

Voluntary Code of Conduct for hand gathering and bait digging on the Blyth Estuary

1. Site background

The Blyth estuary is part of the Northumberland Shore Site of Special Scientific Interest (SSSI) notified under Section 28 of the Wildlife and Countryside Act, 1981. The Northumberland Shore SSSI includes most of the coastline between the Scottish border and the Tyne Estuary (Map 1) and it provides important wintering grounds for shorebirds of both national and international significance.

Map 1 | Satellite image of the Blyth estuary



The intertidal mudflats of the Blyth estuary provide important low water feeding grounds and high water roosting grounds for large numbers of overwintering waders, most notably the purple sandpiper which is present in nationally significant (>1% GB population) numbers during the winter months. Other bird species present in significant numbers during the winter include shelduck, oystercatcher, ringed plover, lapwing, dunlin, redshank, turnstone and several gull species. Eider duck, knot, curlew and terns (sandwich and common) also use the estuary during the summer. The Blyth estuary is also home to otters which can be seen feeding in the intertidal zone at low tide or loafing around in the water at high tide.

2. Wildlife

Purple sandpiper *Calidris maritima*

The winter population of purple sandpipers on the Blyth estuary is one of the most important in the north east of England, with counts from this site alone exceeding those from the whole of the Northumberland coast. Purple sandpipers on the Blyth estuary spend a lot of their time feeding on mussels at low water, which constitute a major component of their diet, as well as small sea snails and crabs. Studies from the Blyth estuary found that these birds show a marked preference for feeding at the water's edge as the tide drops, taking advantage of open mussels. Due to the importance of mussels in the purple sandpiper's diet, there is concern that a decline in mussels on the Blyth estuary will have a knock-on effect for this important population.

European Otter *Lutra lutra*

The Eurasian otter is found on all of Northumberland's rivers and the River Blyth is no exception. Otters are sighted regularly on the Blyth estuary and the nearby Sleekburn river where they feed primarily on fish but are also seen foraging on the intertidal zone at low water. Otters are shy creatures and one of the major threats to their existence on Northumberland's rivers and estuaries is disturbance from humans.



Blue Mussel *Mytilus edulis*

Blue mussel beds are included on the OSPAR (Annex V) list of threatened and declining species and habitats. The blue mussel is a suspension feeding bivalve mollusc which feeds on algae, detritus and organic material in the water column. Mussels can form dense beds on the intertidal zone, the upper limits of which are controlled by temperature and desiccation while the lower limits are controlled by predation, competition and sand burial. Mussels spawn in spring and late summer, but larval mortality is high resulting in sporadic recruitment.

Mussels are sensitive to smothering and physical disturbance and studies have shown that excessive trampling on mussels causes bare patches as shells are smothered or crushed. This is in addition to the natural disturbances that mussels are already adapted to tolerate in the intertidal zone. A decrease in mussel density as a result of trampling also reduces the availability of hard substrate and shelter that supports colonies of other



intertidal organisms such as barnacles, marine worms, crabs and dogwhelks. These organisms are important in the diets of other important bird populations found on the Blyth estuary such as the oystercatcher, curlew and redshank.

3. Pressures affecting the Blyth estuary SSSI

In late 2014 Northumberland Inshore Fisheries and Conservation Authority were notified of an increase in bait collection activity in and around the mussel beds on the Blyth estuary, which may be partly attributable for the reported decline in the size and density of the mussel beds in recent years. Concerns were raised regarding the quantities of mussels being removed from the site as well as the impacts of trampling on mussels, digging around the mussels and littering.



Removal of excessive quantities of large mussels reduces the size of the spawning stock resulting in low recruitment levels while spoil mounds created from bait digging can suffocate juvenile mussels and other intertidal organisms. Disturbing over-wintering birds can prevent them from feeding and roosting and waste the energy they need for migration. Finally, as well as being an eyesore, litter can be confused for food and lead to suffocation of birds and other wildlife.

4. NIFCA Surveys

In order to determine the health of the mussel beds and monitor the effects of increased bait collection activity at the site, NIFCA are undertaking monthly surveys on the mussel beds. These surveys are carried out using the 'Dutch wand' method which enables us to determine the percentage cover of live mussels as well as the size distribution of mussels (and thus the level of recruitment) on the estuary.

In the meantime, NIFCA have developed a 'Bait Collection Code of Conduct' for the site, which we hope will encourage bait collectors to adopt best practise when on the site and in doing so reduce the impact on the mussel beds and minimise the disturbance for surrounding wildlife.



The Code of Conduct can be seen at the access points to the mussel beds on the Blyth estuary, or can be downloaded from our website www.nifca.gov.uk .

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