

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



In Sweden they are concerned that large scale wind farms are having a negative effect on the Golden Eagles, and scientists are trapping adult Golden Eagles and fitting them with satellite transmitters that emit a signal once an hour during daytime, which provide a picture of how the birds use the landscape. The scientists hope to identify the golden eagle's favourite habitats which will allow them to see where wind farms can be established without disturbing the eagles. The potential risk with wind farms are that the birds collide with the rotor blades and lose valuable hunting habitat. So far 6 eagles have been fitted with transmitters, and the birds have no problem flying with these transmitters which are strapped to their back, and the aim is to fit 20 transmitters to eagles from ten different areas, five where wind farms are planned and five without wind farms (reference areas) The project is estimated to run long enough for the scientists to monitor the eagles during wind farm establishment. Most of the sites are in the northern part of Sweden



Eagle fitted with transmitter

Wind farms also have a visual impact which upset many people, and probably a much better way to provide energy is to use tidal power. A new Company has been formed to develop a tidal turbine which has the potential to harness tidal energy more efficiently and cheaply, using a device which is simpler, more robust and more scaleable than current designs. The Company is in the process of building and testing a 0.5 metre diameter prototype to demonstrate the benefits of the design, but a full-scale device would be up to 10 meters diameter, and a series of turbines can be chained together across a tidal channel. Tidal currents are sub-surface, so tidal turbines have minimum visual impact, unlike wind farms or estuary barrage schemes and UK waters are estimated to offer 10% of the global extractable tidal resource. Electricity produced from windmills generally cost



Tidal Turbine

more than that produced from traditional sources like coal and gas. At best, wind farms produce electricity at an efficiency rate of 30 percent, compared to a 70 percent efficiency from natural gas and coal. Wind energy is also unreliable. Electricity can't be stored: it must be produced on demand, yet wind is inherently unpredictable, and backup generators are needed to make sure enough electricity is available to meet demand. While wind energy has shown potential as a large scale emission-free energy source, bat and bird collisions at wind turbines result in thousands of fatalities annually. This loss not only impacts the immediate area, but is detrimental to ecosystem health nationwide, for bats and birds help with pest management, pollination and the dispersal of numerous plant seeds

The food industry generates a lot of waste products, but one of these, egg shells, could help combat climate change, because scientists have demonstrated that the membrane that lines the inside of the eggshell can absorb almost seven times its own weight of carbon dioxide from the atmosphere. The carbon dioxide thus trapped could be stored in this form until energy effective methods of using the gas could be found that would not compound the environmental problems associated with carbon emissions. Carbon dioxide is widely used in the chemical industry for the preparation of a wide range of products as well as in some settings as an alternative to toxic solvents. It might also one day be possible to efficiently convert trapped carbon dioxide into a clean fuel



Bottlenose Dolphins were only sighted once in November, a pod of about 10 off St Ives on the 2nd of the month. There was only one report of Risso's Dolphins, when 3 were seen off The Lizard. By far the largest number of sightings were of Harbour Porpoises, there being 14 reports all between Porthgwarra around Lands End to Pendeen Watch. The only report of Grey Seal was on one seen off St Anthony Head. There was an interesting sighting of a shark about 10 to 12 ft long close inshore off Pendeen on the 3rd of the month. The shark was swirling around in a circle rapidly at the surface. It was described as dark above with a longish upper tail fin— but not as long as a Thresher Shark— this suggests to me, the behaviour and tail length, that it may have been a Mako



Mako