CON20120828006 – Edgewater Developments, Whatuwhiwhi

Site visit 5 October 2012

Objective of visit was to detemine status of the site; previously assessed by Lisa Forrester as a Significant Indigenous Wetland in Memo dated 10 September 2012 **(attached)**.

Weather conditions on the day were overcast, with no appreciable rainfall over the previous week. Rainfall for this area during the previous month of September was assessed as approximately 160% above normal.

Two areas were inspected - Area 1 (Stage 3 of the proposed development), at the end of De Surville Road; and Area 2 (Stage 4 of the proposed development) north of Carrington Road, above the area of bare eroded land. Photos were taken, soil profiles inspected and GPS reference points noted. The aerial photo of the site **(attached)** indicates site locations.

Area 1

Site 1: 1635584E 6141231N

Photo showing general location of site looking north from track above the end of De Surville Road. No evidence of any surface water – and no mud on boots.

Slope of site measured by inclinometer at 11^0, and recorded on the GPS between the first two sites as 10%.

Site 2: 1635571E 6141292N

Photos showing soil profile – no evidence of any ground water.

Photo indicating material excavated, and depth of hole at site 2. Soil description – a dark brown sandy loam with evidence of some mottling (as shown in top photos). At 30 - 40 cm depth a hardstone pan was encountered.

Site 3: 1635573E 6141330N

Site 4: 1635595E 6141382N

Photos showing soil profile and general location. No evidence of any groundwater.

Photos looking to west and south with more established vegetation within the gully in mid distance. Lower photo shows completed Stage 1 and Stage 2 Edgewater Development, with 2 stormwater attenuation ponds.

Site 5: 1635569E 6141212N

The above photos are located beside the gateway at the top of De Surville Road. The soil profile shows the distinctive podzolised layer below the 10-15 cm of dark sandy A Horizon. No evidence of any overland flows, seepages, wet areas or ponded water.

Area 2

Site 6: 1635220E 6141459N

Photos showing lighter brown clay soil profile and excavated material. No evidence of any groundwater.

Photos indicating general features and vegetation of area between sites 6 & 7.

Site 7: 1635206E 6141529N

Photos of soil profile and general location. No evidence of any groundwater.

Photos indicating vegetation and contour of area between sites 7 & 8.

Site 8: 1635239E 6141517N

The above photos and soil profile were taken in a slight hollow. No evidence of any groundwater.

Discussion

The following definitions from the RWSP provide some guidance on what is a wetland:

Wetland - *Includes permanently or intermittently wet areas…that support a natural ecosystem of plants and animals that are adapted to wet conditions.*

Indigenous Wetland – *An indigenous wetland is any naturally occurring wetland of 50 m² or more (with a minimum width of 5 metres) which is permanently or seasonally wet (in that the water table is at or near the ground surface during high water table conditions), and which is dominated by indigenous wetland plant species….*

There are two parts to these definitions; whether they have permanently or seasonally wet ground conditions (relating to ground water levels); and the type of plant species growing upon them. There is no doubt that the vegetation growing on this site is capable of growing in wet conditions, and that it is also dominated by indigenous species. However the species present also grow in other sites as stated in the Wildlands report '…. *many species that occur in wetlands also occur elsewhere…'* (Section 4.2, Wetland Guidelines for the Northland Region – draft report prepared for Northland Regional Council, August 2012). This site is exposed and dries out during summer months.

To meet the definition of a wetland, indigenous wetland, or significant indigenous wetland, wetland soil conditions must first be satisfied. Is the water table at or near the ground surface?

Conclusion

Based on the investigations carried out at the end of a relatively wet winter, there is no evidence of elevated ground water levels as no ground water was encountered. Even in minor hollows there was no evidence of groundwater.

One of the criteria for assessing a site as a wetland requires that they be inundated or with water levels to the ground surface for at least 14 days of the year. I suspect that this would be the case on flatter areas, but not on sloping and steeper slopes. Although the soils on this site are wet during winter months the only time they could possibly become inundated or have groundwater levels at or near the surface is during or immediately following heavy and prolonged rainfall events. There is no evidence that this site has greater elevated groundwater levels than many other soils in Northland during the winter months of the year. The main reason for the growth of 'gumland' indigenous vegetation on this site is the low nutrient status of these soils.

It is recommended that Council staff reassess the way that areas of 'gumland' are classified as it is clear that not all areas will meet the definition of a wetland. Appendix 13B of the Regional Water & Soil Plan for Northland specifies a number of criteria for determining areas of significant indigenous vegetation and fauna, but there are no rules in the plan for the protection of such areas for biodiversity values - unless it is a wetland.

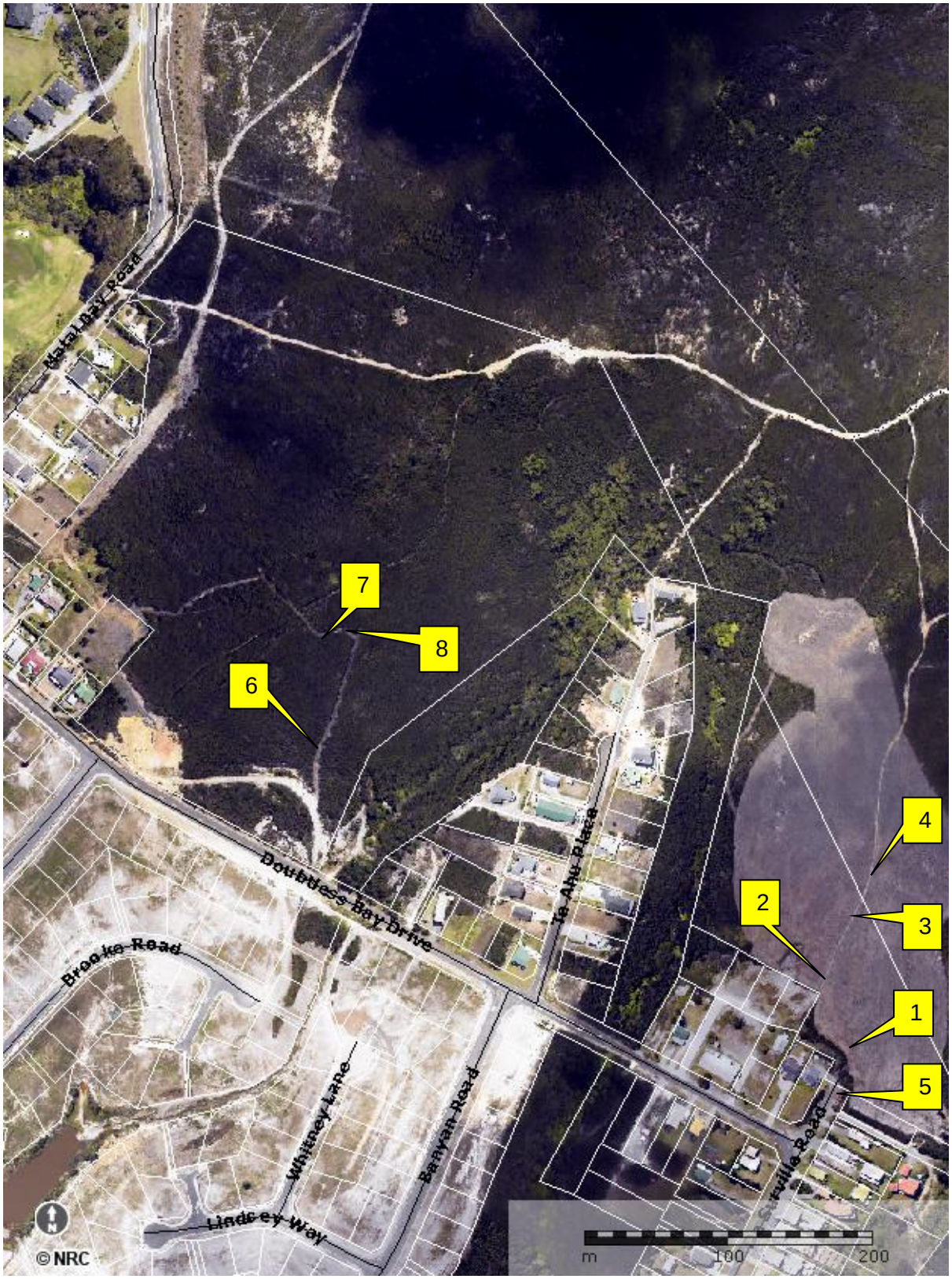

Photo showing location of sites investigated.

NORTHLAND REGIONAL COUNCIL

FILE NOTE

10th September 2012

File No:
Action No:
Date of Correspondence: 10th September 2012
Subject: **EDGEWATER DEVELOPMENTS PROPERTY WHATUWHIWHI**

ACTION TAKEN: On Tuesday October 4th NRC Officer Peter Wiessing and I made a brief visit to the site of a proposed subdivision owned by Edgewater Developments behind Whatuwhiwhi. The purpose of the visit was to ascertain if the area contained a Significant Indigenous Wetland under the Regional Water and Soil Plan.

Background
The area has been recorded as a Level 1 PNAP site known as Taupiroroa Range Shrublands ("Natural Areas of Aupouri Ecological District") by the Department of Conservation (2003). The report states that behind the Whatuwhiwhi Settlement the Taupiroroa Range is a mosaic of manuka-kanuka shrubland 1-2m. Also listed is a vegetation association with occasional gorse, common prickly hakea and kumerahou, mingimingi, *Epacris, Dracophyllum* etc. The area is a representative site in the district for heathland type (a) manuka-kanuka shrubland and the shrublands are described in the report as a "nationally under-represented" vegetation type and a priority for protection within the ecological district. A large area of the two heathland types described above had been cleared since the original survey in 1995. An aerial photo dated 2003 shows a large mowed area immediately behind the settlement on the Edgewater property.

Visit
The area proposed for development is clearly an indigenous wetland of the gumland type (Photos 1 and 2). It is dominated by native species. Gumlands occur on old kauri soils where a clay pan has formed which impedes drainage. They are very low in fertility, and the thin peat soils are acidic and prone to temporary drought. Gumlands occur on level to sloping ground and are most common on the Aupouri and Karikari Peninsulas. In this case the vegetation contains most of the species which characterize gumlands including dominant manuka over *Schoenus brevifolius, Machaerina teretifolia, Epacris pauciflora, Dianella haematica, Dacophyllum lessonianum, Tetraria capillaris* and the small fern *Lindsaea linearis.* Very few weed species were seen and the area is a good example of intact gumland despite being mowed in the past. In fact the mowing has simply acted as a substitute for fire to which gumlands are prone.

The area is a Significant Indigenous Wetland because it is larger than 2 ha, has not been grazed or modified by permanent structures such as roadways and has a less than 10% cover of introduced species. Gumland is a rare wetland vegetation type in Northland with only 4.1% of its original extent remaining (Ausseil et al. 2008). The shrublands are listed as a representative for the district and a nationally under-represented vegetation type by DOC (2003). In addition the rare native blueberry *Dianella haematica* (Nationally Threatened - Declining) and young native sun orchids were coming away. The area would no doubt support a range of native orchid species which would be identifiable during flowering season.

In addition fernbird would also be present although they were not heard on this visit. Other significant fauna such as green gecko are also likely to occur.

Conclusions

The Edgewater Developments property behind Whatuwhiwhi is a Significant Indigenous Wetland of gumland type with few weeds and a largely natural character. Gumlands are a rare vegetation type having been significantly reduced from their former extent in Northland. The habitat at Taupiriroa Range is listed as representative in the Aupouri Ecological District and is a nationally under-represented vegetation type recommended as a priority area for protection (DOC 2003). Ialso contains nationally threatened species. It is recommended that this area is retained as a gumland.

Signed: .....
Lisa Forester
Biodiversity Specialist

Photo 1 Looking north-east. Gumland dominated by manuka and sedges (*Schoenus brevifolius and Machaerina teretifolia) with boundary of area mown several years ago in distance.*

Photo 2 Closeup of manuka with Schoenus sedge understory, typical gumland vegetation.

References

Ausseil, A-G.; Gerbeaux, P.; Chadderton, W.L.; Stevens, T.; Brown, D.; Leathwick. J. (2008). Wetland ecosystems of national importance for biodiversity: Criteria, methods and candidate list of nationally important inland wetlands. Discussion Document. Landcare Research, Palmerston North, New Zealand. 162 p.

Conning, L.; Holland, W. (2003). Natural areas of the Aupouri Ecological District. Reconnaissance Survey Report for the Protected Natural Areas Programme. Department of Conservation, Northland Conservancy. 371 p.