

## Map 9: Ayrshire Coast: Stevenston Pier to Barassie

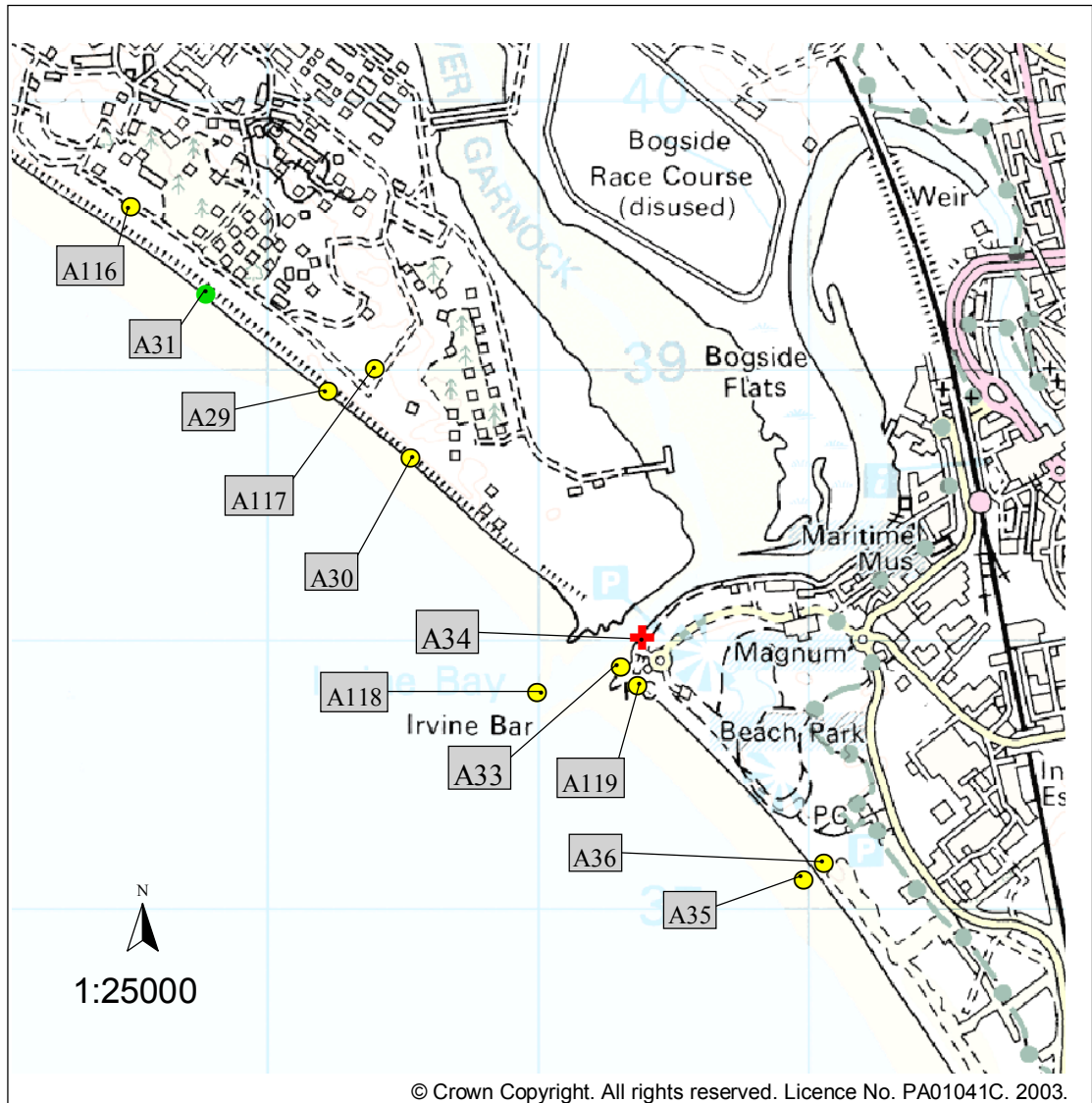
### Map Content Descriptions

#### *1. Built Heritage and Archaeology*

A total of thirteen sites were recorded in the area covered by Map 9. Of these five were previously recorded and eight were new sites noted during the field survey. The main concentration of sites occurred around the northern area of Map 9. The sites located to the north of the Garnock Estuary relate to Nobel's Explosive factory which extends up to and forms the coast edge. These sites include Sea defences (A29) and a large section of eroding industrial waste (A30) that forms the large bank in front of the main factory site. The sites located in the southern area of the Garnock Estuary include the remains of a possible jetty (A33) and a stretch of industrial waste eroding from the sand dunes beneath a wooden walkway (A36). Listed buildings are included in the Irvine Harbour complex. All of the sites covered by Map 9 are situated in an erosional area of the coastline and, therefore, are potentially under threat. Sites A30 and A36 show visible signs of relatively rapid erosional rates.

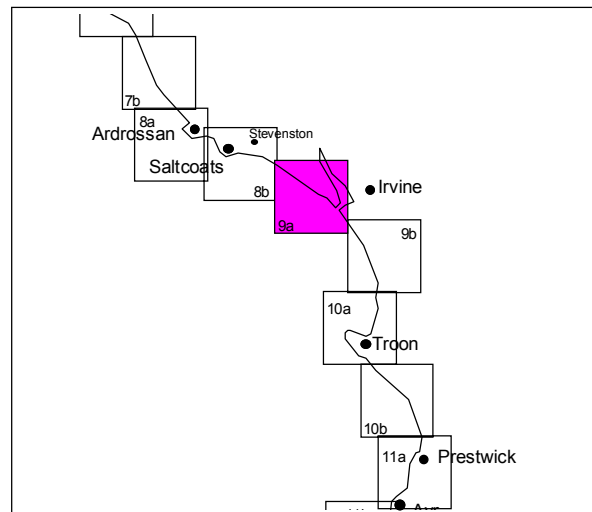
#### *2. Hinterland Geology, Coastal Geomorphology and Erosion Class*

The section of coastline covered by Map 9 extended from the man made promontory at Stevenston to the Northern tip of Barassie. This encompassed all of Irvine Bay and the Garnock Estuary. All of the foreshore consisted of sand deposits and the hinterland comprised mostly of blown sand. Much of the coastline in this area had been modified significantly by human activity including Nobel's Explosive Factory and activity to the south of the Garnock estuary. Large sea walls protect the northern end of Nobel's Factory. Irvine Bay is an area of eroding coastline with much of the hinterland being below 10 m in height.



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- + Listed Historic Building
- Protected Ancient Monument
- Other Archaeological Site
- Designed Landscape
- ▲ Undesignated Wreck
- Insufficient Information
- Probably Archaeologically Sterile



## Map 9a: Built Heritage & Archaeology Gazetteer

**Site No** A29  
**Grid Ref** NS 29226 38920  
**Site Name** Nobel's Explosives Works  
**Site Type** Sea defences  
**Date** 20th cent  
**Condition** Poor  
**Recommendation** Monitor

**Site No** A36  
**Grid Ref** NS 31057 37170  
**Site Name** Irvine Bay  
**Site Type** Industrial Waste  
**Date** Unknown  
**Condition** Poor  
**Recommendation** Monitor

**Site No** A30  
**Grid Ref** NS 29532 38670  
**Site Name** Nobels Explosives Works  
**Site Type** Industrial waste  
**Date** Unknown  
**Condition** Poor  
**Recommendation** Monitor

**Site No** A116  
**Grid Ref** NS 28500 39600  
**Site Name** Ardeer, ICI Works  
**Site Type** Explosives Factory  
**Date** 18th-20th cent  
**Condition** Fair  
**Recommendation** Nil

**Site No** A31  
**Grid Ref** NS 28774 39279  
**Site Name** Nobel's Explosives Works  
**Site Type** Wooden Posts  
**Date** Unknown  
**Condition** Fair  
**Recommendation** Nil

**Site No** A117  
**Grid Ref** NS 29400 39000  
**Site Name** Ardeer, Nobel's Explosives  
**Site Type** Magazines  
**Date** 18th-20th cent  
**Condition** Unknown  
**Recommendation** Nil

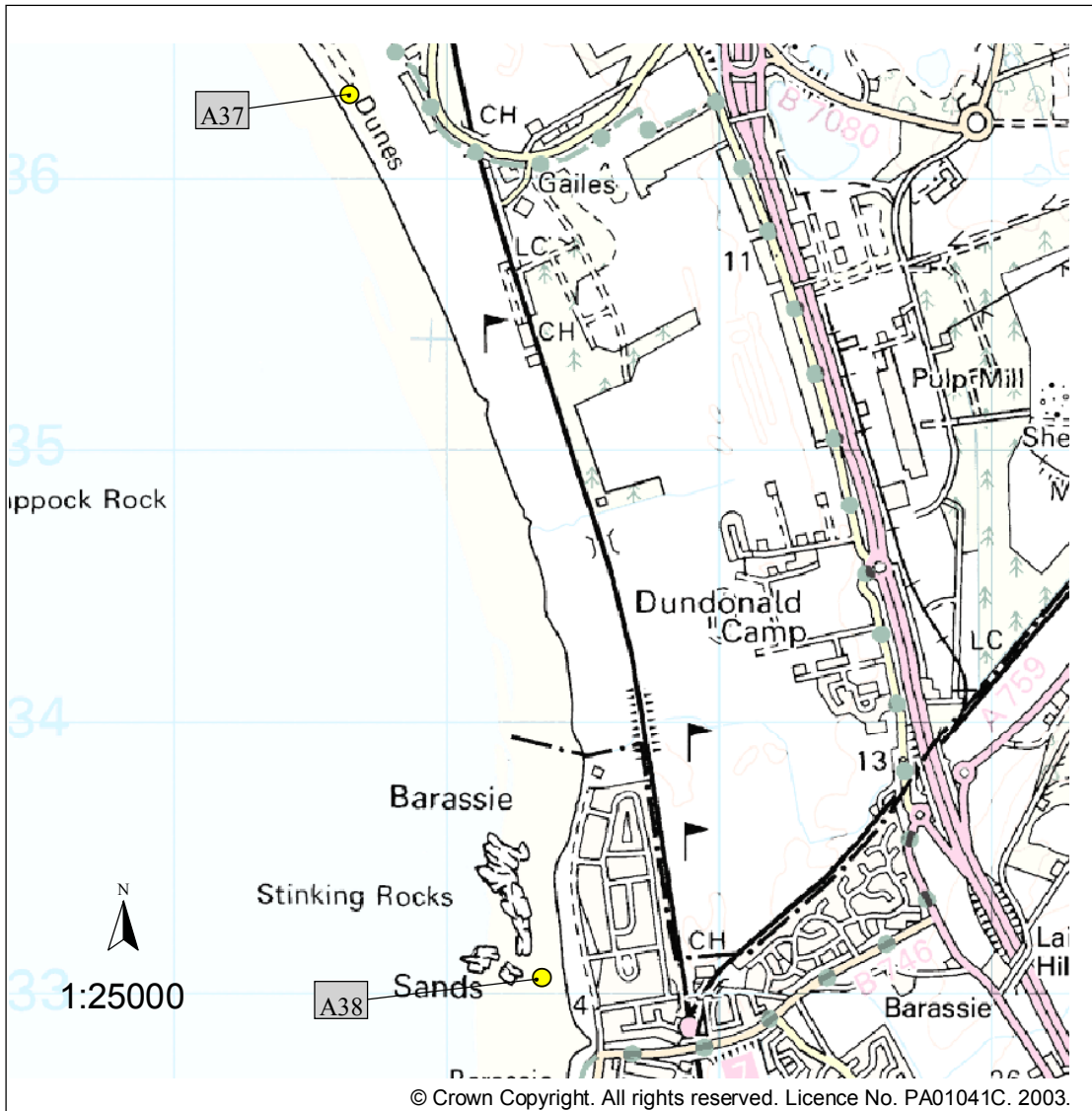
**Site No** A33  
**Grid Ref** NS 30307 37898  
**Site Name** Garnock Estuary  
**Site Type** Jetty (remains of)  
**Date** Unknown  
**Condition** Poor  
**Recommendation** Monitor

**Site No** A118  
**Grid Ref** NS 30000 37800  
**Site Name** Irvine Bar, 'Preen Hull'  
**Site Type** Pins; Brooch  
**Date** Unknown  
**Condition** Unknown  
**Recommendation** Nil

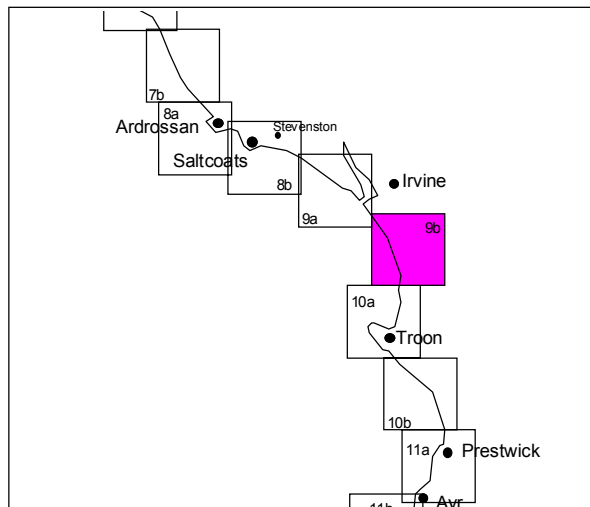
**Site No** A34  
**Grid Ref** NS 30298 37883  
**Site Name** Irvine Harbour  
**Site Type** Harbour/Buildings  
**Date** 18th-20th cent  
**Condition** Good  
**Recommendation** Nil

**Site No** A119  
**Grid Ref** NS 30370 37830  
**Site Name** Irvine, Lifeboat Station  
**Site Type** Roman Coin  
**Date** 1st-6th cent  
**Condition** Unknown  
**Recommendation** Nil

**Site No** A35  
**Grid Ref** NS 30982 37110  
**Site Name** Irvine Bay  
**Site Type** Maritime Marker  
**Date** Unknown  
**Condition** Poor  
**Recommendation** Nil



- + Listed Historic Building
- Protected Ancient Monument
- Other Archaeological Site
- Designed Landscape
- ▲ Undesignated Wreck
- Insufficient Information
- Probably Archaeologically Sterile



## Map 9b: Built Heritage & Archaeology Gazetteer

<b>Site No</b>	<b>A37</b>
<b>Grid Ref</b>	NS 31646 36308
<b>Site Name</b>	Irvine Bay
<b>Site Type</b>	Industrial Waste
<b>Date</b>	Unknown
<b>Condition</b>	Poor
<b>Recommendation</b>	Monitor

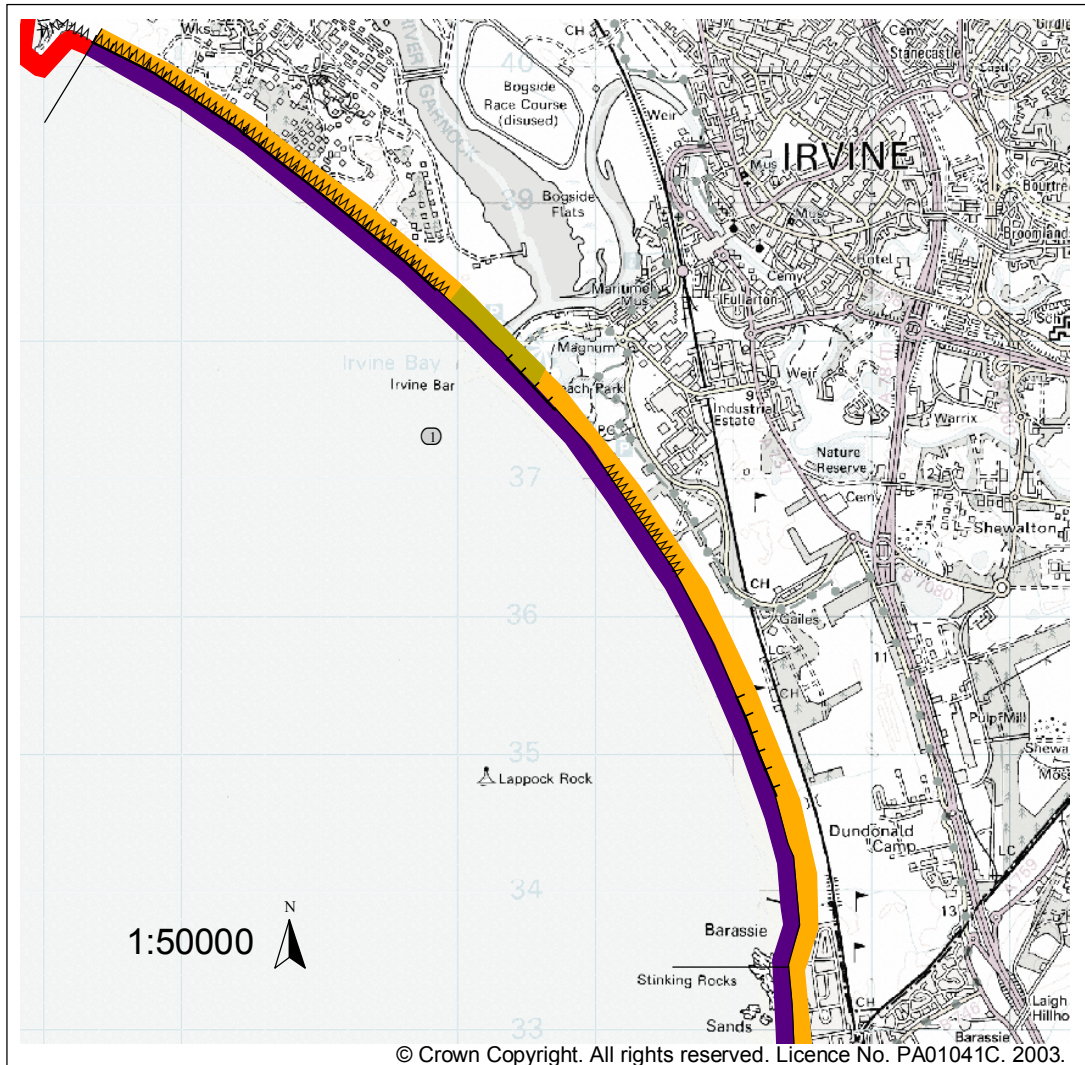
<b>Site No</b>	<b>A38</b>
<b>Grid Ref</b>	NS 32352 33051
<b>Site Name</b>	Barassie Beach
<b>Site Type</b>	Maritime Marker
<b>Date</b>	Unknown
<b>Condition</b>	Poor
<b>Recommendation</b>	Nil

# HINTERLAND GEOLOGY & COASTAL GEOMORPHOLOGY

Ayrshire

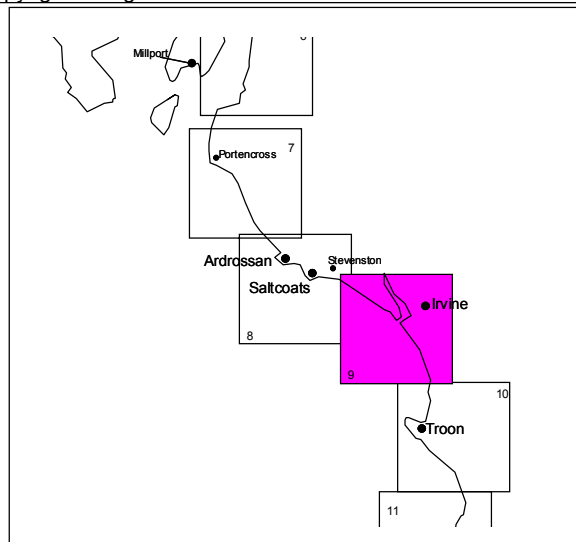
Survey Date : 7 November 2002

MAP 9



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- Mainly sand
- Mainly rock platform
- Mainly alluvial/marine mud
- Marsh
- Drift, boulderclay
- Drift over visible rock
- Raised beach and marine deposits
- Blown sand
- Glacial sand and gravel
- Alluvium
- Low edge <5 m tall
- Cliff >5 m tall
- Man made barrier
- Shingle/strom bank
- Human disturbance



## Map 9: Irvine Bay

### Hinterland Geology and Coastal Geomorphology

#### **1 Irvine Bay**

NS 3024 3795

8.98 km

Mainly sand

Mainly low edge <5 m

Raised Beach/Blown Sand & Human Disturbance

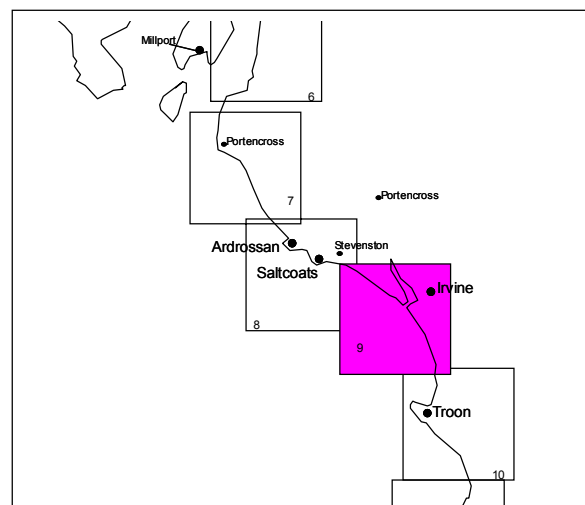
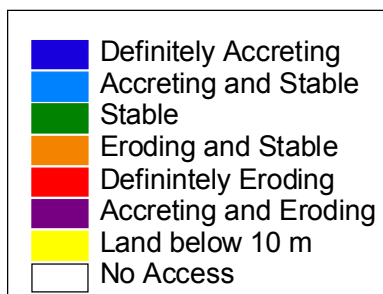
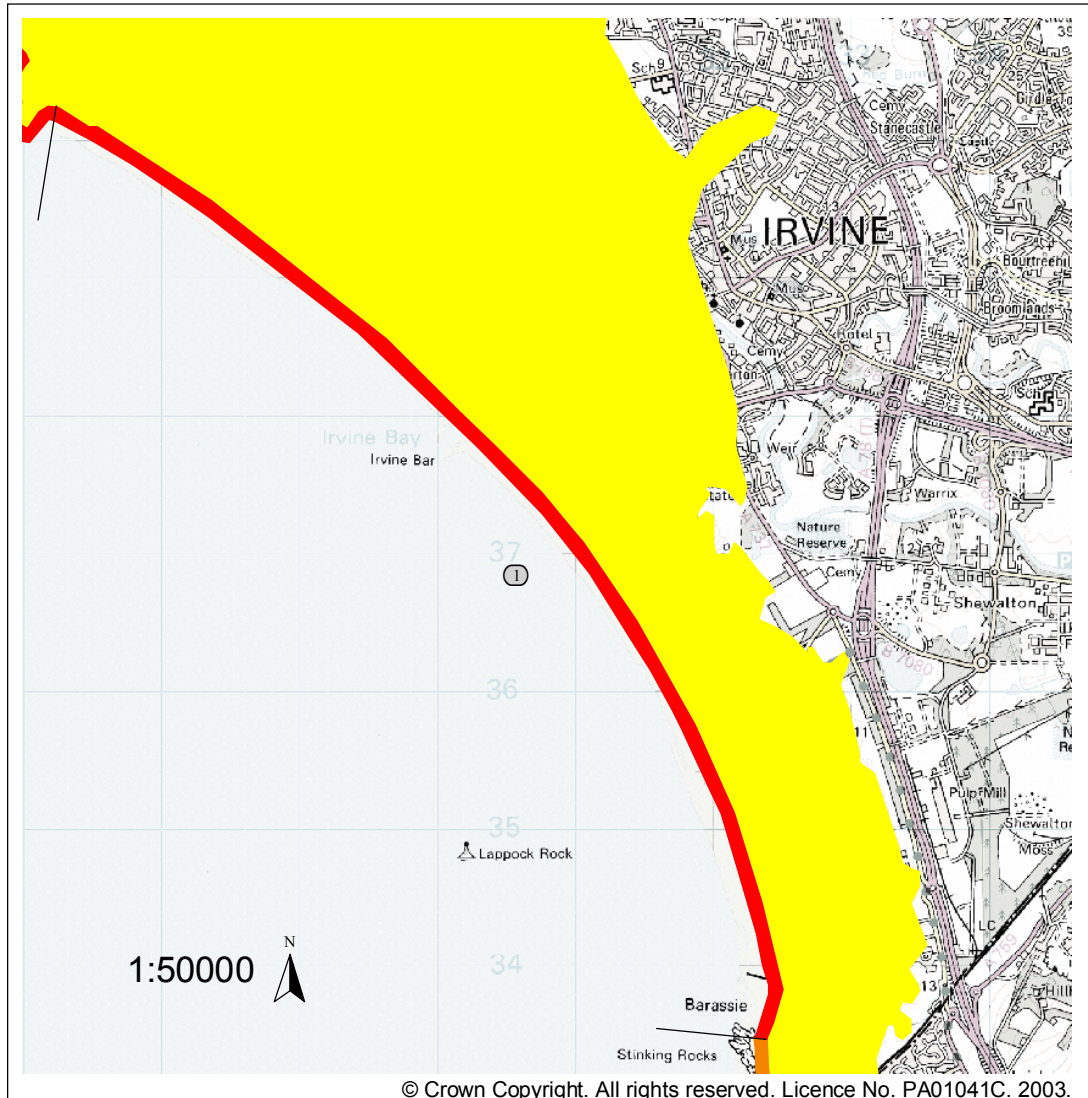
A wide sandy intertidal zone dominates the entire length of this section. Human Disturbance in the form of the Ardeer Explosives Factory dominates the coastline north of the Garnock Estuary. Building rubble has been used unsuccessfully to 'plug gaps' in the dunes which form the coast edge south of the Garnock Estuary. The mouth of the River Garnock has been protected by groynes. A pair of sand bars extend offshore at the rivers mouth. The southern section of the Ardeer Explosives Factory has not been protected. The result is the delivery of large volumes of coarse material, which now armours the upper beach face. Much of the remainder of the Stevenson Site has been protected. A number of approaches have been attempted, with varying success, including gabion baskets, masonry walls, aggregate dumping and sea walls. At the northern section of the Stevenson Site, near the ICI instillation, a cement seawall protects the tall erosional dune face. The beach at the southern end of the section remains relatively wide (300 m at low tide), is backed by a dune cliff (2-3 m tall) and capped with marram grasses. South west of Gables Golf Club House there are two sets of protection works, the southern set are cement cylinders that form a sea wall; adjoining a section of rip-rap.

# EROSION CLASS

Survey Date : 7 November 2002

Ayrshire

MAP 9





## Map 9: Irvine Bay

### Erosion Class

#### **1 Irvine Bay**

NS 3024 3795

8.98 km

LT: Erosional - Medium

ST: Erosional High

North of the golf course erosion becomes more obvious; erosional bights are present, the erosional dune face is higher and steeper, in addition horizons of industrial by-products can clearly be seen in the recessional cliff. Building rubble has been used unsuccessfully to 'plug gaps' in the dunes. A walkway, originally constructed back from the crest of the dunes has been consumed by the recessing dune, can be seen in the dune face and is likely to be eroded out onto the foreshore, in the near future (Plate 17). The mouth of the River Garnock has been protected by groynes, which have stabilised the channel's edge, but which have done little to the adjacent erosional sections of beach. A pair of sand bars extend offshore at the rivers mouth. The bars highlight the fluvial dominance (offshore) over the coastal processes (long-shore) of the remainder of the beach. This natural loss of sediment from the foreshore at Irvine, is exacerbating erosion within the cell. This can be contrasted with the dredging carried out at Troon and Ayr, which is human induced. North of the River Garnock the erosion continues, with an interesting relationship with the human disturbance of the former Stevenson Munitions Factory. From the river mouth to the pier at Stevenson a high ( $\leq 5$  m) erosional cliff backs the sand beach. The southern section of the Stevenson Site has not been protected, however the limestone waste that was dumped inland of the dunes is being eroded through the dune face. The result is the delivery of large volumes of coarse material, which now armours the upper beach face resulting in reduction in the erosion rate (Plate 18). Much of the remainder of the Stevenson Site has been protected. A number of approaches have been attempted, with varying success, including gabion baskets, masonry walls, aggregate dumping and sea walls. What is clear throughout these different approaches is the continual need for maintenance. If the defence is punctured the erosion will concentrate and continue at that point, resulting in erosion of the dune. At the northern section of the Stevenson Site, near the ICI instillation, a cement seawall protects the tall erosional dune face. Generally this wall is stable however there are isolated sections of undercutting and erosional bites on adjacent sections.