

An aerial photograph of a river delta system, likely the Ganges-Brahmaputra delta, showing a complex network of channels and distributaries. The land is green, and the water is a light blue-grey. A large, bold black number '1' is overlaid in the upper right quadrant of the image.

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PURPOSE OF AND NEED FOR ACTION

PURPOSE OF AND NEED FOR ACTION

INTRODUCTION

This “Purpose of and Need for Action” chapter explains the intent of the Environmental Impact Statement (EIS) for the Drakes Bay Oyster Company (DBOC) Special Use Permit (SUP). DBOC currently conducts a commercial shellfish operation¹ in Drakes Estero, which is part of the Point Reyes National Seashore (the Seashore), located in Marin County, California (figures 1-1 and 1-2). DBOC operates within the Seashore pursuant to a reservation of use and occupancy (RUO) and a SUP. Both of these authorizations expire on November 30, 2012. The RUO and the SUP are included as appendix A of this EIS.

This EIS presents four alternatives. The no-action alternative considers expiration of existing authorizations and subsequent conversion of the area to congressionally designated wilderness. Three action alternatives consider the issuance of a new SUP to DBOC for a period of 10 years with differing levels of onshore facilities and infrastructure and offshore operations. Beneficial and adverse impacts are assessed for all four alternatives evaluated in this EIS. Existing authorizations for DBOC to operate expire November 30, 2012. The National Environmental Policy Act of 1969 (NEPA), as amended, process is being used to inform the decision of whether a new SUP should be issued. If a new SUP is issued, it would authorize DBOC to operate its onshore and offshore² operations until November 30, 2022. In the event that a new SUP is issued, it would incorporate all of DBOC’s National Park Service (NPS) authorized onshore and offshore operational requirements. There is no authority to issue or extend an RUO.

The authority for NPS to issue a new permit to DBOC came about as a result of congressional action. On October 30, 2009, Congress enacted section 124 of Public Law (PL) 111-88, which was part of the Department of the Interior, Environment, and Related Agencies Appropriations Act of 2010 (appendix B). Section 124 states:

Prior to the expiration on November 30, 2012, of the Drake’s Bay Oyster Company’s Reservation of Use and Occupancy and associated special use permit (“existing authorization”) within Drakes Estero at Point Reyes National Seashore, notwithstanding

¹ Throughout this document, the terms “commercial shellfish operations,” “mariculture operations,” and “aquaculture operations” are used interchangeably.

² In this document, the term offshore is used to refer to operations and facilities in Drakes Estero, including waters, tide and submerged lands, and intertidal areas such as the shoreline and mudflats.

any other provision of law, the Secretary of the Interior is authorized to issue a special use permit with the same terms and conditions as the existing authorization, except as provided herein, for a period of 10 years from November 30, 2012: Provided, That such extended authorization is subject to annual payments to the United States based on the fair market value of the use of the Federal property for the duration of such renewal. The Secretary shall take into consideration recommendations of the National Academy of Sciences Report pertaining to shellfish mariculture in Point Reyes National Seashore before modifying any terms and conditions of the extended authorization. (Department of the Interior, Environment, and Related Agencies Appropriations Act of 2010, Pub. L. No. 111-88, section 124, 123 Stat. 2904, 2932 [2009])

Section 124, as it will be referred to in this EIS, provides to the Secretary of the Interior (Secretary) the discretionary authority to issue a new SUP to DBOC for a period of 10 years. Congress granted the Secretary the discretionary authority contained in section 124 in response to NPS's determination that it lacked authority to allow DBOC to operate after November 30, 2012. PL 94-544 and PL 94-567 of 1976 designated Drakes Estero as potential wilderness. House Report 94-1680, which accompanied the public law, provided that, "it is the intention that those lands and waters designated as potential wilderness additions will be essentially managed as wilderness, to the extent possible, with efforts to steadily continue to remove all obstacles to the eventual conversion of these lands and waters to wilderness status." The commercial shellfish operation in Drakes Estero, now operated by DBOC, is the only nonconforming use that prevents conversion of the waters of Drakes Estero from congressionally designated potential wilderness to congressionally designated wilderness (appendix B). The discretionary authority contained in section 124 now allows the Secretary to permit DBOC's operations for a new 10 year term, until November 30, 2022.

Although the Secretary's authority under section 124 is "notwithstanding any other provision of law," the Department has determined that it is helpful to generally follow the procedures of NEPA. The EIS provides decision-makers with sufficient information on potential environmental impacts, within the context of law and policy, to make an informed decision on whether or not to issue a new SUP. In addition, the EIS process provides the public with an opportunity to provide input to the decision-makers on the topics covered by this document. The EIS examines four alternatives, described in "Chapter 2: Alternatives," which include both broad-scale and site-specific elements. In some instances, sufficient detail is available to analyze site-specific impacts without additional compliance evaluation under NEPA. In other cases, information is not available, or plans are insufficiently developed to allow detailed analysis. In the latter case, a conceptual level of analysis has been conducted. Those elements that would require further NEPA compliance are identified in "Chapter 2: Alternatives," within the detailed descriptions of each alternative (no-action and action alternatives).



-  Point Reyes National Seashore
-  Other Park Lands
-  County Boundaries
-  City/Town Boundaries
-  Hydrologic Features
-  Roads

North
 0 10 Miles

Source: ESRI Data & Maps (CD-ROM v. 9.3-2008) and Cal-Atlas Geospatial Clearinghouse Data

Drakes Bay Oyster Company Special Use Permit Environmental Impact Statement

**FIGURE 1-1
 Project Vicinity Map**



National Park Service
 U.S. Department of the Interior

Point Reyes National Seashore



Drakes Bay Oyster Company Special Use Permit Environmental Impact Statement

**FIGURE 1-2
Project Location Map**



National Park Service
U.S. Department of the Interior

Point Reyes National Seashore

PURPOSE OF AND NEED FOR ACTION

DOI NEPA regulations, found at 43 CFR Part 46, address the formulation of purpose and need statements in NEPA documents that are prepared in response to permit applications. DOI NEPA regulations state that

When a bureau is asked to approve an application or permit, the bureau should consider the needs and goals of the parties involved in the application or permit as well as the public interest. The needs and goals of the parties involved in the application or permit may be described as background information. However, this description must not be confused with the bureau's purpose and need for action. It is the bureau's purpose and need for action that will determine the range of alternatives and provide a basis for the selection of an alternative in a decision. (43 CFR section 46.420)

PURPOSE AND NEED

Action is needed at this time because pursuant to section 124 of Public Law 111-88, the Secretary has the discretionary authority to issue a SUP for a period of 10 years to DBOC for its shellfish operation, which consists of commercial production, harvesting, processing, and sale of shellfish at Point Reyes National Seashore. The existing RUO and SUP held by DBOC will expire on November 30, 2012. DBOC has submitted a request for the issuance of a new permit upon expiration of the existing authorizations. Consistent with DOI NEPA regulations (43 CFR section 46.30), the proposed action for this EIS is the Secretary's decision whether to issue a permit under section 124.

The purpose of the document is to use the NEPA process to engage the public and evaluate the effects of issuing a SUP for the commercial shellfish operation. The NEPA process will be used to inform the decision of whether a new SUP should be issued to DBOC for a period of 10 years.

PROJECT OBJECTIVES

Project objectives build from the project purpose and identify those goals that are "critical to meet if NPS is to consider the proposal successful" (NPS 2001b). Project objectives should be grounded in the park's enabling legislation, purpose, significance, and mission goals; as well as relevant legislation; NPS plans (such as general management plans [GMPs]); or other NPS standards and guidelines. Project objectives should be broad enough to allow for a reasonable range of alternatives without narrowing the focus or intentionally excluding an alternative. The following project objectives have been identified:

- Manage natural and cultural resources to support their protection, restoration, and preservation.
- Manage wilderness and potential wilderness areas to preserve the character and qualities for which they were designated.
- Provide opportunities for visitor use and enjoyment of park resources.

DBOC GOALS

On July 6, 2010, DBOC submitted a request for the issuance of a new SUP upon expiration of the existing permit. Specifically, DBOC seeks to “occupy and utilize the buildings and lands on the shores of Drakes Estero” (Latham & Watkins, LLP 2010). DBOC requested that the EIS consider DBOC’s needs and goals, as the project applicant. DBOC requested that its objective of “operating an environmentally-friendly and sustainable oyster farm for a renewable 10-year period under a Service-issued SUP” be included both during scoping as well as during public review of the Draft EIS (DBOC 2010n, 2011i). DBOC also requested that the purpose and need be modified “to reference DBOC’s request that the renewed SUP be issued under [the] same terms and conditions present in the RUO/SUP, for permission to complete work authorized under the 1998 Environmental Assessment, and for permission to make select physical improvements.” DBOC suggested that language regarding discussion of mitigation measures and historical context be added to the purpose and need, as well (DBOC 2011i).

The goals provided by DBOC are included here as background information. DBOC’s goals have not been added to the NPS purpose, need, and objectives because doing so would limit the range of reasonable alternatives to only those that further DBOC’s goals, which may not reflect the broader public interest, and would be inconsistent with the Secretary’s discretion under section 124.

Specifically, DBOC’s goal that NPS issue a “renewable” SUP is not consistent with section 124, which authorizes only one, 10-year permit term. Similarly, DBOC’s goal that the new permit be limited to its onshore operations only is inconsistent with section 124, which specifies that a new permit must mirror the terms of the existing permit. DBOC’s existing SUP authorizes onshore and offshore operations, consistent with NPS’s jurisdiction over Drakes Estero. A new permit issued under section 124 would therefore authorize both onshore and offshore operations.

AUTHORITY OVER DRAKES ESTERO AND ADJACENT LANDS

A number of federal and state agencies have jurisdiction over activities taking place within the waters of Drakes Estero and on the uplands where the oyster processing facilities are located.

NPS JURISDICTION

DBOC’s operations occur on uplands adjacent to Drakes Estero and on tide and submerged lands within the Estero. All of the upland, tidal, and submerged lands on which DBOC conducts its operations are located within the Seashore and are owned in fee by the United States. The tide and submerged lands in Drakes Estero were conveyed by statute from the State of California to the United States in 1965. (Additional information about this conveyance is provided below.) In 1972, NPS purchased a five-acre upland tract from Johnson Oyster Company (JOC). JOC reserved a 40-year reservation of use and occupancy on 1.5 acres of the tract “for the purpose of processing and selling wholesale and retail oysters, seafood and complimentary food items, the interpretation of oyster cultivation to the visiting public, and residential purposes reasonably incidental thereto” (NPS 1972a). Pursuant to 36 CFR section 1.2, activities occurring on lands and waters under the jurisdiction of NPS are subject to applicable NPS laws and regulations.

In April 2008, DBOC and NPS signed a SUP (NPS Permit No. MISC-8530-6000-8002) that covered all offshore areas and the remaining onshore areas of operation outside of the 1.5-acre RUO. DBOC's operations in the Seashore are governed by the terms and conditions of the RUO and the SUP. Both the RUO and SUP require DBOC to comply with applicable NPS laws, regulations, and policies. The RUO requires the holder of the RUO to “abide by all rules and regulations pertaining to National Park System areas” (NPS 1972a). The SUP, which applies to all offshore areas and all upland areas outside of the RUO area, expressly states that DBOC operations are subject to NPS regulation. The RUO and SUP are provided in appendix A.

As stated above, the state conveyed the tide and submerged lands in Drakes Estero to NPS in 1965. The statutory language provided that the State of California granted, “Subject to limitations that are described in Section 2, all of the right, title, and interest of the State of California . . . in and to all of the tide and submerged lands or other lands beneath navigable waters situated within the boundaries of the Point Reyes National Seashore” (chapter 983, section 1, Statutes of California, July 9, 1965). Under section 2 of the grant, the state reserved all rights to oil, gas, and other hydrocarbons with the further provision that no well or drilling operations were to be conducted on the surface (chapter 983, section 2, Statutes of California, July 9, 1965). In accordance with article 1, section 25 of the California Constitution, the statutory conveyance reserved “to the people of the state the right to fish in the waters underlying the lands [conveyed]” (chapter 983, section 3, Statutes of California, July 9, 1965). Upon review of the land conveyances made by the Office of the Surveyor General and the Legislature, the California State Lands Commission (CSLC) determined that the State had conveyed out all of the State’s real property interest except the mineral estate, leaving the CSLC with no jurisdiction over the bed of Drakes Estero (CSLC 2007ⁱ).

The NPS’s jurisdiction over DBOC’s aquaculture operation is not limited by the rights the state retained when it conveyed the tide and submerged lands in Drakes Estero to the United States. The California Department of Fish and Game (CDFG) and CSLC have concluded, and NPS agrees, that the “right to fish,” as retained by the state, does not extend to aquaculture, such as DBOC’s commercial operation (CDFG 2007bⁱⁱ; CSLC 2007ⁱⁱⁱ; DOI 2012a^{iv}). In official communications shortly after DBOC’s state water bottom lease was renewed, CDFG explained that “*fishing* involves take of public trust resources and is therefore distinct from aquaculture, which is an agricultural activity involving the cultivation and harvest of private property” (emphasis in original) (CDFG 2007b). Because the right to fish does not extend to aquaculture, CDFG concluded that NPS has primary management authority over DBOC operations (CDFG 2007b^v, 2008a^{vi}).

The basis for the CDFG opinion is confirmed by the California Fish and Game Code. The California Fish and Game Code distinguishes aquaculture and its products from public trust resources, such as wild fish, which are held in trust by the state and which do not belong to private individuals. The California Fish and Game Code defines “fish” as “*wild* fish, mollusks, crustaceans, invertebrates, or amphibians, including any part, spawn, or ova thereof” (emphasis added) (California Fish and Game Code section 45). In contrast to the “wild” organisms included in the definition of “fish,” the California Fish and Game Code establishes that the products of an aquaculture operation are the private property of the operator of that facility. Under the California Fish and Game Code provisions on aquaculture, “the cultured progeny of wild plants and animals . . . are the exclusive property of that person who cultured them or that person’s successor in interest” (California Fish and Game Code section 15001). Further, “any person who takes aquaculture products without lawful entitlement is subject to prosecution for theft” (California Fish

and Game Code section 15002). Aquaculture products are private property and therefore cannot be part of a public fishery. Because the tide and submerged lands in Drakes Estero were conveyed to the United States without limitations as to the aquaculture operations, NPS laws, regulations, and policies apply to DBOC's operations on tide and submerged lands within Drakes Estero.

STATE MANAGEMENT OF AQUACULTURE OPERATIONS

State regulation of aquaculture operations by CDFG are addressed in Division 12 of the Fish and Game Code. Under these code provisions, CDFG regulates the stocking of aquatic organisms, brood stock acquisition, disease control, the importation of aquatic organisms into the state, and the transfer of organisms between water bodies. There are approximately 30 marine aquaculture operations within the state (CDFG [Ramey], pers. comm., 2011d). Some are located on state-owned tide and submerged lands while others are located on tide and submerged lands under the jurisdiction of other governmental entities or private parties. State management by CDFG of these operations differs based on the operation's location (e.g., granted tidelands, private tidelands, or state tidelands).

Under the Fish and Game Code, the State of California, through the Fish and Game Commission (CFGC), issues state water bottom leases for aquaculture operations that are located on state-owned tidelands. CDFG manages 16 shellfish leases held by 8 such operators (this does not include two leases to DBOC issued over granted tidelands in Drakes Estero) (CDFG 2011f^{vii}). Through these leases, CDFG collects payments from aquaculture operators. These payments include an annual lease fee based on the number of acres included in the lease and privilege use taxes, which are based on the gallons of oysters produced as reported by monthly statements. CDFG also has authority to regulate other aspects of these operations, including the stocking of aquatic organisms, brood stock acquisition, disease control, the importation of aquatic animals, and the transfer of organisms between water bodies. As discussed below, this authority pertains to all importers regardless of whether their operation is located on state-owned tidelands or on tidelands owned by other governmental entities or private parties.

There are approximately 19 other aquaculture operations (this does not include DBOC) in the state. Nine of these operations are on granted or private tidelands and the remaining 10 are land-based facilities (CDFG 2011f^{viii}). With the exception of Drakes Estero, the CFGC does not issue state water-bottom leases for aquaculture operations located on granted or private tidelands, and CDFG does not collect lease fees or privilege use taxes from these operators. Rather, these operators make payments to the entity that holds title to the tide and submerged lands on which they operate.

One example of the type of regulatory oversight that exists for aquaculture operations on granted tidelands is found with the Humboldt Bay Harbor, Recreation, and Conservation District (Harbor District), which was established in 1973 under the Humboldt Bay Harbor, Recreation and Conservation Act of 1970. Subsequently, the state of California granted all its tidelands and submerged lands to the Harbor District, reserving to the state "the right to fish in the waters on said lands with the right of convenient access to said water over said lands for said purpose." The Harbor District owns the tidelands upon which operations take place and the District, not CDFG, issues leases to the aquaculture businesses. The Harbor District collects lease payments (typically per acre) and a per gallon tax similar to the use tax collected by CDFG for CDFG-managed leases.

In the case of Drakes Estero, CFGC has issued, and CDFG administers, state water bottom leases to DBOC despite the fact that the underlying tidelands and submerged lands have been owned by the United States since 1965. CFGC issued the most recent lease in 2004. It is currently set to expire in 2029. The state water bottom lease is “contingent on a concurrent Federal Reservation of Use and Occupancy” (CDFG 2004d, 2004e). Even though the state lease explains that it is contingent on the RUO, the overlay of a state water-bottom lease on the federally owned tidelands and submerged lands in Drakes Estero has caused confusion, as evidenced by comments received during the public scoping process that sought clarification on the roles and responsibilities of NPS, the CFGC, and CDFG with respect to DBOC’s operation.

To address this confusion, NPS has consulted with CDFG, which is a cooperating agency for this EIS, throughout the process of preparing this EIS. NPS and CDFG agree that the right to fish does not authorize the state to issue water-bottom leases for aquaculture (CDFG 2007b^{ix}, 2008a^x; DOI 2012a^{xi}). Moreover, the 1965 conveyance divested the state of any real property interest in the tide and submerged lands in Drakes Estero except for certain mineral interests. The state therefore does not retain real property interest in the Estero sufficient for it to issue state water-bottom leases for aquaculture (CSLC 2007^{xii}; DOI 2012a^{xiii}). As a result, NPS, not CFGC, has the legal authority to determine whether DBOC may occupy water bottoms in Drakes Estero for its operation.

NPS and CDFG agree that should the Secretary issue a permit to DBOC under section 124, as a condition of receiving that permit, DBOC would be required to surrender its state water bottom lease to the CFGC prior to issuance of a new SUP by NPS. DBOC would thereafter operate under the terms of the NPS permit. NPS would include certain provisions from the state water bottom lease in the new SUP, such as that relating to the “Escrow Account for Cleanup of Aquaculture Leases.” This will ensure that certain provisions relating to DBOC operations that are currently incorporated into the SUP by reference remain in force. While it would no longer administer a state water bottom lease, CDFG would continue to exercise regulatory authority over DBOC. Thus, CDFG would regulate DBOC’s operation with respect to the stocking of aquatic organisms, brood stock acquisition, disease control, importation of aquatic organisms into the state, and the transfer of organisms between water bodies.

Under section 124, if the Secretary decides to issue a new 10-year permit to DBOC, DBOC must pay the United States the fair market value of the federal property permitted to DBOC. A permit under section 124 would encompass the federally owned onshore and offshore areas used by DBOC. By terminating the state water bottom lease, DBOC would avoid any obligation to make lease payments to the state.

OTHER JURISDICTIONS

Several other agencies have jurisdiction over activities taking place within the waters of Drakes Estero and on the uplands where the oyster processing facilities are located, including the California Coastal Commission (CCC); the San Francisco Bay Regional Water Quality Control Board; the California Department of Public Health (CDPH); the U.S. National Marine Fisheries Service (NMFS) Division of the National Oceanic and Atmospheric Administration (NOAA); the U.S. Army Corps of Engineers (USACE); and the U.S. Fish and Wildlife Service (USFWS). Specific agency jurisdictions and their applicability to this project are described in more detail in the “Related Laws, Policies, Plans, and Constraints” section of this chapter.

PROJECT AREA AND VICINITY

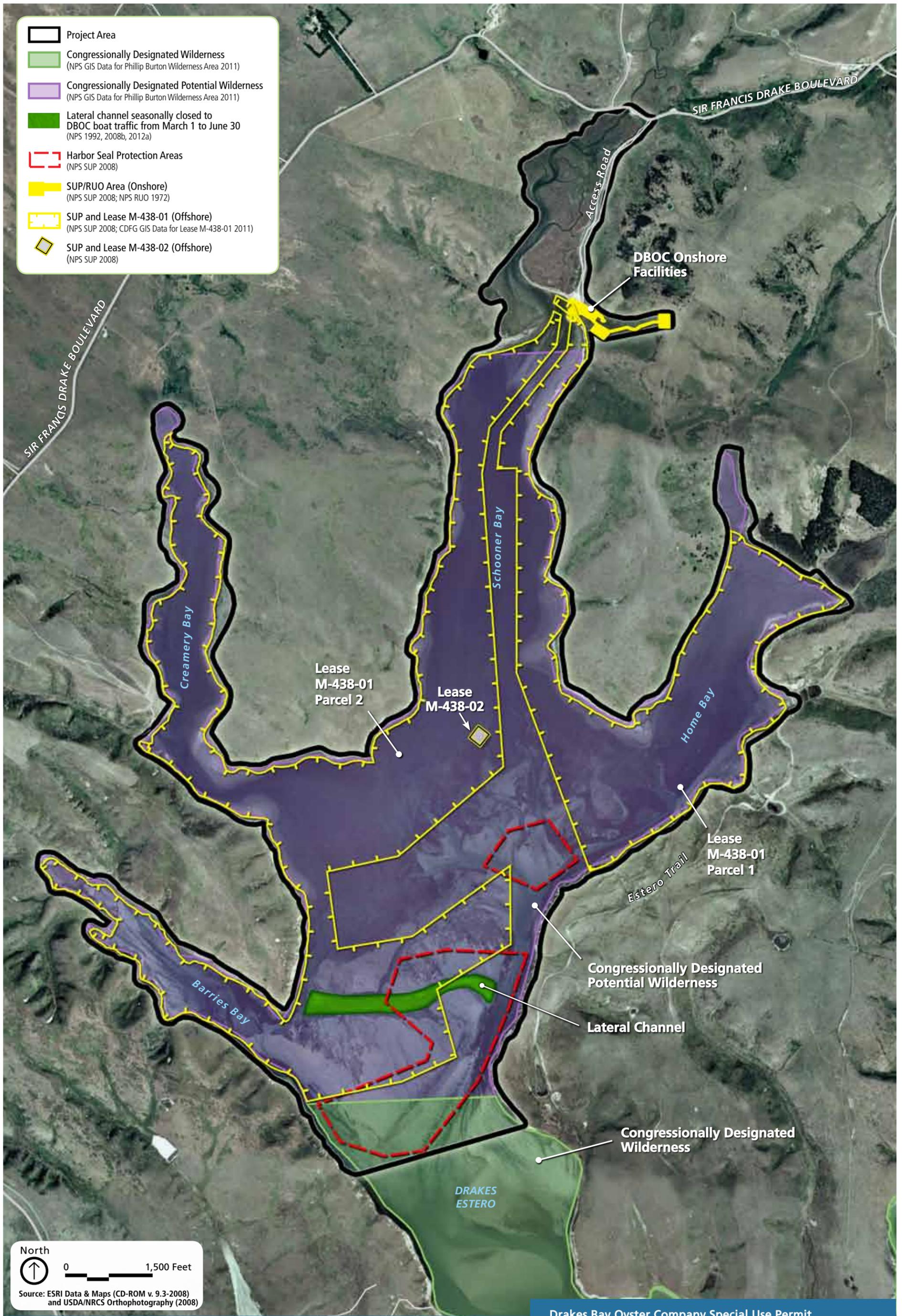
Point Reyes National Seashore, a landscape ranging from dramatic headlands and expansive sand beaches to open grasslands, brushy hillsides, and forested ridges, is located in western Marin County in central California, approximately 30 miles northwest of San Francisco. The Seashore is situated within 50 miles of the nine-county San Francisco Bay Area, the fifth largest metropolitan area in the United States (see figure 1-1). Western Marin County is primarily rural, with scattered, small, unincorporated towns that serve tourism, agriculture, and local residents. In addition, the Seashore also administers the Northern District of the Golden Gate National Recreation Area, adjacent to the Seashore, for a combined management area and legislated boundary of approximately 94,000 acres (see figure 1-2).

The Seashore is bounded to the north, west, and southwest by the Pacific Ocean and to the east by the residential communities of Inverness, Inverness Park, Point Reyes Station, Olema, and Dogtown. The town of Bolinas is south of the Seashore at the southern tip of the peninsula. The Seashore's boundary extends a quarter of a mile from the mean high tide (both in the Pacific Ocean and Tomales Bay), and includes the tidelands and submerged lands in this zone. The coastal resources within this marine habitat contribute to the biological diversity of the Seashore.

Drakes Estero is a system of five branching bays encompassing approximately 2,500 acres. The branching bays are stretched to the north and separated by low converging ridges. From west to east, they are: Barries Bay, Creamery Bay, Schooner Bay, Home Bay, and Estero de Limantour (see figures 1-2 and 1-3). Nearly half of the Estero's surface area consists of mud and sand flats that are exposed at low tide (Press 2005). Because of the shallow character of the bay, and its tendency to flush completely within a normal tidal cycle, currents in the main stem and secondary channels are relatively strong.

The Drakes Estero watershed covers approximately 31 square miles, including Drakes Estero itself (Baltan 2006). The Seashore leases most of the lands surrounding Drakes Estero for cattle grazing (approximately 14 square miles within the watershed). Areas draining to and surrounding the Estero de Limantour are primarily within congressionally designated wilderness (approximately 8 square miles within the watershed).

This EIS examines DBOC operations and facilities in and adjacent to Drakes Estero. The project area is roughly 1,700 acres and includes DBOC structures, facilities, and operations in much of the congressionally designated potential wilderness (1,363 acres), 2.6 acres of onshore property, and 2 acres incorporating the well and septic areas, as delineated in the RUO and SUP (see figures 1-3 and 1-4). In order to provide a comprehensive analysis of potential impacts of the alternatives presented in this EIS, the project area also includes the kayak launch parking area and the access road leading from Sir Francis Drake Boulevard. All land and water portions of the project area are owned by NPS. Resources outside the project area may be described if they are subject to impacts resulting from any of the proposed alternatives. The project area as a whole is depicted on figure 1-3, with figure 1-4 showing the detailed location of the onshore operations.



Drakes Bay Oyster Company Special Use Permit Environmental Impact Statement

FIGURE 1-3
Project Area Boundary

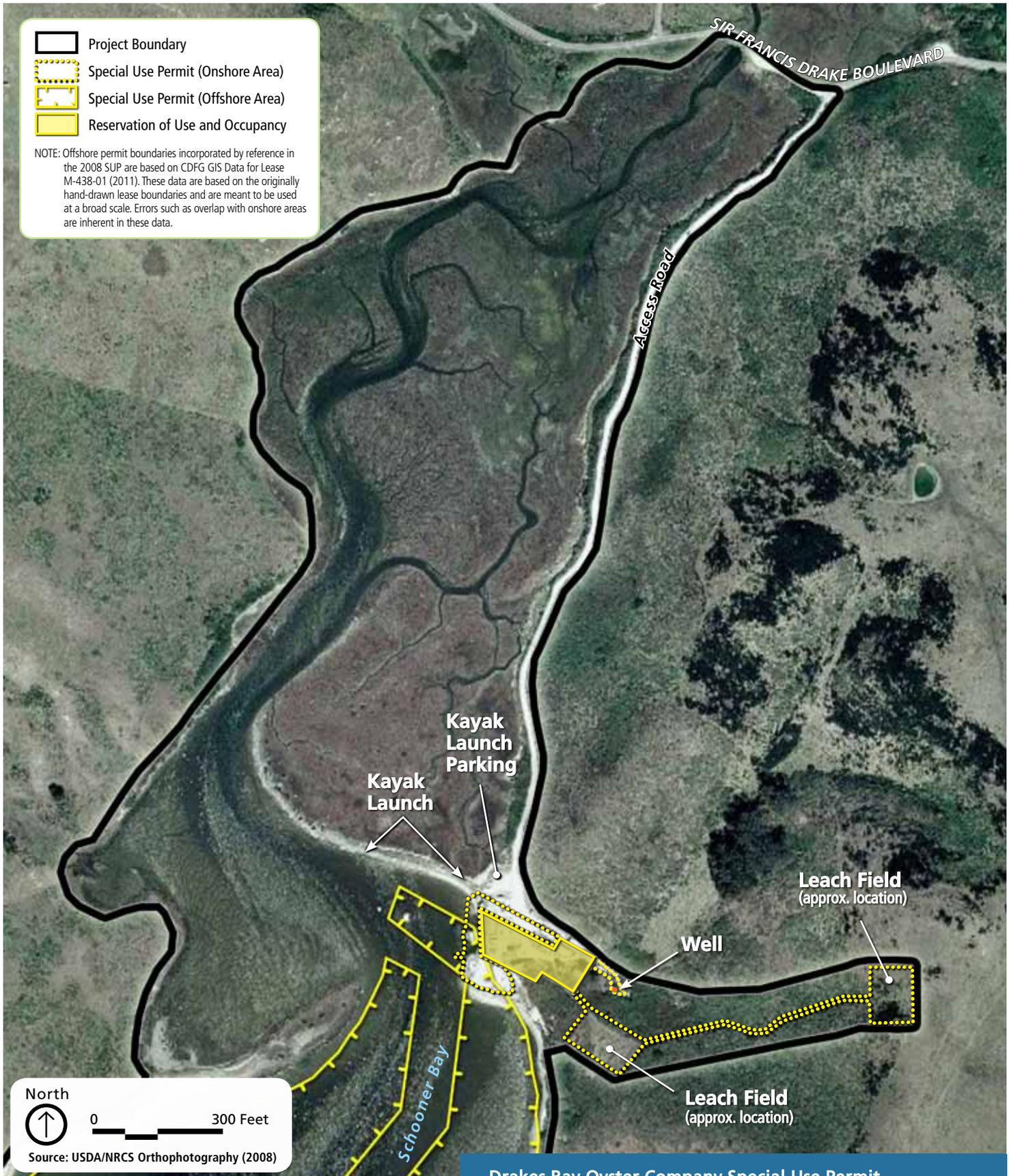


National Park Service
U.S. Department of the Interior

Point Reyes National Seashore

-  Project Boundary
-  Special Use Permit (Onshore Area)
-  Special Use Permit (Offshore Area)
-  Reservation of Use and Occupancy

NOTE: Offshore permit boundaries incorporated by reference in the 2008 SUP are based on CDFG GIS Data for Lease M-438-01 (2011). These data are based on the originally hand-drawn lease boundaries and are meant to be used at a broad scale. Errors such as overlap with onshore areas are inherent in these data.



Drakes Bay Oyster Company Special Use Permit Environmental Impact Statement

**FIGURE 1-4
Project Area Boundary: DBOC Onshore Area of Operation**

PURPOSE AND SIGNIFICANCE OF POINT REYES NATIONAL SEASHORE

The Seashore is located at a rich, complex convergence of land and sea, culture and nature, urban and rural. This is where continental and oceanic plates of the Earth's crust collide, creating the unique geological formations above (or atop) the San Andreas Fault. The Seashore's dynamic geologic foundations produce extraordinary biodiversity, where the rivers of the coastal range meet the sea, and where marine, estuarine, freshwater, and terrestrial ecosystems overlap. Human communities overlap here too: This is where European voyagers and the indigenous peoples of America's Pacific Coast are believed to have first encountered each other (Sadin 2007).

The Seashore lies within an area recognized locally, nationally, and globally as a center of biodiversity. The Seashore hosts more than 800 native plant species, over 490 resident and migratory bird species, anadromous fish, rare and elusive amphibians, and a unique assemblage of mammals such as bobcat (*Felis rufus*), elephant seal (*Mirounga angustirostris*), harbor seal (*Phoca vitulina*), mountain lion (*Puma concolor*), Point Reyes mountain beaver (*Aplodontia rufa*), and tule elk (*Cervus canadensis*). Drakes Estero is an exceptional nursery that provides abundant food, resting habitat, and shelter for a wide array of marine organisms and migratory waterbirds, including brant and North American species of pelicans. The northern California coast, including the Seashore, is part of one of the few major coastal upwelling regions in the world (Hill et al. 1998). The Seashore is one of the best locations on the West Coast to watch the migration of the Pacific gray whale and to observe other animals that live their lives in the open-ocean such as albatrosses, dolphins, and humpback whales.

Marine and land boundaries are shared with the Gulf of the Farallones National Marine Sanctuary, Golden Gate National Recreation Area, and Tomales Bay State Park. In 1988, the United Nations Educational, Scientific, and Cultural Organization Man in the Biosphere program designated the Central California Coast Biosphere Reserve (CCCBR) under the International Biosphere Program; CCCBR includes the entire Seashore, the Golden Gate National Recreation Area, and other public lands in the region. Four state designated "Areas of Special Biological Significance" are located within the Seashore: Bird Rock, Point Reyes Headlands, Double Point, and Duxbury Reef. In addition, the Phillip Burton Wilderness Area is unique in that it is the only wilderness area between Canada and Mexico that includes marine waters (wilderness.net 2011).

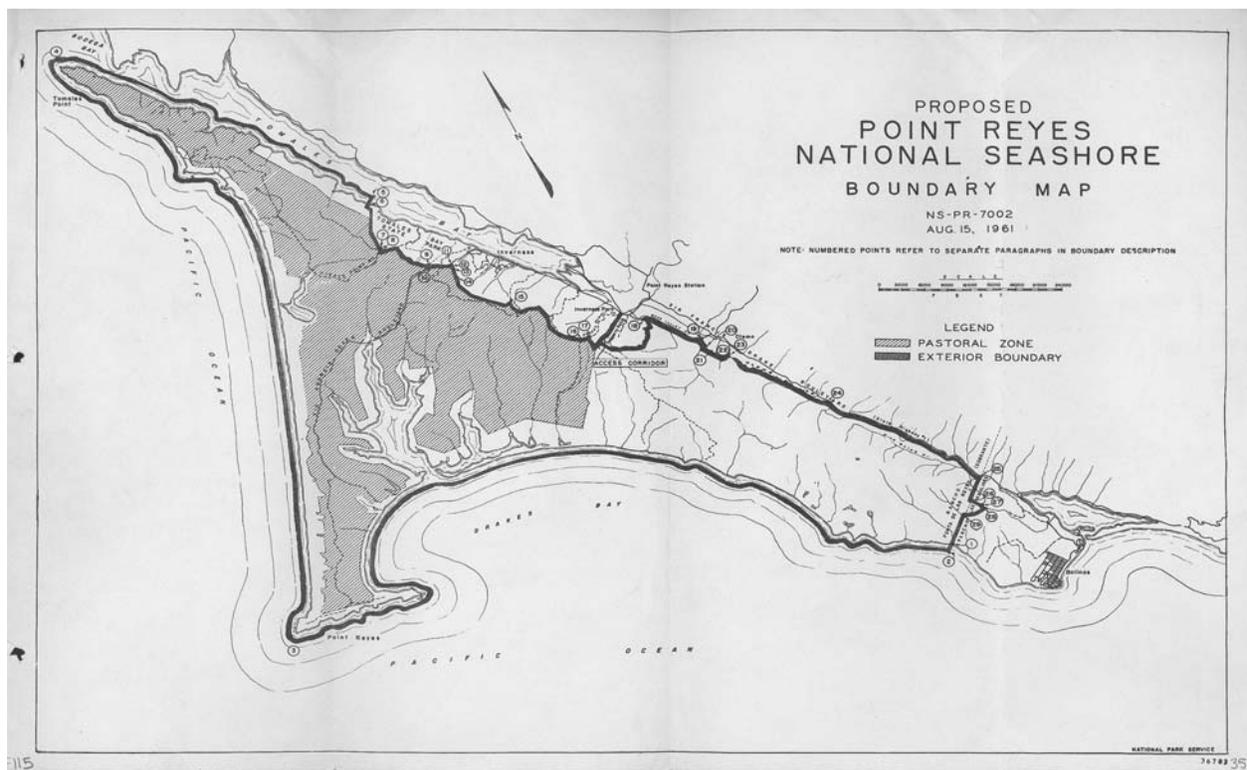
As set forth in the NPS Organic Act, the fundamental purpose of units of the national park system is "to conserve the scenery and the natural and historic objects and the wild life therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations" (U.S.C. title 16, section 1 [16 U.S.C. 1]). Units of the national park system also generally have their own specific purposes set out in their legislation. In 1962, Congress established Point Reyes National Seashore "to save and preserve for the purposes of public recreation, benefit, and inspiration, a portion of the diminishing seashore of the United States that remains undeveloped" (PL 87-657, section 1, September 13, 1962, 76 Stat. 538, codified at 16 U.S.C. 459c). President John F. Kennedy signed the Point Reyes Act (PL 87-657) into law on September 13, 1962 (appendix B).

With strong support and collective efforts from leaders working at the regional and national levels, as well as citizen activists, two bills were introduced to Congress in 1959 to seek authorization of a national

seashore on Point Reyes Peninsula. These bills, as constructed, did not advance fully, as local governments were concerned with issues such as loss of county tax revenue and infringement on the property rights of the ranchers and other landowners. As environmentalists, local managers, and ranchers began to realize that creation of the Seashore was the way to preserve and protect the conditions and livelihoods on the Point Reyes Peninsula from the forceful push of commercial land development, partnering began. In enacting the law establishing the Seashore, Congress considered both the cost of land acquisition and the fate of the existing dairy farms and cattle ranches within the potential boundaries. The enabling legislation specifically recognized the dairying and ranching operations by limiting the use of eminent domain within an area known as the “pastoral zone.” The pastoral zone was depicted on map number NS-PR-7002, dated August 15, 1961 (shown below).

Congress ratified this map by specifically referring to it in section 4 of the legislation, which states the following:

No parcel of more than five hundred acres within the zone of approximately twenty-six thousand acres depicted on map number NS-PR-7002, dated August 15, 1961 . . . shall be acquired without the consent of the owner so long as it remains in its natural state, or is used exclusively for ranching and dairying purposes including housing directly incident thereto. (PL 87-657, section 4, September 13, 1962, 76 Stat. 538)



Map NS-PR-7002, showing the pastoral zone of Point Reyes National Seashore. (Image courtesy of NPS.)

The section additionally defined “ranching and dairying purposes” as “such ranching and dairying, primarily for the production of food, as is presently practiced in the area” (PL 87-657, section 4, September 13, 1962, 76 Stat. 538). The administrative history of the Seashore identifies several rationales

behind the creation of the pastoral zone and the special treatment of ranching and dairying operations within the zone: responding to the concerns of ranchers, lessening the cost of initial land acquisitions, stabilizing the county's property tax base, and preventing commercial development within the area.

Despite the presence of JOC at the time of the deliberations, Drakes Estero and an upland buffer including the oyster operation were not identified as part of the pastoral zone depicted on map number NS-PR-7002. Thus, section 4 of the enabling legislation did not apply to the mariculture operations in and around Drakes Estero.

Although the enabling legislation did not specifically address the oyster operation, oyster operations were discussed in the 1962 legislative history. The House Report accompanying the legislation in 1962 mentions "small organizations engaged in oyster farming and fishing operations on Drakes Estero, Tomales Bay, and Point Reyes" (H. Rep. No. 87-1628, reprinted in 1962 U.S.C.C.A.N. 2500, 2504).

The report further notes that the committee had been advised that "none of these activities, as presently conducted, is incompatible with the plans of the National Park Service" and that there was an understanding with the owners of these properties that the government would have the first right to acquire the properties in the event the owners wished to dispose of them (H. Rep. No. 87-1628, reprinted in 1962 U.S.C.C.A.N. 2500, 2504).

In 1970, Congress removed section 4 from the legislation to address concerns around the eminent domain clause, through subsection 2b of the act of April 3, 1970 (PL 91-223, April 3, 1970, 84 Stat. 90), and in 1978 Congress added language authorizing the leasing of federally owned land that was agricultural land prior to its acquisition. Section 318(b) of PL 95-625 (1978) states the following:

Where appropriate in the discretion of the Secretary, he or she may lease federally owned land (or any interest therein) which has been acquired by the Secretary under this Act, and which was agricultural land prior to its acquisition. Such lease shall be subject to such restrictive covenants as may be necessary to carry out the purposes of this Act. Any land to be leased by the Secretary under this section shall be offered first for such lease to the person who owned such land or was a leaseholder thereon immediately before its acquisition by the United States. (PL 95-625, title III, section 318[b], November 10, 1978, 92 Stat. 3467, 3487, codified at 16 U.S.C. 459c-5[a])

Section 318(c) also defined "agricultural property" to mean "lands which were in regular use for, or were being converted to agricultural, ranching, or dairying purposes as of May 1, 1978, together with the residential and other structures related to the above uses of the property" (PL 95-625, title III, section 318[c], 92 Stat. 3487, codified as amended at 16 U.S.C. 459c-5[b]).

ESTABLISHMENT OF WILDERNESS AT POINT REYES NATIONAL SEASHORE

The National Wilderness Preservation System was established by Congress in 1964 to ensure that some lands of the United States would be preserved and protected in their natural condition for the permanent good of the people. Such federally owned areas are designated by Congress as "wilderness areas." An

area of wilderness is further defined as “an area of undeveloped Federal land retaining its primeval character and influence, without permanent improvements or human habitation which is protected and managed so as to preserve its natural conditions” (16 U.S.C. 1132).

During the 1970s, NPS studied the Seashore, as directed by the Wilderness Act of 1964, to determine the suitability of designating areas of the Seashore as wilderness. In 1972, the Seashore published its initial recommendation for an area of about 5,150 acres for the purpose of preservation of wilderness areas (NPS 1972b). Recognizing the uniqueness of the resources on the Point Reyes Peninsula and the threats that ensuing commercial and land development posed to other surrounding lands, NPS recommended 10,600 acres be designated as wilderness (NPS 1974). Congress ultimately decided in 1976 to designate more than 33,000 acres as wilderness or potential wilderness, including 25,370 acres as wilderness and another 8,003 acres of land and water as potential wilderness (PL 94-544, October 18, 1976, 90 Stat. 2515 and PL 94-567, October 20, 1976, 90 Stat. 2695). While the legislative language clearly articulates acreage in section 1, the map filed with the committee, as required under section 2 of the legislation, calculated that the actual acreage of those lands and waters is 24,200 acres of wilderness and 8,530 acres of potential wilderness. The waters of Drakes Estero were included in the potential wilderness designations, but the upland areas used for shellfish processing operations were not. Potential wilderness additions are defined as lands that do not qualify for immediate designation as wilderness “due to temporary nonconforming or incompatible conditions” (NPS 2006d, section 6.2.2.1). The House Committee Report accompanying the wilderness bill states the following about the potential wilderness additions:

As is well established, it is the intention that those lands and waters designated as potential wilderness additions will be essentially managed as wilderness, to the extent possible, with efforts to steadily continue to remove all obstacles to the eventual conversion of these lands and waters to wilderness status. (H. Rep. No. 94-1680, September 24, 1976)

PL 94-567 also provided an administrative mechanism for the conversion of potential wilderness to full wilderness once “all uses thereon prohibited by the Wilderness Act have ceased” (PL 94-567, section 3, October 20, 1976). In order for potential wilderness to be converted, NPS must publish a notice in the Federal Register that all nonconforming uses within the potential wilderness have ceased. Upon such publication, the congressionally designated potential wilderness gains congressionally designated wilderness status.

In addition to the wilderness provisions contained in PL 94-544 and 94-567, Congress amended the provisions of the Seashore enabling legislation by adding language elaborating on the original purposes of the Seashore. Rather than focusing on recreational or other aspects of the Seashore, Congress directed that the Seashore be administered “without impairment of its natural values, in a manner which provides for such recreational, educational, historic preservation, interpretation, and scientific research opportunities as are consistent with, based upon, and supportive of the maximum protection, restoration, and preservation of the natural environment within the area” (PL 94-544, section 4, October 18, 1976, 90 Stat. 2515, codified at 16 U.S.C. 459c-6; and PL 94-567, section 7, October 20, 1976, 90 Stat. 2695, codified at 16 U.S.C. 459c-6).

In February of 2004, the Department of the Interior, Office of the Solicitor issued a legal opinion regarding the meaning of the 1976 legislation designating Drakes Estero as potential wilderness. Based on

the language of the law and its legislative history, the opinion concluded that NPS was mandated to convert the potential wilderness in Drakes Estero to full wilderness as soon as the nonconforming use could be eliminated (DOI 2004). The oyster operation in Drakes Estero was dependent on the 40-year RUO that Charles Johnson had retained when he sold his 5-acre parcel to NPS in 1972. The RUO expires on November 30, 2012, making this date the earliest date on which the obstacle to full wilderness designation would cease. In October 2009, section 124 of PL 111-88 provided the Secretary discretionary authority to issue a new SUP for a period of 10 years notwithstanding the intent of the 1976 wilderness legislation.

COMMERCIAL SHELLFISH OPERATIONS IN DRAKES ESTERO

OVERVIEW FROM 1930 TO 2004

Mariculture developers first planted oyster beds in the Tomales Bay area around the turn of the 20th century. Throughout the 1930s, CDFG conducted successful experimentation with nonnative species to create commercial shellfish aquaculture in the state. In a 1935 survey to assess the suitability of California bays and inlets for commercial shellfish aquaculture, Bonnot stated regarding Drakes Estero: “No oysters were found growing there. Several small plants of Japanese seed oysters were made in 1932. The oysters grew remarkably well and in five months were about two-thirds market size. A project of an experimental nature on a much larger scale is now being promoted...” (Bonnot 1935). In a later report on the California oyster industry, Bonnot noted that Humboldt Bay began to establish artificial culture of the native oyster (*Ostrea lurida*), using the already existing natural beds. Research was conducted to determine the necessary biological conditions for this success of the native oyster in California (Bonnot 1937). Oyster growers, in an attempt to produce a faster- and larger-growing product, introduced nonnative species of oyster to several water bodies in California, including Drakes Estero. The success of the nonnative Pacific oyster (*Crassostrea gigas*) in Tomales Bay and Drakes Estero contributed to the establishment of new companies and the retooling of existing oyster businesses. In 1938, the original Drakes Bay Oyster Company (no relation to the present-day DBOC) built a small “opening” plant on the banks of Drakes Estero near the head of Creamery Bay, selling its freshly shucked oysters in San Francisco. The plant operated within Drakes Estero until 1945. The 5-acre plant property was not owned by the oyster company but was part of a larger estate (Caywood and Hagen 2011).

Due to World War II, Pacific oyster seed shipments ceased and oyster operations declined. This interruption, coupled with other factors, caused some oyster operations in the area to dissolve. In 1946, the Drakes Estero oyster allotment was transferred to Larry Jensen (Caywood and Hagen 2011). During the Jensen tenure, the ownership of the 5-acre parcel containing the processing plant was integrated with the state water allotment lease in Drakes Estero. In 1951 and 1952, both the nonnative Pacific and eastern oysters (*Ostrea virginica*) were grown within Drakes Estero by the original Drakes Bay Oyster Company (CDFG 2011c). In April 1954, Larry Jensen entered into an “agreement of sale” with Van Camp Seafood for his oysters, state oyster allotments, and the 5 acres of upland real property that accompanied the state water bottom leases. In turn, it was quickly transferred to the Coast Oyster Company (Caywood and Hagen 2011; CDFG 1954, 1955).

In 1958, Charles W. Johnson, a seed buyer for the Coast Oyster Company, settled in California and took over the oyster operation in Drakes Estero. He soon founded JOC. Charles Johnson cultured oysters in Drakes Estero and operated onshore processing facilities from 1961 through 2003. Johnson purchased 5 acres of onshore land where the existing processing facilities were located in 1961. He and his wife improved upon an L-shaped processing plant. A frame building used for opening oysters, a dock, and five small cottages or cabins were preexisting. By 1963, the Johnsons had built two additions to the processing plant, one serving as a sorting room and the other for restrooms, and expanded one of the cabins for their residence (Caywood and Hagen 2011).

Although the Seashore was established in 1962, NPS did not acquire ownership of all lands and waters within the Seashore's boundary immediately. In 1965, the state-held water bottoms of Drakes Estero were conveyed to NPS by the State of California. As of 1965, however, NPS did not own the upland areas where the oyster processing facilities were located. NPS purchased fee title to the 5-acre upland parcel from Johnson in 1972. As part of the purchase agreement, Johnson elected to retain a 40-year RUO over 1.5 acres of the 5-acre parcel. The RUO allowed for "processing and selling wholesale and retail oysters, seafood and complimentary food items, the interpretation of oyster cultivation to the visiting public and residential purposes reasonably incidental thereto" (NPS 1972a).

Even though the water bottoms in Drakes Estero were conveyed to the United States in 1965, the state has continued to issue state water bottom leases for shellfish cultivation in Drakes Estero. The continued issuance of state water bottom leases has created confusion and is inconsistent with the NPS's ownership and jurisdiction over Drakes Estero. Should the Secretary issue a new permit to DBOC under section 124, as a condition of receiving that permit, DBOC would be required to surrender its state water bottom lease to the CFGC prior to issuance of a new SUP by NPS.

In 1979, the state consolidated Oyster Allotment Nos. 2 and 72 into one Mariculture Lease (M-438-01)³ in conformance with a new standard numbering system. Lease M-438-01 was described as two parcels (see figure 1-3): Parcel 1 contains 343 acres on the east side of Drakes Estero and Parcel 2 contains approximately 706 acres on the west side of Drakes Estero. A 1-acre parcel designated as Mariculture Lease M-438-02⁴ lies within Parcel 2. Parcels 1 and 2 contain approximately 1,049 acres⁵ and together compose Lease M-438-01 (see figure 1-3).

In 1979, Lease M-438-01 was allotted for the purpose of culturing Pacific oysters and European flat oysters (*Ostrea edulis*). The authorized methods of oyster cultivation in 1979 included bottom, rack, and stake cultures (CDFG 1979a). The 1-acre Lease M-438-02 was allotted for the sole purpose of culturing purple-hinged rock scallops (*Hinnites multirugosus*) (scallop) in accordance with provisions of section 6400 of the California Fish and Game Code. As permitted, scallops were to be confined and cultivated on racks and in trays. No other mode of operation or culture was authorized at the time (CDFG 1979b).

³ Referred to as Lease M-438-01 in remainder of document.

⁴ Referred to as Lease M-438-02 in remainder of document.

⁵ Since the consolidation of several allotments into Lease M-438-01 in 1979, the lease language has specified that the lease area is made up of two parcels totaling approximately 1,059 acres; however, the geographic information system (GIS) data provided by CDFG in 2011 for this lease area measures 1,049 acres. For the purposes of this EIS, all area calculations are based on GIS data. Therefore, the latter measurement is used to represent existing conditions throughout this EIS.

In August 1993, JOC made a request to CDFG to begin the culture of Manila clams (*Venerupis philippinarum*, also known as *Tapes japonica* and *Venerupis japonica*) in Lease M-438-01 (Studdert 1993^{xiv}). In an October 7, 1993, meeting, CFGC authorized JOC to cultivate Manila clams in an amendment to Lease M-438-02. The CFGC meeting minutes documenting the approval of the request state “Lease M-438-02 is a small, 1-acre lease which has been previously used by the JOC in experimental culture of species other than oysters. Johnson Oyster Company would now like to investigate if conditions in Drakes Estero are suitable for culture of Manila clams” (CFGC 1993). CDFG sent a letter to JOC confirming that Manila clams had been added to Lease M-438-02, and JOC signed the lease amendment.

In November 1989, the Marin County Planning Department contacted Charles Johnson regarding violations involving the enlargement of the processing plant and installation of mobile homes without appropriate permits. These activities were also inconsistent with the terms of the RUO. Failure to obtain a coastal development permit also placed JOC in violation of California Coastal Act provisions. However, to bring JOC into compliance with federal, state, and local codes and regulations, a number of facility replacements and best practices were still needed, including an upgrade to the septic system (Caywood and Hagen 2011). The expanded septic system plans were eventually submitted to NPS by JOC and evaluated for compliance as part of the 1998 Environmental Assessment (EA) which included several other activities, including removal of unpermitted mobile homes and construction of new facilities (NPS 1998a, 1998b). The EA and the executed finding of no significant impact (FONSI) included the existing building removal and new construction of a 900-square-foot garage, a 2,625-square-foot seed plant, a 500-square-foot stringing plant, and a 7,600-square-foot processing plant, along with a new septic system that would include a new leach field and rehabilitation of the existing leach field. The FONSI also included an annual processing/production limit of 700,000 pounds (oyster weight) to ensure that the new facilities would not create additional growth (and any new negative impacts) in overall oyster production in the estuary (NPS 1998b). The only actions that JOC completed were removal of some mobile homes from the site and installation of a single leach field, which corrected the unpermitted discharge.

While some progress was made by JOC in bringing facilities into compliance, there were still numerous California Coastal Act, county building code, and NPS permit violations left unresolved (Caywood and Hagen 2011). In 2003, CCC issued a Cease and Desist Order (CDO) (No. CCC-03-CD-12) to JOC that required the removal of some unpermitted development from the property (the shucking room and the retail counter, two houses, and two of the four mobile homes), improvement of the wastewater system (which was draining into Drakes Estero), remediation related to the storage of oyster cultivation equipment and disposal of refuse in Drakes Estero and along the shore, and the submittal of a coastal development permit application for after-the-fact authorization for other unpermitted development that included construction of several commercial buildings and a horse paddock; additions to pre-Coastal Act buildings; and permanent placement of a mobile home, three metal storage/refrigeration containers, and an aboveground diesel fuel tank and concrete containment structure (CCC 2003). In September 2003, due to the various unresolved violations, NPS revoked authority for the construction and replacement activities that had been authorized by the 1998 EA and FONSI (NPS 2003c^{xv}).

Prior to expiration of its 1979 leases, JOC requested lease extensions for a period of 25 years. In February 2004, a CDFG letter to JOC indicated that “the Department would require that a federal/National Park Service (NPS) lease be in effect concurrently with the state water bottom lease” (CDFG 2004a^{xvi}). On March 15, 2004, NPS conveyed legal opinions from the Solicitor’s Office regarding the JOC RUO and

relationship to wilderness to the CDFG Director (NPS 2004c^{xvii}). On June 14, 2004, CDFG provided their recommendation to the CFGC stating “The Department recommends approval of the requested lease renewals for a period of twenty-five years, contingent on there being a Federal Reservation for the land use within the Point Reyes National Seashore” (CDFG 2004b^{xviii}). On June 18, 2004, NPS sent a letter to CDFG reiterating that “The NPS still believes that any activity in the Estero must also be permitted by the NPS” (NPS 2004d^{xix}).

CFGC approved lease renewals to JOC on June 25, 2004, for both Lease M-438-01 and Lease M-438-02, for a 25-year period. This approval was contingent on a concurrent federal RUO for land in the Seashore. These renewals were for the express purpose of cultivating the Pacific and European flat oysters in the previously designated Lease M-438-01 and purple-hinged rock scallops and Manila clams in Lease M-438-02. A series of operational conditions accompany CDFG leases, including methods of cultivation, record keeping, requirements for requesting additional species, and requirements for providing a financial guarantee for cleanup (CDFG 2004d).

DRAKES BAY OYSTER COMPANY: 2005 TO PRESENT

In December 2004, DBOC purchased the assets of JOC, assuming the remaining seven years of the RUO and SUP that NPS had issued to JOC for the well and septic leach field (DBOC 2011f^{xx}). There were no changes to the terms of the RUO or to its expiration date. On March 18, 2005, CDFG authorized the transfer of Leases M-438-01 and M-438-02 from JOC to DBOC, which is owned and operated by Kevin and Nancy Lunny (CDFG 2005a, 2005b). The acreages and the shellfish culturing provisions of the leases remained the same. Lease M-438-01, for approximately 1,049 acres of water bottoms within Drakes Estero, allowed for the cultivation of Pacific oysters and European flat oysters, with minimum production limits placed on the oyster harvesting (CDFG 2005a). Lease M-438-02, which is the 1-acre parcel on the west side of Drakes Estero inside the boundary of Lease M-438-01, allowed for the cultivation of purple-hinged rock scallops and Manila clams (CDFG 2005b).

When DBOC purchased the assets of JOC, it also assumed the compliance obligations arising from the CCC Consent Cease and Desist Order issued to JOC (CCC 2003). DBOC has worked with CCC staff to remove some of the unpermitted developments, including the removal of the western portion and the second-floor addition to the processing plant and retail facility, two storage containers, a refrigerated trailer, the seed setting area, the western portion of the storage facility, and a mobile home. However, not all of the unpermitted development had been removed when DBOC completed additional development without a coastal development permit or approval from NPS, including placement of two large containers for shucking/packing/storage and a temporary construction trailer, construction of a processing facility and second leach field, grading and paving within the onshore portions, and placement of oyster culture apparatus in Drakes Estero (CCC 2007b). DBOC also established unauthorized practices on the property (e.g., boat transit outside established channels). CCC and NPS alerted DBOC to the violations, and DBOC agreed to submit a coastal development permit application for all “onshore and offshore” development on the property that required a permit. A second Consent Cease and Desist Order (No. CCC-07-CD-11/CCC-07-CD-04) was issued as a short-term order to allow DBOC operations to continue while DBOC met the remaining requirements for documented violations. The 2007 Cease and Desist Order set time frames for submittal of the coastal development permit application, established agreed-upon conditions of the operations, and identified activities to be avoided until CCC received and approved the

application. The consent order furthermore directed DBOC to take actions and implement protective measures to ensure protection of coastal resources. On November 29, 2007, DBOC signed the consent order to work with CCC and NPS to resolve the violations (CCC 2007b). Even though the 2007 Cease and Desist Order was issued as a short-term order, it currently remains in effect.

In April 2008, DBOC and NPS signed a SUP (NPS Permit No. MISC-8530-6000-8002) that would allow the commercial shellfish operation in Drakes Estero to remain, with provisions, until November 30, 2012, when it expires concurrently with the RUO. The SUP outlines the terms and conditions that apply to DBOC operations, including limits on the amount of shellfish that may be cultivated, limits on the types of facilities that may be constructed, and various measures designed to protect Seashore resources, modeled after mitigation measures defined in CCC Consent Cease and Desist Order (CCC 2007b). The SUP area includes the 1.1 acres of lands and improvements adjacent to the RUO (see figure 1-4) and the waters corresponding to Leases M-438-01 and M-438-02 (see figure 1-3). Additionally, the existing well site and septic field that support the onshore oyster operations were included in the permit. Consistent with the RUO, the SUP was issued to allow for the cultivating, processing, and selling of oysters, as well as the interpretation of oyster cultivation. The conditions and special terms of both the RUO and the SUP can be viewed in appendix A. The issuance of the 2008 SUP did not result in the retroactive approval of facilities and operations that had not been previously approved by NPS, as the 2008 SUP cover page indicates that NEPA compliance was “pending.” NPS and DBOC agreed, through the signing of the SUP, that NPS would prepare a NEPA analysis presenting alternative operating scenarios for DBOC’s operations through November 30, 2012. Before NPS could fully initiate the NEPA document for the 2008 SUP, Congress enacted section 124. Therefore, this EIS is now the vehicle in which NPS is considering different operating scenarios for DBOC.

CDFG leases transferred to DBOC following its purchase of JOC, allowed cultivation of the Pacific oyster, European flat oyster, purple-hinged rock scallop, and Manila clam. The purple-hinged rock scallop and Manila clam were listed as approved species on Lease M-438-02 (CDFG 2005b). Although not approved, JOC also had Kumamoto oysters (*Crassostrea sikamea*) under cultivation. JOC did not report Kumamoto or European flat oysters separately, so the bulk of the reported harvest levels were recorded as the Pacific oyster. While included in Lease M-438-01, there is no record that DBOC has ever produced European flat oysters. DBOC identified and removed the Kumamoto oysters under direct CDFG supervision (DBOC 2008c^{xxi}; CDFG 2008b^{xxii}). Small numbers of scallops were harvested by the Johnsons in Lease M-438-02. Tax reports do not indicate harvesting of any scallops to date by DBOC.

While CFGC authorized Manila clams within Lease M-438-02 beginning in 1993, there is no record in the annual Proof of Use Reports of tax records of Manila clam harvest. The cultivation of Manila clams within Lease M-438-01 has not been approved by NPS as required by section 4(b)(vi) of the 2008 SUP (NPS 2008b). In spring 2009, DBOC advised CDFG that it believed the 1993 CFGC decision to add Manila clams to Lease M-438-02 was a clerical error, and DBOC requested that Manila clams be added to its Lease M-438-01. In a letter dated December 8, 2009, NPS expressed concerns to the CFGC regarding the expansion of Manila clams within the Seashore’s boundary. Specifically, NPS was concerned about the size of the expansion and lack of environmental review or analysis of risk, the potential for establishment of a nonnative species, and the potential to add substrate for the highly invasive nonnative tunicate, *Didemnum vexillum* (NPS 2009d^{xxiii}). On December 10, 2009, CFGC authorized amendment of Lease M-438-01 to include the cultivation of Manila clams, calling it a clerical error (CFGC 2009^{xxiv}). In a letter on December 22, 2009, NPS advised DBOC that additional information was required before NPS

could determine whether to give final approval under the SUP, and that cultivation of clams on the larger lease could only occur subsequent to such approval (NPS 2009e^{xxv}). DBOC declined to offer any additional information in its response to NPS (DBOC 2009c^{xxvi}). The addition of Manila clam cultivation to the area of Lease M-438-01 and outside the boundaries of Lease M-438-02 is not authorized under the NPS SUP.

During the time CDFG and CFGC were reviewing the request for Manila clams in Lease M-438-01, CCC issued DBOC an enforcement notice on September 16, 2009, stating that DBOC was out of compliance with the 2007 Consent Cease and Desist Order because Manila clams were located outside Lease M-438-02 (CCC 2009b^{xxvii}). In response to the CCC notice, DBOC agreed to move the Manila clams from Lease M-438-01 to Lease M-438-02. In early December 2009, NPS and CCC issued letters of violation to DBOC for placement of Manila clam bags within one of the harbor seal exclusion areas (NPS 2009c^{xxviii}; CCC 2009a^{xxix}). In response, DBOC stated that clam bags had been placed within a harbor seal protection area because its global positioning system (GPS) coordinates were misread and the misplaced clams would be immediately removed (DBOC 2009a^{xxx}).

From 2009 to 2011, DBOC submitted several requests to CCC, CDFG, and/or NPS for improvements and alterations to the commercial shellfish operation (DBOC 2009b^{xxxi}, 2010f^{xxxii}, 2010m^{xxxiii}, 2010n^{xxxiv}, 2011c^{xxxv}, 2011e^{xxxvi}, 2011g^{xxxvii}). On March 30, 2010, CCC forwarded the DBOC proposals to NPS and requested a review of the list of proposed actions that were currently authorized under the DBOC SUP (CCC 2010a^{xxxviii}). Although some of the actions proposed in the development plans were authorized by the existing SUP, NPS was not able to fully evaluate the proposed development actions because supporting information such as design plans and other relevant data was not submitted. Several site drawings and development costs have been subsequently provided by DBOC, including an emergency storm damage replacement request in March 2011 (DBOC 2011a^{xxxix}, 2011b^{xl}). These, along with recent requests for a lease boundary adjustment and an updated site plan, are considered as requests under article 6 of the SUP (NPS 2008b). NPS has reviewed these requests, and many of the requests are considered as elements of alternatives presented in this EIS (see “Chapter 2: Alternatives”).

On September 29, 2011, CCC notified DBOC regarding potential noncompliance with several of the stipulations in the 2007 Consent Cease and Desist Order: “1) marine debris in Drakes Estero and on nearby coastal beaches, especially from abandoned, discarded, or fugitive plastic aquaculture materials; and 2) motorized vessel transit in the lateral sandbar channel near the mouth of the Estero during the seasonal restriction period established for harbor seal pupping sites in this area” (CCC 2011). CCC reaffirmed these continued violations and requested additional information from and meetings with DBOC in a subsequent letter on February 1, 2012 (CCC 2012a^{xli}).

On February 17, 2012, DBOC submitted an updated coastal development permit application to CCC for review and approval (DBOC 2012a^{xliii}). CCC informed DBOC on March 16, 2012 that this coastal development permit application was “incomplete because there is no evidence of landowner approval of the proposed work, a portion of the permit fee has not been submitted, and you [DBOC] have not provided sufficient detail regarding the additional work” (CCC 2012d). DBOC informed NPS in a letter dated May 7, 2012 that it would limit its current coastal development permit application to existing activities and would apply to CCC for a coastal development permit amendment in the future prior to future development (DBOC 2012c^{xliiii}). On June 5, 2012, DBOC responded to the NPS’s previous request

for additional information related to consistency with the SUP and provided an updated project description (DBOC 2012b^{xliiv}).

In a letter dated July 30, 2012, CCC informed DBOC of its continued noncompliance with several of the stipulations in the 2007 Consent Cease and Desist Order, including unauthorized boat use of the lateral channel during the seasonal closure for harbor seal pupping, unauthorized boat use of the lateral channel to obtain water sampling data, the collection and disposal of marine debris as a result of JOC and DBOC operations, and development within the coastal zone without an approved coastal development permit. CCC noted that DBOC's May 7, 2012 letter to NPS, "discusses development activities that DBOC has pursued without benefit of a CDP" and; therefore, CCC reiterated that "any development in the coastal zone portion of Point Reyes National Seashore requires a CDP from the Commission unless otherwise exempt from permit requirements" (CCC 2012b^{xlv}). CCC also notified DBOC that a new Cease and Desist Order is being considered, "Considering the current uncertainty of a new lease and SUP permit being granted to DBOC, the delays in the various proceedings, your [DBOC] apparent confusion over certain terms of the Order, and the continuing difficulties in bringing DBOC operations into compliance with the Coastal Act" (CCC 2012b). On October 24, 2012, CCC notified DBOC that CCC was commencing proceedings for issuance of cease and desist and restoration orders (CCC 2012e^{xlvi}). The letter summarized the violation as follows:

Unpermitted development including but not limited to: operation of offshore aquaculture facilities; construction/installation of structures and the performance of ongoing harvesting, processing, sales, and other operations; and violations of Consent Cease and Desist Order No. CCC-07-CD-11 (Drakes Bay Oyster Company) including installation of additional unpermitted development, boat traffic in the lateral sand bar channel near the mouth of the Estero during a seasonal restriction established for harbor seal pupping sites, and discharge of marine debris in the form of abandoned, discarded, or fugitive aquaculture materials. (CCC 2012e)

THE NEPA PROCESS

NEPA was passed by Congress in 1969 to assure that all branches of government give proper consideration to the environment prior to undertaking any major federal action that could significantly affect it. Environmental reviews under NEPA involve integration of social, environmental, and economic factors within the framework of existing laws, regulations, policies, and agency guidance for project decisions. Although the Secretary's authority under section 124 is "notwithstanding any other provisions of law," the Department has determined that it is helpful to generally follow the procedures of NEPA. The requirements of NEPA as implemented by the Council on Environmental Quality (CEQ), as well as NPS regulations and guidance for NEPA implementation and decision-making (Director's Order 12 and Handbook: *Conservation Planning, Environmental Impact Analysis, and Decision-making* [DO-12]) (NPS 2001b), will therefore guide this environmental review process.

SCOPING PROCESS AND PUBLIC PARTICIPATION

Scoping is a process that allows the agency to discuss the proposed action with stakeholders, interested and affected parties, and the public, as well as internally with agency personnel. To determine the scope of issues to be analyzed in depth in this EIS, internal meetings were conducted with Seashore staff, three public scoping meetings were held at different locations in the vicinity of the Seashore during the public scoping period, and relevant agency consultations were initiated.

Internal Scoping

An internal scoping meeting was held in September 2010 to initiate the EIS process and to define the initial scope of the EIS. Attendees included Seashore officials, DOI Solicitor's Office, representatives from NPS Pacific West Region, NPS Environmental Quality Division (EQD), and their contractors. Following the public and agency scoping period described below, the interdisciplinary planning team considered public comments for use in the development and refinement of project purpose and need, issues, impact topics, alternatives, and impact analysis for the EIS.

Public Scoping and Outreach

The public scoping period was open for a total of 50 days between October 8, 2010, and November 26, 2010. An NPS press release was published by Bay Area news outlets on October 5, 2010, announcing the dates, times, and places of the public scoping meetings. On October 8, 2010, NPS sent a scoping letter to more than 500 interested individuals and organizations notifying them of the opportunity to comment, and the NPS Planning, Environment, and Public Comment (PEPC) web-site was activated as a vehicle for the public to submit comments. The Federal Register published a Notice of Intent (NOI) to prepare an EIS on October 22, 2010 (NPS 2010d). The public comment period officially closed on November 26, 2010. More than 4,000 comment letters were submitted to NPS during the public comment period. On January 31, 2011, NPS posted the Public Comment Analysis Report and all public correspondence on-line at http://www.nps.gov/pore/parkmgmt/planning_dboc_sup_scoping_comments.htm. Comments received during the public scoping process helped to inform the range of alternatives, as well as the impact topics to be addressed by the EIS. "Chapter 5: Consultation and Coordination" of this EIS provides more details about the public scoping activities, which were an integral part of the planning process for this EIS.

In April 2008, in conjunction with the SUP, DBOC and NPS agreed to a statement of principles (appendix C) that outlined procedures to be followed in the event that a NEPA document need to be prepared for proposed activities associated with the remaining four-year term of the RUO. The statement of principles was executed prior to the enactment of section 124 and prior to the Secretary's decision to use the NEPA process to inform the decision on the possible issuance of a permit under section 124. NPS and DBOC have agreed to apply the statement of principles to this EIS to the extent that it is applicable. In keeping with the statement of principles, NPS met with DBOC prior to the scoping process to discuss DBOC's interest in obtaining a permit under section 124 and to inform DBOC that NPS is initiating an EIS process and would be covering the cost for this new process. As indicated by the statement of principles, DBOC was to prepare a "description of their operations for NEPA evaluation" and that NPS would consider this description in developing the purpose and need for the NEPA document and

alternatives to be considered. DBOC submitted scoping comments and other information regarding its operation during the initial scoping period and in subsequent requests through March 15, 2011. NPS fully considered DBOC's interests in developing the range of alternatives and impact topics that are addressed in this EIS.

The Draft EIS was made available for public review and comment beginning on September 23, 2011 and ending December 9, 2011. The document was made available for review electronically on the NPS PEPC web-site (www.parkplanning.gov/PORE) and in hard copy at park headquarters, local libraries, and at the public meetings. Hard copies or CDs also could be obtained by contacting the Seashore Superintendent. Three public meetings were held on October 18, 2011 (Point Reyes Station), October 19, 2011 (San Francisco), and October 20, 2011 (Mill Valley). During the 2011 public meetings, several informational posters were displayed to depict the project area, project purpose/need/objectives, the alternatives under consideration, and the resources potentially impacted by the alternatives. Attendees provided written comments during the meeting or had their comments transcribed onto flipcharts. Upon conclusion of the public comment period, all of the comments received at the meetings, entered directly into PEPC, provided via mail, or provided in person at the Seashore headquarters were entered and analyzed in PEPC. During the comment period, 52,473 pieces of correspondence were received, of which 50,040 were form letters (based on 24 distinct master form letters). A summary of public comments received and associated NPS responses are included in appendix F.

Agency Scoping and Consultation

In addition to collecting comments from the public, NPS also initiated scoping with relevant agencies. Letters were sent out to notify the agencies of the intent to begin preparation of the EIS and to solicit agency comments and suggestions regarding the proposed project and its potential environmental effects on resources under their respective jurisdictions (appendix D). The agencies were asked to identify issues that should be analyzed in the EIS, determine the appropriate scope of the environmental analysis, identify potential management actions to be taken should the project commence, and determine whether agency permits or approvals would be required. Four agencies have entered into an agreement with NPS to be cooperating agencies in the development of the EIS: CDFG, USACE, NMFS, and the U.S. Environmental Protection Agency (EPA). Each of these cooperating agencies has special technical expertise related to the issues under consideration in the EIS. The cooperating agencies; tribal government; and several other federal, state, and local agencies were notified of the Draft EIS availability (see the complete "List of Recipients" in chapter 5).

In accordance with NEPA and section 309 of the Clean Air Act, the EPA reviewed the Draft EIS. In their response letter dated December 7, 2011, EPA rated the Draft EIS as "Lack of Objections (LO)." Formal comments on the Draft EIS also were received from NMFS (letter dated November 17, 2011, with clarification on December 9, 2011), USACE (letter dated December 8, 2011), CDFG (letter dated December 20, 2011), USCG (letter dated December 7, 2011), and CCC (letter dated December 12, 2011).

Chapter 5 of this EIS provides more detail about agency consultation and coordination and cooperating agencies.

REFERENCES USED FOR IMPACT ANALYSIS

As part of the NEPA evaluation process, this EIS uses various sources of information in the analysis of impacts. Primary references are those for which evidentiary support is traceable to a source that complies with recognized standards for data documentation and scientific inquiry. For example, data pertaining directly to the activities and conditions within Drakes Estero were obtained from NPS documents and other sources that have been prepared consistent with NPS standards for scientific and scholarly activities, including relevant peer review. For research conducted in similar settings (but not in Drakes Estero itself), references were taken from peer-reviewed scientific literature. Primary references were directly incorporated into this analysis where such references added clarity to the issues addressed. Secondary references are those for which evidentiary support is not directly traceable to a source that complies with recognized standards for data documentation and scientific inquiry. Secondary references can include documents that have not been subjected to peer review or that do not reflect direct on-site observations or measurements in accordance with a standard protocol for data documentation. Examples of secondary references include presentation slides, field notes, and personal correspondence. This includes some of the information provided by CDFG, DBOC, and members of the public.

A main resource used in development of this EIS is the NPS-commissioned National Research Council (NRC) of the National Academy of Sciences (NAS) report, *Shellfish Mariculture in Drakes Estero, Point Reyes National Seashore, California* (NAS 2009). As stated in the report, the objective was to review scientific evidence at the following levels of inquiry: (1) scientific studies directly related to the impact of oyster mariculture on Drakes Estero, (2) other research on Drakes Estero, (3) research in similar ecosystems, and (4) the compendium of scientific research on bivalve mariculture in coastal estuarine environments from which general conclusions could be drawn. The 2009 NAS report is referred to in section 124, where it is stated that “the Secretary shall take into consideration recommendations of the National Academy of Sciences Report pertaining to shellfish mariculture in Point Reyes National Seashore before modifying any terms and conditions of the extended authorization.” The report provides an intensive review of pertinent scientific literature on this subject. As such, there is much overlap between the literature cited in that document and the references used to support this EIS. Furthermore, the conclusions drawn from the 2009 NAS report are taken into consideration (described under “Independent Reviews of the Information and Data Used in this EIS”).

Additional references beyond those used in the NAS report were considered in the EIS process in order to meet NEPA requirements, which are broader than the research objectives of the NAS report. In addition, since the time of the 2009 NAS report additional research regarding the resources considered in this EIS in similar settings, as well as in Drakes Estero itself, has become available. This research has been considered in this analysis where appropriate. The use of reference materials was also informed by the various reviews of the EIS discussed in the following section. Because the reference material is derived from various sources, relevant documentation was classified into two categories—primary references and secondary references—based on the authority of the sources, as explained above. In general, secondary references were not used for the analysis, unless there was a compelling reason to do so.

By following the above procedures for reviewing and selecting reference material, this EIS is in compliance with the Department of the Interior Departmental Manual part 305, chapter 3, “Integrity of Scientific and Scholarly Activities” (DOI 2011). In particular, this EIS “document[s] the scientific and scholarly findings considered in the decision-making and ensure[s] public access to that information and

supporting data through established Departmental and Bureau procedures—except for information and data that are restricted from disclosure under procedures in accordance with statute, regulation, Executive Order, or Presidential Memorandum” (DOI 2011). Because agency and DBOC correspondence is not readily available to the public, these items are endnoted throughout the EIS, except in instances where a direct quote is provided in the text.

Questions have been raised about the use of the following four references in this EIS: Anima 1990, Anima 1991, Harbin-Ireland 2004, and Wechsler 2004. The NPS has acknowledged that these four references were inappropriately cited in a previous NPS document. The fact that these references were inappropriately cited in a prior NPS document does not affect the integrity of the four references themselves. Each of the four references has been peer reviewed, and each remains a legitimate source for informing the analysis in this EIS. Harbin-Ireland 2004 and Wechsler 2004 are graduate theses that meet the peer review standards, although no subsequent journal articles related to these theses have been published. Wechsler 2004 is described as a preliminary study, and the recent NAS review determined that elements of the study’s methodology and data analysis constrain some EIS interpretations (NAS 2012a). NPS acknowledges the NAS assessment of Wechsler 2004; however, the issues addressed by NAS in 2012 do not affect the fundamental data recorded in the Wechsler study and used in the EIS. These references meet the criteria for primary reference works described above. So that readers of this EIS can readily understand the specific information from these references that informed the NEPA analysis, where they are used, these references have been endnoted as well, except in instances where a direct quote is provided in the text.

INDEPENDENT REVIEWS OF THE INFORMATION AND DATA USED IN THIS EIS

There have been a number of independent reviews of the science cited by the NPS in this EIS. The results of these reviews have been made public. The NPS has considered the findings of each of these reviews during the preparation of the Draft or Final EIS (depending on the release date of the review) and has modified the analysis in the EIS as appropriate.

Shellfish Mariculture in Drakes Estero, Point Reyes National Seashore, National Academy of Sciences

As noted above, a principal resource in the preparation of the EIS is the NPS-commissioned NAS report, *Shellfish Mariculture in Drakes Estero, Point Reyes National Seashore, California* (NAS 2009). The report provides an intensive review of pertinent scientific literature on this subject. As such, there is much overlap between the literature cited in that document and the references used to support this EIS. Furthermore, the conclusions drawn from the 2009 NAS report are taken into consideration and cited where relevant within the EIS. In reflecting on the body of available science, the 2009 NAS report summarizes on page 6 that: “After evaluating the limited scientific literature on Drakes Estero and the relevant research from other areas, the committee concludes that there is a lack of strong scientific evidence that shellfish farming has major adverse ecological effects on Drakes Estero at the current (2008–2009) levels of production and under current (2008–2009) operational practices. . . .” Production levels for 2008–2009 representing the current levels of production referenced by NAS are approximately

450,000 lbs of shellfish, with Manila clams permitted only within the 1-acre Lease M-438-02. The 2009 NAS report does not provide a definition or detection threshold for what a “major” adverse ecological effect would be in this context, nor does it indicate that the NAS use of an impact qualifier (e.g., “major”) is consistent with NEPA standards. It should also be noted that archeological and historical sources that pertain directly to the presence or absence of oysters in Drakes Estero prior to the establishment of an oyster operation in the 1930s were not considered in the NAS study. The information provided by those studies may have a bearing on the decisions to be made.

The 2009 NAS report concludes:

Our committee concludes that this decision on extension of the RUO hinges on the legal interpretation of the legislative mandate rather than a scientific analysis of the impacts of DBOC on the Drakes Estero ecosystem. As such, more scientific study of DBOC operations and Drakes Estero would not necessarily affect National Park Service decisions about the future of oyster farming in the estero. (NAS 2009)

Should the Secretary use his discretionary authority to allow the oyster operation to remain until 2022, the new authorization would be an SUP under section 124. The RUO would not be extended.

Mariculture and Harbor Seals in Drakes Estero, California, Marine Mammal Commission

In July 2009, the Marine Mammal Commission (MMC) initiated a review of the potential effects of human activities, including aquaculture operations, on harbor seals in Drakes Estero. The study was concluded in 2011, and the results of this review are provided in the MMC report, *Mariculture and Harbor Seals in Drakes Estero, California* (2011b). The MMC pursued one primary line of inquiry into the issue of potential human effects on natural habitat in Drakes Estero: whether mariculture operations are adversely affecting harbor seals and, if so, to what extent. To accomplish this, the MMC analyzed available sources of data on the issue, including seal counts and disturbance records from NPS staff and volunteers, photographs, oyster production records, seal mortality observations, and aerial images. In addition, the MMC reviewed the validity of scientific publications that specifically address harbor seals in Drakes Estero, namely, Becker, Press, and Allen (2011). In summarizing the results of the study, MMC (2011b) describes several data gaps and recommends research and management activities to reduce the level of uncertainty surrounding this issue. With respect to sources of information derived from NPS records and research, the MMC provided the following interpretations: (1) due to the variability of seal count data, NPS records by themselves are not sufficient to determine factors that caused changes in seal numbers; (2) statistical procedures used in NPS publications [particularly Becker, Press, and Allen (2011)] were generally appropriate but could be improved; and, (3) Becker, Press, and Allen (2011) provides “...some support for the conclusion that harbor seal habitat-use patterns and mariculture activities in Drakes Estero are at least correlated. However, the data and analyses are not sufficient to demonstrate a causal relationship” (MMC 2011b). As a component of their review, MMC (2011b) conducted some additional statistical analyses based on recommendations from an independent statistician. This included consideration of other potential influences on seals such as environmental conditions and the impacts of an aggressive seal at a nearby colony outside of Drakes Estero. After reviewing the results of these additional analyses, the MMC concluded that their results “...continue to

support the hypothesis that oyster harvest...is at least correlated with seal use of the different haul-out sites within Drakes Estero” (MMC 2011b). A more detailed discussion of the results of the MMC analysis is provided in chapter 4, “Impacts on Wildlife and Wildlife Habitat: Harbor Seals, Methodology.” These results are also used within the impact analyses for each alternative in the “Impacts on Wildlife and Wildlife Habitat: Harbor Seals” section.

Final Report on Peer Review of the Science Used in the National Park Service’s Draft Environmental Impact Statement Drakes Bay Oyster Company Special Use Permit, Atkins

In March 2012, as requested by DOI, Atkins North America (Atkins), an independent consulting firm specializing in peer reviews, completed a peer review of “Chapter 3: Affected Environment” and “Chapter 4: Environmental Consequences” of the Draft EIS to “examine the scientific and technical information and scholarly analysis presented in the document and assess whether: (1) appropriate scientific information was used; (2) reasonable conclusions were drawn from the information; (3) significant information was omitted from consideration; and (4) NPS interpretation of the information is reasonable” (Atkins 2012a). The review focused on marine estuarine ecology and coastal zone management (wetlands, eelgrass, benthic fauna, birds, special-status species), water quality, soundscapes, and socioeconomic resources. Overall, “the reviewers found the analyses to be appropriate, and that there is no fundamental flaw with the larger scientific underpinnings of the DEIS. The identified scientific misinterpretations, or lack of citation of appropriate literature are for the most part minor, and can be rectified if the NPS so wishes. This may also include making some additional adjustments to interpretation, and explicit acknowledgement of the lack of information on some key issues” (Atkins 2012a).

Based on the recommendations of the Atkins review, the Final EIS incorporates additional relevant references to all impact topics, as appropriate. As suggested by Atkins, text has been clarified where appropriate to better represent independent findings and link citations to each reference used. Direct comments from individual reviewers on the Atkins team have not been added to the text of the Final EIS or cited directly, as these comments are recommendations only.

The most critical finding of the Atkins review concerned the topic of socioeconomic resources. Atkins found that the “methods used [in the Draft EIS] to conduct an economic assessment of policy options do not follow accepted economic impact analysis practice” (Atkins 2012a). To enhance the socioeconomic resources sections (Affected Environment and Environmental Consequences), the Final EIS includes a more quantitative analysis of socioeconomic impacts using IMPLAN modeling, a relevant and industry-recognized method for assessing economic impacts. It should be noted that DBOC has requested all financial data related to the shellfish operation be kept confidential (DBOC 2012b^{xlvii}). Therefore, the revised socioeconomic resources section does not disclose specific revenue data.

Due to the high level of public interest in the soundscapes section of the Draft EIS and the results of the Atkins review of this impact topic, which found that “there is ample acoustic scientific evidence by which the DEIS can determine that DBOC noise-generating activities have negative impacts on both the human visitor experience and the seashore’s wildlife” (Atkins 2012a), the DOI submitted a letter to Atkins to forward public comments on the Draft EIS provided by Environ International Corporation (as attached to DBOC’s public comment letter, DBOC 2011i, and hereafter referenced as Environ 2011). The DOI letter

also asked the soundscapes reviewer to “clarify his views on the DEIS acoustics chapter so that the National Park Service (NPS) clearly understands his suggestions for improving it” (DOI 2012b^{xlviii}).

In response, Atkins provided the requested clarification and noted that “the new data made available by DBOC and ENVIRON during the DEIS comment period provide additional value to the impact assessment process and could usefully be included in the National Park Service’s Final EIS. However Dr. Clark [the Atkins soundscape reviewer], does mention that a full evaluation of these new data (and indeed the situation at Drakes Bay in general) would require new measurements and analysis over an extended period of time. As it stands, Dr. Clark’s original opinion regarding the conclusions he drew of the current DEIS is unchanged” (Atkins 2012b). Therefore, to supplement the soundscapes section in the Final EIS, the data collected onsite by Environ International Corporation has been included in the existing conditions and analysis of impacts. Because Environ did not follow pertinent standards and because the measurement processes and the operating conditions of the equipment were not adequately described⁶, the Environ measurements were compared with reports that document noise levels measured under specified conditions from comparable equipment.

Scientific Review of the Draft Environmental Impact Statement: Drakes Bay Oyster Company Special Use Permit, National Research Council, National Academy of Sciences

A second review was conducted by the NAS. This review occurred as a result of direction from Congress in a committee report accompanying a fiscal year 2012 appropriations act. Congress directed the NAS “to assess the data, analysis, and conclusions in the DEIS in order to ensure there is a solid scientific foundation for the Final Environmental Impact Statement.” Specifically, the NAS was provided with the following statement of task:

... assess the scientific information, analysis, and conclusions presented in the DEIS for Drakes Bay Oyster Company Special Use Permit, and; evaluate whether the peer review of the DEIS conducted by Atkins, North America for the U.S. Department of the Interior, is fundamentally sound and materially sufficient. The committee did not perform an independent evaluation of the environmental impacts of the proposed alternatives, but restricts its findings to the strength of the scientific conclusions reached in the DEIS and to the identification of concerns, if any, not covered in the Atkins peer review. The report focuses on eight of eleven resource categories considered in the DEIS: wetlands, eelgrass, wildlife and wildlife habitat, special-status species, coastal flood zones, soundscapes, water quality, and socioeconomic resources. (NAS 2012a)

The NAS released the results of this review on August 30, 2012 in draft form (“pre-publication”), and the final report was released on September 27, 2012. The NPS provided comments on the pre-publication version released in August, correcting factual errors related to NPS guidelines and suggesting clarifications to the water quality section (NPS 2012c).

⁶ NPS requested clarifying information regarding the Environ measurements from DBOC in a letter dated April 6, 2012. Clarifying information was provided to NPS in DBOC’s June 5, 2012 letter. This information was reviewed; however, it did not adequately describe measurement processes and descriptions of operating conditions.

In general, the NAS found that “there is not an extensive scientific literature on Drakes Estero and research on the potential impacts of shellfish mariculture on the Drakes Estero ecosystem is even sparser. Therefore, the NPS had little primary data on which to base the DEIS and had to rely to a large extent on inference from research conducted in other areas. Although this was the only approach that could be used under the circumstances, it not only made it difficult to differentiate impacts of alternatives B, C, and D, it resulted in a moderate to high level of uncertainty associated with conclusions concerning levels of impact for most of the resource categories reviewed by the committee.” The NAS commented that the use of “two different baselines in assessing the impacts of the no action and action alternatives” also contributed to the level of uncertainty in evaluating the impacts and providing a comparison among alternatives (NAS 2012a). In order to reduce the level of uncertainty in the impact analysis conclusions, the NAS recommended the following items for considering in revising the Draft EIS:

- Re-define levels of impact intensity using criteria that clearly distinguish levels of impact (negligible, minor, moderate and major) that are comparable across levels (e.g., direct and indirect impacts; impacts at individual, population and community levels of organization).
- Qualify each impact intensity conclusion in terms of levels of uncertainty such as those used by the committee.
- Clearly identify and explain all assumptions made in reaching conclusions concerning impact intensities.
- Describe potential alternate conclusions as appropriate.
- Segregate impact assessments for alternative A from alternatives B, C, and D and indicate that the assessments are not comparable due to use of different baselines.
- Use all relevant and available information, especially for water quality and soundscapes, such as additional measurements reported in Volpe (2011); analyze sound levels based on both dBA and unweighted values across a wide frequency range; and consider duty cycles when estimating the fraction of time DBOC activities impact the soundscape.
- Additional mitigation options could be included as possible permit conditions for the action alternatives to reduce impacts, e.g., an option to cease the culture of Manila clams would address some concerns about the establishment of that non-indigenous species in Drakes Estero; impacts of many DBOC practices (i.e., boat use, culture species and techniques, marine debris, soundscape effects) could potentially be reduced by the implementation of appropriate mitigation measures.
- Assess impacts associated with the potential establishment of non-indigenous species as a separate category.
- Provide greater consideration of the potential influence of climate change on DBOC operations and their associated impacts, e.g., rising sea level over the next 10 years could influence the spatial extent of inundation, potentially impacting resource categories such as vegetated tidal wetlands and the coastal flood zone; geographic ranges of warm water marine species are already extending poleward), a trend that could exacerbate problems associated with invasive non-indigenous species, including increasing the potential for establishment of reproductive populations of the nonnative Pacific oyster in Drakes Estero. (NAS 2012a)

The NPS response to each of these recommendations is included in appendix G.

Similar to the Atkins peer review, the NAS also made specific recommendations for improving the use of scientific information to inform the impact analyses. For each resource topic addressed by the NAS report, the NAS reviewed the quality of the information used and the analysis of that information and identified information gaps, where appropriate; made a determination of the reasonableness of the conclusions, assessed the level of uncertainty in making the conclusions, and suggested alternate conclusions; and suggested ways to reduce the level of uncertainty within the analysis. Based on this review, additional references have been reviewed and incorporated into the Final EIS, where applicable. Direct comments and critiques from the NAS committee are generally not cited in the text of the Final EIS. As with any other peer review, comments and critiques have been considered and changes have been made where appropriate. In addition, the general methodology for impact analyses has been revised to clarify how each alternative is assessed and how the conclusions are determined; and to define the area of analysis and the analysis period. The specific methodologies for each impact topic have been updated to clearly indicate what data is used in assessing impacts, where that data came from (research on Drakes Estero or other similar ecosystems), and what data is lacking. The intensity definitions for each impact topic also have been revised to use consistent language and clarify the area affected.

The NAS committee also evaluated whether the Atkins report was “fundamentally sound and materially sufficient” (NAS 2012a). NAS found that the “reviewers selected by Atkins are well-qualified;” however, the experts were “insufficient to address all of the scientific topics covered” by the Draft EIS. More specifically, the NAS committee “felt that additional expertise in water quality, wildlife (e.g., harbor seals, fish), and terrestrial soundscapes would be needed to provide a thorough peer review.” Due to the “limited range of expertise of the reviewers and the constraints placed on the review (limited to DEIS chapters 3 and 4, did not include the intensity definitions or conclusions),” the NAS committee did not consider the Atkins report to be “fundamentally sound and materially sufficient.”

USGS Photographic Review

Between spring 2007 and spring 2010 more than 250,000 digital photographs were taken from remotely deployed cameras overlooking harbor seal haul-out areas in Drakes Estero. The photographs were taken at one minute intervals. In December 2010, these photographs were posted on the NPS web site at http://www.nps.gov/pore/parkmgmt/planning_reading_room_photographs_videos.htm. Because the photographs were not collected using documented protocols and did not meet Departmental standards for a scientific product, the NPS did not rely on the photographs in the Draft EIS. Public comments on the Draft EIS requested that the NPS reconsider whether these photographs were useful in evaluating disturbances to harbor seals. In response to these comments, the NPS initiated a third-party review of the photographs with the U.S. Geological Survey (USGS), in consultation with a harbor seal specialist with the Hubbs-Sea World Research Institute. The USGS issued a report entitled, *Assessment of Photographs from Drakes Estero Wildlife Monitoring Cameras* (Lellis et al. 2012).

The USGS assessment focused on the 2008 harbor seal pupping season, when more than 165,000 photographs were collected from two sites overlooking Drakes Estero between March 14, 2008 and June 23, 2008. The USGS identified a series of limitations to the utility of the photographs, including lack of study design, poor photograph quality, inadequate field of view, incomplete estuary coverage, camera obstructions, and weather.

The USGS concluded that generally the camera focus was too poor and image resolution too low to allow for accurate counts or aging of seals, or to provide enough anatomical detail to quantify postures associated with increased vigilance (e.g., head alerts or other alert behavior). Evaluation of the photographs stitched together into time-lapse videos did allow for documentation of gross disturbance events (e.g., flushing to water or flushing to new areas of the sand bar). The USGS developed time-lapse videos for each camera, each day with the 2008 photographs (191 videos including 103 for Upper Estero Far [UEF] and 88 for Oyster Bar [OB]). The USGS determined that for the approximately 100,000 UEF images, seals could not be discerned due to the low resolution and wide field of view. As a result, the USGS concluded that further evaluation of photographs or videos focused on UEF was unwarranted. The USGS did identify that detailed analysis of the photographs in time-lapse sequence overlooking the OB site could be used to understand seal use of the OB site related to time, tide, and weather, and some coarse detection of disturbance as measured by flushing of seals from resting positions towards or into the water. However, the USGS assessment does not document time, tide, and weather.

The USGS identified 73 instances from the OB videos where human or other unusual stimuli could be identified in the photographs at the same time as seals were hauled out on the sandbars. The USGS assessment identified 10 flushing disturbance events at the OB site in 2008. As noted, due to the poor quality, no other level of disturbance, such as increased vigilance could be detected from the photographs or videos. The USGS assessment attributed a specific stimulus to 6 of the 10 observed flushing disturbance events. Two flushing disturbance events were attributed to boat traffic at nearby sand bars, two were attributed to a kayak using the lateral channel (note kayak was in Drakes Estero in violation of seasonal closure), and two appeared to be related to seabirds landing among the seals. Based on the USGS assessment, the NPS has incorporated some discussion of sources of gross flushing events into chapter 4. Because of quality and study design issues, the photographs are not amenable to use for other types of disturbance such as increased vigilance or alerts.

ISSUES AND IMPACT TOPICS

Issues and Impact Topics Retained for Further Analysis

This EIS analyzes the effects of the actions proposed herein on relevant resources in the context of the laws and policies that apply to NPS management of these resources. Many resources and activities have the potential to be affected by either issuing or not issuing a SUP for continued commercial shellfish operations within the Seashore. These resources were initially identified by NPS staff during internal scoping and were further refined through the public and agency scoping process. Impact topics retained for detailed analysis within this EIS include wetlands and other waters of the U.S., eelgrass, wildlife and wildlife habitat, special-status species - California coast Coho salmon (*Oncorhynchus kisutch*) and central California coast steelhead (*O. mykiss*), coastal flood zones, water quality, soundscapes, wilderness, visitor experience and recreation, socioeconomic resources, and NPS operations. The following text discusses issues/considerations that form the basis for the content in “Chapter 3: Affected Environment,” and the impact topics and detailed analysis presented in “Chapter 4: Environmental Consequences.”

Wetlands and Other Waters of the U.S. The identification of wetlands within the project area is necessary to ensure their protection in accordance with federal laws (section 404 of the Clean Water Act [CWA] and the Rivers and Harbors Act of 1899) and state laws (e.g., the California Coastal Act of 1976). NPS *Management Policies 2006* states that NPS will implement a “no net loss of wetlands” policy and will (1) provide leadership and take action to prevent the destruction, loss, or degradation of wetlands; (2) preserve and enhance the natural and beneficial values of wetlands; and (3) avoid direct and indirect support of new construction in wetlands unless there are no practicable alternatives and the proposed action includes all practicable measures to minimize harm to wetlands (NPS 2006d). Guidance related to the management of wetlands is further clarified by Director’s Order 77-1: *Wetland Protection* (DO-77-1) (NPS 2002a). As defined by USACE and USFWS, wetland areas and other waters of the U.S. exist in the project area, both within Drakes Estero and along the shoreline where natural conditions persist. DBOC operations may have the potential to impact these wetlands through placement of materials (such as bags and trays) directly in wetlands, trampling of vegetated wetlands, and shading associated with racks, as well as people walking across mudflats, and propellers and boat hulls scraping the mud bottom. The impact topic of wetlands and other waters of the U.S. is retained for detailed analysis in this EIS.

Eelgrass. In Drakes Estero, eelgrass (*Zostera marina*) is the dominant form of submerged aquatic vegetation and is present throughout Drakes Estero in dense beds. Eelgrass beds provide important foraging and feeding ground for many aquatic organisms, they serve as the base of the food web in many coastal habitats, and they perform important environmental functions, such as trapping sediment, taking up excess nutrients, and protecting shorelines from erosion. Eelgrass beds are classified as a type of “special aquatic site,” a category of “Waters of the United States” afforded additional consideration under the Clean Water Act section 404 (b)(1) guidelines developed by the EPA. Special aquatic sites possess characteristics of productivity, habitat, wildlife protection, or other important and easily disrupted ecological values. These sites are recognized as significantly influencing or positively contributing to the overall environmental health or vitality of the entire ecosystem of a region. DBOC operations in Drakes Estero and the eelgrass beds interact “via changes each makes to the immediate environment like altering water flow, sediment structure, light penetration, and nutrient supply. Other environmental changes arising from mariculture come from the addition of structures (e.g., bags, racks, and lines) and disturbances of transportation and culture operations” (NAS 2009). The termination or continuation of these activities related to DBOC operations could beneficially or adversely impact eelgrass. Therefore, the impact topic of eelgrass is retained for detailed analysis in this EIS.

Wildlife and Wildlife Habitat. Drakes Estero provides habitat for multiple native wildlife species, including benthic fauna (animals living on or in the submerged substrate), fish, harbor seals, and birds. Drakes Estero also includes privately owned species cultivated by DBOC, as well as nonnative invasive species such as the tunicate, *Didemnum vexillum* and the mud snail, *Batillaria attramentaria*. Commercial shellfish operations could potentially impact these species and their habitat through habitat competition, habitat improvement or degradation, noise and physical disruptions, and introduction of nonnative species. The impact topic of wildlife and wildlife habitat is retained for detailed analysis in this EIS.

Special-status Species. The Endangered Species Act (ESA) mandates that all federal agencies consider the potential impacts of their actions on species listed as threatened or endangered in order to protect the species and preserve their habitats. Potential impacts are assessed within an “action” area, which can be larger than individual project areas, and are determined by evaluating the geographic extent of potential environmental changes (i.e., biological, chemical, and physical effects). USFWS and NMFS share

responsibility for implementing the ESA. Per informal consultations with USFWS in 2010 and previous studies, seven federally listed threatened and endangered species and/or their critical habitat were identified for consideration. After further consultation with USFWS and NMFS and further review of the available and relevant scientific literature, only two species and/or their critical habitat were identified as potentially affected by activities within the project/action area. These include central California coast Coho salmon (*Oncorhynchus kisutch*) and central California coast steelhead (*O. mykiss*). The Coho salmon also is a state-listed species. Based on the location of DBOC's offshore operations relative to these fish species and/or their critical habitat, and resultant threats to those protected resources, the impact topic of special-status species is retained for detailed analysis in this EIS. For a description of the five special-status species that were considered but dismissed from further analysis, please see the "Issues and Impact Topics Considered but Dismissed from Further Analysis" section below.

Coastal Flood Zones. Pursuant to Director's Order 77-2: *Floodplain Management* (DO-77-2), the NPS must strive to preserve floodplain values and minimize hazardous floodplain conditions (NPS 2003a). Although no formal floodplain mapping has been undertaken at the planning site, a topographic survey was performed at the onshore facilities based on North American Vertical Datum of 1988 (NAVD-88). Direct observations of flooding made it necessary to survey the area for elevations, so the impact topic of coastal flood zones could be reasonably evaluated. The purpose of the survey was to verify the topographic elevations of the onshore features and correlate those elevations to elevations associated with flood events. Further, it has been observed that some buildings associated with DBOC operations have been prone to flooding during high tide and storm events. Within a 2006 CDPH report, it was noted that "during extreme hydrographic conditions, Estero water floods into the oyster company's plant area. Extreme high tides (over 6 feet), rainfall and winds can all combine to bring water over the Estero banks and into the DBOC plant area. This occurs once or twice a year (Kevin Lunny, pers. comm.)" (Baltan 2006). In addition, NOAA identifies regions subject to potential tsunami inundation, and Drakes Estero falls within the tsunami inundation zone (State of California Emergency Management Agency 2009). Placement of structures within the 100-year floodplain is inconsistent with NPS floodplain management policies, and the continued presence of these structures in the floodplain has the potential to impact floodplain values, DBOC facilities, and the safety of those employees living in structures within the coastal flood zone. The impact topic of coastal flood zones is retained for detailed analysis in this EIS.

Water Quality. DBOC commercial shellfish operations within and adjacent to Drakes Estero have the potential to impact both surface and groundwater quality. Nonpoint sources of pollution specific to land development and the commercial shellfish operations include onshore impervious stormwater runoff, boat operation, pulse disturbances to the Estero substrate from maintaining oyster racks and placing/overturning/removing bottom bags in Drakes Estero, accidental spill of fuel/oil, and accidental spill/leaks of wastewater from underground septic tanks. In addition, water used to clean the oysters and other discharges from sources used in the cultivation process may contribute to water quality impacts. Floating debris (plastic tubing, bags, piping, etc.) associated with the commercial shellfish operation may also impact water quality. As identified during public scoping, shellfish cultivation in Drakes Estero (specifically the presence of filter-feeding organisms) may result in beneficial impacts on water quality. The impact topic of water quality is retained for detailed analysis in this EIS.

Soundscapes. In accordance with NPS *Management Policies 2006* and Director's Order 47: *Soundscape Preservation and Noise Management* (DO-47), an important part of the NPS mission is preservation of natural soundscapes within units of the national park system (NPS 2006d, 2000). Natural soundscapes

“encompass all the natural sounds that occur in parks, including the physical capacity for transmitting those natural sounds and the interrelationships among park natural sounds of different frequencies and volumes. Natural sounds occur within and beyond the range of sounds that humans can perceive, and they can be transmitted through air, water, or solid materials” (NPS 2006d). As identified during public scoping, components of DBOC operations, such as motorized boats and onshore equipment, create noise that may impact park visitors and wildlife and disturb the natural soundscape of the area. The impact topic of soundscapes is retained for detailed analysis in this EIS.

Wilderness. A wilderness area is defined, in part, as “an area where the earth and its community of life are untrammelled by man, where man himself is a visitor who does not remain. . . . An area of undeveloped Federal land retaining its primeval character and influence, without permanent improvements or human habitation” (PL 88-577). Pursuant to PL 94-544 and 94-567, Congress designated the waters of Drakes Estero as potential wilderness. Drakes Estero was designated as potential wilderness rather than full wilderness due to the presence of the commercial oyster operation, a nonconforming use. Cessation of DBOC’s commercial operations upon expiration of existing authorizations would allow the congressionally designated potential wilderness to be converted to congressionally designated wilderness. Conversely, should a new SUP be issued, the area would remain as congressionally designated potential wilderness for another 10 years. The impact topic of wilderness is retained for detailed analysis in this EIS.

Visitor Experience and Recreation. The NPS strives to provide opportunities for forms of enjoyment that are uniquely suited and appropriate to the natural and cultural resources found in park units. During public scoping it became evident that some visitors to the Seashore view the commercial shellfish operation as an integral part of their visit, while other visitors view the commercial operation as an adverse impact on their enjoyment of solitude and the natural setting and resources of the site, as well as their wilderness experience. For those visitors that view the commercial shellfish operation as an integral part of their visit to the Seashore, expiration of existing authorizations may reduce the satisfaction of these visitors, because they would no longer be able to purchase oysters or interact with DBOC staff. On the other hand, if a new 10-year SUP is issued to DBOC to continue its commercial shellfish operation, Seashore visitors seeking to experience the wilderness of Drakes Estero, as defined by the Wilderness Act of 1964 as, “outstanding opportunities for solitude or a primitive and unconfined type of recreation,” would be adversely affected. Therefore, the impact topic of visitor experience and recreation is retained for detailed analysis in this EIS.

Socioeconomic Resources. As part of the NEPA process, the NPS assesses the impacts of each alternative on socioeconomic resources. Expiration of the existing RUO and associated SUP and termination of DBOC’s commercial operations could result in adverse impacts on the current staff and on DBOC, as well as on the regional economy and statewide shellfish production. The impact topic of socioeconomic resources is retained for detailed analysis in this EIS.

NPS Operations. Each of the proposed alternatives could result in changes to Seashore operations and infrastructure near and within Drakes Estero. Seashore staff and available funding are key elements to promoting and protecting natural and cultural resources within the Seashore. Issuance of a new SUP to DBOC would require improved SUP monitoring and enforcement by Seashore staff, including review of proposed changes at DBOC and coordination with other state and local agencies. The impact topic of NPS operations is retained for detailed analysis in this EIS.

Issues and Impact Topics Considered but Dismissed from Further Analysis

The following impact topics were considered but dismissed from further analysis because either (a) the resources do not exist in the project area or would not be impacted by the project or (b) impacts would be less than minor⁷. Dismissed topics include vegetation, special-status species – silverspot butterfly (*Speyeria zerene myrtleae*), California red-legged frog (*Rana aurora draytonii*), leatherback sea turtle (*Dermochelys coriacea*), western snowy plover (*Charadrius alexandrinus nivosus*), and California least tern (*Sternula antillarum browni*), water quantity, lightscapes, air quality, climate change and greenhouse gas emissions (carbon footprint), local food, geological resources, paleontological resources, cultural resources, and environmental justice. A brief rationale for the dismissal of each impact topic is provided below.

Vegetation. Vegetation cover types within the Drakes Estero watershed include wetlands, coastal dune, coastal scrub, grassland, pasture, and riparian woodland. Coastal scrub and wetlands are the only vegetation types that exist within the immediate project area. Several rare plants (appendix E) are known to exist within these habitat types. Wetlands are discussed as a separate impact topic, because there is the potential for these resources to be impacted by the alternatives considered in this EIS. The coastal scrub vegetation cover type is present around the onshore DBOC facilities and along the main access road. The proposed alternatives would not directly impact the coastal scrub vegetation. The rare plants known to exist in the area (based on inventory data provided by the NPS) would not be impacted by the project as they are located within areas that are outside the area of direct and indirect impacts, including some of the adjacent coastal scrub areas and within vegetated intertidal (NPS 2010f). Therefore, the impact topic of vegetation is dismissed from further analysis in this EIS.

Special-status Species. As mentioned above, seven federally listed threatened and endangered species were identified for consideration. Five of these species have been dismissed from further analysis in the EIS due to a lack of designated critical habitat in the project/action area, unconfirmed presence of the species in the project/action area, or the potential for less than minor impacts on the species and/or their critical habitat. These include Myrtle's silverspot butterfly (*Speyeria zerene myrtleae*), California red-legged frog (*Rana aurora draytonii*), leatherback sea turtle (*Dermochelys coriacea*), western snowy plover (*Charadrius alexandrinus nivosus*), and California least tern (*Sternula antillarum browni*). A brief explanation of the justification for dismissal for each species is provided below.

Myrtle's Silverspot Butterfly (Speyeria zerene myrtleae). Myrtle's silverspot butterfly was federally listed as endangered in 1992 (USFWS 1992). The historic range of the butterfly in California is believed to have extended from the mouth of the Russian River in Sonoma County to Point Año Nuevo in San Mateo County (Launer et al. 1992). Typical habitat for Myrtle's silverspot butterfly and its host plant includes coastal dunes, coastal scrub, or coastal prairies that are protected from wind, at elevations from sea level to 1,000 feet, up to 3 miles inland (USFWS 1998).

Plant species at the Seashore known to attract adult Myrtle's silverspot butterfly include western dog violet (*Viola adunca*), curly-leaved monardella (*Monardella undulata*), yellow sand-verbena (*Abronia latifolia*), seaside daisy (*Erigeron glaucus*), bull thistle (*Cirsium vulgare*), gum plant (*Grindelia* spp.), and mule ears (*Wyethia* spp.). Of these, the western dog violet serves as the host plant (i.e., the plant on which

⁷ Minor impacts are generally defined as being slight but detectable, typically short-term and localized.

females lay eggs) and is the only known food plant used by butterfly larva once they emerge from eggs. Other flowering plants provide nectar sources for adult butterflies (USFWS 2009).

Coastal scrub habitat surrounds the DBOC onshore facilities and entry road. Surveys conducted in 2003 verified the presence of butterfly populations within the Seashore and the butterfly has been documented on grasslands surrounding the project area (USFWS 2009). However, records do not indicate that Myrtle's silverspot butterfly exists within the project/action area. If species were present in the project area, threats such as the potential for vehicle strikes/mortality would be less than minor due to the slow speeds and low usage of the access road.

California Red-legged Frog (Rana aurora draytonii). The California red-legged frog was listed as federally threatened in 1996 (USFWS 1996). Revised critical habitat for this species was designated in 2010 (USFWS 2010). The frog requires a variety of habitats for normal biological activity, including aquatic breeding areas, riparian habitat, and upland dispersal habitats used during migration between breeding areas. Aquatic breeding habitats include pools and backwaters within streams and creeks, ponds, marshes, springs, sag ponds, dune ponds, and lagoons. Additionally, California red-legged frogs frequently breed in artificial impoundments, such as stock ponds (USFWS 2002b). Historically, the frog has been observed at elevations ranging from sea level to 5,200 feet above sea level, but it has been extirpated (eliminated) in 70 percent of its former range.

Since 1993, the U.S. Geological Survey Biological Resources Division has conducted surveys of aquatic amphibian habitat in the Seashore. The surveys have identified more than 120 California red-legged frog breeding sites within the Seashore, supporting a total adult population of several thousand frogs (NPS 2007a). Approximately two-thirds of the breeding sites are on ranch lands, with a large proportion occurring at stock ponds used by ranchers. Based on survey data, important habitat for red-legged frogs also includes streams with relatively low gradients that have late-season water flow or water retention in pools. On Point Reyes Peninsula, such creeks support relatively few of the documented occurrences of the frogs, but may serve as important connectors to other breeding and refuge habitats. Examples of Seashore streams with this habitat are found in the Drakes Estero watershed.

California red-legged frogs are documented in East Schooner, Home Ranch, Limantour, Glenbrook, Muddy Hollow, and Laguna creeks (USFWS 2008). In addition, the federally designated critical habitat encompasses the landward boundary of Drakes Estero. However, recent surveys and records do not indicate that the California red-legged frog exists within the project/action area. Due to the saline conditions of Drakes Estero, it is unlikely that the project/action area would serve as habitat for the California red-legged frog. Further, if the species were found to be present in the project area, the proposed actions of the onshore operations would be less than minor due to limited actions outside the existing developed footprint.

Leatherback Sea Turtle (Dermochelys coriacea). The leatherback sea turtle was listed as federally endangered in 1970 (USFWS 1970). Critical habitat was designated by NMFS in 2012 and although Drakes Estero is included in the geographic area designated as critical habitat (NMFS 2012a), further consultation with NMFS revealed that critical habitat for leatherback turtles does not extend into estuarine habitat (NMFS 2012b). As an estuary, Drakes Estero is therefore not included in the critical habitat designated for leatherback sea turtles. Leatherback sea turtle occurrences have not been recorded within

the project/action area. Based on the nesting and foraging habitat requirements, it is unlikely that the turtles would use the shallow estuarine or land habitats associated with Drakes Estero.

Western Snowy Plover (Charadrius alexandrinus nivosus). Western snowy plover was listed as federally threatened in 1993 (USFWS 1993). In 2005, the USFWS designated 12,145 acres of critical habitat for western snowy plover, including portions of Marin County. Based on federal reassessment of conservation needs proposed, updates to western snowy plover critical habitat were recommended in 2010, increasing the total acres of critical habitat to 28,261. Habitat for the plover includes beaches, dry mudflats, dry salt flats, and sandy shores. The plover nests on the ground in broad open spaces with sparse clumps of vegetation that allow protective cover for chicks. Nests also occur beside or under protective objects (Page et al. 2009). The plover's diet includes small insects, small crustaceans, and other minute vertebrates (Terres 1980).

The western snowy plover uses the Point Reyes Peninsula as wintering and nesting habitat. During the 1980s, nesting took place along the entire Great Beach, on the far east end of Drakes Beach near the mouth of Drakes Estero, and at Limantour Spit. In recent years, erosion along the southern portion of Great Beach has diminished the upper beach area such that the entire beach can be washed by waves. Nesting is occurring on the northern portion of this beach, between the North Beach parking area and Kehoe Beach, which is backed by extensive dunes. Between 2001 and 2005, snowy plover nests were observed on this northern portion of Great Beach. Plovers also nest along the western edge of Abbotts Lagoon.

Limantour Spit, the point at which Drakes Estero meets Drakes Bay, has historically been used as nesting habitat by plovers; however, no nests have been observed there since 2000 (Peterlein 2009). The nearest current areas of critical habitat include Limantour Spit and all the Seashore beaches lining the northwest shore of the Point Reyes Peninsula (USFWS 2011a). Despite the close proximity of critical habitat and nesting locations/habitat, there are no known records of western snowy plover observations within the project/action area, and potential impacts of proposed operations are considered negligible.

California Least Tern (Sternula antillarum browni). The California least tern was listed as federally endangered in 1970 and state endangered in 1971 (USFWS 1985b). Least terns nest in loose colonies on relatively open beaches with no vegetation, along lagoon or estuary margins. Foraging habitat includes shallow estuaries or lagoons with abundant populations of small fish or other small prey. Terns usually dive for their prey and rest or loaf on sandy beaches and mudflats (NatureServe 2011). While no least terns are known to exist within the Seashore (including the project area), potentially suitable habitat types do exist. However, the nearest known population is located in the San Francisco Bay Area.

Water Quantity. Impacts on fresh water quantity are related to the amount of ground water DBOC uses for wastewater and potable uses. The amount of well water used by DBOC does not noticeably impact the availability of fresh water in the area and was therefore not retained as an impact topic for further analysis in the EIS.

Lightscaapes. In accordance with NPS *Management Policies 2006*, the NPS strives to preserve natural ambient landscapes and other values that exist in the absence of human-caused light (NPS 2006d). There are two pole-mounted overhead lights within the project area to provide safety lighting after dark. Low levels of light also emanate from the DBOC residences. DBOC does not perform commercial shellfish

operations after dark. In addition, visitor use of the area after dark is minimal. These low levels of light do not have a noticeable impact on natural resources or visitor enjoyment. Should DBOC require additional lighting in the future (if an action alternative is selected), then new lighting shall be designed to protect and preserve the night sky/darkness and minimize light pollution in Drakes Estero, as indicated by the SUP (NPS 2008b). Given the proximity of the project area to the San Francisco metropolitan area, the lightscape within the Seashore has already been degraded by the light pollution surrounding San Francisco. The impact topic of lightscapes is dismissed from further analysis in the EIS.

Air Quality. The Seashore, a Class I airshed, is located within the San Francisco Bay nonattainment areas for 8-hour ozone, 1-hour ozone, and fine particulate matter (less than 2.5 micrometers) (PM_{2.5}) as defined by the National Ambient Air Quality Standards set forth in the Clean Air Act (EPA 2011) and further specified by the Bay Area Air Quality Management District (BAAQMD 2010). The primary air pollutant sources associated with the San Francisco Bay Area are related to urban activities (i.e., commuting). Ongoing activities within the Seashore have a minimal contribution to air pollution in the nonattainment area.

Volatile organic compounds (VOCs) are a general class of compounds containing hydrogen and carbon and are a precursor to the formation of the pollutant ozone. While concentrations of VOCs in the atmosphere are not generally measured, ground-level ozone is measured and used to assess potential health effects. When combustion temperatures are extremely high, as in automobile engines, atmospheric nitrogen gas may combine with oxygen gas to form various oxides of nitrogen. Of these, nitric oxide (NO) and nitrogen dioxide (NO₂) are the most significant air pollutants. This group of pollutants is generally referred to as nitrogen oxides or NO_x. Nitric oxide is relatively harmless to humans but quickly converts to NO₂. Nitrogen dioxide has been found to be a lung irritant and can lead to respiratory illnesses. Nitrogen oxides, along with VOCs, are also precursors to ozone formation. Emissions of VOCs and NO_x react in the presence of heat and sunlight to form ozone in the atmosphere. Accordingly, ozone is regulated as a regional pollutant and is not assessed on a project-specific basis.

The “de minimis” emissions limits for general conformity with federal actions (i.e., “thresholds”) for nonattainment ozone and particulate matter are presented in table 1-1 below. Because ozone is a by-product of volatile organic compounds and nitrogen oxide, threshold levels for ozone are based on threshold levels of ozone precursors: VOCs and NO_x. The threshold levels for VOCs and NO_x are 54 pounds/day and 10 tons/year. Threshold levels for PM_{2.5} also are 54 pounds/day and 10 tons/year (BAAQMD 2010).

DBOC’s direct and indirect emissions contribution to nonattainment was estimated for all activities (i.e., motorboats, maintenance equipment, employee vehicles, and trucks for transporting the shellfish). The results indicate that all DBOC emissions are equal to or below 3.5 tons per year for all nonattainment pollutants (table 1-1). The calculated levels for DBOC emissions related to NO_x are 2 to 4 pounds/day and 0.3 to 0.5 tons/year. The calculated levels for reactive organic gas (ROG) are 11 to 24 pounds/day and 1.6 to 3.5 tons/year. The calculated levels for both ozone precursors, ROG⁸ and NO_x, from DBOC operations fall well below threshold levels. The levels of PM_{2.5} discharge from DBOC boat emissions are considered to be negligible.

⁸ According to EPA, VOC and ROG are synonymous. VOC excludes methane and ethane and ROG, as used by California, only references methane.

TABLE 1-1. NONATTAINMENT AREA DE MINIMIS LEVELS AND DBOC ESTIMATES

Pollutant	De Minimis Threshold Level (pounds/day)	De Minimis Threshold Level (tons/year)	DBOC Estimate (pounds/day)	DBOC Estimate (tons/year)
Ozone (VOCs or NO _x)			11-24	1.6-3.5
Serious NAAs		50		
Severe NAAs		25		
Extreme NAAs	54	10		
NO _x	54	10	2-4	0.3-0.5
PM _{2.5}				
Direct Emissions	54	10	negligible	negligible

Source: 40 CFR 93.153; DBOC [Lunny], pers. comm., 2011h

Notes: VOCs = volatile organic compounds

NO_x = nitrogen oxide

NAAs = nonattainment areas

PM_{2.5} = particulate matter <2.5 micrometers

DBOC operations meet general conformity requirements because their regional emissions are well below the de minimis threshold levels established by federal and state general conformity requirements. If the no-action alternative is selected, emission levels would be well below levels calculated for DBOC operations, as all motorized activity in the water and onshore would cease with the exception of vehicles using the access road for the kayak launch and occasional administrative use of motorized boats, which would be subject to evaluation under minimum requirements and minimum tool determination processes as required by the Wilderness Act. Under the action alternatives, DBOC emissions, as estimated above, would continue at similar levels. Based on the calculated levels, the impact topic of air quality is dismissed from detailed analysis in this EIS.

Climate Change and Greenhouse Gas Emissions (Carbon Footprint). Climate change refers to any significant change in average climatic conditions (such as mean temperature, precipitation, or wind) or variability (such as seasonality, storm frequency, etc.) lasting for an extended period (decades or longer). Recent reports by the U.S. Climate Change Science Program, the NAS, and the United Nations Intergovernmental Panel on Climate Change (IPCC) provide clear evidence that climate change is occurring and will accelerate in the coming decades. There is strong evidence that global climate change is being driven by human activities worldwide, primarily the burning of fossil fuels and tropical deforestation. These activities release carbon dioxide and other heat-trapping gases, commonly called “greenhouse gases,” into the atmosphere (IPCC 2007a, 2007b, 2007c, 2007d).

There are two aspects of climate change that must be considered in an environmental impact analysis:

- Human impact on climate change: i.e., through actions, the potential to increase or decrease emissions of greenhouse gases that contribute to climate change
- The impact of climate change on humans: i.e., how the resources that are managed are likely to change in response to changing climate conditions, and how that changes or otherwise affects management actions and the impacts of those actions on the resource

Some of the activities associated with DBOC operations result in fossil fuel consumption (e.g., motorboats within Drakes Estero, trucks associated with the transportation of shellfish, and vehicles

carrying visitors to the area). Equipment used to maintain DBOC facilities, access roads, and parking areas also consume fossil fuels. However, greenhouse gas emissions associated with any of the alternatives involving issuing a new SUP would likely be negligible.

Additionally, some comments submitted during public scoping suggested that the quantity of greenhouse gas emissions (the carbon footprint) associated with oyster consumption would increase if a new SUP was not issued to DBOC (the no-action alternative) because of the loss of the local food source. Some comments suggested that without DBOC, the distance oysters would be transported to meet demand in the San Francisco Bay Area would greatly increase, thus increasing the overall greenhouse gas emissions. It is not clear how the shellfish market would respond should this local source cease operations. Local demand could be met in the future by various means. Oysters could be shipped in from outside the local area, which would increase the carbon footprint associated with transporting the product. Conversely, other local commercial shellfish operations may increase their production and distribution of oysters to the local market, which would result in a carbon footprint similar to existing conditions. Oyster production in California, as a whole, appears to be increasing at a rate greater than DBOC's production. For example, as described in chapter 3, in 2010, DBOC produced 585,277 pounds of shucked oyster meat (6.89 million oysters), a 28 percent increase over 2009 production levels. During this same period, the California oyster market increased 43 percent. An increase in Pacific oyster production in Humboldt Bay was the primary contributor to this change (the California Pacific oyster market increased 48 percent, by weight, between 2009 and 2010) (CDFG 2011e). Based on this information, it is likely that at least some portion of the current DBOC production could be accommodated by other operations in the state of California. Agencies are not required to engage in speculation or analyze indirect effects that are highly uncertain (CEQ 1981, Q18 [48 Fed. Reg. 18027]). Because there is no certainty regarding how the shellfish market and demand would respond to the proposed action, impacts from global carbon emissions cannot be meaningfully and/or quantifiably analyzed. While greenhouse gas emissions associated with the no-action alternative may potentially be greater due to increased transportation distances, they are also likely to be negligible in comparison to local, regional, and national greenhouse gas emissions.

In addition, the effects of climate change on park resources over the 10-year planning horizon for this EIS are likely to be negligible. Issues associated with climate change's impact on the Seashore resources (rising sea temperatures, sea level rise, ocean acidification, etc.) are addressed in applicable sections of chapters 3 and 4. The contribution of the actions contemplated in this EIS on climate change is likely to be negligible and is dismissed from further analysis.

Local Food. DBOC grows and processes oysters and clams onsite and supplies these products to the surrounding communities. Approximately 40 percent of these products are sold to onsite customers, 40 percent is sold directly to local markets and restaurants, 18 percent is sold to Tomales Bay shellfish growers, and 2 percent is sold through a wholesale seafood distributor based in San Francisco (DBOC 2012b^{xlix}). DBOC imports shellfish in the form of larvae (and seed) from CDFG-certified sources in compliance with a "Long-term Permit to Import Live Aquatic Animals into California" issued by CDFG. CDFG-certified hatcheries are located in Hawaii and along the U.S. west coast. DBOC's 2006 proof of use report shows that 1 million Manila clam seeds were acquired from Kona Coast Shellfish in Hawaii. For Pacific oyster larvae and seed, CDFG generally uses hatcheries on the west coast. For instance, for 2011, DBOC holds permits to import larvae/seed from Taylor Shellfish Farms in Washington (Permit MR-L-10-029) and Whiskey Creek Shellfish Hatchery in Oregon (Permit MR-L-10-028). However, DBOC has also used seed from Coast Seafoods Company in California and Kona Coast Shellfish in Hawaii.

While many people in the Bay Area enjoy these natural foods, other proteins, such as beef, poultry, or finfish, also are produced in the vicinity of DBOC. In addition, other shellfish operations, such as the Tomales Bay Oyster Company and the Hog Island Oyster Company, both of which are in Tomales Bay proximal to DBOC (approximately 15-20 driving miles), contribute to the local oyster and clam supply. Similar to DBOC, these operations offer fresh shellfish for purchase onsite and to restaurants in the region. In addition to proteins, many other types of local foods are produced in Marin County and the Bay Area including dairy products, fruits, vegetables, and products derived from these food types. In 2011, aquaculture (oysters, mussels, and clams) accounted for 7 percent of the total agricultural production in Marin County. In comparison, livestock products such as milk and wool comprised 45 percent of the county total, while livestock (the animals themselves) and miscellaneous made up 28 percent (MCDA 2012). On average, DBOC has produced 513,152 pounds of seafood annually over the last 5 years, representing approximately 58 percent of the oysters in Marin County over this period (CDFG 2011e). As described further in the “Socioeconomic Resources” section of chapter 3, DBOC’s contribution to the county shellfish market declined since 2007 to approximately 50 percent, therefore, it is estimated that of the aquaculture produced in Marin County in 2011, approximately 50 percent was produced by DBOC, equivalent to approximately 3.5 percent of the overall agricultural production of the county (CDFG 2011e; MCDA 2012). Based on this information, any change in DBOC’s contribution to the local food supply would likely be negligible. For these reasons, the impact topic of local food has been dismissed from further analysis in the EIS.

Geological Resources. NPS *Management Policies 2006* directs the NPS to preserve and protect geologic resources as integral components of park natural systems (NPS 2006d). Cultivation of shellfish within Drakes Estero and the processing facilities on the land are unlikely to affect geologic processes and resources, including soils and topography. Current sediment transport processes, which may be impacted by actions proposed in this EIS, are analyzed in the water quality section of this EIS. The impact topic of geologic resources is dismissed from further analysis in the EIS.

Paleontological Resources. Paleontological resources are defined as “resources such as fossilized plants, animals, or their traces, including both organic and mineralized remains in body or trace form” (NPS 2006d). NPS *Management Policies 2006* directs the NPS to preserve and protect paleontological resources in terms of the geologic data associated with the resource to provide information about the ancient environment (NPS 2006d). Paleontological resources have been identified within the Seashore, including concretions near the project area. These resources are outside the immediate project area and therefore would not be impacted by the proposed actions. Additionally, it is unlikely that activities associated with the proposed actions would disturb any undiscovered paleontological resources, as ground disturbance is not proposed outside the development area. The impact topic of paleontological resources is dismissed from further analysis in the EIS.

Cultural Resources. The NPS categorizes cultural resources as archeological resources, cultural landscapes, ethnographic resources, historic and prehistoric structures, and museum collections (NPS 2006d). The National Historic Preservation Act (NHPA) mandates preservation programs in every federal agency and identifies the NPS as the lead historic preservation agency. NHPA requires federal agencies to identify properties eligible for listing on the National Register of Historic Places (National Register) and recognizes five property types: districts, sites, buildings, structures, and objects. Cultural landscapes are usually classified as either districts or sites, depending upon their character. While parks may contain properties or activities that are old, the NPS Cultural Resources program manages properties found

eligible for the National Register. Use of this site over time by customers and park visitors is not considered a historic or cultural resource. For a discussion of site use by visitors, see the “Visitor Experience and Recreation” section.

Under section 106 of the NHPA and implementing regulations 36 CFR 800, federal agencies must take into account the effects of their undertakings on significant historic properties and afford State Historic Preservation Officer (SHPO) and the Advisory Council on Historic Preservation (ACHP) an opportunity to comment as appropriate. The agency must seek ways to avoid, minimize or mitigate any adverse effects on historic properties. Concurrent with the NEPA process, a section 106 review is being conducted to determine whether the actions proposed in this EIS would result in an adverse impact on such resources. As part of this process, the California SHPO has been consulted regarding the eligibility of DBOC facilities for listing on the National Register. On April 1, 2011, the NPS notified the SHPO (and copied ACHP) of the intent to use this EIS process to meet section 106 consultation requirements. On October 18, 2012, the ACHP confirmed that they had reviewed the documentation provided and that their involvement in the section 106 review was no longer necessary (ACHP 2012, see appendix D). In a letter dated October 29, 2012, SHPO concurred with a finding of no adverse effects, although it was noted that unanticipated discovery or change in project description may require additional consultation under 36 CFR part 800 (SHPO 2012, see appendix D).

During a meeting with The Federated Indians of Graton Rancheria representative on July 14, 2011, the NPS also notified the Tribe that it planned to use this EIS process to meet section 106 consultation requirements. This was followed up by letter on August 10, 2011 (NPS 2011g). The Tribe responded in a letter dated August 29, 2011, noting their concurrence with the “request to use the EIS process to meet Section 106 ‘government to government’ consultation requirements” (FIGR 2011). Subsequently, on January 9, 2012, the NPS submitted a letter to The Federated Indians of Graton Rancheria to coordinate ongoing consultation and arrange a meeting to discuss the next steps for the proposed action, as related to section 106 consultation. Consultation with the Tribe was concluded on August 13, 2012, when The Federated Indians of Graton Rancheria submitted a letter of concurrence to NPS stating, “each of the four alternatives presented in the DEIS will have ‘no adverse effect’ on cultural resources under the standards set forth in 36 CFR 800.8(c)(1).” See appendix D for copies of these letters.

A Determination of Eligibility (DOE) was prepared for DBOC onshore and offshore facilities (Caywood and Hagen 2011). The DOE found that while the oyster-growing operation in Drakes Estero is significantly associated with the rebirth and development of the California oyster industry, which began in the 1930s, the property is ineligible for listing in the National Register because it lacks historic integrity. The period of historic significance for the site extends from 1957, when Charles W. Johnson assumed control of the Schooner Bay plant and the state oyster allotment, to about 1965, when his company successfully adapted Japanese off-bottom growing methods to the specific conditions of Drakes Estero. DOE project personnel conducted the documentation and assessment of the oyster farm in Drakes Estero as a potential cultural landscape.

Of the seven aspects of integrity (location, setting, materials, workmanship, design, feeling and association), the property retains for the most part, integrity of location, setting, and association. The processing plant and the racks in the estero are in their original locations, and the property’s setting—the pastoral landscape surrounding the bay—has been little altered since the early 1930s (Caywood and Hagen 2011). With regard to integrity of materials, workmanship, and design, however, virtually all of the resources in the plant have

been modified through structural additions and/or the application of modern materials. Some are in such poor condition that their structural integrity is threatened. Since the 1960s new materials and structures have been added, older structures removed or destroyed, and existing structures modified extensively. In addition, the design of the plant operation has been altered. Over the years processing systems and equipment have been removed, and the entire canning operation moved offsite due to health department concerns, then reestablished in a modern, hygienic shipping container. “Finally, the combination of alterations, including a general lack of material and design integrity, as well as the addition of modern structures, has altered the appearance of the Johnson Oyster Company operation, which in turn adversely affects the property’s integrity of feeling” (Caywood and Hagen 2011).

Today, the plant bears little resemblance to the facility of the early 1960s. In a letter dated April 5, 2011, the NPS submitted the DOE to the SHPO, requesting concurrence with the finding that the property is ineligible for listing on the National Register. The NPS received a response from the SHPO on August 4, 2011 (see appendix D) in which the SHPO concurred with the NPS determination that none of the facilities associated with DBOC’s operation are eligible for listing on the National Register (SHPO 2011).

Archeological Resources. Archeological resources are the remains of past human activity and records documenting the scientific or scholarly analysis of these remains. For over 2,000 years, humans have inhabited the Point Reyes Peninsula, employing its rich resources and modifying aspects of the landscape to meet their changing needs. Approximately 100 Coast Miwok archeological sites document a culture that was an integral part of the ecosystem (Sadin 2007). One known archeological site (CA-MRN-296) exists within the project area and is associated with the Coast Miwok whose descendents are members of The Federated Indians of Graton Rancheria, a federally recognized Tribe. The site is a contributing resource in a draft National Register of Historic Places district nomination for indigenous archeological sites within the Seashore. Under all proposed action alternatives, the known archeological site would be excluded from the SUP boundary. As with other sites in the Seashore, there is potential for site disturbance as a result of unauthorized access. Regular site monitoring and management, which is afforded all archeological sites in the Seashore, would be conducted to reduce potential impacts on this site.

Under all alternatives, if unknown archeological resources are discovered, the Seashore’s standard protocol for inadvertent discoveries would apply. The Cultural Resources Management Division would be notified immediately and work in the immediate area would cease until the discovery is evaluated by a qualified archeologist. The discovery process defined by 36 CFR 800.13, the implementing regulations for NHPA (16 U.S.C. 470), would be applied. Evaluation of the discovery’s significance would include consultation as appropriate with The Federated Indians of Graton Rancheria, SHPO, and the ACHP. In the event that human remains, funerary objects, sacred objects, or objects of cultural patrimony are discovered the process defined by 43 CFR 10.4-5, the implementing regulations of the Native American Graves Protection and Repatriation Act (25 U.S.C. 3001), would be applied. NPS response to any discovery of human remains or sacred objects would include but not necessarily be limited to immediate notification of the Seashore’s Superintendent and Cultural Resources Division, cessation of work in the immediate vicinity, protecting the objects of discovery, notifying and consulting with The Federated Indians of Graton Rancheria, and preparing a written plan of action.

For the purposes of section 106 of the NHPA, impacts under any of the alternatives would result in a determination of no adverse effect. For all ground disturbing activities within the onshore areas of DBOC, archeological identification studies, including construction monitoring by a qualified archeologist, may be

required to determine the presence of unknown or buried archeological resources. The impact topic of archeological resources is dismissed from further analysis in the EIS.

Cultural Landscapes. According to NPS-28: *Cultural Resource Management Guideline* (NPS 2002b), a cultural landscape is a reflection of human adaptation and use of natural resources and is often expressed in the way land is organized and divided, patterns of settlement, land use, systems of circulation, and the types of structures that are built. The character of a cultural landscape is defined both by physical materials, such as roads, buildings, walls, and vegetation, and by use reflecting cultural values and traditions. The oyster-growing facilities lie within but do not contribute to the significance of the Point Reyes Ranches Historic District, which was determined eligible for the National Register (Historical Research Associates, Inc. 2008). As described above, DBOC facilities were evaluated separately for listing on the National Register. While significantly associated with the California oyster industry from 1957-65, the property is ineligible for listing in the National Register because it lacks historic integrity. For the purposes of section 106 of the NHPA, impacts under any of the alternatives would result in a determination of no adverse effect. The impact topic of cultural landscapes is considered but dismissed from further analysis in the EIS.

Historic Structures. A historic structure is defined by NPS-28 as “a constructed work, usually immovable by nature or design, consciously created to serve some human act” (NPS 2002b). As described above, a DOE was conducted to identify properties within the project area that are eligible for listing on the National Register. While the Seashore preserves over 300 historic structures, such as the Point Reyes Lighthouse, listed in the National Register, and the Point Reyes Lifeboat Station, a National Historic Landmark, none of the structures within the project area are eligible for listing on the National Register. For purposes of section 106 of the NHPA, impacts under any of the alternatives would result in a determination of no adverse effect. The impact topic of historic structures is considered but dismissed from further analysis in the EIS.

Ethnographic Resources and Sacred Sites. An ethnographic resource is defined as any “site, structure, object, landscape, or natural resource feature assigned traditional legendary, religious, subsistence, or other significance in the cultural system of a group traditionally associated with it” (NPS 2002b). The Federated Indians of Graton Rancheria are culturally affiliated with the Seashore and have expressed concern that their cultural legacy may be impacted if a new SUP is issued to DBOC (FIGR 2007). However, no traditional cultural properties have been identified within the project area. One Coast Miwok archeological site has been identified within the project area; however, the project would not affect this site, as described above under “Archeological Resources.” The impact topic of ethnographic resources and sacred sites is considered but dismissed from further analysis in the EIS.

Indian Trust Resources. The federal Indian Trust is a legally enforceable obligation on the part of the United States to protect tribal lands, assets, resources, and treaty rights, and it creates a duty to carry out the mandates of federal laws with respect to Native American Tribes. Of the federally recognized Tribes pursuant to PL 103-454, 108 Stat. 4791, The Federated Indians of Graton Rancheria/Coast Miwok is the only Tribe affiliated with the Seashore. However, there are no known Indian Trust resources in the study area, and the lands composing the Seashore are not held in trust by the Secretary for the benefit of Indians. The impact topic of Indian Trust resources is considered but dismissed from further analysis in the EIS.

Museum Collections. A museum collection is an assemblage of objects, works of art, historic documents, and/or natural history specimens collected according to a rational scheme and maintained so that they can be preserved, studied, and interpreted for public benefit (NPS 2002b). The project area does

not include any museum collection or objects. The impact topic of museum collections is considered but dismissed from further analysis in the EIS.

Environmental Justice. Executive Order 12898, “General Actions to Address Environmental Justice in Minority Populations and Low-income Populations,” requires all federal agencies to identify and address the disproportionately high and/or adverse human health or environmental impacts of their programs and policies on minorities and low-income populations and communities (EPA 1994). The guidance provides six principles for consideration of environmental justice, which are: 1) composition of affected area and whether there are low-income populations, minority populations, or Indian tribes, 2) public health and industry data for assessment of environmental hazards, 3) recognition of interrelated cultural, social, occupational, historical, or economic factors that could amplify environmental effects, 4) encouragement of public participation and accommodations to overcome linguistic, cultural, institutional, geographic, and other barriers, 5) meaningful community representation with awareness of diverse constituencies, and 6) soliciting tribal representation. Applicable principles are discussed in the following paragraphs.

The NPS notes that many of the 31 employees at DBOC individually qualify as low-income and/or minority. However, under the thresholds established by the Executive Order, the employees themselves do not constitute a low-income or minority population, other than as part of the community in which DBOC is located. Adverse impacts to DBOC employees related to the proposed alternatives are limited to socioeconomic impacts. While not appropriate as a topic for environmental justice, economic impacts of the proposed action at the Inverness CDP, Marin County, and State of California level are retained for analysis in this EIS under socioeconomic resources. Existing socioeconomic conditions and the potential impacts associated with the proposed alternatives are described in the affected environment and environmental consequences chapters (chapters 3 and 4) of this EIS.

CEQ’s “Environmental Justice Guidance Under the National Environmental Policy Act” provides guidance to federal agencies on how to determine the presence of low-income and minority populations within an appropriate unit of geographic analysis. The guidance defines the identification of a minority population where either “(a) the minority population of the affected area exceeds 50 percent or (b) the minority population percentage of the affected area is meaningfully greater than the minority population percentage in the general population or other appropriate unit of geographic analysis” (CEQ 1997).

For the purposes of this EIS, the affected area (area of analysis) for environmental justice is Inverness Census Designated Place (CDP). This is consistent with the scale used to describe the socioeconomic impacts of the project on a local level. Marin County is used for comparative purposes, as it is the next-largest scale used to describe socioeconomic impacts. According to 2010 census data, the total population of Inverness is 1,304. As shown in table 3-7 in chapter 3, the minority population of Inverness CDP make up 7.1 percent and of the total population. Six percent of the CDP’s population is of Hispanic descent.

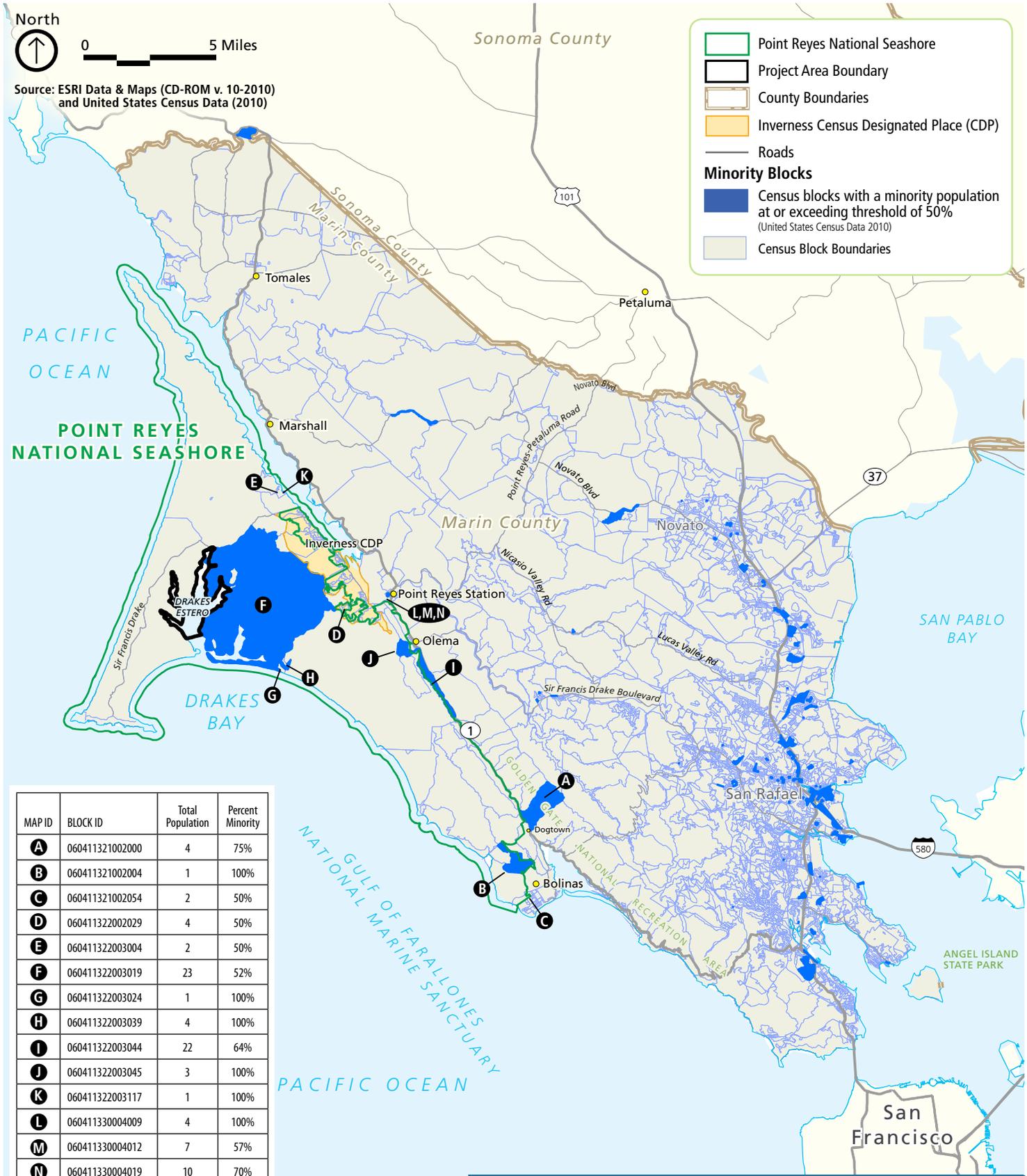
In comparison, the minority population of Marin County, which is used herein as the general population, is 20 percent, with a total population of 252,409. Marin County residents of Hispanic descent make up 15.5 percent of the county’s population. It should be noted that the concept of race is different than the concept of Hispanic origin. Therefore, the U.S. Census collects separate data on Hispanic and minority populations. Specifically, Hispanic is not considered a minority population by the U.S. Census and must be considered independently from race. For example, nearly half of the Marin County residents who

reported to be Hispanic in 2010 indicated that their race was “white only.” The remaining 54 percent of the Hispanics within the county specified another race, stated they were of “some other race”, or indicated they were of two or more races (U.S. Census Bureau 2010). Those Hispanics that reported to be “white only” are not considered minority. Similarly, 51 percent of the Hispanic population in Inverness CDP reported to be “white only” (U.S. Census Bureau 2010). As such, it is not appropriate to add the Hispanic and minority percentages together to achieve an overall minority percentage. This would result in double counting and an inflation of the actual minority population in Inverness CDP and Marin County. In accordance with CEQ regulations and thresholds, Inverness CDP does not meet the criteria of an environmental justice population based on its minority population, as the minority population is well below both the CEQ threshold of 50 percent and is not meaningfully greater than the minority population percentage in the general population. Figure 1-5 shows the Inverness CDP and its minority composition. It should be noted that to illustrate the general distribution of minority populations within the affected area, figure 1-5 identifies census blocks with minority populations that exceed the CEQ threshold of 50 percent. Evaluating minority populations at this scale would inflate the intensity of impacts; therefore, Inverness CDP has been determined to be the more appropriate scale, and the block data is provided for informational purposes only.

A similar analysis was used to determine whether the affected area constitutes a low-income environmental justice population. CEQ’s “Environmental Justice Guidance Under the National Environmental Policy Act” specifies, “Because CEQ guidance does not provide a specific threshold to identify low-income populations, U.S. Census 2010 data was compared to thresholds defined by the Metropolitan Transportation Commission (MTC) during development of their Transportation Improvement Program for the San Francisco Bay Area. The MTC established a low-income threshold of 30 percent, whereby any community whose population consists of more than 30 percent low-income residents would be considered a “community of concern” (MTC 2010). According to 2010 census data, the low-income population of Inverness CDP make up 12.8 percent and of the CDP’s total population. In comparison, the low-income population of Marin County is 7.0 percent. As such, in accordance with CEQ regulations and thresholds, Inverness CDP does not meet the criteria of an environmental justice population based on its low-income population, as the population meeting the criteria for low-income is well below the regional threshold of 30 percent. Figure 1-6 shows the distribution of low-income populations within Inverness CDP. Similar to figure 1-5, figure 1-6 illustrates the general distribution of low-income populations within the affected area using data for census block group with low-income populations that exceed the regional threshold of 30 percent. Evaluating low-income populations at this scale would inflate the intensity of impacts; therefore, Inverness CDP has been determined to be the more appropriate scale, and the block group data is provided for informational purposes only.

As stated by DBOC, 22 employees are Hispanic or Latino and most also fall into the category of low-income (DBOC 2011i¹). However, under the applicable thresholds and as described above, the employees themselves do not constitute a low-income or minority population.

The second factor identified in the Executive Order does not apply here because the public health impacts from this project are remote and negligible. For example, NPS considered air quality as an impact topic in the EIS but dismissed it from further consideration when it determined that emissions from the alternatives would be below the “de minimis” thresholds for San Francisco Bay Area nonattainment areas (pages 41-42, above).



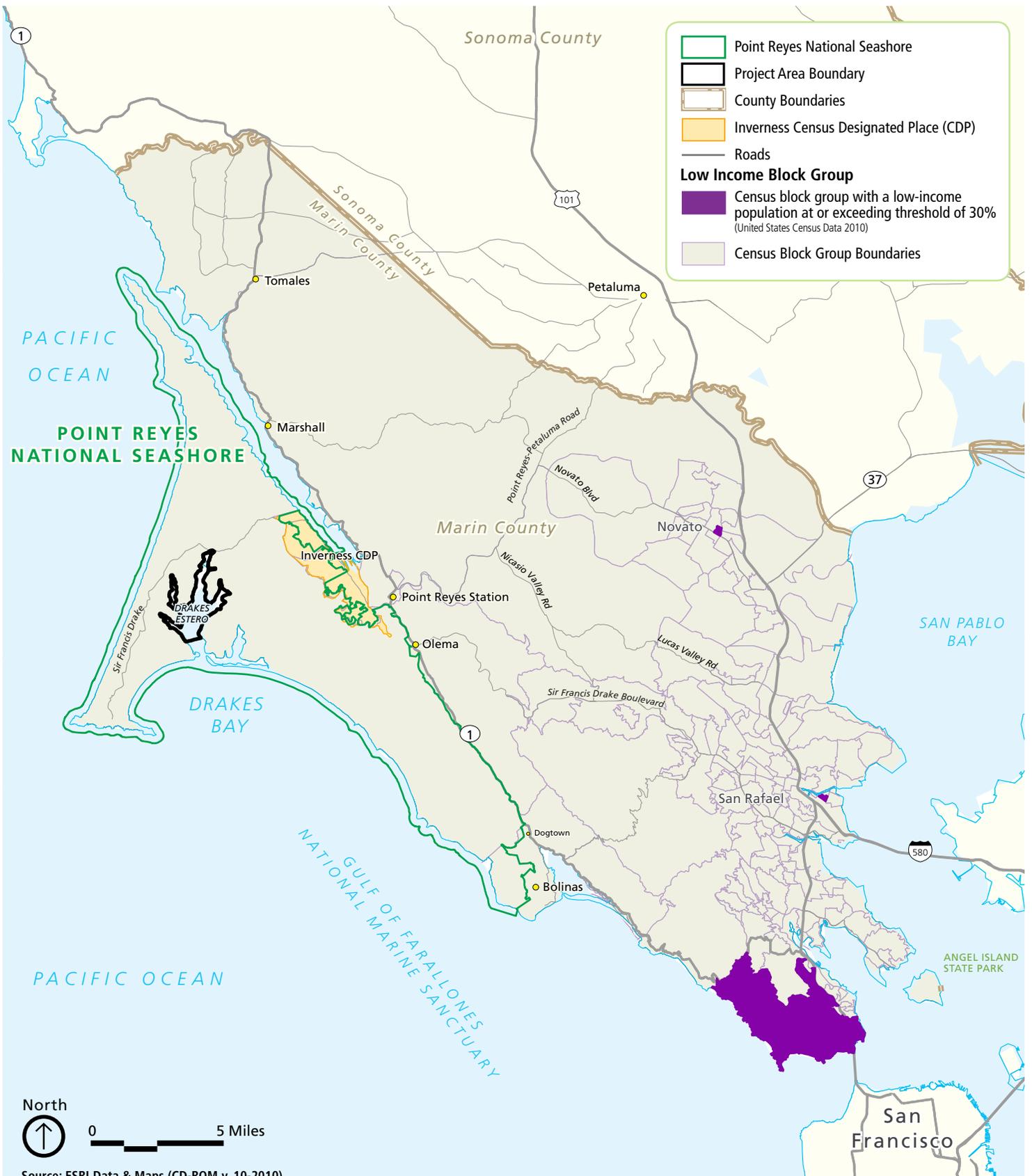
Drakes Bay Oyster Company Special Use Permit Environmental Impact Statement

**FIGURE 1-5
Minority Areas within Marin County**



National Park Service
U.S. Department of the Interior

Point Reyes National Seashore



Drakes Bay Oyster Company Special Use Permit Environmental Impact Statement

**FIGURE 1-6
Low Income Areas within Marin County**

Pursuant to the third factor, NPS recognizes that there are some cultural, social, occupational, historical, or economic factors that may amplify environmental impacts of the project, such as current economic conditions. However, because the impacts to minority and low-income populations would be limited to DBOC employees and not surrounding minority populations, this is not a relevant factor for environmental justice consideration. However, where applicable, these factors are considered as part of the cumulative impact analysis for Socioeconomic Resources in chapter 4.

In accordance with the fourth factor, NPS encouraged public participation throughout the NEPA process. The public scoping period was open between October 8, 2010 and November 26, 2010. The Draft EIS was made available for public review and comment beginning on September 23, 2011 and ending December 9, 2011. Both of these comment periods were extended beyond the standard 30 and 60 days, respectively, to accommodate any interested parties who may have been adversely affected by a power outage in 2010 that disrupted the NPS PEPC system, and in 2011 to consider additional comments in light of the Marine Mammal Commission's November 2011 report (MMC 2011b). Comments were accepted online, in park forms available at the public meetings, as well as by mail. NPS also held three public scoping meetings in 2010 and three public meetings in 2011 during the public review of the Draft EIS. NPS included Spanish-language interpreters at all public meetings to accommodate parties of limited-English, and the fact sheet available at the 2011 public meetings was also available in Spanish.

As noted previously, because potentially disproportionate impacts to minority and low-income populations would be limited to DBOC employees, the fifth environmental justice factor identified in Executive Order 12898 is not relevant to the proposed action. However, as explained under the fourth factor, NPS provided public participation opportunities that were available to interested parties who individually qualify as low-income or minority.

Sixth, NPS consulted with The Federated Indians of Graton Rancheria inviting the tribe to provide information on features of cultural or religious significance. The correspondence is provided in appendix D of the Final EIS.

Based on the information provided above, the impact topic of environmental justice is considered but dismissed from further analysis in the EIS. As noted previously, impacts of the proposed action on DBOC employees is evaluated in the socioeconomic resources sections of this EIS.

RELATED LAWS, POLICIES, AND PLANS

The following section describes various laws, policies, and plans that have informed this EIS and the alternatives considered herein. The alternatives proposed in this EIS exist within a unique legal framework because of the interplay between section 124 of the Department of the Interior, Environment, and Related Agencies Appropriations Act of 2010 (PL 111-88, section 124, 123 Stat. 2904 [2009]), on the one hand, and the numerous laws and policies that normally guide NPS decision making, on the other.

Section 124 vests the Secretary with discretion in the decision as to whether to issue a permit, because the phrase "is authorized" is permissive rather than prescriptive. The legislative history of section 124 confirms this interpretation. When the bill was reported out of the Senate Appropriations Committee, it provided that "the Secretary of the Interior *shall* extend the existing authorization [to Drakes Bay Oyster Company]"

(emphasis added) (see Department of the Interior, Environment, and Related Agencies Appropriations Act, 2010, H.R. 2996, 111th Congress, section 120 [as reported by Senate Committee on Appropriations, July 7, 2009]). This provision was later amended on the Senate floor, and the mandatory language was changed to the current discretionary language (see 155 Congressional Record Section 9769 [September 24, 2009]). The House Conference Report on the final bill summarizes the amendment from the Senate, explaining that it “*modifie[d] language* included by the Senate providing the Secretary *discretion* to issue a special use permit” (emphasis added) (H.R. Report No. 111-316, at 107 [2009] [Conference Report]).

Although the Secretary’s authority under section 124 is “notwithstanding any other provision of law,” the Department has determined that it is helpful to generally follow the procedures of NEPA. The EIS will provide decision-makers with sufficient information on potential environmental impacts, within the context of law and policy, to make an informed decision on whether or not to issue a new SUP. Below are the primary laws that are being considered for this analysis.

OTHER PROVISIONS OF SECTION 124

There are two other provisions of section 124 that apply should a new 10-year permit be issued to DBOC. First, section 124 requires that the United States receive annual payments based on the “fair market value” of DBOC’s use of the federal property for this new 10-year period. The DOI Office of Valuation Services has conducted an appraisal to determine the fair market rental value of the use of the federal property. By terminating the state water bottom lease, DBOC would avoid any obligation to make lease payments to the state. Second, the terms and conditions of the existing authorizations for DBOC may be modified after considering the recommendations of the NAS report. This EIS identifies, where appropriate, possible changes to permit terms.

RELEVANT FEDERAL LAWS AND POLICIES

National Park Service Organic Act

In the NPS Organic Act of 1916 (Organic Act), Congress created the NPS and directed it to manage units of the national park system, “to conserve the scenery and the natural and historic objects and the wild life therein and to provide for the enjoyment of the same in such manner and by such means as will leave them unimpaired for the enjoyment of future generations” (16 U.S.C. 1). The 1978 Redwood Amendment reiterates this mandate by stating that the NPS must conduct its actions in a manner that will ensure no “derogation of the values and purposes for which these various areas have been established, except as may have been or shall be directly and specifically provided by Congress” (16 U.S.C. 1a-1). The legislative history of the Redwood Amendment further clarified that all units of the national park system, whether designated as parks, recreation areas, seashores, or lakeshores, were to be managed to the same high standard unless Congress specifically provided otherwise.

Although the Organic Act and the Redwood Amendment use different wording (“unimpaired” and “derogation”) to describe what NPS must avoid, both acts define a single standard for the management of the national park system—not two different standards. For simplicity, *NPS Management Policies 2006* uses “impairment,” not both statutory phrases, to refer to that single standard.

Based on its authority under the Organic Act, the NPS has promulgated a series of regulations contained in title 36 of the Code of Federal Regulations (CFR). The provisions in title 36 provide a comprehensive suite of regulations that govern activities within units of the national park system.

Wilderness Act of 1964, Point Reyes Wilderness Act of 1976, and Directors Order 41: Wilderness Preservation and Management

The Wilderness Act establishes the national wilderness preservation system, consisting of federal lands designated by Congress as wilderness. Wilderness is defined as “an area where earth and its community of life are untrammelled by man, where man himself is a visitor who does not remain.” An area of wilderness is further defined as “an area of undeveloped Federal land retaining its primeval character and influence, without permanent improvements or human habitation which is protected and managed so as to preserve its natural conditions” (16 U.S.C. 1132).

According to section 4(c) of the Wilderness Act, there shall be no commercial enterprise and no permanent road within any wilderness area and, except as necessary to meet minimum requirements for the administration of the area (including measures required in emergencies involving the health and safety of people within the area), there shall be no temporary road; no use of motor vehicles, motorized equipment, or motorboats; no landing of aircraft; no other form of mechanical transport; and no structure or installation within any such area.

In the Point Reyes Wilderness Act of 1976, Congress designated the waters within Drakes Estero (approximately 1,363 acres within the project area) as “potential wilderness.” Drakes Estero was designated as potential wilderness rather than full wilderness due to the presence of the commercial oyster operation, a nonconforming use. The House Committee Report accompanying the 1976 Point Reyes Wilderness Act states: “As is well established, it is the intention that those . . . waters designated as potential wilderness additions will be essentially managed as wilderness, to the extent possible, with efforts to steadily continue to remove all obstacles to the eventual conversion of these lands and waters to wilderness status” (H. Rep. No. 94-1680 [1976]).

In 2004, the Solicitor’s Office issued an opinion interpreting the 1976 Point Reyes Wilderness Act. Based on the language of the law and its legislative history, the opinion concluded that NPS was mandated to convert the potential wilderness in Drakes Estero to full wilderness as soon as the nonconforming use could be eliminated. The oyster operation in Drakes Estero was dependent on the 40-year RUO that Charles Johnson had retained when he sold his 5-acre parcel to the NPS in 1972. The RUO expires on November 30, 2012, making this date the earliest date on which the nonconforming use would cease. In order to affect Congress’s intent that Drakes Estero be converted to full wilderness, the Solicitor’s Office advised the NPS that it lacked discretion to allow the oyster operation to continue beyond November 30, 2012.

Section 124 now gives the Secretary the discretion to issue a 10 year permit notwithstanding the 1976 Point Reyes Wilderness Act.

Endangered Species Act

Under section 7 of the Endangered Species Act of 1973, as amended, the NPS is required to coordinate with the USFWS and NMFS to ensure that its actions affecting federally listed species do not jeopardize their continued existence or result in the destruction or adverse modification of their critical habitat. Consultation is required whenever such species or habitat may be affected by a proposed project. Through the consultation process, the agencies develop a biological opinion setting forth their assessment of the impact of the project on listed species and on any critical habitat that may exist within the area of effect. The biological opinion may contain conservation recommendations and reasonable and prudent measures for the agency or applicant to follow.

Several federally designated threatened and endangered species and/or their critical habitat exist in the project area. As described in the special status species section of this EIS, NPS has determined that some of the actions proposed in this EIS have the potential to impact these listed species and/or their critical habitat. In order to fully understand the possible effects of the actions proposed in this EIS on listed species and their critical habitat, the NPS has initiated consultation with the USFWS and NMFS.

Migratory Bird Treaty Act

The Migratory Bird Treaty Act (MBTA) of 1918 implements several treaties protecting birds that migrate across national borders. MBTA makes it unlawful to take, possess, or sell protected species, or any product or parts thereof (eggs, nests, feathers, plumes, etc.), except as permitted by the Secretary. Take is defined as “to pursue, hunt, shoot, wound, kill, trap, capture, or collect, or any attempt to carry out these activities.” It does not necessarily include destruction or alteration of habitat, unless there is a direct taking of birds, nests, eggs, or other such parts. All waterfowl, shorebirds, hawks, owls, eagles, native doves and pigeons, swifts, common native songbirds, and other species are protected under the act. A complete list of protected species is found at 50 CFR 10.13. Several species of migratory birds, such as the brant goose, have been identified within the project area.

NPS Management Policies 2006

NPS *Management Policies 2006* (NPS 2006d) sets the framework and provides the direction for actions of the NPS. Adherence to policies is mandatory unless allowed by enabling legislation, or waived or modified by the Secretary, Assistant Secretary, or the Director, or if a law directly and specifically directs an action contrary to NPS policy. *Management Policies 2006* also contains guidance applicable to the alternatives contained in this document.

This EIS assesses the effects of the alternatives on park resources and values and provides information used in determining if these effects would cause impairment or unacceptable impacts. NPS *Management Policies 2006* require an analysis of potential effects to determine whether or not actions would impair park resources (NPS 2006d). To assess the impacts of the proposed action, policies relating to resource protection were considered during EIS preparation, including biological resource management (4.4), native plants and animals (section 4.4.2), water quality (section 4.6.3), floodplains (section 4.6.4), wetlands (section 4.6.5), protection of geologic processes (section 4.8.1), soundscape management

(section 4.9), protection and preservation of cultural resources (section 5.3.1), treatment of cultural resources (section 5.3.5), wilderness resource management (section 6.3), and wilderness use management (section 6.4). For example, NPS *Management Policies 2006* instructs park units to maintain, as parts of the natural ecosystems of parks, all plants and animals native to the park ecosystems, in part by minimizing human impacts on native plants, animals, populations, communities, and ecosystems, and the processes that sustain them (NPS 2006d, section 4.4.1). NPS *Management Policies 2006* direct park units to determine all management actions for the protection and perpetuation of federally, state-, or locally listed species through the park management planning process, and to include consultation with lead federal and state agencies as appropriate.

NPS *Management Policies 2006*, section 1.4.7.1 also apply a standard that avoids impacts it determines to be unacceptable. Managers must not allow uses that would cause unacceptable impacts, such as those which “impede the attainment of a park’s desired future condition for natural and cultural resources.” Furthermore, section 1.4.3.1 of NPS *Management Policies 2006* gives park managers the authority to manage and regulate uses to ensure that impacts from the uses are acceptable (NPS 2006d).

Potential wilderness is congressionally designated and the management policies starting with 6.3 and beyond address management of designated wilderness. Pursuant to NPS *Management Policies 2006* section 6.3.1, the NPS will take no action to diminish potential wilderness qualities and will ensure that potential wilderness is “managed as wilderness to the extent that existing nonconforming conditions allow.” Section 6.3.1 also directs the NPS to “apply the principles of civic engagement and cooperative conservation as it determines the most appropriate means of removing the temporary, nonconforming conditions that preclude wilderness designation from potential wilderness. All management decisions affecting wilderness will further apply the concept of ‘minimum requirement’ for the administration of the area regardless of wilderness category” (NPS 2006d, section 6.3.1).

National Historic Preservation Act

The NHPA, as amended, is legislation intended to preserve historical and archaeological sites. The act created the National Register of Historic Places, the list of National Historic Landmarks, and the State Historic Preservation Offices (SHPO). Under Section 106 of the NHPA and implementing regulations 36 CFR 800, federal agencies must take into account the effects of their undertakings on significant historic properties and afford SHPO and the Advisory Council on Historic Preservation an opportunity to comment as appropriate. The agency must seek ways to avoid, minimize or mitigate any adverse effects on historic properties. Historic properties include districts, sites (both historic and prehistoric), buildings, structures, and objects that are included in or eligible for inclusion in the National Register. For a discussion of NHPA applicability to this EIS, see the “Cultural Resources” section above under “Issues and Impact Topics Considered but Dismissed.”

Marine Mammal Protection Act

The Marine Mammal Protection Act (MMPA) of 1972 establishes a national policy to prevent marine mammal populations from declining and to protect marine mammals. Under MMPA, the Secretary of Commerce has the responsibility to protect cetaceans (whales, porpoises, and dolphins) and pinnipeds

(seals and sea lions) except walruses. Section 101(a)(5)(A–D) of MMPA prohibits, with certain exceptions, the taking of marine mammals in the waters of the United States and on the high seas. Congress defines “take” as “harass, hunt, capture, or attempt to harass, hunt, capture or kill any marine mammal.” In 1986, Congress amended MMPA to authorize takings of depleted stocks of marine mammals, again provided that the number of mammals taken (killed, injured, or harassed) was small and the taking had a negligible impact on marine mammals. In 1994, MMPA section 101(a)(5) was further amended to establish an expedited process by which citizens of the United States can apply for an authorization to incidentally take small numbers of marine mammals by “harassment” pursuant to Incidental Harassment Authorizations. The term harassment means, “any act of pursuit, torment, or annoyance that (i) has the potential to injure a marine mammal or marine mammal stock in the wild; or (ii) has the potential to disturb...by causing disruption of behavioral patterns, including but not limited to migration, breathing, nursing, breeding, feeding, or shelter” (16 U.S.C.1362[18]).

Coastal Zone Management Act

Congress passed the Coastal Zone Management Act (CZMA) in 1972 to “preserve, protect, develop, and where possible, restore and enhance the resources of the nation’s coastal zone.” The act encourages coastal states to develop and implement comprehensive programs to manage and balance competing coastal resource uses (e.g., balancing resource protection with economic growth and development). CZMA allows states with approved plans to review federal actions that have a reasonably foreseeable effect on any land or water use or natural resources of the state’s coastal zone. The CZMA provides states with the ability to review federal activities and federally permitted activities, and ensure that such activities are consistent, to the maximum extent practicable, with their coastal zone management plans. The processes used to implement this requirement are called “consistency determinations” and “consistency certifications.” If a proposed action is inconsistent with the requirements of the state’s approved program, the applicant and federal agency are prohibited from conducting the activity unless certain significant additional procedures are followed.

The NOAA Office of Ocean and Coastal Resource Management (OCRM) oversees the state implementation of CZMA. At the state level, CCC implements the CZMA as it applies to federal activities, development projects, permits, and licenses within the project area. CZMA consistency certifications are reviewed in accordance with the California Coastal Act and the state’s coastal plan. CCC made a request to NOAA-OCRM to review the new DBOC SUP application. NOAA-OCRM granted the request because it determined that the activity had the potential to have a “foreseeable effect” on coastal resources (NOAA-OCRM 2011b). Furthermore, NOAA-OCRM determined that DBOC must prepare and submit to CCC a certification that the activities undertaken will be conducted in a consistent fashion with the federally approved enforceable policies of the California Coastal Management Program. This would include submission of necessary data and information, as required by 15 CFR 930.58. Within their letter to CCC, NOAA-OCRM stated that NPS may not issue an SUP until CCC concurs with the consistency certification or that concurrence is presumed based on a lack of response within regulated timeframes (NOAA-OCRM 2011b).

Clean Water Act

The Clean Water Act of 1972 (33 U.S.C. 1344 et seq.), as amended, is the primary federal law in the United States governing water integrity. The goal of the CWA is to “restore and maintain the chemical, physical, and biological integrity of the nation’s water.” Waters of the United States generally include tidal waters, lakes, ponds, rivers, streams (including intermittent streams), and wetlands.

Section 404 of the CWA authorizes USACE to issue permits to project applicants for the “discharge of dredged and/or fill material in waters of the U.S.” and is the primary federal authority for the protection of wetlands. USACE jurisdiction for waters of the United States is based on the definitions and limits contained in 33 CFR 328, which encompasses all navigable waters, their tributaries, and adjacent wetlands, and includes ocean waters within 3 nautical miles of the coastline. Projects involving the discharge of dredged and/or fill material into waters of the United States require authorization from USACE.

Under section 404, USACE has established a nationwide permit (USACE 2007) for existing commercial shellfish aquaculture operations that “authorizes the installation of structures necessary for the continued operation” as well as “discharges of dredged or fill material necessary for shellfish seeding, rearing, cultivating, transplanting, and harvesting activities.” However, the nationwide permit does not apply to new operations or expansions; to cultivation of additional species; to the construction of attendant features such as docks, piers, boat ramps, stockpiles, or staging areas; or to the deposition of shell material into the water as waste (USACE 2007). The purpose of this nationwide permit is to reduce permitting timeframes and simplify continued operation of existing shellfish mariculture projects. State and local authorities may require a separate certification or waiver for authorization of continued operations. It is possible, however, that DBOC would be considered a “new operation” for purposes of permitting, as DBOC does not have an existing permit.

Projects resulting in discharges of dredged or fill material into waters of the United States must comply with the guidelines promulgated by the Administrator of the Environmental Protection Agency (EPA) under section 404(b) of the CWA (33 U.S.C. 1344[b]). Under these guidelines, USACE may only permit discharges of dredged or fill material into waters of the United States that represent the least environmentally damaging practicable alternative, provided that the alternative does not have other significant adverse environmental consequences. Practical alternatives must be presented and evaluated during the permit process so USACE can determine which alternative will have a less adverse impact on aquatic ecosystems. On November 16, 2010, USACE stated that “aquaculture activities are within our jurisdiction and a permit is required” (USACE 2010, see relevant correspondence in appendix D). USACE also reiterated the need for DBOC to obtain a permit for impacts on waters of the U.S., including wetlands, vegetated shallows, and open waters pursuant to section 404 of the CWA in their comment letter on the Draft EIS (USACE 2011a, see relevant correspondence in appendix D). It would be the responsibility of DBOC to obtain all relevant permits.

Section 401 of the CWA requires that any applicant for a section 404 permit also obtain a water quality certification from the state. The purpose of the certification is to confirm that the discharge of fill materials will comply with the state’s applicable water quality standards. Section 401 gives the authority to the State of California either to concur with USACE approval of a section 404 permit or to place special conditions on the approval, or deny the activity by not issuing a 401 certification. States were granted this authority to ensure that federally approved projects are in the best interests of the state. The

section 404 permit is not valid without a section 401 certification or waiver of the certification by the state. The 401 certification also applies to any application for a federal license or permit that might result in discharge of any type, including gray-water disposal, into waters of the United States. Section 401 certifications are issued by the San Francisco Bay Regional Water Quality Control Board.

Routine operations associated with DBOC commercial shellfish operations, such as the placement of oyster racks on the floor of Drakes Estero, placement of culture bags near the surface, and discharge of wash from the operations into Drakes Estero, may require both a section 404 permit and section 401 certification. DBOC also proposes to dredge the area around the boat ramp. Section 124 of PL 111-88 does not relieve DBOC of its obligations to comply with the Clean Water Act.

Rivers and Harbors Act

Section 10 of the Rivers and Harbors Act of 1899, as amended (33 U.S.C. 403 et seq.) prohibits the unauthorized obstruction or alteration of any navigable water of the United States. This section provides that the construction of any structure in or over any navigable water of the United States, or the accomplishment of any other work affecting the course, location, condition, or physical capacity of such waters, is unlawful unless the work is approved by USACE. On November 16, 2010, USACE stated that, “aquaculture activities are within our jurisdiction and a permit is required” (USACE 2010, see relevant correspondence in appendix D). USACE also reiterated the need for DBOC to obtain a permit for impacts on waters of the U.S., including wetlands, vegetated shallows, and open waters pursuant to section 10 of the Rivers and Harbors Act in their comment letter on the Draft EIS (USACE 2011a, see relevant correspondence in appendix D). The Rivers and Harbors Act also requires section 401 certification from the state (as described above). It would be the responsibility of DBOC to obtain all relevant permits.

RELEVANT STATE LAWS AND POLICIES

California Coastal Act

This state law regulates all state and private actions affecting the California coastal zone. As discussed above, CCC is the state agency responsible for CZMA determinations. The regulatory authority also extends to federal actions affecting the coastal zone, as the California Coastal Act is part of the NOAA-approved California Coastal Management Program under the CZMA. The California Coastal Act addresses issues such as shoreline public access and recreation, lower cost visitor accommodations, terrestrial and marine habitat protection, visual resources, landform alteration, agricultural lands, commercial fisheries, industrial uses, water quality, offshore oil and gas development, transportation, development design, power plants, ports, and public works.

The California Coastal Act also imposes obligations on entities that conduct commercial businesses in the state’s coastal zone. DBOC’s commercial shellfish operation is located in the state coastal zone and is thus subject to CCC oversight and permitting requirements. CCC has issued two Cease and Desist Orders regarding the shellfish operation, one in 2003 to JOC and one in 2007 to DBOC (CCC 2003, 2007b). The 2003 Cease and Desist Order (No. CCC-03-CD-12) to JOC required the removal of some unpermitted development from the property (the shucking room and the retail counter, two houses, and two of the four

mobile homes), improvement of the wastewater system (which was draining into Drakes Estero), remediation related to the storage of oyster cultivation equipment and disposal of refuse in Drakes Estero and along the shore, and the submittal of a coastal development permit application for after-the-fact authorization for other unpermitted development that included construction of several commercial buildings and a horse paddock; additions to pre-Coastal Act buildings; and permanent placement of a mobile home, three metal storage/refrigeration containers, and an aboveground diesel fuel tank and concrete containment structure (CCC 2003).

When DBOC purchased the assets of JOC, it also assumed the compliance obligations arising from the CCC Consent Cease and Desist Order issued to JOC (CCC 2003). In 2005 and 2006, DBOC removed some of the unpermitted development identified in the 2003 Cease and Desist Order, including the removal of the western portion and the second-floor addition to the processing plant and retail facility, two storage containers, a refrigerated trailer, the seed setting area, the western portion of the storage facility, and a mobile home. However, not all of the unpermitted development had been removed when DBOC completed additional development without a coastal development permit, including placement of two large containers for shucking/packing/storage and a temporary construction trailer, construction of a processing facility and second leach field, grading and paving within the onshore portions, and placement of oyster culture apparatus (seed setting tanks and water intake) in Drakes Estero (CCC 2007b). DBOC also established unauthorized practices on the property (e.g., boat transit outside established channels). Between 2005 and 2007, CCC alerted DBOC to these violations, and DBOC agreed to submit a coastal development permit application for all “onshore and offshore” development on the property that required a permit.

A second Consent Cease and Desist Order (No. CCC-07-CD-11/CCC-07-CD-04) was issued as a short-term order to allow DBOC operations to continue while DBOC met the remaining requirements for documented violations. The 2007 Cease and Desist Order set time frames for submittal of the coastal development permit application, established agreed-upon conditions of the operations, and identified activities to be avoided until CCC received and approved the application. The consent order furthermore directed DBOC to take actions and implement protective measures to ensure protection of coastal resources. These protective measures included the following conditions:

- Onshore Conditions (Section 3.1)
 - additional structures prohibited pending CDP or de minimis waiver
 - submittal of a hazardous materials/discharge management plan
 - maximum temperature of released water must be less than 20 degrees more than receiving waters; seawater intake structures shall not exceed an intake velocity of 0.5 ft/s
- Offshore conditions (Section 3.2)
 - additional structures prohibited pending CDP
 - removal of equipment not being used within 30 days (including permanent structures such as racks)
 - submittal of a debris removal plan to NPS and CCC
 - import shellfish in the form of larvae or seed, certified by CDFG to be free of pathogens
 - boat transit limited to established channels that do not violate the protective measures set forth in the consent order. Submit a vessel transit plan to NPS and CCC. Include proposed access lanes (distinguishing between commonly used channels and channels only used when

certain racks/bags are active) and mooring areas for maintenance and harvesting of oysters, clams, and scallops.

- maintain the harbor seal protection areas as incorporated into SUP
- remove any Pacific and European flat oysters outside the approved cultivation areas
- clams and scallops shall only occur where currently cultivated and no additional non-oyster species shall be cultivated
- bottom bags shall only be placed in intertidal areas devoid of eelgrass
- provide documentation of “current production level” (including last year and next year’s projection); the maximum annual production limit shall be capped at this level
- cultivation area defined as areas that are included in the current CDFG leases; consistent with CDH, FDA, and National Shellfish Sanitation Program; and specified as oyster beds or primary water quality sites

On November 29, 2007, DBOC signed the consent order to work with CCC and NPS to resolve the violations (CCC 2007b). Even though the 2007 Cease and Desist Order was issued as a short-term order, it currently remains in effect.

On September 29, 2011, CCC notified DBOC regarding potential noncompliance with several of the stipulations in the 2007 Consent Cease and Desist Order: “1) marine debris in Drakes Estero and on nearby coastal beaches, especially from abandoned, discarded, or fugitive plastic aquaculture materials; and 2) motorized vessel transit in the lateral sandbar channel near the mouth of the Estero during the seasonal restriction period established for harbor seal pupping sites in this area” (CCC 2011). CCC reaffirmed these continued violations and requested additional information from and meetings with DBOC in a subsequent letter on February 1, 2012 (CCC 2012a^{li}).

On February 17, 2012, DBOC submitted an updated coastal development permit application to CCC for review and approval to resolve some of the violations cited in the orders (DBOC 2012a^{liii}). In addition to previously requested items in the 2010 application, the current application includes portions of the work approved as part of the emergency storm repair of the damage caused in March 2011 and a request for 12 barbecue grills and 6 additional picnic tables. CCC informed DBOC on March 16, 2012 that this coastal development permit application was “incomplete because there is no evidence of landowner approval of the proposed work, a portion of the permit fee has not been submitted, and you [DBOC] have not provided sufficient detail regarding the additional work” (CCC 2012d). DBOC informed NPS in a letter dated May 7, 2012 that it would limit its current coastal development permit application to existing activities and would apply to CCC for a coastal development permit amendment in the future prior to future development (DBOC 2012d^{liiii}). DBOC also responded to the NPS’s previous request for additional information related to consistency with the SUP and provided an updated project description.

In a letter dated July 30, 2012, CCC informed DBOC of its continued noncompliance with several of the stipulations in the 2007 Consent Cease and Desist Order, including unauthorized boat use of the lateral channel during the seasonal closure for harbor seal pupping, unauthorized boat use of the lateral channel to obtain water sampling data, the collection and disposal of marine debris as a result of JOC and DBOC operations, and development within the coastal zone without an approved coastal development permit. CCC notified DBOC that a new Cease and Desist Order is being considered, “Considering the current uncertainty of a new lease and SUP permit being granted to DBOC, the delays in the various proceedings,

your [DBOC] apparent confusion over certain terms of the Order, and the continuing difficulties in bringing DBOC operations into compliance with the Coastal Act” (CCC 2012b). On October 24, 2012, CCC notified DBOC that CCC was commencing proceedings for issuance of cease and desist and restoration orders (CCC 2012e^{liv}). The letter summarized the violation as follows:

As you know, your facility remains unpermitted under the Coastal Act; the 2007 Order was intended to provide a short-term means to protect coastal resources while such a permit was being sought, but in no way purported to authorize the facility under the Coastal Act, nor serve as a long term solution. In addition, unpermitted development since the 2007 order has occurred and includes, but may not be limited to: (1) operation of boats in the lateral channel (From footnote in letter: Defined as “the entire channel between the Main Channel and West Channel” in correspondence from the National Park Service to DBOC dated January 23, 2012) in violation [of] the National Park Service (NPS) Special Use Permit (SUP) issued in April, 2008, and therefore additionally in violation of Section 7.0 of the 2007 Order, which specifically anticipates and requires compliance with all permits; (2) unpermitted discharge of marine debris in the form of abandoned, discarded, or fugitive mariculture materials in violation of Section 3.2.2 of the 2007 Order, which requires removal of abandoned equipment, and Section 1.0(c) of Cease and Desist Order No. CCC-03-CD-12 (the ‘Johnson Order’), which mandates a removal plan to address submerged oyster cultivation equipment and materials in the estuary; and (3) new unpermitted development, including but not limited to, construction and backfill of a 12” by 18” by 80’ long electrical trench, placement and removal of clam cultivation bags within a harbor seal protection area and associated vessel use and worker operations, placement of three 4’ diameter concrete planters, removal and replacement of six picnic tables and placement of six additional picnic tables and installation of an 8’ by 40’ refrigeration unit within the last month, in violation of Sections 2.0, 3.1.2 and 3.2.1 of the 2007 Order, which expressly prohibit the performance of any new development including onshore or offshore structures, without some sort of Coastal Act authorization. (CCC 2012e)

Coordination between CCC and DBOC is ongoing to resolve the remaining violations.

Section 124 of PL 111-88 does not relieve DBOC of its legal obligations under the California Coastal Act.

California Fish and Game Code

Under the California Fish and Game Code, the California legislature authorizes CFGC to issue state water bottom leases for marine aquaculture on state-owned tide and submerged lands. CDFG administers such leases. Leases are granted for up to a 25-year period and are subject to renewal if the lessees remain “actively engaged” in aquaculture. Currently, commercial marine aquaculture is limited to oysters, abalone, clams, mussels, algae, kelp, scallops, and finfish.

The tide and submerged lands within Drakes Estero were conveyed by the State of California to the United States in 1965 and do not constitute state-owned tide or submerged lands for the purposes of state water bottom leasing. In the conveyance statute, the state retained certain mineral rights in the submerged

lands, but the state did not retain the right to issue aquaculture leases. The state also retained, on behalf of the people, the right to fish. However, as explained earlier in this chapter, the right to fish does not encompass commercial aquaculture like that practiced by DBOC.

Although the leasing provisions of the Fish and Game Code do not apply to DBOC, other provisions of the code do apply. These include provisions related to stocking of aquatic organisms (sections 15200-15202), brood stock acquisition (sections 15300-15301), disease control (sections 15500-15516), aquaculture registration for all operators (sections 15100-15105), and the importation of aquatic animals (sections 15600-15605). CDFG coordinates disease and health certification for shellfish with other agencies. Section 124 of PL 111-88 does not relieve DBOC of its obligations to comply with these state law requirements.

California Marine Life Protection Act

This state law directs the reevaluation and redesign of California's system of marine protected areas (MPAs) to increase coherence and effectiveness in protecting the state's marine life and habitats, marine ecosystems, and marine natural heritage, as well as to improve recreational, educational, and study opportunities provided by marine ecosystems subject to minimal human disturbance. The establishment of a combination of state marine reserves, state marine conservation areas, and state marine parks helps achieve these goals. The Marine Life Protection Act (MLPA) also requires that the best readily available science be used in the redesign process, as well as the advice and assistance of scientists, resource managers, experts, stakeholders, and members of the public. This process was recently completed for the North Central Coast Study Region, including the Seashore, and resulted in the designation of MPAs within and adjacent to Drakes Estero. Point Reyes Headlands to the west of the project area and Estero de Limantour to the southeast have been designated as state marine reserves where the take of all living marine resources is prohibited. Drakes Estero is identified as a state marine conservation area where take of all living marine resources is prohibited, except for (1) recreational take of clams and (2) commercial aquaculture of shellfish pursuant to a valid state water bottom lease and permit. The Fish and Game Code definition of take is "hunt, pursue, catch, capture, or kill, or attempt to hunt, pursue, catch, capture, or kill." This is slightly different than the definition used by the MMPA (see the section entitled "Marine Mammal Protection Act"). Due to the proximity of the proposed action to the MPAs, the MLPA was considered during preparation of this EIS.

Section 124 of PL 111-88 does not relieve DBOC of its obligations to comply with the California Marine Life Protection Act.

California Health and Safety Code and Other State Requirements

Shellfish cultivated under the provisions of an aquaculture registration may only be grown, processed, and marketed for human consumption under the California Health and Safety Code and other California statutes and regulations, including the California Shellfish Law (California Health and Safety Code sections 28500-28519.5) and Shellfish Regulations (California Code Regulations 17 sections 7706-7761). Section 124 of PL 111-88 does not relieve DBOC of its obligations to comply with these state law requirements. The public health code requirements are monitored and enforced by the California Department of Public Health.

RELEVANT FEDERAL EXECUTIVE ORDERS

Executive Order 11990: Protection of Wetlands

This executive order directs federal agencies to avoid, to the extent possible, the long-term and short-term adverse impacts associated with the destruction or modification of wetlands, and to avoid direct or indirect support of new construction in wetlands wherever there is a practicable alternative. A fundamental element of this executive order is the adoption of a “no net loss of wetlands” goal, which the NPS wetlands policy was derived from. In addition, the NPS will strive to achieve a longer-term goal of net gain of wetlands Service-wide (NPS 2006d).

Executive Order 11988: Floodplain Management

This executive order directs federal agencies to avoid, to the extent possible, the long-term and short-term adverse impacts associated with the occupancy and modification of floodplains, and to avoid direct or indirect support of floodplain development wherever there is a practicable alternative.

Executive Order 13112: Invasive Species

This executive order directs federal agencies to avoid, to the extent possible, authorizing, funding, or carrying out actions that it believes are likely to cause or promote the introduction or spread of invasive species.

Executive Order 13158: Marine Protected Areas

This executive order directs federal agencies to take appropriate actions to enhance or expand protection of existing Marine Protected Areas (MPAs) and establish or recommend, as appropriate, new MPAs. On April 23, 2009, NOAA published in the Federal Register the initial list of national system MPAs. A total of 225 sites were designated, including Point Reyes National Park [Seashore], which includes Drakes Estero (NOAA 2009). Since then, an additional 72 sites have been listed as part of the national system MPA, including the Drakes Estero State Marine Conservation Area (NOAA 2011b).

Executive Order 13186: Responsibilities of Federal Agencies to Protect Migratory Birds

This executive order directs executive departments and agencies to take certain actions to further implement the MBTA.

Executive Order 12898: General Actions to Address Environmental Justice in Minority Populations and Low-income Populations

This executive order requires all federal agencies to identify and address the disproportionately high and/or adverse human health or environmental impacts of their programs and policies on minorities and low-income populations and communities (EPA 1994).

RELATIONSHIP TO OTHER PLANS AND DOCUMENTS

Point Reyes National Seashore, General Management Plan (1980)

The primary purpose of a GMP is to provide vision for a park that will guide how the park's lands and waters are managed over a 15- to 20-year period. The most recent GMP for the Seashore was completed in 1980 (NPS 1980). Because resource management needs and goals evolve, this document is outdated, and the Seashore is in the process of developing a new GMP. Nevertheless, the 1980 plan provides some general background guidance applicable to actions considered in this EIS.

The GMP divides the Seashore into separate land management zones, with an emphasis on natural resource protection. Management objectives are defined for each zone that clearly convey the direction for resource preservation and visitor use. Approximately two-thirds of the Seashore's acreage is assigned to the natural zone, which includes subzones of wilderness and research reserves (marine life preservation areas established to protect and study aquatic wildlife). The majority of Drakes Estero falls within the wilderness classification through its congressionally designated potential wilderness status. Additional lands within the Seashore have been classified into four special use zones, including "pastoral lands," "radio range station," "oyster farm," and "lands not to be acquired." The onshore property used as part of the commercial shellfish operation is designated as the "oyster farm" subzone consisting of 5 acres on the upper end of Drakes Estero. Additionally, lease boundaries are delineated in Drakes Estero where oysters are cultivated and harvested. Overall, the plan limits the development zone used for roads and parking, administration facilities, and minor facilities.

The 1980 GMP contains several natural resource objectives that have influenced management of the resources within the Seashore and at Drakes Estero and that will guide the analysis in this EIS. These objectives include:

- To protect marine mammals, threatened and endangered species, and other sensitive natural resources found within the Seashore
- To preserve and manage as wilderness those lands so designated under PL 94-567 and to also manage as wilderness to the extent possible those tide and submerged lands designated as potential wilderness
- To monitor and improve maricultural operations, in particular the oyster mariculture operation in Drakes Estero, in cooperation with the California Department of Fish and Game
- To enhance knowledge and expertise of the ecosystem management through research and experimental programs (NPS 1980)

With its mandate to care for and administer these lands in a way that safeguards their natural character, and knowing that the RUO for the onshore portion of the oyster operation did not expire for another 32 years (until 2012), the NPS's decision to monitor and improve the oyster operation in a manner consistent with NPS mandates was an appropriate goal for the anticipated lifespan of the GMP. Rehabilitation of existing structures, improvements to the drainage system and leach fields, and the addition of screening fences were all undertaken. Monitoring activities have been conducted within Drakes Estero relative to various marine species to identify habitat areas and current trends.

Environmental Assessment Johnson Oyster Company

In 1998, an EA was prepared by NPS to bring JOC into compliance with federal, state, and Marin County regulations (NPS 1998a). The EA was prepared to allow JOC to address an unpermitted discharge into Drakes Estero from a failed JOC septic system. Consistent with the 1980 GMP, which envisioned that NPS would monitor and improve the commercial shellfish operation in a manner consistent with then-existing NPS mandates during the anticipated lifespan of the GMP, and because of the need to address this unpermitted discharge, the NPS worked with JOC and Marin County to permit upgrades to the septic system. JOC also proposed the construction of a new oyster processing plant and the replacement and rehabilitation of several additional structures and infrastructure, including the seed plant, stringing plant, garage, and septic system. NPS approved these actions in a Finding of No Significant Impact (FONSI) dated August 11, 1998 (NPS 1998b). The FONSI also included an annual processing/production limit of 700,000 pounds (oyster weight) to ensure that the new facilities would not create additional growth (and any new negative impacts) in overall oyster production in the estuary (NPS 1998b). The only actions that JOC completed were removal of some mobile homes from the site and installation of a single leach field, which corrected the unpermitted discharge.

While some progress was made by JOC in bringing facilities into compliance, there were still numerous California Coastal Act, county building code, and NPS permit violations left unresolved (Caywood and Hagen 2011). In 2003, CCC issued a Cease and Desist Order (No. CCC-03-CD-12) to JOC that required the removal of some unpermitted development from the property, improvement of the wastewater system, and the submittal of a coastal development permit application for after-the-fact authorization for other unpermitted development (CCC 2003). Due to these unresolved violations, in September 2003 NPS revoked authority for the construction and replacement activities that had been authorized by the 1998 EA and FONSI (NPS 2003c^{lv}).

Actions considered in the 1998 NEPA process that had not been completed prior to the NPS's revocation of the FONSI in 2003 are being reviewed in this EIS in accordance with existing NPS policies and procedures.

Statement of Principles

In April 2008, in conjunction with the SUP, DBOC and NPS agreed to a statement of principles that outlined procedures to be followed in the event that a NEPA document need to be prepared for proposed activities associated with the remaining 4-year term of the RUO. As indicated by the statement of principles, DBOC was to prepare a "description of their operations for NEPA evaluation" and that NPS would consider

this description in developing the purpose and need for the NEPA document and alternatives to be considered. The statement of principles was executed prior to the enactment of section 124 and prior to the Secretary's decision to conduct a NEPA evaluation of the possible issuance of a permit under section 124. NPS and DBOC have agreed to apply the statement of principles to this EIS to the extent that it is applicable. The statement of principles highlights good faith efforts from both parties to share information and provide timely responses. The statement of principles can be found in appendix C.

Point Reyes National Seashore Comprehensive Interpretive Plan

The *Point Reyes National Seashore Comprehensive Interpretive Plan* (NPS 2003b) presents primary park-wide themes, visitor experience goals, existing interpretive conditions, and future interpretive programs. Interpretive and educational services, including personal services, interpretive media, and partnerships that work to support the delivery of interpretive and educational programs are coordinated with the comprehensive interpretive plan.

Point Reyes National Seashore Strategic Plan

The *Point Reyes National Seashore Strategic Plan for 2005–2008* (NPS 2004e) contains mission statements and long-term goals for the Seashore. Annual plans and implementation strategies have been established for each of the 5-year goals.

Point Reyes National Seashore Resource Management Plan

The resource management plan for the Seashore was updated in December 1999. The plan presents an inventory and description of natural and cultural resources, describes and evaluates the current resources management program, and prescribes an action program based on legislative mandates, NPS policies, and provisions of related planning documents. The resource management objectives are broadly summed up in the vision statement for the Seashore, as illustrated in this excerpt:

Point Reyes National Seashore will be a model of environmental stewardship—a coastal sanctuary where all park staff and the public are actively involved in the common goal of maintaining, protecting, restoring, and preserving the natural and cultural integrity of the park. We will enhance stewardship through research and monitoring programs. We will use this knowledge to promote the natural vitality of a healthy ecosystem, with a resource management program that supports the native species and natural biologic and geologic processes, which occur here. Threatened, endangered, and specially protected species will be given particular attention to ensure they are perpetuated for future generations.

To acknowledge the historic, cultural, and ethnic diversity of the area, resources such as the Point Reyes Lighthouse and other maritime sites and structures, Coast Miwok sites, and cultural landscapes embodied in the historic ranches will be preserved. . . . Point Reyes will be a place where you can visit and experience nature in peaceful solitude as it has existed for thousands of years. (NPS 1999b)

USFWS and NMFS Federally Listed Species Recovery Plans

Section 4 of the ESA requires USFWS and NMFS to develop and implement recovery plans for threatened and endangered species, unless such plans would not promote conservation of the species. Recovery plans are guidance documents intended to delineate reasonable actions that are believed to be required to recover and/or protect listed species. As such, according to the ESA, the recovery plans must at a minimum provide a description of site-specific management actions necessary to achieve recovery of a species; objective, measurable criteria which, once met, would result in a determination that the species be removed from the list; and estimates of the time and cost required to achieve the plan's goal (NMFS 2010d). In addition, section 4 of the ESA requires USFWS and NMFS to conduct status reviews of each listed species at least once every 5 years (called "5-year review"). The purpose of the 5-year review is to evaluate whether or not a species status has changed since it was listed or since the last 5-year review.

Generally, USFWS manages land and freshwater species, whereas NMFS manages marine and anadromous (i.e., migrating between ocean and freshwater) species. USFWS has recovery plans for Myrtle's silverspot butterfly (USFWS 1998), California red-legged frog (USFWS 2002b), leatherback turtle (NMFS and USFWS 1998), western snowy plover (USFWS 2007), and California least tern (USFWS 1985b). USFWS 5-year reviews are available or in progress for all of these species.

NMFS recovery planning follows NMFS interim recovery planning guidance, which was established in July 2006. This guidance, in addition to status reviews conducted by NMFS, has led to several recent recovery documents for salmon and steelhead species in multiple regions. Recovery of the central California coast Coho salmon is outlined in the draft central California coast Coho salmon recovery plan (NMFS 2010b), which is in the approval process. Recovery of the central California coast Steelhead is described in the *Federal Recovery Outline for the Distinct Population Segment of Central California Coast Steelhead* (NMFS 2011e). This is a NMFS pre-planning document to facilitate development of a draft recovery plan.

ENDNOTES

i. CSLC 2007, Letter from Executive Officer, California State Lands Commission, to Alliance for Local Sustainable Agriculture, on July 26, 2007, regarding a review of the state land conveyances and jurisdictions.

"We have reviewed land conveyances made by the Office of the Surveyor General and the Legislature as they pertain to the tide and submerged lands of the Estero and have concluded that they have conveyed out all of the State's real property interest except the mineral estate. This leaves the Commission with no jurisdiction over the bed of the Estero and precludes us from taking any action.

ii. CDFG 2007b, Letter from Director, California Department of Fish and Game, to Superintendent Point Reyes National Seashore, May 15, 2007, regarding Drakes Bay Oyster Company lease status.

"Consistent with article 1, section 25 of the California Constitution, this conveyance carried a reservation of the right to fish in the waters overlying these lands. Although the right to fish extends to both commercial and sports fishing, it does not extend to aquaculture operations. Regardless if its purpose is commercial or recreational, fishing involves the take of public trust resources and is therefore distinct from aquaculture, which is an agricultural activity involving the cultivation and harvest of private property."

iii. CSLC 2007, Letter from Executive Officer, California State Lands Commission, to Alliance for Local Sustainable Agriculture, on July 26, 2007, regarding a review of the state land conveyances and jurisdictions.

"Secondly, we have taken a look at the constitutional 'right to fish' reserved in the 1965 legislative grant. It is our belief that this reservation addresses fishing in the sense of taking or capturing fish and that it does not deal with aquaculture which comes under the jurisdiction of the Department of Fish and Game. It [is] also apparent that the right to fish is not an absolute one and that it is susceptible to reasonable regulation."

iv. DOI 2012a, Letter (with attachments) from Field Solicitor to California Fish and Game Commission Executive Director on May 21, 2012.

"The issue of the State of California's authority to issue aquaculture leases for the water bottoms in Drakes Estero has been addressed by the Department of Fish and Game's Office of General Counsel, by the Executive Officer of the State Lands Commission, and by the Attorney General's Office. All three have reached the same conclusion: that the "right to fish" under the public trust doctrine does not extend to aquaculture or to the leasing of water bottoms in Drakes Estero.

As explained in the March 25, 2008 letter from the Department of Fish and Game (Department), the cultivated products of an aquaculture operation are private property. By contrast, the public's right to fish under the public trust extends only to public resources, such as wild fish and mollusks. Because the shellfish cultivated by DBOC are private property, the public trust doctrine does not authorize the issuance of a state lease for DBOC's private commercial aquaculture operation."

v. CDFG 2007b, Letter from Director, California Department of Fish and Game, to Superintendent Point Reyes National Seashore, May 15, 2007, regarding Drakes Bay Oyster Company lease status.

"For these reasons, we believe the mariculture operation in Drakes Estero is properly within the primary management authority of the PRNS, not the department (CDFG)."

vi. CDFG 2008a, Letter from, California Department of Fish and Game Acting Director, to Honorable Jared Huffman, Assembly Member, March 25, 2008, regarding CDFG position on Drakes Bay Oyster Farm.

“Since both the 1972 grant reservation and the 2004 state water bottom lease renewal require compliance with all rules and regulations of the National Park Service, the Department concluded the “Primary management authority” for the oyster farm lies with the PRNS.”

vii CDFG 2011f, Letter (with attachments) from California Department of Fish and Game to Point Reyes National Seashore on December 22, regarding CDFG’s comments on National Park Service Draft Environmental Impact Statement for Drakes Bay Oyster Company Special Use Permit.

“DFG, page 7, Paragraph 2: The CDFG manages 16 shellfish leases held by 8 such operators.”

viii CDFG 2011f, Letter (with attachments) from California Department of Fish and Game to Point Reyes National Seashore on December 22, regarding CDFG’s comments on National Park Service Draft Environmental Impact Statement for Drakes Bay Oyster Company Special Use Permit.

“DFG, page 7, Paragraph 3 1st sentence: Does this number include DBOC? If not, there are 9 operations (11 including DBOC). The 19 operations are not all on granted or private tidelands. The rest are private land-based facilities.”

ix. CDFG 2007b, Letter from Director, California Department of Fish and Game, to Superintendent Point Reyes National Seashore, May 15, 2007, regarding Drakes Bay Oyster Company lease status.

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We would also like to address the Commission’s leasing authority under Fish and Game Code Sections 15400 *et. seq.* These provisions authorize the Commission to lease state water bottoms for aquaculture operations. In 1965, the California Legislature conveyed all of the tide and submerged lands in Drakes Estero to the United States. The only interests reserved by the Legislature were the right to fish (discussed above) and certain mineral rights. As indicated

xiv. Studdert 1993, Letter from Johnsons Oyster Company Legal Council to Director, California Department of Fish and Game, on August 6, 1993, regarding Water Bottom Allotment Lease No. M-438-01 Johnson Oyster Company.

“Johnson Oyster Company would like to start culturing Manila Clams on the captioned lease [Lease No. M-438-01] in Drakes Estero. Accordingly, please consider this a request to add that species, Manila clams (*Venerupis japonica*), to the other species specified at page 4 of the captioned allotment [Lease No. M-438-01] at the top of the page.”

xv. NPS 2003c, Letter from Point Reyes National Seashore Superintendent to Johnson Oyster Company on September 17.

“Finally, we must ensure you realize that you do not have authority or permission to construct any new facilities on the reservation lands or other lands authorized under permits. Regarding any new facilities that were authorized by the completion of the Johnson Oyster Replacement and Rehabilitation Environmental Assessment in 1998, the NPS revokes any authority for construction and replacement activities.”

xvi. CDFG 2004a, Letter from California Department of Fish and Game to Johnson’s Oyster Company, February 2, 2004 regarding application to extend JOC Mariculture Leases M-438-01 and M-438-02.

“2) Lease term- The maximum lease renewal term allowed by the Commission is 25-years. You have expressed the desire to renew your lease for the 25-year maximum allowed by the Commission. However, The Department would require that a federal/National Park Service (NPS) lease be in effect concurrently with the state water bottom lease. Based on information from Don Neubacher, Superintendent, Point Reyes National Seashore, your existing federal lease [RUO] will terminate in 2012. At that time the leased land will revert to wilderness designation and your non-conforming use will not be permitted thereafter. The Department will want language in the lease that limits the lease renewal term to a 25-year maximum, or until the expiration of the federal lease.”

xvii. NPS 2004c, Letter from Superintendent, Point Reyes National Seashore to Director, California Department of Fish and Game, March 15, 2004, regarding legal opinions from the DOI Solicitor's Office about the aquaculture activities of Tom Johnson in Drakes Estero.

"After reading the legal opinions from our Solicitor's Office, we wish to have a meeting with you regarding how to proceed. At this time, we still believe Mr. Johnson will need a permit from the National Park Service to operate in Drakes Estero and additional environmental compliance may be necessary."

xviii. CDFG 2004b, Memorandum from Director, California Department of Fish and Game to Executive Director, California Fish and Game Commission, June 14, 2004 regarding Consent Item 32 on the June 24, 2004 CFGC meeting to extend JOC Mariculture Leases M-438-01 and M-438-02.

"He [Johnson] has also indicated an interest in renewing the leases for the maximum twenty-five (25) year period. The Department supports the renewal of the leases and concurs with the requested twenty-five year renewal period. Johnson Oyster Company has been operating on National Park Service fee land in Point Reyes National Seashore under a 1972 Reservation of Use and Occupancy (Federal Reservation) in which Mr. Johnson, as a condition of his sale to the Park Service, reserved the right to operate an oyster farm for 40 years until 2012. However, there is some uncertainty whether the Federal Reservation will be extended. For this reason, the Department is recommending that the renewed leases be contingent upon there being a Federal Reservation in place."

"The Department recommends approval of the requested lease renewals for a period of twenty-five years, contingent on there being a Federal Reservation for the land use within the Point Reyes National Seashore. The Department recommends the annual rental rate leases take into consideration the financial hardship expressed by Mr. Johnson and be subject to the stipulations discussed above. The Department also recommends that the lease be contingent on Johnson Oyster Company maintaining appropriate Coastal Zone operational practices as specified by the California Coastal Commission and other federal and state regulatory agencies."

xix. NPS 2004d, Letter from Superintendent Point Reyes National Seashore, to the Director, California Department of Fish and Game, June 18, 2004 regarding Consent Item 32 on the June 24, 2004 CFGC meeting to extend JOC Mariculture Leases M-438-01 and M-438-02.

"As we have discussed with representatives from the Department of Fish and Game, the NPS still believes that any activity in the Estero must also be permitted by the NPS. We have also requested clarification on how CEQA requirements are being met by the Department."

xx. DBOC 2011f, Letter from Drakes Bay Oyster Company to Point Reyes National Seashore, March 4, 2011, regarding supplemental scoping information.

"Sales agreement between DBOC and JOC (including information on lease holding interests). Attached, please find a copy of the asset purchase agreement between Johnson Oyster Company and the Lunny Family (Attachment 1-A)."

xxi. DBOC 2008c, Letter from Drakes Bay Oyster Company to California Coastal Commission, November 14, 2008, regarding additional documentation required to comply with Consent Cease and Desist Order No. CCC-07-CD-11.

"Kumamoto oysters have been removed from Drakes Estero. They were in Bed #39. Please see Exhibit 8: Letter from the California Fish and Game."

xxii. CDFG 2008b, Letter from Senior Fish Pathologist, California Department of Fish and Game to Drakes Bay Oyster Company on November 14, regarding Removal of Kumamoto oysters from Home Bay, Drakes Estero.

“DBOC and DFG staff searched for and removed all bags of Kumamoto oysters present. The bags were confined to a region approximately 10M in diameter. We removed exactly 20 bags, each with approximately 300 oysters per bag.”

xxiii. NPS 2009d, Letter from Superintendent, Point Reyes National Seashore, to Commissioner, California Coastal Commission, December 8, 2009, regarding expansion of Manila clams in CDFG Lease No. M-438-01.

“Our specific concerns follow: Changes in the current CDFG lease are subject to environmental review and analysis under the National Environmental Policy Act (NEPA), along with the California Environmental Quality Act (CEQA). We believe the expansion of the area from one acre to the entire lease over 1,000 acres where Manila clams can be cultivated is an important change to the current lease and requires environmental review. We also believe that consultation regarding this expansion is required with NOAA Fisheries, California Coastal Commission, Army Corps of Engineers, and US Fish and Wildlife Service. We are concerned about the potential ecological risks that this species may bring to Drakes Estero and native species there. No risk analysis for this species to be introduced has been conducted.

Potential expansion of Manila clams as an invasive species is a major concern. While Manila clams have been introduced and have spread in other estuaries of California, there is currently no evidence to our knowledge that they escaped or invaded Drakes or Limantour Esteros. The national Academy of Sciences noted in their report Shellfish Mariculture in Drakes Estero (NAS 2009) that “the oysters and clams cultured in Drakes Estero are nonnative species that have some risk of establishing self-sustaining populations (p 5)” and further noted that “continued culture of nonnative oysters and clams poses some risk of their eventual naturalization in Drakes Estero and larval spread to other coastal lagoons...”

xxiv. CFGC 2009, State of California Fish and Game Commission Meeting of December 10, 2009 Consent Calendar.

“We wish now to correct that error and add Manila clams to lease M-438-01 as originally requested and remove Manila clam from M-438-02.”

xxv. NPS 2009e, Letter from Point Reyes National Seashore Superintendent, to Drakes Bay Oyster Company, December 22, 2009, regarding cultivation of Manila clams, site development request, and additional information on Manila clams.

“...we acknowledge you have received permission from the California Fish and Game Commission to place Manila clams in Lease M-438-01. As stated in your permit (Article 4bvi), you may not implement any modifications to CDFG leases without prior written approval from the National Park Service. Article 4bvi states:

Permittee will not introduce species of shellfish beyond those described in the existing leases from the CDFG. Permittee may seek to conform and/or modify these leases with the CDFG. Any modifications approved by the CDFG will be considered by Permitter on a case-by-case basis, and Permittee may not implement any such modifications without the prior written approval of the Permitter.

At this time, we would like to request additional information on Manila clam production. Please provide a proposal that includes location and size of growing area, approximate number of bags and clams, seed and history of production, and other details on the production on Manila clams.”

xxvii. CCC 2009b, Letter from California Coastal Commission to Drakes Bay Oyster Company on September 16, regarding compliance with Consent Cease and Desist Order CCC-07-CD-11 (Drakes Bay Oyster Company).

“I am writing concerning compliance with the Coastal Commission’s Consent Cease and Desist Order No. CCC-07-CD-11 (the Order), which was issued to Drakes Bay Oyster Company (DBOC) on December 12, 2007. As you know, the Order contains a number of terms and conditions, and it has come to our attention that you are out of compliance with one or more of these terms and conditions, as described below.

Although the circumstances underlying the Fish and Game Commission’s decision regarding the Johnson Oyster Company’s request in 1993 are unclear, it is apparent that you had the opportunity to legally modify DFG lease Oyster Allotment Number M438-01 several years ago. Despite declining to carry out this legal change you have undertaken the cultivation of Manila clams in DFG Oyster Allotment Number M438-01, an area specified in the DFG lease which ‘is for the sole purpose of cultivating Pacific oyster (*Crassostrea gigas*), and European flat oyster (*Ostrea edulis*).’ . . . However, until this matter is resolved, you are out of compliance with Sections 3.2.8, 3.2.11, and 7.0 of the Order.”

xxviii. NPS 2009c, Letter from Acting Pacific West Regional Director, to Drakes Bay Oyster Company, December 4, 2009, notice of violation related to placement of Manila clams in harbor seal exclusion area.

“We have tried to reach you several times about bags with clams and/or oysters and other materials which have been placed in the Harbor Seal Protection Area of Drakes Estero and outside the permitted area. We have attached relevant maps from the Special Use Permit as well as a geographic referenced photograph regarding the violation (See attachments).

This letter serves as a notice of violation by Drakes Bay Oyster Company (DBOC).”

xxix. CCC 2009a, Letter from California Coastal Commission to Drakes Bay Oyster Company, regarding Compliance with Consent Cease and Desist Order CCC-07-CD-11 (Drakes Bay Oyster Company). Dated December 7, 2009. Notice of violation related to placement of Manila clams in harbor seal exclusion area.

“In a letter dated September 16, 2009, we indicated that you were out of compliance with Sections 3.2.8 and 3.2.11 of the Consent Order. Section 3.2.8 of the Consent Order requires that cultivation of Manila clams shall only occur in the “cultivation area” defined in Section 3.2.11 of the Consent Order. Section 3.2.11 of the Consent Order requires that all cultivation shall be confined to areas which are currently identified in the Department of Fish and Game (DFG) Mariculture Lease numbers M-438-01 and M-438-02. We further indicated that the Commission staff had confirmed that Manila clams were currently being cultivated outside the designated one-acre shellfish aquaculture lease specified in the DGF Mariculture Lease Number M438-02, in violation of the Consent Order.”

xxx. DBOC 2009a, Letter from Drakes Bay Oyster Company to California Coastal Commission, December 21, 2009, regarding Manila clam lease transfer coordinate mistake.

“Removing the bags was a simple three hour task of lifting the bags up off the sandbar and hand carrying them to the two barges that were attached to the boat.”

xxxi. DBOC 2009b, Letter from Drakes Bay Oyster Company to California Coastal Commission, October 5, 2009, regarding Coastal Development Permit Application No. 2-06-003.

“Drakes Bay Oyster Company (DBOC) has reduced the scope of development proposed for the site. The new project description is broken into four categories:...”

xxxii. DBOC 2010f, Letter from Drakes Bay Oyster Company to California Coastal Commission, March 16, 2010, regarding response to CCC letter dated March 9, 2010, with answers and clarifications.

“We have also revised our project description and it is attached to this letter. We will provide you an update on the revisions to the NPS special use permit when an update is available.”

xxxiii. DBOC 2010m, Letter from Drakes Bay Oyster Company to Point Reyes National Seashore, July 22, 2010, regarding DBOC request to modify boundaries of CDFG lease and to cultivate Olympia oysters and purple-hinged rock scallops in CDFG Lease M-438-01.

“We have also requested authorization from CDFG to cultivate Olympia oysters and Purple Hinged Rock Scallop within Lease No. M-438-01. Both species are indigenous to Drakes Estero and can be found today under natural conditions. In fact, Purple Hinged Rock Scallop are already authorized for cultivation within Lease No. M-438-02. No new culture methods will be required to cultivate Olympia oysters or Rock Scallop. Nor will there be any expansion in production, as the Olympia oysters and Rock Scallop will displace Pacific oysters currently under cultivation.”

xxxiv. DBOC 2010n, Letter (with attachments) from Drakes Bay Oyster Company to Point Reyes National Seashore Superintendent on November 24, regarding Drakes Bay Oyster Company comments on National Park Service scoping letter for Special Use Permit Environmental Impact Statement..

“Attachment B: Proposed Project Description Drakes Bay Oyster Company Special Use Permit.”

xxxv. DBOC 2011c, Letter from Drakes Bay Oyster Company to Point Reyes National Seashore, March 4, 2011, regarding request to cultivate native species and supporting information.

“DBOC has hoped to add native species to its State water bottom lease for several years. There are a number of reasons that have contributed to our desire to add these natives..... Since the Pacific oyster was introduced to the West Coast, the Olympia oyster, a traditional food for our community, is all but lost. The fabulous Purple Hinged Rock Scallop, another local, traditional food, is not cultured anywhere in California. For these reasons, we have been studying and researching these two species for five years with the hope of replacing some of our non-native Pacific oyster culture with these native species.”

xxxvi. DBOC 2011e, Letter from Drakes Bay Oyster Company to Point Reyes National Seashore, March 15, 2011, regarding lease boundary adjustment.

“DBOC has systematically sought to resolve many JOC administrative problems since January of 2005. One by one, DBOC has corrected concerns of the Point Reyes National Seashore (PRNS), the California Coastal Commission (CCC), the California Department of Public Health (CDPH), the US Public Health Service (PHS), the Food and Drug Administration (FDA), the County of Marin and the CDFG. This lease line error represents only one more administrative problem needing correction. Over the past two years, DBOC has worked with CDFG to address this particular issue. CDFG required DBOC to ...determine exactly where the lease boundary line was drawn and to propose a solution so that the 5 racks on Bed 6 would be properly located within the lease, as originally intended....solution is to move the lease line to the location that it was originally intended to be so that the 5 racks in Bed 6 are also within the lease.”

xxxvii. DBOC 2011g, Letter from Drakes Bay Oyster Company to Point Reyes National Seashore, March 5, 2011, regarding alternate building design (Eco Design Alternative).

“DBOC would like to respectfully request that another building design be considered as an alternative in the EIS. In 2009, DBOC worked together with Eco Design Collaborative (EDC) on a more environmentally friendly building concept (attachment a) that would serve the same overall

purposes. This EDC design incorporates renewable energy use as well as other green building principles. The design limits the construction to one building, removes the need for the stringing shed in the intertidal area, allows a larger setback from the water's edge for the new hatchery, raises it above potential sea level rise and includes only one pier to access the Estero. The EDC design would also improve the visitor experience and interpretive opportunities by allowing the public to view every step of the shellfish process, from seed production to shucking and packing. EDC included a comparative review of existing conditions, the building proposal chosen in the 1998 NEPA process and the 2009 EDC concept (attachment b). The concept drawings do not show any worker housing except a manager's residence. Worker housing may be incorporated into the design in the future."

xxxviii. CCC 2010a, Letter from Coastal Program Analyst, California Coastal Commission to Acting Superintendent, Point Reyes National Seashore on March 30, regarding Coastal Development Permit Application for Drakes Bay Oyster Company.

"The Coastal Commission's regulations require an applicant to provide evidence of land owner approval to complete a coastal development permit application. In this case, since the land owner is the NPS, we would appreciate your review of DBOC's current proposed project to identify those proposed project elements authorized by DBOC's Special Use Permit or any other approval granted to DBOC by the NPS."

xxxix. DBOC 2011a, Letter from Drakes Bay Oyster Company to permitting agencies on April 4, regarding Drakes Bay Oyster Farm Emergency Repair Project Description. Document described plans for emergency repairs and included diagrams.

xl. DBOC 2011b, Letter from Drakes Bay Oyster Company to permitting agencies on March 25, regarding Emergency Repair Permit Applications for Damages Caused by the March 19 & 20, 2011 Wind Storm. Document described plans for emergency repairs and included diagrams.

xli. CCC 2012a, Letter from California Coastal Commission to Drakes Bay Oyster Company on February 1, regarding Compliance with the Coastal Act and with Consent Cease and Desist Order CCC-07-CD-11 (Drakes Bay Oyster Company).

"As you know, the Coastal Act contains many enforcement remedies for Coastal Act violations, and we have attempted to avoid the need to invoke them, by offering to discuss with you an amicable resolution of these violations of the Consent Order. Therefore, please submit by February 29, 2012 a written response to the concerns raised in my letter of September 29, 2011: 1) discharge of marine debris into Drakes Estero and onto nearby coastal beaches, especially in the form of abandoned, discarded, or fugitive plastic aquaculture materials, and 2) motorized vessel transit in the lateral sandbar channel near the mouth of the Estero during the seasonal restriction period established for harbor seal pupping sites in this area. In this letter, please describe in detail specifically how and when you intend to resolve these alleged violations of the Coastal Act and the Order, including a proposal for resolution of the outstanding stipulated penalties for failure to comply with the Order."

xlii. DBOC 2012a, Letter from Drakes Bay Oyster Company (with attachments) to the California Coastal Commission on February 17, regarding CDP Application Number 2-06-003.

xliii. DBOC 2012c, Letter from Drakes Bay Oyster Company to Superintendent, Point Reyes National Seashore on May 7, regarding Coastal Development Permit Application No: 2-06-003.

"In a meeting at the California Coastal Commission office in San Francisco on March 5, 2012, CCC and DBOC reached an agreement that DBOC would limit its current CDP application to the existing activities. In keeping with that process, DBOC has removed all new development from its

application to the CCC. DBOC will apply to CCC for a CDP amendment in the future, as necessary, prior to future development.”

xliv. DBOC 2012b, Letter (with attachments) from Drakes Bay Oyster Company to Superintendent Cicely Muldoon, Point Reyes National Seashore on June 5, regarding responses to April 2012 questions.

“Drakes Bay Oyster Company (DBOC) received the Point Reyes National Seashore (PRNS) letter dated April 6, 2012 requesting additional information from DBOC for use in the dEIS process. This response letter, together with its attachments, will provide the requested information.”

xlv. CCC 2012b, Letter from California Coastal Commission to Kevin Lunny, Drakes Bay Oyster Company on July 30, 2012, regarding compliance within the Coastal Act and Consent Cease and Desist Order CCC-07-CD-11.

“Commission staff received a copy of the letter DBOC sent to Superintendent Muldoon on May 7, 2012, regarding DBOC’s CDP application. The Commission permit staff are evaluating the information provided in the letter and will be responding to you in a separate letter, in order to clarify our understanding of the March 5th meeting we held with you (which differs from the characterization of this meeting that was provided in your letter) and to request additional information regarding the proposed amendments and modifications to DBOC’s CDP application that you also describe in your letter. However, because your May 7, 2012 letter to Superintendent Muldoon also discusses development activities that DBOC has pursued without benefit of a CDP, we would also like to provide a brief response to this aspect of your letter here.

Despite any misunderstandings DBOC might have had about the requirements for CDPs due to previous experience with ranch repairs, as you have been informed in our many letters to you, including the Notices of Violation and the Notices of Intent to proceed to an order heading, any development in the coastal zone portion of Point Reyes National Seashore requires a CDP from the Commission unless otherwise exempt from permit requirements. While there are some types of exempt development, DBOC should not assume without verification from Commission staff that a development activity falls into this category.”

xlvi. CCC 2012e, Letter from Executive Director, California Coastal Commission to Drakes Bay Oyster Company on October 24, regarding Notice of Intent to Commence Cease and Desist and Restoration Order Proceedings.

“The purpose of this communication is to notify you of my intent, as the Executive Director of the Commission, to commence proceedings for issuance of cease and desist and restoration orders to address unpermitted development as well as development inconsistent with the Johnson Order and the 2007 Order (collectively ‘the Orders’) through a formal enforcement action, either through a consent or regular order proceeding, and to continue the process of discussions that my staff and you have already begun.”

xlvii. DBOC 2012b, Letter (with attachments) from Drakes Bay Oyster Company to Superintendent, Point Reyes National Seashore on June 5, 2012, regarding DBOC responses to the National Park Service’s April 2012 questions.

“DBOC requests that all financial information remain confidential.”

xlviii. DOI 2012b, Letter (with attachments) from Scientific Integrity Officer to Group Manager, Integrated Water Resources, Atkins North America, Inc. on April 19, regarding Dr. Christopher Clark’s review of the soundscapes section of the Draft EIS.

“Questions for Dr. Clark

1. Please review the data provided by ENVIRON and provide your opinion as to whether the ENVIRON measurements provide sound and reasonable information regarding the acoustic environment at Drakes Bay including whether the data was collected using appropriate techniques

and whether any additional information would benefit NPS in addressing the ENVIRON data in the Final EIS (e.g., measurement protocols, weather conditions, operation condition of equipment).

2. Based solely on your interpretation of the scientific information related to acoustics, are there different values and/or references for acoustics measurements (other than those in the DEIS) that appear credible and should be addressed in the Final EIS?

3. Does new attention on the sources of the data in Table 3.3, the ENVIRONS data, or any additional or different values or references for measurements identified in response to question 2 alter your review of the DEIS chapter on acoustics? If so, what is your current assessment of the discussion of soundscapes in the DEIS?"

xlix. DBOC 2012b, Letter (with attachments) from Drakes Bay Oyster Company to Superintendent, Point Reyes National Seashore on June 5, regarding DBOC responses to the National Park Service's April 2012 questions.

"Approximately 40% of DBOC income is from onsite retail sales, 40% is sold directly to local market and restaurants – all delivered by DBOC directly, 18% is sold to Tomales Bay shellfish growers, and 2% is sold through a wholesale seafood distributor based in San Francisco."

I DBOC 2011i, Correspondence ID 52043, Letter from Drakes Bay Oyster Company to Point Reyes National Seashore Superintendent on December 9, 2011 regarding Drakes Bay Oyster Company's comments on National Park Service Draft Environmental Impact Statement for Special Use Permit. Attachment: Comments on Drakes Bay Oyster Company Special Use Permit Environmental Impact Statement Point Reyes National Seashore, prepared by ENVIRON International Corporation.

"All 22 workers at DBOC, who would lose their jobs if DBOC operates were cease, are of Hispanic or Latino ethnicity, and most also fall into the category of low-income."

li. CCC 2012a, Letter from California Coastal Commission to Drakes Bay Oyster Company on February 1, regarding Compliance with the Coastal Act and with Consent Cease and Desist Order CCC-07-CD-11 (Drakes Bay Oyster Company).

"As you know, the Coastal Act contains many enforcement remedies for Coastal Act violations, and we have attempted to avoid the need to invoke them, by offering to discuss with you an amicable resolution of these violations of the Consent Order. Therefore, please submit by February 29, 2012 a written response to the concerns raised in my letter of September 29, 2011: 1) discharge of marine debris into Drakes Estero and onto nearby coastal beaches, especially in the form of abandoned, discarded, or fugitive plastic aquaculture materials, and 2) motorized vessel transit in the lateral sandbar channel near the mouth of the Estero during the seasonal restriction period established for harbor seal pupping sites in this area. In this letter, please describe in detail specifically how and when you intend to resolve these alleged violations of the Coastal Act and the Order, including a proposal for resolution of the outstanding stipulated penalties for failure to comply with the Order."

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"In a meeting at the California Coastal Commission office in San Francisco on March 5, 2012, CCC and DBOC reached an agreement that DBOC would limit its current CDP application to the existing activities. In keeping with that process, DBOC has removed all new development from its

application to the CCC. DBOC will apply to CCC for a CDP amendment in the future, as necessary, prior to future development.”

liv. CCC 2012e, Letter from Executive Director, California Coastal Commission to Drakes Bay Oyster Company on October 24, regarding Notice of Intent to Commence Cease and Desist and Restoration Order Proceedings.

“The purpose of this communication is to notify you of my intent, as the Executive Director of the Commission, to commence proceedings for issuance of cease and desist and restoration orders to address unpermitted development as well as development inconsistent with the Johnson Order and the 2007 Order (collectively 'the Orders') through a formal enforcement action, either through a consent or regular order proceeding, and to continue the process of discussions that my staff and you have already begun.”

Iv. NPS 2003c, Letter from Point Reyes National Seashore Superintendent to Johnson Oyster Company on September 17.

“Finally, we must ensure you realize that you do not have authority or permission to construct any new facilities on the reservation lands or other lands authorized under permits. Regarding any new facilities that were authorized by the completion of the Johnson Oyster Replacement and Rehabilitation Environmental Assessment in 1998, the NPS revokes any authority for construction and replacement activities.”

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