



BOEM
BUREAU OF OCEAN ENERGY MANAGEMENT

Study Development and Approval

Science-Informed Decisions from Use-Inspired Research

BOEM's Environmental Studies Program

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| www.boem.gov

PROGRAM AREAS



Oil & Gas

5-year leasing plan
Regional lease sales



Renewable Energy

Site identification through stakeholder input and state task forces



Marine Minerals

Through negotiated agreement with state and local entities

ENVIRONMENTAL PROGRAMS MISSION



To study and prevent environmental harm from energy development and minerals extraction on the Outer Continental Shelf



ENVIRONMENTAL STUDIES PROGRAM PRINCIPLES

Remain **use-inspired**
to apply results
towards management
decisions



Adhere to the
utmost levels of
scientific integrity
and credibility

Seek partnerships
to leverage funds
and maximize
utility of results



Engage regularly with
stakeholders and public
educational outreach
for quality assurance,
peer-review planning,
and data dissemination

ESP Use-Inspired Model

An underwater photograph showing a vibrant coral reef with many small fish swimming around it. The scene is dimly lit, with light rays filtering down from the surface.

Consideration of **Use**
and
Quest for Fundamental Understanding

“There is not pure science and applied science but only science and the application of science.” Louis Pasteur 1863

ESP Business Model

Maintain
Core Expertise
in numerous
scientific disciplines

Engage the Scientific
Community
(academic, government and
private sector)
to
Conduct the Science.

BOEM Scientists
Develop, Oversee, and
Manage
Research Projects

Seek Stakeholder Input

- **Science** Forums
- Annual Request for **Study Ideas**
- **Regional** and **Office** Engagement
- **Public Meetings**
Task forces



STUDY DEVELOPMENT PLAN



Allows **ideas to flow**
with a look toward the future

Changes to SDP Approach

- Each section will develop a “handful” of overarching scientific questions to be addressed
- Each study profile will aid in answering these questions
- Criteria for funding priorities will be based on whether the profile addresses the question(s)

Adds transparency and clarity to the process...

ESP Improvements (SDP survey and 3rd COSA meeting)

- 1) Re-imagine SME teams as "Science and Technical Review teams" (STR teams)
- 2) Re-think criteria for profile selection
- 3) Develop improved profile review process
- 4) Edit from one Google file
- 5) POC's to encourage collaboration
- 6) Develop updated training on the ESP process;
- 7) Revise "ESP Procedure Manual"
- 8) Develop a broad national "ESP Strategic Framework"
- 9) Working to find an approach, through the National Academy of Sciences, for external peer review of the SDP (as our past FACA conducted)
- 10) Adding levels of transparency to the study prioritization

Development of ESP Strategic Framework (high level focus)

Such as:

- Understanding Ecosystem Dynamics
- Assessing Cumulative Effects
- Long-term Monitoring
- Observation and Modeling
- Environmental Assessment Support

Development of Strategic Framework White Paper

- Presented at BOEM's Annual Conference on the Environment
- Comments incorporated
- Paper discusses:
 - Background and Mandate
 - Criteria for Study Development and Approval
 - Process for Study Development and Approval

CRITERIA



Criteria for Study Development and Approval

1. Need for Information in BOEM Decision-Making
2. Research Concept, Design, and methodology
3. Contribution to Existing Knowledge
4. Cost-Effectiveness
5. Partnerships
6. Multi-Regional and Strategic Utility

Criteria for Study Development and Approval

1. Need for Information in BOEM Decision-Making
 - All studies must be **relevant to evaluating, mitigating, or advancing public understanding of the impact of BOEM decision-making on the marine, coastal, or human environment.** This requirement is not meant to favor studies addressing specific impacts (*e.g.*, explosive removal of platforms) as opposed to broader studies whose insights are indirect but important to understanding the impacts of BOEM's activities (*e.g.*, population distribution and abundance, ecosystem dynamics). **All study profiles must articulate the study's relevance and importance to BOEM decision-making, and the level of need must be considered in setting priority.** This criterion accounts for the urgency of information and provides for a reasonable level of support in each region and across BOEM's three programs: oil and gas, renewable energy, and marine minerals.

Criteria for Study Development and Approval

2. Research Concept, Design, and methodology
 - **All study profiles must provide a sound research concept (including questions asked), design, and methodology.** This does not require a high level of detail as would be provided in specific proposals to carry out the work profiled, but the basic proposed concept, design, and methodology must be good. Quality and innovation are important considerations evaluated in this criterion.

Criteria for Study Development and Approval

3. Contribution to Existing Knowledge
 - **Studies must be designed to contribute significantly to existing knowledge** and profiles should describe how the work proposed will fill gaps in information or will improve, confirm, or challenge current understanding.

Criteria for Study Development and Approval

4. Cost-Effectiveness

- **Studies must be cost-effective and the expense of a study is relevant in comparing its value with other study opportunities.** This does not mean that costly studies are disfavored if the expense is necessary for important knowledge or leveraged through partnerships.

Criteria for Study Development and Approval

4. Partnerships

- Study proposals should explore opportunities for partnerships in funding or other collaboration, and advancing such partnerships gives **priority**. Proposals should also explore any opportunities for public outreach and engagement such as “[citizen science](#),” involvement of aquariums or other non-profits, and collaboration with Native Americans.

Criteria for Study Development and Approval

5. Multi-Regional and Strategic Utility

- **Studies gain priority if they support multi-Regional or strategic needs.** This does not mean that purely local studies should not be funded if important, but instead that, everything else equal, a study serving broader values is of higher priority for funding than one that does not.

Process



Process for Study Profile Development and Approval

- Review of SDP
 - Series of questions will drive the document and link to the study profiles.
- Review of “high level topics”
 - Topics of particular interests or complexity.

Process for Study Profile Development and Approval

- Studies Development Plan and National Studies List
- Initial Study Profile Development
- Preparing the SDP and NSL
 - BOEM Science and Technical Review
 - National Academy of Science Peer Review
 - BOEM Senior Management Review
 - Approval of BOEM Director
- Transparency in Study profile Preparation and Approval

Process for Study Profile Development and Approval

- Study Development Plan and National Studies List
 - **The ESP maintains a three-year SDP that is a strategic document which provides concise descriptions or “profiles” of proposed scientific studies determined to warrant priority under the Criteria.** The SDP is updated annually, adding a new future year and dropping the description of the year just passed. The NSL, drawing from the SDP, is also developed annually for each forthcoming fiscal year and issued by the Director of BOEM with funding specified for all new starts and continuing projects receiving funding in that year. The SDP includes a chapter for each BOEM region and program with an overview of needs, features, and key questions particular to the region and an assessment of how the profiles in the chapter and these questions meet the Criteria.

Process for Study Profile Development and Approval

- Initial Study Profile Development
 - To prepare and manage the SDP and NSL, BOEM's Division of Environmental Sciences (DES) annually requests ideas for studies from BOEM scientists in all regions and programs. Additionally, DES and other BOEM Offices solicit ideas from diverse stakeholders and the public generally through public announcements. Within BOEM, studies ideas often begin with informal discussions on study topics that may warrant priority under the Criteria between ESP staff and the staff charged with environmental assessment and regulation. These discussions are facilitated across regions and programs by annual conferences on the environment, information transfer conferences, and meetings of the NAS COSA. After these various discussions, BOEM scientists may then step forward with draft study profiles to share with expert colleagues for discussion and feedback.

Process for Study Profile Development and Approval

- Preparing the SDP and NSL
 - **Informal work feeds into more formal processes in regions and programs for scientists to present, discuss, and prioritize studies under the Criteria with a view to their inclusion in the SDP and NSL, and for BOEM managers to approve submissions and specify priority and cost.** The regional work is typically led by BOEM regional and program environmental study chiefs, and submitted to the DES for compilation in the first draft SDP. That draft typically includes more proposed studies than funding allows, and further review coordinated by DES is needed to develop a final NSL with a reduced budget for approval by the BOEM Director.
 - The NSL follows four steps based on review of the draft SDP:

Process for Study Profile Development and Approval

- Step 1: BOEM Science and Technical Review
 - The review process begins with profile review and feedback to authors by science and technical review (STR) teams that are organized by areas of expertise (*e.g.*, acoustics) and whose members are selected by their management from a roster of BOEM subject matter experts maintained by DES.

Process for Study Profile Development and Approval

- Step 2: National Academy of Sciences Peer Review
 - The STR team review is followed by an independent peer review process to be established in coordination with BOEM through the NAS. Tentatively, three to five study profiles particularly warranting review will be selected by BOEM with advice from the NAS from each BOEM region and program and will be summarized by discipline experts in BOEM. NAS will establish independent peer review teams (PRTs) with expertise for each focus area. Each PRT will meet with BOEM scientists involved in the topic in a setting where the scientists can present their ideas and receive feedback from the PRT members. All feedback will be the independent opinions of the members during the sessions and not constitute a consensus review or a formal written review. Following NAS peer review, the draft SDP will be revised as merited by comments received from PRT members. The NAS review will not include specific budgets. Past SDP annual review meetings have occurred in the spring when the draft SDP is released and at a stage in the year that coordinates well with funding review. The meetings would last for 2–3 days and include general sessions and breakout sessions. It has been suggested that NAS PRT reviews might be spread over the three meetings per year of COSA. This would provide topic review less coordinated with the SDP annual cycle, but reviews could feed into approval of the SDP and could be broken into new topic review in the spring/summer and review of ongoing topics at the late summer and winter meetings.

Process for Study Profile Development and Approval

- Step 3: BOEM Senior Management Review
 - After peer review by the NAS PRTs, the SDP is published on [BOEM's website](#) and public notification is also made with a note to stakeholders. The SDP is then used to prepare the draft NSL by negotiations among environmental staff in BOEM to reduce the number or cost of studies to conform to available funds. The draft NSL is then discussed in a meeting with BOEM regional directors and program managers. Every effort is made to achieve consensus.

Process for Study Profile Development and Approval

- Step 4: Approval by BOEM Director
 - **After the senior management meeting, DES revises the draft NSL to reflect the discussion for presentation to the Director. Consensus is expected.** If there is no consensus, however, DES will revise the draft to reflect the views of the Chief Environmental Officer, and any members of senior management whose views differ may present their views separately. The Director decides on and approves the final content of the NSL, and that decision is transmitted to staff for implementation and public communication.

Process for Study Profile Development and Approval

- Transparency in Study profile Preparation and Approval
 - **BOEM is committed to an open review process with the utmost scientific integrity.** BOEM managers and scientists (including profile authors and reviewers) have access to a file containing all scientific and technical review comments from STR teams, PRT comments, responses from authors, and justifications provided for study rankings by BOEM senior management.



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