

Natural England advice to Wirral Council regarding beach management

Natural England's statutory purpose, as set out in the Natural Environment and Rural Communities Act 2006, is to ensure that the natural environment is conserved, enhanced and managed for the benefit of present and future generations, thereby contributing to sustainable development. Our role includes providing advice to others, being a regulator and working in partnership with others including public bodies.

The following information forms the basis of Natural England's advice related to the challenges Wirral Council are facing in managing the Wirral coastline. In providing this we recognise the environment is dynamic, there are statutory requirements and strong interests and views which are often in conflict. It should also be noted that in the intertidal area there may be other statutory bodies that may need to be consulted, such as the Environment Agency and Marine Management Organisation.

Natural England's advice is provided in the following sections:

- Summary of statutory sites on the Wirral coastline
- Statutory sites at Hoylake
- Coastal dynamics
- Factors driving growth of foreshore vegetation
- Vegetation control
- Drainage
- Wider values and opportunities
- Issues that could be picked up within a wider plan
- Ideas for way forward

Natural England advice is provided from the perspective of its statutory role in giving advice on protected sites.

Summary of statutory sites on the Wirral coastline

- Nearly the whole of the Wirral coastline is covered by a range of overlapping statutory designations including nationally important Sites of Special Scientific Interest (SSSIs) and international Special Protection Areas (SPA), Special Areas of Conservation (SAC) and Ramsar Wetland sites.
- The SSSIs of Wirral coastline are: Mersey Estuary, Mersey Narrows, North Wirral Foreshore, Dee Estuary and Red Rocks. These sites are all important for their non-breeding birds with some important for features including saltmarsh, intertidal sediment communities, sand dunes and breeding birds.

- The SPAs and Ramsar sites are: Mersey Estuary, Mersey Narrows and North Wirral Foreshore, Dee Estuary and Liverpool Bay (SPA only). These are all important for non-breeding birds with Dee Estuary also being important for some breeding birds.
- The SAC: Dee Estuary, note this extends on to the North Wirral Foreshore. This is important for a range of features including its intertidal sediments, reefs, saltmarsh and sand dunes.
- Information relating to the designated sites including Conservation Objectives, Supplementary Advice on Conservation Objectives and the Advice on Operations are available on Natural England's [designated sites view](#) system. Geographic information on the designated sites and other information relating the natural environment can be found on the following website: magic.defra.gov.uk
- Wirral Council, Natural England and other public bodies have several statutory conservation duties:
 - To further the conservation and enhancement of SSSIs – Section 28G of the [Wildlife and Countryside Act 1981 \(as amended\)](#),
 - Statutory duty to conserve biodiversity - Section 40 of the [Natural Environment and Rural Communities Act 2006](#) (NERC Act). Specific habitats and species are identified, through Section 41 (NERC Act 2006) identified as being of principle importance for conserving biodiversity. Lists of [Priority habitats](#)
 - [The Conservations of Habitats and Species Regulations 2017](#) (as amended) (aka the Habitat Regulations) includes a duty of competent authorities (as defined in Regulation 7) to have regard for the requirements of the Habitats and Wild Birds Directive in the exercise of their statutory functions (Regulation 9(3)).
 - Further guidance on public bodies responsibilities for SSSIs can be found from the following webpage: <https://www.gov.uk/guidance/sites-of-special-scientific-interest-public-body-responsibilities>

Statutory sites at Hoylake (see Annex 1 for some further detail)

- The foreshore at Hoylake is included in the following statutory sites: North Wirral Foreshore SSSI (unit 1 East Hoyle Bank), Mersey Narrows and North Wirral Foreshore SPA/Ramsar site and Dee Estuary SAC.
- North Wirral Foreshore SSSI is designated for the following features: aggregations of non-breeding water birds and especially bar-tailed godwit, dunlin, knot and turnstone, intertidal sediments and saltmarshes.
- Wetland Bird Survey (WeBS) Alerts (using WeBS data from 2014/15 to 2018/19) indicate bar-tailed godwit, knot and turnstone on North Wirral Foreshore SSSI have significant declines which would lead to these features and so the site to be in unfavourable condition.
- Liverpool Bay SPA, a marine site is located off Hoylake but it is below mean low water.

Coastal dynamics

- Sea level rise and coastal change are inevitable. Sustainable coastal management needs to take account of natural coastal change.
- Coastal conservation is often about understanding the way in which the physical system underpins the presence of individual habitats or species. Management for habitat and species features must to take account of coastal dynamics.

- As the coast changes so the mosaic of habitats and species as well as the landscape and its 'local distinctiveness' will change and evolve. Understanding the reasons for change must be factored into management decisions to ensure the best possible outcomes for the natural environment. Reasons for change will include the wider geomorphological processes, sources of sediment supply, constraints on sediment movements, wider scale sediment dredging or disposal and climate change.
- Development of pioneer vegetation that will eventually develop in to sand dunes or saltmarsh is a natural stage in the coastal change process. It is probably not possible to fully predict how the habitats will develop, however the situation at this location is likely to be different to that at Parkgate eg due to levels of exposure to winds, tides and waves and differences in sediment supply. It may be more likely that there is more development of dune habitats than saltmarshes.
- Management of the coastline should focus upon working with coastal processes that enable a dynamic environment resilient sea level rise.
- There is a need to conserve, manage and sustain sediment supplies that feed coastal systems and the landscapes and habitats they support.
- Management interventions such as raking and spraying will impact on the natural development of habitats and so geomorphological processes and sediment movement.
- Sustainable coastal management will need to incorporate adaptation measures in both short and long-term.
- Further information on the geomorphological regime and influences may be obtainable from the NW Coastal Group and the [Shoreline Management Plan 2](#) provides information on the coastal processes. [Appendix C: Baseline Process Understanding](#) indicates a long-term trend of sediment accretion for the period of the SMP, potentially leading to a complex of dunes and intertidal habitats in front of maintained sea defences, although channel movements and offshore sandbank evolution will influence the pattern of habitats.
- The Dee estuary is currently continuing to import sediment with saltmarshes showing vertical accretion. The rate of marsh expansion near the estuary mouth has decreased in recent decades but accumulation of windblown sand continues to occur near the Point of Ayr and at Hoylake (Halcrow, 2013). Such accretion is important in supporting the function of the defences. Moore. *et al* (2009), however, suggests that the Dee could be reaching a morphological equilibrium and the rate of accretion may decrease in the future.
- The Dee estuary is a drowned, glacially over-deepened valley bounded by Triassic sandstone and Carboniferous coal measures, extensively mantled by glacial till and outwash sands and gravels. A glacial till forms an eroding cliff along part of the east shore of the estuary near Thurstaston. The glacial till overlies Triassic red mudstones and sandstones, with sandstone ridges and outcrops. The harder coarse Triassic sandstone reaches the surface to create ridges and outcrops in many part of the Wirral. There are three sandstone islands which comprise the Hilbre Island Complex, the only natural hard rock coast within the estuary (Natural England, 2014).
- The main source of sediment to the estuary is the Irish Sea, although the erosion of the glacial till cliffs and the suspended load of the River Dee provide secondary sources (Appendix 2 and 3) (Halcrow, 2013).

- Planning for any coastal development including critical coastal infrastructure and access routes needs to take account of how the coast will respond to the action of coastal processes and sea level rise.
- There is a need to consider the facilitation, migration or adaptation of key natural environment assets as the coast evolves.
- The long term vision in the SMP2 is to maintain protection to assets where necessary but to provide more accommodation space where practical to do so. Along the east bank of the Dee saltmarsh should be allowed to roll back where possible and undefended cliffs should be allowed to erode naturally (Halcrow, 2010b) (Appendix 4).
- You may need or wish to commission a specific review or advice from coastal geomorphologists regarding the geomorphological regimes and influences.

Factors driving growth of foreshore vegetation

- Coastal habitats should be allowed to establish in line with 'natural change' as a dynamic response to the changing physical environment. Changes can be long term such as sea level rise or short term such as winter storms.
- At the current time, changes to the physical environment (e.g. accretion and drainage inputs) are encouraging vegetation establishment. Physical factors such as sediment type and water quality will be influencing the speed of establishment and the character of the developing habitats.
- 'Natural changes' to the balance of intertidal sediments and vegetation communities (pioneer plants, saltmarsh and embryo-dunes) is acceptable, indeed should be actively allowed. Beach raking to prevent the establishment of foreshore habitats can impact on the natural coastal processes and so would generally not be welcome from a 'Natural change' perspective.
- As habitats form naturally in new locations within the statutory designated sites they will be considered as conservation features of the statutory designated sites and will therefore be covered by the sites' conservation objectives. For example developing pioneer saltmarsh and sand dunes on north Wirral foreshore are protected as features of the Dee Estuary SAC.
- In response to dynamic change Natural England can also consider if the features of SSSIs need to be amended to account for developing habitats to ensure their continued protection. Nb - North Wirral Foreshore Site of Special Scientific Interest was last revised in 1986. There are currently no plans to revise this SSSI.

Vegetation control

- Some vegetation control may be acceptable to arrest pioneer establishment in some locations subject to adequate assessment and consents and would need to be very targeted, tightly controlled and monitored. This would be restricted by the sites conservation objectives in seeking to maintain coastal processes and habitat development.
- Habitats that regularly establish or are able to succeed to more mature forms will have value so potential control needs careful consideration.
- Vegetation control across the whole coast would not be acceptable as this is likely to be contrary to the site's conservation objectives, it is also unlikely to be economic or sustainable.
- Smaller areas of vegetation control may have scope to be consented but there should be clear justifications for requests to control vegetation establishment. It is unlikely that such control

could be considered 'directly connected with or necessary for the conservation management of the protected sites' – the first Habitat Regulations Assessment test.

- Raking control should only be focused on patches of single species such as the invasive *Spartina anglica* or possibly some limited areas of *Puccinellia maritima*, rather than raking of large areas of beach
- There needs to be a thorough ecological survey of any areas to be proposed for targeting of vegetation control.
- Mechanical methods of control should be considered as the primary means, herbicide use as a last resort and with clear objectives and practice, and only requested where supported by evidence to demonstrate lack of environmental impact, being used in line with permits from Environment Agency and MMO (where required).
- The application of herbicides on the intertidal is a concern regarding impact on non-target plant species, wider impacts on intertidal invertebrates and so to predator species such as shorebirds and seabirds, shell fisheries and wider environmental risks. The risks may not be fully known and a precautionary approach should be taken and therefore Natural England is currently unlikely to support herbicide use.
- The Council should be clear that only vegetation control that is permitted by itself and other consenting bodies will be allowed and action taken by third parties (eg private companies, stakeholder groups and members of the public) without adequate consent carries the risk of enforcement.

Drainage

- Natural England is concerned about the land drainage being discharged to the foreshore along the promenade and that it may not be regulated. This is with regard to the quality of the water and risks of contamination, the ability to maintain the drainage due to natural accretion, the influence this is having on vegetation development and beach amenity.
- Natural England advises that the water quality should be tested to understand the contamination risks, better managed and regulated.
- Natural England advises that it would be better for the local environment for land drainage/ run off to be collected treated and then discharged via a regulated discharge point. There may be opportunities for wetland creation landward of Hoylake or further along the coast and these areas could receive this treated water.

Wider values and opportunities

- The development of pioneer vegetation starts a natural succession that further accretes and stabilises sediment, this then develops a vegetation community that becomes more diverse.
- Pioneer vegetation is likely to lead to development of saltmarsh and/or dunes; this is of conservation interest and value. Given the more exposed location *Puccinellia* patches are more likely to lead embryo dunes, these will then develop into dune and slack habitats. This has been seen and well recorded between Birkdale and Ainsdale on the Sefton Coast.
- Natural England recognises that vegetation may be seasonal however where they are allowed to persist, sand dune and saltmarsh habitats provide important 'natural capital assets' that provide valuable ecosystem services. These habitats can develop in front of existing defences. Examples of the services include provision of :

- Protection of the current defences and communities behind from coastal erosion and flooding by providing a barrier and habitat to absorb wave and tidal energy.
- Carbon storage into vegetation and sediments thus contributing to mitigation for climate change and the aspirations of Wirral Council the Liverpool City Region to achieve Net Zero Carbon by 2040.
- Developing habitats to support important biodiversity.
- Health and wellbeing benefits – there is significant evidence available to show the health and wellbeing benefits from people’s interaction with a biodiverse natural environment.
- Alternative visitor attraction. Development of important natural habitats provide an opportunity to develop a sustainably managed visitor economy focussed on the natural environment.
- There is an opportunity to assess the natural capital value of the coastal environment and how this might be influenced by coastal change in a range of scenarios. Liverpool John Moores University (LJMU) with Nature Connected (the Local Nature Partnership for the Liverpool City Region) have completed a Natural Capital Baseline for the Liverpool City Region. LJMU would be willing to model a change to this baseline under different management scenarios. This would help inform an appropriate and sustainable management solution for the long term. Contact details for the lead at LJMU can be supplied.

Issues that could be picked up within a wider plan

- Natural England recommends and supports the development of a more holistic beach management plan.
- This plan could be developed through an inclusive engagement process with a wide range of stakeholders that presents and accounts for a variety of constraints such as conservation, economic, legal and sustainability.
- A more holistic plan would ideally be inclusive of the range of activities and users on the intertidal and coastal zone eg local communities, range of recreational users, shell fisheries, life boat operations and land yachting etc. It should also account for improvement in the land drainage on to the foreshore and future coastal defence planning.
- Recreational disturbance is a recognised issue impacting non-breeding birds, especially during autumn, winter and early spring. It is known that recreational activities can disturb important non-breeding birds that are feeding or roosting on the North Wirral Foreshore (and elsewhere). Wirral Council with others currently undertake some work that seeks to manage this disturbance eg interpretation events, signage and wardening but more action may be required. A holistic beach management plan should incorporate measures to limit and manage recreational disturbance.
- A beach management plan will need to be subject to relevant consents and relevant assessments eg a Habitat Regulations Assessment.
- A range of activities and operations have the opportunity to have an environmental effect in combination with each other or cumulatively. This should be considered and this is a good reason for having a more holistic inclusive plan. A beach management plan that has been agreed with Natural England can be considered for an overarching consent/ assent (to cover all the activities within the plan), rather than consent/ assent for individual activities.

- A wider consideration of the benefits and value that changes to the natural environment can have on the area's socio-economic prosperity eg green tourism, well-being, ecosystem services such as coastal protection.

Ideas for way forward

- Development of an engagement process/consultation to enable a wider evidenced based debate to formulate a holistic beach management plan.
- It is for Wirral Council to determine the extent of stakeholder engagement or consultation on determining proposals or plans for coastal management. However, Natural England would recommend that local communities are engaged to understand the options and constraints and their views considered in determining sustainable approaches to the management of the coast. Although Natural England has an advisory and regulatory role it would also be a stakeholder in an engagement/consultation process.
- There needs to be more understanding of the coastal change, habitat development and the value that this brings.
- If amenity beach provision is required then this needs to be considered in the context of the changing coastal environment and how this could be done in a complimentary way. What area of amenity beach is required and what locations, how will this be sustainably managed. Are there options to where and how the amenity beaches are accessed? For example does an amenity beach need to be against the sea defence or could it be further out in front of developed habitats?

Annex 1 Further details regarding designated sites on North Wirral Foreshore

What are the interest features of the sites?

SSSI: Saltmarsh development on North Wirral Foreshore has been recognised for some time with the 1986 North Wirral Foreshore SSSI citation stating:

“North Wirral Foreshore is located between the outer Dee and Mersey Estuaries. This site is an area of intertidal sand and mudflats and embryonic saltmarsh which is of considerable importance as a feeding and roosting site for passage and wintering flocks of waders, wildfowl, terns and gulls.

The embryonic mixed saltmarsh is formed principally from common saltmarsh-grass *Puccinellia maritima* and glasswort *Salicornia europaea*, together with some common cord-grass *Spartina anglica*.”

The [Favourable Condition Table](#) (FCT) also lists saltmarsh as a notified feature and includes a 2014 estimate of 12.8 ha. The FCT also notes the SAC dune features but these haven't been identified for the SSSI, although are present close by at Red Rocks SSSI.

Natural England's [Views About Management](#) document also covers saltmarsh as a notified feature.

The last recorded condition assessment (23 October 2012) assessed this part of the SSSI as Unfavourable Declining due to declines in non-breeding birds – currently considered due to recreational disturbance. The condition assessment did not appear to consider the condition of the habitat features ie saltmarsh and intertidal sediments.

Wetland Bird Survey (WeBS) Alerts (using WeBS data from 2014/15 to 2018/19) indicate bar-tailed godwit, knot and turnstone on North Wirral Foreshore SSSI have significant declines which would lead to these features and so the site to be in unfavourable condition. The site requires formal re-assessment.

Un-consented damage to the habitats features is likely to lead to an unfavourable condition assessment eg through loss of indicator species, habitat structure or habitat area.

Changes in proportions of habitat types due to 'natural change' will be acceptable with regards to condition.

Natural England is required to keep its understanding of interest features under review and this could lead to changes to the designation.

Natural England will consider any proposals with regard to risks to the conservation and enhancement of the SSSI features.

Natural England will consider a review of condition and pressures that may be influencing condition, such as bird disturbance, inappropriate vegetation control and inappropriate drainage/water quality or wider external effects that may be accelerating change.

Ramsar: The Ramsar Information Sheet also refers to embryonic saltmarsh:

“The site comprises intertidal habitats at Egremont foreshore on the south bank of the Mersey, man-made saline and freshwater lagoons at Seaforth on the north bank and the extensive intertidal flats at North Wirral Foreshore. North Wirral Foreshore supports large numbers of feeding waders at low tide and also includes important high tide roost sites, it is an area of intertidal sands and mudflats with embryonic saltmarsh.”

Natura 2000: For the SAC, the ‘supporting processes’ will include those that sustain and allow development of the Annex I features for which the site is designated. The SPA and the SAC conservation objectives both have the caveat ‘subject to natural change’, suggesting that where coastal processes are driving the shift in habitats, we would not conclude such changes to result in an unfavourable condition assessment. There is no information in the SIP for the relevant N2k sites suggesting any major problem from saltmarsh or dune evolution for any of the designated features.

Map indicating the overlapping designations of the North Wirral Foreshore

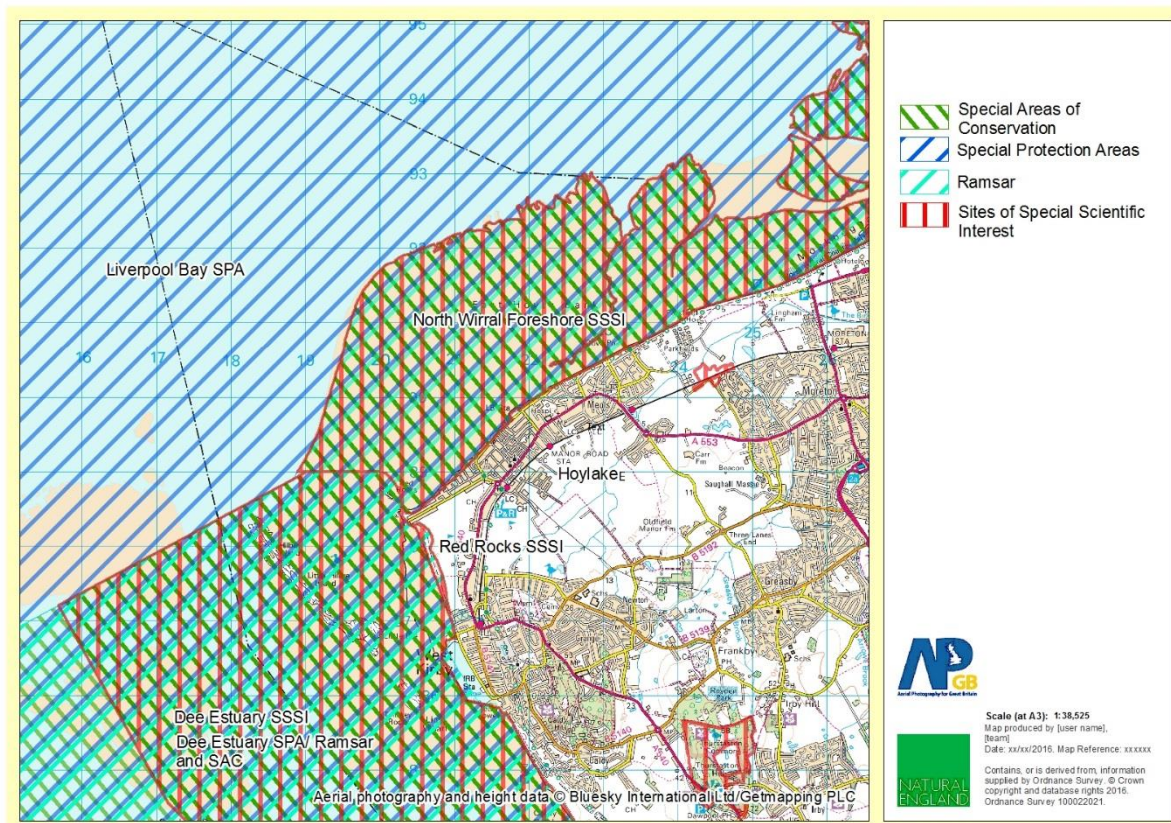


Diagram showing sediment movements for Shoreline Management Plan sub-cell 11a

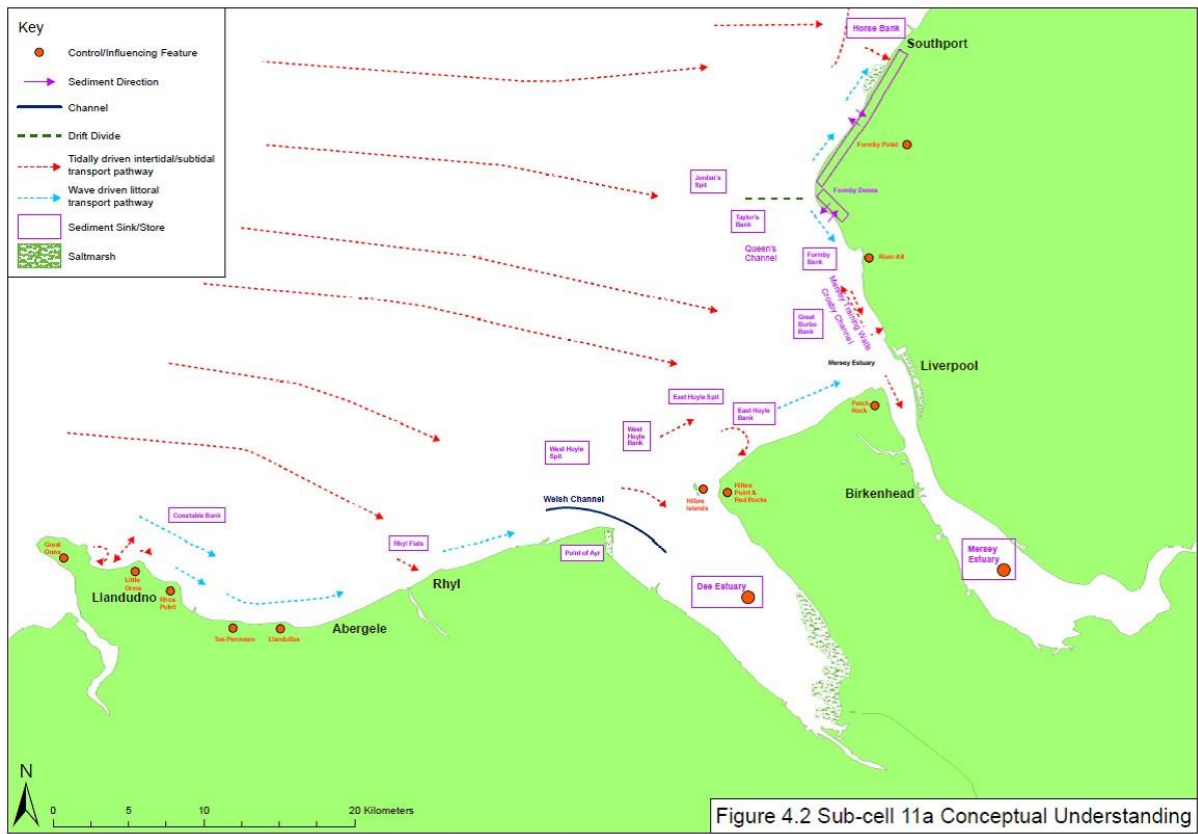


Figure 4.2 Sub-cell 11a Conceptual Understanding