

## Map 28: PORT AN RIGH TO CADBOLL

**Hinterland Geology and Coastal Geomorphology:** This coastal unit is underlain by Middle Old Red Sandstone which is itself overlain by boulder clay and morainic drift deposits. The coast cliff overlooks block-strewn abrasion platforms. The settlement of Shandwick Bay and Balintore are within this unit of coastline and occupy part of the only embayment in the largely cliff-girt eastern coastline of the Tarbat Ness Peninsula. The villages are built on an old cliff line at the point where a low coll leads over to the Fern-Nigg lowland. North of Ballintore Harbour the shoreline consists of soft shingle set between abrasion platform. A wide beach and dune complex occupies the area south of Ballintore. Here, Middle and Upper Jurassic sediments are well exposed on a wave-planed foreshore.

**Erosion class:** Concrete seawalls protect part of the Shandwick Bay. At Ballintore Harbour adjacent to the parking area, rip-rap armouring is now falling away from a low cliff. Beyond Ballintore, the coastline is very rugged with block-strewn abrasion platform and isolated sporadic sand patches. In 1973, Smith and Mather noted that the dune system at Shandwick Bay was stable, but armour defence works are now present presumably showing that at sometime prior to this year, parts of the dune had become unstable.

**Built Heritage and Archaeology:** This section of coastline includes two of the accessible foreshore areas, where the villages of Balintore and Hilton of Cadboll are situated. The sites in this area include landing places and harbours and a number of piers and breakwaters, affording shelter from the north easterly exposure. At Shandwick the remains of the 15<sup>th</sup> century castle, chapel and burial ground are important sites.

## Map 28: Hinterland Geology and Coastal Geomorphology

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**1. South of PORT AN RIGH to OLD SHANDWICK**

NH 854 735

1.3km

Rock platform/boulders

High cliff (100m)

*Glacial deposits over visible rock*

Exposed high cliff overlain by glacial drift over visible rock. Terrace formation with steep gradients. The foreshore is exposed rock platform.

**6. North-east of CADBOLL HOUSE to CADBOLL POINT**

NH 872 772

1.2km

Rock platform/.sand

Low cliff (10m)

*Boulder drift over visible rock*

Raised beach deposits front backshore terrace. The foreshore consists of rock platform broken by small bay at Jessie Port.

**2. SHANDWICK**

NH 860750

0.8km

Mainly Sand

Low cliff

*Blown sand over marine deposits*

Shandwick Bay has a sandy beach backed by a low cliff edge. The hinterland consists on wind blown sand forming a low dune system. The underlying geology is predominantly marine sand and gravel.

**3. BALINTORE HARBOUR**

NH 862 755

0.5k

Rock platform/blown sand

Low edge (<10m)

*Raised beach deposits*

An outcrop of Old Red Sandstone forms the harbour where raised beach deposits form the backshore region.

**4. BALINTORE HARBOUR to north of HILTON OF CADBOLL**

NH 871 763

1.5km

Rock platform/sand

Low edge (<10m)

*Raised beach deposits*

Raised beach deposits are distributed along this unit of coastline. The foreshore consists of rocky scars with sand and shingle also present. The hinterland is low lying.

**5. North east of CADBOLL HOUSE**

NH 873 767

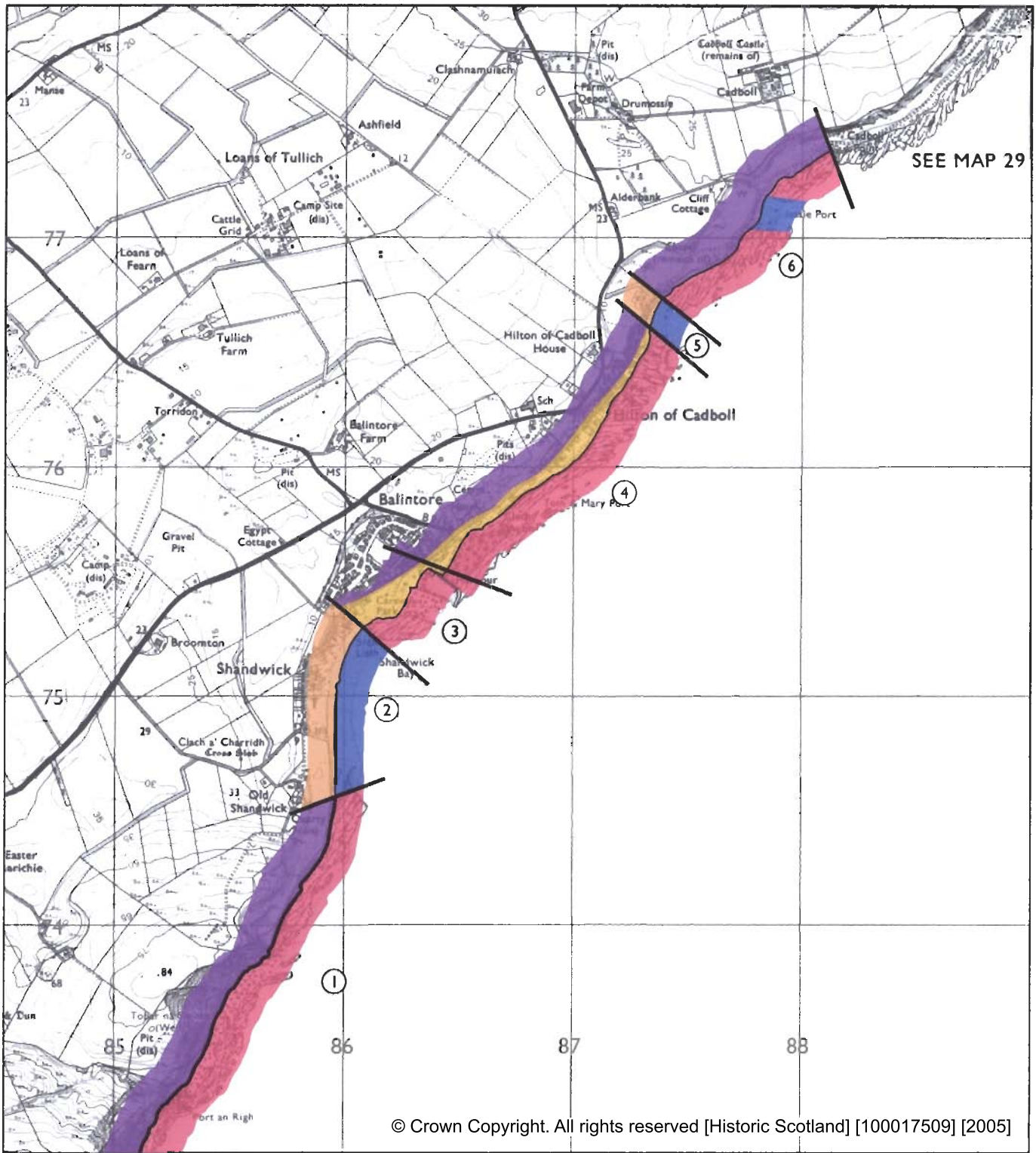
0.2km

Sand bordered by rock outcrop

Low edge (<10m)

*Blown sand/raised beach deposits*

A small bay formed in a cleft of Old Red Sandstone outcrop. Sand entrapment with blown sand towards the backshore zone. The hinterland is low lying.



## MAP 28: PORT AN RIGH TO CADBOLL

MORAY FIRTH SURVEY Grid ref: NH 85-89/73-78

1:25 000

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### HINTERLAND GEOLOGY AND FORESHORE GEOMORPHOLOGY

Assessment dates: 21-23 September 1998

#### Hinterland:

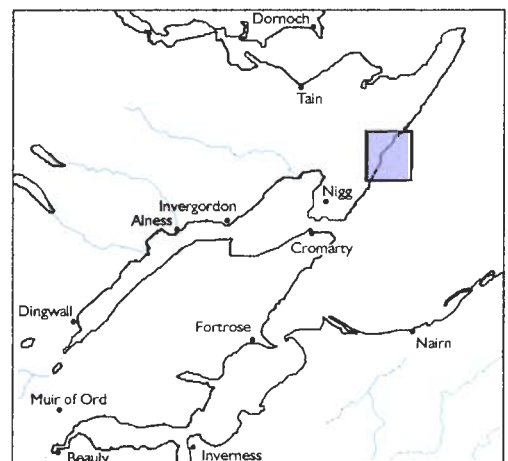
- Drift, boulder clay
- Drift, boulder clay over visible rock
- Raised beach and marine deposits
- Blown sand
- Glacial sand and gravel
- Alluvium

#### Coast edge:

- Low edge (< 5m tall)
- Cliff over 5m tall
- Man made barrier
- Shingle/storm bank
- Human disturbance

#### Foreshore:

- Mainly rock platform
- Mainly sand
- Mainly alluvial/marine mud
- Marsh



## MAP 28: EROSION

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### 1. OLD SHANDWICK

NH 859 742

0.9k

Eroding or stable

The cliff face is less precipitous than in the previous units and is mantled in parts by marine sands and gravel. These are actively eroding above the cliff caused by weathering. The shoreline consists of rock platform with deep gullies. Again as in the previous units erosion is considered to be constant but slow.

### 2. SHANDWICK BAY

NH 860 754

0.8km

Eroding or stable

Sand dunes and concrete sea walls protect the bay. Rock and sand are exposed and appear to be stable. Conditions are generally stable with some erosion of rubble tipping that is being scoured by wave action.

### 3. BALINTORE HARBOUR

NH 8633 7558

c.20m

Definitely eroding

Rip Rap stone defences are collapsing out of the face immediately behind the harbour. Where the stones have collapsed marine sand is exposed and prone to further erosion by deflation.

### 4. BALLINTORE VILLAGE

NH 865 755

0.2km

Stable

Conditions here are stable owing to sea defences. The beach is sandy with no evidence of erosion.

### 5. BALLINTORE to HILTON OF CADBOLL

NH 870 760

1km

Stable

Exposed rock platform and sand filled gullies dominate are present throughout this unit of coastline. Conditions are stable owing to the stabilising effect of the rock platforms that absorb the effect of wave attack on the backshore.

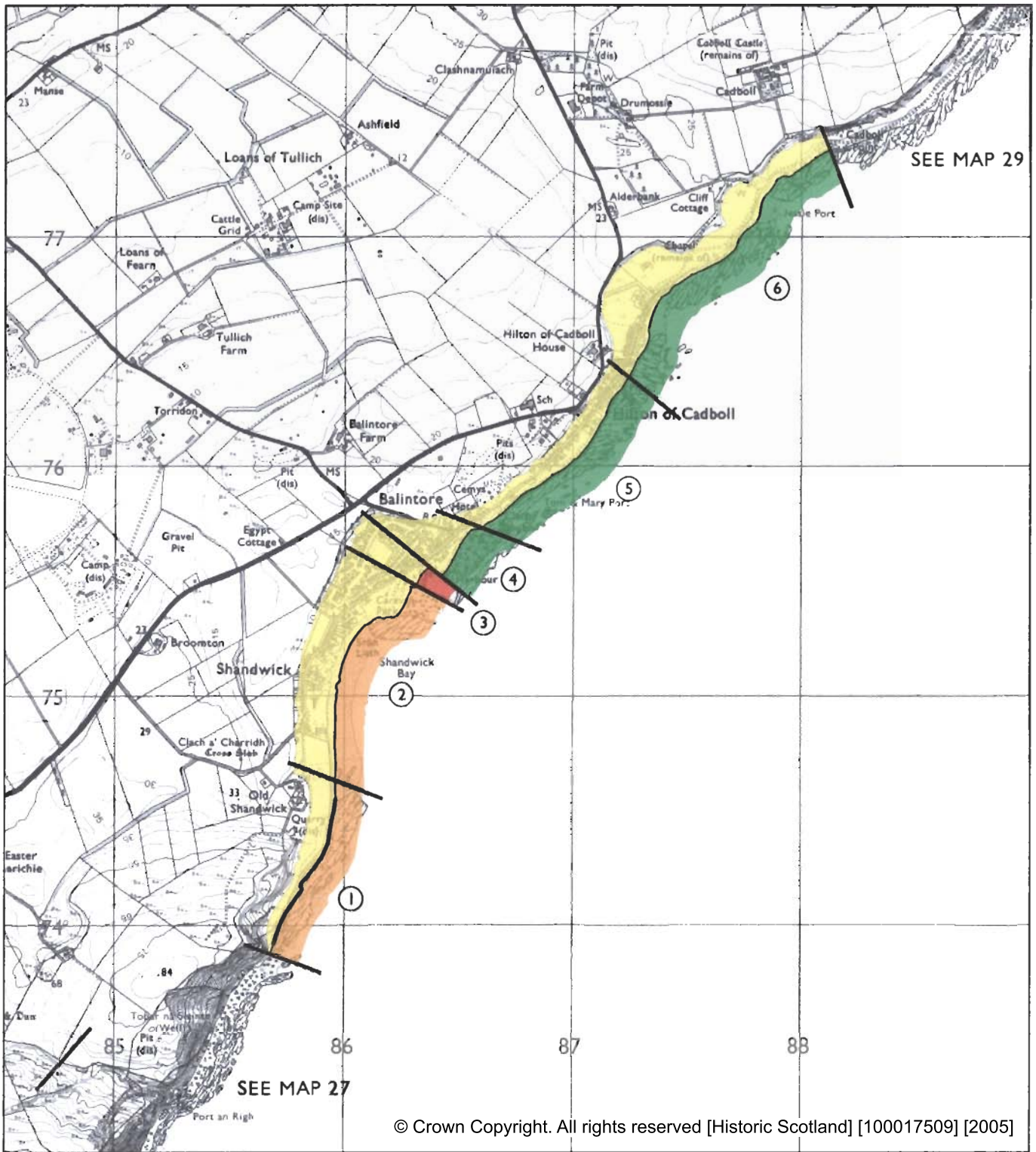
### 6. HILTON OF CADBOLL to JESSIE PORT

NH 878 770

1.4km

Stable

Exposed rock platform with accreting sand and shingle. No evidence for active erosion was seen.



**MAP 28: PORT AN RIGH TO CADBOLL**

MORAY FIRTH SURVEY Grid ref: NH 85-89/73-78

1:25 000

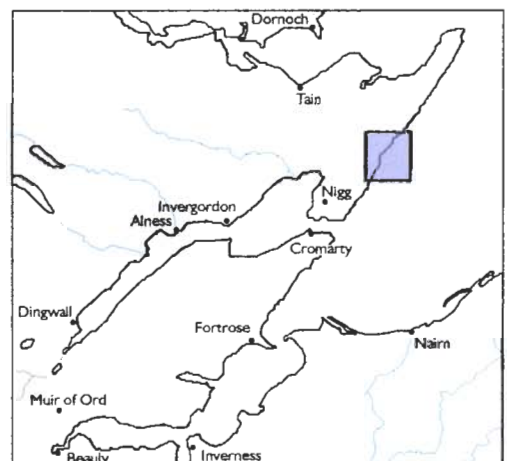
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**EROSION CLASS**

Assessment dates: 21-23 September 1998

**Key:**

- Definitely accreting
- Accreting or stable
- Stable
- Eroding or stable
- Definitely eroding
- Both accreting and eroding
- No access
- Land below 10m



## MAP 28: BUILT HERITAGE AND ARCHAEOLOGY

### Sites on the Coastal Edge & Foreshore

**NH87NE 19**  
NH 8598 7515  
SHANDWICK  
Landing place  
Uncertain  
Poor  
Monitor

**NH87NE 17**  
NH 8649 7549  
BALINTORE  
Harbour  
19<sup>th</sup>/20<sup>th</sup> century AD  
Good  
Nil

**NH87NE 18**  
NH 8728 7634  
HILTON OF CADBOLL  
Pier  
19<sup>th</sup>/20<sup>th</sup> century AD  
Good  
Nil

NH 8731 7657  
HILTON OF CADBOLL  
Pier  
Uncertain  
Poor  
Nil

NH 8737 7683  
CADBOLL  
Breakwater  
20<sup>th</sup> century AD  
Fair  
Nil

NH 8776 7690  
CADBOLL  
Breakwater  
20<sup>th</sup> century AD  
Fair  
Nil

NH 8788 7716  
JESSIE PORT  
Natural enhanced harbour  
Uncertain  
Poor  
Nil

### Sites in the Hinterland

NH 8582 7427  
SHANDWICK  
Buildings, possible WW II installations  
20<sup>th</sup> century AD  
Good  
Nil

NH 8582 7450  
SHANDWICK  
Quarry and associated buildings  
20<sup>th</sup> century AD  
Fair  
Monitor

**NH87SE 2**  
NH 8582 7451  
SHANDWICK  
Castle (remains)  
15<sup>th</sup> century AD  
Poor  
Monitor

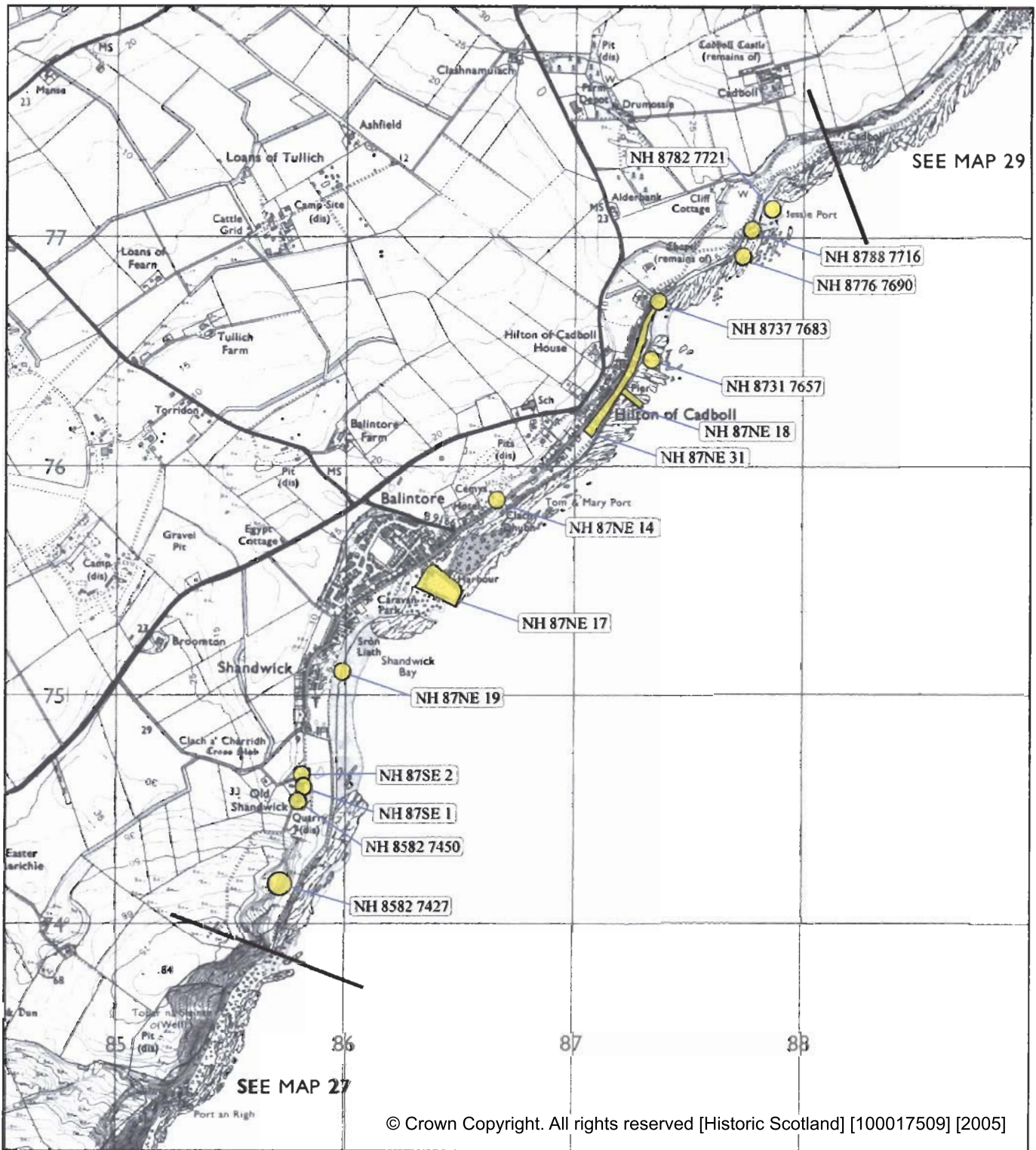
**NH87SE 1**  
NH 8582 7453  
SHANDWICK  
Chapel; burial ground  
15<sup>th</sup> century AD  
Poor  
Monitor

**NH87NE 14**  
NH 8667 7585  
BALINTORE  
Cist burials  
Uncertain  
Fair  
Monitor

### Sites in the Hinterland

**NH87NE 31**  
NH 871 763  
HILTON OF CADBOLL  
Village  
18<sup>th</sup>/19<sup>th</sup> century AD  
Good  
Nil

NH 8782 7721  
CADBOLL  
Gravel pit  
19<sup>th</sup>/20<sup>th</sup> century AD  
Fair  
Nil



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## MAP 28: PORT AN RIGH TO CADBOLL

MORAY FIRTH SURVEY Grid ref: NH 85-89/73-78

### BUILT HERITAGE AND ARCHAEOLOGY

Assessment period: September 1998

Key:

Protected Ancient Monument, or area of designated wreck

Listed Historic Building

Monument formally proposed by Historic Scotland for scheduling, or wreck for designation

Other known Ancient Monuments, or Undesignated wreck

Designated Landscape

Insufficient information; more work needed

Probably archaeologically sterile

1:25 000

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