

Workshop Report – Supporting Regulatory Decision-Making for Environmental Effects of Marine Renewable Energy

6 December 2022

OES-Environmental – Online Workshop

Overview

OES-Environmental held two online workshops on 6 December 2022 that highlighted tools developed for regulatory decision-making associated with environmental effects of marine renewable energy (MRE; energy from waves, tides, ocean currents, and salinity and temperature gradients). The objectives for the workshops were to provide an interactive overview of OES-Environmental's [Guidance Documents for Risk Retirement](#), share tools to apply information on environmental effects of MRE, and seek feedback from international regulators and advisors engaged in consenting.

The guidance documents bridge between scientific evidence and knowledge for regulatory processes. As such, this workshop was tailored for regulators and advisors involved in consenting environmental effects of MRE. A [similar workshop](#) was held in February 2022 for United States regulators, so this workshop focused on engaging international regulators from the other OES-Environmental countries. The same workshop was held at two times (3:30pm UTC and 12:00am UTC) to accommodate different time zones. The workshops included presentations on OES-Environmental, the risk retirement process, and the guidance documents as well as breakout groups to further discuss the guidance documents and other OES-Environmental tools (see Appendix A for the full workshop agenda).

Out of the 48 registrants, there were 28 attendees from 11 countries across the two workshops in addition to the Pacific Northwest National Laboratory (PNNL) team that hosted the workshop (see Appendix B for the attendee list). 23 attended the morning workshop that was most convenient for European and North American audiences and 5 attended the afternoon workshop that was most convenient for Asian and Oceanian audiences. 14 of the 28 attendees were regulators or advisors engaged in MRE and represented 5 countries.

A page was created on *Tethys* that includes a recording of the workshop presentation (on the *Tethys* YouTube channel) and the slide deck. After the workshop, the [Tethys workshop page](#) was shared with everyone who registered (both those who attended and those who did not attend) and with the wider list of international regulators invited. Since the workshop there have been 20 views of the recording on YouTube.

Discussion and Feedback

- General consensus that the regulatory categories make sense
 - Every applicable statute or regulation that participants could think of fit into one of the four categories
 - Note to consider explicit inclusion of defense and military activities in the social and economic category

- General consensus that the framework for applying the guidance documents could be helpful for consenting and would be recommended to developers
 - Regulators bounded by the precautionary principle may not be willing to apply risk retirement for certain interactions (e.g., habitat change)
 - Would be useful to add recommended/expected timelines for developers; information shared from participants show that this is difficult as timelines vary by country/jurisdiction
 - France – takes about 18 months for consenting, after that may be additional 1-2 years depending on jurisdictional process of which there are 3 so overall it could be about 4 years but can be up to 6 years (depending on priorities that a judge chooses)
 - Wales – pre-application stage is very flexible and led by the developer to resolve any issues ahead of submitting the application. Processes are not time-bound but there are discussions to see if bounds can be added
 - Canada – in Nova Scotia, the Permit Program has a 90-day legislated timeframe to decide on approval of application to issue a permit
 - Suggested to look at the ISO risk assessment framework and see how risk retirement and the guidance documents might fit within it
- Guidance documents are especially useful for pre-application phase
 - Stressor-specific guidance documents are very useful tools for developers in pre-application phase who want to make the case that their project may have minimal impacts, and informs developers of all the steps to consider in a project
 - Scoping is a major issue for Environmental Impact Assessment – and it would be beneficial to have this kind of discussion about risk retirement before a deployment
 - Useful for pre-application scoping in/out of potential impacts for both regulators and developers
 - Also useful for consenting organizations in pre-application phase, with *Tethys* as a useful resource in general
- Regarding challenges:
 - Main consenting challenge is collision risk – need good analysis on data available and how information can be transferred to other countries
 - Biggest issue is lack of detail, species-specific studies needed for some stressors
 - Looking at regulatory issues from industry side, keep hearing lack of institutional knowledge between regulators and from project to project and region to region, mostly due to regulators cycling out frequently
 - OES-Environmental [MRE Brochure](#) was developed for new regulators to provide introduction/background on MRE and environmental effects
 - Engaging with regulators is an important baseline activity that needs to be maintained
 - To move to commercialization, more collaboration with industry is needed
- Data transferability would be useful
 - When a device is approved, transparency on why would be useful for other developers going through consenting process

- In Scotland main source in MeyGen, but question how to apply this to other jurisdictions when looking at collision risk models. Developing “applicability factor” to look at how can apply to other jurisdictions – presenting this to regulators to get feedback and see if people are willing to accept it
- Overall, positive feedback that the workshops were helpful – “super interesting”, “very informative”, “great to see progress on guidance documents”, “excited to learn about the tools”, etc.

Online Survey

Workshop participants were asked to take a survey to provide additional feedback on the guidance documents and topics discussed, as well as to provide overall feedback on the workshop and additional topics they would like to discuss. 8 survey responses were gathered, mostly on the day of the workshop. Overall, the feedback was positive from the survey with participants noting they enjoyed the breakout rooms and the engaging presentation style, that they would pass on information to new staff as they found it a useful starting point on environmental effects, and they enjoyed hearing discussions and learning about Tethys and the guidance documents.

Regarding Tethys use, the majority of survey participants were familiar with Tethys but had not used it much or were vaguely familiar, while a few survey participants were not familiar at all.

Appendix A – Agenda

00:00 – 00:15	<p>Introduction</p> <ul style="list-style-type: none">• Workshop objectives• Background and context<ul style="list-style-type: none">○ OES-Environmental○ Stressor-receptor interactions○ Risk retirement and data transferability○ Moving from science to consenting
00:15 – 00:35	<p>Guidance Documents</p> <ul style="list-style-type: none">• Overview• Background document – regulatory categories and framework<ul style="list-style-type: none">○ <i>Questions</i>• Country-specific documents• Stressor-specific documents – evidence bases, matrix, management measures tool<ul style="list-style-type: none">○ <i>Example – Habitat change</i>
0:35 – 1:05	<p>Breakout Groups (number of groups dependent on number of attendees)</p> <ul style="list-style-type: none">• <i>Jamboards</i>• <i>Discussion and feedback on:</i><ol style="list-style-type: none">1. <i>Regulatory categories and framework</i>2. <i>Risk retirement and data transferability</i>3. <i>Application and use of guidance documents</i>
1:05 – 1:25	<p>Report Out</p>
1:25 – 1:30	<p>Wrap Up and Feedback</p> <ul style="list-style-type: none">• Guidance document outreach• Other resources – MRE brochure, PRIMRE + Tethys, international tools• Next steps• Workshop feedback – online survey

Appendix B – Workshop Attendees

PNNL – Andrea Copping*, Deborah Rose, Dorian Overhus, Lenaïg Hemery, Lysel Garavelli, Mikaela Freeman

Country	Name	Organization	AM	PM
Australia	Beth Fulton*	CSIRO		X
Canada	Emma Wildeboer	Natural Resources Canada	X	
	Jason Flanagan	Transport Canada	X	
	Michael Hingston	Environment and Climate Change Canada	X	
	Shawna Eason	Nova Scotia Government – Energy and Mines	X	
	Dan Hasselman*	FORCE	X	
China	Xuefeng Li*	National Ocean Technology Center		X
France	Antonin Gimard	French Office for Biodiversity	X	
Ireland	Maeve Flynn	An Bord Pleanála	X	
	Emma Verling*	MaREI, University College Cork	X	
Japan	Daisuke Kitazawa*	University of Tokyo		X
Portugal	Inês Machado*	WavEc – Offshore Renewables	X	
Sweden	Jan Sundberg*	Uppsala University	X	
UK	Jennifer Fox*	Aquatera	X	
	Shane Quill	Aquatera	X	
UK - Scotland	Amy Alexander	Scottish Government	X	
	Anna Shenton	Scottish Government	X	
	Rebecca Bamlett	Marine Scotland	X	
	Sue O'Brien	Marine Scotland	X	
	Toni-Marie McGinn	Scottish Government	X	
UK - Wales	Ceri Seaton	Natural Resources Wales	X	
	Emily Groves	Natural Resources Wales	X	
US	Ben Loeffler	Alaska Center for Energy and Power	X	
	Chris Lee	Tidal Energy Corp		X
	Daniel Aicher	Alaska Energy Authority		X
	Nina Joffe	US Department of Energy WPTO	X	
	Sarah Loftus	US Department of Energy WPTO		X
	Samantha Eaves	US Department of Energy WPTO	X	

*OES-Environmental country analyst or alternate