

URI's Role in Offshore Wind Energy: Past, Present, and Future



Jennifer McCann
University of Rhode Island Coastal Resources Center
R.I. Sea Grant

URI Coastal Resources Center



*Making the coast a better place to live, work, and play
for this and future generations.*

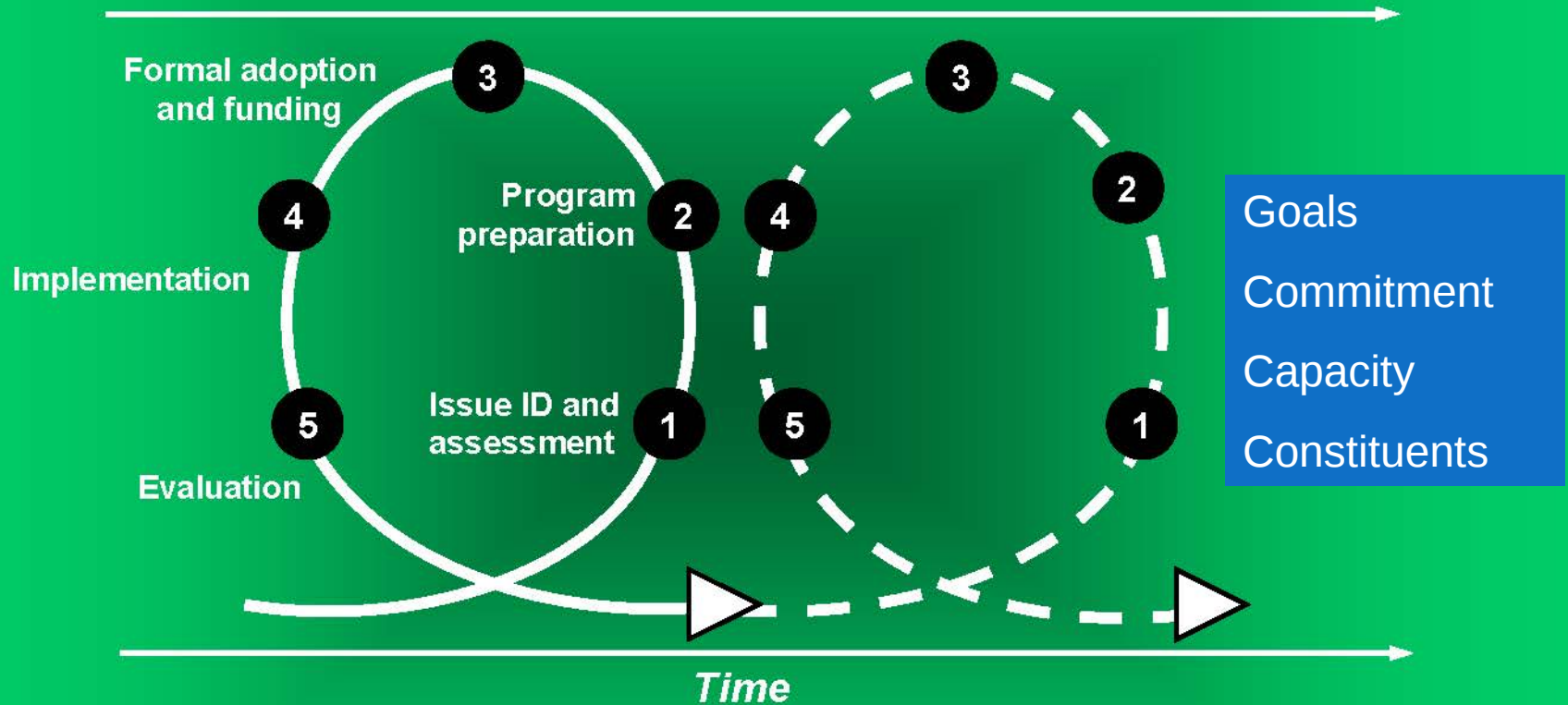
SAMPs are Tools with Teeth

- Ecosystem-based Management Approach
- State leads the Effort
- Regulatory, planning, and adaptive management tool



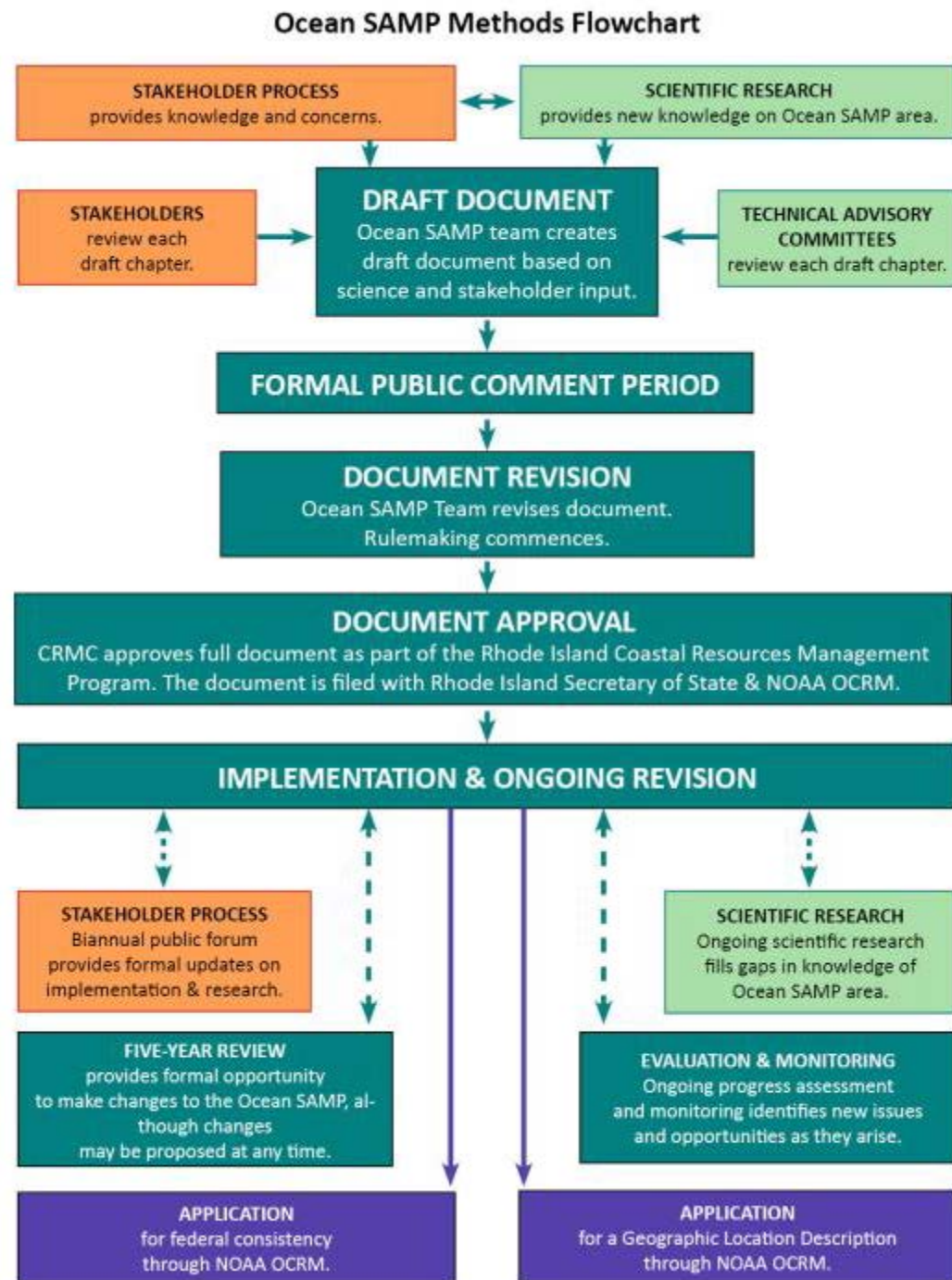
A Strategic Process for Effecting Change

More sustainable forms of coastal development



*Progressively larger cycle loops
indicate growth in project scope*

Ocean SAMP Methods Flowchart



SAMP Research

Research Topics Include...

- Wind resources
- Marine mammals and birds
- Fisheries uses
- Physical oceanography
- Ecosystem interactions
- Sediment and benthic habitat
- Cultural resources
- Acoustics and electromagnetic effects
- Meteorology
- Engineering
- Marine transportation uses
- Legal aspects





*Images: The
Electron Project
(Cape Spin)*

What we are most proud of.....

- 68% of state waters and 54% of study area receive increased protection.
- The Renewable Energy Zone (REZ) promotes offshore renewable energy with a more streamlined application approval process.
- The Ocean SAMP allows Rhode Island to be in the drivers seat for future development and conservation initiatives.





- Researched
- Tested
- Gut-Checked



Submerged Paleocultural Landscapes Project



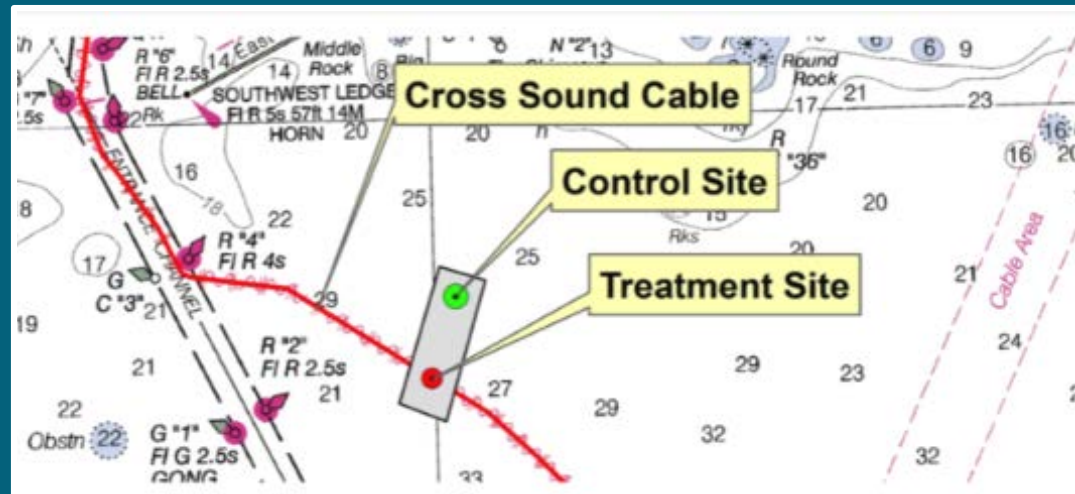
URI Energy Fellows



Analyzing the Effects of the Block Island Wind Farm on Rhode Island Recreation and Tourism Activities

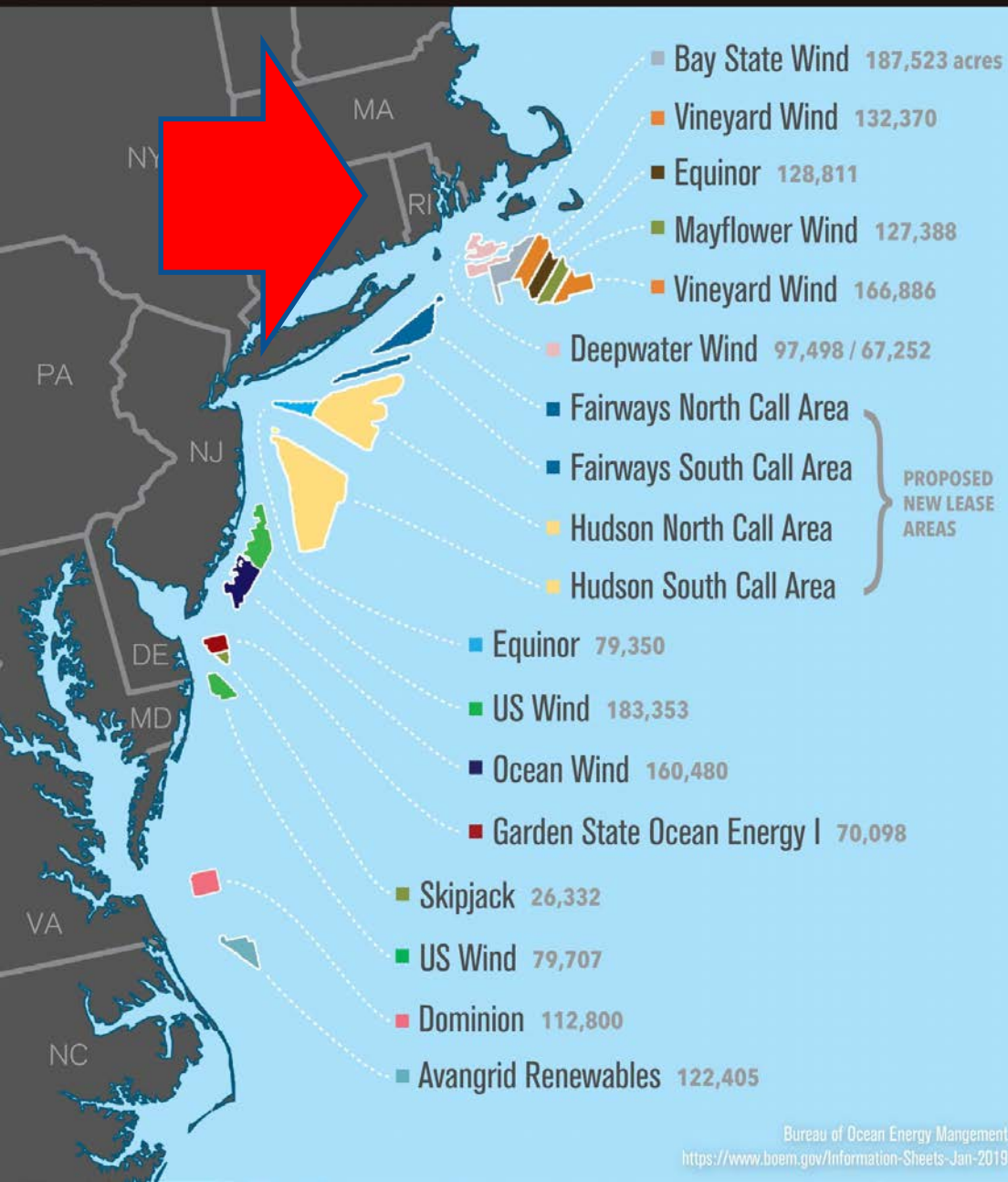


EMF Impacts on Elasmobranch and American Lobster Movement and Migration from Direct Current Cables



The rush to offshore wind

Wind lease areas and acreage as of January 2019, per Bureau of Ocean Energy Management



Bureau of Ocean Energy Management

<https://www.boem.gov/Information-Sheets-Jan-2019>

- Potential of producing energy for 6.5 million homes

- 181,000 jobs by 2050

- A tough balancing act

The key components needed for \$70 billion projected build-out

- Over 1,700 offshore wind turbines and towers: \$29.6 billion
- Over 1,750 offshore wind turbine and substation foundations: \$16.2 billion
- Over 5,000 miles of power export, upland and array cables: \$10.3 billion
- Over 60 onshore and offshore substations: \$ 8 billion
- Marine support, insurance and project management activities: \$ 3 billion



<https://www.4coffshore.com/transmission/substations.aspx>

Where we are needed

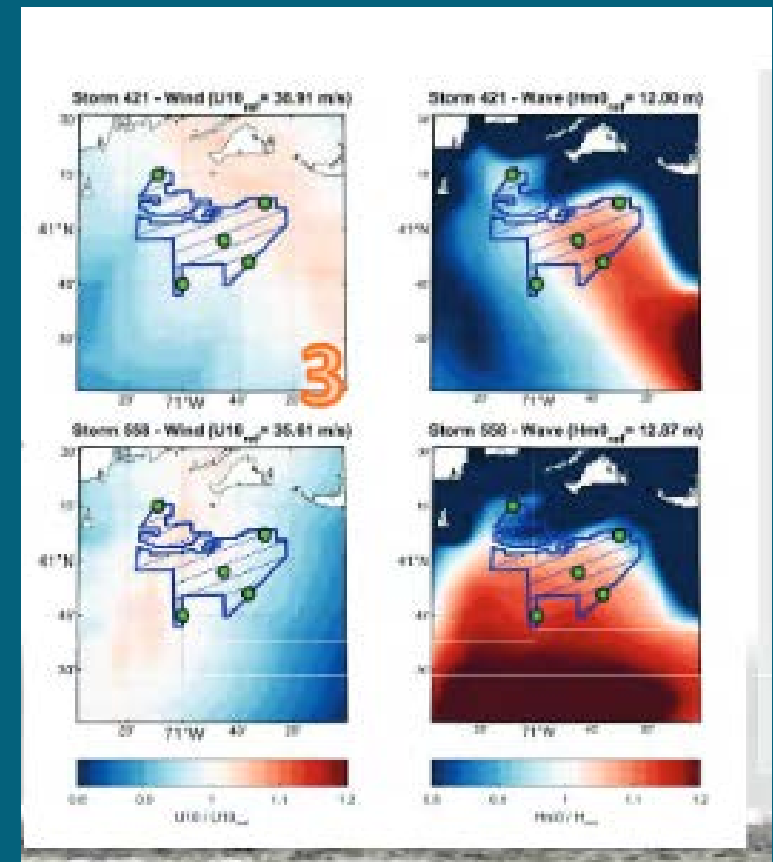
- **URI students develop acoustic device to detect whales near offshore wind farm**
Media Contact: [Todd McLeish](#), 401-874-2116
KINGSTON, R.I. – April 22, 2019 – A group of
Newport Buzz
Marine Impacts of Turbines
authorize a study to determine if
- **Stakeholders and skills to inform ORE decisions.**
- **Misinformation is hindering development.**
- **There is a growing demand for ORE workforce.**

Hundreds Of Unexplained Whale Deaths Might Be Linked To Offshore Wind Farms....

URI's Niche

- *Provide targeted research gap funding and facilitate this new level of coordination.*
- *Build stakeholder capacity via tailored technical training and learning opportunities*
- *Serve as the trusted purveyor of ORE science and information*
- *Provide formal and informal education and professional development opportunities for this in-demand field*

Hurricane forces on proposed offshore wind farms



Jennifer McCann
University of Rhode Island
Coastal Resources Center
Rhode Island Sea Grant
College Program
jmccann@uri.edu
401-874-6127
<https://web.uri.edu/offshore-renewable-energy/>



“May our work succeed, because all of our hearts and spirits request it to be so.”

-Doug Harris (NITHPO)

