

Managing Coastal Marine Environments

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Protected Areas and Coastal Habitat – legal designations

- Interconnection between terrestrial and marine protected areas
- SSSIs (Wildlife and Countryside Act 1981). Notification to median low water mark, and adjacent areas in some cases (MCAA 2009)
- SAC and SPA (Conservation of Habitat and Species Regulations 2010). Extend to marine sites in territorial sea.
- European Marine Sites (integrated with SAC and SPA provisions under 2010 Regs.)
- Marine Nature Reserves (WCA 1981)

Ecosystem Approach

- Marine Strategy Framework Directive 2008
- “Marine waters” – article 3. Includes coastal and territorial waters
- “Good environmental status” to be achieved through the adoption of an ecosystem based approach (recital 34, Annex 1).
- Quality Descriptors for good environmental status (11 are set out in Annex 1)

Managing Coastal Sites – Typical Problems 1

- Marine and terrestrial protected areas – different challenges, different focus, different legal mechanisms and response.
- Dynamic nature of marine ecosystems
- Wider range of appropriators and user groups using marine environment
- Spatial planning approach to capture key stakeholder interests. Typified by Management schemes and Bylaw powers for European Marine Sites

Managing Coastal Sites – Typical Problems 2

- But land based activities can impact marine environments and are difficult to capture.
- Examples: nitrate enrichment (agricultural runoff etc.), pesticides, industrial pollutants feeding into coastal environment from rivers etc.
- Land based activities impacting marine ecosystems e.g. dredging in the intertidal zone, blocking drainage channels to sea, new structures altering or interfering with tidal processes (e.g. dykes, moles etc.), bait digging and recreational uses

Protective Instruments – Form and Scope

- Managing environmental problems in terrestrial sites – closer relationship with adjusting property rights
- Point of reference for instruments limiting property rights usually conservation objectives of the site itself - not wider environment (e.g. section 28 WCA 1981 and OLDSI arrangements for operational consent in SSSIs)
- Diffuse water pollution control – instruments based on good agricultural practice, and management plans in NVZs for manure and inorganic nitrate applications
- Environmental permitting regime – wider focus on good ecological status of receiving waters, but focus for setting permit conditions might be wider when potential impacts in marine environment?

Protective Instruments – Form and Scope

- SSSIs often notified in intertidal zone and coastal waters. OLDSI mechanism focused to preventing damage by landowners and occupiers, and wider impacts outside the site not usually relevant
- SACs and SPAs – similar issues apply, but
- Conservation Management Plans for EMS
- Land based controls on nitrates – NVZs. Focus is drinking water quality under 1996 Nitrates Directive. Approached through agricultural policy instruments, NVZ land management requirements, and consensual management agreements for practices going beyond “good” practice.

Challenges to Ecosystem Approach

- Wider approach needed
- Holistic approach that integrates existing terrestrial and marine conservation instruments more effectively.
- Classic problem – mosaic of interconnected terrestrial sites (SSSIs, SACs, SPAs etc.) and marine sites (e.g. EMS)
- The marine “ecosystem” protected by the EMS may be sensitive to environmental influences originating in terrestrial sites, or in land use activities outside nature conservation sites and geographically detached from the marine environment.

Berwick shire and North Northumberland Coast EMS

- Includes the Berwickshire and North Northumberland SAC and Farne Islands SPA.
- Provides a good example of the challenges of adopting a holistic ecosystem based approach to managing a coastal marine environment.
- Farne islands SSSI and landward SSSIs (Bamburgh Coast and Hills SSSI, Northumberland Shore SSSI, Bamburgh Dunes SSSI, Lindisfarne SSSI and NNR).
- Conservation Plan for EMS (reg 35, 2010 Regs.)

Berwick shire and North Northumberland Coast EMS

Advice on management by Natural England/SNH
(article 35 2010 Regulations):

- Favorable condition table to be considered when undertaking “appropriate assessment” under 2010 regulations (e.g. operational consents or planning applications)
- Sets out qualifying features of both SAC and SPA with targets and comments.

Berwick shire and North Northumberland Coast EMS

- “some stretches of the site have a high exposure to nutrient enrichment from diffuse land run off” (para 7.22)
- “Reef communities are moderately vulnerable to nutrient and organic enrichment...in many cases however nutrient enrichment from agricultural effluents and runoff is diffuse and difficult to locate” (p 48)
- Intertidal mudflats are highly vulnerable to nutrient enrichment (algae blooms and mats can suppress water aeration, depressing colonies of bivalves and burrowing worms etc.), and intertidal sediments can act as “sinks” for excess nutrients and pollutants.
- Highest sensitivity of SAC features to nutrient enrichment is eelgrass bed communities
- SPA features also highly sensitive to recreational activities – especially bait digging and wildfowling

Berwick shire and North Northumberland Coast EMS

- Lindisfarne SSSI and Farne islands SSSI notifications include application of pesticides, manure, herbicides in the list of OLDSIs requiring consent (operations 5, 6 in citations)
- This will capture operations by the notified landowner on site – not diffuse pollution originating elsewhere
- Residual problems include nitrate enrichment – tidal drift from Tweed estuary washes nitrates onto the islands causing algae blooms on beaches etc. Diffuse agricultural pollution in Tweed valley likely cause

Conclusions

- Developing an effective ecosystem approach requires the adoption of a wider context and focus for the application of legal controls in both terrestrial and marine contexts
- Need better linkage of SSSI, SAC/SPA and EMS designations and legal mechanisms in each
- Need better linkage of agricultural policy instruments in coastal areas to EMS objectives and needs of marine ecosystems they protect.