. Careful consideration needs to be taken where the green links network intersects or runs along these roads, to ensure desirable/safe routes are formed, and Greenways generally avoid these routes.

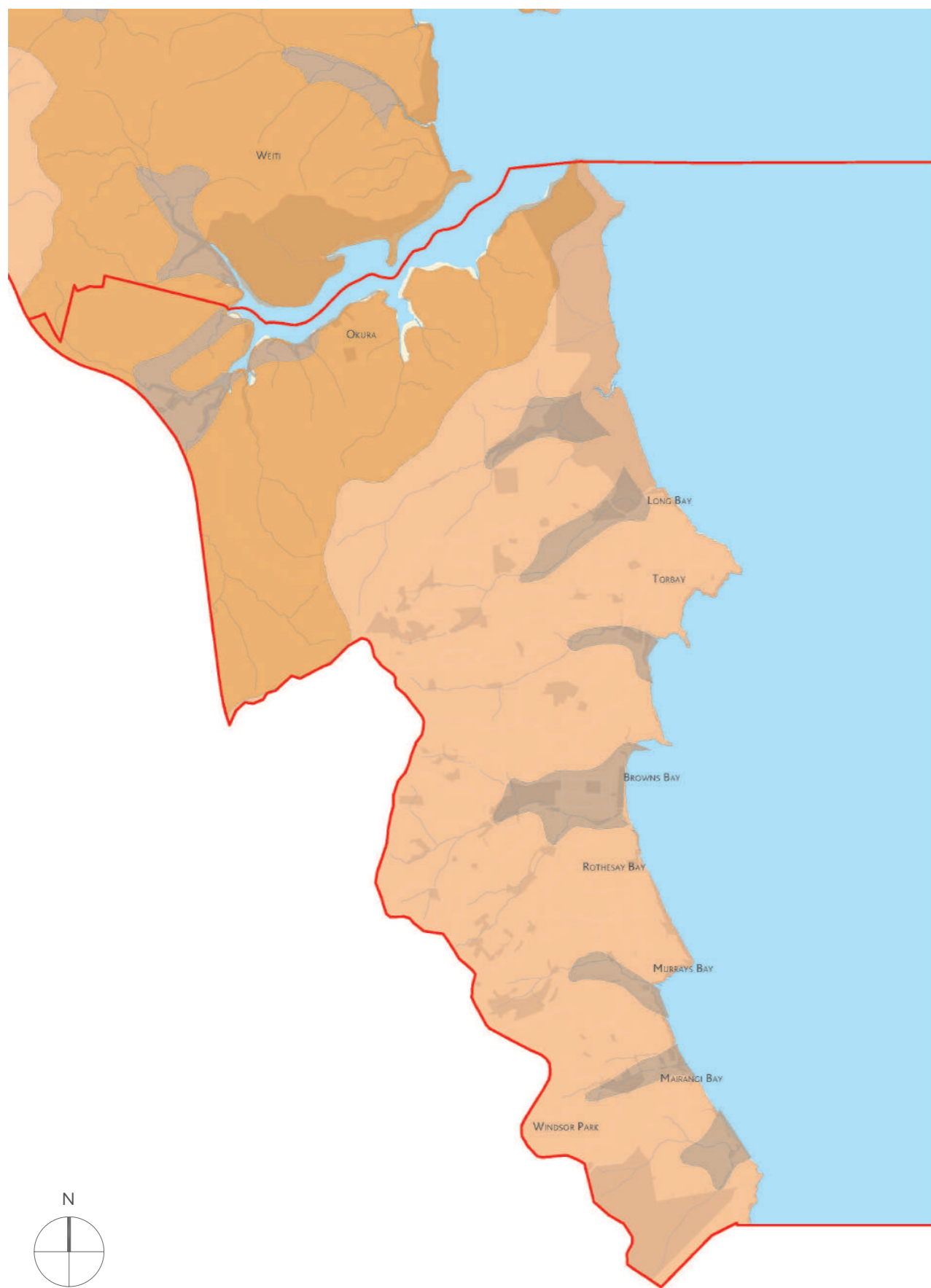
Local streets are slower speed environments with lower traffic flows and typically provide more desirable Greenway connections. While these tend to be prioritised when planning Greenway routes, careful consideration at the design stage will still be required in order to ensure adequate passive surveillance and motorist awareness of pedestrians, cyclists and recreational users.

The road hierarchy also affects potential for street 'greening' initiatives to support the green links network. Methods for providing safe crossing points will also be affected by the road hierarchy - for instance, un-signalised crossings are unlikely to be permitted on arterial roads.

LEGEND:

- Local Board Boundary
- Streams / Rivers
- Motorway
- Arterial Road
- Connector Road
- Local Road





Soil Types

The East Coast Bays is situated on the east coast of Auckland’s North Shore. While the underlying geomorphology of the Auckland region is heavily influenced by its volcanic history, in East Coast Bays the soils are generally from more sedimentary origins - with the ‘Waitematā Basin’ being the underlying process at play here.

The Waitematā Basin formed quite rapidly between 24 and 18 million years ago, and extended from the North Waikato to Whangarei. This underwater landform collected sand and mud from eroding landforms to the west, including the Manukau volcanoes, and the giant Waitakere Volcano further west. This sediment was dominated by interbedded silts and muddy sands with some coarser grained sediments.

As the basin sunk, the sediments were buried to greater depths. The basin is thought to have subsided to depths of between 1000 and 3000 metres. The sediments infilling the basin were compressed, consolidated and in places cemented to form a thick sequence of inter-bedded weak siltstone and muddy sandstones. Between 15-17 million years ago, this area was uplifted via tectonic activity, and this geological sequence is now collectively referred to as the Waitematā Group. Most of the East Coast Bays area comprises soils from this group.

Three soil types are found here. Most of the area is made up of Waitematā residual soils, formed by the processes just described, and relatively fertile. The Okura region is mostly greywacke and limestone soils, and there are also pockets of alluvial soils, which have been formed via stream erosion/deposition processes more recently. These are found in the areas where the stream gradient flattens out, allowing the sediment load in the water to drop out.

The residual soils of the Waitematā Group are predominantly made up of mudstone and sandstone, and while relatively fertile, is readily eroded due to the soft nature of this subgrade.

The areas of alluvial soils are a mix of mud sand and gravel, often with organic matter, and provide the most fertile areas found locally. These would have typically been colonised by Kahikatea and other broadleaf species.

LEGEND:

- Local Board Boundary
- Streams / Rivers
- Road network
- Alluvial Soils
- Greywacke and Limestone Soils
- Waitemata Residual Soils





Walking Routes

This map shows existing named walking routes within the East Coast Bays subdivision. The intent of the Greenways plan in this area will be to overlap with (or connect to) these established walking routes wherever possible. While these are established routes, there may be improvements proposed to these as part of development of the Greenways network, to ensure consistency and legibility.

Existing walks within open space areas are also overlaid onto this map, and these include street to street connections between cul-de-sacs. These connections are often open space assets, and improve the walkability of a neighbourhood by joining local streets, although their narrowness and length can create personal safety issues.

The Te Araroa (national) walkway traverses the Okura River, then follows the northern and eastern coastline south before continuing south into the Devonport Takapuna Local Board area. In the north, it follows the route of the Crimson Walkway and DoC's Okura Scenic walkway.

As can be seen from this map, while there are some excellent 'named' walkway, connections to these could be greatly improved, to reduce reliance on the private motor vehicle for access.

LEGEND:

- Local Board Boundary
- Streams / Rivers
- Road network
- Existing Walkway
- Existing Sewer Pipe Walkway
- D.O.C. Okura Scenic Walkway
- Te Araroa National Walkway
- Crimson Walkway



Public Transport

Existing and planned public transport routes are illustrated on the adjacent map, showing that the East Coast Bays subdivision is relatively well served by public bus services, although other modes of public transport found in Auckland, such as rail or ferry are not available here.

In planning the Greenways network, bus stops were taken into account, as without the presence of a rail or ferry network in this area these are the most likely 'entry points' for visitors into the area on 'day trips' and walk the Greenways network, without use of a private motor vehicle.

The bus routes themselves were also taken into consideration, as these typically offer the least potential for creating the types of 'slow speed/high amenity' routes that Greenways seek to provide. Buses also present a physical risk to cyclists, both perceived and actual.

On-road Greenways therefore avoid bus routes wherever possible, although links to bus stops have been taken into account, where suitable.

LEGEND:

- Local Board Boundary
- Streams / Rivers
- Road network
- Bus Stops
- Existing Bus Routes
- Proposed Bus Routes



Cycle routes - Auckland Cycle Network

This map combines the draft Auckland Cycle Network (ACN). The draft ACN is based on the Regional Cycle Network (RCN), developed by the former Auckland Regional Transport Authority in conjunction with former legacy Auckland councils and the NZTA. The draft ACN is driven by the Auckland Plan growth projections and the Auckland Integrated Transport Plan 'One Network' approach, both of which share an estimated completion date of 2040.

The draft ACN (shown on the adjoining map) is broken into three types of cycleways:

- Metros
- Connectors
- Feeders

'Metros' offer the highest level of service to the cyclist, in that they are dedicated connections, continuous, direct and traffic free. They typically exist along motorway or railway corridors, and none are currently planned in this area - largely due to the lack of appropriate infrastructure corridors.

'Connectors' follow arterial routes, and are designed to connect people quickly and directly to key destinations and public transport nodes. They are typically 'on road' connections, although some of these may also run through parks and open spaces, where appropriate.

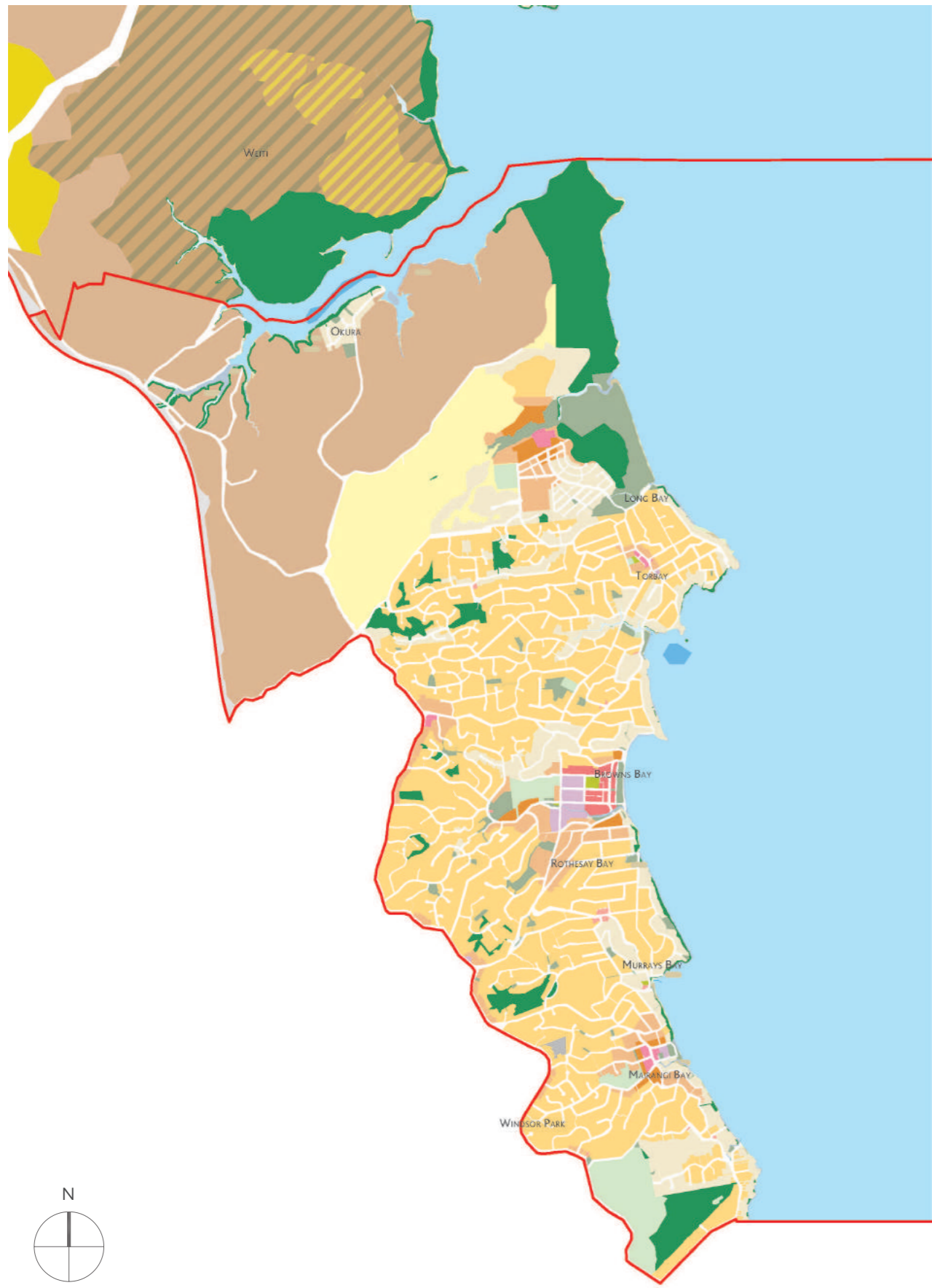
'Feeders' are local neighbourhood connections. These may include and/or double up with Greenways routes. 'Feeder routes' are intended to connect local attractions, such as open town centres and parks, and typically follow quieter streets.

Within internal officer workshops for the development of the Greenways, Auckland Transport has expressed an interest adjusting their 'feeder' routes to align with those routes chosen in the Greenways plans.

LEGEND:

- Local Board Boundary
- Streams / Rivers
- Road network
- Connector
- Feeder





Proposed Auckland Unitary Plan - Zoning

This map shows the proposed zoning for East Coast Bays within the Auckland Unitary Plan. The Auckland Unitary Plan - once operative - will supercede the legacy council District Plans.

A number of changes are proposed to the zoning of this area under the Unitary Plan, with the vast majority of the existing area moving to the 'mixed suburban' zone, along with an intensification to 'mixed urban' around the town centres and business zones. This is an important change, as it implies a likely reduction in 'private' open space over time, and a relative increase in the importance of Greenways in getting people active outdoors. More detail is given below around the three most common residential zones in the area, as well as some of the other common zoning found locally;

A summary of the key zones found in the area includes:

- Residential, Single Housing - One house per section, with a two storey limit.
- Residential, Mixed Suburban - Up to two dwellings per site, two storey height limit. Three or more dwellings require a non-notified restricted discretionary resource consent to ensure high quality outcomes through assessment against a suite of design criteria. Larger residential developments will be reviewed by the council's Urban Design Panel.
- Residential, Mixed Urban - Up to two dwellings per site, three storey height limit. Three or more dwellings require a non-notified restricted discretionary resource consent to ensure high quality outcomes through assessment against a suite of design criteria. Larger residential developments will be reviewed by the council's Urban Design Panel.
- Business zones - relate to development strengthening Auckland's network of centres as attractive environments with a mix of uses that provide employment, housing and goods and services at a variety of scales.
- Rural zones - protect the productive potential of rural land in the region and its contribution to landscape, natural character and biodiversity values.
- Open Space zones - There are five broad zones, used to plan and manage activities on public open space, and more detail is provided on these on a separate map.
- Special Purpose zones - The special purpose zones within East Coast Bays include school zones, cemetery zones and major recreation facilities.

LEGEND:

Local Board Boundary	Business - Town Centre Zone
Streams / Rivers	Business - Local Centre Zone
Road network	Business - Neighbourhood Centre Zone
Residential - Large Lot Zone	Business - Mixed Use Zone
Residential - Rural and Coastal Settlement Zone	Future Urban Zone
Residential - Single House Zone	Rural - Rural Conservation Zone
Residential - Mixed Housing Suburban Zone	Rural - Countryside Living Zone
Residential - Mixed Housing Urban Zone	Strategic Transport Corridor Zone
Residential - Terrace Housing and Apartment Buildings Zone	Special Purpose Zone
Open Space - Conservation Zone	Coastal - General Coastal Marine Zone
Open Space - Informal Recreation Zone	Coastal - Mooring Zone
Open Space - Sport and Active Recreation Zone	Coastal - Coastal Transition Zone
Open Space - Civic Spaces Zone	Water
Open Space - Community Zone	



Not to scale

Wildlife and Landscape

North West Wildlink

The East Coast Bays subdivision sits towards the eastern edge of the North-West Wildlink (NWW) project - a collaborative effort between Auckland Council, Forest and Bird and DoC. The aim of the project is to create a corridor of ecosystems linking regional biodiversity hotspots between Auckland's east and west coasts.

Native wildlife needs relatively connected native vegetation cover to move from place to place seasonally. The NWW is expected to provide improved migration routes from Tiritiri Matangi Island to Shakespear Park and on to the Waitakere Ranges, via the North Shore and West Auckland. Locally, this link takes in the undeveloped and forested land around the Okura Creek, before heading further north and east, along the Whangaparaoa Peninsula. As the adjacent map shows, this is also the area of most significance to wildlife found locally.

NWW is based on a 'restoration approach' with the focus on enhancing natural capital across existing natural areas, open spaces, production landscapes, stream banks, esplanade reserves, and backyards to provide healthy and safe habitats, refuges and routes for native fauna. These aims are very complementary with the aims of the Greenways network, and the synergy may offer opportunities for joint delivery of some of the planned projects.

Landscapes

As shown on the adjacent map, the area around the Okura Creek is also listed as an Outstanding Natural Landscape (ONL). This is ONL 51 (Okura Estuary Headlands), and is scheduled for its "strongly defined river corridor flanked by sedimentary cliffs to the south (Okura) and native forest across slopes and coastal ridges to the north framing a mixture of open water, sand / mud flats and mangroves."

While development of any Greenways project in this area would need to be cognisant of the wildlife and ecological values, it would also be assessed against its impact on the landscape character.

LEGEND:

- Local Board Boundary
- Streams / Rivers
- Road network
- Habitat Protection Location
- Coastal rock stacks
- Estuary
- Lake margin
- PNA Priority Vegetation Sites
- PNA Priority Wildlife Sites
- Special Wildlife Interest
- High Conservation Value
- Wading Birds

NorthWest Wildlink Prioritisation Maps

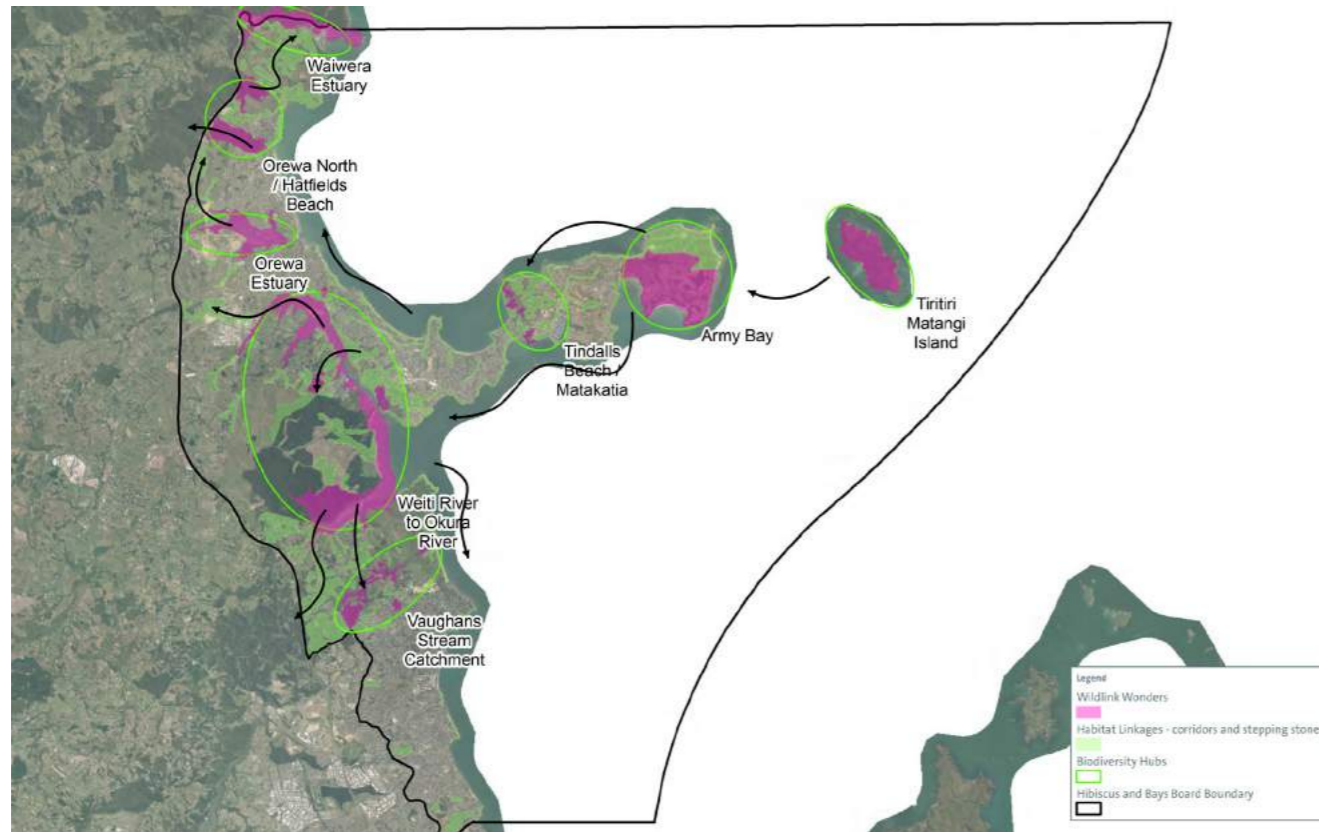


Figure 31. Overall NW wildlink diagram. Image taken from Boffa Miskell 'North West Wildlink Prioritisation' report

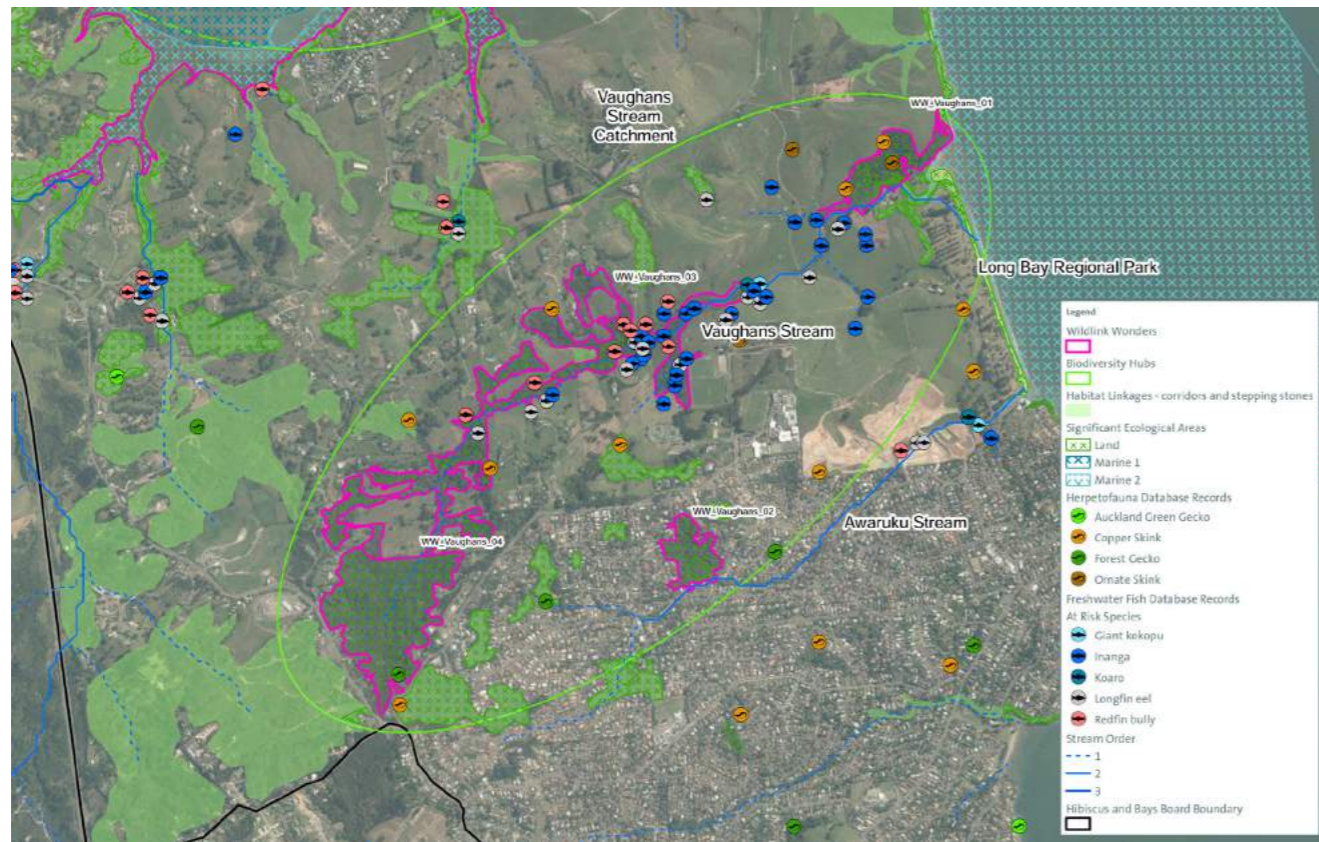


Figure 32. Long Bay ecological links. Image taken from Boffa Miskell 'North West Wildlink Prioritisation' report