

3.3.1 Green network

3.3.1.1 Protection areas

The draft Warkworth Structure Plan is built on the foundation of setting aside areas that are important for ecology, stormwater, or heritage from any built urban development. These areas have been excluded from the development yield (they are assumed to have no dwellings or businesses on them). A map of the green network is shown in Figure 2.

Auckland's natural environment is our primary infrastructure. The ability for it to function well and be of high quality is important in supporting biodiversity, improving water quality, reducing air pollution and protecting against severe weather and flooding. A healthy natural environment plays an important role in creating quality built environments and in creating communities that are resilient to anticipated impacts of climate change. The notion of protecting Warkworth's environment (particularly the Mahurangi River) as the town grows was a clear theme from public consultation on the structure plan project in April 2018.

The green areas allow the creation of continuous 'green corridors' across the growth area which can be restored with riparian planting. This will improve the health and quality of the

Mahurangi river, which is consistent with the Warkworth Structure Plan planning principles and the messages from the public. The green network also creates visual amenity and enables the possibility of providing public access links across the network.

The benefits of healthy rivers and streams and green infrastructure in urban environments include increased resilience to climate change impacts, reduced impacts of stormwater runoff from urban areas (e.g., sediment and contaminants) on streams, and increased quality of the living environment.

The green areas will also create ecological corridors that connect small, fragmented patches of native vegetation within Warkworth and its immediate surrounds. At the larger scale, restoring these corridors provides a key linkage between the Dome Valley Forest in the north, to the Mahurangi River, and out into the Mahurangi Harbour and the pest-free islands of the Hauraki Gulf.

The 'protection areas' include the following elements:

- Flood plains
- Streams⁴ with a 10m buffer
- Wetlands
- Significant Ecological Areas
- Covenanted bush
- Historic heritage extent of place area

There is around 210ha of land identified as one or another of these 'protection areas'. As can be seen from the table below, there is a large amount of overlap between these areas (i.e. a flood plain and a stream buffer often cover the same land).

'Protection area' element	Percentage of total 'protection area' (note many areas overlap)	Percentage of total area without overlaps
Flood plains	53%	22%
Streams with a 10m buffer	48%	18%
Wetlands	3%	1%
Significant Ecological Areas	19%	6%
Covenanted bush	26%	14%
Historic heritage extent of place area	1%	1%

Figure 8: Table of 'protection area' elements

⁴ Those classified as permanent/intermittent/transitional in 'Watercourse Assessment Report - Warkworth Future Urban Zone', Prepared for Auckland Council by Morphum Environmental Ltd, June 2018.

While the term 'protection areas' may cover a number of meanings it is important to note the following matters:

- There are differing levels of protection for the different elements. Some have high levels of protection (e.g. covenanted bush areas) while others rely more on the objectives and policies of the Auckland Unitary Plan for protection. The Plan Change to implement the first stage of the structure plan will need to include specific provisions to ensure that all these areas are set aside from development.
- There are currently limited mechanisms to require the active restoration of these areas (i.e. riparian planting etc). Again, the Plan Change to implement the first stage of the structure plan will need to include specific provisions to require active restoration measures in these areas.
- These areas are not automatically public open space. Much of this land may remain in private ownership as it is developed. This is not considered to be an issue in terms of ecological and stormwater outcomes.

Protection and enhancement of these areas through a future Plan Change is essential as protection of these areas is the foundation on which the draft Warkworth Structure Plan is built on.

⁵ 'Warkworth Stream Classification and Esplanade Assessment', Prepared for Auckland Council by Morphum Environmental Ltd, April 2018.