PROPOSED ACTION:	Issuance of an Incidental Harassment Authorization to Point Blue Conservation Science and Partners to Take Marine Mammals by Harassment Incidental to Seabird and Pinniped Research Conducted in Central California.
TYPE OF STATEMENT:	Environmental Assessment
LEAD AGENCY:	U.S. Department of Commerce National Oceanic and Atmospheric Administration National Marine Fisheries Service
RESPONSIBLE OFFICIAL:	Donna S. Wieting, Director Office of Protected Resources, National Marine Fisheries Service
FOR FURTHER INFORMATION:	Jeannine Cody National Marine Fisheries Service Office of Protected Resources Permits and Conservation Division 1315 East West Highway Silver Spring, MD 20910 301-427-8401
LOCATION:	Central California: Southeast Farallon Island, West End Island, Año Nuevo Island, San Francisco Bay, Point Reyes National Seashore, and the Russian River in Sonoma County, CA.
ABSTRACT:	This Environmental Assessment analyzes the environmental impacts of the National Marine Fisheries Service, Office of Protected Resources proposal to issue an Incidental Harassment Authorization to Point Blue Conservation Science, and its partners, for the taking, by Level B harassment, of small numbers of marine mammals, incidental to conducting seabird and pinniped research in central California, annually.
DATE:	January 2014

CONTENTS

List of Abbreviations or Acronyms ..... **iii**

Executive Summary ..... **iv**

Chapter 1 – Introduction and Purpose and Need **1**
1.1 Description of Proposed Action 1
1.1.1 Background on Point Blue's MMPA Application 2
1.1.2 Marine Mammals in the Action Area 2
1.2 Purpose and Need 2
1.2.1 Purpose of Action 3
1.2.2 Need for Action 3
1.3 The Environmental Review Process 4
1.3.1 Laws, Regulations, or Other NEPA Analyses Influencing the EA's Scope 4
1.3.2 Scope of Environmental Analysis 6
1.3.3 NEPA Public Scoping Summary 7
1.3.4 Relevant Comments on our *Federal Register* Notice 8
1.4 Other Permits, Licenses, or Consultation Requirements 8
1.4.1 National Marine Sanctuaries Act 8

Chapter 2 – Alternatives **9**
2.1 Introduction 9
2.2 Description of the Point Blue's Proposed Research Activities 10
2.2.1 Specified Time and Specified Areas 10
2.2.2 Seabird Research on Southeast Farallon Island 10
2.2.3 Field Station Resupply on Southeast Farallon Island 11
2.2.4 Pinniped Research 11
2.2.5 Seabird Research and Field Supply on Año Nuevo Island 11
2.2.6 Seabird Research on Point Reyes National Seashore 11
2.3 Description of Alternatives 11
2.3.1 Alternative 1 – Issuance of an Authorization with Mitigation Measures 11
2.3.2 Alternative 2 – No Action 13
2.3.3 Alternative 3 - Issuance of an Authorization with Additional Mitigation Measures 14

Chapter 3 – Affected Environment **15**
3.1 Physical Environment 15
3.1.1 Marine Mammal Habitat 15
3.2 Biological Environment 16
3.2.1 Marine Mammals 16

Chapter 4 – Environmental Consequences **17**
4.1 Effects of Alternative 1 – Issuance of an Authorization with Mitigation Measures 17
4.1.1 Impacts to Marine Mammal Habitat 17
4.1.2 Impacts to Marine Mammals 18
4.2 Effects of Alternative 2– No Action Alternative 21
4.2.1 Impacts to Marine Mammal Habitat 21
4.2.2 Impacts to Marine Mammals 21
4.3 Effects of Alternative 3 – Issuance of an Authorization with Additional Mitigation Measures 22
4.3.1 Impacts to Marine Mammal Habitat 22
4.3.2 Impacts to Marine Mammals 22
4.4 Compliance with Necessary Laws – Necessary Federal Permits 23
4.5 Unavoidable Adverse Impacts 23
4.6 Cumulative Effects 23
4.6.1 Climate Change 24
4.6.2 Past, Present, and Reasonably Foreseeable Future Activities 24
4.6.3 Gulf of the Farallones National Marine Sanctuary Research Activities 25
4.6.4 U.S. Fish and Wildlife Bird Mitigation Research Trials 26
4.6.5 Point Blue's Future Directed Research on Pinnipeds 26

Chapter 5 – List of Preparers and Agencies Consulted **28**

References **29**

Appendices **31**

Appendix A – Categorical Exclusion Memorandum for SRP 17152-00 31

Appendix B – Marine Mammal Commission Letter 36

Appendix C – Analysis for Take Estimation 38

LIST OF ABBREVIATIONS OR ACRONYMS

Authorization	Incidental Harassment Authorization
CFR	Code of Federal Regulations
Commission	Marine Mammal Commission
dB	decibel
DPS	distinct population segment
EA	Environmental Assessment
ESA	Endangered Species Act of 1973 (16 U.S.C. 1531 *et seq*.)
FONSI	Finding of No Significant Impact
FR	*Federal Register*
ft	feet
IHA	Incidental Harassment Authorization
ITA	Incidental Take Authorization
ITS	Incidental Take Statement
km	kilometer
m	meter
mi	mile
MMPA	Marine Mammal Protection Act of 1972, as amended (16 U.S.C. 1631 *et seq*.)
MOE	Margin of error
µPa	micropascal
NAO	NOAA Administrative Order
NEPA	National Environmental Policy Act of 1969 (42 U.S.C. 4321 *et seq*.)
NMFS	National Marine Fisheries Service
NMSA	National Marine Sanctuaries Act (16 USC 1432 *et seq*.)
NOAA	National Oceanographic and Atmospheric Administration
NPS	National Park Service
Oikonos	Oikonos Ecosystem Knowledge
OMB	Office of Management and Budget
Opinion	Biological Opinion
Permit	Scientific Research Permit
Point Blue	Point Blue Conservation Science
ROD	Record of Decision
Sanctuary	Gulf of the Farallones National Marine Sanctuary
SD	Standard deviation
SE	Standard error
SEA	Supplemental Environmental Assessment
SRP	Scientific Research Permit
USFWS	U.S. Fish and Wildlife Service

EXECUTIVE SUMMARY

The National Marine Fisheries Service (NMFS), Office of Protected Resources, Permits and Conservation Division has prepared this Environmental Assessment (EA) per the National Environmental Policy Act of 1969 (NEPA; 42 U.S.C. 4321 *et seq*.), the Council on Environmental Quality regulations in 40 CFR §§ 1500-1508, and National Oceanographic and Atmospheric Administration (NOAA) Administrative Order (NAO) 216-6 (May 20, 1999).

ES.1 DESCRIPTION OF THE PROPOSED ACTION

We (National Marine Fisheries Service, Office of Protected Resources, Permits and Conservation Division) propose to issue an Incidental Harassment Authorization (Authorization) to Point Blue Conservation Science (Point Blue) and its private and Federal partners[1] (hereafter, we refer to the entire group as Point Blue) under the Marine Mammal Protection Act of 1972, as amended (MMPA; 16 U.S.C. 1631 *et seq*.) for the taking of small numbers of marine mammals, incidental to the conduct of seabird and pinniped research in central California (*i.e*., Southeast Farallon Island, West End Island, Año Nuevo Island, Point Reyes National Seashore, San Francisco Bay, and the Russian River in Sonoma County). We do not have the authority to permit, authorize, or prohibit Point Blue's research activities under Section 101(a)(5)(D) of the MMPA.

Our proposed action is a direct outcome of Point Blue requesting an Authorization to take marine mammals, by harassment, incidental to conducting both seabird and pinniped research within central California year round. Point Blue's research activities, which have the potential to behaviorally disturb marine mammals, warrant an Incidental Take Authorization from us under section 101(a)(5)(D) of the MMPA.

ES.2 SCOPE OF THIS ENVIRONMENTAL ASSESSMENT

This EA titled, *Issuance of an Incidental Harassment Authorization to Point Blue Conservation Science and Partners to Take Marine Mammals by Harassment Incidental to Seabird and Pinniped Research Conducted in Central California,* focuses primarily on the environmental effects of authorizing the incidental take of marine mammals incidental to two activities:

1) Seabird Research: The harassment of California sea lions (*Zalophus californianus*), harbor seals (*Phoca vitulina*), northern elephant seals (*Mirounga anustirostris*), and Steller sea lions (*Eumetopia jubatus*) incidental to seabird monitoring and census surveys on Southeast Farallon Island, West End Island, Año Nuevo Island, and Point Reyes National Seashore.

2) Pinniped Research: The harassment of Steller sea lions incidental to Point Blue's directed research conducted under Scientific Research Permit (Permit) No. 17152 in the Farallon Islands, Point Reyes peninsula, San Francisco Bay, and the Russian River in Sonoma County, CA. NAO 216-6 (May 20, 1999), *Environmental Review Procedures for Implementing the National Environmental Policy Act*, categorically excludes permits issued under § 104(c)(3)(A) of the MMPA from the preparation of an EA. Thus, this document would also serve as an EA for the incidental harassment of Steller sea lions during pinniped research conducted under Permit No. 17152-00 because we would expect the pinniped research to have

[1] Partners include Oikonos Ecosystem Knowledge; Point Reyes National Seashore with the National Park Service; and the Gulf of the Farallones National Marine Sanctuary, within NOAA's National Ocean Service.

environmental impacts beyond the scope of activities analyzed in the 2012 Categorical Exclusion (CE) titled, *Issuance of Scientific Research Permit No. 17152-00 – Categorical Exclusion under the National Environmental Policy Act*.

We have prepared this EA to assist in determining whether the direct, indirect, and cumulative impacts related to our issuance of an Authorization under the MMPA for marine mammals for the Point Blue's seabird and pinniped research is likely to result in significant impacts to the human or natural environment. This EA will inform our decision on issuing the Authorization. While the focus of this EA is on the effects caused by the proposed issuance of an Authorization, in combining this analysis with the analyses in the previously referenced documents, we have considered impacts associated with the underlying action which is the full suite of activities conducted for their proposed seabird and pinniped research. We anticipate that the issuance of an Authorization to take small numbers of marine mammals incidental to Point Blue's activities would affect marine mammals and their habitat.

Our NEPA analysis further evaluates effects to marine mammals and their habitat due to the specific scope of the decision for which we are responsible (*i.e.*, whether or not to issue the Incidental Harassment Authorization which includes prescribed means of incidental take, mitigation measures, and monitoring requirements). Our review of public comments submitted in response to our notice for the proposed Authorization in the *Federal Register* (78 FR 66686, November 5, 2013) (NMFS, 2013b) did not reveal additional environmental impacts or issues requiring analysis in this EA.

ES.4 PRIOR ENVIRONMENTAL ANALYSES

To evaluate the potential effects of Point Blue's seabird and pinniped research activities, Point Blue has prepared environmental analyses (Point Blue, 2012) for their application for bona fide directed research on pinnipeds per §104(c)(3)(A) of the MMPA. In addition, Point Blue's application (Point Blue, 2013) for an Incidental Harassment Authorization per §101(a)(5)(A) of the MMPA also presents environmental information relevant to our consideration of the potential effects of their seabird research activities. We do not duplicate their analyses; rather we use their analyses to inform our EA.

Per the Title 40 of the Code of Federal Regulations (CFR) §1502.21 and NAO 216-6 § 5.09(d), we also incorporate the following NEPA analyses by reference throughout this document as noted:

- *Issuance of Scientific Research Permit No. 17152-00 – Categorical Exclusion under the National Environmental Policy Act* (Appendix A);
- *Environmental Assessment on the Issuance of an Incidental Harassment Authorization to PRBO Conservation Science to Take Marine Mammals by Harassment Incidental to Conducting Seabird Research in Central California* (NMFS, 2007b);
- *Supplemental Environmental Assessment for the Issuance of an Incidental Harassment Authorization to Take Marine Mammals by Harassment Incidental to Conducting Seabird and Pinniped Research in Central California and Environmental Assessment for the Continuation of Scientific Research on Pinnipeds in California Under Scientific Research Permit 373-1868-00* (NMFS, 2008);
- *Environmental Assessment on the Issuance of an Incidental Harassment Authorization to the U.S. Fish and Wildlife Service to Take Marine Mammals by Harassment Incidental to a Bird Mitigation Research Trial in the Farallon National Wildlife Refuge* (NMFS, 2012a); and

- *Environmental Assessment on the Issuance of Incidental Harassment Authorizations to the Gulf of the Farallones National Marine Sanctuary and University of California Santa Cruz to Take Marine Mammals by Harassment Incidental to Rocky Intertidal Monitoring along the U.S. Pacific Coast*, (NMFS, 2012b).

Public Scoping: After reviewing Point Blue's 2013 application for completeness and requirements under the MMPA, we published a notice of the proposed Authorization in the *Federal Register* for a 30-day public review and comment period. The notice provided a detailed description of the proposed seabird and pinniped research and environmental information and issues related to those activities. We incorporate that *Federal Register* notice by reference.

We received one comment on the proposed Authorization from the Marine Mammal Commission (Commission), which concurred with our preliminary determinations and recommended that we issue the Authorization (Appendix B). We received no other substantive comments from the public and received no requests to view the 2007 EA titled, *Environmental Assessment on the Issuance of an Incidental Harassment Authorization to PRBO Conservation Science to Take Marine Mammals by Harassment Incidental to Conducting Seabird Research in Central California* or the 2008 SEA titled, *Supplemental Environmental Assessment for the Issuance of an Incidental Harassment Authorization to Take Marine Mammals by Harassment Incidental to Conducting Seabird and Pinniped Research in Central California and Environmental Assessment for the Continuation of Scientific Research on Pinnipeds in California Under Scientific Research Permit 373-1868-00*.

ES.5 ALTERNATIVES

Alternative 1: Preferred Alternative

Our proposed action represents the authorization of take incidental to Point Blue's seabird and pinniped research, along with required monitoring and mitigation measures for marine mammals that would minimize potential adverse environmental impacts. The Authorization includes prescribed means of incidental take, mitigation and monitoring measures, and reporting requirements.

Alternative 2: No Action

For the No Action Alternative, we would not issue an Authorization to Point Blue for the taking, by Level B harassment, of small numbers of marine mammals, incidental to the seabird and pinniped research in central California.

- The No Action Alternative includes the full suite of activities conducted by Point Blue for their activities. Because we do not have the authority to permit, authorize, or prohibit the seabird and pinniped research under Section 101(a)(5)(D) of the MMPA, Point Blue may decide to: (1) continue with their activities with the inclusion of mitigation and monitoring measures sufficient to preclude any incidental take of marine mammals; (2) continue their research activities and be in violation of the MMPA if take of marine mammals occurs; or (3) choose not to conduct their research activities.
- For purposes of this EA, we characterize the No Action Alternative as Point Blue's seabird and pinniped research without the protective measures and reporting requirements required by an Authorization under the MMPA. We take this approach to meaningfully evaluate the primary environmental issues—the impact on marine mammals from seabird and pinniped research activities in the absence of protective measures.

Alternative 3: Preferred Alternative with Additional Mitigation measures

This alternative includes all elements of the Preferred Alternative (Alternative 1) and considers one additional mitigation measure —reducing the number of seabird and pinniped research activities to lower the level of incidental harassment of marine mammals.

ES.6 ENVIRONMENTAL IMPACTS OF THE PROPOSED ACTION

Point Blue's proposed research activities would involve activities associated with seabird and pinniped research that has the potential to cause behavioral disturbance of marine mammals.

- Point Blue conducts seabird research on Southeast Farallon Island, West End Island, Año Nuevo Island, and Point Reyes National Seashore. They also conduct directed research on pinnipeds in the Farallon Islands, Point Reyes peninsula, San Francisco Bay, and Sonoma County near the Russian River. The presence of researchers traversing the project areas has the potential to disturb hauled-out pinnipeds. We expect the impacts of conducting these activities research to be temporary in nature and would not result in significant impacts to marine mammals or to their role in the ecosystem.
- The Preferred Alternative includes a suite of mitigation measures intended to minimize potential adverse effects to marine mammals and their habitat. We acknowledge that the incidental take authorized could result in insignificant, unavoidable adverse impacts. However, we believe that the issuance of an Authorization would not have any adverse cumulative effects on marine mammal species or their habitats. We expect that any direct or indirect effects would be temporary and Point Blue's overall project enhances the survival and recovery of seabird and pinniped species.

The analysis in this EA, including the documents we incorporate by reference, serve as the basis for determining whether our issuance of an Authorization to Point Blue for the taking, by Level B harassment, of small numbers of marine mammals, incidental to conducting seabird and pinniped research activities throughout central California would result in significant impacts to the human environment.

CHAPTER 1 – INTRODUCTION AND PURPOSE AND NEED

1.1 DESCRIPTION OF PROPOSED ACTION

The MMPA prohibits the incidental taking of marine mammals. The incidental take of a marine mammal falls under four categories: mortality, serious injury, injury, or harassment. The MMPA defines harassment as any act of pursuit, torment, or annoyance which: (1) has the potential to injure a marine mammal or marine mammal stock in the wild (Level A harassment); or (2) has the potential to disturb a marine mammal or marine mammal stock in the wild by causing disruption of behavioral patterns, including, but not limited to, migration, breathing, nursing, breeding, feeding, or sheltering (Level B harassment). There are exceptions to the MMPA's prohibition on take such as the authority at issue here for us to authorize the incidental taking of small numbers of marine mammals by harassment upon the request of a U.S. citizen provided we follow certain statutory and regulatory procedures and make determinations. We describe this exception set forth in the MMPA at Section 101(a)(5)(D) in more detail in Section 1.2.

We propose to issue an Authorization to Point Blue and its private and Federal partners[2] (hereafter, we refer to the entire group as Point Blue) under the MMPA for the incidental taking of small numbers of marine mammals, incidental to the conduct of seabird and pinniped research in central California (*i.e.*, Southeast Farallon Island, West End Island, Año Nuevo Island, Point Reyes National Seashore, San Francisco Bay, and Russian River in Sonoma County). We do not have the authority to permit, authorize, or prohibit Point Blue's seabird or pinniped research activities under Section 101(a)(5)(D) of the MMPA.

Our proposed action is a direct outcome of Point Blue requesting an authorization to take marine mammals, by harassment, incidental to conducting both seabird and pinniped research within central California because these activities have the potential to behaviorally disturb marine mammals by exposing them to noise originating from their motorboat operations and human presence related to their research activities. We anticipate that the acoustic and visual stimuli associated with these activities would result in take otherwise prohibited by the MMPA. Point Blue therefore requires an Authorization for incidental take and has requested that we provide it through the issuance of an Incidental Harassment Authorization under section 101(a)(5)(D) of the MMPA.

Our issuance of an Authorization to Point Blue is a major federal action under the NEPA, the CEQ regulations in 40 CFR §§ 1500-1508, and NAO 216-6. Thus, we are required to analyze the effects on the human environment and determine whether they are significant such that preparation of an EIS is necessary.

This EA titled, *Issuance of an Incidental Harassment Authorization to Point Blue Conservation Science and Partners to Take Marine Mammals by Harassment Incidental to Seabird and Pinniped Research Conducted in Central California*, addresses the potential environmental impacts of three choices available to us under section 101(a)(5)(D) of the MMPA, namely:

- Issue the Authorization to the Point Blue for Level B harassment take of marine mammals under the MMPA during their seabird and pinniped research activities, taking into account the prescribed means of take, mitigation measures, and monitoring requirements required in the Authorization;

[2] Partners include Oikonos Ecosystem Knowledge; Point Reyes National Seashore with the National Park Service; and the Gulf of the Farallones National Marine Sanctuary, within NOAA's National Ocean Service.

- Not issue an Authorization to Point Blue in which case, for the purposes of NEPA analysis only, we assume that the activities would proceed and cause incidental take without the mitigation and monitoring measures prescribed in the Authorization; or
- Issue the Authorization to Point Blue for Level B harassment take of marine mammals under the MMPA during the activities by incorporating additional required mitigation measures.

1.1.1 Background on Point Blue's MMPA Application

Point Blue proposes to monitor and census seabird colonies; observe seabird nesting habitat; restore nesting burrows; observe breeding elephant and harbor seals; and resupply a field station year round. The purpose of the seabird research is to continue a 30-year monitoring program of the region's seabird populations. Point Blue's long-term pinniped research program monitors pinniped colonies to understand elephant and harbor seal population dynamics and to contribute to the conservation of both species.

Acoustic and visual stimuli generated by: (1) motorboat approaches and departures; (2) noise generated during restoration activities and loading operations while resupplying the field station; and (3) human presence during seabird and pinniped research activities, have the potential to cause marine mammals to flush into the surrounding water or cause a short-term behavioral disturbance for marine mammals in the proposed areas.

1.1.2 Marine Mammals in the Action Area

The proposed research activities could adversely affect the following marine mammals under our jurisdiction:

Pinnipeds

- California sea lions (*Zalophus californianus*)
- Harbor seals (*Phoca vitulina*)
- Northern elephant seals (*Mirounga anustirostris*)
- Steller sea lions (*Eumetopia jubatus*)

1.2 Purpose and Need

The MMPA prohibits "takes" of marine mammals with only a few specific exceptions. The applicable exception in this case is an exemption for incidental take of marine mammals in section 101(a)(5)(D) of the MMPA.

Section 101(a)(5)(D) of the MMPA directs the Secretary of Commerce (Secretary) to authorize, upon request, the incidental, but not intentional, taking of small numbers of marine mammals of a species or population stock, by United States citizens who engage in a specified activity (other than commercial fishing) within a specified geographical region if we make certain findings and provide a notice of a proposed authorization to the public for review. Entities seeking to obtain authorization for the incidental take of marine mammals under our jurisdiction must submit such a request (in the form of an application) to us. Section 101(a)(5)(D) of the MMPA also establishes a 45-day time limit for our review of the application for an Authorization followed by a 30-day public notice and comment period on any proposed authorization for the incidental harassment of small numbers of marine mammals. Within 45 days of the close of the public comment period, we must either issue or deny the Authorization.

We have issued regulations to implement the Incidental Take Authorization provisions of the MMPA (50 CFR Part 216) and have produced Office of Management and Budget (OMB)-approved application instructions (OMB Number 0648-0151) that prescribe the procedures necessary to apply for authorizations. All applicants must comply with the regulations at 50 CFR § 216.104 and submit applications requesting incidental take according to the provisions of the MMPA.

1.2.1 PURPOSE OF ACTION

The primary purpose of our proposed action—the issuance of an Authorization to Point Blue—is to authorize (pursuant to the MMPA) the take of marine mammals incidental to Point Blue's proposed activities. The Authorization, if issued, would exempt Point Blue from the take prohibitions contained in the MMPA.

To authorize the take of small numbers of marine mammals in accordance with Section 101(a)(5)(D) of the MMPA, we must evaluate the best available scientific information to determine whether the take would have a negligible impact on marine mammals or stocks and have an unmitigable impact on the availability of affected marine mammal species for certain subsistence uses. We cannot issue an Authorization if it would result in more than a negligible impact on marine mammal species or stocks or if it would result in an unmitigable impact on subsistence.

The statute also establishes substantive requirements. We must prescribe, where applicable, the permissible methods of taking and other means of effecting the least practicable impact on the species or stocks of marine mammals and their habitat (*i.e.*, mitigation), paying particular attention to rookeries, mating grounds, and other areas of similar significance. If appropriate, we must prescribe means of effecting the least practicable impact on the availability of the species or stocks of marine mammals for subsistence uses. Authorizations must also include requirements or conditions pertaining to the monitoring and reporting of such taking in large part to better understand the effects of such taking on the species. Also, we must publish a notice of a proposed Authorization in the *Federal Register* for public notice and comment.

The purpose of this action is therefore to determine whether the take resulting from Point Blue's research activities would have a negligible impact on affected marine mammal species or stocks and develop mitigation and monitoring measures to reduce the potential impacts.

1.2.2 NEED FOR ACTION

As noted above this section, the MMPA establishes a general moratorium or prohibition on the take of marine mammals, including take by Level B (behavioral) harassment. The MMPA establishes a process discussed in Section 1.2 where individuals engaged in specified activities within a specified geographic area may request an Authorization for the incidental take of small numbers of marine mammals.

On July 17, 2013, Point Blue submitted an application demonstrating both the need and potential eligibility for issuance of an Authorization in connection with the activities described in section 1.1.1. We now have a corresponding duty to determine whether and how we can authorize take by Level B harassment incidental to the activities described in the Point Blue's application. Our responsibilities under section 101(a)(5)(D) of the MMPA and its implementing regulations establish and frame the need for this action.

Any alternatives considered under NEPA must meet the agency's statutory and regulatory requirements. The previously mentioned purpose and need guide us in developing reasonable alternatives for consideration, including alternative means of mitigating potential adverse effects. Thus, we are developing and analyzing alternative means of developing and issuing an Authorization, which may require the applicant to include additional mitigation and monitoring measures in order for us to make our determinations under the MMPA.

1.3 THE ENVIRONMENTAL REVIEW PROCESS

NEPA compliance is necessary for all "major" federal actions with the potential to significantly affect the quality of the human environment. Major federal actions include activities fully or partially funded, regulated, conducted, or approved by a federal agency. Because our issuance of an Authorization would allow for the taking of marine mammals consistent with provisions under the MMPA and incidental to the applicant's activities, we consider this as a major federal action subject to NEPA.

Under the requirements of NAO 216-6 section 6.03(f)(2)(b) for incidental harassment authorizations, we prepared this EA to determine whether the direct, indirect and cumulative impacts related to the issuance of an Authorization for incidental take of marine mammals under the MMPA during the conduct of Point Blue's research activities in central California could be significant. If we deem the potential impacts to be not significant, this analysis, in combination with other analyses incorporated by reference—may support the issuance of a Finding of No Significant Impact (FONSI) for the proposed Authorization.

1.3.1 LAWS, REGULATIONS, OR OTHER NEPA ANALYSES INFLUENCING THE EA'S SCOPE

We have based the scope of the proposed action and nature of the three alternatives (*i.e.*, issue the Authorization including prescribed means of take, mitigation measures, and monitoring requirements; not issue the Authorization; or issue the Authorization with additional mitigation measures) considered in this EA on the relevant requirements in section 101(a)(5)(D) of the MMPA. Thus, the decision making discussed in the next section (1.3.2) bounds the scope of our analysis. We conclude that this analysis—when combined with the analyses in the following documents—fully describes the impacts associated with the seabird and pinniped research with mitigation and monitoring for marine mammals. They include:

- our notice of the proposed Authorization in the *Federal Register* (78 FR 66686, November 5, 2013) (NMFS, 2013b);
- *Issuance of Scientific Research Permit No. 17152-00 – Categorical Exclusion under the National Environmental Policy Act* (Appendix A);
- *Environmental Assessment on the Issuance of an Incidental Harassment Authorization to PRBO Conservation Science to Take Marine Mammals by Harassment Incidental to Conducting Seabird Research in Central California* (NMFS, 2007b);
- *Supplemental Environmental Assessment for the Issuance of an Incidental Harassment Authorization to Take Marine Mammals by Harassment Incidental to Conducting Seabird and Pinniped Research in Central California and Environmental Assessment for the Continuation of Scientific Research on Pinnipeds in California Under Scientific Research Permit 373-1868-00* (NMFS, 2008);

- *Environmental Assessment on the Issuance of an Incidental Harassment Authorization to the U.S. Fish and Wildlife Service to Take Marine Mammals by Harassment Incidental to a Bird Mitigation Research Trial in the Farallon National Wildlife Refuge* (NMFS, 2012a); and
- *Environmental Assessment on the Issuance of Incidental Harassment Authorizations to the Gulf of the Farallones National Marine Sanctuary and University of California Santa Cruz to Take Marine Mammals by Harassment Incidental to Rocky Intertidal Monitoring along the U.S. Pacific Coast*, (NMFS, 2012b).

MMPA APPLICATION AND NOTICE OF THE PROPOSED IHA

The CEQ regulations (40 CFR §1502.25) encourage federal agencies to integrate NEPA's environmental review process with other environmental review laws. We rely substantially on the public process for developing proposed Authorizations under the MMPA and its implementing regulations to develop and evaluate relevant environmental information and provide a meaningful opportunity for public participation as we develop corresponding EAs. We fully consider public comments received in response to our publication of the notice of proposed Authorization during the corresponding NEPA review process.

On November 6, 2013, we published a notice of a proposed Authorization in the *Federal Register* (78 FR 66686) which included the following:

- a detailed description of the proposed action and an assessment of the potential impacts on marine mammals;
- plans for Point Blue's mitigation and monitoring measures to avoid and minimize potential adverse impacts to marine mammals and their habitat; proposed reporting requirements;
- information on our proposal to issue an Authorization to Point Blue to incidentally harass by Level B harassment only, 4 species of marine mammals during their research activities; and
- our consideration of environmental issues and impacts of relevance related to the issuance of an Authorization.

We considered Point Blue's proposed mitigation and monitoring measures that would effect the least practicable impact on marine mammals including: (1) keeping voices hushed and bodies low to the ground while transiting by hauled out pinnipeds; (2) conducting seabird observations in an observation blind; (3) performing boat landings only after any pinnipeds present on a landing beach have entered the water; and (4) crawling slowly when accessing seabird nest boxes if pinnipeds are within view; and (5) coordinating research activities with other entities to reduce potential take. We preliminarily determined— provided that Point Blue implemented the required mitigation and monitoring measures —that the impact of conducting seabird and pinniped research within central California year round would result, at worst, in a modification in behavior and/or low-level physiological effects (Level B harassment) of certain species of marine mammals.

Within our notice, we requested that the public submit comments, information, and suggestions concerning Point Blue's request, the content of our proposed Authorization, and potential environmental effects related to the proposed issuance of the Authorization. This EA titled,

Issuance of an Incidental Harassment Authorization to Point Blue Conservation Science and Partners to Take Marine Mammals by Harassment Incidental to Seabird and Pinniped Research Conducted in Central California, incorporates by reference and relies on Point Blue's application, our notice of a proposed Authorization (78 FR 66686, November 6, 2013), and other environmental analyses (NMFS, 2007a, 2007b, 2008, 2012a, 2012b) to avoid duplication of analysis and unnecessary length.

ANALYSIS ON THE PROPOSED PROJECT AND ISSUANCE OF AN ASSOCIATED AUTHORIZATION

After conducting an independent review of the information and analyses for sufficiency and adequacy, we incorporate by reference the relevant analyses on Point Blue's proposed action as well as a discussion of the affected environment and environmental consequences within the following documents per 40 CFR 1502.21 and NAO 216-6 § 5.09(d):

- *Issuance of Scientific Research Permit No. 17152-00 – Categorical Exclusion under the National Environmental Policy Act* (Appendix A);
- *Environmental Assessment on the Issuance of an Incidental Harassment Authorization to PRBO Conservation Science to Take Marine Mammals by Harassment Incidental to Conducting Seabird Research in Central California* (NMFS, 2007b); and
- *Supplemental Environmental Assessment for the Issuance of an Incidental Harassment Authorization to Take Marine Mammals by Harassment Incidental to Conducting Seabird and Pinniped Research in Central California and Environmental Assessment for the Continuation of Scientific Research on Pinnipeds in California Under Scientific Research Permit 373-1868-00* (NMFS, 2008).

In summary, those analyses concluded that with incorporation of monitoring and mitigation measures proposed by Point Blue, the authorized taking of marine mammals results in minor, short-term (recoverable) adverse effects on individual marine mammals targeted by seabird and pinniped research activities. The issuance previous Authorizations and Permit No. 17152 would not affect other aspects of the human environment because the action of issuing the Authorization and/or Permit only affected marine mammals. Next, the Authorization and Permit would not result in individually insignificant, but cumulatively significant impacts, or in cumulative adverse effects that could have a substantial effect on the target species or non-target species. The frequency and duration of the harassment from seabird and pinniped research should allow adequate time for the marine mammals to recover from potentially adverse effects. Finally, the analyses concluded that the Agency did not expect that additive or cumulative effects of the seabird or pinniped research on its own or in combination with other permitted research would occur. Finally, the three environmental analyses did not identify any significant environmental issues or impacts.

1.3.2 SCOPE OF ENVIRONMENTAL ANALYSIS

Given the limited scope of the decision for which we are responsible (*i.e.*, issue the Authorization including prescribed means of take, mitigation measures, and monitoring requirements; not issue the Authorization; or issue the Authorization with additional mitigation measures) this EA intends to provide more focused information on the primary issues and impacts of environmental concern related specifically to our issuance of the Authorization.

This EA does not further evaluate effects to the elements of the human environment listed in Table 1 because previous environmental reviews, incorporated by reference (NMFS, 2007a, 2007b, 2008), have shown that our limited action of issuing an Authorization to Point Blue or Point Blue's proposed action would not significantly affect those components of the human environment.

Table 1. Components of the human environment not affected by our issuance of an Authorization.

Biological	Physical	Socioeconomic / Cultural
Amphibians	Air Quality	Commercial Fishing
Humans	Essential Fish Habitat	Military Activities
Non-Indigenous Species	Geography	Oil and Gas Activities
Seabirds	Land Use	Recreational Fishing
	Oceanography	Shipping and Boating
	State Marine Protected Areas	National Historic Preservation Sites
	Federal Marine Protected Areas	National Trails and Nationwide Inventory of Rivers
	National Estuarine Research Reserves	Low Income Populations
	National Marine Sanctuaries	Minority Populations
	Park Land	Indigenous Cultural Resources
	Prime Farmlands	Public Health and Safety
	Wetlands	Historic and Cultural Resources
	Wild and Scenic Rivers	
	Ecologically Critical Areas	

1.3.3 NEPA Public Scoping Summary

NAO 216-6 established agency procedures for complying with NEPA and the implementing NEPA regulations issued by the CEQ. Consistent with the intent of NEPA and the clear direction in NAO 216-6 to involve the public in NEPA decision-making, we requested comments on the potential environmental impacts described in the Point Blue's MMPA application and in the *Federal Register* notice of the proposed Authorization. The CEQ regulations further encourage agencies to integrate the NEPA review process with review under the environmental statutes. Consistent with agency practice we integrated our NEPA review and preparation of this EA with the public process required by the MMPA for the proposed issuance of an Authorization.

The *Federal Register* notice of the proposed Authorization, combined with our preliminary determinations, supporting analyses, and corresponding public comment period are instrumental in providing the public with information on relevant environmental issues and offering the public a meaningful opportunity to provide comments to us for consideration in both the MMPA and NEPA decision-making processes.

The *Federal Register* notice of the proposed Authorization summarized our purpose and need; included a statement that we would prepare an EA for the proposed action; and invited interested parties to submit written comments concerning the application and our preliminary analyses and findings including those relevant to consideration in the EA. The notice of the proposed

Authorization was available for public review and comment from November 6 through December 5, 2013.

This process served the public participation function for this EA in terms of scoping for the action and providing the public a meaningful opportunity to participate in the environmental decision-making process. In addition, we posted Point Blue's application on our website concurrently with the release of the *Federal Register* notice of the proposed Authorization. We base this EA on the information included in our *Federal Register* notice, the documents it references, and the public comments provided in response. At the conclusion this process, we will post the final EA, and, if appropriate, FONSI, on the same website.

1.3.4 RELEVANT COMMENTS ON OUR *FEDERAL REGISTER* NOTICE

During the 30-day public comment period on the notice of the proposed Authorization, we received only one comment from the Commission which provides comments on proposed Incidental Take Authorizations as part of their established role under the MMPA (§ 202 (a)(2), "*humane means of taking marine mammals"*). The Commission concurred with our preliminary findings and recommended that we issue the Authorization to Point Blue, subject to inclusion of the proposed mitigation and monitoring (see Appendix B).

We have considered the comments regarding monitoring and mitigation measures within the context of the MMPA requirement to effect the least practicable impact to marine mammals and their habitat. Consequently, we have determined, based on the best available data that the mitigation measures proposed by Point Blue are the most feasible and effective monitoring and mitigation measures to achieve the MMPA requirement of effecting the least practicable impact on each marine mammal species or stock.

We will provide our response to the Commission in the *Federal Register* notice announcing the issuance of the Authorization. We fully considered the Commission's comments, particularly those related to mitigation, monitoring, and adaptive management measures in preparing the final Authorization and this EA. None of their comments require us to substantively change this EA.

1.4 OTHER PERMITS, LICENSES, OR CONSULTATION REQUIREMENTS

This section summarizes federal, state, and local permits, licenses, approvals, and consultation requirements necessary to implement the proposed action.

1.4.1 NATIONAL MARINE SANCTUARIES ACT

Section 304(d) of the National Marine Sanctuaries Act (NMSA; 16 USC 1431 *et seq*.) requires interagency consultation between the Office of National Marine Sanctuaries and federal agencies taking actions, including authorization of private activities that would "likely destroy, cause the loss of, or injure a sanctuary resource." When applying the injury determination standard for sanctuary consultation, an adverse effect to any individual animal is sufficient for the purposes of triggering a consultation.

CHAPTER 2 – ALTERNATIVES

2.1 INTRODUCTION

The NEPA and the implementing CEQ regulations (40 CFR §§ 1500-1508) require consideration of alternatives to proposed major federal actions and NAO 216-6 provides agency policy and guidance on the consideration of alternatives to our proposed action. An EA must consider all reasonable alternatives, including Alternative 1 (Preferred Alternative). It must also consider the No Action Alternative, even if it that alternative does not meet the stated purpose and need. This provides a baseline analysis against which we can compare the other alternatives.

To warrant detailed evaluation as a reasonable alternative, an alternative must meet our purpose and need. In this case, as we previously explained, an alternative will only meet the purpose and need if it satisfies the requirements under section 101(a)(5)(D) the MMPA (see Chapter 1)—which serves as the only screening criteria. We evaluated each potential alternative against these criteria; identified two action alternatives along with the No Action Alternative; and carried these forward for evaluation in this EA.

Alternatives 1 and 3 include a suite of mitigation measures intended to minimize potentially adverse interactions with marine mammals. This chapter describes both alternatives and compares them in terms of their environmental impacts and their achievement of objectives.

As described in Section 1.2.1, we must prescribe the means of effecting the least practicable adverse impact on the species or stocks of marine mammals and their habitat. In order to do so, we must consider Point Blue's proposed mitigation measures, as well as other potential measures, and assess the how such measures could benefit the affected species or stocks and their habitat. Our evaluation of potential measures includes consideration of the following factors in relation to one another: (1) the manner in which, and the degree to which, we expect the successful implementation of the measure to minimize adverse impacts to marine mammals; (2) the proven or likely efficacy of the specific measure to minimize adverse impacts as planned; and (3) the practicability of the measure for applicant implementation.

Any additional mitigation measure proposed by us beyond what the applicant proposes should be able to or have a reasonable likelihood of accomplishing or contributing to the accomplishment of one or more of the following goals:

- Avoidance or minimization of marine mammal injury, serious injury, or death wherever possible;
- A reduction in the numbers of marine mammals taken (total number or number at biologically important time or location);
- A reduction in the number of times the activity takes individual marine mammals (total number or number at biologically important time or location);
- A reduction in the intensity of the anticipated takes (either total number or number at biologically important time or location);
- Avoidance or minimization of adverse effects to marine mammal habitat, paying special attention to the food base; activities that block or limit passage to or from biologically important areas; permanent destruction of habitat; or temporary destruction/disturbance of habitat during a biologically important time; and

- For monitoring directly related to mitigation, an increase in the probability of detecting marine mammals, thus allowing for more effective implementation of the mitigation.

2.2 Description of the Point Blue's Proposed Research Activities

We presented a general overview of Point Blue's seabird and pinniped research activities in the notice of the proposed Authorization. We incorporate those descriptions by reference in this EA and briefly summarize them here.

2.2.1 Specified Time and Specified Areas

Point Blue's research activities would occur year round. We plan to issue the first Authorization that would be effective from January 2014 to January 2015. If Point Blue requests subsequent Authorizations for the same activities analyzed in this EA, we may issue an Authorization for the same activities effective for an additional year.

South Farallones Islands: The South Farallon Islands consist of Southeast Farallon Island located at 37°41'54.32" N; 123° 0'8.33" W and West End Island. These two islands are directly adjacent to each other and separated by only a 30-foot (ft) (9.1 meter (m)) channel. The South Farallon Islands have a land area of approximately 120 acres (0.49 square kilometers (km)) and are part of the Farallon National Wildlife Refuge. The islands are located near the edge of the continental shelf 28 miles (mi) (45.1 km) west of San Francisco, CA, and lie within the waters of the Gulf of the Farallones National Marine Sanctuary.

Año Nuevo Island: Año Nuevo Island located at 37° 6'29.25" N; 122°20'12.20" W is one-quarter mile (402 m) offshore of Año Nuevo Point in San Mateo County, CA. The Island lies within the Monterey Bay National Marine Sanctuary and the Año Nuevo State Marine Conservation Area.

Po**int Reyes National Seashore**: Point Reyes National Seashore is approximately 40 miles (64.3 km) north of San Francisco Bay and also lies within the Gulf of the Farallones National Marine Sanctuary. The proposed research areas (Life Boat Station, Drakes Beach, and Point Bonita) are within the headland coastal areas of the National Seashore.

San Francisco Bay: The main part of San Francisco Bay measures approximately 3 to 12 miles (5 to 20 km) wide east-to-west and between 48 miles (77 km) and 60 miles (97 km) north-to-south.

Russian River: The Russian River coastline stretches for approximately 55 miles just south of San Francisco. Starting at Lake Mendocino, the Russian River flows south through valleys in Mendocino and Sonoma County, and empties into the Pacific Ocean at Jenner, California.

2.2.2 Seabird Research on Southeast Farallon Island

Point Blue proposes to conduct year round: (1) daily observations of seabird colonies at a maximum frequency of three 15-minute visits per day; and (2) conduct daily observations of breeding common murres (*Uria aalge*) at a maximum frequency of one, 5-hour visit per day. These activities usually involve one or two observers conducting daily censuses of seabirds or conducting mark/recapture studies of breeding seabirds on the island. The researchers plan to access the island's two landing areas, the North Landing and the East Landing, by 14 to 18 ft (4.3 to 5.5 m) open motorboats which they hoist onto the island using a derrick system. Once on the island, the researchers travel by foot to the island's coastal areas to view breeding seabirds from behind an observation blind. Most potential for incidental harassment would occur when

the researchers approach or depart the intertidal area by motorboat or when the researchers walk within 50 ft (15.2 m) of the haul out areas to enter the observation blinds to observe shorebirds.

2.2.3 Field Station Resupply on Southeast Farallon Island

Point Blue proposes to resupply the field station once every two weeks at a maximum frequency of 26 visits annually. Resupply activities involve personnel approaching either the North Landing or East Landing by motorboat. At East Landing–the primary landing site–all personnel assisting with the landing would stay on the loading platform approximately 30 ft (9.1 m) above the water. At North Landing, loading operations would occur at the water level in the intertidal areas. Most potential for incidental harassment would occur when the researchers approach the area by motorboat or when the researchers load or unload supplies onshore.

2.2.4 Pinniped Research

Point Blue proposes to survey breeding northern elephant seals on Southeast Farallon and Año Nuevo Islands, the coastline of Point Reyes Peninsula, San Francisco Bay, and the Russian River, early December and late February, annually. At least three researchers would visit the sites at a maximum frequency of five times per year. The researchers would travel by foot approximately 1,500 ft (457.2 m) above each site to conduct the survey. Most potential for incidental harassment could occur when the researchers transit above the haul out sites.

2.2.5 Seabird Research and Field Supply on Año Nuevo Island

Point Blue proposes to monitor seabird burrow nesting habitat quality; conduct habitat restoration, and resupply the field station from April through August at a maximum frequency of 20 visits annually. Occasionally, researchers would also conduct intermittent visits to island throughout the year. These activities involve two to three researchers accessing the north side of the island by a 12 ft (3.7 m) Zodiac boat. Once onshore, the researchers will check subterranean nest boxes and restore any nesting habitat for approximately 15 minutes. Most potential for incidental harassment of Steller sea lions (*if present*) could occur at the landing beach on the north side of the island when the researchers arrive and depart to check the boxes.

2.2.6 Seabird Research on Point Reyes National Seashore

The National Park Service in collaboration with Point Blue monitors seabird breeding and roosting colonies; conducts habitat restoration; removes non-native plants; monitors intertidal areas; maintains coastal dune habitat. Seabird monitoring usually involves one or two observers conducting the survey by small boats (12 to 22 ft; 3.6 to 6.7 m) along the Point Reyes National Seashore shoreline. Researchers would visit the site at a maximum frequency of 20 times per year, with an emphasis on increasing monitoring during the nesting season. Researchers would conduct occasional, intermittent visits during the rest of the year. Most of the potential for incidental harassment would occur at the landing beaches along Point Reyes Headland, boat ramps, or parking lots in the vicinity.

2.3 Description of Alternatives

2.3.1 Alternative 1 – Issuance of an Authorization with Mitigation Measures

The Proposed Action constitutes Alternative 1 and is the Preferred Alternative. Under this alternative, we would issue an Authorization (valid for one year) to Point Blue allowing the incidental take, by Level B harassment, of four species of marine mammals subject to the

mandatory mitigation and monitoring measures and reporting requirements set forth in the final Authorization, if issued.

Our *Federal Register* notice requesting comments on the proposed Authorization analyzed the potential impacts of this Alternative in detail. We incorporate those analyses by reference in this EA and briefly summarize the mitigation and monitoring measures and reporting requirements that we would incorporate in the final Authorization, if issued, in the following sections.

MITIGATION AND MONITORING MEASURES

To reduce the potential for disturbance from acoustic and visual stimuli associated with the activities, Point Blue and/or its designees have proposed to implement the following monitoring and mitigation measures for marine mammals:

(1) Abide by the conditions of NMFS Scientific Research Permit Number 17152-00.

(2) Postpone beach landings until pinnipeds that may be present on the beach have slowly entered the water.

(3) Select a pathway of approach to research sites that minimizes the number of marine mammals harassed.

(4) Avoid visits to sites used by pinnipeds for pupping.

(5) Monitor for offshore predators and do not approach hauled out pinnipeds if great white sharks (*Carcharodon carcharias*) or killer whales (*Orcinas orca*) are in the area. If Point Blue and/or its designees see predators in the area, they must not disturb the animals until the area is free of predators.

(6) Keep voices hushed and bodies low to the ground in the visual presence of pinnipeds.

(7) Conduct seabird observations at North Landing on Southeast Farallon Island in an observation blind, shielded from the view of hauled out pinnipeds.

(8) Crawl slowly to access seabird nest boxes on Año Nuevo Island if pinnipeds are within view.

(9) Coordinate research visits to intertidal areas of Southeast Farallon Island (to reduce potential take) and coordinate research goals for Año Nuevo Island to minimize the number of trips to the island.

(10) Coordinate monitoring schedules on Año Nuevo Island, so that areas near any pinnipeds would be accessed only once per visit.

(11) Have the lead biologist serve as an observer to evaluate incidental take.

Point Blue proposes to sponsor marine mammal monitoring during the present project, in order to implement the mitigation measures that require real-time monitoring, and to satisfy the monitoring requirements of the incidental harassment authorization. The researchers will monitor the area for pinnipeds during all research activities. Monitoring activities will consist of conducting and recording observations on pinnipeds within the vicinity of the proposed research areas. The monitoring notes would provide dates, location, species, the researcher's activity, behavioral state, numbers of animals that were alert or moved greater than one meter, and numbers of pinnipeds that flushed into the water.

This Alternative includes mandatory requirements for Point Blue to achieve the MMPA requirement of effecting the least practicable impact on each species or stock of marine mammal and their habitat, paying particular attention to rookeries, mating grounds, and other areas of similar significance.

REPORTING MEASURES

Point Blue will submit a final monitoring report to us no later than 90 days after the expiration of the Incidental Harassment Authorization, if we issue it. The final report will describe the operations conducted and sightings of marine mammals near the proposed project. The final report will provide:

(1) a summary and table of the dates, times, and weather during all seabird and pinniped research activities;

(2) species, number, location, and behavior of any marine mammals observed throughout all monitoring activities; and

(3) an estimate of the number (by species) of marine mammals that are known to have been exposed to acoustic or visual stimuli associated with the seabird and pinniped research activities.

In the unanticipated event that the specified activity clearly causes the take of a marine mammal in a manner prohibited by the Authorization (if issued), such as an injury (Level A harassment), serious injury, or mortality (e.g., vessel-strike, stampede, etc.), Point Blue and/or its designees shall immediately cease the specified activities and immediately report the incident to the Chief of the Permits and Conservation Division, Office of Protected Resources. Point Blue and/or its designees may not resume activities until we are able to review the circumstances of the prohibited take.

We preliminarily determined that the measures included in the proposed Authorization were sufficient to reduce the effects of Point Blue's activity on marine mammals to the level of least practicable adverse impact. In addition, we preliminarily determined that the taking of small numbers of marine mammals, incidental to Point Blue's action would constitute no more than a negligible impact on the relevant species or stocks.

We have neither altered the mitigation, monitoring and reporting requirements to be included in the final Authorization and we have not received any information that would cause us to change our preliminary determinations under the MMPA. Accordingly, this Preferred Alternative would satisfy the purpose and need of our proposed action under the MMPA–issuance of an Authorization, along with required mitigation measures and monitoring. This would enable Point Blue to comply with the statutory and regulatory requirements of the MMPA.

2.3.2 ALTERNATIVE 2 – NO ACTION

We are required to evaluate the No Action Alternative per CEQ NEPA regulations. The No Action Alternative serves as a baseline to compare the impacts of the Preferred and other Alternatives.

Under the No Action Alternative, Point Blue could choose not to proceed with their seabird and pinniped research or proceed without an Authorization. If they choose the latter, Point Blue

would not be exempt from the MMPA prohibitions against the take of marine mammals and would be in violation of the MMPA if take of marine mammals occurs.

For purposes of this EA, we characterize the No Action Alternative as Point Blue not receiving an Authorization and Point Blue conducting seabird and pinniped research without the protective measures and reporting requirements required by an Authorization under the MMPA. We take this approach to meaningfully evaluate the primary environmental issues—the impact on marine mammals from seabird and pinniped research activities in the absence of protective measures.

2.3.3 ALTERNATIVE 3 - ISSUANCE OF AN AUTHORIZATION WITH ADDITIONAL MITIGATION MEASURES

We also considered an alternative whereby we issue the Authorization as described in Alternative 1, but with one additional mitigation measure. Based on our analyses and public comments on our preliminary determinations under the MMPA, we considered the addition of the following mitigation measure to Alternative 1:

- reduce the number of seabird and pinniped research activities to lower the level of incidental harassment of marine mammals.

All other aspects of the specified activity and the Authorization's mitigation, monitoring, and reporting requirements would remain the same as in Alternative 1.

CHAPTER 3 – AFFECTED ENVIRONMENT

This chapter describes existing conditions in the research areas. Complete descriptions of the physical, biological, and social environment of the action area are in the following:

- our notice of the proposed Authorization in the *Federal Register* (78 FR 66686, November 5, 2013) (NMFS, 2013b);
- *Issuance of Scientific Research Permit No. 17152-00 – Categorical Exclusion under the National Environmental Policy Act* (Appendix A);
- *Environmental Assessment on the Issuance of an Incidental Harassment Authorization to PRBO Conservation Science to Take Marine Mammals by Harassment Incidental to Conducting Seabird Research in Central California* (NMFS, 2007b);
- *Supplemental Environmental Assessment for the Issuance of an Incidental Harassment Authorization to Take Marine Mammals by Harassment Incidental to Conducting Seabird and Pinniped Research in Central California and Environmental Assessment for the Continuation of Scientific Research on Pinnipeds in California Under Scientific Research Permit 373-1868-00* (NMFS, 2008);
- *Environmental Assessment on the Issuance of an Incidental Harassment Authorization to the U.S. Fish and Wildlife Service to Take Marine Mammals by Harassment Incidental to a Bird Mitigation Research Trial in the Farallon National Wildlife Refuge* (NMFS, 2012a); and
- *Environmental Assessment on the Issuance of Incidental Harassment Authorizations to the Gulf of the Farallones National Marine Sanctuary and University of California Santa Cruz to Take Marine Mammals by Harassment Incidental to Rocky Intertidal Monitoring along the U.S. Pacific Coast*, (NMFS, 2012b).

We incorporate those descriptions by reference and briefly summarize or supplement the relevant sections for marine mammals in the following subchapters.

3.1 PHYSICAL ENVIRONMENT

We are required to consider impacts to the physical environment under NOAA NAO 216-6. As discussed in Chapter 1, our proposed action and alternatives relate only to the authorization of incidental take of marine mammals and not to the physical environment. Certain aspects of the physical environment are not relevant to our proposed action (see subchapter 1.3.2 - Scope of Environmental Analysis). Because of the requirements of NAO 261-6, we briefly summarize the physical components of the environment here.

3.1.1 MARINE MAMMAL HABITAT

We presented information on marine mammal habitat and the potential impacts to marine mammal habitat in the *Federal Register* notice of the proposed Authorization (78 FR 66686, November 6, 2013). In summary, marine mammals haul out on the shorelines or in intertidal areas.

In 1993, NMFS designated critical habitat for Eastern Steller sea lions around Southeast Farallon Island and Año Nuevo Island under the ESA per regulations at 50 CFR Part 226 (58 FR 45269, August 27, 1993) (NMFS, 1993). However, with the delisting of the eastern DPS of Steller sea lions under the ESA, NMFS will undertake a separate rulemaking to consider amending the critical habitat designation as appropriate to reflect the 2013 delisting (NMFS, 2013a). As it

stands, Southeast Farallon Island's critical habitat for the eastern DPS of Steller sea lions extends 3,000 ft (914.4 m) seaward from a basepoint (37° 41.3′N; 123° 0.1′W) approximately 0.2 miles (mi) (321.8 m) offshore from the island. Similarly, Año Nuevo Island's critical habitat extends 3,000 ft (914.4 m) seaward from a basepoint (37° 6.3′N; 122° 20.3′W) approximately 0.56 mi (901.2 m) offshore from the island.

3.2 Biological Environment

3.2.1 Marine Mammals

We provide information on the occurrence of marine mammals most likely present at the proposed research areas in section 1.1.2 of this EA. The marine mammals most likely to be harassed incidental to conducting seabird and pinniped research at the proposed research areas are primarily California sea lions, northern elephant seals, Pacific harbor seals, and to a lesser extent the eastern distinct population segment (DPS) of the Steller sea lion. We provided information on the distribution, population size, and conservation status for each species in the *Federal Register* notice on the proposed Authorization and we incorporate those descriptions by reference here. We briefly summarize this information here.

California sea lions: On the Farallon Islands, California sea lions haul out in many intertidal areas year round, fluctuating from several hundred to several thousand animals. California sea lions at Point Reyes National Seashore haul out at only a few locations, but will occur on human structures such as boat ramps. The annual population averages around 300 to 500 during the fall through spring months, although on occasion, several thousand sea lions can arrive depending upon local prey resources (Lowry, unpubl. data). On Año Nuevo Island, where the average population ranges from 4,000 to 9,500 animals, California sea lions may haul out at one of eight beach areas on the perimeter of the island.

Northern elephant seals: At Southeast Farallon, the northern elephant seal population consists of approximately 500 animals (USFWS, 2013). Northern elephant seals began recolonizing the South Farallon Islands in the early 1970s (Stewart et al., 1994) at which time the colony grew rapidly. In 1983 a record 475 pups were born on the South Farallones (Stewart, et al., 1994). Since then, the size of the South Farallones colony has declined, stabilizing in the early 2000s and then declining further over the past six years (USFWS, 2013). In 2012, a total of 90 cows were counted on the South Farallones, and 60 pups were weaned (USFWS, 2013). Point Blue's average monthly counts from 2000 to 2009 ranged from 20 individuals in July to nearly 500 individuals in November (USFWS, 2013).

At Año Nuevo Island the population ranges from 900 to 1,000 adults. Observers first sighted elephant seals on Año Nuevo Island in 1955 and today the population ranges from 900 to 1,000 adults. Males began to haul out on the mainland in 1965. California State Park reports that by 1988/1989, approximately 2,000 elephant seals came ashore to Año Nuevo (Lowry, unpubl. data; NMFS, 2012b).

Pacific harbor seals: On the Farallon Islands, approximately 40 to 120 Pacific harbor seals haul out in the intertidal areas (Point Blue, 2012). Harbor seals at Point Reyes National Seashore haul out at nine locations with an annual population of up to 4,000 animals (Lowry, unpubl. data). On Año Nuevo Island, harbor seals may haul out at one of eight beach areas on the perimeter of the island and the island's average population ranges from 100 to 150 animals (Lowry, unpubl. data).

Steller sea lions: The current population of Steller sea lions in the proposed research area is approximately 50 and 750 animals. Overall, counts of non-pups in California have been relatively stable since the 1980s (Carretta et al., 2013).

Point Blue estimates that between 50 and 150 Steller sea lions live on the Farallon Islands. On Southeast Farallon Island, the abundance of females declined an average of 3.6 percent per year from 1974 to 1997 (Point Blue, 2013; Sydeman & Allen, 1999). On Año Nuevo Island, NMFS' Southwest Fisheries Science Center estimates that approximately 400 to 600 Steller sea lions live on Año Nuevo Island (Lowry, unpubl. data). However, researchers have observed a steady decline in ground counts started around 1970 with an 85 percent reduction in the breeding population by 1987 (Trillmich et al., 1991). At Point Reyes Headland, researchers observed few Steller sea lions in haul out areas (Point Blue, 2013).

NMFS' 2013 Stock Assessment Report (Carretta, et al., 2013) also provides the latest abundance and life history information about each species/stock in California.

CHAPTER 4 – ENVIRONMENTAL CONSEQUENCES

This chapter of the EA analyzes the impacts of the three alternatives and addresses the potential direct, indirect, and cumulative impacts of our issuance of an Authorization. Point Blue's application, our notice of a proposed Authorization, and other related environmental analyses identified previously, facilitate an analysis of the direct, indirect, and cumulative effects of our proposed issuance of an Authorization.

Under the MMPA, we have evaluated the potential impacts of Point Blue's research activities in order to determine whether to authorize incidental take of marine mammals. Under NEPA, we have determined that an EA is appropriate to evaluate the potential significance of environmental impacts resulting from the issuance of our Authorization.

4.1 EFFECTS OF ALTERNATIVE 1 – ISSUANCE OF AN AUTHORIZATION WITH MITIGATION MEASURES

Alternative 1 is the Preferred Alternative where we would issue a one-year Authorization to Point Blue allowing the incidental take, by Level B harassment, of four species of marine mammals subject to the mandatory mitigation and monitoring measures and reporting requirements set forth in the Authorization, if issued. We would incorporate the mitigation and monitoring measures and reporting described earlier in this EA into a final Authorization.

4.1.1 IMPACTS TO MARINE MAMMAL HABITAT

Our proposed action would have no additive or incremental effect on the physical environment beyond those resulting from the seabird and pinniped research activities. The proposed research areas are located within a marine sanctuary, wildlife refuges, a National Park, and other conservation areas and the research activities would only add limited pedestrian traffic to those areas and would not result in substantial damage to ocean and coastal habitats that might constitute marine mammal habitat. We do not anticipate that the use of small boats or the small level of pedestrian traffic would physically alter the marine environment or negatively impact the physical environment in the research areas.

In 1993, NMFS designated critical habitat for eastern DPS of Steller sea lions for Southeast Farallon Island and Año Nuevo Island. Southeast Farallon Island's critical habitat extends 3,000 ft (914.4 m) seaward from a basepoint (37° 41.3′ N; 123° 0.1′ W) located approximately 0.2

miles (mi) (321.8 m) offshore from the island. Similarly, Año Nuevo Island's critical habitat extends 3,000 ft (914.4 m) seaward from a basepoint (37° 6.3′ N; 122° 20.3′ W) located approximately 0.56 mi (901.2 m) offshore from that island. Because Point Blue's research activities take place on land and do not overlap with offshore designated critical habitat areas, their activities would have no effect on critical habitat (NMFS, 2007a) which remains in place as a transitional matter until NMFS amends the designation for the two islands in a future rulemaking (NMFS, 2013a).

Point Blue plans its research activities to minimize any impacts to the physical environment of the areas by implementing mitigation protocols. The Authorization would not impact physical habitat features, such as substrates and/or water quality.

4.1.2 IMPACTS TO MARINE MAMMALS

We expect that disturbance from acoustic and visual stimuli associated with the seabird and pinniped research have the potential to impact marine mammals. Acoustic and visual stimuli generated by: (1) motorboat approaches and departures; (2) noise generated during restoration activities and loading operations while resupplying the field station; and (3) human presence during seabird and pinniped research activities, have the potential to cause marine mammals to flush into the surrounding water or cause a short-term behavioral disturbance for marine mammals in the action areas.

We expect that these disturbances would result, at worst, in a temporary modification in behavior, temporary changes in animal distribution, and/or low-level physiological effects (Level B harassment) of certain species or stocks of marine mammals. At most, we interpret these effects on marine mammals as falling within the MMPA definition of Level B (behavioral) harassment. We expect these impacts to be minor because we do not anticipate measurable changes to the population or impacts to rookeries, mating grounds, and other areas of similar significance. The duration and extent of the impacts would be short-term (30 minutes or less) and localized.

Under the Preferred Alternative, we would authorize incidental take, by Level B harassment only, of four species of marine mammals. We expect no long-term or substantial adverse effects on marine mammals, their habitats, or their role in the environment. We base our conclusion on the results of previous monitoring reports for the same activities and anecdotal observations for the same activities conducted in the proposed research area.

Point Blue proposed a number of monitoring and mitigation measures for marine mammals as part of our evaluation for the Preferred Alternative. In analyzing the effects of the Preferred Alternative, we conclude that the following monitoring and mitigation measures would minimize and/or avoid impacts to marine mammals:

(1) Abide by the Terms and Conditions of Scientific Research Permit 17152-00.

(2) Postpone beach landings until pinnipeds that may be present on the beach have slowly entered the water.

(3) Select a pathway of approach to research sites that minimizes the number of marine mammals harassed.

(4) Avoid visits to sites used by pinnipeds for pupping.

(5) Monitor for offshore predators and do not approach hauled out pinnipeds if great white sharks (*Carcharodon carcharias*) or killer whales (*Orcinas orca*). If Point Blue and/or its designees see predators in the area, they must not disturb the animals until the area is free of predators.

(6) Keep voices hushed and bodies low to the ground in the visual presence of pinnipeds.

(7) Conduct seabird observations at North Landing on Southeast Farallon Island in an observation blind, shielded from the view of hauled out pinnipeds.

(8) Crawl slowly to access seabird nest boxes on Año Nuevo Island if pinnipeds are within view.

(9) Coordinate research visits to intertidal areas of Southeast Farallon Island (to reduce potential take) and coordinate research goals for Año Nuevo Island to minimize the number of trips to the island.

(10) Coordinate monitoring schedules on Año Nuevo Island, so that areas near any pinnipeds would be accessed only once per visit.

(11) Have the lead biologist serve as an observer to evaluate incidental take.

Injury: Point Blue did not request authorization to take marine mammals by injury (Level A harassment), serious injury, or mortality. Based on the results of our analyses, Point Blue's environmental analyses, previous monitoring reports, and anecdotal observations for the same activities there is no evidence that Point Blue's planned activities could result in injury, serious injury, or mortality within the action area. The required mitigation and monitoring measures would minimize any potential risk for marine mammals.

Vessel Strikes: The potential for striking marine mammals is a concern with vessel traffic. Studies have associated ship speed with the probability of a ship strike resulting in an injury or mortality of an animal. However, it is highly unlikely that the use of small, slow-moving boats to access the research areas would result in injury, serious injury, or mortality to any marine mammal. Typically, the reasons for vessel strikes are fast transit speeds, lack of maneuverability, or not seeing the animal because the boat is so large. Point Blue's researchers will access areas at slow transit speeds in easily maneuverable boats negating any chance of an accidental strike.

Estimated Take of Marine Mammals by Level B Incidental Harassment: Point Blue has requested take by Level B harassment as a result of the acoustic and visual stimuli generated by their proposed research activities. We expect that small boat operations and pedestrian traffic would cause a short-term behavioral disturbance for marine mammals in the proposed areas.

As mentioned previously, we estimate that the research activities could potentially affect, by Level B harassment only, four species of marine mammals under our jurisdiction. For each species, these estimates are small numbers (each, less than or equal to three percent) relative to the population size. These estimates represent approximately 3.4 percent of the U.S. stock of California sea lions, 0.21 percent of the California breeding stock of northern elephant seals, 1.74 percent of the California stock of Pacific harbor seals, and 0.32 percent of the eastern distinct population segment of Steller sea lions. Table 2 outlines the number of Level B harassment takes that we propose to authorize annually, the regional population estimates for marine mammals in the action area that could occur as a result of Point Blue's research activities annually.

Table 2. Estimated marine mammal takes for the proposed authorization.

Species	Estimated Take	2013 SAR Population Estimate	Stock Percentage Potentially Affected
California sea lions	10,092	296,750	3.4%
Northern elephant seals	261	124,000	0.21%
Pacific harbor seals	526	30,196	1.74%
Steller sea lions (EDPS)	185	58,334	0.32%

The authorized take in Table 2 differs from Point Blue's original request for California sea lions (5,104), northern elephant seals (190), and Steller sea lions (20) because we have determined that they underestimated some of their take estimates. We base these new estimates for California sea lions, northern elephant seals, and Steller sea lions on four years (2008 – 2012) of historical data from previous monitoring reports and anecdotal data for the same activities conducted in the proposed research area.

In brief, for each species, we created a statistical model to derive an estimate of the average annual increase of reported take based on a best fit regression analysis (*i.e.*, linear or polynomial regression) of reported take from 2008 to 2012 (See Appendix C and Table 3). The sample size for each model is small (n=4) resulting in R^2 values that range from moderate (0.62) to high (0.97) correlation.

Table 3. Regression analysis of 2008 – 2012 monitoring data.

Species	Predicted Annual Increase of Reported Take	Best Fit Model Type	R^2 Value
California sea lions	1,396	Linear	0.79
Northern elephant seals	27	Linear	0.97
Pacific harbor seals	52	Linear	0.72
Steller sea lions (EDPS)	45	Linear	0.62

Next, we added the predicted annual increase in take to a baseline of take reported for 2012 season to project the estimated take for each species for the 2013 Authorization. We carried through the same predicted annual increase in take for future Authorizations (2014 – 2017) to obtain a mean projected take for each species (See Table 4).

Table 4. Projected take analysis for the 2014 through 2017 research seasons.

Species	2012 Baseline	Estimated Increase	IHA 5 2014	IHA 6 2015	IHA 7 2016	IHA 8 2017
California sea lions	5,096	1,396	6,492	7,888	9,284	10,680
Northern elephant seals	167	27	194	220	247	273
Pacific harbor seals	227	52	279	331	384	436
Steller sea lions (EDPS)	40	45	85	129	174	218

Last, we analyzed the reported take for each activity by calculating the upper bound of the 99 percent confidence interval of the mean reported take (2007 – 2012) and mean projected take (2014 – 2017) for each species (See Table 5). Our use of the upper confidence interval represents the best available information that supports our precautionary deliberation of how much take could occur annually.

Table 5. Statistical analysis of 2008 – 2012 monitoring data.

Species	Mean	SD	SE	MOE (t test)	Lower Bound	Upper Bound
California sea lions	5,800.0	3,469.1	1,226.5	4,292.2	1,508	10,092
Northern elephant seals	177.8	67.7	23.9	83.7	94	261
Pacific harbor seals	234.5	148.1	52.4	183.2	51	418
Steller sea lions (EDPS)	85.3	80.5	28.5	99.6	(14)	185

Despite the fact that we propose to authorize 526 incidental takes for harbor seals —*which is almost two times greater than the upper bound of the projected take shown in Table 5*—we do not anticipate that Point Blue's activities would impact that level of harbor seals. However, we retain this estimate for future authorizations to remain consistent with previously authorized levels of incidental take (72 FR 71121, December 14, 2007; 73 FR 77011, December 18, 2008; 75 FR 8677, February 19, 2010; 77 FR 73989, December 7, 2012) and to allow for interannual variability (*i.e.*, black swan events that are typically random and unexpected despite supporting evidence in historical observations) in harbor seal presence in the action area while Point Blue conducts their activities.

We do not expect the research activities to impact rates of recruitment or survival for any affected species or stock. Further, the activities would not take place in areas of significance for marine mammal feeding, breeding, or calving.

4.2 Effects of Alternative 2– No Action Alternative

Under the No Action Alternative, we would not issue an Authorization to Point Blue. As a result, Point Blue would not receive an exemption from the MMPA prohibitions against the take of marine mammals and would, if they proceeded with their activities, be in violation of the MMPA if take of marine mammals occurs.

The impacts to elements of the human environment resulting from the No Action alternative—conducting research activities in the absence of required protective measures for marine mammals under the MMPA—would be greater than those impacts resulting from Alternative 1, the Preferred Alternative.

4.2.1 Impacts to Marine Mammal Habitat

Under the No Action Alternative, the action would have no additive or incremental effect on the physical environment beyond those resulting from the seabird and pinniped research activities which we evaluated in the referenced documents. This Alternative would result in similar effects on the physical environment as Alternative 1. The only likely difference in impacts to marine mammal habitat under the no action alternative would be increased pedestrian traffic on land since there would be no requirement to minimize the number of trips to any of the research areas.

4.2.2 Impacts to Marine Mammals

Under the No Action Alternative, Point Blue's research activities would likely result in increased amounts of Level B harassment to marine mammals and possibly takes by injury (Level A harassment), serious injury, or mortality—specifically related to visual and acoustic stimuli—due to the absence of mitigation and monitoring measures required under the Authorization.

If the research activities proceeded without the protective measures and reporting requirements required by a final Authorization under the MMPA, the direct, indirect, or cumulative effects on the human or natural environment of not issuing the Authorization would include the following:

- Pinnipeds within the survey area could experience injury (Level A harassment); serious injury; or mortality due to the researchers approaching haul out sites in a fast or disruptive manner. The lack of mitigation measures required in the Authorization could lead to faster boat approaches towards haul out sites which could result in a vessel strike or animals stampeding into the water;
- Pinniped pups could experience injury (Level A harassment), serious injury, or mortality due to stampede-induced crushing because there would be no restrictions on conducting research at pupping sites or restrictions on vessel speed while accessing the sites;
- The likelihood of pinniped predation increases because of the lack of mitigation measures required in the Authorization for monitoring for great white sharks or killer whales and restricting access to haul out sites while predators are offshore;
- Increases in the number of behavioral responses and frequency of changes in animal distribution because of the lack of mitigation measures required in the Authorization. Thus, the incidental take of marine mammals would likely occur at higher levels than we have already identified and evaluated in our *Federal Register* notice on the proposed Authorization; and
- We would not be able to obtain the monitoring and reporting data needed to assess the anticipated impact of the activity upon the species or stock; and increased knowledge of the species as required under the MMPA.

4.3 Effects of Alternative 3 – Issuance of an Authorization with Additional Mitigation Measures

Under Alternative 3, we would we would issue an Authorization to Point Blue as described in Alternative 1, but with one additional mitigation measure— reducing the number of seabird and pinniped research activities to lower the level of incidental harassment of marine mammals. We would not expect any long-term or substantial adverse effects to marine mammals, their habitat, or their role in the environment. We would still expect incidental take of marine mammals by Level B harassment due to acoustic and visual stimuli generated by human presence and vessel operations—albeit at reduced levels.

4.3.1 Impacts to Marine Mammal Habitat

Our action under Alternative 3 would have similar, if not fewer, impacts to marine mammal habitat as Alternative 1. The only likely difference in Alternative 3 would be reductions in the amount of pedestrian traffic on land since there would be an additional requirement to minimize the overall number of research activities. The issuance of an Authorization under Alternative 3 would not impact physical habitat features, such as substrates and/or water quality.

4.3.2 Impacts to Marine Mammals

Our action under Alternative 3 would have similar, if not fewer, impacts to marine mammals as Alternative 1. Requiring Point Blue to minimize the overall number of research activities in

central California would result in fewer cases of incidental harassment of pinnipeds compared to the level of harassment presented in Alternative 1.

We do not quantify the level of reduction within this EA because the applicant has determined that implementing this mitigation measure would prevent them from collecting enough information on seabirds and pinnipeds that contributes to a long-term data set needed for conservation and management of the species. Thus, Alternative 3 fails to meet the meet the purpose and need of the applicant's research requirements. While the additional measure may provide some added protection for marine mammals present in the research areas, we do not expect that this measure would reduce the overall level of effects. Level B harassment of marine mammals would still occur.

4.4 Compliance with Necessary Laws – Necessary Federal Permits

We have determined that the issuance of an Authorization is consistent with the applicable requirements of the MMPA, ESA, NMSA, and our regulations.

NMSA: The Gulf of the Farallones National Marine Sanctuary (Sanctuary) considers Point Blue's seabird and pinniped research as an authorized, land-based research project under the MMPA. Consequently, the Sanctuary's regulations at 15 CFR §922.82(a)(11) exempt Point Blue's research activities from the Act's prohibitions and we are not required to consult under section 304(d) of the NMSA.

4.5 Unavoidable Adverse Impacts

Point Blue's application, our notice of a proposed Authorization, and other environmental analyses identified previously summarize unavoidable adverse impacts to marine mammals or the populations to which they belong or on their habitats occurring in the research area. We incorporate those documents by reference.

We acknowledge that the incidental take authorized would potentially result in unavoidable adverse impacts. However, we do not expect Point Blue's activities to have adverse consequences on the viability of marine mammals in central California and we do not expect the marine mammal populations in that area to experience reductions in reproduction, numbers, or distribution that might appreciably reduce their likelihood of surviving and recovering in the wild. We expect that the numbers of individuals of all species taken by harassment would be small (relative to species or stock abundance), and that the seabird and that the take resulting from the pinniped research activities would have a negligible impact on the affected species or stocks of marine mammals.

The MMPA requirement of ensuring the proposed action has no unmitigable adverse impact to subsistence uses does not apply here because there are no permitted subsistence uses of marine mammals in the region.

4.6 Cumulative Effects

NEPA defines cumulative effects as "the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (federal or non-federal) or person undertakes such other actions" (40 CFR §1508.7). Cumulative impacts can result from individually minor but collectively significant actions that take place over a period of time.

Past, present, and foreseeable impacts to marine mammal populations include the following: commercial whaling; climate change affecting the prey base and habitat quality as a result of global warming; ship strikes; fishing gear entanglement; exposure to biotoxins and the resulting bioburden; acoustic masking from anthropogenic noise; competition with commercial fisheries; and killer whale predation. These activities account for cumulative impacts to regional and worldwide populations of marine mammals, many of whom are a small fraction of their former abundance. However, quantifying the biological costs for marine mammals within an ecological framework is a critical missing link to our assessment of cumulative impacts in the marine environment and assessing cumulative effects on marine mammals (Clark et al., 2009). Despite these regional and global anthropogenic and natural pressures, available trend information indicates that most local populations of marine mammals in the Pacific Ocean are stable or increasing (Carretta, et al., 2013).

The proposed seabird and pinniped research activities would add another, albeit temporary activity to the human environment limited to small, remote, and limited-access areas in central California.

4.6.1 CLIMATE CHANGE

The USFWS' draft EIS on the South Farallon Islands Invasive House Mouse Eradication Project (USFWS, 2013) summarizes the potential cumulative effects of climate change on marine mammals in the research area. We incorporate the DEIS and its climate change analyses by reference and briefly summarize impacts here.

Climate change has the potential to indirectly impact marine mammals in central California in several different ways including: loss of suitable breeding habitat and food resources; a reduction in the foraging or breeding ranges; and a decrease in the overall population size in the region. Climate change would likely alter the ecosystem's food web which could affect marine mammals on the Farallon Islands. Increased temperatures could push populations to a more suitable climate and impact adult survival and breeding (USFWS, 2013).

The primary threat to marine mammals on the Farallon Islands is from loss of habitat and potential changes in food supply due to climate change. Sea level rise due to climate change could flood pinniped haul-out sites negatively impacting breeding success. Moreover, researchers anticipate that there would be long-term impacts to marine mammals resulting from climate change that could alter their composition and distribution on the Farallon Islands (USFWS, 2013).

With the large degree of uncertainty on the impact of climate change to marine mammals in central California, we recognize that warming of this region could affect the prey base and habitat quality for marine mammals. Nonetheless, we expect that ongoing and future seabird and pinniped research activities in central California and the issuance of an Authorization to Point Blue would not result in any noticeable contributions to climate change.

4.6.2 PAST, PRESENT, AND REASONABLY FORESEEABLE FUTURE ACTIVITIES

Point Blue's application, our notice of a proposed Authorization, and other environmental analyses summarize the potential cumulative effects to marine mammals or the populations to which they belong or on their habitats occurring in the research areas. We incorporate those documents and analyses by reference here and briefly summarize them here. Thus, this cumulative effects analysis focuses on the activities that may temporally or geographically overlap with Point Blue's activities and would most likely impact the marine mammals present

in the proposed areas.

Current human activities within the proposed action area are limited due to the numerous marine sanctuaries, refuges, and parks designated within the action area. We consider the impact of Point Blue's presence and effects of conducting research in the research areas to be insignificant when compared to other human activities in the area.

4.6.3 GULF OF THE FARALLONES NATIONAL MARINE SANCTUARY RESEARCH ACTIVITIES

In 2012, NMFS issued an Authorization to the National Ocean Service's Gulf of the Farallones National Marine Sanctuary (Sanctuary) to take marine mammals, by Level B harassment, incidental to conducting rocky intertidal monitoring for black abalone (*Haliotis cracherodii*) in November 2012 and February 2013 within the Sanctuary.

The project, a component of the Sanctuary's Ecosystem Assessment Surveys in the Farallon Islands, consists of sampling, photographic documentation, and shore walks to collect data. In future years, surveys conducted under separate Authorizations may occur 3 times annually: February, August, and November, contingent upon funding. The survey duration lasts approximately 4 to 8 days and three to four biologists would complete sampling within three to four hours.

The Authorization required the Sanctuary to implement several mitigation measures to reduce potential take by Level B (behavioral disturbance) harassment. They include: (1) coordinating sampling efforts with other permitted activities (*i.e.*, Point Blue and the US Fish and Wildlife Service (USFWS); (2) conducting slow movements and staying close to the ground to prevent or minimize stampeding; (3) avoiding loud noises (*i.e.*, using hushed voices); (4) vacating the area as soon as sampling of the site is completed; (5) monitoring the offshore area for predators (such as killer whales and white sharks) and avoid flushing of pinnipeds when predators are observed in nearshore waters; (6) using binoculars to detect pinnipeds before close approach to avoid being seen by animals; and (7) rescheduling work at sites where pups are present, unless other means to accomplishing the work can be done without causing disturbance to mothers and dependent pups.

NMFS completed an EA titled, *Issuance of Incidental Harassment Authorizations to the Gulf of the Farallones National Marine Sanctuary and University of California Santa Cruz to Take Marine Mammals by Harassment Incidental to Rocky Intertidal Monitoring along the U.S. Pacific Coast*, (NMFS, 2012b); determined that no direct, indirect or cumulatively significant impacts to the human environment would occur from implementing the Preferred Alternative; and issued a FONSI.

There are prohibitions for public access, vessel traffic, and aircraft overflights within the Farallon National Wildlife Refuge due to the presence of nesting sea birds, pinnipeds, and other wildlife. However, it is unlikely that the Sanctuary's activities and the proposed action of this EA (*i.e.*, issuance of an Authorization with mitigation measures to Point Blue) would result in additional impacts because the researchers from both parties coordinate their research activities to minimize disturbance to marine mammals in the action areas. Thus, the Sanctuary's future research activities are unlikely to incrementally add higher levels of disturbance that would cumulatively result in significant adverse impacts to marine mammals.

4.6.4 U.S. Fish and Wildlife Bird Mitigation Research Trials

In 2012, NMFS issued an Authorization to the USFWS, allowing the take of small numbers of marine mammals, by Level B harassment only, incidental to a bird mitigation research trial in the Farallon National Wildlife Refuge over a 2-4 week period between November 1, 2012 and January 31, 2013.

The research project consisted of research trials to assess potential bird hazing methods —which include pyrotechnics, air cannons, helicopters, and trained dogs—that could minimize the risk of rodent bait ingestion by non-target species for a future mouse (*Mus musculus*) eradication project. Removal of the invasive mice would protect seabirds, assist in the recovery of native plants and endemic species, and prevent the spread of disease to marine mammals.

The gull hazing methods may incidentally result in the harassment of pinnipeds that haul out on the South Farallon Islands. The trials' goal was to determine which hazing methods were most effective at deterring birds from roosting on the island and minimizing the impacts to pinnipeds. During the trial, the researchers monitored pinniped haul outs during hazing and adjusted the research trial to reduce disturbance to marine mammals. Researchers visited gull roosts at least twice a day for hazing or monitoring with most visits will lasting about 15 minutes in duration. Most hazing took place a few hours before and after sunrise and sunset with sporadic gull hazing occurring on an ad hoc basis, as needed, throughout the day and night.

The Authorization required the USFWS to implement several mitigation measures to reduce potential take by Level B (behavioral disturbance) harassment. They include: (1) temporal restrictions; (2) limiting the use of pyrotechnics and air canons; (3) slow, sequential helicopter approaches; (4) slow and cautious approaches to haul-outs; (5) limited use and retrieval of kites and radio-controlled aircraft; (6) restrictions on the use of trained dogs; and (6) protected species observers to monitor pinnipeds and record information before, during, and after hazing operations.

NMFS completed an EA titled, *Issuance of an Incidental Harassment Authorization to the U.S. Fish and Wildlife Service to Take Marine Mammals by Harassment Incidental to a Bird Mitigation Research Trial in the Farallon National Wildlife Refuge* (NMFS, 2012a); determined that no direct, indirect or cumulatively significant impacts to the human environment would occur from implementing the Preferred Alternative; and issued a FONSI.

Because of the lack of temporal overlap of Point Blue's proposed research activities and the USFWS' completed research trials, we do not expect the potential for a significant cumulative effect to marine mammals, as the effects of USFWS' actions have dissipated over the past year.

4.6.5 Point Blue's Future Directed Research on Pinnipeds

In 2012, NMFS issued a Scientific Research Permit (Permit No. 17152-00) to Point Blue to conduct scientific research on pinnipeds in the Farallon Islands, Point Reyes Peninsula, San Francisco Bay, and Sonoma County near the Russian River. The Permit is valid for five years, effective December 2012 through December 2017 and authorizes Point Blue to take by incidental harassment, harbor seals, northern elephant seals, California sea lions, and northern fur seals (*Callorhinus ursinus*) during their pinniped research activities. However, the Permit does not currently authorize the incidental take of Steller sea lions while conducting pinniped research based on NMFS' 2007 Record of Decision (ROD) for the *Steller Sea Lion and Northern Fur Sea*

Research Final Programmatic Environmental Impact Statement which precludes us from authorizing incidental take of Steller sea lions under Scientific Research Permits.

As of December 4, 2013, Steller sea lions are no longer a threatened species under the ESA (NMFS, 2013a) and as a result of this delisting, NMFS plans to amend Point Blue's Permit No. 17152-00 to authorize the incidental take of Steller sea lions in 2014. Once amended, Point Blue would not request future Authorizations from us for Level B harassment of Steller sea lions incidental conducting pinniped research; they only intend to request future Authorizations for Level B harassment of marine mammals, incidental to their seabird research activities. Thus, for future Authorization requests, we would also consider Point Blue's conduct of directed research on pinnipeds as foreseeable impacts to marine mammal populations.

In 2012, NMFS completed a CE titled, *Issuance of Scientific Research Permit No. 17152-00 – Categorical Exclusion under the National Environmental Policy Act* (Appendix A). NAO 216-6, *Environmental Review Procedures for Implementing the National Environmental Policy Act*, categorically excludes permits issued under § 104(c)(3)(A) of the MMPA from the preparation of an EA. The planned 2014 Amendment to Permit No. 17152-00 that would authorize incidental take of Steller sea lions would also fall under a Categorical Exclusion.

There have been numerous prior NEPA analyses describing the environmental effects of issuance of Permits under section 104 of the MMPA, exempting take of marine mammals by capture and harassment resulting from the type of research proposed by Point Blue. Those analyses considered the factors outlined in 40 CFR 1508.27 regarding potential for significant impacts, and demonstrated that issuance of Scientific Research Permits do not have significant impacts on the quality of the human environment.

In general, the authorized taking of marine mammals under Permit No. 17152-00 results in minor, short-term (recoverable) adverse effects on individual marine mammals targeted by the research. The CE's analysis focuses on the effects on individuals, populations, stocks, and species, as well as the potential for cumulative impacts on the species from the total amount of Permits issued with CEs. The CE concludes that issuing Permits would not result in individually insignificant, but cumulatively significant impacts, or in cumulative adverse effects that could have a substantial effect on the target species or non-target species. The frequency and duration of the harassment from captures should allow adequate time for animals to recover from potentially adverse effects. NMFS does not expect any additive or cumulative effects of the Permit on its own, or in combination with other permitted research.

Likewise, in the 2008 SEA titled, *Supplemental Environmental Assessment for the Issuance of an Incidental Harassment Authorization to Take Marine Mammals by Harassment Incidental to Conducting Seabird and Pinniped Research in Central California and Environmental Assessment for the Continuation of Scientific Research on Pinnipeds in California Under Scientific Research Permit 373-1868-00* (NMFS, 2008), we determined that it was unlikely that Point Blue's pinniped research activities in combination with its seabird research activities would have significant cumulative effects on the four species of marine mammals, because neither action results in removal of any animals from the population. Further, the current population status of these species is either stable or is close to carrying capacity. We determined that no direct, indirect, or cumulatively significant impacts to the human environment would occur from implementing the Preferred Alternative and issued a FONSI.

CHAPTER 5 – LIST OF PREPARERS AND AGENCIES CONSULTED

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APPENDICES

APPENDIX A – CATEGORICAL EXCLUSION MEMORANDUM FOR SRP 17152-00

UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
Silver Spring, MD 20910

NOV 2 8 2012

Memorandum For: The File No. 17152

From: F/PR – Helen M. Golde
Acting Director, Office of Protected Resources

Subject: Issuance of Scientific Research Permit No. 17152-00 -- Categorical Exclusion under the National Environmental Policy Act

Proposed Federal Action
The National Marine Fisheries Service (NMFS) proposes to issue a scientific research permit under Section 104 of the Marine Mammal Protection Act of 1972, as amended (MMPA; 16 U.S.C. 1361 *et seq.*). The applicant is PRBO Conservation Science, 3820 Cypress Drive, # 11, Petaluma, California 94954 (Responsible Party: Russ Bradley).

Description of Research
Species of marine mammals: The research is directed at harbor seals (*Phoca vitulina*), northern elephant seals (*Mirounga angustirostris*), California sea lions (*Zalophus californianus*), and northern fur seals (*Callorhinus ursinus*).

Objectives: To study and monitor population trends, health, and ecology of pinnipeds in California.

Location: California (specifically the Farallon Islands, Point Reyes Peninsula, San Francisco Bay, and in Sonoma County near the Russian River).

Methods: Harbor seals would be captured, sedated, sampled, marked, instrumented, and incidentally harassed during captures and ground surveys/photo-identification. Unintentional mortality of harbor seals could occur. Northern elephant seals would be handled for marking and swabbing without capture; captured, marked, weighed, and sampled (swabs and blood) without sedation; and incidentally harassed during captures and ground monitoring/photo-identification. Researchers would also harass California sea lions and northern fur seals during ground surveys/photo-identification of those species and during captures of harbor seals and northern elephant seals.

Duration: The permit would be valid for five years, effective upon issuance.

CE Analysis
NOAA Administrative Order Series 216-6, May 20, 1999 (NAO), identifies issuance of permits for taking marine mammals for bona fide scientific research as a type of federal action that is categorically excluded from preparation of an environmental assessment or environmental impact statement.

1

In determining whether a categorical exclusion (CE) is appropriate for a given permit, NMFS must consider

- factors listed in Section 5.05b of NAO regarding prior analysis for the "same" action
- context and intensity of impacts, as defined in 40 CFR 1508.27
- factors listed in Section 5.05c of NAO regarding exceptions to CEs
- cumulative impacts on protected species resulting from the total amount of permits issued with CEs
- any population shifts of the subject species

There have been numerous prior NEPA analyses describing the environmental effects of issuance of permits under section 104 of the MMPA, exempting take of marine mammals by capture and harassment resulting from research of the type proposed by the applicant. Those analyses considered the factors outlined in 40 CFR 1508.27 regarding potential for significant impacts, and demonstrated that issuance of such permits does not have significant impacts on the quality of the human environment.

In general, the authorized taking of marine mammals results in minor, short-term (recoverable) adverse effects on individual marine mammals targeted by the research. Permit issuance does not affect other aspects of the human environment because the action is directed at marine mammals. This CE analysis therefore appropriately focuses on the effects on individuals, populations, stocks, and species, as well as the potential for cumulative impacts on the species from the total amount of permits issued with CEs.

Status of the Affected Species

California Stock of Harbor Seals: NMFS recognizes three stocks of harbor seal along the west coast of the continental U.S.: (1) California, (2) Oregon and Washington outer coast waters, and (3) inland waters of Washington. In California, there are approximately 400-600 harbor seal haulout sites widely distributed along the mainland and on offshore islands, including intertidal sandbars, rocky shores and beaches.

The minimum size of the California harbor seal population is estimated as 26,667 seals. The potential biological removal (PBR) for this stock is 1,600 seals per year. Harbor seals are not listed as endangered or threatened under the Endangered Species Act (ESA) or as depleted or strategic under the MMPA.

California Breeding Stock of Northern Elephant Seals: Northern elephant seals breed and give birth in California (U.S.) and Baja California (Mexico), primarily on offshore islands. The California breeding population is now demographically isolated from the Baja California population.

The minimum population size for northern elephant seals is estimated as 74,913 animals and census data indicate an increasing or stable trend. The PBR is 4,382 seals per year. Northern elephant seals are not listed as endangered or threatened under the ESA or as depleted or strategic under the MMPA.

2

U.S. Stock of California sea lions: There are three breeding areas for California sea lions in North America, which have been used as the geographic regions delineating three stocks: (1) the U.S. stock begins at the U.S./Mexico border and extends northward into Canada; (2) the Western Baja California stock extends from the U.S./Mexico border to the southern tip of the Baja California Peninsula; and (3) the Gulf of California stock which includes the Gulf of California from the southern tip of the Baja California peninsula and across to the mainland and extends to southern Mexico.

The minimum population size of the U.S. stock is 153,337 animals and census data indicate an increasing population trend. The PBR for this stock is 9,200 sea lions per year. California sea lions are not listed as endangered or threatened under the ESA or as depleted or strategic under the MMPA.

San Miguel Island Stock of Northern Fur Seals: Two separate stocks of northern fur seals are recognized within U.S. waters: an Eastern Pacific stock and a San Miguel Island stock. The minimum population size of the San Miguel stock is 5,395. A small population of northern fur seals has developed on South Farallon Island, presumably immigrants from San Miguel Island. The population estimate in 2011 on the Farallon Islands was around 476 animals.

The PBR for this stock is 324 seals per year. The San Miguel Island stock of northern fur seals is not listed as endangered or threatened under the ESA or as depleted or strategic under the MMPA.

Effects on Individuals, Stocks, and Species

Take by harassment would occur during conduct of the research directed at the individual marine mammals targeted by the research, and on individual non-target animals in the immediate vicinity of the targeted animals.

Harassment would occur as a result of capture, sampling, marking, and instrumentation of individual seals, which would also result in indirect disturbance of other seals in the vicinity. The seals that are captured, sampled, marked, and instrumented would suffer minor injuries (Level A harassment) associated with the invasive procedures.

Capture and restraint can be stressful for wild animals and it is likely the seals' responses to harassment from sampling conducted concurrent with these activities would be undetectable against the baseline response to the harassment of the capture and restraint. Animals that are sedated would suffer less stress but could have adverse reactions to the drugs. Adverse reactions to the sedatives could include respiratory distress and death. Animals that are reasonably healthy are expected to recover from the stress and minor injuries and return to normal behavior within hours to days of capture.

Animals that are disturbed may respond by moving away from the researchers, which could result in temporary disruption of feeding, mating, resting, and other behaviors. Some seals may not move away, but may cease feeding, mating, etc. in response to the research. Some seals may not alter their behavior in response to the research but may have unobserved physiological responses. It is expected that animals disturbed by the research would return to normal behavior within minutes to hours after the researchers leave.

Although unlikely, the harassment during research may result in injury or mortality of seals captured and handled. The permit limits the number of such unintentional research-related mortalities per year and over the life of the permit.

While there may be adverse effects on individual marine mammals, the action is not likely to result in adverse effects on the stocks or populations. With the exception of unintentional mortality and humane euthanasia, the effects on marine mammals are expected to be minor and short-term.

While Steller sea lions (*Eumetopia jubatus*) may be present in the study areas and are remotely surveyed, harassment is avoided and is not part of the permit action. Researchers maintain a distance of 300 - 500 feet or greater from Steller sea lions, which have their own separate haul outs and are easily avoided. On Point Reyes, researchers use a spotting scope and few Steller sea lions are seen in the California sea lion colony, which is separate from where harbor seals and northern elephant seals are found. On the South Farallon Islands, Steller sea lions breed on West End Island, away from other pinnipeds.

The mitigation measures in the permit are intended to minimize the potential for adverse impacts and mitigate the extent of any unavoidable adverse impacts. Research permit holders are required to submit annual reports in which they must provide an accounting of the numbers of marine mammals encountered and observed effects of the research. NMFS can revoke, suspend or modify the permit if there is reason to believe the activity is having or has the potential to have an adverse effect on a stock or species.

Cumulative impacts

Permit issuance would not result in individually insignificant, but cumulatively significant impacts, or in cumulative adverse effects that could have a substantial effect on the target species or non-target species. The frequency and duration of the harassment from captures should allow adequate time for animals to recover from potentially adverse effects such that additive or cumulative effects of the proposed action on its own, or in combination with other permitted research, are not expected.

Researchers working under NMFS permits are required to notify the appropriate NMFS Regional Office in advance of field work. The corresponding Regional Office is tasked with coordinating researchers conducting activities under multiple permits in their region to ensure there is not unnecessary duplication or harassment.

Issuance of the permit would not result in individually insignificant, but cumulatively significant impacts, or in cumulative adverse effects that could have a substantial effect on the target species or non-target species. The combined effects of the total amount of research permits relative to the status of the population were considered. Issuance of each permit was found not likely to have a significant adverse impact on its own or in combination with other permits.

4

Determination

Upon review, NMFS has determined that this action would not result in significant adverse effects, individually or cumulatively, on the human environment. Therefore, the action may appropriately be categorically excluded from the requirement to prepare either an environmental assessment or environmental impact statement in accordance with Section 6.03f.2(a) of NAO 216-6.

5

APPENDIX B – MARINE MAMMAL COMMISSION LETTER

MARINE MAMMAL COMMISSION

25 November 2013

Mr. P. Michael Payne, Chief
Permits and Conservation Division
Office of Protected Resources
National Marine Fisheries Service
1315 East-West Highway
Silver Spring, MD 20910-3225

Dear Mr. Payne:

The Marine Mammal Commission (the MMC), in consultation with its Committee of Scientific Advisors on Marine Mammals, has reviewed the Point Blue Conservation Science (Point Blue; formerly PRBO Conservation Science) application to renew its authorization under section 101(a)(5)(D) of the Marine Mammal Protection Act (the MMPA) to take small numbers of marine mammals by harassment. The taking would be incidental to conducting seabird and pinniped research activities on Southeast Farallon Island, Año Nuevo Island, and Point Reyes National Seashore in California from December 2013 to December 2014. The Commission also has reviewed the National Marine Fisheries Service's (NMFS) 6 November 2013 notice (78 Fed. Reg. 66686) announcing receipt of the application and proposing to issue the authorization, subject to certain conditions. The MMC previously commented on similar incidental harassment authorizations.

RECOMMENDATION

The Marine Mammal Commission recommends that the National Marine Fisheries Service issue the requested incidental harassment authorization, subject to inclusion of the proposed mitigation and monitoring measures.

RATIONALE

Point Blue, along with partners Oikonos Ecosystem Knowledge and Point Reyes National Seashore, plan to conduct seabird and pinniped research activities. The proposed activities would include (1) monitoring and censusing seabird colonies, (2) observing seabird nesting habitat, (3) restoring nesting burrows, (4) observing breeding elephant seals, and (5) resupplying a field station. Vessel- and research-related sound and the increased presence of humans would be the main sources of marine mammal disturbance.

NMFS preliminarily has determined that, at most, the proposed activities temporarily would modify the behavior of small numbers of California sea lions, harbor seals, northern elephant seals, and Steller sea lions. It also anticipates that any impact on the affected species and stocks would be negligible. NMFS does not anticipate any take of marine mammals by death or serious injury and believes that the potential for disturbance will be at the least practicable level because of the proposed mitigation and monitoring measures. Those measures include—

- abiding by the terms and conditions listed in scientific research permit 17152;

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- postponing beach landings on Año Nuevo Island until pinnipeds that may be present on the beach have slowly entered the water;
- selecting a pathway of approach to research sites that minimizes the number of marine mammals harassed, prioritizing avoidance of hauled-out Steller sea lions;
- avoiding visits to sites used by pinnipeds for pupping;
- monitoring for offshore predators (i.e., great white sharks and killer whales) and restricting approaches of pinnipeds if predators are present;
- keeping voices hushed and bodies low to the ground in the visual presence of pinnipeds;
- conducting seabird observations at North Landing on Southeast Farallon Island from an observation blind that is shielded from the view of hauled-out pinnipeds;
- crawling slowly to access seabird nest boxes on Año Nuevo Island if pinnipeds are within view;
- coordinating research visits to intertidal areas of Southeast Farallon Island to reduce the number of pinniped takes;
- coordinating research goals for Año Nuevo Island to minimize the number of trips to the island;
- coordinating monitoring schedules on Año Nuevo Island so that areas near any pinnipeds would be accessed only once per visit;
- using qualified observers to monitor and evaluate incidental takes;
- reporting injured and dead marine mammals to NMFS and the local stranding network using NMFS's phased approach and suspending activities, if appropriate; and
- submitting a final monitoring report.

The MMC concurs with NMFS's preliminary finding and recommends that NMFS issue the requested incidental harassment authorization, subject to inclusion of the proposed mitigation and monitoring measures.

Thank you for the opportunity to provide comments on Point Blue's application. Please contact me if you have questions regarding the MMC's recommendation and rationale.

Sincerely,

Rebecca J. Lent

Rebecca J. Lent, Ph.D.
Executive Director

Point Blue Take Analysis

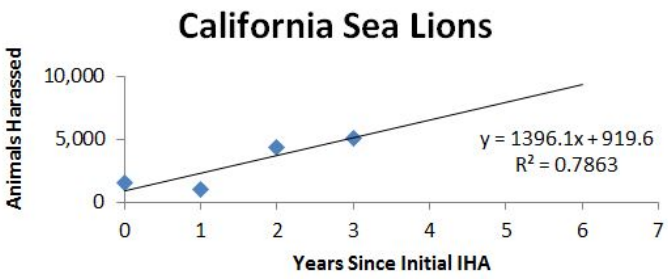
	Reported Take Observations				Model Prediction*	Projected**			
Species	IHA 1	IHA 2	IHA 3	IHA 4	Annual Projected Increase	IHA 5 2014	IHA 6 2015	IHA 7 2016	IHA 7 2017
California Sea Lions	1,576	991	4,392	5,096	1,396	6,492	7,888	9,284	10,680
Northern Elephant Seals	88	102	131	167	27	194	220	247	273
Harbor Seals	48	93	78	227	52	279	331	384	436
Steller Sea Lions (E-DPS)	13	10	14	40	45	85	129	174	218

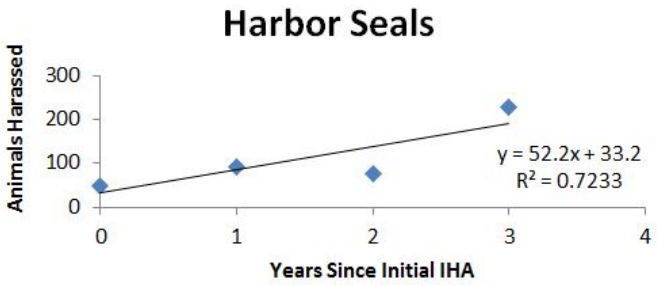
							Alpha		
				Enter Conf. Level (%)		99	0.01	Best Fit Model Prediction*	
Sample Size	Mean	SD	SE	MOE (t test)	Point Estimate	Lower Bound	Upper Bound	R^2 Value	Regression Type
8	5,800.0	3,469.1	1,226.5	4,292.2	5,800.0	1,508	10,092	0.79	Linear
8	177.8	67.7	23.9	83.7	177.8	94	261	0.97	Linear
8	234.5	148.1	52.4	183.2	234.5	51	418	0.72	Linear
8	85.3	80.5	28.5	99.6	85.3	(14)	185	0.62	Linear

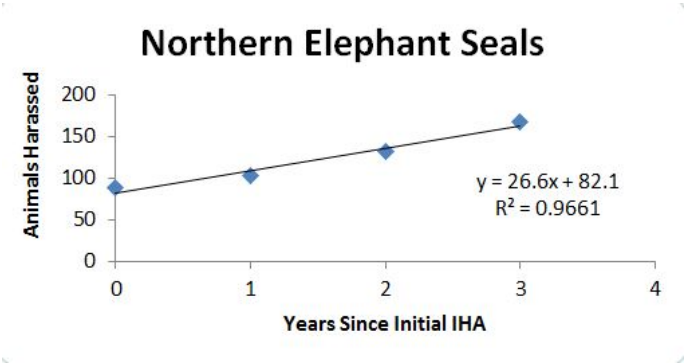
We base these estimates on previous monitoring reports and anecdotal observations for with the same activities conducted in the proposed research area.

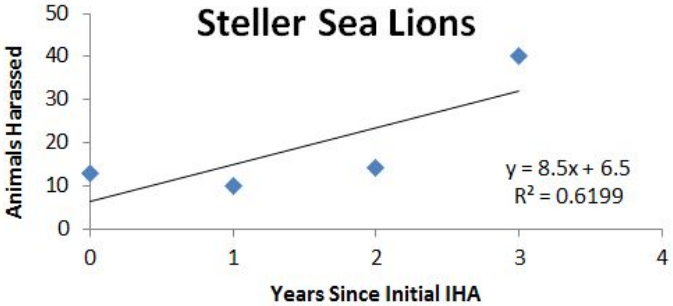
* Projected annual increase derived from a best fit regression analysis of Year 0 through Year 4.

**Projected increase is the previous year's reported take plus projected annual increase (slope) derived from the regression analysis for the species.


California Sea Lions
Animals Harassed
10,000
5,000
0
0
1
2
3
4
5
6
7
Years Since Initial IHA
y = 1396.1x + 919.6
R² = 0.7863


Harbor Seals
Animals Harassed
300
200
100
0
0
1
2
3
4
Years Since Initial IHA
y = 52.2x + 33.2
R² = 0.7233


Northern Elephant Seals
Animals Harassed
200
150
100
50
0
0
1
2
3
4
Years Since Initial IHA
y = 26.6x + 82.1
R² = 0.9661


Steller Sea Lions
Animals Harassed
50
40
30
20
10
0
0
1
2
3
4
Years Since Initial IHA
y = 8.5x + 6.5
R² = 0.6199