

Penzance B.S.A.C.

Conservation Officer's Report

July 2009

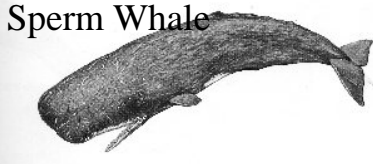
While commonly sighted in surface waters during summer and autumn months, the disappearance of Basking Shark during most of the winter has been a great source of debate ever since an article in 1954 suggested that they hibernate on the ocean floor during this time. Now 50 years later using new satellite-based tagging technology and a novel geolocation technique, researchers have found that Basking Sharks make ocean scale migrations through tropical waters of the Atlantic Ocean during the winter, travelling at depths of 200 to 1000 metres. Their data show that the sharks sometimes stay at those depths for weeks or even months at a time. In doing so, they have completely avoided detection by humans for millennia. Several factors have made Basking Sharks a challenge to study, on top of the fact that they disappear for long periods of time, they also feed exclusively on plankton. That means they cannot be attracted by bait.



Photo. Fred Buckingham

Scientists in California are reporting use of a first-of-its-kind approach to craft genetically engineered microbes with the much-sought ability to transform switchgrass, corn cobs and other organic materials into methyl halides, the raw material for making gasoline and a host of other commercially important products. The new bioprocess could help pave the way for producing biofuels from agricultural waste, easing concerns about stress on the global food supply from using corn and other food crops. Plants and microbes produce methyl halides naturally, but in amounts too small for commercial use, but using a database of 89 genes from plants, fungi, and bacteria known to produce methyl halides, the researchers identified genes that were the most likely to produce the highest levels of these substances. They then splices these genes into brewers yeast—used to make beer and wine—so that the yeast cells churned out methyl halide instead of alcohol. In laboratory studies the two engineered microbes helped boost methyl halide production from switchgrass, corn cob husks, sugar cane waste and poplar wood to levels with commercial potential.

Sperm Whale



For decades scientists have been intrigued by the variety of sounds emitted by Sperm Whales, partly due to a popular theory suggesting that the sounds might contain information about the animals size. Now researchers are unlocking some of the mysteries of Sperm Whale sound production. The roots of the unique study began years ago in Alaska, after Sperm Whales developed the ability to steal black cod off “longlines,” deep sea fishing gear that features a

main fishing line draped across the ocean and fastened with shorter lines bearing baited hooks, The fishermen began to realise that their boats were attracting groups of Sperm Whales, which usually forage alone in much deeper water, somehow alerting the whales like a dinner bell. The researchers deployed acoustic recorders on the longlines and the results helped identify the sounds that attracted the whales. Encouraged by this the researchers added video recorders to the gear, which led to some unexpected results. It gave the fishermen a clear idea of how the whales were stealing the fish, they plucked the line at one end to jar the black cod free at the other end, somewhat like shaking apples from a tree. Ocean Sunfish began turning up in June. The first one reported was seen just south east of St. Michael's Mount on the 13th, (pictured at right), and a second one was reported off Land's End next day. Another was seen off Cape Cornwall on the 21st and a 4th was see off Lowland Point on the 27th. Basking Sharks were seen all around the coast of Cornwall, from The Rumps, east of the Camel estuary on the north coast to Plymouth Sound on the south, with 67 reported sightings The largest number seen together were 70, a couple miles south of the Lizard on the 4th. One Basking Shark was severely harassed at Sennen Cove, by a group of yellow canoes, on the 3rd June. Common Dolphins were reported 3 times and there were also 4 reports of unidentified dolphins. There were 11 sightings of Harbour Porpoises. Other creatures seen were a Leatherback Turtle, a Mako Shark, and a turtle, which was thought to be a Loggerhead. Also caught some 60 mile out by a fishing boat, was a Moray Eel.



Photo Tracey Upchurch