

Penzance B.S.A.C. Conservation Officer's Report, October 2010

Antarctic Krill (*Euphausia superba*) are a tiny shrimp-like organism that are an integral part of the Southern Ocean food chain. They can be up to 5 cm in length and are the primary food source for most of the marine animals and sea birds in Antarctica. They are also commercially fished so it is important to ensure that human fishing activities do not negatively impact the native animals that rely on krill for energy for themselves and their offspring. Using small vessels that allow access to shallow inshore waters researchers from Stony



Krill

Brook University and Southwest Fisheries Science Centre conducted a multi-year survey of the population of Krill in coastal waters near Livingston Island and discovered that the inshore waters had significantly higher krill biomass density than offshore waters. They also found that the inshore waters had less annual variation than offshore waters. Inshore krill biomass is generally most accessible to land breeding predators as well as to human fishers competing for this valuable resource and although the spatial area of the inshore survey is quite small compared with that of the entire southern ocean, the high and stable densities of krill in shallow waters may be of more importance ecologically than the offshore krill.

Plankton, the most abundant type of life found in the ocean, are microscopic marine plants that drift on or near the surface of the sea, and has been called "the grass of the sea" because they are the basic food on which all other marine life depends. Since plankton contains photosynthetic chlorophyll pigments, these simple organisms also play a similar role to terrestrial green plants in the photosynthetic process. Plankton are able to convert inorganic compounds such as water, nitrogen and carbon into complex organic materials and are credited with removing as much carbon dioxide from the atmosphere as vegetation on land. While individually microscopic, the chlorophyll they use for photosynthesis collectively tints the surrounding ocean waters, providing a means of detecting these tiny organisms from space with dedicated 'ocean colour' sensors, like Envisat's Medium Resolution Imaging Spectrometer (MERIS), resulting in a spectacular image of an electric blue-coloured plankton bloom in the north Atlantic, south west of Ireland, acquired on May 23rd, 2010 resembling the brush strokes of French Impressionist Claude Monet



Giant Ocean-Going Geese with Bony-Teeth once roamed across SE England. A 50 million year old skull reveals that huge birds with a 5 metre wingspan once skimmed across the waters that covered what is now London, Essex and Kent. These ocean-going relatives of ducks and geese also had a rather bizarre attribute for a bird: their beaks were lined with bony teeth. This new fossil from the Isle of Sheppey belongs to Dasornis, a bony-toothed bird that was discovered in the London Clay, which lies under much of London, Essex and northern Kent. With a 5 metre wingspan, these huge birds were similar to Albatross in their way of life, wandering the oceans. Albatross have the largest wingspan of any living bird. but that of Dasornis was over a metre and a half greater. Despite these similarities, research suggests that the closest living relatives of Dasornis are ducks and geese. There were 31 reported sightings of Basking Sharks in September from Newquay



Dasornis

around Land's End to Porthgarra. 21 of them from Gwennap Head. 6 reports of Bottlenose Dolphin were from Bude to Gwennap Head, with the largest pod of 40 off Bude. 4 other reports of dolphins were of small pods so probably also Bottlenose. There were reports from Newquay to Hella Point, of Common Dolphins, with a pod of 200 or more seen off Newquay. Risso's Dolphins were seen twice, 5 off Carn Glouce and one off Gwennap, both on the 1st of the month. 12 reports of Harbour Porpoise were all from The Brisons to Gwennap Head except one, which was a pod of 12 off The Lizard. 8 Minke Whales were seen, all off Gwennap Head and a Killer Whale was seen off Mawgan Porth. 5 Ocean Sunfish sightings were from St Agnes on the north coast around to Gwennap Head on the south, and a Blue Shark was seen off Mawgan Porth. Grey Seals were reported 20 times and these were also all off Gwennap Head, largest number on any one day was 20