

Our main concern is about the marine mammals that will be affected by the dredging, although we are also worried about how the rest of the food chain below the apex predators will suffer.

## Seals

**The Environmental Statement cites the ZSL Thames Seal Report as indicating that there would not be a problem. This is far from the case. The report has been misinterpreted to ensure that the needs of the contractors are met and clearly shows that there is a thriving seal colony on the Goodwin Sands.** The harbour, or common seal is most at risk as the sands are vital for the breeding, pupping, feeding and moulting cycles of this very localised population. The grey seals that haul out on the sands are non-breeding but are also of concern.

The ZSL survey was carried out in August of 2013, 2014 and 2015 and recorded animals on the haul-out sites. **However this survey was limited in its scope and timeframe, excluding as it does the important pupping and suckling months of the harbour seal of May, June and July. The pupping season is extending beyond the expected month of June both ways – we know this because of the pups we are picking up on the beaches of Kent.**

The number of rescued harbour seal pups in Kent has increased exponentially since there has been construction of the offshore wind farms, both during the construction phase and whilst operational. Pups should have not been on mainland beaches but were displaced and separated from their mothers during the crucial suckling period and the immediate period after weaning, whilst they learn to catch fish through associating with other experienced seals. We have no idea just how many pregnant females aborted due to human activity in the area, but this may well have happened as well.

**This highlights the fragile nature of the seal's relationship with the sandbank habitat. It is vital that they are not disturbed during any part of this delicate cycle. Any activity around the Goodwin Sands and specifically the South Calliper may have disastrous and long-lasting effect on this already declining species.**

We know that currently the harbour seal community around the British Isles is suffering and numbers are in decline due to a number of anthropogenic pressures such as offshore construction programmes, fishing interaction such as bycatch and prey shortage, vessel interactions, shooting, pollution. Many are seen to have compromised immune systems, possible through the bioaccumulation of environmental contaminants or POPs (Persistent Organic Pollutants) that are present in the food chain and because of the build-up in the top predators, cause serious problems for seals, also possibly affecting their fecundity.

### **Seabed disturbance and the subsequent release of pollutants and toxins**

Other organisations are better placed to comment on the direct effect this dredging would have on the seabed communities of plants, invertebrates and bottom-dwelling fish. We share their concerns and support their views.

One aspect that needs to be addressed is the freeing up of pollutants that have been physically suppressed by the build-up of aggregates, covering them up and therefore acting as a lid to keep them contained.

POPs (Persistent Organic Pollutants) remain in the ecosystem and their effects on wildlife can be devastating, as previously mentioned. Over the years, these will drop to the seabed

and be covered by silt and sand, so that they no longer are in the water column. Any disturbance will reintroduce POPs back into the water column to be ingested by a whole range of organisms. These are then preyed on by other animals until at the top of the food chain animals such as seals, porpoises, dolphins and whales suffer from suppressed immunology and lack of fecundity due to their increased presence.

The effect of PCBs (polychlorinated biphenyls) on mammals is well documented. Although production of these particular POPs has dramatically declined since many countries banned their use in the 1970s, the freeing up of them by offshore pile-driving and dredging has freed them up to re-enter the ecosystem. Dredging may have long term effect on a local population of many species and of course these pollutants may ultimately be consumed by fish-eating humans.

**PCBs have been identified as probably human carcinogens and women exposed to PCBs before or during pregnancy can give birth to children with lowered cognitive ability, immune compromise, and motor control problems.**

These pollutants may be transferred along with the aggregates to the Dover development, where recreational fishermen and their families may be at risk from eating fish caught there.

#### **Risk assessment and mitigation**

**The Environmental Statement is a travesty. Whilst it lists areas for concern that have been gleaned from an online literature review (note that there have not been any surveys carried out specifically to determine the potential impact of this particular dredging on any species in the area), the mitigation measures are notable by their absence. The impacts listed have been severely misrepresented or reduced**

Scientific papers have been carefully chosen to support the dredging proposal, but even where those papers have highlighted problems these have not been covered by any mitigation whatever.

#### **Recommendations**

**1 That the licence for dredging is not issued**

**2** If the licence is issued then as a condition of the licence, **proper independent scientific surveys should be conducted** during the proposed months in preceding years to ascertain how all taxa may be affected **so that informed decisions can be made.**

**3** That if dredging is to go ahead, the months of **May, June, July and August should be avoided** and that it should only be allowed from the end of September.

**4** Conservation NGOs should be **actively consulted** (rather than just paid lip-service to) and their concerns acted upon.

**5** Cost-effectiveness of dredging locally is fiscal only. **The true cost to the marine environment should be reassessed.**