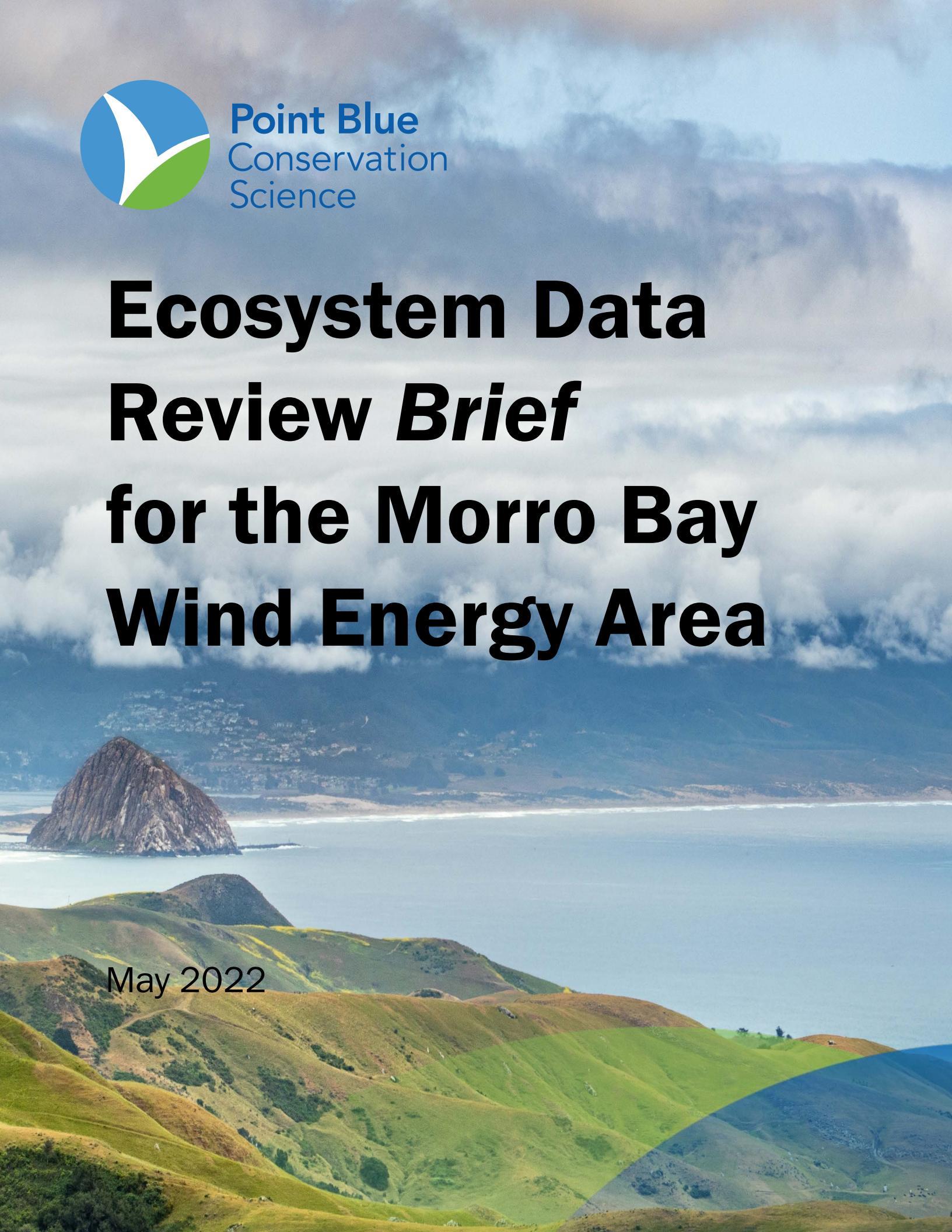

Point Blue Conservation Science

# Ecosystem Data Review *Brief* for the Morro Bay Wind Energy Area

May 2022

## About this Brief

This brief summarizes the findings of a longer report, "**Environmental Data Catalog for the Morro Bay Wind Energy Area**"
The report was completed in April 2022 by Julie Howar, Cotton Rockwood, Meredith Elliott, and Jaime Jahncke of Point Blue Conservation Science and Carliane Johnson and Cori Currier of SeaJay Environmental.

To read the full report, please visit:
www.pointblue.org/morro-bay-wind

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**Point Blue Conservation Science** – Point Blue's 160 scientists work to reduce the impacts of climate change, habitat loss, and other environmental threats while developing nature-based solutions to benefit both wildlife and people.
Visit Point Blue on the web at www.pointblue.org.



# Introduction

Clean energy that works with nature, such as wind and solar, is key to creating a healthy future. But there must be thoughtful, science-driven planning in order to implement this approach to energy production.

To help in the review and assessment of a proposed wind energy area 17 miles off the coast of San Luis Obispo County, California, Point Blue Conservation Science (Point Blue) developed a data catalogue that synthesizes relevant known environmental datasets within the vicinity, including the nearshore coastal areas.

In this report brief, we detail existing knowledge, critical data gaps, and recommendations for addressing those missing pieces. Our goal is to support the assessment of impacts to marine ecosystems from the potential future installation of turbines in the Morro Bay Wind Energy Area (MBWEA).

Our contribution is part of a multi-step process to make a decision on whether or not to lease the area in question. If leases are awarded, then the interested company has up to five years to gather the necessary data to write Site Assessment and Construction and Operation Plans. The Bureau of Ocean Energy Management would then write an Environmental Impact Statement which generally takes another two years and additional data.

Please find our full report at: www.pointblue.org/morro-bay-wind

# Key Research Gaps & Recommendations

## Future Change

**Challenge**

Determining whether population shifts in marine species might be due to oceanic and climatic conditions or anthropogenic influences is an over arching challenge.

Changes in climate and the increasing frequency of marine heat waves will cause changes in distribution and migratory patterns of species, potentially deviating from model predictions that are widely used to assess distribution and abundance. Abrupt shifts in oceanic conditions can cause a cascade of changes in distribution and migratory patterns for different species, many of which are described in our full report.

**Recommendation**

To mitigate this challenge, we recommend improving information on likely future scenarios to obtain a more effective and durable assessment of offshore wind development impacts. We also encourage the collection of baseline data. Additionally, planning and budgeting for long-term monitoring that includes a flexible, adaptive approach to implementation based on ecosystem variation and potential impacts would help.

## Offshore Wind Impacts

**Challenge**

There are some data for seabirds and whales, but sensitivities to impacts such as collision and noise are not well known for most of the species at risk. This is especially true for floating turbine development which is relatively new and unstudied.

**Recommendation**

Develop and budget for long-term monitoring and plan for a flexible approach to adjust for ocean and species change to address this challenge.

## Centralized Data Repository

**Challenge**

Barriers to data access and quality include: lack of public access; lengthy special request requirements; an overwhelming number of gateways and repositories; lack of maintenance, updates, and link to peer review; and incompatible formats for analysis.

**Recommendation**

To address this challenge, we suggest investing in more up-to-date management of centralized data repositories for marine ecosystem components that could be affected by offshore wind development.

# Habitat and Species-Specific Data & Recommendations

## Benthic Environment

The benthic environment (on/near the ocean floor) in the Morro Bay Wind Energy Area has been surveyed relatively well and appears to consist mainly of soft sediment and muddy sea bottom. An interesting feature is one of the largest known pockmark fields in North America. However, site-specific benthic surveys of the MBWEA in water depths over 800 m (2,625 ft) have not yet been required or conducted.

Focused, fine-scale data collection, as well as remotely operated video surveys, are recommended as well as compiling data from existing surveys.

## Marine Invertebrates

Benthic macroinvertebrates are the types of communities that would most likely be directly impacted by offshore energy development due to disturbances to the seafloor.

A significant amount of broad MBWEA invertebrate data exists, but site-specific sampling is necessary to better understand communities. Those identified could be linked to the benthic data and features, and this would be helpful in modeling approaches for this and future potential offshore wind sites. Budgeting for this work is recommended.

## Fish and Fisheries

Fish that have been directly observed in the MBWEA and vicinity during recent remotely operated video surveys include species that are or are not commercially harvested such as hagfish and blackmouth eelpout. Taken together, this information provides a useful, but not exhaustive, base of understanding about the types of fish species that may occur in the MBWEA.

Outreach and collaboration with fishing communities is needed to ensure accurate representation of the data and equitable offshore wind decisions. For non-commercial species, enhanced sampling and research in the MBWEA is important to establish baselines of abundance and distribution.

## Marine Mammals

Deep water, offshore habitat characteristics of the MBWEA increase the likelihood of occurrence for fin whales, Baird's beaked whale, Pacific white sided dolphin and northern right whale dolphin in the area. Other cetaceans, seals and sea lions, and sea otters lack enough data to assess, will likely occur infrequently, or tend to be nearer to shore.

Extensive monitoring and flexibility in wind energy program operations may be required to understand and mitigate interaction impact. We recommend using WhaleWatch, eDNA, and acoustic monitoring to obtain finer scale assessments.

## Seabirds

Laysan and black-footed albatross, as well as seasonal migrants such as loons, shearwaters, phalaropes, and jaegers are likely to occur. Other species may be less common in the area due to nearshore distribution or overall rarity, and many were lacking enough data to assess predicted density.

Collision risk from wind turbines is related to flying or soaring height, which is not currently captured in at-sea surveys. Data on the distribution of flying height needs to be collected by categorizing the altitude of birds that are seen in flight. Additionally, future surveys will need to be done on a finer spatial and temporal scale than they are currently.

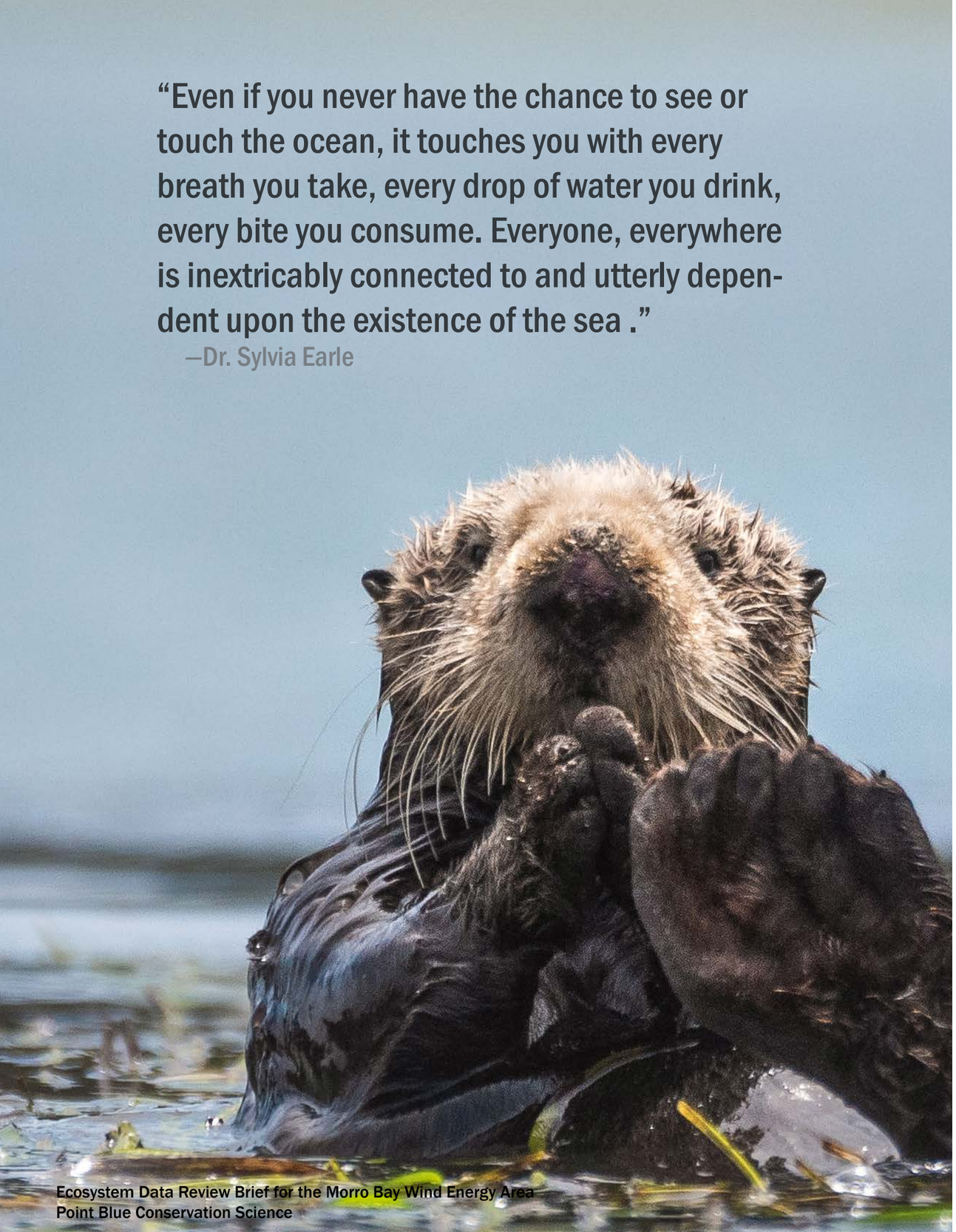
## Sea Turtles

Four sea turtle species may occur offshore California, all of which are protected under the U.S. Endangered Species Act (ESA). Based on limited available data, the leatherback sea turtle is the most likely species to occur in the MBWEA.

NOAA and partners are currently working to revise and expand existing predictive models for leatherback sea turtles using updated and more widely deployed tag data. These models will provide additional representation of the expected distribution of this species in the California Current System.

“Even if you never have the chance to see or touch the ocean, it touches you with every breath you take, every drop of water you drink, every bite you consume. Everyone, everywhere is inextricably connected to and utterly dependent upon the existence of the sea .”

—Dr. Sylvia Earle



# On the Right Track

To responsibly develop offshore wind, we need a clear baseline that includes distribution and vulnerability information for the species, habitats, and human uses most likely to be impacted. That information can then inform what additional research and data are critical at a site-specific level. Even with comprehensive data available, the decision to move forward can be complicated, and the input of multiple stakeholders is needed.

Point Blue’s role in this endeavor is to provide thorough review of the known scientifically-gathered ecosystem and environment data in the offshore area. This supports the multi-step effort to make a decision pertaining to the placement, extent, and potential environmental impacts of the Morro Bay Wind Energy Area.

It is possible, even likely, that the knowledge needed exists, but limited availability and accessibility has made it difficult to find and apply it to this and other projects. We identified knowledge and gaps in the catalog. While the gaps are substantial, there is ample information out there! The challenge is compiling it all.

Improved site-specific knowledge of the ecosystem in the MBWEA will help mitigate potential impacts of offshore wind development and can positively influence projects in other locations.

With emerging technologies, informed coordination, and proper funding, we believe efforts to create clean energy that result in more net benefit than harm are absolutely possible. We hope that our contribution to this partnership will help actualize a better future for all to that end.

Visit **www.pointblue.org/morro-bay-wind** for contact information and access to our full assessment.

This project was made possible by funding from
the California Ocean Protection Council.


The OPC is committed to basing its decisions and actions on the best available science, and to promoting the use of science among all entities involved in the management of ocean resources.

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