TETHYS BLAST

July 8, 2016

Welcome to the latest bi-weekly Tethys Blast, which will update you with new information available on Tethys, new features of Tethys, and current news articles of international interest on wind and marine renewable energy. We hope that this becomes a valuable tool to help you stay connected to your colleagues and to introduce you to new research, new contacts, and ongoing milestones in wind and marine renewable energy development.

Two Upcoming Webinars

Annex IV is hosting a public webinar on July 12 about the Role of Biofouling in Marine Renewable Energy Development. Webinar information is available on Tethys: http://tethys.pnnl.gov/annex-iv-10.

WREN is hosting a public webinar on July 21 about Assessing Marine and Avian Wildlife Off the New York Coast. Webinar information is available on Tethys: http://tethys.pnnl.gov/wren-8.

Webinar Recording Available

WREN hosted a webinar on June 28 about Wind Energy Development Impacts on Marine Environment. A video recording is now available on Tethys: http://tethys.pnnl.gov/wren-7.

New Documents on Tethys

A total of 68 new documents have been added to Tethys in the last two weeks! These documents have been hand-selected for their relevance to the environmental effects of wind and marine renewable energy. The listings below are short introductions to several new or popular documents that can be accessed through the accompanying Tethys links:

Estimating the Probability of Fish Encountering a Marine Hydrokinetic Device - Shen et al. 2016

> Strong tidal currents in eastern Maine, USA, make that region attractive for tidal power development. Little is known about the effects of marine hydrokinetic (MHK) devices on fish, yet many fish species use tidal currents for movements. We used empirical data from stationary and mobile hydroacoustic surveys to examine the probability that fish would be at the depth of an MHK device and may therefore encounter it. The probability was estimated using three components: 1) probability of fish being at device-depth when the device was absent; 2) probability of fish behavior changing to avoid the device in the far-field; and 3) probability of fish being at device-depth in the near-field when the device was present.

Re-powering Scotland: Wind Farms and the 'Energy or Environment?' Debate - Warren and Birnie 2009

> Energy issues are crucial for Scotland. This paper reviews the environmental, social and political questions surrounding energy and environment in general, and analyses the passionate arguments surrounding onshore wind farm developments in Scotland in particular. Scotland has the best onshore and offshore wind resources in Europe, with almost a quarter of the total resource, and onshore wind is now rapidly overtaking hydropower as the renewable technology with the greatest generating capacity. This development has proved highly controversial, with many schemes attracting vociferous public opposition.

Auditory Sensitivity in Aquatic Animals - Lucke et al. 2016

> A critical concern with respect to marine animal acoustics is the issue of hearing "sensitivity," as it is widely used as a criterion for the onset of noise-induced effects. Important aspects of research on sensitivity to sound by marine animals include: uncertainties regarding how well these species detect and respond to different sounds; the masking effects of man-made sounds on the detection of biologically important sounds; the question how internal state, motivation, context, and previous experience affect their behavioral responses; and the long-term and cumulative effects of sound exposure.

Altamont Pass Wind Resource Area 48-Hour Search Interval Bird Fatality Study - Jones & Stokes Associations Inc. 2009

> The Altamont Pass Wind Resource Area (APWRA) is located in central California approximately 90 kilometers (56 miles) east of San Francisco (Figure 1). Permits have been granted for 5,400 wind turbines distributed over 165 square kilometers (40,772 acres) of rolling grassland hills and valleys in the APWRA. The APWRA supports a broad diversity of resident and migratory bird species that regularly move through the wind turbine area (Orloff and Flannery 1996). Birds passing through the rotor plane of operating wind turbines are at risk of being injured or killed.

Wind Power and Birds at Smøla 2003-2006 - Follestad et al. 2007

The Smøla Archipelago off the west coast of Norway have a particularly high breeding density of the white-tailed sea eagle. The EIA for the proposed wind farm indicated that it would affect the sea eagles negatively in several ways. Smøla wind farms has built consists of 68 turbines, and the second phase became operational in August 2005. A research program was initiated in 2003 to monitor the territory occupancy and productivity of sea eagles, and its activity related to the turbines.

Current News

Current news articles of international interest on win and marine renewable energy include:

US Federal Court Makes Cape Wind Ruling: A Win For Both Parties?

In an overturn of a previous district court decision, a federal court has ruled that the U.S. Fish and Wildlife Service (FWS) and Bureau of Ocean Energy Management (BOEM) were not in compliance with the Endangered Species Act or the National Environmental Policy Act (NEPA), respectively, when they issued a lease for Cape Wind's proposed project off the coast of Massachusetts.

EIB invests US$11.1 million in Finnish MHK company

The European Investment Bank (EIB) announced yesterday it will invest up to US$11.1 million in AW-Energy, a pioneering start-up company from Finland that developed the WaveRoller marine hydrokinetic (MHK) energy technology. The investment will support and speed up commercial development of European wave energy technology, according to the European Union.

Massive Wind Turbine Parts Arrive At Port Of Ogdensburg

Dozens of wind turbine parts are being off-loaded from ship and rail at the Port of Ogdensburg. They're destined for a wind farm expansion project in Clinton County. Stacks of white tower sections arrived by ship at the port Wednesday and quickly began being off-loaded.

Mauritius: Wave Energy Project - Deployment of a Wave Monitoring Device

A wave monitoring device, aiming to explore the prospects of developing wave energy for the Republic of Mauritius and harness the potential of ocean energy, was deployed yesterday during a launching ceremony held at Le Batelage Restaurant, in Souillac.

Wind farm work under way again after pausing for fish and bombs

WORK is set to start to install 800-tonne foundations for an offshore wind farm which will provide energy for more than 300,000 homes. The drilling work to embed foundations for the Rampion Offshore Wind Farm off the Sussex coast was paused in May to protect the population of black bream who use the relatively shallow gravelly waters as a breeding ground.