

# Bureau of Ocean Energy Management Environmental Studies Program Report Specifications (2017)



# **Bureau of Ocean Energy Management Environmental Studies Program Report Specifications (2017)**

June 2017

**Authors:**

Gloria Boland, Paulina Chen, Heather Crowley, Catherine Dunkel, Deena Hansen, Elaine Leyda, and Meghan Winands Araiza

Prepared under BOEM Award

In-house document

By

Bureau of Ocean Energy Management

Environmental Studies Program

45600 Woodland Road

Sterling, VA 20166

**US Department of the Interior  
Bureau of Ocean Energy Management  
Headquarters**



## **TEMPLATE AVAILABLE**

To easily prepare an ESP studies report using the correct formatting, download the ESP Report Template (Microsoft Word format) from the [ESP Data and Information Specifications webpage](https://www.boem.gov/ESP-Data-and-Information-Specifications/) (<https://www.boem.gov/ESP-Data-and-Information-Specifications/>).

## **DISCLAIMER**

The text on this page is sample text for this document. See Disclaimer page language and instructions in **Section 4.3**.

## **REPORT AVAILABILITY**

To download a PDF version of this document, go to the [BOEM Data and Information Specifications webpage](https://www.boem.gov/ESP-Data-and-Information-Specifications/) (<https://www.boem.gov/ESP-Data-and-Information-Specifications/>).

## **CITATION**

[BOEM] Bureau of Ocean Energy Management. 2017. Bureau of Ocean Energy Management Environmental Studies Program report specifications (2017). Sterling (VA): US Department of the Interior, Bureau of Ocean Energy Management. OCS Study BOEM 2017-xxx.

## **ABOUT THE COVER**

Cover graphic by Paulina Chen.

## **ACKNOWLEDGMENTS**

The following BOEM offices or programs contributed to this document: Alaska OCS Region, Gulf of Mexico OCS Region, Marine Minerals Program, Office of Environmental Programs, Office of Renewable Energy Programs, and Pacific OCS Region.

# Contents

List of Figures.....	iii
List of Tables.....	iii
Abbreviations and Acronyms .....	iii
1 Introduction .....	1
2 Style Guide.....	1
3 Report Format.....	2
3.1 File Format .....	2
3.2 Page Size.....	2
3.3 Page Margins .....	2
3.4 Page Numbers .....	2
3.5 Copyrighted Material .....	3
4 Report Sections.....	3
4.1 Front Cover .....	3
4.2 Title Page .....	3
4.3 Disclaimer Page .....	4
4.3.1 Disclaimer Statement.....	4
4.3.2 Report Availability.....	4
4.3.3 Citation .....	5
4.3.4 About the Cover .....	5
4.3.5 Acknowledgments .....	5
4.4 Table of Contents and Other Front Matter Lists.....	5
4.5 Report Body .....	5
4.6 References.....	5
4.7 Back Cover.....	6
4.8 Appendices.....	6
4.9 Multiple Volumes .....	6
5 Report Body Style Specifications.....	6
5.1 Spacing .....	6
5.2 Paragraph Formatting .....	6
5.3 Fonts .....	6
5.4 Numbers.....	7
5.5 Units .....	7

5.6	Abbreviations, Acronyms, and Symbols .....	7
5.7	Tables and Figures .....	7
5.7.1	Tables.....	7
5.7.2	Figures .....	8
5.8	Hyperlinks.....	8
5.9	Endnotes and Footnotes .....	8
6	References.....	9
	Appendix A: Technical Summary Specifications.....	10
	Appendix B: Sample Table.....	15

## List of Figures

Figure 1. Katrina iris .....	8
Figure A-1. Technical summary required elements .....	11

## List of Tables

Table 1. ESP report elements and their relation to <i>CSE 8<sup>th</sup> Edition</i> .....	1
Table 2. Potential sources of document availability .....	5
Table B-1. Sample table in landscape orientation with data in columns aligned on the decimal. ....	15

## Abbreviations and Acronyms

BOEM	Bureau of Ocean Energy Management
COR	Contracting Officer's Representative
CSE	Council of Science Editors
DOI	US Department of the Interior
ESP	Environmental Studies Program
ESPIS	Environmental Studies Program Information System
in	inch
OCS	Outer Continental Shelf
ppi	pixels per inch
PO	Project Officer

# 1 Introduction

The Bureau of Ocean Energy Management (BOEM) Environmental Studies Program (ESP) Report Specifications provides guidance and serves as a model for preparing ESP reports. This document updates the previous version (BOEM 2013) and clarifies the guidelines for authors, vendors, Contracting Officer's Representatives (CORs), Project Officers (POs), and editors. The term "vendors" encompasses all entities preparing ESP reports through a contract, inter/intra-agency agreement, or cooperative agreement. These specifications apply to all ESP reports regardless of vendor type.

Deviations from these specifications require approval by the BOEM COR or PO during the first draft stage of the report.

These specifications may be updated at any time. BOEM prefers vendors follow the specifications in place at the time the deliverable is being prepared, not those at the time of the award.

ESP reports must be professional in appearance, reviewed for technical accuracy, and edited by the author(s) or vendor(s) for clear language and compliance with these specifications. ESP reports should comply with Section 508 of the Rehabilitation Act.

To assist vendors in complying with these specifications, BOEM has developed the ESP Report Template, which is available for download from the [ESP Data and Information Specifications webpage \(https://www.boem.gov/ESP-Data-and-Information-Specifications/\)](https://www.boem.gov/ESP-Data-and-Information-Specifications/).

# 2 Style Guide

Vendors are strongly encouraged to follow the Council of Science Editor's (CSE's) *Scientific Style and Format: The CSE Manual for Authors, Editors, and Publishers 8th Edition* (CSE 8<sup>th</sup> Edition) (CSE 2014). Part 4 of the *CSE 8<sup>th</sup> Edition*, Technical Elements of Publications, is of particular pertinence for ESP reports, which BOEM considers to be technical reports or monographs. **Table 1** lists the elements of ESP reports, where to find guidance in the CSE, and whether or not BOEM is providing additions and/or exceptions to the *CSE 8<sup>th</sup> Edition* in this document.

**Table 1. ESP report elements and their relation to CSE 8<sup>th</sup> Edition**

Section in This Document	Report Element	CSE 8 <sup>th</sup> Edition Section	Addition and/or Exception to CSE
<b>3</b>	<b>Report Format</b>		
3.1	File Format		✓
3.2	Page Size		✓
3.3	Page Margins		✓
3.4	Page Numbers	28.5.1	✓
3.5	Copyrighted Material	3	✓
<b>4</b>	<b>Report Sections</b>		
4.1	Front Cover	28.4.1	✓
4.2	Title Page	28.4.2.3	✓
4.3	Disclaimer Page	28.4.2.11	✓

Section in This Document	Report Element	CSE 8 <sup>th</sup> Edition Section	Addition and/or Exception to CSE
4.4	Table of Contents and Other Front Matter Lists	28.4.2.6, 28.4.2.8	✓
4.5	Report Body	See Section 5	
4.6	References	28.4.4.5, 29.1, 29.2.1.2, 29.3	
4.7	Back Cover	28.4.1	✓
4.8	Appendices	28.4.4.2	
4.9	Multiple Volumes		✓
<b>5</b>	<b>Report Body Style Specifications</b>		
5.1	Spacing		✓
5.2	Paragraph Formatting		✓
5.3	Fonts	31.2.1	✓
5.4	Numbers	12.1.3	
5.5	Units	12.2.1	✓
5.6	Abbreviations, Acronyms, and Symbols	11, 28.4.2.11.4	✓
5.7	Tables and Figures	30.1, 30.2	✓
5.8	Hyperlinks	29.3.7.13	✓
5.9	Endnotes and Footnotes	27.7.2.3	✓

### 3 Report Format

#### 3.1 File Format

Prepare document deliverables using the word processing software and version in use by BOEM. The current software and version is Microsoft® Word 2010. The Microsoft® Word version of the final report must include all components in a single file, with three levels of bookmarks corresponding to the report sections. The final report must also be provided in PDF format, with three levels of bookmarks for the report sections. Submit files without any password protection for open access by BOEM staff.

#### 3.2 Page Size

Use standard white letter-size pages (8.5 by 11 inches).

#### 3.3 Page Margins

Set page margins at 1.0 in on all sides. All body text, figures, and tables must fit within the page margins.

#### 3.4 Page Numbers

Use automatic page numbering fields. Place page numbers outside the margin and in the center of the bottom of the page as it is read (on the short edge for portrait-oriented pages and on the long edge for landscape-oriented pages). Show the page number on every page beginning with the Contents page. Number the front matter pages starting with the Contents page consecutively with lowercase Roman



numerals (i, ii, iii, etc.). Number the body and back matter pages consecutively with Arabic numerals (1, 2, 3, etc.). Ensure that page numbers in the PDF file (including the page numbers shown in the status bar) match those in the Microsoft® Word file.

### **3.5 Copyrighted Material**

Copyrighted material (including photographs and figures) cannot be used unless authorized in writing by the copyright holder. Provide a copy of each authorization to the COR or PO with the draft report.

## **4 Report Sections**

### **4.1 Front Cover**

Use the front cover of this document as a guide or the BOEM ESP Report Template for generating the front covers of ESP reports. The position and size of the BOEM logo and other elements may not be altered. For correct alignment, some cover elements are in borderless tables. Using artwork on the front cover is optional. Artwork that exemplifies the research is encouraged. The cover art may fill the available space between the title and the footer of the page.

Do not put logos other than BOEM's on the cover page. Additional logos for studies conducted through inter/intra-agency agreements and cooperative agreements may be added with the COR's or PO's consent. Put "Headquarters" or the name of the BOEM program or region (e.g., Alaska OCS [Outer Continental Shelf] Region, Atlantic OCS Region, Gulf of Mexico OCS Region, Marine Minerals Program, Office of Renewable Energy Programs, Pacific OCS Region), as appropriate, under "Bureau of Ocean Energy Management" in the footer. This element is aligned one inch from the bottom of the page.

### **4.2 Title Page**

Use the title page of this document or the BOEM ESP Report Template as a template for generating the title page. For correct alignment, some elements in this example are in borderless tables. Do not change the size of elements or their position relative to one another. White space between the "Title," "Authors," and "Prepared" elements may be adjusted as necessary.

The logos of organizations partnering with BOEM through inter/intra-agency agreements or cooperative agreements may be placed on the title page. Partner logo(s) may be the same size as or smaller than the BOEM logo. Add the logo(s) on the right side of the page, adjacent to the partner's name. Contractors may not put logos on the title page.

Cite the publication date of the report where the date is listed on the title page of this document. Under "Authors," list the authors or editors as appropriate. Where "In-house document" appears, cite the type of award (contract, interagency agreement, intra-agency agreement, or cooperative agreement) and the award number. Include the vendor's name and address under "By" on the title page. Additional vendors may be included, following the prime vendor.

Identify the BOEM program or region under "Bureau of Ocean Energy Management" at the bottom of the page. This element is aligned one inch from the bottom of the page.

When printing the document, a blank page may be inserted before and after the title page.

## 4.3 Disclaimer Page

The disclaimer page includes the disclaimer statement, report availability information, suggested citation, cover graphic/photo credits (optional), and acknowledgments (optional). This page follows the title page, precedes the Contents, and has no page number.

### 4.3.1 Disclaimer Statement

A disclaimer statement is required in reports produced by non-BOEM authors or organizations. Include one of the following statements based on the type of award, filling in the appropriate text and numbers where indicated.

#### Contracts:

Study concept, oversight, and funding were provided by the US Department of the Interior, Bureau of Ocean Energy Management (BOEM), Environmental Studies Program, Washington, DC, under Contract Number \_\_\_\_\_. This report has been technically reviewed by BOEM, and it has been approved for publication. The views and conclusions contained in this document are those of the authors and should not be interpreted as representing the opinions or policies of the US Government, nor does mention of trade names or commercial products constitute endorsement or recommendation for use.

**Interagency and Intra-Agency Agreements** (select “Interagency” for agreements with Agencies outside of the US Department of the Interior (DOI) or “Intra-Agency” for Agencies within DOI):

This study was funded, in part, by the US Department of the Interior, Bureau of Ocean Energy Management (BOEM), Environmental Studies Program, Washington, DC, through [Interagency or Intra-Agency] Agreement Number \_\_\_\_\_ with the \_\_\_\_\_. This report has been technically reviewed by BOEM, and it has been approved for publication. The views and conclusions contained in this document are those of the authors and should not be interpreted as representing the opinions or policies of the US Government, nor does mention of trade names or commercial products constitute endorsement or recommendation for use.

#### Cooperative Agreements:

Study collaboration and funding were provided by the US Department of the Interior, Bureau of Ocean Energy Management (BOEM), Environmental Studies Program, Washington, DC, under Agreement Number \_\_\_\_\_. This report has been technically reviewed by BOEM, and it has been approved for publication. The views and conclusions contained in this document are those of the authors and should not be interpreted as representing the opinions or policies of the US Government, nor does mention of trade names or commercial products constitute endorsement or recommendation for use.

### 4.3.2 Report Availability

Include the following statement on how to obtain a copy of the report. Replace “20xx-xxx” with the BOEM publication number (to be provided by the COR or PO).

To download a PDF file of this report, go to the US Department of the Interior, Bureau of Ocean Energy Management [Data and Information Systems webpage](http://www.boem.gov/Environmental-Studies-EnvData/) (<http://www.boem.gov/Environmental-Studies-EnvData/>), click on the link for the Environmental Studies Program Information System (ESPIS), and search on 20xx-xxx. The report is also available at the National Technical Reports Library at <https://ntrl.ntis.gov/NTRL/>.

If available, list other sources for the report and associated information. Examples are listed in **Table 2**.

**Table 2. Potential sources of document availability**

Document Source	URL
Bureau of Ocean Energy Management (BOEM)	<a href="http://www.boem.gov/Contact-Us/">http://www.boem.gov/Contact-Us/</a>
Federal Depository Libraries	<a href="https://catalog.gpo.gov/fdlpdir/FDLPdir.jsp">https://catalog.gpo.gov/fdlpdir/FDLPdir.jsp</a>
National Technical Reports Library	<a href="https://ntrl.ntis.gov/NTRL/">https://ntrl.ntis.gov/NTRL/</a>

Sources: BOEM [date unknown]b, BOEM [date unknown]a, US Government Publishing Office [date unknown], National Technical Information Service c2014.

### 4.3.3 Citation

Include a suggested citation for the report on the disclaimer page. Use the same format as for the document references, but include all of the authors' names in this citation. The citation example in this document is in the recommended for of the *CSE 8<sup>th</sup> Edition* (CSE 2014). For citation format examples, see the Scientific Style and Format Citation Quick Guide (CSE c2014).

*Citation example:*

Michel J, Bejarano AC, Peterson CH, Voss C. 2013. Review of biological and biophysical impacts from dredging and handling of offshore sand. Herndon (VA): U.S. Department of the Interior, Bureau of Ocean Energy Management. OCS Study BOEM 2013-0119. 258 p.

### 4.3.4 About the Cover

This section is optional and may be included for the cover photo credit.

### 4.3.5 Acknowledgments

Acknowledgments are optional and may be included on the disclaimer page after all other elements or, if additional space is needed, on a separate page immediately after the disclaimer page.

## 4.4 Table of Contents and Other Front Matter Lists

Include a table of contents (labeled "Contents"). In the Contents, include the first three levels of section headings with correct page numbers. Include any appendices in the Contents. Provide separate lists for tables; figures; and acronyms, abbreviations, and symbols. These lists follow the Contents and are to be referenced in the Contents. Generate these lists using the automatic features in Microsoft® Word.

## 4.5 Report Body

See **Section 5** of these specifications for guidance on report body style. See Chapter 7 in the *CSE 8<sup>th</sup> Edition* (CSE 2014) for guidance on prose style and word choice.

## 4.6 References

BOEM strongly encourages vendors to use EndNote or the citation function in Microsoft® Word to generate in-text and end references. Use in-text and end references. In the end references, include every

source referenced or quoted in the report, including unpublished material, personal communications, and references cited in figures and tables.

Use an author-date reference system consistently throughout the document. In-text and end references in this document are in the recommended format of the *CSE 8th Edition* (CSE 2014). For citation format examples, see the Scientific Style and Format Citation Quick Guide (CSE c2014).

## **4.7 Back Cover**

Place the DOI and BOEM logos and mission statements on the back cover as shown on the last page of these specifications. The layout and wording of the back cover is shown exactly in these specifications and the accompanying Microsoft® Word template, with no alterations permitted. Place the back cover facing outward when formatting for printing.

## **4.8 Appendices**

A report may have appendices as needed for supplemental information. Include appendices in the Contents. If a report has more than one appendix, number or letter them consecutively.

## **4.9 Multiple Volumes**

If the report is very long, it may be prepared in multiple volumes. Number multiple volumes consecutively, and list all volumes in the Contents. Each separate volume has front and back covers, a disclaimer page, a title page, Contents and other front matter lists, and references as described in this document.

# **5 Report Body Style Specifications**

Use consistent formatting throughout the document.

Use the paragraph and character styles as shown in this document and provided in a separate Microsoft® Word template. Do not change the style settings provided by BOEM. Add new styles only if necessary.

## **5.1 Spacing**

- Use single line spacing.
- Use spacing between paragraphs.
- Use one space after end-of-sentence punctuation.

## **5.2 Paragraph Formatting**

- Set body text paragraph justification to left justified (with a ragged right margin).

## **5.3 Fonts**

- Use the paragraph and character styles provided in this document, which are also provided in a separate Microsoft® Word template. Do not change the style settings provided by BOEM. Add new styles only if necessary.

## 5.4 Numbers

- Separate every three digits to the left of the decimal point with a comma (e.g., 1,234).
- Do not use a separator comma in the numbers after a decimal and where the use of a comma is inappropriate, such as in a US ZIP code.
- Use a period (not a comma) as a decimal point.
- For numbers less than 1.0, use a zero to the left of the decimal point (e.g., 0.12).

## 5.5 Units

- Metric units are preferred, but vendors may use the standard unit for the discipline.

## 5.6 Abbreviations, Acronyms, and Symbols

- Spell out acronyms and abbreviations on first use in the text.
- Use an acronym if the phrase it represents appears more than three times in the document or if the acronym is more commonly known than the phrase.
- Abbreviations in common use do not need to be included in the list of abbreviations.
- If the document includes five or more abbreviations, acronyms, and/or symbols, include an alphabetical list of them in left-aligned columns (a borderless table is recommended), in the front matter of the report. This list is placed after the lists of figures and tables, if present, or after the Contents, if there are no other lists.

## 5.7 Tables and Figures

- Insert tables and figures as closely as possible after the text that refers to them.
- If there are many consecutive tables or figures, or if a single table or figure occupies multiple pages (and so disrupts the continuity of the text of the report), these tables or figures may be grouped at the end of the chapter or placed in an appendix.
- Table titles appear above the table; figure captions appear below the figure. Table titles and figure captions appear on the same page as the table or figure, are left justified, and in bold text.
- Include spacing above and below tables, figures, and the associated text.
- To keep the title or caption length to a minimum, use the title or caption to provide a descriptive name and unique number, not to explain the table or figure. Discuss the meaning of the table or figure in the corresponding body text or in a note beneath the table or figure.
- Table titles and figure captions are a single phrase with sentence-style capitalization.
- Acronyms are permitted if they were spelled out ahead of the table or figure.
- Footnote references are not permitted in the title caption. Include references just below the table or figure.

### 5.7.1 Tables

- Tables may include footnotes at the bottom of the table.
- Tables must include units where applicable.
- Even if the table fits on one page and does not break across pages, select the following table properties:
  - Repeat header row on every page of the table
  - Do not allow table rows to break across pages
- Align numbers in a column on the decimal point (see example in Appendix B).

### 5.7.2 Figures

- Provide the individual file for each figure to BOEM with the final report.
- Graphic files may be in one of the following formats: PDF, JPG, GIF, and TIFF.
- The minimum resolution for graphic files is 300 ppi.
- Provide an alternative text description for each figure.
- **Figure 1** provides a sample figure to show the caption and description (if desired) as flush left.



**Figure 1. Katrina iris**

A hybrid of bog-tolerant African irises *Dietes vegeta* and *Dietes bicolor*, the Katrina Iris was developed in New Orleans just after Hurricane Katrina. Sale proceeds benefit wetland restoration.

### 5.8 Hyperlinks

- In general, do not put hyperlinks or URLs in the body of the report.
- Treat Internet-based documents like references; cite them in the text, and include them in the References list.
- All URLs must be correct, complete, and linked to an active webpage.
- Provide a screen tip for each URL.

### 5.9 Endnotes and Footnotes

- Endnotes may be shown in a smaller font size than the body text but must be large enough to be easily legible in printed form.
- Use a consistent style for all endnotes.
- Put the Endnote section at the end of each volume before the References section.
- Endnotes and end references are preferred, but footnotes may be used if appropriate for the area of study.

## 6 References

Note: The following references are in the recommended format of the *CSE 8<sup>th</sup> Edition* (CSE 2014). For citation format examples, see the *Scientific Style and Format Citation Quick Guide* (CSE c2014).

- [BOEM] Bureau of Ocean Energy Management. 2013. Bureau of Ocean Energy Management Environmental Studies Program report specifications. Herndon (VA): US Department of Interior, Bureau of Ocean Energy Management.
- BOEM: contact us. [date unknown]a. Contact us. Washington (DC): US Department of Interior, Bureau of Ocean Energy Management; [accessed 2017 Mar 28]. <http://www.boem.gov/Contact-Us/>.
- BOEM. [date unknown]b. ESP data and information systems. Sterling (VA): US Department of Interior, Bureau of Ocean Energy Management; [accessed 2017 Mar 28]. <http://www.boem.gov/Environmental-Studies-EnvData/>.
- [CSE] Council of Science Editors. 2014. *Scientific style and format: the CSE manual for authors, editors, and publishers*. 8th ed. Chicago (IL): University of Chicago Press. 722 p.
- CSE. c2014. *Scientific style and format citation quick guide*. Chicago (IL): University of Chicago Press; [accessed 2017 May 15]. <http://www.scientificstyleandformat.org/Tools/SSF-Citation-Quick-Guide.html>.
- National Technical Information Service. c2014. National Technical Reports Library. National Technical Information Service; [accessed 2017 May 15]. <https://ntrl.ntis.gov/NTRL/>.
- US Government Publishing Office. [date unknown]. Welcome to the Federal Depository Library Directory (FDLD). Washington (DC): US Government Publishing Office; [accessed 2017 May 15]. <https://catalog.gpo.gov/fdlpdir/FDLPdir.jsp>.

## **Appendix A: Technical Summary Specifications**

### **A.1 Purpose**

A technical summary is required for all major deliverable products that result from ESP awards. Refer to the award document for the type and timing of technical summaries required.

### **A.2 General Requirements**

The following guidelines and specifications should be followed precisely. The technical summary shall be approximately two single-spaced printed pages in length, using 11-point font. To the extent possible, the technical summary should be written in plain language appropriate to a non-scientific audience. A range of one and one-half to three single-spaced printed pages will be acceptable. Use standard white pages (8.5 by 11 inches). Vendors will submit the technical summary using the word processing software and version currently in use by BOEM. The current software and version is Microsoft® Word 2010. The COR or PO will confirm the specific word processing software required for the deliverables. Any questions regarding the preparation of technical summaries should be addressed to the COR or PO.

### **A.3 Required Elements**

The technical summary shall be prepared using the elements listed **Figure A-1**. All headings are in upper case letters and 11 of the headings are in bold print.

### **A.4 Endnote for Principal Investigator(s) Element**

An endnote should be placed at the bottom of the last page of text, following conclusion of the “STUDY PRODUCT(S)” element, and should appear on all technical summaries for consistency. An asterisk is placed after the “PRINCIPAL INVESTIGATOR(S)” element for reference to the endnote. The endnote is worded as follows:

\* The affiliation of the Principal Investigator(s) may be different than that listed for Project Manager(s).

### **A.5 Map of Study Area**

The purpose of the map is to provide the reader with a quick reference of the location of the study. The map shall be on a separate page from the text. Label major reference points on land (cities, state boundaries, etc.) and offshore features (canyons, banks, etc.). Provide latitude and longitude, map scale, and bathymetric contours at 200 m water depths and other meaningful isobaths. It is recognized that maps may not be appropriate for some technical summaries. For example, a technical summary prepared for a report based on a laboratory study with generic application of results to all OCS areas would not require a map. The COR or PO will determine if the vendor shall include a map.



- **STUDY TITLE:**
  - **REPORT TITLE:**
  - **OCS STUDY NUMBER:**
  - **NUMBER OF PAGES:**
  - CONTRACT NUMBER(S):
  - SPONSORING OCS REGION:
  - APPLICABLE PLANNING AREA(S):
  - FISCAL YEAR(S) OF PROJECT FUNDING:
  - COST(S) BY FISCAL YEAR:
  - CUMULATIVE PROJECT COST:
  - COMPLETION DATE OF REPORT:
  - PROJECT MANAGER(S):
  - AFFILIATION OF PROJECT MANAGER:
  - ADDRESS:
  - PRINCIPAL INVESTIGATOR(S)\*:
  - KEY WORDS:
  - **BRIEF ABSTRACT:**
  - **BACKGROUND:**
  - **OBJECTIVES:**
  - **METHODS:**
  - **RESULTS:**
  - **CONCLUSIONS:**
  - **STUDY PRODUCT(S):**
  - Map of study area:
- \* The affiliation of the Principal Investigator(s) may be different than that listed for Project Manager(s).

**Figure A-1. Technical summary required elements**

## A.6 Sample Technical Summary

[Additional samples are available in ESPIS (BOEM [date unknown]b).]

**STUDY TITLE:** Characterizing and Quantifying Sea Lion and Seal Use of Offshore Manmade Structures Off California

**REPORT TITLE:** Characterizing and Quantifying California Sea Lion (*Zalophus californianus*) Use of Offshore Oil and Gas Platforms in California

**OCS STUDY NUMBER:** BOEM 2016-009

**NUMBER OF PAGES:** 36

**CONTRACT NUMBER(S):** M12PG00027

**SPONSORING OCS REGION:** Pacific

**APPLICABLE PLANNING AREA(S):** Southern California

**FISCAL YEAR(S) OF PROJECT FUNDING:** FY 2012: \$250,000

**COSTS BY FISCAL YEAR:** FY 2012: \$0; FY 2013: \$122,820.24; FY 2014: \$42,608.02; FY 2015: \$60,767.91; FY 2016: \$19,538.77

**CUMULATIVE PROJECT COST:** \$245,734.94

**COMPLETION DATE OF REPORT:** July 2016

**PROJECT MANAGER(S):** Robert L. DeLong and Anthony J. Orr

**AFFILIATION (OF PROJECT MANAGER):** Marine Mammal Laboratory, Alaska Fisheries Science Center, NOAA Fisheries, National Oceanic and Atmospheric Administration

**ADDRESS:** 7600 Sand Point Way NE, Seattle, WA 98115

**PRINCIPAL INVESTIGATOR(S)\*:** Anthony J. Orr, Jeffrey D. Harris, Kari A. Hirschberger, Jeffrey L. Laake, Robert L. DeLong, and Gregory S. Sanders

**KEY WORDS:** California sea lion, oil and gas platform, Pacific Outer Continental Shelf, pinniped, time-lapse camera system, *Zalophus californianus*

**BRIEF ABSTRACT:** Oil and gas production platforms in federal waters offshore southern California provide haulout space near foraging areas for California sea lions (*Zalophus californianus*), a species protected under the Marine Mammal Protection Act. This study was conducted to quantify sea lion use of platforms and assess their age, sex, and seasonal-use patterns over a two-year period. A total of 464,174 photographs were obtained from all sampled platforms during this study. Although some human activities may be disruptive to resting pinnipeds, the presence of a structure on which they can rest in areas where they feed or forage is likely to be more beneficial than disruptive and to provide a net benefit.

**BACKGROUND:** There are 23 oil and gas production platforms in federal waters offshore southern California. These platforms provide haulout space near foraging areas for California sea lions (*Zalophus californianus*), a species protected under the Marine Mammal Protection

Act. Information on abundance, age, sex, and seasonal-use patterns of California sea lions on oil and gas platforms is useful for the environmental review of ongoing activities and the eventual removal of platforms when oil and gas production ceases (i.e., decommissioning). Quantitative estimates of potential harassment, injury, or mortality for future activities may be derived from data collected during this study.

**OBJECTIVES:** Characterize California sea lion use of offshore oil and gas platforms in southern California. Quantify sea lion use of platforms and assess their age, sex, and seasonal-use patterns over a two-year period.

**METHODS:** Five of the 23 federal platforms offshore California were selected as focal study sites based on their geographical location and relative accessibility by sea lions. Time-lapse camera systems were deployed on these platforms from January 2013 to January 2015. Photos were taken every 30 minutes during day and night. A subsample of images was randomly selected from six-hour blocks of time throughout the day and during randomly selected days throughout each month. Individual sea lions were counted and identified to a particular age/sex class, when possible. Counts of animals by month and hour were conducted to examine intra-platform (temporal) and inter-platform (spatial) comparisons.

**RESULTS:** A total of 464,174 photographs were obtained from all sampled platforms during this study. A subsample of these photographs ( $n_{\text{total}} = 12,489$ , Platform Elly = 1,981, Platform Gina = 1,960, Platform Habitat = 4,742, Platform Heritage = 2,551, Platform Harvest = 1,255) was used in data analyses. There were no consistent spatial trends (e.g., south to north) in numbers of sea lions using the platforms. Platform Habitat (central) had the highest counts of sea lions; whereas Platform Gina (south) had the lowest. There were no consistent seasonal trends in numbers across all platforms.

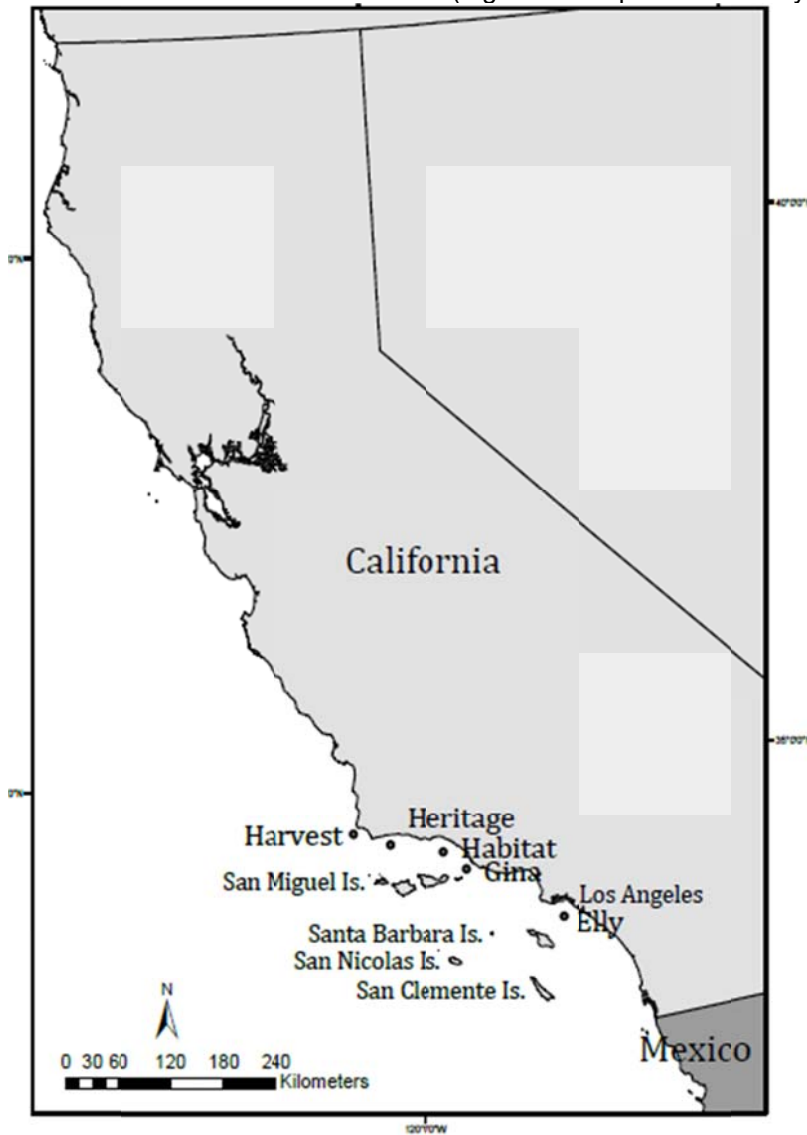
**CONCLUSIONS:** Offshore oil and gas platforms provide benefits to pinnipeds (especially California sea lions). Although some human activities may be disruptive to resting pinnipeds, the presence of a structure on which they can rest in areas where they feed or forage is likely to be more beneficial than disruptive and to provide a net benefit. The temporal and spatial variability in number of California sea lions using the platforms was pronounced for some platforms and minimal at others. Sea lions were observed on the platforms year-round and during all hours of the day. Most of the identified animals were juveniles. Proportionally relatively few of the animals were identified to a particular age/sex class in comparison to all counted individuals. Therefore, caution should be taken when using or interpreting findings.

#### **STUDY PRODUCT(S):**

1. BOEM study report: Orr, A.J., J.D. Harris, K.A. Hirschberger, J.L. Laake, R.L. DeLong, and G.S. Sanders. 2016. Characterizing and quantifying California sea lion (*Zalophus californianus*) use of offshore oil and gas platforms in California. US Department of the Interior, BOEM, Pacific OCS Region, Camarillo, CA. OCS Study BOEM 2016-009. 36 p.
2. Complete photograph image library: (464,174 images) for future analyses. Copies of the digital libraries are archived in the BOEM Pacific Regional Office and NOAA's Alaskan Fisheries Science Center.

\* The affiliation of the Principle Investigator(s) may be different than that listed for Project Manager(s).

**MAP SHOWING AREA OF STUDY** (Figure 2 of report OCS Study BOEM 2016-009):



**Figure 2.** Locations of gas and oil platforms located in the Pacific Outer Continental Shelf Region offshore southern California where time-lapse camera systems were installed to document the use of the platforms by pinnipeds between January 2013 and January 2015. The offshore platforms included (from south to north): Platform Elly (Beta Offshore; San Pedro Bay), Platform Gina (DCOR; Point Hueneme Unit), Platform Habitat (DCOR; Pitas Point Unit), Platform Heritage (Exxon Mobil; Santa Ynez Unit), and Platform Harvest (Plains Exploration and Production Company (PXP)/Freeport McMoran; Point Arguello Unit).

## Appendix B: Sample Table

Table B-1. Sample table in landscape orientation with data in columns aligned on the decimal.

Station	chl c2	Pheo-phorbide	peridinin+isomer	Pyropheo-phorbide	19-but fuxocantoin	fuxocanthin	prasinnoxanthin	19-hex fuxocanthin	zeaxanthin	chl b	chl a	Pheo-phytin
	mg/m <sup>2</sup>	mg/m <sup>2</sup>	mg/m <sup>2</sup>	mg/m <sup>2</sup>	mg/m <sup>2</sup>	mg/m <sup>2</sup>	mg/m <sup>2</sup>	mg/m <sup>2</sup>	mg/m <sup>2</sup>	mg/m <sup>2</sup>	mg/m <sup>2</sup>	mg/m <sup>2</sup>
23	0.16	2.36	0.45	11.77	0.07	3.80	0.13	0.00	0.05	0.23	4.44	0.19
24	0.11	1.30	0.23	1.38	0.01	2.39	0.00	0.00	0.01	0.13	2.37	0.00
25	0.23	14.77	1.27	33.18	0.72	3.53	0.10	0.02	0.05	0.89	5.63	0.00
L250-5	0.03	0.00	0.17	0.38	0.02	1.12	0.02	0.00	0.01	0.01	1.39	0.00
T-3	0.18	3.69	0.69	12.81	0.10	2.04	0.03	0.00	0.00	0.05	2.06	0.19
3A	1.37	3.86	0.68	26.17	0.71	34.79	0.10	0.05	0.51	4.48	68.58	18.91
5A	0.39	1.17	0.14	5.57	0.11	5.44	0.05	0.03	0.03	0.60	9.15	0.34
70-142	0.14	3.45	0.11	4.93	0.12	1.24	0.06	0.01	0.00	0.06	1.88	0.22
70-143	0.35	1.01	0.46	9.23	0.28	3.36	0.09	0.01	0.01	0.19	5.08	0.60
70-145	0.48	1.95	0.43	8.04	0.28	4.44	0.07	0.01	0.01	0.14	5.84	0.28
71-145	0.02	0.00	0.10	1.34	0.03	0.42	0.04	0.00	0.00	0.00	0.63	0.00
71-146	0.07	1.74	0.36	7.02	0.11	0.37	0.10	0.01	0.01	0.17	0.86	0.00
71-147	0.02	0.00	0.15	2.54	0.06	0.46	0.03	0.00	0.00	0.07	0.46	0.00
71-149	0.06	0.00	0.12	2.31	0.06	0.60	0.03	0.00	0.01	0.00	0.77	0.00
71-150	0.75	1.33	0.09	4.11	0.04	4.87	0.01	0.00	0.01	0.27	5.50	0.34
143 W1	0.26	5.66	0.37	14.16	0.38	3.25	0.07	0.03	0.06	0.67	6.35	0.81
143 W2	0.21	0.82	0.38	7.29	0.30	2.60	0.04	0.00	0.00	0.50	3.45	0.43
143 W4	0.15	6.71	0.36	21.33	0.18	0.61	0.06	0.02	0.16	0.53	1.73	1.15
143 W5	0.02	0.00	0.04	1.74	0.03	0.18	0.03	0.00	0.01	0.05	0.43	0.00
149-200	0.03	0.51	0.10	4.37	0.07	0.21	0.06	0.00	0.04	0.05	0.36	0.00
149-350	0.17	0.24	0.24	8.14	0.22	0.66	0.15	0.02	0.20	0.61	2.04	0.00



### **Department of the Interior (DOI)**

The Department of the Interior protects and manages the Nation's natural resources and cultural heritage; provides scientific and other information about those resources; and honors the Nation's trust responsibilities or special commitments to American Indians, Alaska Natives, and affiliated island communities.



### **Bureau of Ocean Energy Management (BOEM)**

The mission of the Bureau of Ocean Energy Management is to manage development of U.S. Outer Continental Shelf energy and mineral resources in an environmentally and economically responsible way.

### **BOEM Environmental Studies Program**

The mission of the Environmental Studies Program is to provide the information needed to predict, assess, and manage impacts from offshore energy and marine mineral exploration, development, and production activities on human, marine, and coastal environments. The proposal, selection, research, review, collaboration, production, and dissemination of each of BOEM's Environmental Studies follows the DOI Code of Scientific and Scholarly Conduct, in support of a culture of scientific and professional integrity, as set out in the DOI Departmental Manual (305 DM 3).