

Coastal Sand Dunes and Shingle

LOCAL HABITAT ACTION PLAN

SUMMARY

Coastal Sand Dunes form by accumulation of wind-blown sand grains trapped by vegetation, where there is a sufficiently large area of sandy beach drying out at low tide. A number of sand dune types are recognised, depending on how they are formed, or stage of succession and vegetation type, including fore dunes, yellow dunes, dune grassland and dune heath. This action plan incorporates all types of dune, as well as dune slacks, and dune scrub and woodland.

Sand dunes are found along much of the coast of North East Scotland, especially in Moray and the east coast of Aberdeenshire between Fraserburgh and Aberdeen. These dunes are of considerable extent and variety, and some are nationally important. They support a wide variety of species, from birds such as eider duck and terns, to rare mosses, lichens, fungi, and invertebrates such as the small blue butterfly.

Coastal Vegetated Shingle habitat is formed on sediment with particle sizes larger than 2mm. The vegetation communities depend on the amount of finer materials mixed with the shingle and on the hydrological regime. Moray holds two of the best examples of coastal vegetated shingle structures in Britain, at Culbin Bar and Kingston shingles. These shingle beaches are important as nesting sites for ringed plovers, and for the establishment of Juniper scrub. Diverse invertebrate communities are found here, with some species restricted to shingle habitats.

Sand Dune and shingle habitats are subject to a range of pressures, from natural movement of the coastal edge and sea level rise, to human activities such as coastal development, military use, recreational pressures, forestry and farming. *Coastal Sand Dunes* and *Coastal Vegetated Shingle* are both UK BAP Priority Habitats. Local action is needed to assess the extent and quality of the existing natural resource, to encourage appropriate management to protect these habitats and associated species, and to raise awareness about the need to conserve the North East's precious coastal resources. This action plan will be implemented in association with the Habitat Action Plans for *Estuarine and Intertidal Habitats*, *Coastal Heath and Scrub*, and *Species-rich Grassland*.

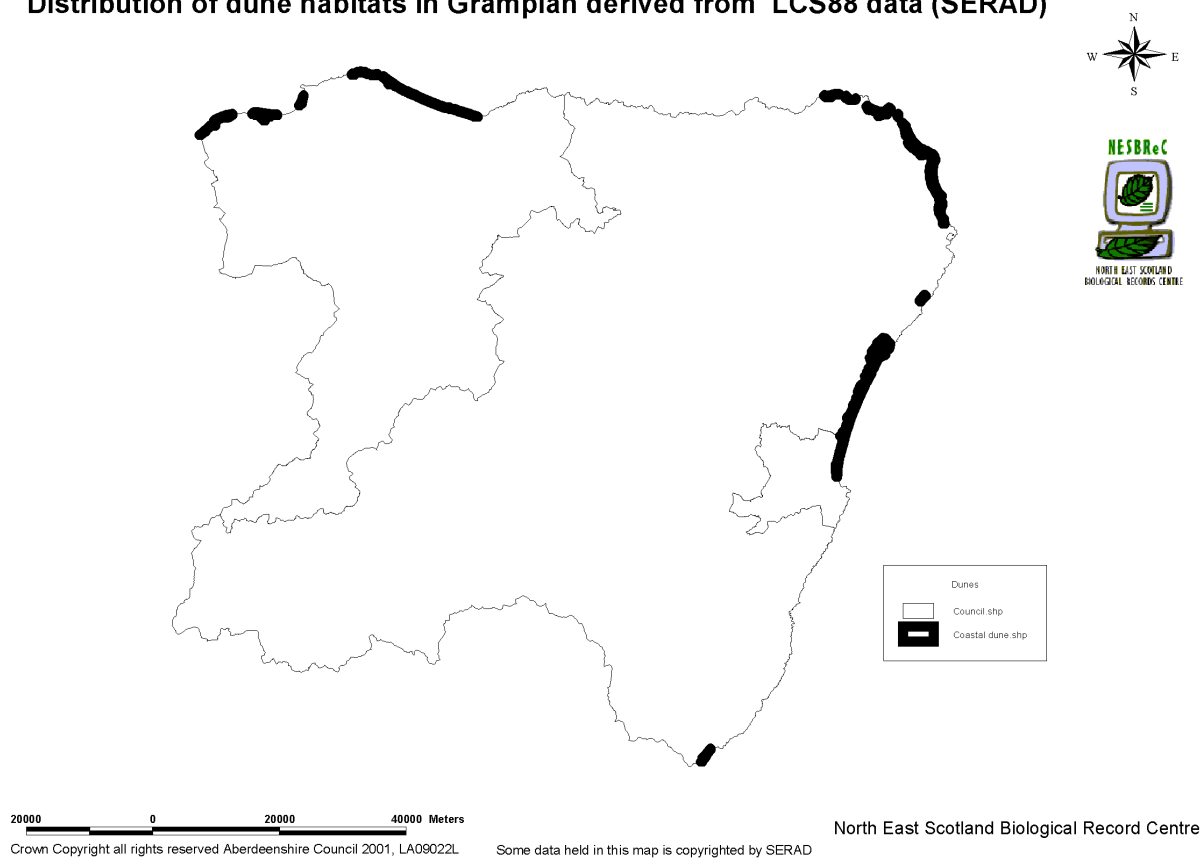


1.0 CURRENT STATUS

Sand dunes are found along much of the coast of North East Scotland (see Map 1), especially Moray and the east coast of Aberdeenshire between Fraserburgh and Aberdeen. St. Cyrus is the only site south of Aberdeen. These sand dune habitats are of considerable extent and variety, and some are of national importance. The total dune area (7022 ha) represents approximately 22% of the vegetated dune resource in Scotland, and 14% of the total for Great Britain. The large area of dune woodland and dune heath is also of national significance (Alexander *et al*, 1998). Culbin Sands (3,100 ha) is the largest dune site in Britain, and the Sands of Forvie (763 ha) is another very large dune system (Alexander *et al*, 1998).

Map 1:

Distribution of dune habitats in Grampian derived from LCS88 data (SERAD)



Shingle structures sufficiently stable to support perennial vegetation are a comparatively rare feature even in the UK (UK BAP, 2001). In North East Scotland there are only two significant vegetated shingle structures, both on the Moray Coast, at Culbin Bar (Grid ref: NH9260) and Kingston Shingles (Grid ref: NJ325660). These sites represent 19% of this habitat in Scotland (637ha) and 2.5% of the British total (5129ha). These are two of the best examples of vegetated shingle structures in Britain, and Kingston Shingles is second in importance only to Dungeness in Kent. Culbin Bar is unusual in being almost completely undisturbed, whereas Kingston has been considerably influenced by human activities (Alexander *et al*, 1998). There are small amounts of vegetated shingle at other sites along the North East coast.

2.0 ECOLOGICAL DATA

2.1 Sand Dunes

Sand dunes and their habitats are classified depending on how they are formed, and according to the stage of succession and vegetation type (BSG, 1995b). Foredunes or mobile dunes are actively building dunes, which are generally first colonised by Marram Grass *Ammophila arenaria*, Sea Couch Grass *Elytrigia juncea* and Lyme Grass *Leymus arenarius*. Yellow dunes and dune grassland are more stable and diverse in vegetation. On stable acid dunes, dune heath may develop. Dune slacks (wetland occurring within dune systems) are a nationally rare type of wetland occurring within dune systems. Dune scrub and woodland can develop in both dry and wet areas of the dune system (Alexander *et al*, 1998).

North East sand dunes are important for a range of species, particularly for mosses, lichens, fungi and invertebrates. For example, the calcareous dune slacks at Lossiemouth are important for two priority moss species Matted bryum *Bryum calophyllum* and Sea bryum *B. warneum*. The lichen *Cladonia mitis* is found on acid dunes at Culbin and Sands of Forvie, and Culbin is one of the 3 remaining sites for *Peltigera malacea*. The fungi *Laccaria maritima* found at Culbin Sands is not known to occur at any other UK sites. The dune system at Sands of Forvie is an important site for nesting Eiders and Terns, and Marram Grass seeds are an important food source for wintering Snow Buntings (Alexander *et al*, 1998).

2.2 Vegetated Shingle

Shingle is defined as sediment with particle sizes in the range 2-200 mm. The vegetation communities of shingle features depend on the amount of finer materials mixed in with the shingle, and on the hydrological regime. Bare shingle at Kingston is important for Juniper scrub. North East shingle beaches are important nest sites for Ringed Plovers and may support other breeding birds including gulls, waders and terns. Diverse invertebrate communities are found on coastal shingle, and Kingston shingles in particular is a key site for the Small Blue Butterfly *Cupido minimus*. Wetlands within shingle sites are known to be important for Great Crested Newt *Triturus cristatus* (UK BAP, 2001), and since this species occurs in Culbin Forest, it should be considered as a potential species of vegetated shingle in this action plan. The key species for Coastal Sand Dunes are listed in Tables 1 and 2 below.

Table 1: Species primarily dependent on Sand Dune and Shingle habitats

P = UK Priority Species, C = Species of Conservation Concern, L = Locally Important

Species	Distribution in NE Scotland	Habitat Preference	Threats
Oyster Plant <i>Mertensia maritima</i> (C)	Local in Moray, but spreading.	Vegetated shingles, or shingle by sea.	
Sea Pea <i>Lathyrus japonicus</i> (L)	A shingle beach in Aberdeen. Likely to be a southern sub-species, different from other populations in Scotland.	Coastal shingle and stable sand dunes, at or above high tide line	Recreational pressures and lack of general management.
Matted Bryum (moss) <i>Bryum calophyllum</i> (P)	Lossiemouth	Calcareous dune slacks	
Sea Bryum (moss) <i>B. warneum</i> (P)	Lossiemouth	Calcareous dune slacks	
Scottish Scurvy Grass <i>Cochlearia scotica</i> (P)		Rocky and sandy coasts.	
A Lichen <i>Cladonia mitis</i> (C)	Culbin; Sands of Forvie	Acid dunes	

A Lichen <i>Peltigera malacea</i> (L)	Culbin		
An Agaricales toadstool <i>Laccaria maritima</i> (Provisional Red Data List 1998)	Re-discovered at Culbin Sands (Sep 1989).	On bare sand in coastal dunes. Possibly associated with <i>Salix repens</i>	Trampling, development.

Table 2: Species partially dependent on Sand Dune and Shingle habitats

Species	Distribution in NE Scotland	Habitat Preference	Threats
Skylark <i>Alauda arvensis</i> (P)	Widespread	Farmland, grassland, meadows, sand dunes, commons.	Few threats on sand dunes
Eider Duck <i>Somateria mollissima</i> (C)	Widespread on coast but UK's largest colony at Forvie	Rocky or sandy coasts	Predation by foxes and crows; disturbance by dogs.
Little Tern <i>Sterna albifrons</i> (C)	2 sites	Sand and shingle	Predation by foxes and crows; disturbance by dogs; high tides
Arctic Tern <i>Sterna paradisaea</i> (C)	Forvie, St Fergus and Morayshire coast	Shingle	Predation by foxes and crows; disturbance by dogs
Sandwich Tern <i>Sterna sandvicensis</i> (C)	Sands of Forvie now only colony – largest in Scotland	Sand and Shingle	Predation by foxes and crows; disturbance by dogs
Snow bunting <i>Plectrophenax nivalis</i> (C)	Winter visitor	Feeds on marram grass seeds in the sand dunes	Habitat loss.
Ringed Plover <i>Charadrius hiaticula</i> (C)	Widespread	Shingle beaches	Disturbance, tides, predation
Great Crested Newt <i>Triturus cristatus</i> (P)	Culbin Forest	Wetland areas within dune and shingle habitats	Filling or drainage of ponds, natural vegetational succession in ponds.
Lunar Yellow Underwing <i>Noctua orbona</i> (P)	Last recorded at Findhorn dunes in 1996.	Sand dunes and open woodland	Inappropriate grazing.
Small Blue Butterfly <i>Cupido minimus</i> (C)	St. Cyrus, Kincardineshire Coast, Moray Coast.	Restricted to moderately base-rich grassland and thinly vegetated shingle with kidney vetch <i>Anthyllis vulneraria</i>	Inappropriate grazing, afforestation, habitat fragmentation, succession to scrub
Dingy Skipper Butterfly <i>Erynnis tages</i> (L)	Moray Coast, from Culbin to Kingston	Dune grassland on coastal sand dunes and shingles.	Inappropriate grazing, afforestation, habitat fragmentation, succession to scrub
Juniper <i>Juniperus communis</i> (P)	Kingston Shingles.	Bare shingle	

Coral-root Orchid <i>Corralorhiza trifida</i> (L)	Kingston Shingles, Spey Bay, St. Fergus.		
Grey Hairgrass <i>Corynephorus canescens</i> (L)	Two records on edge of NE. May be outside area, but possibly expanding natural range.	Coastal slacks and heaths.	

3.0 CURRENT FACTORS AFFECTING THE HABITATS

3.1 Natural Movement of the Coastal Edge

The seaward edges of sand dunes can be a highly mobile feature, unless artificially constrained. Very few sand dune systems are in overall equilibrium, and erosion exceeds accretion at the majority of dune sites along the North East coast. Coastal erosion is a natural process and, therefore, is only considered to be “a problem” when value is attached to the land use, through coastal development and agricultural use.

There is concern that new groynes at Findhorn will reduce sediment supply and lead to erosion at Culbin (Alexander *et al*, 1998). Erosion is also considered to be a problem at a number of places at Donmouth, because of the effects on land uses such as roads and the golf course. The coast at Cruden Bay, Fraserburgh and around Spey Bay is also eroding. Managed coastal retreat may be the most realistic erosion control option, rather than trying to stop erosion completely.

3.2 Coastal Development

There is generally a “presumption against development” on the North East coast (see 4.6 below regarding NPPG13), and sand dunes are among the least modified of terrestrial habitats. Sewerage pipes and oil and gas pipelines have a potential impact, although recent developments (e.g. St. Fergus, Cruden Bay, Rattray Bay) have been sensitively restored. Landfill sites adjacent to dunes have the potential to cause problems due to pollution from mud seepage. Kingston Shingles has previously been affected by shingle excavation.

The increased value placed on land, due to development inland of the dunes and agricultural use, can have a major development affect, squeezing the area of natural habitat available for the sand dune processes of erosion and accretion to take place.

3.3 Military Use

Most of the dunes from Donmouth northwards hold the remains of abandoned wartime structures. These structures can both protect against erosion and increase it, so although unsightly, their impact on sand dune processes must be assessed locally. However, of more significant impact is the current military use, such as the Rifle Range at Black Dog, and associated lack of rabbit control, which is causing erosion of the dunes in these areas. Kingston Shingles has also been affected by military activity.

3.4 Recreation

Recreational impacts include the development of car parks, campsites, caravan parks, sporting estates and golf courses, and these facilities can increase erosion due to trampling of vegetation and destabilisation. Trampling by horses and/or disturbance by quad bikes are particular problems at Balmedie and Rattray Head, for example. Vehicular access and vehicle dumping is a problem having locally severe effects on the vegetation at Kingston Shingles.

3.5 Forestry and farming

A large area of natural vegetation has been lost to afforestation at Culbin, and Kingston Shingles is currently affected by afforestation. Grazing, reseeded and use of fertiliser alter the vegetation characteristics, as for example, at Loch of Strathbeg.

3.6 Natural Predators

Increasing numbers of foxes and crows are impacting on the Eider population at Forvie.

3.7 Climatic Change and Sea Level Rise

Sea level rise due to climate change, plus changing weather patterns such as more frequent storms are factors that will change the form of sand dune habitats. Although largely beyond control of LBAP actions, these factors should be taken into account.

4.0 CURRENT ACTION

4.1 Moray Coast Area Action Plan

The Moray Coast Area Action Plan published in 1998, is currently implemented by the Moray Coast Ranger. The main objectives of the Plan are to:-

1. Resolve Conflicting Management Interests.
2. Control coastal erosion.
3. Involve public in promotion and management activities.
4. Raise public awareness of coastal threats and values.
5. Survey and Monitor current and future land use and impacts.

Action to date has included providing clearly waymarked paths for recreation in line with the Moray Council Access Strategy and the SNH funded Moray Firth Community Access Initiative, and maintaining the programme of recording and monitoring wildlife in co-ordination with RSPB, SNH researchers and Moray Bird Club. The Ranger involves the local community in projects such as rubbish clearance (e.g. Marine Conservation Society's *Beachwatch*), and has developed an active Voluntary Ranger Service of local people to promote public enjoyment, implement practical projects and raise the profile of the coastal environment.

4.2 Statutory and Non-statutory Designations

Some coastal sand dune sites have statutory protection as Sites of Special Scientific Interest (SSSI) with Site Management Statements, and other have non-statutory designations, as Sites of Importance for Natural Science (SINS), District Wildlife Sites (DWS) or Local Nature Reserves (LNRs), as shown in Table 3. Findhorn Bay, Spey Bay and Culbin Sands are Special Protection Areas (EU Birds Directive, since 1996) and Ramsar sites, wetlands of international importance, primarily for migratory, over-wintering or resident birds. Sites of Interest for Nature Conservation (SINCs) and areas of high landscape value cover virtually all of the Moray Coast not already protected by SSSI status.

Table 3: Designated Sites

Name of Site	Designation/s
Culbin Sands/Culbin Bar	SPA, cSAC, Ramsar, SSSI, RSPB Reserve (part)
Findhorn Bay	SPA, Ramsar, SSSI (<i>Within Moray Firth SAC</i>)
Spey Bay	SPA, cSAC, Ramsar, SSSI
Forvie	NNR, SSSI, SINS, cSAC
St.Cyrus	NNR, SSSI
Kingston Shingles (The Lein)	SPA, SSSI (<i>Within Moray Firth SAC</i>)
Burghead back shore to Cummington	SSSI (<i>Within Moray Firth SAC</i>)
Lossiemouth East	SSSI
Foveran/Drums Links	SSSI, SINS
Loch of Strathbeg	SSSI, SINS

Garron Point	SSSI
Ratray - Kirkton Head	SINS
Pettens Links	SINS
Cruden Bay	SINS
Donmouth to Blackdog	DWS
Spey Bay and the Lein	SWT Reserve
Donmouth	LNR
Waters of Philorth	LNR
Findhorn Bay & neighbouring back shore	LNR
Balmedie	Country Park

SNH are consulted on all planning applications affecting statutorily designated sites, and they must ensure that a requirement for mitigation, restoration and monitoring is applied for all developments that impact on sand dunes.

4.3 Current Management

Forvie, St.Cyrus, Findhorn, Donmouth and Waters of Philorth all have management plans, and some of these, including Balmedie Country Park have bylaws. Culbin Sands are owned and managed by RSPB as a bird reserve. The RSPB also control the mussel rights for Findhorn Bay, and the opening of a navigation channel through the Bay's mouth will be the subject of negotiation and implementation by the Bay's Fairway Committee. Part of Spey Bay and the Lein lie within a Scottish Wildlife Trust nature reserve and are managed accordingly.

New Forest Enterprise plans for Culbin Forest are integrating the former Forest Design Plan and Conservation Management Plan. Conservation measures will be dealt with in compartment-specific objectives. In consultation with SNH, FE has carried out felling to restore dune habitat in the Lossiemouth Forest, and similar action is being considered at Culbin. Forest Enterprise are aware of the BAP and LBAP priorities, and are taking these into account.

St Fergus is managed by a Coastal Environment Committee, which includes representatives from the four major operators with gas plants on the site, Aberdeenshire Council Planning Services (North), and an Independent Senior Advisor, and is administered by the University of Aberdeen.

A Coastal Protection Study was carried out for Aberdeen City and Aberdeenshire area. This showed areas of erosion (Donmouth) and accretion (north of Blackdog) and the potential impacts from any further coastal protection works on the dune system north of Donmouth. *(A further phase of this study is being carried out – check with City Council)*

Aberdeenshire Planning Department have carried out fencing work at Fraserburgh to prevent trampling and quad bike erosion.

4.4 Surveys and Monitoring

- Monthly wetland birds (WeBS) counts carried out at Loch of Strathbeg
- Moray Bird Club and the local RSPB group record numbers and sightings of wildfowl and other birds of the Moray Coast.
- Scottish Natural Heritage commission surveys of bird numbers in Findhorn Bay throughout the year.
- Aberdeenshire Planning Department are monitoring the dunes at Fraserburgh and Scots Town by fixed point photography.
- Scottish Natural Heritage, Forest Enterprise, and Aberdeenshire and Aberdeen City Councils hold aerial photos of the coastline.
- SNH periodically commission NVC vegetation surveys within biological SSSIs.

4.6 Coastal Policies and Legislation

National Planning and Policy Guideline 13 (NPPG13) requires all planning authorities, in the Local Plan, to zone all coastal areas as either developed, undeveloped or remote, and to have relevant policies on development. Zoning policies set out in the Structure Plan guide future development of the Coast.

5.0 BENEFITS

Coastal land habitats, in particular sand dunes, are a high priority for North East Scotland, both in terms of their extent and the number of priority species they support. Sand dunes and vegetated shingles are among the least modified of terrestrial habitats, providing coastal protection, as well as aesthetic, educational and economic benefits (e.g. tourism, golf courses). Sites such as Forvie and Menie also have archaeological importance.

6.0 UK BIODIVERSITY OBJECTIVES AND PROPOSED TARGETS

6.1 Coastal Sand Dunes

- Protect the existing sand dune resource of about 54,500 ha from further losses to anthropogenic factors, whether caused directly or indirectly (e.g. by sea defence schemes affecting coastal processes).
- Offset the expected net losses due to natural causes of about 2% of the dune habitat resource over 20 years by encouraging new dunes to accrete and where possible by allowing mobile dune systems to move inland.
- Seek opportunities for restoration of sand dune habitat lost to forestry, agriculture or other human uses. A target figure of up to 1000 ha to be reinstated by 2010 (to be reviewed as a result of the inventory proposed in 5.5.1) is suggested.
- Encourage natural movement and development of dune systems, and control natural succession to scrub and woodland where necessary.
- Maintain dune grassland, heath and lichen communities on the majority of dune systems.

6.2 Coastal Vegetated Shingle

- Prevent further net loss of existing vegetated shingle structures totalling about 5800 ha. (However local gains and losses due to storm events occur sporadically and should be accepted provided that the national and regional resources are maintained overall.)
- Prevent, where possible, further exploitation of, or damage to, existing vegetated shingle sites through human activities.
- Maintain the quality of existing plant and invertebrate communities which are currently in favourable condition.
- Achieve the restoration, where possible, of degraded or damaged habitats of shingle structures, including landward transitions, where such damage has been extensive and natural recovery is not likely to be initiated, by 2010.

7.0 OBJECTIVES AND PROPOSED TARGETS

“Sand dune” in the context of these objectives and targets includes all of the following habitats: foredunes, yellow dunes, dune grassland, dune heath, dune slacks and dune scrub and woodland.

Principal Objective:

Protect the existing sand dune resource of approximately 7000 ha, and the existing vegetated shingle resource of 673 ha, and associated species, from further losses and degradation due to human activities and developments, whether caused directly or indirectly.

Target: No net loss of the existing sand dune resource and the existing vegetated shingle due to human activity by 2012.

7.1 Data Collection and Monitoring

Objective 1:	Establish the current level of knowledge held on sand dune and shingle habitats, and their management in the North East.
Targets 1a:	All information currently held on significant sites (e.g. management plans, biological and other surveys, aerial photographs, designations), collated and recorded at NESBReC, and any gaps in this information identified.
Time:	By 2005
Target 1b:	Information obtained through appropriate ongoing survey and research work, prioritising work to fill any gaps in information for important sites.
Time:	Ongoing

7.2 Site Safeguard

Objective 2:	Minimise further damage to, existing sand dunes and vegetated shingle sites through human activities.
Target:	No further damage to sand dune and vegetated shingle sites.
Time:	Ongoing.

7.3 Habitat Management

Objective 3:	Maintain dune and shingle habitats and associated flora and fauna.
Target:	No reduction in quality of habitat.
Time:	Ongoing

7.4 Habitat Enhancement

Objective 4:	Identify opportunities for restoration of sand dune and shingle habitat lost to forestry, agriculture or other human uses.
Targets:	Identify opportunities for restoration and set target.
Time:	By 2010

7.5 *Maintaining Natural Habitat Processes*

Objective 5: Encourage natural movement and development [accretion] of sand dune systems, and control natural succession to scrub and woodland where necessary.

Target: Losses due to natural causes offset by encouraging new dunes to accrete and, where possible, by allowing mobile dune systems to move inland.

Time: Ongoing

7.6 *Involving Local Communities*

Objective 6: Increase understanding and appreciation of dune and shingle habitats through a targeted awareness-raising programme.

Target: Hold at least 2 awareness-raising activities per year across NE Scotland, appropriately targeted to involve relevant audiences.

Time: Ongoing for the duration of the Action Plan.

7.7 *Policy*

Objective 7: Encourage adoption of appropriate policy to support protection of dune and shingle habitats.

Target: Integrate this plan into other policy documents and ensure protection by appropriate designations.

Time: By 2006

This action plan was prepared by Sarah Gosden, Maria Hardy and the NE Coastal Sand Dunes Working Group on behalf of the NE LBAP Steering Group.

References

Alexander G, Leaper G, Francis, I and Tulloch M (1998) *Biodiversity in North-east Scotland: An Audit of Priority Habitats and Species*. On behalf of the North East LBAP Steering Group, Aberdeen.

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Ward S (Ed.) (1999) *Local Biodiversity Action Plans – Technical Information on Species: I. Cryptogamic Plants and Fungi*. Scottish Natural Heritage Review, No. 70.

Watling R and Rotheroe M (1989) *Macrofungi of Sand Dunes*. Proceedings of the Royal Botanic Society of Edinburgh 96B 111-126.

UK Biodiversity Group (1999) *Tranche 2 Action Plans – Volume V: Maritime Species and Habitats*, p. 105 HMSO.

UK BAPS – Coastal Sand Dunes and Coastal Vegetated Shingles

8.0 PROPOSED ACTION REQUIRED TO MEET OBJECTIVES

NB: Action for the species associated with this habitat, listed in Tables 1 and 2, will be addressed as and when issues for a particular species arise, which require action further than that provided already in the HAP. These actions will become more apparent as the data collection and monitoring actions progress.

Operational Objective	Outline Prescription	Obj.	Partners	Lead Partner	Fund Source	Costs	By Year	Priority
1. Data Collection and Monitoring	1.1 Collate all existing information (e.g. management plans, biological and other surveys, aerial photographs) currently held on significant sites.	1	LAs, SNH, FC	NESBReC		*	2005	H
	1.2 Identify gaps in information	1	LBAP WG, NESBReC	LBAP WG		*	2005	M
	1.3 Address any gaps in the existing information through survey work and research.	1	SNH, LAs, FC	NESBReC	LAs, SNH	?	2010	M
	1.4 Establish a co-ordinated approach to monitoring of key sand dune and shingle sites.	1	LBAP, LAs, SNH, NESBReC, Landowners	NESBReC	SNH	?	Ongoing	H
2. Site Safeguard	Ensure all planning documents take full account of importance of sand dunes and shingle as Priority Habitat (e.g. in Structure and Local Plans, Forest Design Plans, Plans for Transport, Minerals etc).	7	LBAP WG, LAs, FC	LBAP WG		*	Ongoing	H
	Collate information on all existing site designations.	1	LBAP WG, SNH	LBAP WG		*	2004	H
	Review distribution of designated sites and identify any need for further sites to be designated.	1		NESBReC		*	2004	M
	Oppose developments or other proposed activities, which threaten loss or damage of sand dunes or shingle habitat.	2, 3	SNH, NESBReC, LAs	LBAP WG		*	Ongoing	H
3. Habitat Management and Enhancement	Provide practical guidance leaflet for landowners and managers, with contacts, referring to existing guidance on habitat management, e.g. BTCV sand dune handbook.	3, 4	LBAP WG, SEERAD, FC, Las	LBAP WG	LAs, SNH	1,500	2005	H
	Work with farmers, landowners and managers through agri-environment schemes and natural care to encourage positive conservation management for coastal sites.	3, 4	FWAG, SEERAD, SAC, SNH, Land agents, SEPA	LBAP		*	Ongoing	H

Operational Objective	Outline Prescription	Obj.	Partners	Lead Partner	Fund Source	Costs	By Year	Priority
	Encourage liaison between land managers and users to reduce recreational impact, e.g. limit and control access at sensitive sites e.g. Rattray Head, Donmouth, Fraserburgh, Ugie mouth and Strathbeg.	2, 6	LAs, SNH, RSPB, FC, Police	LBAP WG		*	Ongoing	H
	Identify feasible opportunities to progress restoration of sand dunes and shingle habitats.	4, 5	LBAP WG, UA, LAs, SNH, SEPA	LBAP WG		?	Ongoing	M
	Liaise with FE, LAs and RSPB to ensure BAP and LBAP priorities are included on an ongoing basis in forest design plans, conservation plans and management plans.	3, 4	LBAP, FC, RSPB	LBAP		*	2003	H
4. Natural Processes	Where feasible encourage natural movement and development [accretion] of sand dune systems.	5	Landowners & managers.			?	Ongoing	M
	Control natural succession to scrub and woodland where necessary.	5	Landowners & managers.			?	Ongoing	H
5. Involving Local People	Provide targeted awareness raising opportunities, including guided walks, talks, seminars and educational events, linking with existing initiatives such as <i>BeachWatch</i> .	6	LAs (Rangers), LBAP WG	Rangers		*	Ongoing	H
	Provide education opportunities with schools and higher education establishments.	6	LAs (Rangers), UA	Rangers		*	Ongoing	M
	Provide appropriate signage, interpretation, leaflets etc, in consultation with local communities, e.g. planned Nortrail path, from Aberdeen City to Newburgh.	6	LAs, SNH, RSPB, FE, Community Councils	LAs/ Rangers		?	Ongoing	M
6. Policy	Ensure that land use policies relating in any way to sand dunes and shingle result in no deliberate reduction in area or quality of this habitat in the North East.	7	LBAP WG, LBAP, LAs	LBAP WG		*	Ongoing	H
7. Habitat Action Plan Monitoring and Review	Report annually on Action Plan progress.	-	ALL	LBAP WG		*	Annually	M
	Review the Habitat Action Plan every 5 years	-	ALL	LBAP		*	2008	M

* Action that can be achieved at relatively low cost or through existing work of the partners.



Key to Action Partners:

FC – Forestry Commission for Scotland (incl. Forest Enterprise); FWAG – Farming and Wildlife Advisory Group; LAs – Local Authorities (Aberdeen City, Aberdeenshire, Moray); LBAP WG – North East Local Biodiversity Action Plan Sand Dunes and Shingle Working Group; NESBReC – North East Scotland Biological Records Centre; RSPB – Royal Society for the Protection of Birds; SAC – Scottish Agricultural College; SEERAD – Scottish Executive Environment and Rural Affairs Department; SEPA – Scottish Environment Protection Agency; SNH – Scottish Natural Heritage; UA – University of Aberdeen.