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Report to Environment Committee
from Paul Jolly, Pollution Control Officer

Coastal Structures Inventory for the Wellington Region

1. Purpose

To advise the Committee of the completion of the Coastal Structure Inventory for the Wellington Region.

2. Background

The Wellington Region has 505 km of coastline (including islands), along which there are a large number and variety of structures. Wellington Regional Council identified a need for further information regarding these coastal structures and any associated discharges to the coastal marine area, as this information would provide an objective basis for their future management. The Regional Council therefore undertook a baseline survey of coastal structures and discharges between 8 January 1999 and 11 January 2002, which resulted in the development of a coastal structures database.

This information will provide a rational basis for compliance evaluation, consent setting, infrastructure management and policy development.

3. Project Objectives

The objectives of this Coastal Structures Inventory project were to:

- Record all structures in the coastal marine area;
- Record all discharges into the coastal marine area;
- Record the location, ownership and state of repair of all structures identified;
- Identify illegal and abandoned structures; and
- Develop a database to facilitate use of this information.

The survey covered the entire coastline of the Region, to identify all structures and discharges below mean high tide water springs. The following structures were included in the inventory:

- Seawalls
- Groynes
- Pile Moorings
- Slipways
- Jetties
- Accessway
- Boat ramps
- Wharves
- Marinas
- Stormwater outfalls
- Sewer outfalls
- Boatsheds and other buildings
- Other fixed structures

4. Findings

A total of 1,038 structures were identified along the Region's coastline, as summarised in Table 1 below.

Table 1 Summary of Structures Identified

| Type of Structure | Quantity |
|--------------------------|-----------------|
| Stormwater outfalls | 362 |
| Boat ramps and boatshed | 239 |
| Seawalls | 228 |
| Wharves | 32 |
| Accessway | 20 |
| Sewer outfalls | 17 |
| Groynes | 17 |
| Jetties | 16 |
| Navigational Aids | 14 |
| Pile Moorings | 10 |
| Marinas | 8 |
| Other fixed structures | 75 |
| Total | 1038 |

The following sections provide an overview of significant findings.

Sewerage System Structures

There are 17 sewer outfalls to the coastal marine area, comprising treated sewage effluent discharges (7) and emergency overflows associated with sewerage reticulation systems (10). Sewer outfalls are located at Moa Point (new outfall), Moa Point (disused short outfall), Pencarrow Head (Hutt Wastewater Project outfall), Rukutane Point (Porirua), and Motungarara Island. Emergency sewer overflows are located along the along the trunk main sewer between Lower Hutt and the Pencarrow Head outfall (7), Island Bay (1) and Petone foreshore (2).

Figure 1 Emergency Sewer Overflow from Sorrento Bay, Eastbourne



In addition to outfalls and overflows, there are 10 sewer inspection points along the Golden Gate in the Pauatahanui Inlet area. These are 1 metre diameter cylindrical concrete structures, which may overflow to the coastal marine area in the event of sewer blockage. All are in reasonable condition.

Figure 2 Sewer Inspection Point Located along the Pauatahanui Inlet



Stormwater Outfall Structures

There are a total of 362 stormwater outfall structures in the coastal marine area, mainly concentrated around the Southern Coast of Wellington to the end of the Wellington Motorway (34% of total). The most significant stormwater outfall structures are located at Lyall Bay, Petone Esplanade and Paraparaumu, which are 0.5m diameter and vary in length from 10m to 50m. There are also a substantial number of stormwater outfalls beneath the Wellington wharf (45) and along the Wellington Motorway (34).

Figure 3 Stormwater Outfall at Lyall Bay, Wellington



Boatsheds and Boat Ramps

Boatsheds are shoreline structures in which small recreational vessels are able to dock, while boat ramps are structures that extend onto the seabed for the purpose of launching recreational vessels, and may or may not have sheds associated with them. For the purpose of this survey, boatsheds and boat ramps have been considered to be the same category.

There are a total of 238 boatsheds/ramps in the Region, approximately 55% of which are located around Pauatahanui Inlet, Onepoto, Camborne area and Paramata. The general condition of boatsheds and boat ramps is good, although several are derelict or abandoned. All the boatshed located at Pauatahanui, Onepoto, Camborne, Paramata and Evans Bay are consented

Seawalls

There are a total of 231 seawalls around the Region's coastline, which have been erected to protect land and property from wave erosion. They vary in construction from engineering designs in concrete, sheet pile and timber, through to constructed piles of concrete block and rubble. The most significant seawall structures in the

Region are along Oriental Parade and the Wellington Motorway, and the seawall between Pukerua Bay and Paekakariki. There are also a large number of smaller structures at Raumati. The condition of seawalls was generally good.

Figure 4 Seawall at Raumati



Groynes

Groynes are low structures protruding out into the tide, that are installed to reduce or modify beach erosion and sedimentation patterns. There are a total of 18 groynes in the Region, which are mainly located around Eastbourne and Pauatahanui.

Pile Moorings

Pile moorings are structures in the seabed to which boats can be moored. They are principally found in the Region's marinas, Porirua Harbour, Motungarara Island and Mana Island. The majority of pile moorings are of average condition.

Figure 5 Pile Mooring at Seaview Marina



Accessways

Accessway are walkways constructed to allow public access in the coastal marine area, and there are 20 such accessways within the Region. They are mainly found around Queens Wharf, Pauatahanui, Chaffers Marina and Frank Kitts Park. The condition of accessways is generally good.

Navigational Aids

Navigational aid structures include lights, lighthouses and signs, and are used to warn vessels of navigational hazards. There are 14 navigational aids situated within the Region's coastal marine area. Navigational aids in the coastal marine area are maintained by the Harbours department of Wellington Regional Council. All were all found to be structurally sound although some showed evidence of corrosion.

Figure 6 Lighthouse at Point Halswell



Jetties, Wharves and Marinas

Wharves are fixed platforms used by boats to load and unload cargo, while jetties are floating platforms that provide accesses for recreational vessels. Marinas are generally protected areas which have a number of jetties and possibly wharves. There are a total of 56 jetties, wharves and marinas in the Region, the majority of which are located around the Wellington waterfront.

The largest single feature is inner Lambton Harbour, which comprises Queens Wharf, Glasgow Wharf, InterIsland Wharf and the Te Papa area. Other significant features are the Petone Wharf located along Petone Esplanade, Point Howard Wharf and Seaview Wharf for tanker loading. Other significant wharves include Burnham Wharf, Miramar Wharf and Shelly Bay. There are four significant Marinas in the Region, situated at Evans Bay, Oriental Parade, Seaview and Mana. There are eight jetties throughout the Region, located at Island Bay, Mana Island and Pauatahanui.

The condition of the wharves, marinas and jetties throughout the Region was generally average, with the exception of Shelly Bay Wharf, which was poor.

Figure 7 Seaview Wharf



Miscellaneous Structures

There are a total of 66 miscellaneous minor structures present in the coastal marine area, including fences and water abstraction pipes, signs and toilets. The condition of these structures were average to good

5. Where to From Here?

Database Applications

Resource Investigations and Consents Management are currently investigating the consent status of structures identified via the Coastal Structures Inventory project. Once this exercise is completed, the database will be used as a baseline against which to assess current and future compliance of structures with Regional Coastal Plan rules.

6. Communications

No further public communication is necessary for this report.

7. Recommendations

It is recommended that the Committee:

- (1) *receives the report; and*
- (2) *notes the contents.*

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