

prevalent around Kelvin in the spring (May to June: mean = 46% of recordings contained clicks) compared to the winter (November to March: mean = 7% of recordings contained clicks). Variables that explained the seasonal prevalence of sperm whales around Kelvin Seamount included: month, distance to Gulf Stream and chlorophyll a six weeks previous. Sperm whales were more abundant in the northern part of the Sargasso Sea near the Gulf Stream and New England seamount chain. The world's oceans are dominated by areas of low productivity, and there is evidence these areas are expanding. Our research sheds insight into how such an unproductive environment can support high whale biomass and provide a broader understanding of why sperm whales are so widely distributed.

4 March 10:00 – 10:20

CETACEAN SURVEYS IN THE ISTANBUL (BOSPHORUS) STRAIT IN 2007-2008

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The Turkish Straits System, namely the Istanbul (Bosphorus) Strait, Marmara Sea, and Canakkale Strait, is known as a biological corridor between the Aegean and Black Sea for marine organisms including cetaceans. There found three cetacean species: bottlenose dolphin (*Tursiops truncatus*), common dolphin (*Delphinus delphis*) and harbour porpoise (*Phocoena phocoena*). Due to anthropogenic stress, such as pollution, high human population, and sea traffic, there has been a great concern about these cetaceans. This study aimed to understand and monitor the seasonal and spatial distribution of three cetacean species in the Istanbul Strait. Surveys were made in March 2007-June 2008 with a 12m commuter boat and a 32m research vessel YUNUS-S, between the Black Sea exit and the Marmara Sea exit of the Strait (approximately 16.3 nautical miles in length). Thirty-seven surveys were made, totalling about 155 hours and 972 nautical miles (nmiles) of survey effort. We recorded 139 sightings (1205 individuals) and the bottlenose dolphin was the most often observed species comprising 52 %, followed by the harbour porpoise 39 % and the common dolphin 9 %. The overall encounter rate was 0.143 sightings/nmiles. When the Strait was divided into three parts: North, Middle, and South, the sightings were most frequent (53%) in North, near the Black Sea exit, where less traffic and human population create less disturbance for cetaceans. The bottlenose dolphins were dominant in North and South, while the harbour porpoises were dominant in Middle. There were regular sightings of the bottlenose dolphins at both exits of the Strait. Although the effort was not constant throughout the year, there were more sightings in spring-summer months than in

autumn-winter months, as in the previous years. Distributions of three species vary from year to year possibly due to the prey fish availability.

4 March 10:20 – 10:40

THE ADAPTATION AND USE OF RADIO FREQUENCY IDENTIFICATION (RFID) TAGS FOR MARKING HARBOUR SEALS (*Phoca vitulina*)

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The ability to recognise individually marked animals from a distance allows survival, movement and abundance estimates to be derived from mark-recapture analyses. For harbour seals a number of passive marking methods have been used, including flipper tags and natural marks but these are limited, particularly in terms of the distance to recognition. We have adapted long-range active RFID tags (IntegralRFID) for temporarily marking harbour seals. The tags transmit (303MHz) an 8 digit identification code every 5s, weigh <12g and measure 30mm in diameter. The units were waterproofed by encasing in epoxy resin which caused only a minor reduction of the signal strength. To maximize the detection range we designed and built a long range 10dBi cross-polarized Yagi antenna. The maximum directional read-range is currently 400m. Data from the receiver are streamed by cable or bluetooth to a laptop or PDA which logs tag number, signal strength and date/time. As a pilot study, in September and October 2008, 27 RFID tags were deployed on harbour seals from the East coast of Scotland (12 in the Moray Firth and 15 in the Eden Estuary) and will be shed during the moult. Weekly trips to observation points between 200 and 350m from the haulout sites were subsequently carried out. In the Moray Firth, 11 tags were detected from 5 trips. In the Eden estuary 2 tags were detected during 10 trips. This initial study suggests that RFID tags have potential application in survival studies for animals that have a restricted range. Since the tags are cheap and small seals may be readily double tagged to estimate tag loss. Having a life of ~7 years, they also have the potential for implantation, albeit with reduced range.