Report of the Governor's Energy Office to the 131st Maine Legislature, First Regular Session, Joint Standing Committee on Energy, Utilities and Technology

> Pursuant to Public Law 2021, Chapter 407, Section 2

Concerning Offshore Wind Energy Development

February 28, 2023

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Acronyms

BPL: Bureau of Parks and Lands BOEM: Bureau of Ocean Energy Management CZMA: Coastal Zone Management Act DACF: Department of Agriculture, Conservation, and Forestry **DEP: Maine Department of Environmental Protection** DMR: Maine Department of Marine Resources **ESA: Endangered Species Act** FWS: U.S. Fish and Wildlife GEO: Governor's Energy Office IFW: Maine Department of Inland Fish and Wildlife ISO-NE: Independent System Operator of New England MBTA: Migratory Bird Treaty Act MESA: Maine Endangered Species Act **MMPA: Marine Mammals Protection Act** NMFS: National Marine Fisheries Service NOAA: National Oceanic and Atmospheric Administration **PUC: Public Utilities Commission** USACE: U.S. Army Corps of Engineers

Background and Introduction

In 2019, Governor Mills launched the Maine Offshore Wind Initiative, which focuses on how to best responsibly advance offshore wind in a manner that minimizes impacts to the Gulf of Maine and existing users while strategically taking advantage of the significant economic opportunity that offshore wind holds for the state and region. A key part of this work is recognizing the importance of Maine's fishing industry in terms of economic output and community and cultural benefits, all of which must be thoughtfully considered, with input from the fishing industry and the public, as the State advances offshore wind. Under the Initiative, the State has pursued a multi-pronged approach to support research, increase our understanding of the impacts as well as the opportunities that the growing industry can provide.

The State's 10-year Economic Development Strategy identified offshore wind for its significant potential to grow and diversify the State's economy and create good paying jobs. The U.S. offshore wind industry has so far realized \$13.5 billion in investment and is expected to become a \$70 billion industry over the next decade. Maine is well positioned to benefit from this, with nearly 80 Maine firms already engaged or positioned to engage in the offshore wind industry to provide permitting, products, surveying, engineering, maritime operations, and more.

The State's and region's climate and renewable energy statutory requirements will necessitate substantial new renewable energy resources in the coming decades, both onshore and offshore in the Gulf of Maine. With Maine's reliance on fossil fuels to heat our homes and generate electricity, the state is subjected to the price volatility from the global energy market. Offshore wind is one of multiple renewable resources that can help meet Maine's clean energy needs.

In 2019, the Bureau of Ocean Energy Management (BOEM), an agency within the U.S. Department of the Interior, created the Gulf of Maine Regional Renewable Energy Task Force, to advise BOEM on commercial leasing and development of offshore wind in the Gulf of Maine. The Governor's Energy Office, along with other States agencies and officials, represents the State on the Task Force.

In 2020, the Biden Administration announced a federal target of installing 30 gigawatts of offshore wind energy by 2030. A year later, the Biden Administration announced it planned to hold an offshore wind auction in the federal waters of the Gulf of Maine in 2024. BOEM is currently undergoing a process to identify where to lease in the Gulf of Maine and is holding multiple information sessions and public comment periods throughout the planning process to gather input from the public. For more information, please see BOEM's website: https://www.boem.gov/renewable-energy/state-activities/maine/gulf-maine.

Given the water depths of the Gulf of Maine, floating offshore wind (as opposed to fixed bottom) technology will likely be required. While advancing rapidly worldwide, floating technology is nascent with limited development worldwide. Given the importance of the Gulf of

Maine, the State is pursuing a small-scale research project in federal waters, about 40 miles off Portland, which would have no more than 12 turbines in a proposed 15.2 square-mile area. In October 2021, the Governor's Energy Office (GEO) submitted an application to BOEM for a research lease for the project after extensive outreach to inform the siting of the proposed array as well as a detailed research framework that outlines key research priorities. The research array will provide important information about how to minimize impacts and increase benefits to the State of Maine.

Discussion

In July 2021, the Governor signed into law P.L. 2021 c. 407 (L.D. 1619), "An Act to Prohibit Offshore Wind Power Development in Territorial Waters and Submerged Lands of the State,"¹ which passed the Maine Legislature with bipartisan support. This law reflects the Mills Administration's thoughtful approach to offshore wind energy development and its commitment to addressing climate change issues. The law stems from discussions with State agencies and stakeholders aimed at responsibly pursuing offshore wind and its economic and climate change-related benefits in a manner that minimizes impacts to the environment, wildlife, and existing ocean users.

A central provision of this law provides, that "[N]withstanding any provision of the law to the contrary and except as otherwise provided by subsection 3, a state agency or municipality or other political subdivision of the State may not license, permit or otherwise approve or authorize the siting, construction or operation of or issue a lease or grant an easement or other real property interest for a windmill or wind turbine or tower for an offshore wind power project in state-owned submerged lands or territorial waters." This law's prohibition regarding siting and development of new commercial offshore wind projects in Maine's territorial waters² and on state-owned submerged lands³ helps prioritize use of state waters for recreation and fishing. Up to an estimated 75 percent of Maine's commercial lobster harvesting occurs within the State's territorial waters. It also establishes in law Maine's priority of locating offshore wind projects in federal waters in the Gulf of Maine.

The prohibition created by P.L. 2021 c. 407 is not absolute. Statutory exemptions from this prohibition, discussed below, serve to honor and uphold offshore wind pilot project sites and project development related commitments and initiatives established and underway when the

¹ P.L. 2021, c. 407, effective July 6, 2021, enacted L.D. 1691, as amended, as emergency legislation. Parts the law discussed in this report are codified at 35-A M.R.S. §§3404-3406 as provisions of the Maine Wind Energy Act. ² "Territorial waters" means "all waters of the State within the rise and fall of the tide seaward to the 3-nauticalmile line as shown on the most recently published Federal Government nautical chart, but does not include areas above any fishway or dam when that fishway or dam is the dividing line between tidewater and fresh water." See 12 M.R.S. §3405, sub-§48-B.

³ In pertinent part, "submerged lands" means "[A]II land from the mean low-water mark or a maximum of 1,650 feet seaward of the mean high-water mark, whichever is closer to the mean high-water mark, out to the seaward boundary of territorial waters" and "[A]II land below the mean low-water mark of tidal rivers upstream to the farthest natural reaches of the tides." *See* 12 M.R.S. §1801, sub-§9.

law took effect; facilitate technological development with potential both to spur growth of offshore wind energy businesses in Maine; and, through well-focused research, improve understanding of potential effects of ocean wind energy development on coastal and ocean resources and uses, such as commercial fishing, and ways in which such effects may be avoided, minimized, and mitigated.

One of the exemptions, codified at 35-A M.R.S. §3405(3)(D) would allow issuance of state and local authorizations for utility cables or transmission lines that are intended to support generation of electricity from offshore wind energy facilities located seaward of Maine's territorial waters, i.e., on federal lands and in federal waters outside Maine's territorial jurisdiction. This provision requires GEO to take the following actions by March 1, 2023:

- Complete a strategic plan to facilitate development of offshore wind power projects while minimizing conflicts with commercial fishing and other existing maritime industries;
- Review the efficacy of the State's regulatory framework to avoid or minimize adverse effects on its coastal resources and users from the development of offshore wind power projects located seaward of Maine's territorial waters; and
- Identify the preliminary research questions to be answered regarding the development of offshore wind power projects.

This provision also directs GEO to submit a report to the Legislature's Joint Standing Committee on Energy, Utilities and Technology ("EUT Committee") when these items have been done. GEO is providing this report in accordance with that provision.

Strategic Plan Regarding Offshore Wind Energy Development

35-A M.R.S. §3405(3)(D) calls for GEO to complete "a strategic plan to inform the development of offshore wind power projects that minimizes conflict with existing maritime industries, particularly fishing; identifies opportunities to preserve existing maritime businesses and jobs; and maximizes jobs, investment, new technologies and sustainability."

GEO's release and publication of the *Maine Offshore Wind Roadmap* on February 23, 2023 constitutes completion of such a plan.

The *Maine Offshore Wind Roadmap* was funded by a competitive grant from the U.S. Economic Development Administration. The *Roadmap* identifies how the State of Maine— working alongside Maine people, private sector companies, municipal officials, neighboring states, and the federal government—can embrace the opportunities presented by offshore wind and responsibly build on the state's decade-long record of offshore wind planning, research and development, and innovation.

The planning process relied on a 24-member Advisory Committee, a high-level strategic body comprised of the state's leading public and private voices on climate, energy, economic development, natural resource management, fisheries, and more, and Working Groups focusing on energy markets, ports and infrastructure, socioeconomic impacts, equity, manufacturing and supply chains, workforce development, and fisheries and environmental compatibility.

During the planning process, the Advisory Committee and Working Groups used the substantive expertise of its members, together with State and technical consultant support, engagement with diverse communities from across Maine, input from offshore wind experts, experiences, and studies from around the world, new cutting-edge studies and data analysis on offshore wind's effects on Maine, and a transparent, public process to inform this *Roadmap*. In total, nearly 100 public and private experts held over 80 public meetings to develop key strategies associated with climate, energy, economic development, natural resource management, fisheries, and more.

The purpose of this *Roadmap* is to serve as a strategic economic development plan for the offshore wind industry in Maine that maximizes benefits to Maine people, ensures compatibility with our Maine coastal heritage, and minimizes the impacts on our ocean-based industries and environment.

The *Roadmap* expresses the State's foundational commitment to responsible offshore wind with specific strategies and actions aimed at preserving Maine's thriving marine economy, protecting the environment, wildlife & fisheries ecosystem of the Gulf of Maine, and preserving Maine's traditions & culture. Maine will continue to improve upon its approach to responsible offshore wind by seeking and incorporating stakeholder engagement and making every effort to expand public understanding of climate change and clean energy in Maine.

The *Roadmap* offers specific strategies to expand Maine's role as a hub of innovation and to assist Maine firms to tap into supply chain opportunities. Strategic investment in port infrastructure is an essential *Roadmap* step, along with proactive workforce development. Maine's transition to cost-effective renewable energy will bring jobs, investment, new revenues, and clean energy to power our economy. As offshore wind advances, Maine intends to support the talents of all Maine people, remove barriers to employment opportunities, avoid or mitigate negative impacts to vulnerable populations, and build a diverse in-state workforce.

As the *Roadmap* transitions to implementation, Maine will continue to conduct and support research and monitoring, collect new, targeted data, and ensure additional data is collected in an open and transparent manner, and that the results of this work are made publicly available.

Realizing the goals set forth in the *Roadmap* will require continued collaboration, partnerships, and information-sharing involving numerous public and private entities, governments, and individuals across the jurisdictions abutting the Gulf of Maine and beyond.

Review of the State Regulatory Framework Regarding Offshore Wind Energy Development

35-A M.R.S. §3405(3)(D) calls for GEO, in consultation with other state agencies, to conduct a review of applicable state laws and rules to determine whether the existing offshore wind energy statutory and regulatory framework protects the State's coastal resources in a manner that avoids or minimizes adverse effects on coastal resources and users from the development of offshore wind power projects located seaward of the territorial waters.

This section provides a general outline of key state submerged lands leasing and land use and environmental permitting statutes that may be applicable to minimizing potential adverse effects to natural resources or existing activities from development and operation of offshore wind power projects and related activities on state submerged lands and in state waters to support development of offshore wind projects in federal waters. The applicability of these laws and related state agency rules implementing them would depend on the location, design, and other project-specific details of a proposed offshore wind energy development project, as determined by consultation with and among pertinent state agencies.

Geographic Scope of Maine's Leasing and Permitting Authority: State Submerged Lands and Territorial Waters

The geographic area of the State of Maine includes state-owned submerged lands and state territorial waters as well as the State's upland land areas. Unless otherwise provided by a federal law, this combined land and water area defines the geographic scope of the State's authority to regulate proposed development activities such as ocean wind energy development. In the marine environment, state-owned submerged lands include "[A]II land from the mean low-water mark or a maximum of 1,650 feet seaward of the mean high-water mark, whichever is closer to the mean high-water mark, out to the seaward boundary of territorial waters" and "[A]II land below the mean low-water mark of tidal rivers upstream to the farthest natural reaches of the tides." ⁴ Maine's "territorial waters" are comprised of "all waters of the State within the rise and fall of the tide seaward to the 3-nautical-mile line as shown on the most recently published Federal Government nautical chart, but does not include areas above any fishway or dam when that fishway or dam is the dividing line between tidewater and fresh water."⁵

Lands and waters seaward of the three-mile limit off Maine to the 200-mile limit of the United States' exclusive economic zone (EEZ) are under the management and regulatory authority of the federal government. Although the federal Coastal Zone Management Act, discussed below, does not itself provide coastal states regulatory authority to require a state license or permit for activities undertaken in federal waters, it does provide an authority by which a coastal state

⁴ See 12 M.R.S. §1801, sub-§9.

⁵ See 12 M.R.S. §6001, sub-§48-B.

may review certain activities proposed for siting and development in federal waters for consistency with applicable enforceable policies of its federally approved coastal zone management program.

Maine Wind Energy Act

Under the Maine Wind Energy Act⁶, it is the policy of the State to encourage the attraction of appropriately sited development related to wind energy.⁷ This policy includes the addition of transmission and other energy infrastructure needed to transport additional offshore wind energy projects, consistent with all state environmental standards, and the permitting and financing of wind energy projects.⁸

An offshore wind power project is "an offshore project that uses a windmill or wind turbine to convert wind energy to electrical energy."⁹ An offshore wind power project includes more than the turbines and towers themselves. In addition to these generating facilities, such a project includes "associated facilities" that are necessary for its operation and maintenance.¹⁰ Generating facilities are the "wind turbines and towers and transmission lines, not including generator lead lines, that are immediately associated with the wind turbines."¹¹ Associated facilities "means elements of a wind energy development other than its generating facilities that are necessary to the proper operation and maintenance of the wind energy development, including but not limited to buildings, access roads, generator lead lines and substations."¹²

An offshore wind power project is subject to the Maine Wind Energy Act and related state laws regardless of whether the electrical energy generated is for sale or use by the generator.¹³ As amended by P.L. 2021 c. 407, Section 2, the Maine Wind Energy Act contains this prohibition discussed above: "No State agency municipality or other political subdivision of the State may license, permit, or otherwise approve of the siting, construction, or operation of or issue a lease or grant an easement or other real property interest for a windmill or wind turbine or tower for an offshore wind power project in state-owned submerged lands or territorial waters, unless specifically exempted under the law." This prohibition does not apply to:

- A pilot-scaled, limited duration offshore wind power research and development project¹⁴;
- An offshore wind energy demonstration project and its associated facilities located within the Maine Offshore Wind Energy Research Center for which, prior to the effective

⁶ 35-A M.R.S. Chapter 34.

⁷ See 35-A M.R.S. §3404.

⁸ See id.

⁹ M.R.S. §3405, sub-§1, ¶C, referencing 35-A M.R.S. §3451, sub-§5

¹⁰ See 35-A M.R.S. §3405, sub-§1, ¶¶A and C.

¹¹ See 35-A M.R.S. §3405, sub-§1, ¶C, referencing 35-A M.R.S. § 3451, sub-§5. y

¹² See 35-A M.R.S. §3405, sub-§1, ¶A, referencing 35-A M.R.S. § 3451, sub-§1.

¹³ 35-A M.R.S. §3405, sub-§1, ¶C.

¹⁴ 35-A M.R.S. §3405, sub-§3, ¶A.

date of this section, the Public Utilities Commission (PUC) approved the terms of a long-term power purchase agreement;¹⁵

- Portside infrastructure or associated facilities, other than utility cables or transmission lines intended to support the generation of electricity from offshore wind energy facilities located seaward of the territorial waters;¹⁶ and,
- Utility cables or transmission lines intended to support the generation of electricity from offshore wind energy facilities located seaward of Maine's territorial waters if by, March 1, 2023:

(1) The GEO has completed a strategic plan to inform the development of offshore wind power projects that minimizes conflict with existing maritime industries, particularly fishing; identifies opportunities to preserve existing maritime businesses and jobs; and maximizes jobs, investment, new technologies and sustainability;

(2) The GEO, in consultation with other state agencies, has conducted a review of applicable state laws and rules to determine whether the existing offshore wind energy statutory and regulatory framework protects the State's coastal resources in a manner that avoids or minimizes adverse effects on coastal resources and users from the development of offshore wind power projects located seaward of the territorial waters; and

(3) The GEO, with input from the advisory board of the Offshore Wind Research Consortium, has identified the preliminary research questions the consortium seeks to answer regarding the development of offshore wind power projects.¹⁷

This report notes types of ocean wind energy development project activities within Maine's territorial jurisdiction which may be authorized by state and local government in accordance with these exemptions.

Regarding commercial wind energy development proposed in federal waters, the Act provides the following policy direction: "If, in reviewing a proposed commercial lease for a wind energy development for any purpose other than scientific research or technological development to be located in federal waters within lobster management area 1, the United States Department of the Interior, Bureau of Ocean Energy Management determines that the wind energy development would have a significant adverse impact on fisheries, the State shall request that the Bureau of Ocean Energy Management work to minimize that impact."¹⁸

¹⁵ See 35-A M.R.S. §3405, sub-§3, ¶B.

¹⁶ 35-A M.R.S. §3405, sub-§3, ¶C.

¹⁷ 35-A M.R.S. §3405, sub-§3, ¶D.

¹⁸ 35-A M.R.S. §3404, sub-§3; <u>https://www.fisheries.noaa.gov/resource/map/lobster-management-areas</u> (link to map of Lobster Management Area 1 as designated by the National Marine Fisheries Service).

General Permit for Offshore Wind Energy Demonstration Projects

In 2009, to facilitate the advancement of ocean energy, the State enacted laws to establish a process for identification of "offshore wind energy test areas" in State waters and create a general permit for qualifying "offshore wind energy demonstration projects" proposed for siting and development in one of the designated test areas. These areas include the Maine Offshore Wind Energy Research Center located off Monhegan Island which is for use "by offshore wind energy demonstration projects conducted by or in cooperation with the University of Maine System and on terms and in a manner that the University of Maine System considers consistent with and in furtherance of its offshore wind energy research and development-related objectives...."¹⁹

This general permit for offshore wind energy demonstration projects is codified at 38 M.R.S. §480-HH; the Department of Environmental Protection (DEP) is the lead agency for its administration. The statute defines the types of projects which may qualify for review and approval under the general permit.²⁰ It specifies information and details that must be included in any application including a project removal plan which includes plans and a timeline for removal of the equipment in its entirety, provided that DEP may allow parts of the project to remain if it determines they continue to have a beneficial use or removal would have foreseeable adverse effects on natural resources or existing uses.²¹

Components of a proposed wind energy demonstration project, if any, that are not covered by the general permit may be subject to review and approval under other state and local environmental licensing and permitting laws, such as potentially the Natural Resources Protection Act (NRPA) and Site Location of Development Act (Site Law), as applicable. See discussion of the NRPA and Site Law, below.

It is GEO's understanding that the offshore wind energy demonstration project and its associated facilities located within the Maine Offshore Wind Energy Research Center located off Monhegan Island for which an exemption is provided under 35-A M.R.S. §3405, sub-§3, ¶B, may be subject to review in whole in part under this general permit.

Submerged and Intertidal Lands Act

State submerged lands leases are administered by the Maine Department of Agriculture, Conservation and Forestry's (DACF) Bureau of Parks and Lands (BPL) under the Submerged and Intertidal Lands Act (Act).²² Except as otherwise provided by special provisions applicable to renewable ocean energy projects discussed below, the Act authorizes BPL to lease for up to 30 years and subject to reasonable conditions "the right to dredge, fill or erect permanent

¹⁹ 38 M.R.S. §480-HH, sub-§1, ¶C and 12 M.R.S. §1868, sub-§2.

²⁰ 38 M.R.S. §480-HH, sub-§1, ¶H.

²¹ See 38 M.R.S. §480-HH, sub-§1, ¶¶A-K.

²² 12 M.R.S. §1862.

causeways, bridges, marinas, wharves, docks, pilings, moorings or other permanent structures on submerged and intertidal land owned by the State."²³ Except as otherwise provided by these special provisions, the Act authorizes BPL to grant a lease "if the director finds that, in addition to any other findings the director may require," the proposed lease will not unreasonably interfere with navigation; will not unreasonably interfere with fishing or other existing marine uses of the area; will not unreasonably diminish the availability of services and facilities necessary for commercial marine activities; and will not unreasonably interfere with ingress and egress of riparian owners.²⁴ For all leases, BPL is required to consult with the Department of Marine Resources (DMR), the Department of Inland Fisheries and Wildlife (DIFW), and other agencies BPL deems appropriate on lease terms and conditions, and with the PUC as concerns the lease fee for a renewable ocean energy project.²⁵

The Act contains specific provisions governing BPL's consideration and issuance of leases for "renewable ocean energy projects"²⁶, which include an "offshore wind power project, as defined by Title 38, section 480-B, subsection 6-A or by Title 38, section 482, subsection 8, and with an aggregate generating capacity of 3 megawatts or more." By definition, such an offshore wind power project includes both generating facilities and associated facilities.²⁷

In general, these special provisions serve to recognize the renewable energy and climate change-related public benefits of well-sited offshore wind energy projects, coordinate and minimize duplication of BPL and DEP review of such projects, facilitate notice to marine harvesters, provide for a lease option and short-term leases, and establish lease fees specific to and intended to reflect public benefits provided by these types of projects. Specific provisions include: an inter-agency pre-application meeting that includes DMR and satisfies DEP's rules 30 days prior to submission of the lease application; submission of state permit applications required for activities proposed on the leasehold before or when the lease application is submitted; notice from BPL to DMR's Marine Resources Policy Advisory Council and one or more lobster zone councils. Public notice of opportunity to comment on the proposed lease is also required and is covered under the Bureau's Chapter 53 Rules. The Bureau's public participation process includes soliciting comment from the host community, the general public and consulting with state and federal agencies. There is a 30-day period during which any party may provide written comments pertaining to the project application. A request by a town or other interested party for extension of this date may be allowed if sufficient need for such an extension is demonstrated.

For a full-term lease, BPL may "also lease a buffer zone of not more than 30 feet in width around a permanent structure located on submerged or intertidal land, as long as the lease is necessary to preserve the integrity and safety of the structure and that the Commissioner of

²³ See 12 M.R.S. §1862, sub-§2.

²⁴ 12 M.R.S. §1862, sub-§2, ¶A(6).

²⁵ 12 M.R.S. §1862, sub-§7.

²⁶ 12 M.R.S. §1862, sub-§13; 12 M.R.S. §1862, sub-§1, ¶F-1 (definition of "renewable ocean energy projects").

²⁷ 35-A M.R.S. §3451, sub-§1, which is incorporated into the Act's definition of "offshore wind power project."

Marine Resources consents to that lease."²⁸ For a short-term lease, BPL may include a buffer area "around permanent structures located on submerged or intertidal land" if needed "to preserve the integrity or safety of the structure or fulfill the purposes of the project for public safety."²⁹

Under specific provisions regarding the process for issuance of a submerged lands lease for an offshore wind energy demonstration project, if an entity submits an application for a DEP general permit for an offshore wind energy demonstration project, the BPL must provide the applicant a lease option for the use of the State submerged lands that are needed for the proposed project; and within 30 days of receiving notice and a copy of a general permit granted by DEP "waive the review procedures and standards under this section and issue a submerged lands lease for the permitted activity." BPL may include terms in the lease which are consistent with the general permit and do not frustrate achievement of the purpose of the demonstration project.³⁰

Depending on project-specific details, a submerged lands lease from BPL may be required for activities associated with each exemption provided under 35-A M.R.S. §3405, sub-§3. By way of example, such activities could include but are not limited to installation of support structures on the seafloor for a limited duration offshore wind power research and development project; installation of a sub-sea utility cable for an offshore wind energy demonstration project in the Maine Offshore Wind Energy Research Center or the in-Maine portion of utility cables or transmission lines to connect generation of electricity from offshore wind energy facilities located seaward of the territorial waters to the on-shore grid; and installation of in-water port facility structures.

Natural Resources Protection Act

The Natural Resources Protection Act (NRPA) is administered by DEP and regulates development activity located in, on or over protected natural resources such as coastal wetlands and shorebird nesting, feeding and staging areas, as well as development activity adjacent to certain protected natural resources, including coastal wetlands. Offshore wind-related activities in state waters may require a NRPA permit, e.g., for construction of a turbine support structure or transmission-related cable in a coastal wetland, or for project-related dredging in a coastal wetland.³¹ (DEP may authorize some such activities with *de minimis* effect under its permit by rule regulation.) DEP "shall" issue a NRPA permit when it finds that the applicant has demonstrated that the proposed activity meets the standards of 38 M.R.S.A. §480-D, such as no unreasonable interference with existing scenic, aesthetic, recreational or

²⁸ 12 M.R.S. §1862(2)(A)(3).

²⁹ 12 M.R.S. §1862(13)(B)(9).

³⁰ See 12 M.R.S. §1862, sub-§2, ¶F.

³¹ The term "coastal wetland" as used in SLODA and NRPA includes submerged lands. *See* 38 M.R.S. §482(8) and 38 M.R.S. §480-B(2).

navigational uses and no unreasonable harm to habitat and fisheries. ³² As defined in the NRPA, "protected natural resources" means "coastal sand dune systems, coastal wetlands, significant wildlife habitat, fragile mountain areas, freshwater wetlands, community public water system primary protection areas, great ponds or rivers, streams or brooks" as those terms are defined by the Act.³³ DEP has adopted rules to implement NRPA's provisions regarding wetlands protection, scenic resources, significant wildlife habitat, and other matters.

The NRPA has specific provisions applicable to an offshore wind power project for which a permit under the Site Location of Development Act (discussed below) is not required, including demonstration of adequate financial capacity to decommission the project and determination of adequate setbacks based on the recommendations of professionals and experts as well as recommendations from the manufacturer of the generating facilities.³⁴ In addition, the applicant is not required to demonstrate compliance with NRPA requirements which DEP determines are addressed by criteria specified in the Submerged and Intertidal Lands Leasing Law.³⁵ These criteria require that an offshore wind energy development will not unreasonably interfere with navigation; will not unreasonably interfere with fishing or other existing marine uses of the area; will not unreasonably diminish the availability of services and facilities necessary for commercial marine activities; and will not unreasonably interfere with ingress and egress of riparian owners.³⁶

Depending on project-specific details, a NRPA permit may be required for activities associated with each exemption provided under 35-A M.R.S. §3505, sub-§3. By way of example, such activities could include but are not limited to installation of support structures on the seafloor for a limited duration offshore wind power research and development project; installation of a shoreline or sub-sea utility cable for the in-Maine portion of utility cables or transmission lines to connect generation of electricity from offshore wind energy facilities located seaward of the territorial waters to the on-shore grid; and construction of port facility structures or other shoreside or in-water structures or facilities need to support an offshore energy project in federal waters.

Site Location of Development Act

Development of state or regional significance that may substantially affect the environment requires a Site Location of Development Act (Site Law) permit. This includes certain projects occupying a land or water area in excess of 20 acres, a structure of more than 3 acres, and an offshore wind power project with an aggregate generating capacity of 3 megawatts or more. An applicant for a Site Law permit must meet a range of standards in 38 M.R.S.A. §484, including demonstration of financial capacity and technical ability to develop the project in a manner

³² See generally DEP rules ch. 305.

³³ 38 M.R.S. §480-B, sub-§8.

³⁴ 38 M.R.S. §480-D, sub-§11.

³⁵ See 38 M.R.S. §480-D, sub-§11(C) referencing 12 M.R.S. §1862, sub-§2, ¶A(6).

³⁶12 M.R.S. §1862, sub-§2, ¶A(6).

consistent with state environmental standards.³⁷ (If the development is not required to obtain a permit under Site Law, then a permit applicant under the Natural Resources Protection Act must demonstrate adequate financial capacity to decommission the project.³⁸

Under the Site Law's "no adverse effect on the natural environment" standard of approval, DEP must determine that "[T]he developer has made adequate provision for fitting the development harmoniously into the existing natural environment and that the development will not adversely affect existing uses, scenic character, air quality, water quality or other natural resources in the municipality or in neighboring municipalities."³⁹ The Site Law provides that an offshore wind power project with an aggregate generation capacity of three megawatts or more is exempt from review under the existing use standard in this provision insofar as DEP determines that review is required under leasing criteria in the Submerged and Intertidal Lands Act referenced in the comparable provision in the NRPA.⁴⁰

An applicant for a Site Law permit must demonstrate financial capacity and technical ability to develop the project in a manner consistent with state environmental standards.⁴¹ The Site Law contains specific provisions regarding the generating facilities for an offshore wind power project with an aggregate generating capacity of three megawatts or more which address issues regarding shadow flicker effects and safety setback.⁴²

Other provisions in the Site Law address soil types, stormwater management, groundwater, provision for utilities, flooding, and blasting.⁴³ DEP has enacted rules which implement the Site Law's no adverse effect on the natural environment standard and other aspects of the law.

Maine Endangered Species Act

The Maine Endangered Species Act (MESA) gives the Commissioner of MDIFW the authority to make recommendations for listing species that are at risk of becoming extinct in Maine. Endangered and Threatened inland fish and wildlife species in Maine are listed either under MESA, the U.S. Endangered Species Act (ESA), or both. Species listed under MESA receive State protection; species listed under ESA receive federal protection; and species listed under both Acts receive both State and federal protection. By rule, MDIFW must review all species under its authority once every eight years to determine which species qualify for listing. MDIFW holds management responsibility for inland fish and wildlife listed under MESA, and shares responsibility with the U.S. Fish and Wildlife Service for inland fish and wildlife listed under the ESA. Endangered and Threatened marine species are listed under Maine's Marine Endangered

³⁷ 38 MRS §484(1), (10). Financial capacity and technical ability; Special provisions; wind energy development or offshore wind power project.

³⁸ 38 MRS §480-D Standards

³⁹ 38 M.R.S. §484, sub-3.

⁴⁰ See 38 M.R.S. §488, sub§-25, referencing 12 M.R.S. §1862, sub-§2, ¶A(6).

⁴¹ See 38 M.R.S. §484, sub-§§1 and 10.

⁴² 38 M.R.S. §484, sub-10.

⁴³ See 38 M.R.S. §484.

Species Act or the ESA. The Maine Department of Marine Resources MDMR has responsibility for marine species.

Under MESA, MDIFW may designate areas as "Essential Habitat" for species listed as endangered or threatened and develop protection guidelines for these Essential Habitats. Essential Habitats are areas that currently or historically provide physical or biological features essential to the conservation of an endangered or threatened species in Maine, and which may require special management considerations. Currently, Essential Habitat is designated for Piping Plover, Least Tern, and Roseate Tern. Any project requiring a permit or license from, or to be funded or carried out by, a State agency or municipal government partly or wholly within an Essential Habitat shall not be permitted, licensed, funded or carried out unless the Commissioner of MDIFW determines that the project will not significantly alter the Essential Habitat.

Federal Law Applicable to Offshore Wind Energy Development in State and Federal Waters

Federal statutes and permits are required for certain activities in Maine's territorial waters as well as elsewhere in the state and on federal lands and in federal waters. While commercial offshore wind generation projects are not permitted in Maine's territorial waters, as discussed above, interconnection of a proposed offshore wind project in federal waters may require siting and construction of a transmission cable from the project in federal waters to the Maine coastline. Below are brief summaries of key federal laws related to natural resource and coastal resource protection that may be applicable to ocean wind energy development activities in state as well as federal water and land areas.

Outer Continental Shelf Lands Act

The Bureau of Ocean Energy Management (BOEM) has authority to and is the lead federal agency regarding proposals to lease federal land and water areas for and to review and approve plans for site assessment and construction and operation of offshore wind energy projects in federal waters. BOEM has no such leasing or approval authority for areas in Maine. BOEM would also be the lead federal agency for the environmental review of proposed offshore energy development required by the National Environmental Policy Act (NEPA).

National Environmental Policy Act

The National Environmental Policy Act (NEPA) requires federal agencies to take a "hard look" at foreseeable adverse environmental impacts that may result from their proposed federal agency actions. The scope of BOEM's NEPA review of a construction and operations plan for a proposed commercial wind energy development project, for example, would not be limited to

foreseeable effects in federal waters but would likely include consideration of foreseeable direct, secondary, and cumulative environmental effects of the proposal in state territorial waters and elsewhere as well. For offshore wind energy development projects in federal waters, the NEPA process provides a useful opportunity for states and interested parties to participate and contribute to discussions regarding information to be considered, issues to be addressed, and mitigation measures to identified as appropriate in the Environmental Assessment or Environmental Impact Statement which is prepared to address the Act's requirements.

Clean Water Act

The U.S. Army Corps of Engineers (USACE), with oversight by the Environmental Protection Agency (EPA), may issue permits under Section 404 of the Clean Water Act for dredge and fill activities in waters of the United States. The type of permit and authorization will vary depending on the associated impacts of the activity and may be required for a transmission cable or other offshore wind energy related activities proposed in land and or areas of Maine. For example, certain projects may be eligible for approval under the USACE's Maine General Permit which is comparable to DEP's permit by rule. USACE consults with other federal resource agencies to understand the impacts of the proposed activities.

Rivers and Harbors Act

The Rivers and Harbors Act requires permits for certain activities in and prohibits the obstruction or alteration of navigable waters of the United States. The USACE may issue Section 10 permits associated with any structure or activities in navigable waters and considers their type, location, and level of impact in making decisions regarding permitting. USACE may consult with NMFS and USFWS if the activity may impact threatened or endangered species.

Coastal Management Zone Act

The Coastal Zone Management Act (CZMA) generally requires that in coastal states, including Maine, with a federally approved coastal zone management program, federal actions that have reasonably foreseeably effects on the uses or resources of a state's coastal zone must be consistent with the enforceable policies of the state's coastal management program. This consistency requirement applies to federal agency activities, such as a USACE maintenance dredging project, as well as certain activities which require a federal license or permit that is listed in the state's program as subject to such consistency review. CZMA consistency review does not apply to activities in federal waters or on offshore federal lands that require a federal license, permit, or comparable approval unless the National Oceanic Atmospheric Administration (NOAA) approves a state's request for such review or, as has been the case with a number of offshore wind power projects on the East Coast to date, the federal applicant voluntarily submits a consistency certification to a coastal state(s). NOAA may approve a state-submitted "geographic location description" (GLD) which specifies the area in which the State

proposes to review activities requiring specified federal license(s) or permit(s) for consistency with its federally approved enforceable policies. NOAA may also approve such a request for review of a specific proposed activity. To secure NOAA's approval under either alternative a state must show that the activity(ies) to be reviewed has reasonably foreseeable coastal effects, i.e., specific and demonstrable effects on the state's coastal resources or coastal uses.

Maine's CZMA-designated coastal zone includes the total land area of municipalities and unorganized places on water subject to tidal influence and extends seaward to the three-mile limit of state ownership.⁴⁴ The State currently has no NOAA-approved GLD. Standards of approval under select state land use and environmental laws, including the Site Law, NRPA, MESA, and state water quality laws, provide enforceable policies of Maine's coastal zone management program, the Maine Coastal Program. DMR administers the Maine Coastal Program and works closely with DEP and other state natural resources agencies as appropriate on matters regarding consistency review.⁴⁵ In most instances, consistency review is coordinated and integrated with DEP's review of applications submitted for state licenses or permits or water quality certification and DEP's findings of fact and decision provide a basis for the state consistency decision.

Changes to a state's coastal zone management program, including but not limited to changes to enforceable policies, activities requiring a federal license or permit that are subject to consistency review, data and information necessary for consistency review, and establishment of a GLD, as noted above, require NOAA's review and approval.⁴⁶

U.S. Endangered Species Act

The Endangered Species Act (ESA) prohibits the taking (killing, harassment, injuring, adverse impact on habitat) of any species federally listed as endangered or threatened. Under Section 7 of the ESA, federal agencies must consult with resource agencies – U.S. Fish and Wildlife Service (FWS) and the National Marine Fisheries Service (NMFS) – to ensure that agency activities do not "jeopardize the continued existence of any endangered or threatened species" or adversely impact the species habitat.

Magnuson-Stevens Fishery Conservation Act

Under the Magnuson-Stevens Fishery Conservation Act, there must be an assessment of essential fish habitat for federally managed fish and invertebrate species to determine if the habitat might be affected. NOAA and NMFS must be consulted to ensure that there will not be an adverse impact on nearby fisheries.

⁴⁴ 38 M.R.S. §1802, sub-§1.

⁴⁵ See 12 M.R.S. §6052, sub-§6.

⁴⁶ See 15 C.F.R. Part 923, Subpart H.

Marine Mammal Protection Act

The Marine Mammal Protection Act prohibits the taking of marine mammals unless permitted by law. An incidental take permit may be acquired through the FWS, National Oceanic and Atmospheric Administration (NOAA), and NMFS for certain activities.

Migratory Bird Treaty Act

Under the Migratory Bird Treaty Act (MBTA), it is unlawful to pursue any action that would result in the taking of migratory birds listed species without a permit. MBTA is administered by USFWS

National Historic Preservation Act

Under Section 106 of the National Historic Preservation Act, the construction of certain facilities may require consultation if there are any potential adverse impacts on historic landmarks or tribal lands.

Ports and Waterways Safety Act

Under the Ports and Waterways Safety Act, the U.S. Coast Guard may consult with other federal agencies to ensure safe navigation through federal waters while protecting the environment and other activities.

Findings and Conclusions Regarding the State Regulatory Framework

The GEO and relevant state agencies reviewed existing laws and rules associated with offshore wind energy development. The State has numerous laws that cross several agencies to ensure the protection of natural resources and minimize certain impacts. Over the course of the last several years, the Legislature has amended relevant statutes associated with offshore wind and natural resource laws. At the same time, the State has had limited experience exercising the existing laws given the early state of offshore wind energy development in the Gulf of Maine. With the passage of L.D. 1619, the Legislature took a further step to protect state waters, which puts further limits on offshore wind energy development-related activities in state waters.

The GEO also recognized the benefit of stakeholder input in understanding how to responsibly advance offshore wind in Maine and what impacts were most concerning to relevant state agencies and stakeholders. To that end, through the *Offshore Wind Roadmap* process there were lengthy discussions within relevant Working Groups – Environment and Wildlife; Supply Chain, Ports and Workforce; Fishing; and Energy Markets and Strategies – on relative priorities associated with the preservation of natural resources, wildlife, and existing ocean activities.

Through these discussions, the Working Groups identified numerous recommendations relating to improving or advancing strategies to best support responsible development. The Advisory Committee, which oversaw the four working groups, pulled the Working Group recommendations into key objectives, strategies, and actions. This work will help the State and other stakeholders to understand those priorities and, as the *Roadmap* is implemented, take necessary steps to ensure offshore wind activities avoid, minimize, and mitigate impacts.

A key takeaway from the *Roadmap* effort is to ensure that Maine state policy influences how offshore wind is developed in the Gulf of Maine. Under the *Roadmap's* Objective, *Protect the Environment, Wildlife, and Fisheries Ecosystem in the Gulf of Maine*, Working Group members identified a strategy and supporting actions to help advance this work.

Specifically, Maine has opportunities through the federal consistency provision of the CZMA. As discussed above, the CZMA requires certain federal actions affecting Maine's coastal uses or resources to be consistent with applicable standards of approval under state environmental laws which provide the "enforceable policies" of the Maine Coastal Program, which is administered by the DMR in cooperation with the DEP other state natural resource agencies.

The *Roadmap* points to a number of next steps for the State to consider regarding the CZMA. They include assessing the efficacy of existing state authorities to address impacts from projects in federal waters and studying the potential benefits of, and process by which, the State could enhance its federal consistency review authority under the CZMA. The State of Maine has begun this process and will continue to discuss internally and with federal agencies (e.g., NOAA and BOEM) and stakeholders in preparation for commercial offshore wind projects, anticipated to be leased by 2025 with monitoring and construction occurring in subsequent years.

In addition to this specific recommendation, other Working Groups discussed the importance of providing clear rules of the road so that developers understand what is needed for any future activity in state waters, whether it be transmission associated with federal offshore wind projects or offshore wind-related port activity.

At this time, there are no legislative changes requested to minimize impacts. However, the GEO and relevant state agencies will continue to assess existing authorities and work with stakeholders to ensure that offshore wind activities in state and federal waters avoid, minimize, and mitigate impacts to the environment, wildlife, recreation, and ocean users.

Establishment of Maine Offshore Wind Research Consortium and Preliminary Research Questions Regarding Offshore Wind Energy Development

Pursuant to PL 2021, Chapter 407 Sections 2.3.3 and 3.4, this report summarizes the establishment of the Maine Offshore Wind Research Consortium and the Research Consortium fund.

As part of Maine's commitment to responsible offshore wind, Governor Janet Mills with bipartisan support of the Legislature established the Maine Offshore Wind Research Consortium to better understand the local and regional impacts of floating offshore wind projects in the Gulf of Maine.

The statute directs the Governor's Energy Office (GEO) to serve as the coordinating agency and outlines an advisory board with representation from fisheries interests, and the Department of Marine Resources (DMR) and including other state agencies and stakeholders.

The advisory board is responsible for establishing a research strategy that at a minimum includes the following themes:

- Opportunities and challenges caused by the deployment of floating offshore wind projects to the existing uses of the Gulf of Maine;
- Methods to avoid and minimize the impact of floating offshore wind projects on ecosystems and existing uses of the Gulf of Maine; and
- Ways to realize cost efficiencies in the commercialization of floating offshore wind projects.

The Maine Offshore Wind Consortium will collaborate closely with other states and regional and national science and research partners, including the National Offshore Wind Research and Development Consortium, and the Regional Wildlife Science Consortium, of which the Governor's Energy Office is a member.

After holding open nominations, GEO identified the initial advisory board for the Research Consortium pursuant to PL 2021, Chapter 407, Section 2. The advisory board includes representation from the commercial and recreational fishing industries, research scientists with relevant expertise, coastal community leaders, Maine-based environmental groups, offshore wind industry experts, and state agencies GEO identified initial advisory board members through an open call for nominations and outreach, informed by feedback from stakeholders. The advisory board will solicit input from state and federal agencies, stakeholders, and other ocean experts to inform research priorities and to align with related regional and national efforts. A steering committee comprised of Maine GEO, DMR, the MDIFW two advisory board co-chairs elected by their peers (one for fisheries, one for non-fisheries), and another member to be appointed by GEO will provide oversight to the Consortium.

Research Consortium Advisory Board Members

Commercial and recreational harvesting interests

- Patrice McCarron, Maine Lobstermen's Association
- Jack Cunningham, Maine Lobstering Union Local 207
- Ben Martens, Maine Coast Fishermen's Association
- Terry Alexander, F/V Jocka

- Mary Beth Tooley, O'Hara Corporation
- Chris Weiner, F/V Elizabeth Ames, American Bluefin Tuna Association
- Bob Humphrey, Sport-Ventures

Scientists from private and public research institutions with various expertise

- Alison Bates, Colby College
- Damian Brady, University of Maine
- Wing Goodale, Biodiversity Research Institute
- Nick Record, Bigelow Laboratory for Ocean Sciences
- Graham Sherwood, Gulf of Maine Research Institute
- Sean Todd, College of the Atlantic
- Anthony Viselli, University of Maine
- Gayle Zydlewski, Maine Sea Grant

Offshore wind industry experience

- Dave Cowan, Diamond Offshore Wind
- Wojciech Wiechowski, RWE Renewables
- Laura Morse, Mainstream Renewable Power
- TBD additional technology expertise

Coastal community members

- Bill Needelman, Portland Waterfront Coordinator
- TBD additional member

Maine-based environmental groups

- Jocelyn Runnebaum, The Nature Conservancy Maine
- Sarah Haggerty, Maine Audubon

State agencies

- Carl Wilson, Department of Marine Resources
- John Perry, Department of Inland Fisheries and Wildlife
- Stephanie Watson, Governor's Energy Office

At Large

• Daniel Salerno, Fisheries Scientist, Limington, Maine

Research Consortium Planning and Governance

In February 2022, the GEO published a Request for Proposals for independent, science-based consulting services to help plan and engage stakeholders in defining a proposed governance structure for the Consortium. The awarded bidders (Carbon Trust Advisory and Maine-based SAMBAS Consulting LLC) were contracted to provide these services and will continue to serve as

interim program manager and advisors. Their work included: reviewing learnings from existing research consortia; conducting interviews with a cross-section of interested stakeholders to understand how an offshore wind research consortium could work in Maine (35 interviews completed); providing draft recommendations on the scope, structure, and governance of the Maine Offshore Wind Research Consortium; and developing a phased implementation strategy with funding options.

On February 14, 2023, the first advisory board meeting of the Consortium was held. The objectives of the meeting included the following: initiate the Maine Offshore Wind Research Consortium including reviewing the goal, governance structure, and roles and responsibilities; share updates about Maine's efforts to date on offshore wind research and learn about related work from regional collaborators; review and provide feedback on research prioritization process and initial research areas; and identify preliminary initial research questions for floating offshore wind in the Gulf of Maine and begin the prioritization process.

Process to Identify Preliminary Research Questions

Over the course of the last several years, there have been a number of efforts to identify key research questions associated with floating offshore wind in the Gulf of Maine. The Governor's Energy Office, supported by the consultants, initiated the process of identifying the preliminary research questions of the Consortium by reviewing and categorizing existing research and prioritization efforts relevant to Maine and floating wind (e.g., Research Framework for the Maine Research Array; Maine Offshore Wind Roadmap Environment & Wildlife and Fisheries Working Group recommendations; and other federal, state and regional prioritization efforts). At the first advisory board meeting in February 2023, advisory board members engaged in a discussion on preliminary research questions including confirmation of existing research questions, nominations of additional questions, and preliminary prioritization.

Preliminary Research Questions

Preliminary discussion on research interests took place at the first advisory board meeting. Initial discussions indicated particular interest in the first four areas listed below:

- 1. Collection of baseline data to inform siting and understanding of the impact on commercial and recreational fisheries and ecosystems currently and historically happening in areas where arrays and transmission are proposed or sited.
- 2. Explore which bird/bat species are most at risk--where and why--from floating offshore wind energy development in the Gulf of Maine and what are effective methods to monitor/mitigate risk
- 3. Investigate interactions of floating offshore wind at various stages (i.e., site assessment, construction, and operations and maintenance) with/on fish and invertebrates, marine mammals, oceanographic conditions and other ocean users and communities.

- 4. Methods to integrate and advance wildlife deterrent and ecological monitoring technology with floating offshore wind projects to minimize impacts.
- 5. Examine sensory (sound, vibration, electromagnetic field) impacts on wildlife from OSW transmission infrastructure including pre-deployment, construction, and during deployment time frames.
- 6. Impacts of OSW generation on Maine communities including economic and social indicators
- 7. Identify unique preparations necessary for Maine supply chain and workforce to support floating offshore wind development
- 8. Explore advancements in mooring and anchoring concepts for floating foundations.
- 9. Floating wind operations and maintenance approaches to reduce costs, improve safety, and increase efficiency
- 10. Assess shoreside infrastructure and other requirements to advance industrialization of the floating supply chain.
- 11. Consider methods to optimize integration of renewable energy into the grid.

The above, is a list of example research topic areas of which more detailed questions will be produced. The preliminary research questions will be refined and expanded as the work of the advisory board continues.

Research Consortium Funding

The Governor's Energy Office (GEO) received a one-time allocation of General Funds to establish the Offshore Wind Research Consortium (LD 221). To date, these funds were utilized in the amount of \$200,137.92 to establish the Consortium through a robust stakeholder-based process. In the next year, the Consortium will continue to work with existing consultants and intends to publish a competitive RFP for initial priority research, to ensure continued representation of impacted communities and industries such as fisheries and potentially support basic operations. Ongoing funds, likely from a variety of sources, will be needed hereafter to address operations and the remaining research priorities identified by the advisory board and steering committee, as well as future priorities to be determined.

Under LD 1619, the Legislature established a non-lapsing Other Special Revenue account, with an allocation of \$500, to support the Research Consortium. There were no expenditures from the Offshore Wind Research Consortium Fund in 2022.