

Management Unit 10: Fort Haslar to Fort Gilkicker

Unit limits

3000m for 462550E, 099450N to 460700E, 097450N

Coastal processes

Mainly low lying, heavily developed land, once protected by a shingle bank, but which has had a massive sloping masonry wall in place for nearly 150 years. To the west is a short length of defended embankment fronting a very low lying artificial lagoon of international environmental importance. Foreshore erosion has moved the low water mark progressively landward, and the wall has had extensive footings added over the years to prevent undermining. Foreshore influenced by strong tidal currents in the entrance to Portsmouth Harbour.

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| <i>Geology</i> | - | Bracklesham Beds overlain by a shingle storm beach with River Terrace and Alluvial beds to landward. The shallow nearshore shelf is predominantly sandy |
| <i>Wave climate</i> | - | Waves from southwest through to southeast, with largest waves from south |
| <i>Tidal regime</i> | - | Currents dominated by complex flows through harbour entrance |
| | - | Maximum currents in entrance channel between 1.5 and 3.0 m/s |
| | - | Maximum nearshore currents along main frontage < 0.5 m/s increasing to 1.0m/s near Gilkicker Point |
| | - | Residuals generally weak and vary in direction except near Gilkicker where they flow towards the Point. |
| <i>Sediment transport</i> | - | Weak nett drift from southwest to northeast |
| | - | Sediment flushed seaward from Portsmouth Harbour entrance by ebb flows |
| <i>Possible future change</i> | - | 500mm sea level rise over 50 years |
| | - | Increased inshore wave energy, with mean direction shifting clockwise |
| | - | Increased nett drift to northeast |

Table 10.1 *Extreme wave heights and water levels*

Probability	1:1 year	1:10 years	1:50 years
Nearshore wave height H_s (m)*	1.3	1.6	1.7
Maximum water level (mOD)	2.46	2.78	2.90

* at the -2m CD contour assuming MHWS tide level.

Existing defences

Most of the frontage is protected by a continuous, massive masonry revetment and wall, with extensive footings. Short timber and rock groyne hold an intermittent narrow shingle beach. The lower sand beach is undergoing slow erosion that will result in increased wave attack in the future. Overtopping is unlikely to become serious as waves are small and the wall crest is high.

At Fort Monckton the revetment is formed of armourstone and there is a short length of shingle beach believed to be backed by a revetment. The residual life of the defence in the area is believed to be less than 5 years, but damages due to failure would be local only.

To the southwest of this wall is an artificial embankment enclosing the low lying Gilkicker Lagoon. The embankment is defended by a revetment and wall, fronted by a groyned shingle beach that decreases in width from west to east. Minor overtopping occurs, but little damage is sustained.

Natural environment

The backshore area includes Gilkicker Lagoon SSSI (also proposed Ramsar site and part of the candidate Solent and Isle of Wight Lagoons SAC) and Gilkicker Point CHS. These areas include shingle, grassland and brackish lagoon communities, including rare plants and invertebrates. Shoreline management operations must comply with statutory procedures including the Habitats Directive. In particular, the lagoons should be protected from permanent saltwater flooding.

Land use

Most of the backshore is heavily developed, but is controlled by the MoD or the Home Office for military or institutional purposes. There is a short length of open space north-east of Fort Monckton used as a public car park, with access to parts of the Haslar seawall. The remaining area to the southwest comprises open space of high environmental and recreational value.

Human environment

The area northeast from Fort Monckton retains its historic function as part of the Gosport naval base. Within this area public access to the sea front is restricted and there are no public recreation facilities. There are three Scheduled Ancient Monuments and several sites of historic/archaeological interest. The whole Haslar Peninsular is a historic conservation area.

The Gilkicker Lagoon area is valued as a public recreation area.

Planning policies

The limited undeveloped area is designated as both Coastal Zone and Public Open Space and is protected from significant development. Other development of the area will be controlled by the MoD or Home Office.

- Statutory policy documents*
- Hampshire County Structure Plan, Deposit Draft
 - Hampshire Minerals and Waste Plan, Deposit Draft
 - Gosport Borough Local Plan

Strategic defence options

Table 10.2 Impact Matrix

	Do nothing	Hold the line	Retreat the line	Advance the line
Effects on physical environment and coastal processes	Continued foreshore erosion. Breaching of the Gilkicker embankment and Haslar wall.	Continued foreshore erosion. Future increased wave attack.	Flooding of lagoon area	Increased wave attack.
Effects on human environment	Loss/damage to MoD holding. Loss of recreation area. Possible loss of Fort Gilkicker.	Improve existing situation.	Loss of MoD holding. Possible loss of Fort Gilkicker. Loss of recreation area.	Reclaimed land could be used for development or recreation. Major advances could affect navigation.
Effects on natural environment	Loss of existing lagoon ecology at Gilkicker.	Negligible	Loss of existing lagoon ecology at Gilkicker.	Possible change to brackish conditions in lagoon
Implications for coastal defence	Ongoing damage leading to breaches.	Improved defences required.	New line of defence required.	Substantial new defences required.
Impact on adjacent units	Breach at Haslar would alter flow into harbour. Breach at Lagoon would alter transport regime at Gilkicker. Flood area would extend to Unit 11 backshore.	Negligible	Retreat at Lagoon would alter transport regime at Gilkicker. Flood area would extend to Unit 11 backshore.	Negligible

Losses due to “do-nothing” option

After about 5-10 years the existing timber groynes will become ineffective and the minor shingle deposits will not be retained. Acceleration of foreshore erosion will then take place. Increased wave run up and overtopping may cause limited damage to properties and the lagoon ecology in the short term.

The Haslar seawall is of massive construction but without maintenance the integrity of the structure will be threatened in the short to medium term. Losses to backshore properties due to overtopping and eventually erosion are likely in the medium term. If the wall is breached then significant property damage and loss of naval infrastructure could occur, ultimately altering flows into Portsmouth Harbour.

The Gilkicker embankment is more susceptible to damage. It will become subject to increased overtopping and is likely to breach in the short to medium term. Regular inundation of the lagoons will alter their ecology, with the loss of the existing protected invertebrate community. Low lying recreational areas will be lost including areas fronted by Unit 11. Erosion damage may spread to affect Fort Gilkicker.

Preferred option

The sensitive lagoon ecology and land use by the MoD dictate that do-nothing or retreat policies are not acceptable. Advancing the line in any significant way would affect the harbour entrance and there is no existing requirement for reclaimed land to justify the high costs involved. Therefore the preferred option is to **hold the line** by upgrading the existing defences. The appropriate standards of defence range from 1:50 years at Fort Gilkicker up to 1:200 years along the Haslar frontage.

Operations at Gilkicker must be undertaken within a strategic policy including Unit 11.

Suggested management operations

- Short term*
- Upgrade the face of the revetment, including the crest and footings
 - Improve and extend the groyne system
 - Partial beach recharge
- Medium term*
- Further recharge and revetment maintenance

Preliminary economic assessment

Losses due to “do-nothing”

- Loss of property and recreational areas due to erosion and flooding £20M

Cost of “hold the line”

- Upgrade revetments and groynes, partial recharge £7M