NOAA FISHERIES SERVICE
NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION

Brady's Oysters and Elk River Enterprises LLP Aquaculture Loan Environmental Assessment

December 2014

National Marine Fisheries Service
Office of Management and Budget
Financial Services Division
1315 East West Highway
Silver Spring, MD 20910

Administrative Summary

Proposed Action:

The National Marine Fisheries Service (NMFS) Headquarters, Office of Management and Budget, Fisheries Finance Program (FFP), is proposing to make a joint-applicant loan to Elk River Enterprises, LLP and Brady's Oysters, Inc. (Brady's) to finance 80 percent of the purchase cost of an existing shellfish aquaculture facility (Aquatic Harvest Inc. dba Westport Oysters; Westport), including acquisition of tideland leases, a vessel, and equipment, located in the South Bay of Grays Harbor County, Aberdeen, Washington. The loan will also include some debt refinancing associated with Brady's adjacent operating shellfish farm. The Proposed Action is limited to federal loan funding; it does not affect the regulation of shellfish farm operations or the related issuance of permits or authorizations.

Background:

The primary NMFS statutory authority to provide loans to the fishing industry is found in 46 United States Code (U.S.C.) 53701, et seq, which authorizes the Secretary of Commerce to finance the principal and interest of loans made to citizens of the United States for the acquisition, construction, reconstruction, or reconditioning of fishing vessels and fishery facilities. The Magnuson-Stevens Fishery Conservation and Management Reauthorization Act (MSRA) also authorized the Secretary to provide direct loans to entities involved in the commercial fishing and aquaculture industries for activities that assist in the transition to reduced fishing capacity (46 U.S.C. 53706(a)(7)). Implementation of these loans has been delegated to the National Oceanic and Atmospheric Administration (NOAA), NMFS, Office of Management and Budget Financial Services Division (FSD), under the FFP. The proposed action also triggers requirements for an environmental analysis under the National Environmental Policy Act (NEPA). No programmatic Environmental Assessments (EAs) have been developed for this program; unless NMFS has analyzed the activities being financed within another NEPA document, program loans are reviewed for environmental impact on a project-by-project basis during the loan approval process.

Type of Document: Environmental Assessment

Lead Agency: U.S. Department of Commerce, NOAA, NMFS

Sponsoring Agency: NOAA/NMFS, FSD

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This EA was prepared in accordance with the NOAA NEPA implementation procedures found in NOAA Administrative Order 216-6, as well as the NEPA of 1969, Public Law 91-190, 42 U.S.C. 4321-4347, January 1, 1970, as amended.

Executive Summary

Background

NMFS FFP is proposing to originate a loan to Elk River Enterprises, LLP and Brady's Oysters, Inc. as joint applicants (Brady's) to finance 80 percent of the purchase cost of an existing shellfish aquaculture facility, including acquisition of tideland leases, a vessel, and equipment located in the South Bay of Grays Harbor County, Aberdeen, Washington. The loan would also include refinancing of some of the debt associated with Brady's adjacent operating shellfish farm. The proposed action is limited to federal loan funding; it does not affect the regulation of shellfish farm operations or the related issuance of permits or authorizations.

The Westport facility has a standard shellfish growing, harvesting, processing, distribution, and sales profile, and is operating in compliance with all Washington State statutes pertaining to shellfish growing, harvesting, food handling, transportation and safety. The facility is connected to the following public utilities: water, sewer, and electricity. Activities supported by the proposed Federal loan would be consistent with State land designation, as the Washington State Department of Natural Resources has designated the tidelands where the existing Westport farm operates as shellfish farming areas.

The proposed Federal loan would be used to finance/refinance capital expenditures associated with acquiring Westport's facility and to refinance debt associated with Brady's existing shellfish farming operations. The loan does not affect Brady's wherewithal to purchase Westport's facilities, and it would not alter, expand, or modify any existing operations. Any additional permitting or authorizations necessary to continue shellfish operations on the acquired Westport facilities are outside the scope of this EA.

The primary NMFS statutory authority to provide loans to the fishing industry is found in 46 United States Code (U.S.C.) 53701, et seq., which authorizes the Secretary of Commerce to finance the principal and interest of loans made to citizens of the United States for the acquisition, construction, reconstruction, or reconditioning of fishing vessels and fishery facilities, including aquaculture facilities. The Magnuson-Stevens Fishery Conservation and Management Reauthorization Act (MSRA) also authorized the Secretary to provide direct loans to entities involved in the commercial fishing and aquaculture industries for activities that assist in the transition to reduced fishing capacity (46 U.S.C. 53706(a)(7)). The implementation of these loans has been delegated to National Oceanic and Atmospheric Administration (NOAA), NMFS, Office of Management and Budget (OMB), FSD, under the FFP. The FFP is administered by NMFS on behalf of NOAA.

The proposed action triggers requirements for an EA under NEPA. No programmatic environmental analyses have been developed for this program. Unless the activities being financed have been analyzed within another NEPA document, program loans are reviewed for

environmental impact on a project-by-project basis during the loan approval process, which is what is required in this case.

As required by the President's Council on Environmental Quality's implementing regulations (40 Code of Federal Regulation Part 1500), an EA is prepared under NEPA to determine if any significant direct, indirect, or cumulative environmental impacts are likely to be caused by a proposed action. If the EA does not identify significant impacts, a Finding of No Significant Impact is prepared to document the decision maker's determination that the proposed action will not have a significant impact on the environment, and therefore will not require an Environmental Impact Statement (EIS). If at any time during preparation of the EA it appears that significant impacts would result from the proposed action, the agency would halt development of the EA and begin preparation of an EIS to more thoroughly evaluate the potential impacts and potential ways to reduce or mitigate those impacts.

This EA was prepared by NMFS in accordance with NEPA to examine the potential environmental consequences associated with issuing a loan to finance 80 percent of the purchase cost of an existing shellfish aquaculture facility, including acquisition of tideland leases, a vessel, and equipment located in the South Bay of Grays Harbor County, Aberdeen, Washington.

Purpose and Need for the Proposed Action

Background

The FFP provides direct loans for fishers, fish processors, and aquaculture operations, in accordance with Chapter 537 of the Shipping Act and the Magnuson-Stevens Fisheries Conservation and Management Act. Elk River Enterprises and Brady's Oysters applied to the FFP for a loan to refinance some existing debt, and to purchase an adjacent aquaculture operation – Westport Oysters. The FFP is authorized to provide such loans under 46 U.S.C. 53701, provided the applicant meets certain citizenship and credit requirements. Loan documents reflect the conditions of loan approval, including credit standards, and adherence to laws and regulations, including environmental laws and regulations. Loan documents may set conditions on the use of pesticides and fertilizers in some cases. The proposed action would help provide the commercial fishing and aquaculture community with economic support in a manner consistent with NMFS's mission to promote the long-term sustainability of fisheries resources, while generating social and economic opportunities and benefits from their use. This action is to be evaluated against the two core mandates of the NOAA Fisheries programs:

- *Ensure the productivity and sustainability of fisheries and fishing communities through science-based decision-making and compliance with regulations.*
- *Recover and conserve protected resources through the use of sound natural and social sciences.*

The NMFS Financial Services Division (FSD) has a responsibility, as assigned by the Secretary, to administer the FFP by providing financing for designated fisheries-related activities, in accordance with annually renewed loan authority. The NOAA Aquaculture Policy (September 2011) envisioned benefits from increasing aquaculture, including species and habitat restoration and conservation, nutrient removal, and the provision of safe, local seafood that contributes to food security and human health and nutrition. The Aquaculture Policy also acknowledges that there may be environmental challenges posed by aquaculture, including, depending upon the type, scope, and location of the aquaculture activity, nutrient and chemical wastes, water use demands, aquatic animal diseases and invasive species, potential competitive and genetic effects on wild species, effects on endangered or protected species, effects on protected and sensitive marine areas, and effects on habitat for other species, and that these potential challenges need to be evaluated in a public and transparent process.

Purpose and Need

The purpose of the proposed action would be to provide support for the continued productivity and sustainability of the Westport oyster operation. On June 19, 2013, Brady's submitted an application for a loan to refinance existing debt and to acquire the adjacent Westport Oysters aquaculture operation. In accordance with 46 U.S.C. 53701, et seq and 46 U.S.C. 53706(a)(7), NMFS needs to evaluate and provide loans in response to requests from qualifying fisheries operators, such as aquaculture facilities, that will support the development and implementation of conservation and management measures to prevent overfishing, rebuild depleted stocks, and promote the long-term health and sustainability of fisheries.

Proposed Action and Alternatives

Proposed Action

NMFS FFP is proposing to make a loan to Brady's to finance 80 percent of the purchase cost of an existing shellfish aquaculture facility from Aquatic Harvest Inc. dba Westport Oysters (Westport), including acquisition of tideland leases, a vessel, and equipment located in the South Bay of Grays Harbor County, Aberdeen, Washington. A portion of the loan would also be used to refinance some of the debt associated with Brady's adjacent operating shellfish farm. The proposed action is limited to federal loan funding; it does not affect the regulation of shellfish farm operations or the related issuance of permits or authorizations.

No Action Alternative

Under the No Action alternative, the status quo, or existing conditions, would remain unchanged. That is to say that NMFS FFP would not make a loan to Brady's to finance the purchase of Westport's facilities or to refinance Brady's existing debt. This does not mean that the shellfish farm or farms would cease to exist, and it does not preclude the proposed borrower from finding other funding sources to accomplish the same ends. However, failure to receive a loan could increase the risk that Brady's could fail, if it cannot meet its current debt obligations. If Brady's

was to fail, direct results would be that the local economy would lose jobs and Brady's employees would lose their jobs and the fringe benefits they currently have (e.g., health insurance). These workers might not be able to find work with a comparable wage and fringe benefits, thus creating a drain on the local economy. In addition, NMFS' environmental goals may not be met.

Summary of Environmental Consequences

Under the No Action/Status Quo Alternative, no significant short-term or long-term direct adverse impacts are expected for any of the factors analyzed in this EA, which include: aesthetics, light, and glare; economic sectors; energy and natural resources industries; geological and soil resources; recreation and education; land and shoreline use; transportation, utilities, and public services; wetlands; biological resources; or public health and safety, including air quality, environmental health and noise, or floodplains and flood control. If the Brady's or Westport facility was to fail as an indirect effect of the No Action alternative, there could be adverse socio-economic impacts, including short-term and long-term moderate adverse impacts to the local economy, due to loss of jobs and taxes, and to Brady's employees, due to the loss of their jobs and benefits. The No Action alternative would not result in any adverse cumulative effects, when added to the other past, present, and reasonably foreseeable future actions analyzed in this EA.

Under the Proposed Action, no significant short-term or long-term direct adverse impacts are expected for any of the factors analyzed in this EA, which include: aesthetics, light, and glare; economic sectors; energy and natural resources industries; geological and soil resources; recreation and education; land and shoreline use; transportation, utilities, and public services; wetlands; biological resources; or public health and safety, including air quality, environmental health and noise, or floodplains and flood control. In the short term, the financial assurances provided by the government's financing could encourage additional construction or repair of infrastructure in both of the existing oyster facilities. If subsequent construction projects were to occur at the Brady's or Westport facilities as an indirect effect of the Proposed Action, there could be minor short-term indirect adverse impacts to: aesthetics, light, and glare; geological and soil resources, due to turbidity associated with runoff, construction, and/or dredging; local recreation and education; land and shoreline use; transportation, utilities, and public services; wetlands and other biological resources, due to siltation and/or turbidity; air quality; and environmental health and noise; and minor long-term indirect adverse impacts to: recreation and education; wetlands; biological resources. The Proposed Action would not result in any adverse cumulative effects, when added to the other past, present, and reasonably foreseeable future actions analyzed in this EA.

A summary of the potential direct and indirect impacts of the Proposed Action alternative and the No Action alternative is presented in Table ES-1.

Table ES-1. Summary of Environmental Impacts of the Analyzed Alternatives

Category	Alternative 1 No Action/Status Quo	Alternative 2 Proposed Action – Funding of Aquaculture Loan and Refinancing
Aesthetics, light, and glare	Short term: No impact	Short term: Minor indirect adverse impacts on aesthetics if subsequent construction projects are approved; Minor indirect adverse impacts on light and glare if subsequent construction projects are approved.
	Long term: No impact	Long term: Moderate indirect beneficial impacts on aesthetics due to refurbished or new facilities if these occur; No impacts on light and glare.
Economic impacts	Short term: Moderate adverse impacts due to loss of income and taxes if the operations were to fail.	Short term: Minor beneficial impacts on economy; Minor to moderate beneficial impacts on seafood economy.
	Long term: Moderate adverse impacts due to loss of income and taxes if the operations were to fail.	Long term: Moderate beneficial impacts on local economy; Moderate beneficial impacts on seafood industry.
Energy and natural resources industries	Short term: No impact	Short term: No impacts on energy or natural resources industries.
	Long term: No impact	Long term: No impacts on energy or natural resources industries.
Geological and soil resources	Short term: No impact	Short term: No direct impacts on geological resources; No direct impacts on soil resources. Minor indirect adverse impacts on geological and soil resources if subsequent construction projects are approved.
	Long term: No impact	Long term: No impacts on geological resources; No impacts on soil resources.
Recreation and education	Short term: No impact	Short term: No direct impacts on recreational or educational activities. Minor indirect adverse impacts on recreation resources if subsequent construction projects are approved.
	Long term: No impact	Long term: No direct impacts on recreational or educational activities. Minor indirect adverse impacts on recreation resources if subsequent construction projects are approved.
Land and shoreline use	Short term: No impact	Short term: No impacts on land use; No impacts on shoreline use or access. Minor indirect adverse impacts on shoreline use or access if subsequent construction projects are approved.
	Long term: No impact	Long term: No impacts on land use; No impacts on shoreline use or access.

Category	Alternative 1 No Action/Status Quo	Alternative 2 Proposed Action – Funding of Aquaculture Loan and Refinancing
Transportation, utilities, and public services	Short term: Minor beneficial impact to local transportation due to reduced traffic from employees and customers if the operations were to fail. Minor adverse impacts to utilities serving the operations due to loss of demand for services if the operations were to fail.	Short term: No direct impacts on transportation; No impacts on utilities; No impacts on public services. Minor, indirect adverse impacts on transportation if subsequent construction projects are approved.
	Long term: Minor beneficial impact to local transportation due to reduced traffic from employees and customers if the operations were to fail. Minor adverse impacts to utilities serving the operations due to loss of demand for services if the operations were to fail.	Long term: No impacts on transportation; No impacts on utilities; No impacts on public services.
Wetlands	Short term: No impact	Short term: No direct impacts on wetlands. Minor indirect adverse impacts on wetland resources if subsequent construction projects are approved.
	Long term: No impact	Long term: No direct impacts on wetlands. Minor indirect adverse impacts on wetland resources if subsequent construction projects are approved.
Biological resources	Short term: Moderate adverse impacts due to potential increased harvesting of wild shellfish, such as razor clams, if the operations were to fail.	Short term: No direct impacts on biological resources. Minor indirect adverse impacts on biological resources if subsequent construction projects are approved.
	Long term: Moderate adverse impacts due to potential increased harvesting of wild shellfish, such as razor clams, if the operations were to fail.	Long term: No direct impacts on biological resources. Minor indirect adverse impacts on biological resources if subsequent construction projects are approved.
Public health and safety	Short term: No impact	Short term: No impact
	Long term: No impact	Long term: No impact
Public health and safety: air quality	Short term: No impact	Short term: No direct impacts on air quality. Minor indirect adverse impacts on air quality if subsequent construction projects are approved.
	Long term: No impact	Long term: No impacts on air quality.
Public health and safety: environmental health and noise	Short term: No impact	Short term: No direct impacts on environmental health or noise. Minor indirect adverse impacts on air quality if subsequent construction projects are approved.

Category	Alternative 1 No Action/Status Quo	Alternative 2 Proposed Action – Funding of Aquaculture Loan and Refinancing
	Long term: No impact	Long term: No impacts on environmental health; No impacts on noise.
Public health and safety: floodplain and flood control	Short term: No impact	Short term: No impact
	Long term: No impact	Long term: No impact

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1. Introduction

The National Marine Fisheries Service (NMFS) Headquarters, Office of Management and Budget, Fisheries Finance Program (FFP) is proposing to originate a loan to Elk River Enterprises, LLP and Brady's Oysters, Inc. as joint applicants (Brady's). The FFP loan would finance/refinance 80 percent of Brady's purchase from Aquatic Harvest Inc. dba Westport Oysters (Westport) of tideland leases, a vessel, and equipment located in the South Bay of Grays Harbor County, Aberdeen, Washington. The loan would also be used to refinance debt associated with Brady's adjacent operating shellfish farm. The proposed action is limited to federal loan funding; it does not affect or alter Brady's current shellfish farm operations or related permitting. The proposed borrower, Brady's, has operated its 20.95-acre shellfish farm since 1970. The FFP would hold security interests in Brady's assets as collateral for the loan.

The remainder of this introductory section provides important background information for understanding the rest of the document, including an overview of the proposed action (Section 1.1); an explanation of the purpose and need for action (Section 1.2); a description of the legal mandates and authorities that guide the FFP (Section 1.3); an overview of the National Environmental Policy Act (NEPA) assessment process (Section 1.4); and an overview of the subsequent sections of the document (Section 1.5).

1.1 Overview of the Proposed Action Funding of Aquaculture Refinancing

The proposed Federal loan would be used by Brady's to finance/refinance capital expenditures associated with acquiring Westport's facility and to refinance debt associated with Brady's existing shellfish farming operations. The loan would not affect Brady's wherewithal to purchase Westport's facilities, and it would not alter, expand, or modify any existing operations. Any additional permitting or authorizations necessary to continue shellfish operations on the acquired Westport facilities are outside the scope of this Environmental Assessment (EA).[1]

[1] The Westport farm had been operating under Nationwide Permit 48 issued by the U.S. Army Corps of Engineers (Corps) pursuant to Section 404 of the Clean Water Act.

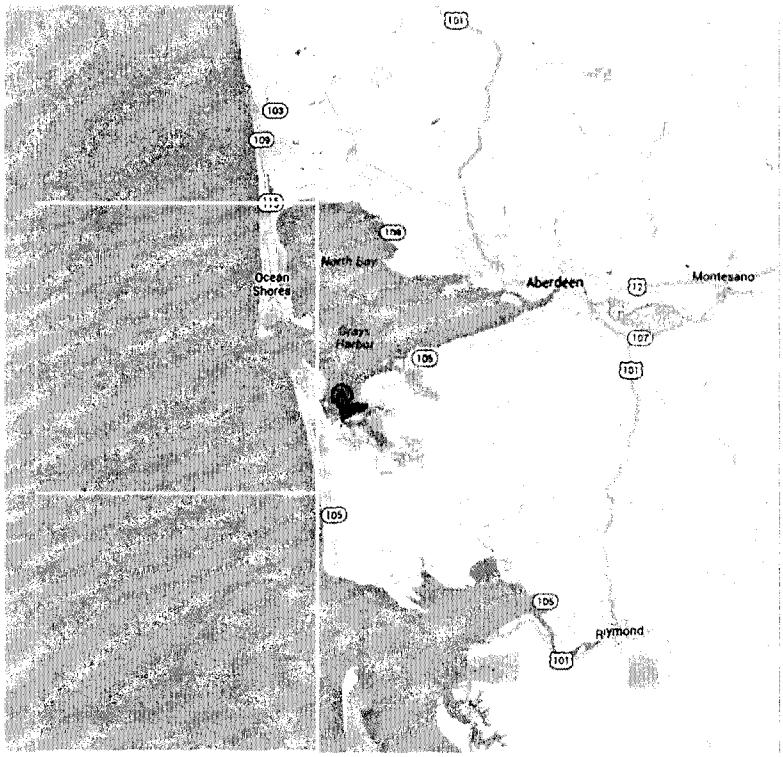


Figure 1. Location of Brady's and Westport Facilities

Brady's and Westport are located along the central coast of Washington State in the southern portion of Grays Harbor and west of the town of Aberdeen. Westport Oysters, which was owned by Todd Guedon, has been leasing Washington State land for shellfish growing since 2000. The grow operation consists of approximately 10 acres for clam and oyster cultivation. Due to age and health-related issues, the former owner became incapacitated and was unable to complete harvesting. The land is currently planted with clams and oysters for harvesting in approximately 3 years. The existing Westport facility is connected to the following public utilities: water, sewer, and electricity. Activities supported by the proposed Federal loan would be consistent with State land designation, as the Washington State Department of Natural Resources has designated the tidelands where the existing Westport farm operates as shellfish farming areas. The facility has a standard shellfish growing, harvesting, processing, distribution, and sales profile, and is operating in compliance with all Washington State statutes pertaining to shellfish growing, harvesting, food handling, transportation, and safety.

1.2 Purpose and Need

Elk River Enterprises and Brady's Oysters applied to the FFP for a loan to refinance some existing debt, and to purchase an adjacent aquaculture operation – Westport Oysters. The FFP is authorized to provide such loans under 46 U.S.C. 53701, provided the applicant meets certain citizenship and credit requirements. Loan documents reflect the conditions of loan approval, including credit standards, and adherence to laws and regulations, including environmental. Loan

documents may set conditions on the use of pesticides and fertilizers in some cases. The purpose of the Proposed Action – to refinance existing debt and to finance the acquisition of another operation – is to help provide the commercial fishing and aquaculture community with economic support in a manner consistent with NMFS's mission to promote the long-term sustainability of fisheries resources, while generating social and economic opportunities and benefits from their use. This action is to be evaluated against the two core mandates of NMFS programs:[2]

- *Ensure the productivity and sustainability of fisheries and fishing communities through science-based decision making and compliance with regulations.*
- *Recover and conserve protected resources through the use of sound natural and social sciences.*

In order to achieve this purpose, NMFS evaluates and provides loans in response to requests from qualifying fisheries operators, such as aquaculture facilities, that will support the development and implementation of conservation and management measures to prevent overfishing, rebuild depleted stocks, and promote the long-term health and sustainability of fisheries. This overarching purpose is also reflected in the NMFS Financial Services Division's (FSD's) responsibility, as assigned by the Secretary, to administer the FFP by providing financing for designated fisheries-related activities, in accordance with annually renewed loan authority. The proposed loan would be undertaken in accordance with this purpose and would assure the continued productivity and sustainability of the Westport oyster operation.

The NMFS Aquaculture Policy (September 2011)[3] envisioned benefits from increasing aquaculture, including species and habitat restoration and conservation, nutrient removal, and the provision of safe, local seafood that contributes to food security and human health and nutrition. The Aquaculture Policy also acknowledges that there may be environmental challenges posed by aquaculture, including, depending upon the type, scope, and location of the aquaculture activity, nutrient and chemical wastes, water use demands, aquatic animal diseases and invasive species, potential competitive and genetic effects on wild species, effects on endangered or protected species, effects on protected and sensitive marine areas, and effects on habitat for other species, and that these potential challenges need to be evaluated in a public and transparent process.

1.3 Legal Mandates and Authorities Related to the Fisheries Finance Program

The primary NMFS statutory authority to provide loans to the fishing industry is found in Chapter 537 of the Shipping Act, 46 United States Code (U.S.C.) 53701, et seq., which

[2] NOAA Fisheries Leadership Council. 2013. Priorities and Annual Guidance for 2014. NOAA, NMFS, 1315 East-West Highway, Silver Spring, MD 20910. 23 pages.

[3] NOAA. 2011. National Oceanic and Atmospheric Administration, Marine Aquaculture Policy. NOAA, NMFS, 1315 East-West Highway, Silver Spring, MD 20910. 12 pages.

authorizes the Secretary of Commerce to finance the principal and interest of loans made to citizens of the United States for the acquisition, construction, reconstruction, or reconditioning of fishing vessels and fishery facilities, including aquaculture facilities. The Magnuson-Stevens Fishery Conservation and Management Reauthorization Act (MSRA) also authorized the Secretary to provide direct loans to entities involved in the commercial fishing and aquaculture industries for activities that assist in the transition to reduced fishing capacity (46 U.S.C. 53706(a)(7)). The implementation of these loans has been delegated to National Oceanic and Atmospheric Administration (NOAA), NMFS, Office of Management and Budget (OMB), FSD, under the FFP.

The FFP was originally created as the Fishing Vessel Mortgage and Loan Insurance program in 1971. It was renamed the Fishing Vessel Obligation Guarantees in 1973, and the Fisheries Obligation Guarantee Program in 1994. In 1998, it became the FFP. While originally guaranteeing loans made by the private sector, the FFP ultimately became a direct lending program. OMB has certified that the FPP has a negative subsidy under the Federal Credit Reform Act of 1991; therefore, it does not require appropriated funds to make loans. However, Congress does set an annual ceiling on the amount that the program can borrow from the U.S. Treasury. The FFP uses these borrowed Treasury funds to make its loans. Unused lending authority cannot be used after the end of each fiscal year, so the lending authority must be renewed each year. Between 1998 and 2011, the FFP has closed an average of 51 new origination loans per year, with as few as 30 and as many as 78 closings in a single year. This does not necessarily represent the number of projects initiated, as some of these loans are to refinance existing debt.

Section 304(i) of the Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act) called on the Secretary of Commerce to revise and update agency procedures for compliance with NEPA in the context of fishery management actions developed pursuant to the Magnuson-Stevens Act, which would have entailed revision of the operating rules of the FFP. After lengthy public comment, NMFS determined that it would be more appropriate to revise and update internal guidance rather than to create new regulatory requirements. On February 19, 2013, NMFS issued an internal policy titled "National Environmental Policy Act Compliance for Council-Initiated Fishery Management Actions under the Magnuson-Stevens Act."[4] The policy clarifies the roles and responsibilities of NMFS and the Regional Fishery Management Councils, explains timing and procedural linkages, provides guidance on documentation needs, and fosters partnerships and cooperation between NMFS and the Councils on NEPA compliance. Issuance of this policy satisfied the requirements of section 304(i) of the Magnuson-Stevens Act, and avoided the need to revise the operating rules of the FFP.

[4] Fisheries Home, Sustainable Fisheries National Environmental Policy Act (NEPA). 2014. http://www.nmfs.noaa.gov/sfa/laws_policies/msa/nepa.html as of July 9, 2014.

1.4 Overview of the National Environmental Policy Act

In considering the proposed action, the Secretary, through NOAA and NMFS, is responsible for complying with a number of Federal laws, including NEPA. The NEPA process is intended to help federal agencies make decisions that appropriately consider environmental consequences of actions that may affect the environment (40 Code of Federal Regulation (CFR) 1500.1(c)).

As required by the President's Council on Environmental Quality's (CEQ's) implementing regulations (40 CFR Part 1500), an EA is prepared to evaluate whether any significant direct, indirect, or cumulative environmental impacts are likely to be caused by a proposed action. If the EA does not identify significant impacts, a Finding of No Significant Impact is prepared to document the decision maker's determination that the proposed action will not have significant impact on the environment, and therefore will not require an Environmental Impact Statement (EIS). If at any time during preparation of the EA it appears that significant impacts would result from the proposed action, the agency would halt development of the EA and begin preparation of an EIS to more thoroughly evaluate the potential impacts of the proposed action and potential ways to reduce or mitigate those impacts.

In some circumstances, an Agency can prepare a programmatic EA that analyzes the potential environmental impacts of a broad scope of similar actions within a program, which allows the Agency to conduct more streamlined NEPA reviews of individual actions within the program. No programmatic EAs have been developed for the FFP; therefore, unless NMFS has analyzed the activities being financed within another NEPA document, program loans are reviewed for environmental impact on a project-by-project basis during the loan approval process.

To comply with NEPA, NMFS has prepared this EA, which includes a description of the purpose and need for action, the affected environment, the proposed action, alternatives to the proposed action (including a no-action alternative), and the environmental consequences of both the proposed action and the no action alternative. In developing this EA, NMFS adhered to the procedural requirements of NEPA, the CEQ regulations for implementing NEPA (40 CFR 1500-1508),[5] and NMFS's procedures for implementing NEPA. The purposes of this EA are to provide an environmental analysis to assess the potential impacts of NMFS's proposal to fund Brady's loan under the FFP, and to encourage and facilitate public involvement in the environmental review process. The EA assesses the potential short-term and long-term direct, indirect, and cumulative impacts of the alternatives on the physical, biological, and socioeconomic resources potentially affected by NMFS's FFP loan to Brady's.

The following definitions characterize the nature of the various impacts evaluated in this EA:

[5] See Chapter V, Council on Environmental Quality (Parts 1500 – 1518) (CEQ 1969).

- *Short-term or long-term impacts.* These characteristics are determined on a case-by-case basis and do not refer to any rigid time period. In general, short-term impacts are those that would occur only with respect to a particular activity or for a finite period. Long-term impacts are those that are more likely to be persistent and chronic.

- *Direct or indirect impacts.* A direct impact is caused by a proposed action and occurs contemporaneously at or near the location of the action. An indirect impact is caused by a proposed action and might occur later in time or be farther removed in distance but still be a reasonably foreseeable outcome of the action. For example, a direct impact of erosion on a stream might include sediment-laden waters in the vicinity of the action, whereas an indirect impact of the same erosion might lead to lack of spawning and result in lowered reproduction rates of indigenous fish downstream.

- *Minor, moderate, or major impacts.* These relative terms are used to characterize the magnitude of an impact. Minor impacts are generally those that might be perceptible but, in their context, are not amenable to measurement because of their relatively minor character. Moderate impacts are those that are more perceptible and, typically, more amenable to quantification or measurement. Major impacts are those that, in their context and due to their intensity (severity), have the potential to meet the thresholds for significance set forth in CEQ regulations (40 CFR 1508.27) and, thus, warrant heightened attention and examination for potential means for mitigation to fulfill the requirements of NEPA.

- *Adverse or beneficial impacts.* An adverse impact is one having adverse, unfavorable, or undesirable outcomes on the man-made or natural environment. A beneficial impact is one having positive outcomes on the man-made or natural environment. A single act might result in adverse impacts on one environmental resource and beneficial impacts on another resource.

- *Cumulative impacts.* CEQ regulations implementing NEPA define cumulative impacts as the "impacts on the environment which result from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions." (40 CFR 1508.7) Cumulative impacts can result from individually minor but collectively significant actions taking place over a period of time within a geographic area.

1.5 Overview of Remainder of Document

The remainder of this EA provides important information on the Proposed Action and alternatives for public review and comment. This EA will be available to the public on the FFP web site at http://www.nmfs.noaa.gov/mb/financial_services/ffp.htm.

The sections that follow describe the proposed FFP activities and potential alternatives considered (Section 2), the affected environment as it currently exists (Section 3), the probable consequences on the human environment that may result from the proposed financial activities and their alternatives (Section 4), and the potential cumulative impacts from the proposed activities and their alternatives (Section 5). A record of Coordination and Consultation (Section 6), References Cited (Section 7), and a Glossary (Section 8) are also included.

2. Proposed Action and Alternatives

CEQ regulations implementing NEPA provide guidance for Federal agencies regarding NEPA's requirements (40 CFR Part 1500). NMFS has also issued environmental review procedures for implementing NEPA, NOAA Administrative Order 216-6 (NAO 216-6). Section 5.03b of NAO 216-6 states: "An Environmental Assessment [EA] must consider all reasonable alternatives, including the Proposed Action and the no action alternative."

This section of the document will describe the proposed action and the No Action Alternative, which assumes that the loan would not be provided to Brady's. Analysis of the No Action Alternative provides a baseline to compare with the potential impacts of the proposed action and other alternatives. The analyses of the potential environmental impacts of these alternatives will be described in Section 6 of this document.

To warrant detailed evaluation by NMFS, an alternative must be reasonable[6] and meet our purpose and need (see Section 1.1). Screening criteria are used to determine whether an alternative is reasonable. The following discussion identifies the screening criteria used in this EA to evaluate whether an alternative is reasonable; evaluates various alternatives against the screening criteria (including the proposed measures); identifies those alternatives found to be reasonable and those found not to be reasonable; and for the latter, provides the basis for this finding. For this EA, there were no alternatives that were considered but found not to be reasonable. Two alternatives were considered but not separately analyzed, because they would not result in any different impacts than the proposed alternative. These were 1) to refinance Brady's debt but not finance the acquisition of Westport Oysters; and 2) to finance the acquisition but not to refinance Brady's debt.

Screening Criteria: To be considered "reasonable" for purposes of this EA, an alternative must meet the following criteria:

1. The action must not violate any Federal statute or regulation.
2. The action must support the economic and environmental goals of the NMFS Marine Aquaculture Policy (September 2011).
3. The action must not interfere with or mandate borrowers' private business decisions.

[6] "Section 1502.14 (of NEPA) requires the EA/EIS to examine all reasonable alternatives to the proposal. In determining the scope of alternatives to be considered, the emphasis is on what is "reasonable" rather than on whether the proponent or applicant likes or is itself capable of carrying out a particular alternative. Reasonable alternatives include those that are *practical or feasible from the technical and economic standpoint and using common sense*, rather than simply desirable from the standpoint of the applicant." (CEQ Memo, 40 Most Asked Questions Concerning CEQ's NEPA Regulations, 46 Fed. Reg. 18026 (1981), emphasis added.)

2.1 Proposed Action – FFP Loans Funds for the Acquisition of an Existing Shellfish Farming Facility and Debt Refinance

NMFS FFP is proposing to make a loan to Brady's to finance 80 percent of the purchase cost of an existing, 10.05-acre shellfish aquaculture facility, including acquisition of tideland leases, a harvesting vessel, and equipment located in the South Bay of Grays Harbor County, Aberdeen, Washington. A portion of the loan will also be used to refinance some of the debt associated with Brady's operating shellfish farm, which grows Crassostrea Gigas and Crassostrea Sikamea (Kumomoto) oysters. The Proposed Action is limited to federal loan funding; it does not affect the regulation of shellfish farm operations or the related issuance of permits or authorizations.

This Proposed Action meets all three screening criteria. It does not violate any Federal statute or regulation. It supports the economic and environmental goals of the NMFS Marine Aquaculture Policy (September 2011), by allowing for the continued operation of both the Westport and Brady's aquaculture facilities, which will result in continued provision of local seafood that contributes to food security and human health and nutrition. It does not interfere with or mandate borrowers' private business decisions, because the applicant voluntarily seeks the loan, which would be provided for the applicant's stated purpose. Because it meets all three screening criteria, the Proposed Action is considered reasonable.

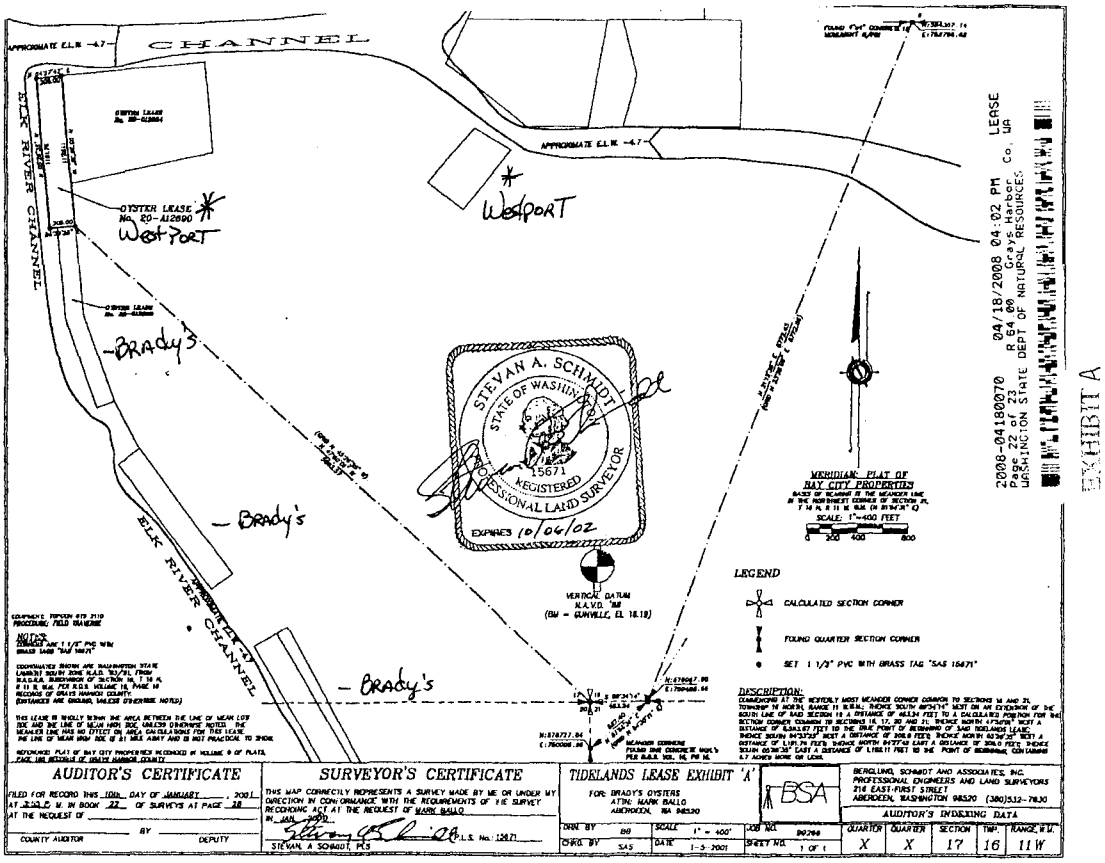


Figure 2. Grays Harbor showing the oyster bed location of Brady's and Westport Oyster facilities

2.2 No Action Alternative – FFP does not Loan Funds for the Acquisition of an Existing Shellfish Facility and Debt Refinance

Under the No Action alternative, NMFS FFP would not make a loan to Brady's to finance the purchase of Westport's facilities or to refinance Brady's existing debt. In that case, the status quo would be maintained and existing conditions would remain unchanged. This does not mean that the shellfish farm or farms would cease to exist, and it does not preclude Brady's from finding other funding sources to accomplish the same ends. However, since some of the loan would be used to restructure debt, failure to receive a loan could increase the risk that Brady's could fail as a business, if it cannot meet its current debt obligations. If Brady's was to fail, direct results would be that the local economy would lose jobs and Brady's employees would lose their jobs and the fringe benefits they currently have (e.g., health insurance). These workers might not be able to find work with a comparable wage and fringe benefits, thus creating a drain on the local economy. In addition, NMFS' environmental goals may not be met.

The No Action alternative does not violate any Federal statute or regulation. It also does not interfere with or mandate Brady's private business decisions, because maintaining the status quo would not impose any new obligations or requirements on Brady's. However, the No Action alternative does not support the economic and environmental goals of the NMFS Marine Aquaculture Policy (September 2011), because it does not provide needed support for aquaculture, which could result in the loss of aquaculture jobs and the ecosystem benefits of these aquaculture facilities if either of the businesses fails as a result of not having the loan in place. Because it does not meet all of the screening criteria, the No Action alternative is not reasonable. However, we are required to evaluate the No Action Alternative, per CEQ NEPA regulations (C.F.R. § 1502.14). The No Action Alternative serves as a baseline against which to compare the impacts of the Proposed Action.

3. Environmental Setting/Affected Environment

Figure 3. Brady's Oysters site.

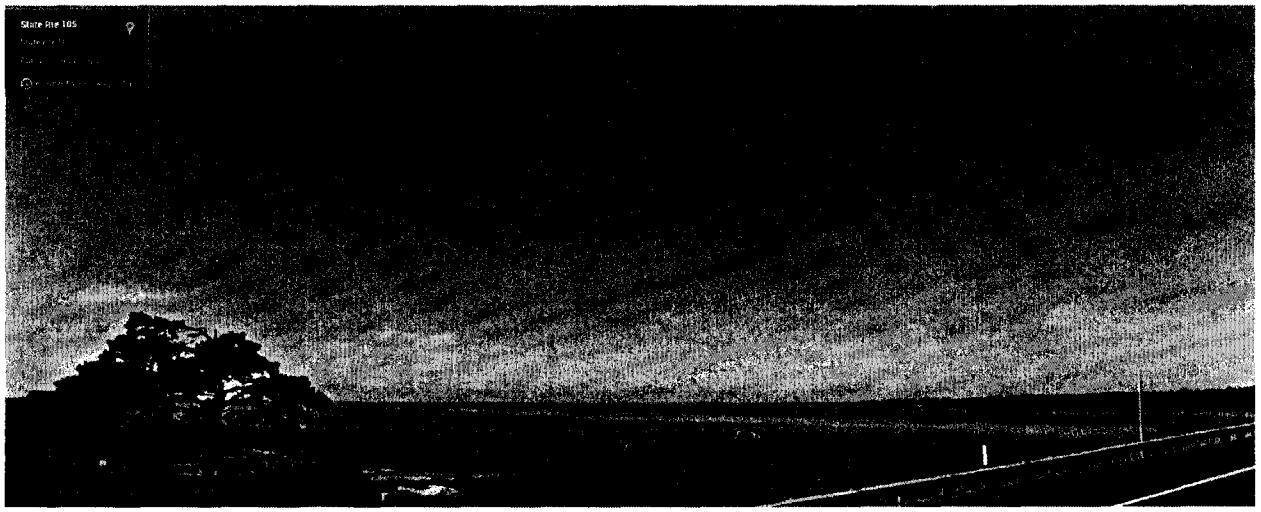


Figure 4. Brady's Oysters, Inc. water site - street view

3.1 Socioeconomic/Cultural Resources

Grays Harbor was founded in 1911 and relied primarily on demand for forest resources (timber). Grays Harbor County includes several watersheds and varying economic resources, including forest products and the port of Grays Harbor. South Bay, where Brady's and Westport are located, is a small embayment located near the mouth of Grays Harbor estuary. The major population surrounding the project location is the population of Grays Harbor County, Washington. The resident population of Grays Harbor County is approximately 73,000 (Bureau, 2013). The total number of businesses in Grays Harbor County is approximately 1,747, with the highest percent of industries being in retail trade (15.8 percent) (Bureau of Economic Analysis, 2011). The unemployment rate in December 2012 was approximately 12.4 percent, approximately 3 percent higher than the average 9.36 percent unemployment rate for all counties in the state of Washington (Bureau of Labor Statistics, 2013). There are no districts, sites, highways, structures or objects listed in or eligible for listing in the National Register of Historic Places or any significant scientific, cultural, or historical resources in the area.

Aberdeen is the closest town to the South Bay oyster projects. There were 16,896 people, 6,476 households, and 4,020 families residing in the city as of the census of 2010.[7] The population density was 1,586.5 inhabitants per square mile (612.6 /km^2). The racial makeup of the city was 80.4 percent White, 0.8 percent African American, 3.7 percent Native American, 1.9 percent Asian, 0.3 percent Pacific Islander, 8.0 percent from other races, and 4.9 percent from two or more races. Hispanic or Latino of any race were 15.8 percent of the population.

[7] "American FactFinder". United States Census Bureau. Retrieved April 1, 2014.

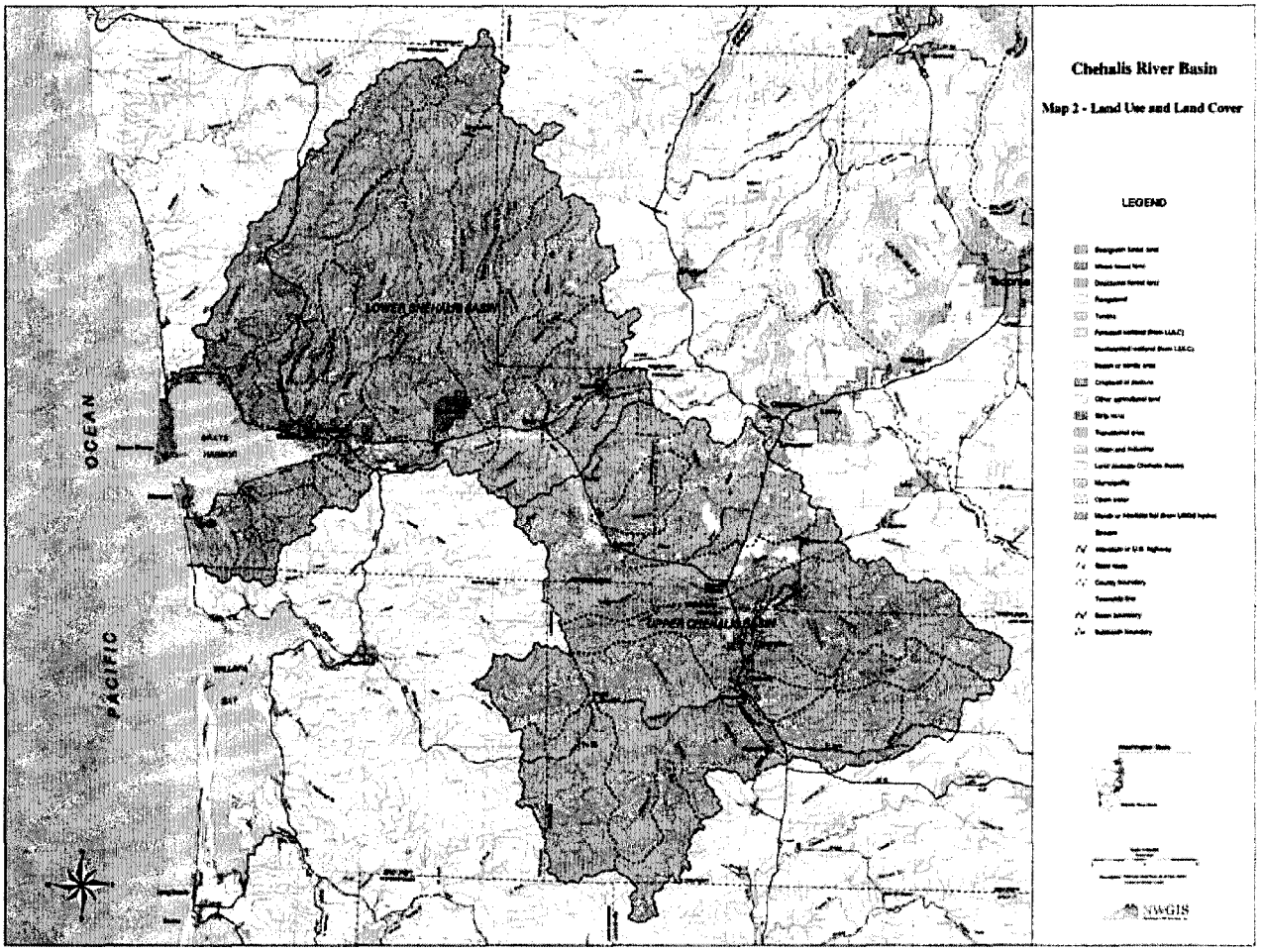
3.1.1 Economic Profile of Project Area

Aberdeen and Grays Harbor County depend on timber and fishing industries. There is an attempt to diversify the local economy, since much of the local timber has been logged out of the area. The Port of Grays Harbor is a deep-water, international port. Major employers in the area include Grays Harbor Paper, The Westport Shipyard, Sierra Pacific Industries, The Simpson Door Company, Stafford Creek Corrections Center, and the cranberry growing cooperative Ocean Spray.

Grays Harbor County hosts 68 parcels devoted to shellfish farms, covering 34,460 acres of tidelands and farming 3,995 acres.[8] The South Bay area has a small proportion of these shellfish operations, hosting 21 parcels totaling 907 acres of shellfish farming. The South Bay area is fed by riverine input from the Elk and Johns Rivers. The Elk River is characterized as forested (99 percent) and wetlands (1 percent) and the Johns River as forested (97 percent) and wetlands/water (3 percent).[9]

[8] NMFS. 2009. Endangered Species Act Section 7 Formal Programmatic Consultation and Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat Consultation for Nationwide Permit 48 Activities in Washington State. NMFS Number: 2008/04151.

[9] Chehalis Basin Partnership. 2002. Detailed Summary of Chehalis Basin Level 1 Assessment, Part A Basin Description, Supplement Section iii, Information Base. http://www.co.grays-harbor.wa.us/info/pub_svcs/ChehalisBasin/PhaseII/Index.html#Assessment.



Source: http://www.chehalisbasinpartnership.org/technical/supplemental/level_1_assessment/l1_map2.jpg.

Figure 5. Land Use and Land Cover in the South Bay of Grays Harbor Watershed

3.2 Affected Environment

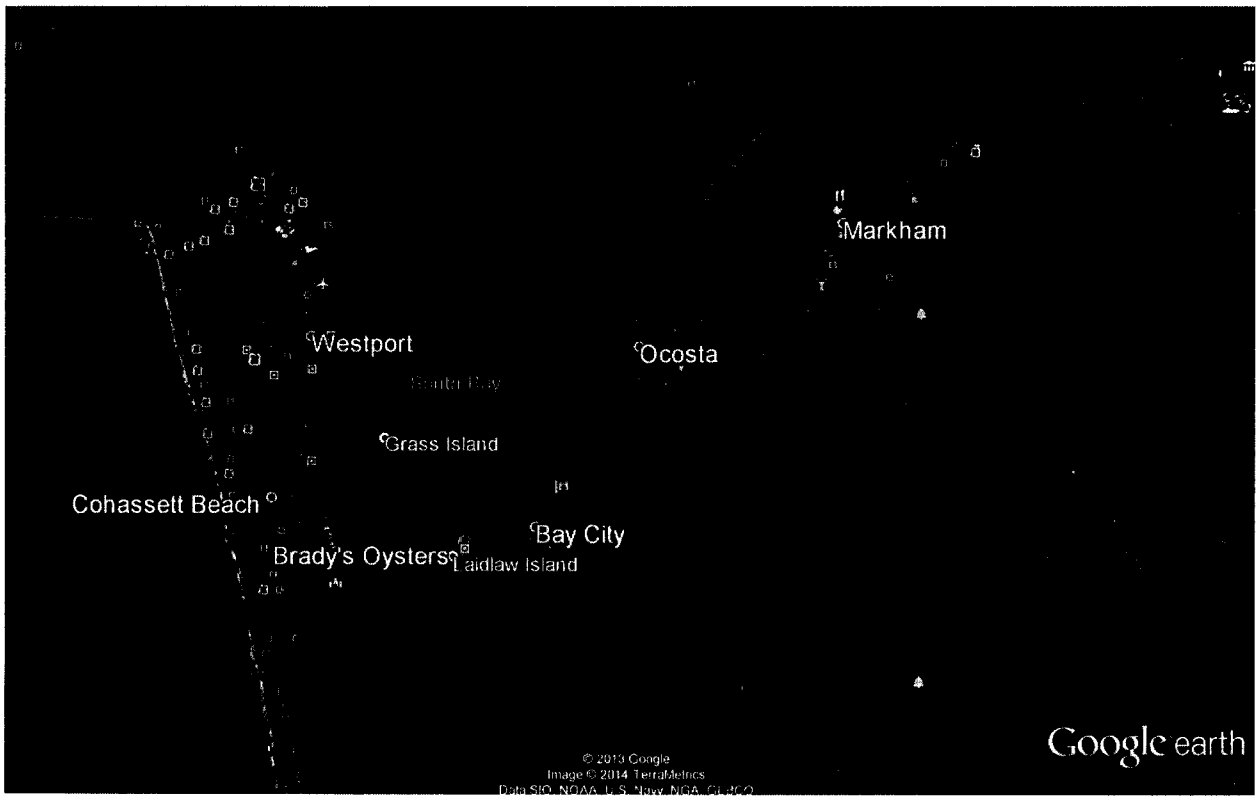


Figure 6. The South Bay of Grays Harbor, WA

3.2.1 Biological Resources

Analysis of available information indicates that, while biological resources in Grays Harbor have experienced some adverse impact from development, most of the aquatic habitat remains pristine. This has allowed a variety of fishery types to thrive in the area. Important fisheries include migratory salmonid fishes, Dungeness crab, and recreational fisheries.[10]

The forested environment at the headwaters of many of the tributaries of the Chehalis drainage basin, and in particular the Elk River and South Bay areas, host a wide variety of upland birds, mammals, amphibians, and invertebrates. In addition to resident species, the waters, marshes, and other habitats in the region host itinerant or migratory species of fishes, birds, and marine mammals.

[10] Corps of Engineers, Seattle District. 2011. Draft Environmental Assessment, FY 2011 through 2018 Maintenance Dredging and Disposal, Grays Harbor and Chehalis River Navigation Project. 2011. Seattle, WA. http://www.nws.usace.army.mil/ecrb/envirdocs.html.

(i) Fish

Grays Harbor hosts many resident fish species, but also serves as habitat for itinerant species and as a gateway for anadromous fish populations that pass through the estuary to and from spawning grounds upstream. Notable resident species include forage species, groundfish, and many endangered salmonid species of anadromous fish. There is essential fish habitat, as defined under the Magnuson-Stevens Act, for Pacific salmon, Pacific coast groundfish, and coastal pelagic species in Grays Harbor. In addition, the U.S. Fish and Wildlife Service designated the marine waters of Grays Harbor and portions of the Chehalis River as critical habitat for the Coastal Puget Sound Bull Trout in 2005.[11]

Table 1. Common and Scientific Names of Fish Species Documents in Grays Harbor (R2 Resources Consultants, Inc. 2005 and Simenstad, 1981)[12]

Common Name	Scientific Name	Common Name	Scientific Name
Economically Important Fishes			
Steelhead	*Oncorhynchus mykiss*	Shiner perch	*Cymatogaster aggregate*
Coastal cutthroat trout	*0. clarki clarki*	Redtail surfperch	*Amphistichus rhodoterus*
Chinook salmon	*0. tshawytscha*	Striped seaperch	*Embiotoca lateralis*
Coho salmon	*0. kisutch*	Pile perch	*Rhacochilus vacca*
Chum salmon	*0. keta*	Silver surfperch	*Hyperprosopon ellipticum*
Bull trout	*Salvelinus confluentus*	Bay pipefish	*Syngnathus leptorhynchus*
White sturgeon	*Acipenser transmontanus*	Black rockfish	*Sebastes melanops*
Saddleback gunnel	*Pholis ornata*	Pacific staghorn sculpin	*Leptocottus armatus*
Snake prickleback	*Lumpenus sagitta*	Buffalo sculpin	*Enopihrys bison*
Rock greenling	*Hexagrammos lagocephalus*	Prickly sculpin	*Cottus asper*
Kelp greenling	*H. decagrammus*	Cabezon	*Scorpaenichthys marmoratus*
Lingcod	*Ophiodon elongatus*	Eulachon	*Thaleichthys pacificus*

[11] Grays Harbor Rail Terminal LLC, Fish Habitat Report, March 2014. HDR Engineering, Inc., Gig Harbor, WA

[12] R2 Resource Consultants, Inc. 2005. Half Moon Bay Baseline Fish Survey, Grays Harbor, Washington. Prepared for the United States Army Corps of Engineers, Seattle District; Seattle, Washington. January 2005. Simenstad, C.A. 1981. Distribution and Abundance of Baitfish. In Juvenile Salmonid and Baitfish Distribution, Abundance, and Prey Resources in Selected Areas of Grays Harbor, Washington, C.A. Simenstad, and D.M. Eggers (eds.). Grays Harbor and Chehalis River Improvements to Navigation Environmental Studies, Seattle District Corps of Engineers, Seattle, WA.

Common Name	Scientific Name	Common Name	Scientific Name
American shad	*Alosa sapidissima*	Speckled sanddab	*Citharichthys stigmaeus*
Pacific sandfish	*Trichodon trichodon*	Sand sole	*Psettichthys melanostictus*
Pacific tomcod	*Microgadus proximus*	Rock sole	*Lepidopsetta bilineata*
White seaperch	*Phanerodon furcatus*	English sole	*Parophrys vetulus*
Starry flounder		*Platichtys stellatus*	
Forage fishes			
Pacific herring	*Clupea harengus pallasi*	Pacific sand lance	*Ammodytes hexapterus*
northern anchovy	*Engraulis mordax*	surf smelt	*Hypomesus pretiosus*
longfin smelt	*Spirinchus thaleichthys*	whitebait smelt	*Allosmerus elongates*

(ii) Aquatic Invertebrates

Benthic invertebrates live or feed on the bottom of aquatic habitats. Examples include clams, snails, mussels, worms, and the larval forms of some insects (e.g., dragonflies, midges, mayflies). These invertebrates are vital in the aquatic food chain, playing essential roles in energy and nutrient transfer from primary producers, such as algae and phytoplankton, to predatory fish and as decomposers. They are also frequently used as indicators of water and habitat quality; the presence of sensitive species and measurement of high species diversity are indicative of good water quality.

The quality of the macroinvertebrate community in Grays Harbor varies throughout the watershed. It is generally good to excellent. A thriving Dungeness crab fishery is present in Grays Harbor estuary. Previously, razor clam was also an important fishery. The burrowing shrimps (*Neotrypaea californiensis* and *Upogebia pugettensis*) are significant members of the benthic habitat assemblage, due to their destructive habits with regards to commercial shellfish operations and eel grass beds.

Brady's grows oyster species that are native to the Pacific Northwest region. The species grown are: Crassostrea Gigas and Crassostrea Sikamea (Kumomoto).[13] While not indigenous to Puget Sound, the Kumomoto oyster was first imported in the 1940s and is encouraged by the State of Washington. Thus, it has effectively become a native species.

[13] See State of Washington, Sea Grant, Oyster Varieties, http://www.wsg.washington.edu/oysterstew/cool/oystervarieties.html.

(iii) Wildlife

Grays Harbor has expansive mud and sand tidal flats that make up one of four major staging areas in the Pacific Flyway extending along the west coast from Alaska to Central and South America. Millions of shorebirds pass through or visit Grays Harbor during their spring and fall migrations to feed and rest. Due to this, Grays Harbor has the Grays Harbor National Wildlife Refuge, established in 1988 to protect 1,500 acres of intertidal mudflats, saltmarsh, and uplands. Although the Refuge occupies only 2 percent of the intertidal area of Grays Harbor, up to 50 percent of the shorebirds that pass through or visit Grays Harbor forage and rest in the Refuge (U.S. Fish and Wildlife Service (USFWS) 2013).[14]

As many as 278 species of birds use the Grays Harbor National Wildlife Refuge (USFWS 2013).[15] The most abundant shorebird species are typically western sandpiper and dunlin. Semi-palmated plover, least sandpiper, red knot, and black-bellied plover are also common during migration. American widgeons are the most common waterfowl species, making up nearly 60 percent of the waterfowl population during spring and fall migrations. Mallards, green-winged teal, and northern pintail are also common during migration time (USFWS 1990).[16]

The Washington Department of Fish and Wildlife (WDFW) has identified five nesting bird colonies in Grays Harbor (Table 2), the closest to the navigation channel being a small colony of pigeon guillemot on the Point Chehalis jetty.

Table 2. Nesting Colonies of Birds Recorded in Grays Harbor[17]

Species	Approximate Number of Birds	Location	Distance of Colony to Brady's and Westport Oyster Aquaculture sites (Miles)
Double-crested cormorant	916	Goose Island	8
Least tern	5,216	Sand Island	10
Glaucous-winged gull	28	Whitcomb Island	35
Pigeon guillemot	23	North Jetty	6
Pigeon guillemot	4	South Jetty	4

[14] U.S. Fish and Wildlife Service. 2013. *Grays Harbor National Wildlife Refuge*. Available at http://www.fws.gov/refuges/profiles/index.cfm?id=13534. Accessed: April 10, 2014.

[15] *Id.*

[16] U.S. Fish and Wildlife Service. 1990. Management and Development Plan for Grays Harbor National Wildlife Refuge, Hoquiam, Washington. USFWS, Grays Harbor Refuge Planning Team. 54 pp. http://babel.hathitrust.org/cgi/pt?id=umn.31951p00994691x#view=1up;seq=6.

[17] Grays Harbor, Washington, Navigation Improvement Project Feasibility Study DRAFT FINAL Supplemental Environmental Impact Statement June 2014. U.S. Army Corps of Engineers, Seattle District.

(iv) Federally Listed Endangered and Threatened Species

As stated in the Biological Opinion prepared for the U.S. Army Corps of Engineers (Corps) regarding Nationwide Permit 48 for ongoing shellfish aquaculture, the following 25 marine and anadromous Endangered Species Act (ESA)-listed species under NMFS jurisdiction are in the vicinity of the South Bay of Grays Harbor: Steller sea lion (*Eumetopias jubatus*), Humpback whale (*Megaptera novaeangliae*), Southern Resident killer whale (*Orcinus orca*), Loggerhead sea turtle, (*Caretta caretta*), Green sea turtle (*Chelonia mydas*), Leatherback sea turtle (*Dermochelys coriacea*), Olive ridley sea turtle (*Lepidochelys olivacea*), Green sturgeon southern Distinct Population Segment (DPS) (*Acipenser medirosris*), Columbia River chum salmon (*Oncorhynchus keta*), Hood Canal summer-run chum salmon (*O. keta*), Lower Columbia River coho salmon (*O. kisutch*), Lower Columbia River steelhead (*O. mykiss*), Middle Columbia River steelhead (*O. mykiss*), Snake River steelhead (*O. mykiss*), Upper Willamette River steelhead (*O. mykiss*), Puget Sound steelhead (*O. mykiss*), Upper Columbia River steelhead (*O. mykiss*), Lake Ozette sockeye salmon (*O. nerka*), Snake River sockeye (*O. nerka*), Lower Columbia River Chinook salmon (*O.tshawytscha*), Upper Willamette River Chinook salmon (*O. tshawytscha*), Snake River spring/summer fun Chinook salmon (*O. tshawytscha*), Snake River fall-run Chinook salmon (*O.tshawytscha*), Puget Sound Chinook salmon (*O. tshawytscha*), and Upper Columbia River spring-run Chinook salmon (*O. tshawytscha*).[18]

ESA-listed or candidate species under the jurisdiction of USFWS in the vicinity of the South Bay of Grays Harbor include five birds, one mammal, and one insect. These species are listed in Table 3.

Table 3. Federally Listed Endangered, Threatened, and Candidate Species in the Vicinity of the South Bay of Grays Harbor[19]

Species	Status
Birds	
Marbled murrelet (*Brachyramphus marmoratus*)	Threatened
Northern Spotted owl (*Strix occidentalis caurina*)	Threatened
Short-Tailed albatross (*Phoebastria (=diomedea) albatrus*)	Endangered
Streaked Horned lark (*Eremophila alpestris strigata*)	Threatened
Yellow-Billed Cuckoo (*Coccyzus americanus*)	Proposed Threatened
Insects	
Oregon Silverspot butterfly (*Speyeria zerene hippolyta*)	Threatened
Mammals	

[18] NMFS. 2009. Endangered Species Act Section 7 Formal Programmatic Consultation and Magnuson-Stevens Fishery Conservation and Management Act Essential Fish Habitat Consultation for Nationwide Permit 48 Activities in Washington State. NMFS Number: 2008/04151.

[19] U.S. Fish and Wildlife Service, Information, Planning, and Conservation System (IPaC), http://ecos.fws.gov/ipac/wizard/trustResourceList!prepare.action.

Fisher (*Martes pennanti*)	Candidate

There are 25 plant species in the vicinity of the South Bay of Grays Harbor that are listed or potential candidates for listing under the ESA or Washington State's Natural Heritage Program. These species are listed in Table 4.

Table 4. Listed Plants in the Region[20]

Common Name	Scientific Name	State Status[21]	Federal Status[22]
swamp sandwort	*Arenaria paludicola*	X	LE
yellow-flowered sedge	*Carex anthoxanthea*	S	
coiled sedge	*Carex circinata*	S	
large-awned sedge	*Carex macrochaeta*	T	
tall bugbane	*Cimicifuga elata*	S	SC
Pacific lanceleaved springbeauty	*Claytonia multiscapa ssp. pacifica*	T	
scurvygrass	*Cochlearia groenlandica*	S	
frigid shooting-star	*Dodecatheon austrofrigidum*	E	SC
Alice's fleabane	*Erigeron aliceae*	S	
Thompson's wandering daisy	*Erigeron peregrinus var. thompsonii*	S	

[20] Washington Department of Natural Resources, Washington Natural Heritage Program, http://www1.dnr.wa.gov/nhp/refdesk/lists/plantsxco/grays.html.

[21] **State Status** of plant species is determined by the Washington Natural Heritage Program. Factors considered include abundance, occurrence patterns, vulnerability, threats, existing protection, and taxonomic distinctness.
Values include:
E = Endangered. In danger of becoming extinct or extirpated from Washington.
T = Threatened. Likely to become endangered in Washington.
S = Sensitive. Vulnerable or declining and could become endangered or threatened in the state.
X = Possibly extinct or extirpated from Washington.
R1 = Review group 1. Of potential concern but needs more field work to assign another rank.
R2 = Review group 2. Of potential concern but with unresolved taxonomic questions.

[22] **Federal Status** under the U.S. Endangered Species Act, as published in the Federal Register:
LE = Listed endangered. In danger of extinction.
LT = Listed threatened. Likely to become endangered.
PE = Proposed endangered.
PT = Proposed threatened.
C = Candidate species. Sufficient information exists to support listing as endangered or threatened.
SC = Species of concern. An unofficial status, the species appears to be in jeopardy, but insufficient information to support listing.

Common Name	Scientific Name	State Status[21]	Federal Status[22]
Quinault fawn-lily	*Erythronium quinaultense*	T	
pink fawn-lily	*Erythronium revolutum*	S	
Iwatsukiella Moss	*Iwatsukiella leucotricha*	E	
branching montia	*Montia diffusa*	S	
northern grass-of-parnassus	*Parnassia palustris var. neogaea*	S	
Alaska plantain	*Plantago macrocarpa*	S	
great polemonium	*Polemonium carneum*	T	
aquatic racomitrium moss	*Racomitrium aquaticum*	R1	
Cooley's buttercup	*Ranunculus cooleyae*	S	
Menzies' burnet	*Sanguisorba menziesii*	T	
Bear's-foot sanicle	*Sanicula arctopoides*	E	SC
luminous moss	*Schistostega pennata*	R1	
white-top aster	*Sericocarpus rigidus*	S	SC
fringed synthyris	*Synthyris schizantha*	R1	
tetraphis moss	*Tetraphis geniculata*	R1	

3.2.2 Geological and Soil Resources

The U.S. Department of Agriculture/Natural Resources Conservation Service Soil Survey for the Brady's and Westport sites shows the oyster aquaculture portion of the Brady's site to be fluvaquents, which are described as very deep, very poorly drained soil on flood plains and deltas. It is formed in alluvium. The slope is 0 to 1 percent. The shore production areas at Brady's oysters are Calawah silt loam, which is described as very deep, well-drained soil on concave side slopes of terraces. It is formed in glaciofluvial sediment and valley-fill material of mixed origin.

Table 5. Soil Series from the Vicinity of Brady's Oysters

Grays Harbor County Area, Pacific and Wahkiakum Counties, Washington (WA627)			
Map Unit Symbol	**Map Unit Name**	**Acres in AOI**	**Percent of AOI**
21	Calawah silt loam, cool, 1 to 8 percent slopes	69.8	15.7%
39	Fluvaquents, tidal	140.6	31.7%
104	Ocosta silty clay loam	10.0	2.3%
169	Water	110.7	24.9%
Subtotals for Soil Survey Area		**331.1**	**74.7%**
Totals for Area of Interest		**443.6**	**100.0%**

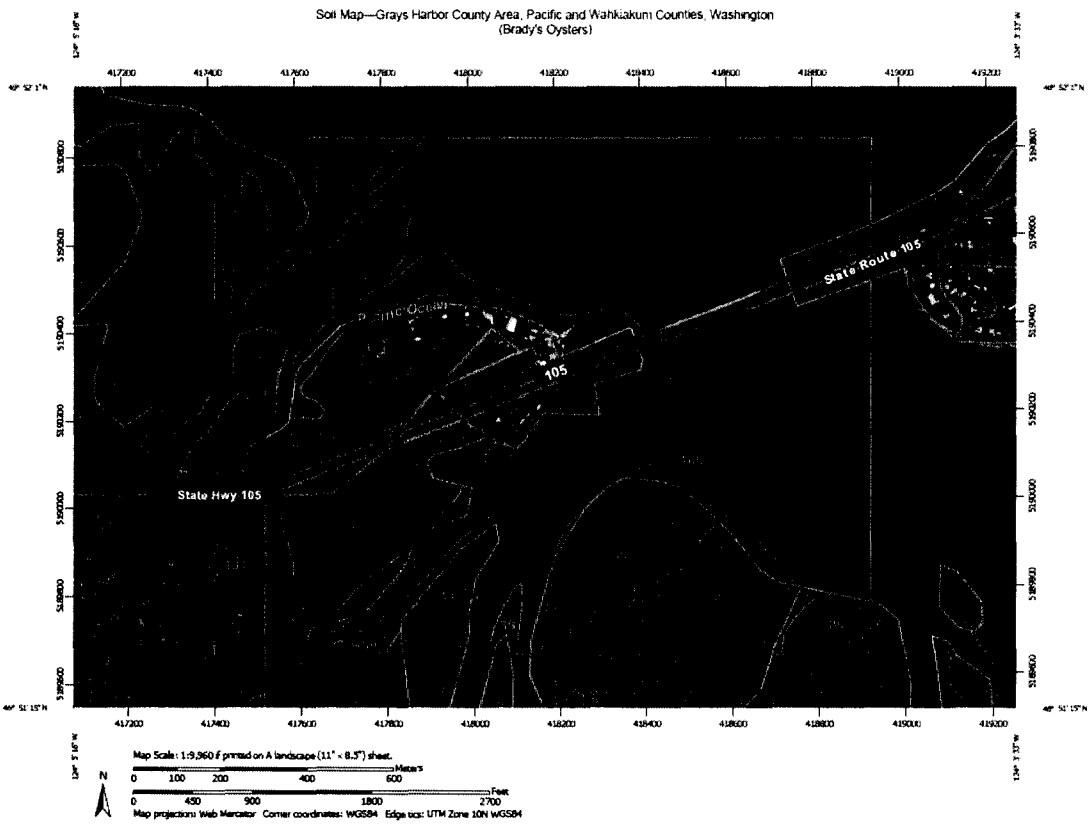


Figure 7. Soil Series Maps from the Vicinity of Brady's Oysters

3.2.3 Sediment Quality

Sediment quality throughout Grays Harbor has generally been well studied. However, most studies have concentrated on sediment quality in the navigational channel from the Pacific to

Aberdeen,[23] in and around populated areas or boat slips,[24] and in the upstream portions of the Chehalis River.[25] The sediments of South Bay are not well characterized. Sediment samples taken across the bay from the oyster aquaculture activities that are the subject of this EA were taken within an enclosed marina (Westhaven Cove in Westport, Washington). That study indicated the sediments were composed of 20–35 percent sand and gravel, 40–60 percent silt, and 20–25 percent clay with total organic carbon concentrations of 2.2–2.6 percent. All concentrations of metals (Cu. Pb, Hg, and Zn) and polycyclic aromatic hydrocarbons were low compared to Washington State's sediment standards, except for bis(2EH)phthalate and 2,4-dimethylphenol.[26]

The concentrations of industrial chemicals were low throughout the Grays Harbor area due primarily to three factors: relatively few large sources of chemical contamination are present; there is an active sediment transport regime; and there is good flushing. Hot spots within the Grays Harbor estuary are localized and generally attributable to adjacent industrial practices. The likelihood of encountering contaminated sediments in the Brady's and Westport aquaculture areas is diminished due to the lack of any upstream industrial activity and locations close to the well-flushed tidal areas near the oceanic mouth of Grays Harbor, where South Bay is situated.

Pesticide use, particularly to control destructive shrimp species, has been implicated in some sediment contamination and habitat degradation in Grays Harbor. The bivalve aquaculture fishery industry has had difficulties in maintaining growth beds for oysters at various stages of their grow-out period due to the destructive activities of numerous species of mud shrimp and burrowing shrimp. In particular, when the shellfish beds are not underlain with a mat of 15–20 cm of cultch (active oyster and oyster larvae on a bed of dead oyster shell), they can be impacted by the burrowing activities of two species of burrowing shrimp (*Crustacea*, *Decapoda*, *Thalassinidea*), the ghost shrimp *Neotrypaea californiensis* and the mud shrimp *Upogebia pugettensis.* These shrimp, which are native to estuarine intertidal and shallow subtidal sediments along the Pacific coast of North America and particularly Grays Harbor, make burrows up to 90 cm deep, with multiple openings. Their bioturbation and the fact that they decompact the substrate so much that the oysters actually sink into the mud cause mortality to oysters due to suffocation.

Oyster farmers have tried to control the shrimp in Grays Harbor since the early 1900s using a number of methods, including harrowing and the use of gravelling, boards, shelling and weighted plastic sheeting. In the 1960s, experiments indicated that carbaryl (1-napthol n-methyl

[23] Corps of Engineers. Final EIS Grays Harbor Deepening and Widening.

[24] Norton, 1999. Grays Harbor Estuary Sediment Evaluation: Chemical Screening and Station Cluster Analysis of Selected locations. Washington State Department of Ecology. Water Body No.WA-22-0020, WA-22-0030. Publication No. 99-300.

[25] Chehalis Basin Partnership. 2002. Detailed Summary of Chehalis Basin Level 1 Assessment. Chehalis Basin Partnership. http://www.chehalisbasinpartnership.org/technical/reports.html.

[26] Norton, 1999. Grays Harbor Estuary Sediment Evaluation: Chemical Screening and Station Cluster Analysis of Selected Locations. Washington State Department of Ecology. Water Body No.WA-22-0020, WA-22-0030. Publication No. 99-300.

carbamate; sold under the trade name Sevin®) effectively controlled the shrimp and was a relatively non-persistent organophosphate.[27] However, carbaryl is very toxic to many non-target arthropods, and Dungeness crabs in particular often utilized oyster reefs for cover, making them particularly susceptible. Oregon outlawed the use of carbaryl in 1984, but the ramifications to the industry precluded Washington State from taking the same action. A variety of approaches dealing with timing of application, permit areas, and take permitting have been investigated.[28] Currently, carbaryl is still available for use, including in Grays Harbor, by permit from the Washington State Department of Ecology.[29] However, the permit requires a National Pollutant Discharge Elimination System (NPDES) permit. The most recent permit (WA0040975) was issued by the Washington State Department of Ecology for use in Grays Harbor, but it expired on June 30, 2011.[30] Currently, a proposed permit for the use of imidacloprid to control burrowing shrimp (*Neotrypaea californiensis* and *Upogebia pugettensis*) on commercial shellfish beds in Willapa Bay and Grays Harbor is being considered by the Washington State Department of Ecology.[31] The public comment period for that EIS Scoping ended February 15, 2014.

3.2.4 Wetlands

The South Bay of Grays Harbor is located in the South Bay sub-basin, and it receives estuarine and oceanic inputs from the north and freshwater inputs from the headwaters of streams located within the South Bay sub-basin and from the Elk River sub-basin.

According to the Chehalis Basin Level 1 assessment[32] and the Wild Fish Conservancy,[33] wetlands in the area of Brady's and Westport are in the form of intertidal mudflats. Aerial observation does not indicate any fringing marshes in the immediate vicinity, although they are clearly part of the ecosystem upstream of the oyster aquaculture facilities, in the South Bay and Elk River areas near these operations.

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[27] Washington Department of Fisheries. 1970. Ghost Shrimp Control Experiments with Sevin, 1960–1968. Washington Department of Fisheries Technical Report 1. Olympia, Washington.

[28] Feldman, K.L., et. Al. 2000. Oysters, Crabs, and Burrowing Shrimp: Review of an Environmental Conflict Over Aquatic Resources and Pesticide Use in Washington State's (USA) Coastal Estuaries. Estuaries Vol. 23, No. 2, p. 141-176. April 2000.

[29] Washington State Department of Ecology Water Quality Program. Individual Permit for the Control of Burrowing Shrimp using Carbaryl on Commercial Shellfish Beds in Willapa Bay and Grays Harbor. http://www.ecy.wa.gov/programs/wq/pesticides/final_pesticide_permits/oyster/oyster_index.html as of July 9, 2014.

[30] Washington State Department of Ecology Water Quality Program. NATIONAL POLLUTANT DISCHARGE ELIMINATION SYSTEM WASTE DISCHARGE PERMIT NO. WA0040975. June 23, 2006 17 pp.

[31] Washington State Department of Ecology Water Quality Program. Proposed Individual Permit for the Control of Burrowing Shrimp using Imidacloprid on Commercial Shellfish Beds in Willapa Bay and Grays Habor. http://www.ecy.wa.gov/programs/wq/pesticides/imidacloprid/index.html.

[32] Chehalis Basin Partnership. 2002. Detailed Summary of Chehalis Basin Level 1 Assessment. Chehalis Basin Partnership. http://www.chehalisbasinpartnership.org/technical/reports.html.

[33] Sandell, T. and McAninch, A. 2013. Climate Change in the Chehalis River and Grays Harbor Estuary Prepared for the Chehalis Basin Habitat Work Group. Wild Fish Conservancy.

The oyster aquaculture operations are located in the South Bay sub-basin of the Chehalis River drainage basin. That basin has some salt marshes in the lower reaches, including a salt-marsh restoration project installed as mitigation for fill associated with construction of the Ocean City Airport.[34]

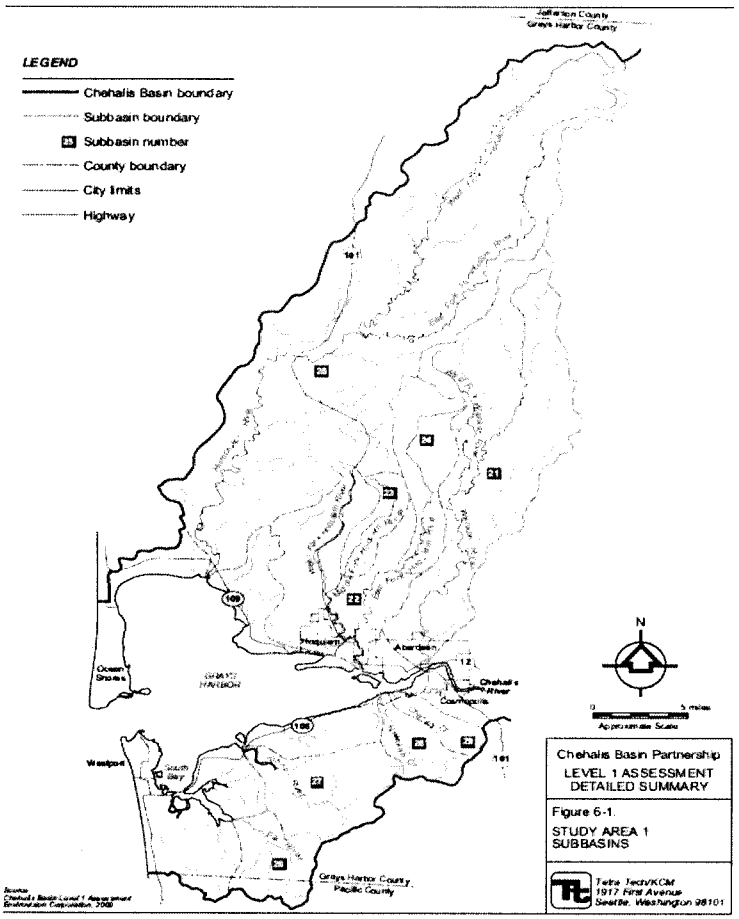

Figure 8. Watershed Basin and Sub-Basin Boundaries in the Vicinity of Brady's Oysters

The Elk River basin also is the site of the Elk River Natural Resources Conservation Area, which totals 5,413 acres of diverse habitats, including tide flats, sloughs, salt marshes, freshwater wetlands, and forested uplands.[35]

[34] Thom, R.M., Zeigler, R., & Borde, A.B. 2002. Floristic Development Patterns in a Restored Elk River Estuarine Marsh, Grays Harbor, Washington. Restoration Ecology Vol. 10 No. 3, pp. 487–496.

[35] http://www.dnr.wa.gov/AboutDNR/ManagedLands/Pages/amp_na_elk.aspx.

3.2.5 Floodplain and Flood Control

The Brady's and Westport aquaculture production sites are located at the shoreline and below normal high water, since they are involved in in-water aquacultural activities. They do not represent flood hazards, flood control impairment, or impediments to good drainage. The freshwater input into South Bay through the Elk River is from a small watershed, though flooding could be an issue when high rain events are coupled with high tides, seasonally high tides, or storm surge.

Tsunami hazards have been estimated for South Bay, and the Brady's and Westport facilities are within the tsunami hazard zone. The area faces two types of tsunami hazard. The first hazard is from tsunamis from distant earthquakes of magnitude 9.0 or greater. Those take hours to propagate, which allows time for planning and evacuation, so loss of life should be minimal, although property damage could be severe. Local tsunamis caused by earthquakes on the Cascadia subduction zone of magnitude 8.0 or greater pose the greatest danger. The warning time is short (less than 25–30 minutes), and the catastrophic waves could cause loss of life and widespread damage to property.[36]

[36] U.S. Geological Survey. 2013. Understanding Tsunami Hazards in the State of Washington, How Vulnerable is the City of Westport to Tsunamis? Washington Military Department, Emergency Management Division.

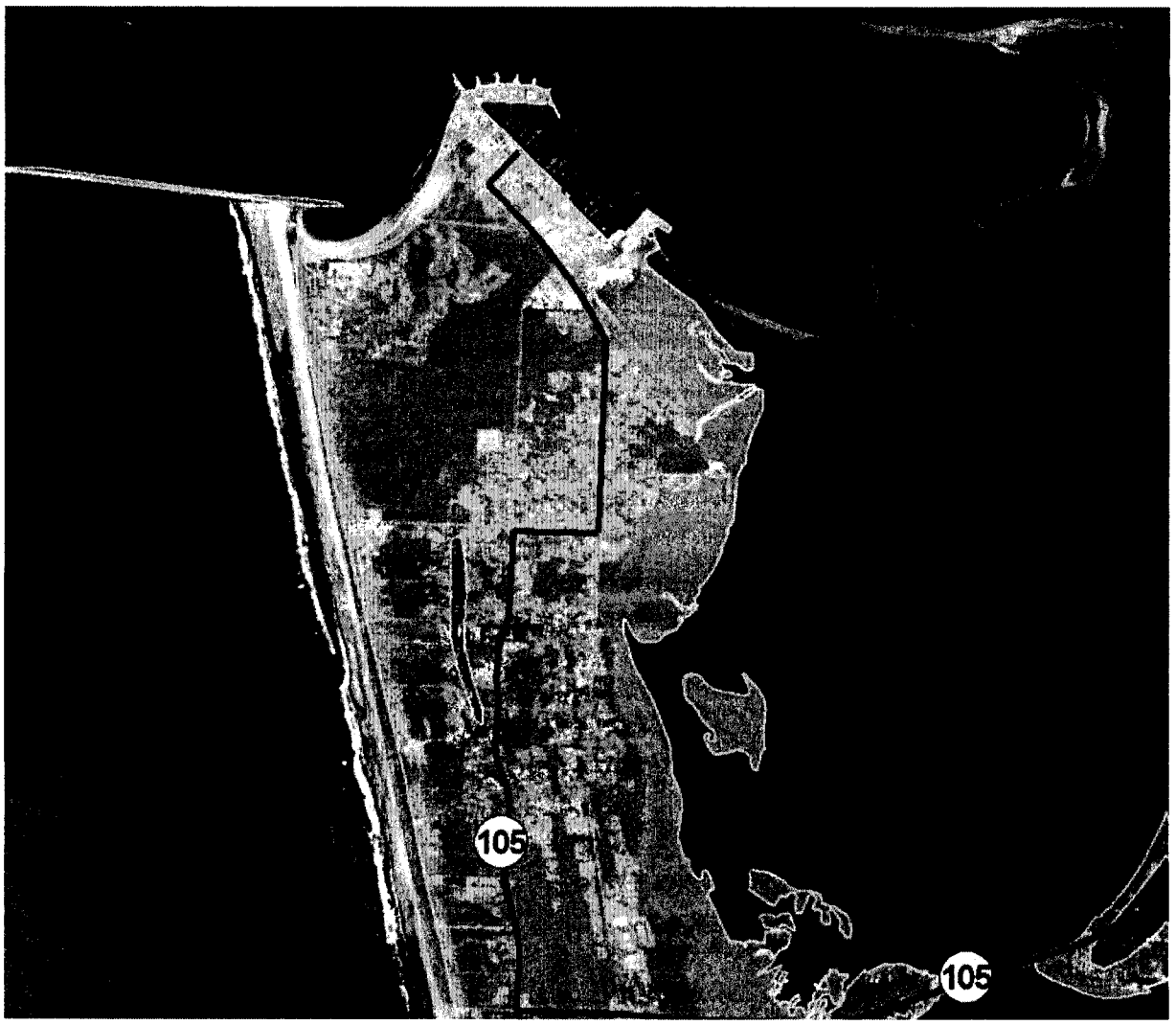

Figure 9. Aerial View of the Community of Westport between South Bay (right) and the Pacific Ocean (left) (The tsunami hazard zone is shaded in yellow. Highways are marked by solid red lines.)

3.2.6 Air Quality

Air quality in Grays Harbor County, Washington in general, and in Aberdeen, Washington in particular, is generally good, with average levels better than the national averages for total Air Quality Index, total suspended particles, lead, sulfur dioxide, ozone, average particulate matter (PM10 & PM2.5), and nitrogen dioxide. Average carbon monoxide and nitrogen dioxide levels exceed the national averages.[37]

[37] USA.COM. 2014. Grays Harbor County Air Quality. http://www.usa.com/grays-harbor-county-wa-air-quality.htm.

3.2.7 Water Quality

Water Quality in South Bay and the Elk River is generally good. A Total Maximum Daily Load (TMDL) requirement has been set[38] for the area for fecal coliform, indicating higher levels would be present. However, Rountry & Pelletier (2002)[39] state that high fecal coliform concentrations in the upper Elk River watershed is a natural condition due to wildlife. The upper watershed (more than a mile from the mouth, including the west, middle, and east branches) is timberland and is not inhabited by humans or domestic animals.

3.2.8 Climate and Potential Impacts of Climate Change on Region

Climate change models predict that Washington is likely to experience warmer temperatures of 3 to 10° Fahrenheit, increased winter rainfall, reduced snowpack, and earlier melt and runoff over the remainder of the 21st century. This could significantly impact the estuarine area of the proposed action and could result in impacts to the riparian resources, benthic species, and anadromous fish that traverse the area during reproductive migrations.[40]

The predicted climate change scenarios for the Grays Harbor area will have effects in the South Bay, Elk River estuary, and the site of the Brady's and Westport oyster aquaculture operations. Anticipated consequences include those listed below in Table 6. The anticipated consequences in the Elk River and South Bay estuary listed in Table 6 are based on information from Wild Fish Conservancy Northwest, which has written extensively concerning the potential changes that climate change could bring to the Grays Harbor estuary and to habitats, essential fish habitats, and populations of endangered species, particularly salmonids.

Table 6. Potential Consequences of Climate Change Generally, in the Elk River and South Bay Estuary, and on Oyster Aquaculture

Generalized Consequences of Climate Change	Specific Consequences in Elk River and South Bay Estuary[41]	Potential Oyster Aquaculture Consequences
Inundation due to sea level rise (SLR). Low-lying areas will be regularly flooded by high tides.	SLR will have less dramatic effects than in other areas. Some areas of tidal flats will be lost and there will be a	Oyster aquaculture currently resides on tidal flats or sub-tidal flats. Gradual deepening of waters will not affect oyster

[38] Washington State Department of Ecology. 2014. Approved TMDLs in Western Washington Applicable to MS4 permits. http://www.ecy.wa.gov/programs/wq/stormwater/municipal/phaseIIww/WesternWAphase2TMDLs.pdf.

[39] Rountry, D., Pelletier, G. 2002. Grays Harbor/Chehalis Watershed Fecal Coliform Bacteria Total Maximum Daily Load. Washington State Department of Ecology. Publication No. 01-10-25 WQ.

[40] NOAA. 2010. Adapting to Climate Change: A Planning Guide for State Coastal Managers. NOAA Office of Ocean and Coastal Resource Management. http://coastalmanagement.noaa.gov/climate/adaptation.html, Appendix C, Regional Climate Summaries.

[41] Sandell, T. and McAninch, A. 2013. Climate Change in the Chehalis River and Grays Harbor Estuary Prepared for the Chehalis Basin Habitat Work Group. Wild Fish Conservancy.

Generalized Consequences of Climate Change	Specific Consequences in Elk River and South Bay Estuary[41]	Potential Oyster Aquaculture Consequences
	reduction in the amount of forested area in the headwaters of the Elk and Johns Rivers. However, most of these areas are expected to transition from one type of marsh currently present (e.g., tidal fresh or transitional marsh) to salt marsh.	aquaculture other than to deepen water over the operation, and potentially allow for longer oyster string culture. The climate change maps below (Figures 9 and 10) show that, based on the Intergovernmental Panel on Climate Change (IPCC) A1-B Climate maximum increases for 2050, there will be no net change in the tidal flats at the location of the Brady's and Westport oyster operations, and no net loss of land at the site of the land operations.
Flooding. During storms, SLR will compound the effects of storm surge and contribute to more extensive coastal flooding.	Episodic loss of tidal flats due to increased storm surge could cause loss of property and operations.	Episodic loss of tidal flats due to increased storm surge could cause loss of property and operations.
Erosion & landslide. The effects of SLR will gradually erode low-lying areas, and SLR coupled with increased storm surge will erode cliffs etc., episodically. These erosion events will contribute to water turbidity and siltation.		Increased sedimentation or siltation could interfere with oysters in the short term, but the oyster production methods used by Brady's and Westport suspend oysters above the bottom, lessening the potential for this effect.
Salt-water intrusion. Salt-water will rise further into the estuaries, as well as intrude into groundwater aquifers, potentially making brackish waters that do not meet the quality required for safe drinking water or for fresh-water species.	In the estuary as a whole, rising sea levels are predicted to dramatically increase the amount of the various types of marsh land: for transitional marsh (scrub/shrub cover), over 200-fold; for regularly flooded salt marsh, 2.5–4 fold; for irregularly flooded marsh, roughly 6 fold under all	The area of the Brady's and Westport Oyster aquaculture facilities is already a highly saline environment.

Generalized Consequences of Climate Change	Specific Consequences in Elk River and South Bay Estuary[41]	Potential Oyster Aquaculture Consequences
	scenarios. The increase in salt-water levels will result in a decrease in freshwater marsh habitat, with inland freshwater marsh declining to ~45 percent of 1981 levels and tidal fresh marsh declining to roughly 10 percent of 1981 levels.	
Increased ocean temperatures. Ocean temperatures are expected to increase. Coastal and harbor water temperatures will be influenced both by increased temperatures over land, as well as by increased temperatures from ocean waters.	Warmer water temperatures, loss of thermal refugia, decreased summer stream flows, etc. will negatively affect salmon spawning and growth success.	
Increased carbon dioxide levels. Increased carbon dioxide levels in the atmosphere will dissolve into coastal and oceanic waters. carbon dioxide acts as a weak acid in water, and the pH of the waters can be expected to decrease (become more acidic).	pH changes can affect shell deposition rates and impair invertebrate growth.	pH changes can impair shell growth in oysters.

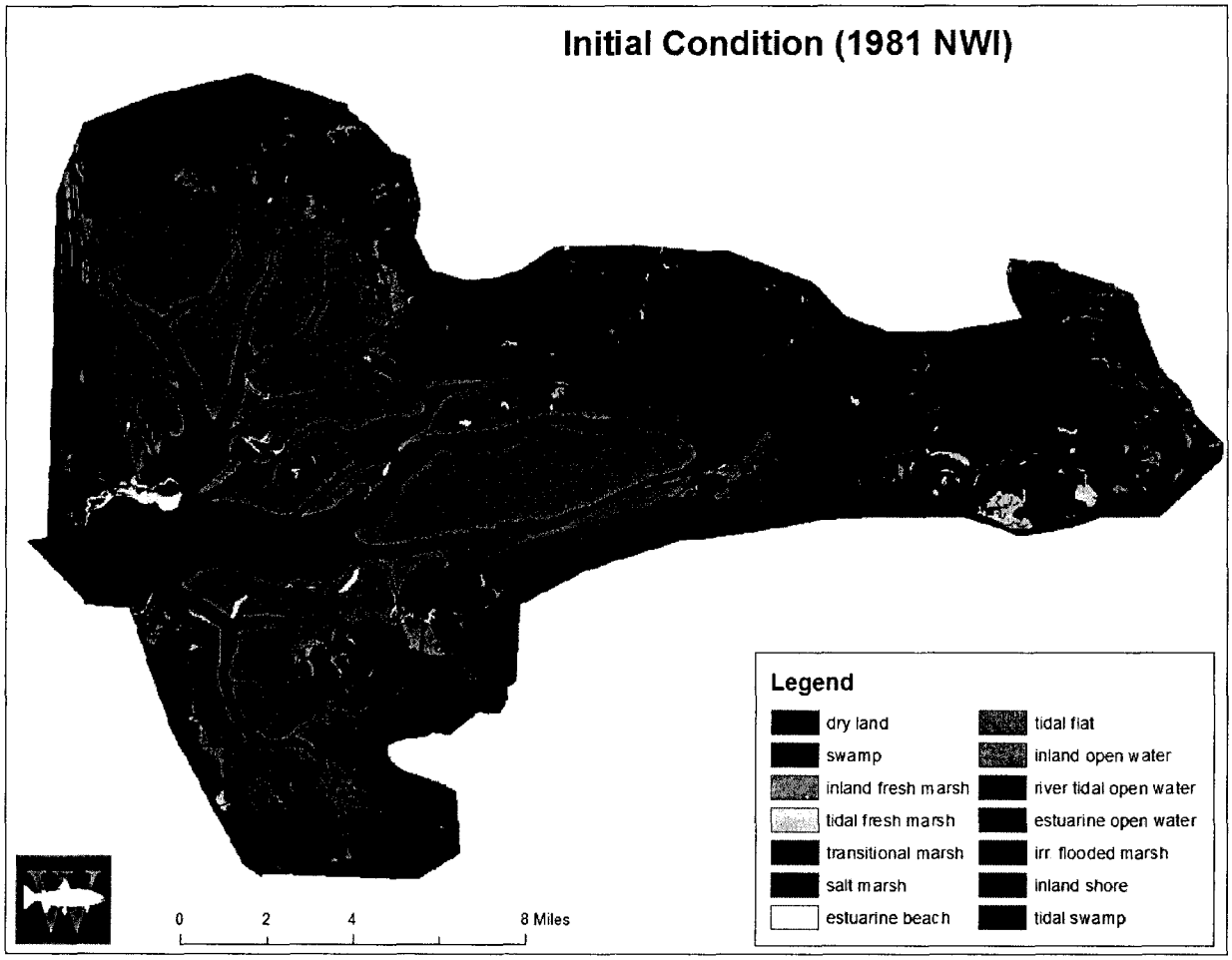

Figure 10. IPCC Potential Land Use Changes Due to SLR: 1981 Initial Condition

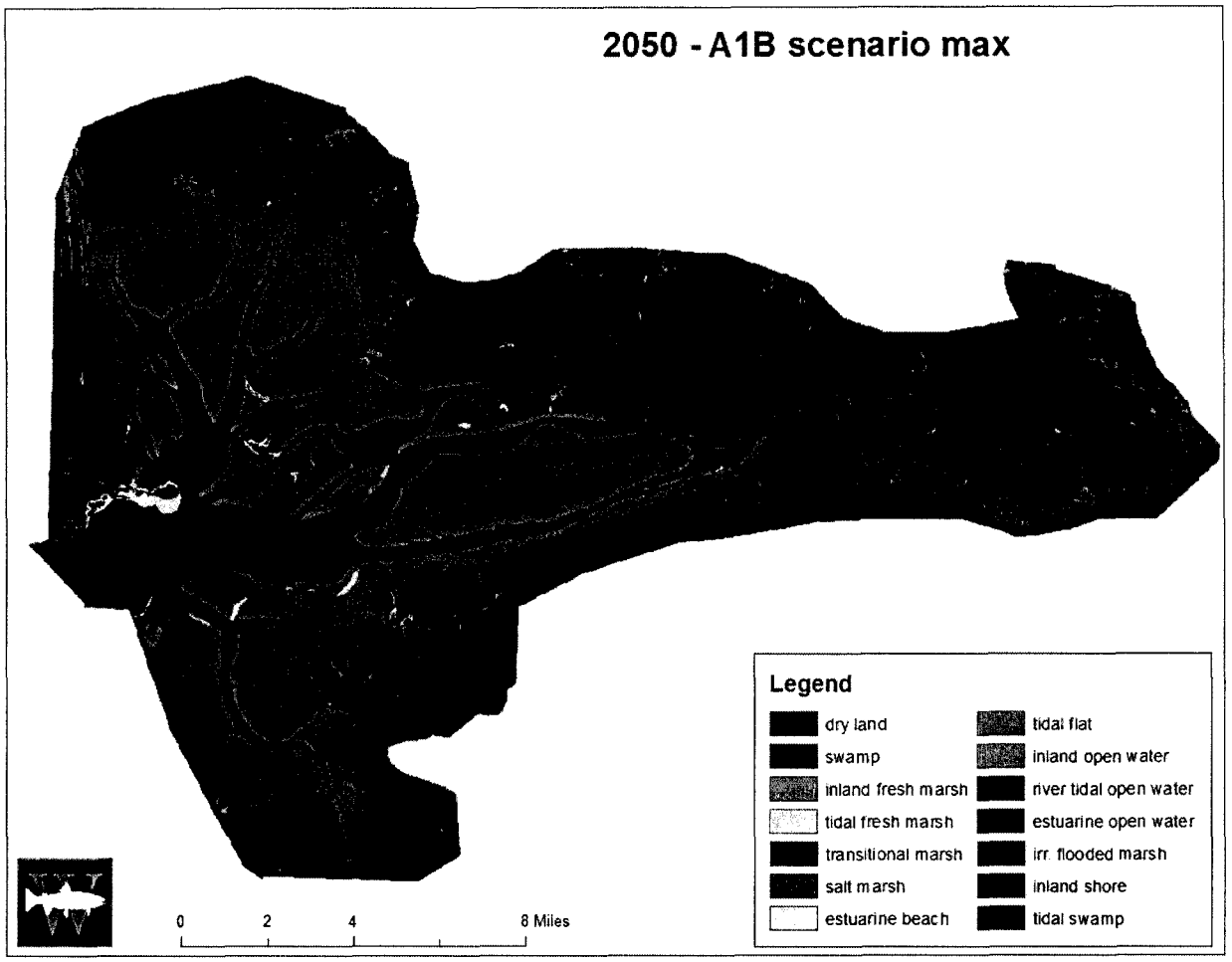

Figure 11. IPCC Potential Land Use Changes Due to SLR: A1B Maximum 2050 Condition

4. Alternatives Analysis

4.1 Alternatives Not Considered for Detailed Analysis

For this EA, only the No Action alternative and the Proposed Action alternative (funding of an aquaculture loan and refinancing) were analyzed by the FFP. The only other alternatives that were considered were an Acquisition Only alternative, under which the FFP would provide Brady's funding sufficient to cover the cost to purchase Westport, but not to refinance Brady's existing debt, and a Refinancing Only alternative, under which the FFP would provide Brady's funding sufficient to refinance its current debt, but not to cover the cost to purchase Westport. However, since both the Brady's and Westport facilities are currently operating, and the only difference between either of these alternatives and the Proposed Action alternative is how much financing FFP would provide Brady's, the potential environmental impacts under either of these alternatives would be the same as the impacts under the Proposed Action alternative. Therefore, these alternatives were not separately analyzed.

4.2 Direct and Indirect Impacts of Alternatives under NEPA

In this section, we evaluate the anticipated environmental impacts of the alternatives described in Section 2. Section 4.2.1 describes the likely environmental impacts of the alternatives, Sections 4.2.2 and 4.3 to 4.5 provide additional discussion of the intensity of impacts related to specific topics described in CEQ's NEPA regulations at 40 CFR § 1508.27 and NOAA's Administrative Order on NEPA (NAO 216-6 6.01), and Section 4.6 addresses mitigation measures.

The potential environmental impacts of the alternatives are discussed in terms of their type, duration, and significance. The types of impacts caused by an action include direct (occurring contemporaneously at or near the place of that action) and indirect (occurring later or at a distance from the place of the action due to cascading effects, but still reasonably foreseeable) impacts. The duration of impacts is presented in terms of short- and long-term time frames. Short-term impacts are generally associated with the construction or implementation of the action, whereas long-term impacts are generally associated with the lasting impacts of the action after it is complete. The significance of impacts describes the magnitude of the impact and is assessed qualitatively, as described in Section 1.4. This document also discusses beneficial impacts to habitat. In each section, we present a summary box that describes the expected environmental impacts of the alternatives as described in this paragraph. At the end of Section 4.6, we provide an overview table summarizing all of the impacts for each alternative.

4.2.1 Likely Impacts of the Alternatives

(i) Aesthetics, Light, and Glare

The Proposed Action would have no direct negative impacts on aesthetics. The Proposed Action is to provide loan funding and would not involve any construction or expansion of infrastructure.

If successful, the loan funding provided to Brady's may allow increased business opportunities, and therefore lead to refurbishing existing in-water and coastal structures associated with the aquaculture or construction of new facilities. However, the Proposed Action is limited to loan financing and refinancing associated with existing aquaculture facilities.

If subsequent actions are proposed by Brady's, during construction, disturbed soils, debris, and construction equipment may result in poor aesthetics. The use of best management practices to manage solid waste and debris, maintain a neat and organized work site, and provide appropriate sanitation facilities can reduce these impacts. We do not anticipate any impacts on light and glare, unless work is done at night. However, nighttime construction work would be required to comply with local light and glare regulations and use best management practices to minimize light and glare pollution. For a given project, we expect that the duration of construction, and the time frame of these impacts, is likely to be short—a few weeks to a few months. Any future construction would be required to meet the applicable Federal, state and local permitting requirements, the requirements of the tideland leases, and all other applicable environmental requirements.

In as much as the alternative is funding a loan to refinance two existing aquaculture facilities, direct and indirect construction impacts are expected to be minimal, if existent at all.

There would be no impacts from the no-action alternative, because the aquaculture facilities would continue to operate as is, but also no improvements in aesthetics.

Alternative 1 **No Action**	**Alternative 2** **Proposed Action – Funding of Aquaculture Loan and Refinancing**
Short term: No impact	Short term: Minor indirect adverse impacts on aesthetics if subsequent construction projects are approved; Minor indirect adverse impacts on light and glare if subsequent construction projects are approved.
Long term: No impact	Long term: Moderate indirect beneficial impacts on aesthetics if refurbished or new facilities are approved; No impacts on light and glare.

(ii) Economic Impacts

Aquaculture is an existing economic driver in Grays Harbor County and in the South Bay area where the subject oyster aquaculture sites are located. The seafood industry, consisting of aquaculture, salmon landings, other finfish landings, and Dungeness crab harvest, is historically a large economic driver in the region. Given that the Proposed Action is funding of an existing shellfish aquaculture operation to obtain a neighboring operation, it is not likely that there would be any adverse impacts in the short term. There is potential in the short term for minor beneficial impacts on the local economy, due to ongoing, stable aquaculture operations and transactions with local businesses and suppliers, and minor to moderate beneficial impacts on the seafood

economy, due to continuing availability of desirable oysters and ongoing beneficial effects on habitat for other species. There also is potential for a moderate beneficial impact in the long term due to enhanced financial stability for the two existing shellfish operations.

There are no districts, sites, highways, structures, or objects listed in or eligible for listing in the National Register of Historic Places or any significant scientific, cultural or historical resources in the area of Brady's or Westport. Consequently, no potential impacts on such areas are likely.

The No Action Alternative would not alter the existing facilities. It may increase the probability that one or both of the operations would fail financially and be abandoned, due to the lack of financing. The availability of loan funds lowers Brady's cost of financing, enhancing its financial position and increasing its potential for profitable operation. Lack of the financing would result in indirect, moderate adverse impacts to the local economy. Failure of the business would result in loss of income to the owners and employees, loss of tax base to the county, and indirect losses to other businesses, such as the stores at which the owners and employees currently shop, and to local real estate revenues.

Alternative 1 **No Action**	**Alternative 2** **Proposed Action – Funding of Aquaculture Loan and Refinancing**
Short term: Moderate adverse impacts due to loss of income and taxes if the operations were to fail.	Short term: Minor beneficial impacts on economy; Minor to moderate beneficial impacts on seafood economy.
Long term: Moderate adverse impacts due to loss of income and taxes if the operations were to fail.	Long term: Moderate beneficial impacts on local economy; Moderate beneficial impacts on seafood industry.

(iii) Energy and Natural Resources Industries

Grays Harbor County, Washington was the site of a robust timber and logging industry. Wood and pulp mills are still part of the economy. Grays Harbor, Washington is the site of an abandoned oil field, the Ocean City site. This site is north of the project area and separated from it by Grays Harbor. This oil field was closed in 1961. Currently, there are plans for additional exploratory wells 22 miles east of the Ocean City site and 6 miles northwest of Montesano, Washington.[42] Neither of these areas is proximate to the Brady's site.

The Proposed Action is not likely to have any impact on either oil field or logging and timber operations in either the short term or long term, since the oyster aquaculture installations are

[42] Petzet, 2012. Washington Grays Harbor exploratory well to spud. Oil & Gas Journal. http://www.ogj.com/articles/print/vol-110/issue-6b/general-interest/washington-grays-harbor.html.

existing operations, remote from these activities, and located mainly in the water. The No Action Alternative likewise should have no impact.

Alternative 1 No Action	Alternative 2 Proposed Action – Funding of Aquaculture Loan and Refinancing
Short term: No impact	Short term: No impacts on energy or natural resources industries.
Long term: No impact	Long term: No impacts on energy or natural resources industries.

(iv) Geological and Soil Resources

The Proposed Action would not result in any direct adverse impacts to geological and soil resources. If subsequent actions are proposed by Brady's, during construction, disturbed soils, debris, and construction equipment may result in minor, short-term adverse impacts. Given that the oyster operations in the water occur on the fluvaquents, which are deep soils of uniform horizons, disturbance during any construction phase of new oyster facilities is likely to have limited adverse impacts. There should be no long-term adverse impacts associated with the Proposed Action.

The No Action Alternative would not alter the existing facilities. As discussed above, it may increase the probability that one or both of the operations would fail financially and be abandoned. However, this would not result in changes in geological and soil resources use without some subsequent action, such as purchase and modification of the facilities. Those actions would be required to comply with applicable environmental requirements.

Alternative 1 No Action	Alternative 2 Proposed Action – Funding of Aquaculture Loan and Refinancing
Short term: No impact	Short term: No direct impacts on geological resources; No direct impacts on soil resources. Minor indirect adverse impacts on geological and soil resources if subsequent construction projects are approved.
Long term: No impact	Long term: No impacts on geological resources; No impacts on soil resources.

(v) Recreation and Education

Kayaking, boating, recreational fishing, and other in-water recreational and educational activities are integral parts of Grays Harbor. The in-water activities of Brady's operations are impediments to navigation. However, the initial construction and ongoing operation of these facilities were permitted under Corps authorizations, and those permitting procedures, which were undertaken at the time of the aquaculture facility permitting, take into account navigational hazards, among

other considerations. The Proposed Action, FFP providing loan funding for the acquisition of an existing shellfish farming operation, is not likely to have any impact on the permit and consequentially no impact on kayaking, boating, recreational fishing, etc., either in the short term or in the long term.

If subsequent actions are proposed by Brady's, construction of new in-water facilities would impact recreational activities both during (short term) and after (long term) construction. The use of best management practices to locate the facilities and manage their construction can reduce these impacts. For a given project, we expect that the duration of construction, and the time frame of these impacts, is likely to be short—a few weeks to a few months. Any future construction would be required to meet the applicable Federal, state and local permitting requirements, the requirements of the tideland leases, and all other applicable environmental requirements.

The No Action Alternative would not alter the existing facilities. As discussed above, it may increase the probability that one or both of the operations would fail financially and be abandoned. However, this would not result in changes in recreation and education use without some subsequent action, such as purchase and modification of the facilities. Those actions would be required to comply with applicable environmental requirements.

Alternative 1 **No Action**	**Alternative 2** **Proposed Action – Funding of Aquaculture Loan and Refinancing**
Short term: No impact	Short term: No direct impacts on recreational or educational activities. Minor indirect adverse impacts on recreation resources if subsequent construction projects are approved.
Long term: No impact	Long term: No direct impacts on recreational or educational activities. Minor indirect adverse impacts on recreation resources if subsequent construction projects are approved.

(vi) Land and Shoreline Use

The Brady's and Westport sites are located adjacent to South Bay, where State Route 105 crosses the estuary. One Westport site abuts the westernmost Brady's site, and the second Westport site is a few hundred feet to the north and east (see Figure 2, p. 18). Shorefront property is part of the operations. The Proposed Action, FFP providing loan funding for the acquisition of an existing shellfish farming operation, is not likely to have any impact on adjacent property owners, passive recreational opportunities, or access to the waterfront, given the fact that the Brady's and Westport operations are already in existence.

If subsequent actions are proposed by Brady's, construction of new in-water facilities would impact land and shoreline use both during (short term) and after (long term) construction. These

impacts would be minor, as the growing and harvesting operations could be harmed by significant disruptions to the shoreline due to construction and related activities. Brady's has a business incentive to minimize disruption of the growing and harvesting operations.

The No Action Alternative would not alter the existing facilities. As discussed above, it may increase the probability that one or both of the operations would fail financially and be abandoned. However this would not result in changes in land or shoreline use without some subsequent action, such as purchase and modification of the facilities. Those actions would be required to comply with applicable environmental requirements.

Alternative 1 **No Action**	**Alternative 2** **Proposed Action – Funding of Aquaculture Loan and Refinancing**
Short term: No impact	Short term: No impacts on land use; No impacts on shoreline use or access. Minor indirect adverse impacts on land and shoreline use if subsequent construction projects are approved.
Long term: No impact	Long term: No impacts on land use; No impacts on shoreline use or access.

(vii) Transportation, Utilities, and Public Services

The Brady's and Westport facilities are located on State Route 105. They are in existence, and the Proposed Action, FFP providing loan funding for the acquisition of an existing shellfish farming operation, is not likely to have any impact on access to the routes, nor require any additional utilities or public services.

If subsequent actions are proposed by Brady's, construction of new in-water facilities would impact transportation, utilities, and public services both during (short term) and after (long term) construction. The impacts would depend on the scope of the proposed projects. During construction, equipment and construction materials would be delivered to the site, and construction workers would need to access the site. This would result in short-term minor, adverse impacts to the local transportation facilities; primarily road congestion due to the location of the site. For a given project, we expect that the duration of construction, and the time frame of these impacts, is likely to be short—a few weeks to a few months. Any future construction would be required to meet the applicable Federal, state and local permitting requirements, the requirements of the tideland leases, and all other applicable environmental requirements.

The No Action Alternative would not alter the existing facilities. As discussed above, it may increase the probability that one or both of the operations would fail financially and be abandoned. This would result in minor changes in transportation and utilities use, without some

subsequent action such as purchase and modification of the facilities. Traffic from employees and customers of the operations would cease, resulting in minor beneficial impacts on transportation in the local roadways. The water and energy utilities currently serving the site would lose the income and their daily demand would be reduced.

Alternative 1 **No Action**	**Alternative 2** **Proposed Action – Funding of Aquaculture Loan and Refinancing**
Short term: Minor beneficial impact to local transportation due to reduced traffic from employees and customers if the operations were to fail. Minor adverse impacts to utilities serving the operations due to loss of demand for services if the operations were to fail.	Short term: No direct impacts on transportation; No impacts on utilities; No impacts on public services. Minor, indirect adverse impacts on transportation if subsequent construction projects are approved.
Long term: Minor beneficial impact to local transportation due to reduced traffic from employees and customers if the operations were to fail. Minor adverse impacts to utilities serving the operations due to loss of demand for services if the operations were to fail.	Long term: No impacts on transportation; No impacts on utilities; No impacts on public services.

(viii) Wetlands

Wetlands in the area of the Brady's and Westport facilities are in the form of intertidal mudflats. Aerial observation does not indicate any fringing marshes in the immediate vicinity. The Proposed Action, FFP providing loan funding for the acquisition of an existing shellfish farming operation, is not likely to have any impact on wetlands.

If subsequent actions are proposed by Brady's, construction of new in-water facilities could impact wetlands during (short term) and after (long term) construction. The use of best management practices to locate the facilities and manage their construction can reduce these impacts. For a given project, we expect that the duration of construction, and the time frame of these impacts, is likely to be short—a few weeks to a few months. Any future construction would be required to meet the applicable Federal, state and local permitting requirements, the requirements of the tideland leases, and all other applicable environmental requirements.

The No Action Alternative would not alter the existing facilities. Therefore, no impacts to wetlands are anticipated.

Alternative 1 No Action	Alternative 2 Proposed Action – Funding of Aquaculture Loan and Refinancing
Short term: No impact	Short term: No direct impacts on wetlands. Minor indirect adverse impacts on wetland resources if subsequent construction projects are approved.
Long term: No impact	Long term: No direct impacts on wetlands. Minor indirect adverse impacts on wetland resources if subsequent construction projects are approved.

(ix) Biological Resources

The Proposed Action, FFP providing loan funding for the acquisition of an existing shellfish farming operation, would not likely have any impact on existing biological resources given that the action is monetary, and the oyster aquaculture facilities already exist, are fully permitted operations, and are not expected to change substantially as a result of the funding.

Initial installation of these shellfish aquaculture operations may have had the potential to impact biological resources, but they were evaluated for that potential at the time that the owners submitted applications to the Army Corps of Engineers Regulatory Branch to obtain clearances under Nationwide Permit 48 and to the State of Washington to obtain clearances to operate the facilities. In those evaluations, the potential effects due to interference with biological resources, such as essential fish habitat, endangered species critical habitat, endangered species, wetlands, and cultural resources, were evaluated.

If subsequent actions are proposed by Brady's, construction of new in-water facilities could impact biological resources during (short term) and after (long term) construction. The use of best management practices to locate the facilities and manage their construction can reduce these impacts. For a given project, we expect that the duration of construction, and the time frame of these impacts, is likely to be short—a few weeks to a few months. Any future construction would be required to meet the applicable Federal, state and local permitting requirements, the requirements of the tideland leases, and all other applicable environmental requirements.

The No Action Alternative would not alter the existing facilities. As discussed above, it may increase the probability that one or both of the operations would fail financially and be abandoned. This would result in minor impacts to biological resources, because the demand for oysters would remain, and oysters to fulfill that demand may be sourced from non-aquaculture operations. The resulting increase in harvesting of other types of wild shellfish would have a short- and long-term minor to moderate impact on biological resources, due to the decreased supply of shellfish to filter bay water and the disturbance to natural shellfish beds and the biological communities that they support.

Alternative 1 No Action	Alternative 2 Proposed Action – Funding of Aquaculture Loan and Refinancing
Short term: Moderate adverse impacts due to potential increased harvesting of wild shellfish, such as razor clams, if the operations were to fail.	Short term: No direct impacts on biological resources. Minor indirect adverse impacts on biological resources if subsequent construction projects are approved.
Long term: Moderate adverse impacts due to potential increased harvesting of wild shellfish, such as razor clams, if the operations were to fail.	Long term: No direct impacts on biological resources. Minor indirect adverse impacts on biological resources if subsequent construction projects are approved.

4.2.2 Likely Effects of the Alternatives on Public Health and Safety

The Proposed Action, FFP providing loan funding for the acquisition of an existing shellfish farming operation, is not likely to have any impact on public health or safety. The action is loan funding, which does not have any direct impact on public health or safety and does not involve the construction of any impediments to navigation, access, infrastructure, etc. As such, there are no impacts either in the long term or in the short term either from the Proposed Action or from the No Action Alternative.

Alternative 1 No Action	Alternative 2 Proposed Action – Funding of Aquaculture Loan and Refinancing
Short term: No impact	Short term: No impact
Long term: No impact	Long term: No impact

(i) Air Quality

The Proposed Action, FFP providing loan funding for the acquisition of an existing shellfish farming operation, is not likely to have any impact on existing air quality. The loan would not have any direct impacts on air quality. No additional combustion or production would occur to cause increases in exhaust gasses or particulate materials, unless there were some short-term increases due to the use of mechanized equipment to repair oyster beds or for land infrastructure-associated improvements at the oyster processing facility. The construction-related impacts could have minor to moderate adverse short-term air quality impacts, but no long-term impacts are expected.

The No Action Alternative would not impact existing air quality. It is highly likely that fuel combustion levels would remain at their current levels, so no additional exhaust gases or particulate materials would be generated from mechanized equipment, construction, or other sources.

Alternative 1 **No Action**	**Alternative 2** **Proposed Action – Funding of Aquaculture Loan and Refinancing**
Short term: No impact	Short term: No direct impacts on air quality. Minor indirect adverse impacts on air quality if subsequent construction projects are approved.
Long term: No impact	Long term: No impacts on air quality.

(ii) Environmental Health and Noise

The Proposed Action, FFP providing funding for the acquisition of an existing shellfish farming operation, is not likely to have any impact on environmental health either in the long term or in the short term, since both facilities are currently present and operating. If construction was enabled due to the funding, there would also be no impacts to environmental health, but there could be short-term, minor adverse impacts due to increased noise by construction activities as pile driving, operation of motors, etc., to repair oyster beds or for land infrastructure-associated improvements at the oyster processing facility. The construction-related impacts could have mild to moderate short-term adverse impacts, but no long-term impacts are expected.

The No Action Alternative is unlikely to have any impact on environmental health and noise conditions that currently exist, as activity levels at both locations would be expected to remain the same.

Alternative 1 **No Action**	**Alternative 2** **Proposed Action – Funding of Aquaculture Loan and Refinancing**
Short term: No impact	Short term: No direct impacts on environmental health or noise. Minor indirect adverse impacts on air quality if subsequent construction projects are approved.
Long term: No impact	Long term: No impacts on environmental health; No impacts on noise.

(iii) Floodplain and Flood Control

The Proposed Action, FFP providing loan funding for the acquisition of an existing shellfish farming operation, is not likely to have any impact on flooding or flood control in the area, since both facilities are currently present and operating. It also is not likely to exacerbate any risks due to tsunami surge, either in the long term or the short term.

The No Action Alternative would not alter the existing facilities. As discussed above, it may increase the probability that one or both of the operations would fail financially and be abandoned. However, neither of these actions would result in any impact on flooding or flood control. It is not likely to exacerbate any risks due to tsunami surge either in the long term or the short term.

Alternative 1 **No Action**	**Alternative 2** **Proposed Action – Funding of Aquaculture Loan and Refinancing**
Short term: No impact	Short term: No impact
Long term: No impact	Long term: No impact

4.3 Unavoidable Adverse Impacts

The Proposed Action, FFP providing funding for the acquisition of an existing shellfish farming operation, is not likely to have any long-term adverse impacts. As discussed above, some short-term mild to moderate impacts in the form of degradation of aesthetics or increased noise could be realized, but only if the funding and refinancing result in repairs or improvements to existing operations, and thus result in short-term construction. These potential adverse effects are dependent on construction activities, likely to be minor, and only short term.

4.4 Relationship between Short-Term Uses of the Human Environment and the Enhancement of Long-Term Productivity

The Proposed Action, FFP providing loan funding for the acquisition of an existing shellfish farming operation, is not likely to have any impact on short-term uses of the human environment. As discussed above, the funding may or may not affect the long-term viability of the shellfish aquaculture facilities. If the Brady's and Westport facilities are successful operations, they will provide a long-term enhancement to the local economy through employment, employees contributing to the local economy, and increased tax revenues in the region.

4.5 Irreversible and Irretrievable Commitment of Resources

The Proposed Action, FFP providing loan funding to a private aquaculture business for the acquisition of an existing shellfish farming facility would not result in an irreversible or irretrievable commitment of resources. The action would not cause any change in commitment of natural resources, because the oyster facilities are currently in existence. Moreover, FFP has the authority to halt disbursement of the funds if the borrower fails to meet statutory or FFP loan requirements. Finally, FFP can make the loan immediately due and payable and foreclose on the collateral in the event the Borrower defaults on payment or fails to meet the loan terms.

4.6 Consideration of Mitigation Measures

No mitigation measures are proposed, nor warranted. The Brady's Oyster loan document include conditions forbidding the use of pesticides, such as carbaryl or imidacloprid. These pesticides have been used (or proposed for use) to control mud shrimp and burrowing shrimp activities that are detrimental to oyster rearing at the grow-out phase. However, currently, the State of Washington authorizes the use of these pesticides through the use of NPDES permitting procedures. These permitting procedures would consider environmental consequences of the use of these pesticides. Currently, no active permits are in existence for these pesticides in Grays Harbor.

All of the likely environmental impacts of the two alternatives, as discussed above, are summarized in Table 7.

Table 7. Summary of environmental consequences of alternatives

Category	Alternative 1 No Action/Status Quo	Alternative 2 Proposed Action – Funding of Aquaculture Loan and Refinancing
Aesthetics, light, and glare	Short term: No impact	Short term: Minor indirect adverse impacts on aesthetics if subsequent construction projects are approved; Minor indirect adverse impacts on light and glare if subsequent construction projects are approved.
	Long term: No impact	Long term: Moderate indirect beneficial impacts on aesthetics if refurbished or new facilities are approved – none contemplated; No impacts on light and glare.
Economic impacts	Short term: Moderate adverse impacts due to loss of income and taxes if the operations were to fail.	Short term: Minor beneficial impacts on economy; Minor to moderate beneficial impacts on seafood economy.
	Long term: Moderate adverse impacts due to loss of income and taxes if the operations were to fail.	Long term: Moderate beneficial impacts on local economy; Moderate beneficial impacts on seafood industry.
Energy and natural resources industries	Short term: No impact	Short term: No impacts on energy or natural resources industries.
	Long term: No impact	Long term: No impacts on energy or natural resources industries.
Geological and soil resources	Short term: No impact	Short term: No direct impacts on geological resources; No direct impacts on soil resources. Minor indirect adverse impacts on geological and soil resources if subsequent construction projects are approved.

Category	Alternative 1 No Action/Status Quo	Alternative 2 Proposed Action – Funding of Aquaculture Loan and Refinancing
	Long term: No impact	Long term: No impacts on geological resources; No impacts on soil resources.
Recreation and education	Short term: No impact	Short term: No direct impacts on recreational or educational activities. Minor indirect adverse impacts on recreation resources if subsequent construction projects are approved.
	Long term: No impact	Long term: No direct impacts on recreational or educational activities. Minor indirect adverse impacts on recreation resources if subsequent construction projects are approved.
Land and shoreline use	Short term: No impact	Short term: No impacts on land use; No impacts on shoreline use or access. Minor indirect adverse impacts on shoreline use or access may occur if subsequent construction projects are approved.
	Long term: No impact	Long term: No impacts on land use; No impacts on shoreline use or access.
Transportation, utilities, and public services	Short term: Minor beneficial impact to local transportation due to reduced traffic from employees and customers if the operations were to fail. Minor adverse impacts to utilities serving the operations due to loss of demand for services if the operations were to fail.	Short term: No direct impacts on transportation; No impacts on utilities; No impacts on public services. Minor, indirect adverse impacts on transportation if subsequent construction projects are approved.
	Long term: Minor beneficial impact to local transportation due to reduced traffic from employees and customers if the operations were to fail. Minor adverse impacts to utilities serving the operations due to loss of demand for services if the operations were to fail.	Long term: No impacts on transportation; No impacts on utilities; No impacts on public services.
Wetlands	Short term: No impact	Short term: No direct impacts on wetlands. Minor indirect adverse impacts on wetland resources if subsequent construction projects are approved.
	Long term: No impact	Long term: No direct impacts on wetlands. Minor indirect adverse impacts on wetland resources if subsequent construction projects are approved.
Biological resources	Short term: Moderate adverse impacts due to potential increased harvesting of wild shellfish, such as razor clams, if the operations were to fail.	Short term: No direct impacts on biological resources. Minor indirect adverse impacts on biological resources if subsequent construction projects are approved.

Category	Alternative 1 No Action/Status Quo	Alternative 2 Proposed Action – Funding of Aquaculture Loan and Refinancing
	Long term: Moderate adverse impacts due to potential increased harvesting of wild shellfish, such as razor clams, if the operations were to fail.	Long term: No direct impacts on biological resources. Minor indirect adverse impacts on biological resources if subsequent construction projects are approved.
Public health and safety	Short term: No impact	Short term: No impact
	Long term: No impact	Long term: No impact
Public health and safety: air quality	Short term: No impact	Short term: No direct impacts on air quality. Minor indirect adverse impacts on air quality if subsequent construction projects are approved.
	Long term: No impact	Long term: No impacts on air quality.
Public health and safety: environmental health and noise	Short term: No impact	Short term: No direct impacts on environmental health or noise. Minor indirect adverse impacts on air quality if subsequent construction projects are approved.
	Long term: No impact	Long term: No impacts on environmental health; No impacts on noise.
Public health and safety: floodplain and flood control	Short term: No impact	Short term: No impact
	Long term: No impact	Long term: No impact

5. Cumulative Impacts

The CEQ regulations for implementing NEPA define cumulative effects as: *...the impact on the environment which results from the incremental impact of the action when added to other past, present, and reasonably foreseeable future actions regardless of what agency (Federal or non-Federal) or person undertakes such other actions (40 CFR 1508.07).*

Cumulative impacts can result from individually minor but collectively significant actions taking place over time. NEPA requires the evaluation of cumulative impacts to assess the overall effect of a proposed action on resources, ecosystems, or human communities in light of past, present, and reasonably foreseeable future projects. The cumulative impact analysis includes actions by Federal, non-Federal, and private entities within Grays Harbor County, the Grays Harbor estuary, the Lower Chehalis river basin, and in particular South Bay and the Lower Elk River.

This section describes baseline conditions of Grays Harbor for the cumulative effects analysis; identifies past, present, and reasonably foreseeable future actions; and analyzes incremental effects of the proposed action.

5.1 Baseline Conditions for Cumulative Effects Analysis

The Grays Harbor estuary, the Lower Chehalis river basin, South Bay and the Lower Elk River, and their shorelines have been altered by previous dredging, diking, filling, jetty construction, industrial discharges, shoreline development, and other anthropogenic activities over the past century, including extensive use of the intertidal zone for activities associated with log processing and lumber mills and aquaculture facilities. Maintenance dredging of the navigation channel has been a regular occurrence since 1910.

These human activities have resulted in loss of intertidal habitats such as mudflats and marsh, conversion of shallow-water habitats to deeper water, erosion and migration of sand islands, loss of marshes and rehabilitation of marshes, and periodic localized reductions in water quality and a minor reduction in overall sediment and water quality in the estuary. Jetty construction between 1898 and 1916, subsequent rehabilitation in 1939, construction of the Point Chehalis revetment and groins in 1952, the ongoing regular maintenance dredging of the navigation channel, and the placement of dredged material within open water placement sites in the estuary, has altered the configuration of the mouth of the estuary, and changed the patterns of sediment movement along the ocean shoreline and within Grays Harbor. For example, the South Jetty forms a barrier to northerly long-shore drift, which has resulted in erosion and recession of South Beach, the 1993 breach of the connection between the jetty and land, offshore steepening of the shoreline, and creation (and subsequent erosion) of Half Moon Bay (U.S. Army Corps of Engineers 2012).

Degradation of ecological functions associated with these types of changes has altered the condition of the shoreline in many places, reduced the extent of intertidal marsh and mudflat habitats, and altered the bathymetry of the estuary along the navigation channel. By one estimate, approximately 14,579 acres or 30 percent of historic intertidal habitats in Grays Harbor have been lost (Smith and Wenger 2001, as cited in U.S. Army Corps of Engineers 2011). These changes have thus affected the natural environment and the types of fish and wildlife that use Grays Harbor. [43]

While these historic impacts may have been detrimental to certain aspects of the natural environment, the cumulative effects of these changes have also had positive implications for aspects of the human and natural environment. The jetties, revetments, and groins, as well as regular maintenance dredging, have supported commercial, industrial, and residential development of the area and supported local and regional economies by removing hazardous areas of shoaling, promoting ocean-going commercial vessel access to and from the Port of Grays Harbor, and by thus creating local centers of employment. Mitigation activities to offset many of these human activities have resulted in rehabilitation of lost marsh areas, removal of dikes to restore tidal flow, and establishment of the area as part of the national flyway and refuges. Aquaculture impacts in the area, while impacting the benthos, serve to both remove

[43] U.S. Army Corps of Engineers. Grays Harbor Navigation Improvement Project. NEPA. Supplemental Environmental Impact Statement. January 2014.

fishing pressure from other wild populations and to provide economic return for both business owners and employees. As a result, the baseline condition is one of historic and ongoing modifications to the natural environment of Grays Harbor, and of associated benefits to import and export related industries and businesses in the area and broader region.

5.2 Past, Present, and Reasonably Foreseeable Future Actions

For this cumulative effects analysis, the study area was defined to encompass water-based activities in South Bay, Lower Elk River, and along the south shore of the lower Chehalis river basin, and activities along the shoreline with the potential to affect the same resources that could be affected by the proposed action. Several federal and private activities were considered for this cumulative effects analysis. The following sections describe past, present, and reasonably foreseeable future actions in the southern part of Grays Harbor, South Bay, and the Lower Elk River that were considered likely to contribute to cumulative effects on the resources in the area of the Proposed Action. The effects of non-Corps projects falling under Section 404 of the Clean Water Act (CWA) and Section 10 of the Rivers and Harbors Act of 1899 (Rivers and Harbors Act) are subject to Corps permitting. In the course of permitting, effects under NEPA, ESA, CWA, and other statutory regimes falling within the appropriate scope of analysis are subject to independent evaluation by the individual project proponents, the Corps, and other regulatory agencies.

5.2.1 Annual Maintenance Dredging of the Grays Harbor Navigation Channel

Dredging by the Corps is likely to continue into the near future. Some level of annual maintenance dredging has occurred every year since 1910, but no new areas have been dredged outside of the authorized channel and no new placement sites have been designated since the late 1990s. Only areas previously designated as navigation channel or as dredged material placement sites are disturbed during annual maintenance dredging. Similarly, dredged material placement practices no longer contribute to the conversion of intertidal wetlands to uplands, as has occurred in the past prior to passing of the CWA in 1972.

Up to 1,725 acres of the subtidal zone of Grays Harbor are disturbed by the Corps' annual maintenance dredging, with an additional 697 acres disturbed by the placement of dredged material. This area is equivalent to approximately 12 percent of the total acres of subtidal habitat in Grays Harbor (U.S. Army Corps of Engineers 2011).

In recent history, Corps maintenance project dredged materials have mainly been placed at the Point Chehalis open water site, which is near the Brady's and Westport sites. Placement of dredged material has impacts on benthic invertebrates, fish and wildlife, and water quality near the Point Chehalis in-water disposal site.

The Proposed Action has no connection to and will have no impact on the Corps' annual maintenance dredging activities, the navigation channel, or the dredged material placement sites.

5.2.2 Port of Grays Harbor Maintenance Dredging

The Port of Grays Harbor conducts maintenance dredging of its marine terminal facilities adjacent to the federal navigation channel. This dredging typically occurs to maintain the terminals along the shoreline, adjacent to the Cow Point and Hoquiam reaches of the navigation channel. This dredging area is not proximate to the Brady's and Westport facilities, but dredged material from Port dredging is typically placed at the South Jetty, the Half-Moon Bay site, and the Point Chehalis in-water disposal sites, which are close to the Brady's and Westport sites (U.S. Army Corps of Engineers et al. 2010). The timing of the Port's dredging is limited by the same types of regulatory windows that apply to the Corps' annual maintenance dredging, and that would govern the proposed action (i.e., WDFW and ESA-related in-water work windows).

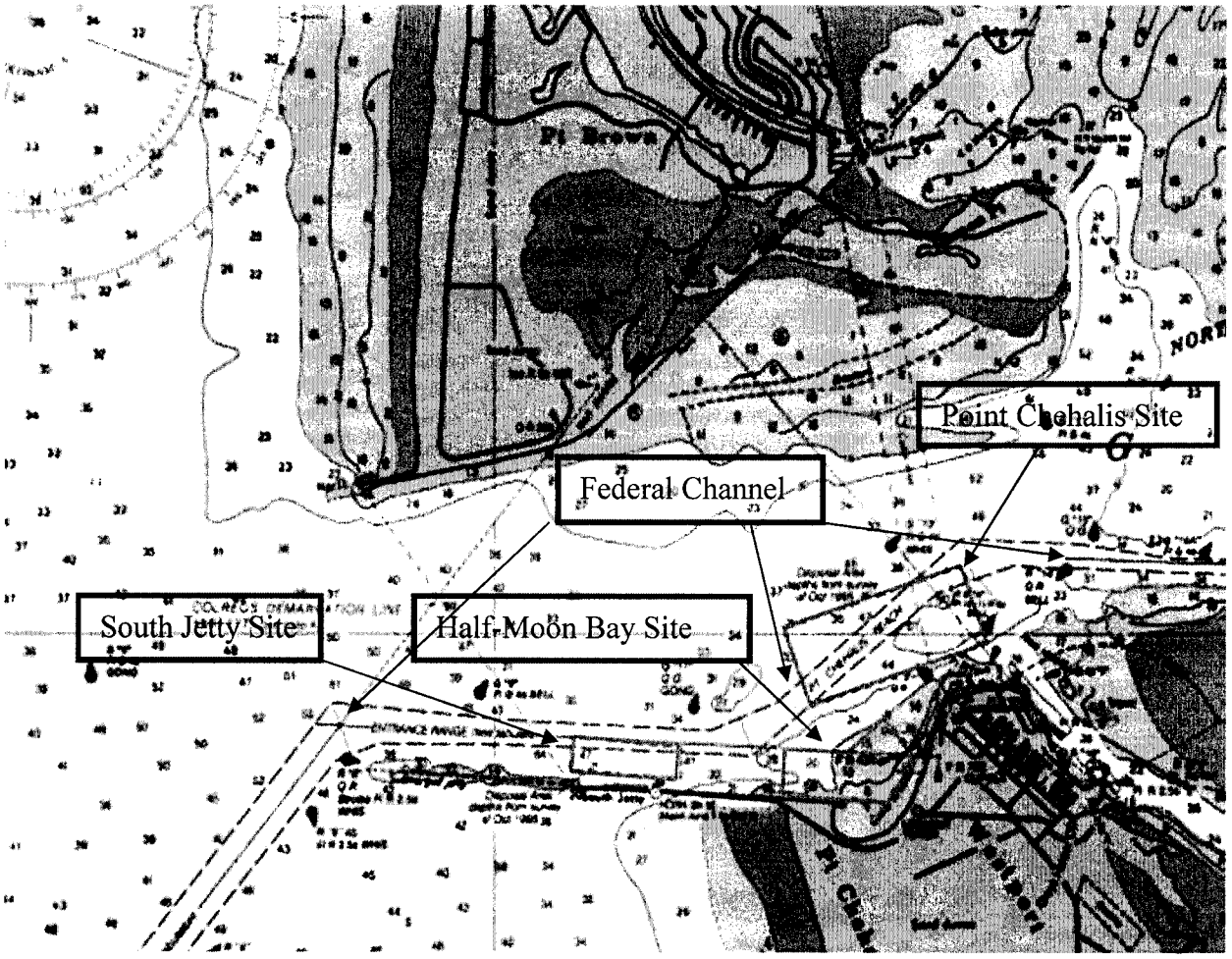

Figure 12. Grays Harbor Dredged Material Disposal Sites near South Bay and the Brady's nd Westport Oyster Sites

In the period between late January and early February 2012, the Port had approximately 125,000 cubic yards of material removed from its terminals via clamshell dredging; the material was placed at the Point Chehalis open water placement site (Port of Grays Harbor). Between November 29, 2012 and January 31, 2013, the Port had approximately 78,300 cubic yards of material removed from its terminals via clamshell dredging; the material was also placed at the Point Chehalis open water placement site. It seems likely therefore that deposits at the Port Chehalis in-water disposal site near the Brady's and Westport facilities will remain sporadic, and would likely be in the range of 100,000 cubic yards per annual dredging cycle. The Proposed Action would not impact or be impacted by the placement of this dredged material.

Port of Grays Harbor dredging results in similar types of impacts to those related to the Corps' maintenance dredging program, but the scale of Port dredging activities is much smaller and, therefore, the volume of material removed and the duration and physical extent of Port dredging is much more limited. Dredging of the Port's basins would add to the benthic invertebrate, fish

and wildlife, and water quality impacts occurring near the Point Chehalis in-water disposal site. As is true with all dredging in Grays Harbor, water quality impacts are limited by conditions of each project's CWA Section 401 Water Quality Certification (including limits on low dissolved oxygen (DO) and elevated turbidity extent and magnitude) and by the limitations placed on each project's timing, equipment, and physical extent by other Federal, state, and local permit conditions (e.g., ESA consultation, CWA Section 404 permits, and WDFW Hydraulic Project Approval).

5.2.3 Proposed Port of Grays Harbor Terminal Expansions

Three independent projects to bring crude oil (and other bulk liquids) by rail to the Port of Grays Harbor are being proposed for Terminals 1 and 3. The Port owns the property on which the projects are proposed, but is not the proponent/applicant of any of the projects. Only one project—the Westway Terminal Company's proposed expansion at Terminal 1—has received a Washington State Environmental Protection Act determination. The other two projects are currently in more preliminary planning stages.

If one or more of the proposed terminal expansion projects are implemented, temporary construction impacts related to noise, air pollution, greenhouse gas (GHG) emissions, and the potential for spills that could affect water quality could occur along the shoreline and uplands adjacent to the inner reaches of the navigation channel. Such impacts could occur during the period when dredging would be occurring in the inner reaches of the navigation channel (i.e., between July 15 and February 15) under any of the action alternatives. Such impacts would not be likely to add to the impacts associated with the Proposed Action, because they would occur closer to the port of Grays Harbor, which is at some distance from the South Bay and Elk River location of the Proposed Action. There could be impacts from these proposed terminal expansions due to placement of dredged materials at the Point Chehalis dredged material disposal site. However, at this phase of planning, the proposed disposal sites and volumes of dredged materials are not known. Impacts due to dredged materials placement would be limited by conditions of each project's CWA Section 401 Water Quality Certification (including limits on low DO and elevated turbidity extent and magnitude) and by the limitations placed on each project's timing, equipment, and physical extent by other Federal, state, and local permit conditions (e.g., ESA consultation, CWA Section 404 permits, and WDFW Hydraulic Project Approval).

Operation of these terminal expansion projects would similarly increase noise, air pollution, GHG emissions, and the potential for spills that could affect water quality in Grays Harbor because of increased train traffic transporting bulk liquids to the terminals and increased marine traffic associated with the tugs and transport vessels conveying bulk liquids to and from the terminals. Although spill prevention and protection plans would be required to minimize and reduce the potential for oil spill impacts, the possibility of a spill cannot be fully discounted. Again, these impacts are not likely to impact the South Bay and Elk River sites of the Brady's and Westport facilities, where the proposed action will occur.

The environmental effects of increased marine traffic and the socioeconomic effects of the commensurate increase in cargo movement through the Federal Channel attributable to the proposed terminal expansion projects would be generated independent of the implementation of the Proposed Action, and thus would not constitute direct or indirect consequences of the Proposed Action.

5.2.4 Point Chehalis Revetment Maintenance Project

The Corps plans to initiate repair and maintenance of the armor rock at the Point Chehalis Revetment in Westport. The revetment is located along the shoreline of Point Chehalis, just south of the Point Chehalis reach of the navigation channel and within 0.5 miles of the Point Chehalis open water dredged material placement site. The revetment, in combination with a system of groins, stabilizes Point Chehalis against erosion and protects the federally authorized small boat harbor at Westport. The revetment also protects private and commercial property and public infrastructure in central Westport. The revetment is frequently damaged during winter storm winds and waves and has been repaired several times since it was rehabilitated in 1972, often conducted on an emergency basis with undersized stone (U.S. Army Corps of Engineers 2013). Historically, the Corps has conducted repairs of the Point Chehalis revetment and groins on a reactive basis, but is currently completing NEPA evaluation of a project that would allow for long-term planning of repairs. Repairs would be conducted in periodic increments based on funding availability and would be prioritized based on severity of damage and risk to the structure. Construction would occur between July 15 and February 15 to minimize the potential for impacts on listed salmonids (U.S. Army Corps of Engineers 2013).

Although rock placement will be accomplished during low tide and in the dry, it would still eliminate benthic organisms beneath the newly placed rock. Temporary impacts on water quality and intertidal habitat could occur as a result of increases in turbidity. Temporarily elevated turbidity and decreased DO could affect juvenile salmonids that utilize the nearshore environment, but the degree of effect is reduced by the timing of the work within the established work window. Construction-related noise and vibrations could also temporarily disturb wildlife near the construction. During construction, there would be temporary and localized reduction in air quality due to particulate emissions from heavy machinery (primarily trucks and excavators) placing and rearranging rock along the revetment. Construction vehicles and heavy equipment would generate gasoline and diesel exhaust fumes, particulates, carbon monoxide, nitrogen and sulfur oxides, hydrocarbons, unburned carbon particles, and dust on roadways. Fuel, hydraulic fluid, or other spills could occur from heavy equipment used during construction, but this potential would be minimized through the use of standard construction best management practices. The work would take up to 400 days to complete over the planned 8-year period.

In July 2013, NMFS and USFWS concurred with the Corps' determination of "may affect, not likely to adversely affect" species listed as threatened or endangered or critical habitat designated under the ESA (NMFS reference: NWR-201309858; USFWS Reference: 01EWFW00-2013-I-0216) for the revetment repair project.

Given the geographical separation between this Corps activity and the aquaculture sites, there is little likelihood of interaction between the Corps action and the Proposed Action.

5.2.5 Grays Harbor Long-Term Management Strategy (LTMS)

Features of the Grays Harbor and Chehalis River Navigation Project include the navigation channel, North and South Jetties, and the Point Chehalis revetment. The Corps has been conducting a study, the Grays Harbor LTMS, to identify a technically feasible, cost-effective, environmentally sound, and publicly acceptable management strategy that minimizes risk to operation and maintenance over the next 50 years for all aspects of the Grays Harbor and Chehalis River Navigation Project (U.S. Army Corps of Engineers 2012). The LTMS is evaluating the implications and management of the persistent loss of sediment from the Grays Harbor entrance (including North Beach and South Beach). This loss of sediment is expected to continue indefinitely due to the interruption of long-shore sediment transport by the South Jetty. Without intervention, shoreline erosion near the South Jetty is expected to eventually breach the landmass adjacent to the jetty, as occurred in 1993. The Brady's and Westport facilities are located across the isthmus from the potential site of breach and jetty failure cited in the LTMS, so a breach would be unlikely to have any effect on the oyster facilities.

The Corps is currently concluding its environmental evaluations to support a decision document for approval of the LTMS preferred alternative. Preparation of a separate LTMS NEPA analysis would occur simultaneously with formulation of a recommended plan and would further evaluate potential effects of implementing the LTMS in Grays Harbor.

5.2.6 Contingent Interim Actions under LTMS

In 2005, the Corps put in place an interim action plan until the LTMS could be evaluated under NEPA. This plan uses triggering criteria (i.e., thresholds) to proactively identify and address evidence of a breach reforming. Sand placement is initiated when topographic surveys indicate 15,000 cubic yards of sand have eroded from the southwest corner of Half Moon Bay (Trigger No. 1) or when overtopping of the breach fill footprint (Trigger No. 2) is observed. These triggers are used as indicators that an undue risk of a breach is developing (U.S. Army Corps of Engineers 2012). Periodic mechanical re-handling of material from the Half Moon Bay direct upland beach nourishment site may occur as part of this interim measure, if survey data indicate the need for such action. The interim action is not located in close proximity to the Brady's and Westport sites, and at any rate would have only minor environmental impacts when invoked.

5.2.7. Other In-Water Work and Over-Water Structures

Reasonably foreseeable future actions that could contribute to cumulative effects in Grays Harbor, South Bay, the Elk River or the Lower Chehalis river Basin also include projects that would result in in-water construction and over-water structures. In May 2013, the Corps completed a review of all applications pending review by the Seattle District Regulatory Branch in Grays Harbor County under Section 404 of the CWA, for the placement of dredged or fill

material into a water of the United States (including tidal wetlands), and Section 10 of the Rivers and Harbors Act, for the placement of structures into a navigable water. There were no applications proposing in-water work or over-water structures pending review at the time the Corps' review was conducted (May 30, 2013).[44]

In-water work and the construction of over-water structures that could be proposed in the future would cumulatively contribute to temporary air, noise, and water quality impacts in Grays Harbor during construction activities, and could cumulatively contribute to disturbance and/or displacement of invertebrates, fish, and wildlife from the area of the proposed projects. As with over-water structures, the types of projects with in-water work would be located along the shoreline near the inner reaches of the navigation channel, and would occur in proximity to the Brady's and Westport facilities occurring in those inner reaches. However, given that no known permits are pending for work in the general vicinity of the facilities, the potential for cumulative effects with contributions from the Proposed Action, funding for Brady's to purchase the Westport facility and refinance its facility, is low.

5.2.8 Implementation of a Whitcomb Flats Section 111 Study

The Washington Department of Natural Resources (DNR) leases over 2,000 acres of state-owned aquatic lands in Grays Harbor for the purpose of oyster culture. Oyster cultivation lands in South Bay have been lost due to migration and erosion of Whitcomb Flats. The changes occurring at Whitcomb Flats are a result, in part, of the installation of the North and South Jetties over a century ago. The jetties are causing a general deepening of the harbor inlet, as intended. The effects of the jetties, channel, and other features of the navigation project are elements of the environmental baseline, previously evaluated in NEPA documentation, as discussed above. The Whitcomb Flats are located near the mouth of the South Bay. Changes to the Whitcomb Flats could have an impact on the shallow mudflats within South Bay, where the Brady's and Westport facilities are located. The cumulative effects of a loss of Whitcomb Flats and accelerated loss of the flats within South Bay would cause a loss of intertidal and shallow benthic habitat and oyster aquaculture suitable habitat.

[44] U.S. Army Corps of Engineers. Grays Harbor Navigation Improvement Project. NEPA. Supplemental Environmental Impact Statement. January 2014.

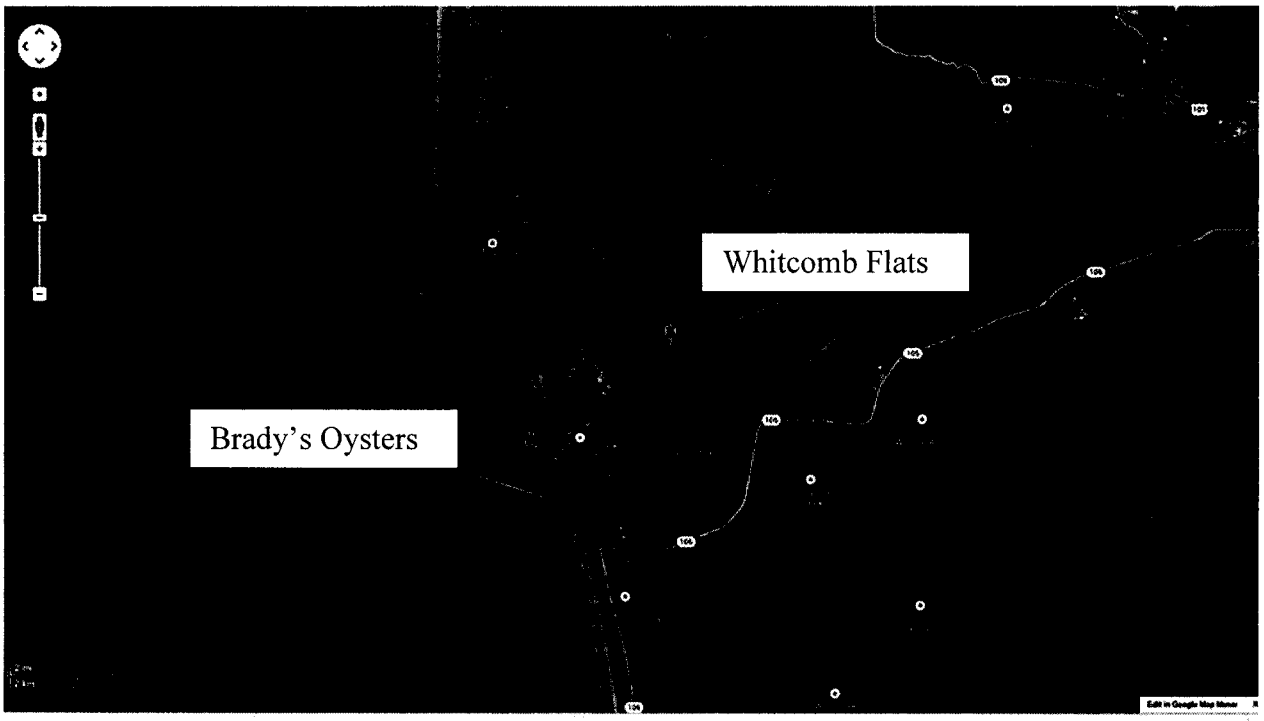

Figure 13. Location of Brady's Oysters Operations in Relation to Whitcomb Flats

After completion of the 2001 *Grays Harbor and Chehalis River Navigation Project Programmatic Environmental Assessment* (U.S. Army Corps of Engineers 2001), DNR requested the Corps to initiate a Section 111 study, under Section 111 of the Rivers and Harbors Act, for Whitcomb Flats. Seattle District Corps staff visited the site and met with DNR staff and other stakeholders to determine whether there is a federal interest in pursuing a Section 111 study. In February 2010, the Corps determined that there is a federal interest; however, around the same time, DNR requested that the project be suspended until State funding becomes available for DNR's participation in further planning of the project under a feasibility cost-share agreement. No state funding is currently anticipated for a Section 111 study, and thus, there are currently no plans for implementation of projects to mitigate for shore damages associated with Whitcomb Flats.

5.2.9 Additional Aquaculture Projects Funded by NMFS FFP

The current Proposed Action, providing a federal loan to the Brady's oyster aquaculture operation, is the first aquaculture project funded through the FFP in Washington State. However, it is reasonable to anticipate future funding opportunities in South Bay, Elk River, and in Grays Harbor. The potential impacts from future activities will be subject to state and Federal reviews, approvals, and permits, as required under various statutes, including NEPA, the CWA, and the ESA.

In the Proposed Action, a condition of the loan application is to avoid the future use of pesticides in the aquaculture practice. As described above, pesticides such as carbaryl have been employed in the initial placement of oyster spat to avoid their burial by the burrowing shrimp. Application is followed by a 2-year moratorium on the harvest of oysters in those beds, but that constitutes the grow-out period for the oysters. In the case of the Proposed Action, future use of the pesticide carbaryl or other pesticides is prohibited, and their use would constitute a default on the loan. It is reasonable to assume that future loans to other aquaculture companies made under the aegis of the NMFS FFP could have similar conditions. That would constitute a potentially beneficial ongoing outcome for the area given the concern over habitat destruction, Dungeness crab mortality and citizen concerns with the practice.

6. Coordination and Consultation

NMFS has consulted and coordinated with responsible entities, including the U.S. Army Corps of Engineers, the State of Washington (Departments of Natural Resources, Ecology, and Health) and the USDA Food and Drug Administration. The results of these consultations are attached.

Both the Brady's Oysters and Westport Oyster sites and culture methods were analyzed as part of the ESA Biological Opinion on Nationwide Permit 48 in 2007 and the reinitiation in 2012. The Nationwide Permit 48 confirmations for Brady's and Westport Oyster Company are attached.

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8. Glossary of Acronyms

CEQ	Council on Environmental Quality
CFR	Code of Federal Regulations
CWA	Clean Water Act
DNR	Department of Natural Resources
DPS	Distinct Population Segment
EA	Environmental Assessment
EIS	Environmental Impact Statement
ESA	Endangered Species Act
FFP	Fisheries Finance Program
FSD	Financial Services Division
GHG	greenhouse gas
IPCC	Intergovernmental Panel on Climate Change
LTMS	Long-Term Management Strategy
MSRA	Magnuson-Stevens Fishery Conservation and Management Reauthorization Act
NAO	NOAA Administrative Order
NEPA	National Environmental Policy Act
NMFS	National Marine Fisheries Service
NOAA	National Oceanic and Atmospheric Administration
NPDES	National Pollutant Discharge Elimination System
NWP	Nation Wide Permit
OMB	Office of Management and Budget
OPR	Office of Protected Resources
SLR	sea level rise
TMDL	Total Maximum Daily Load
U.S.C.	United States Code
USFWS	United State Fish and Wildlife Service
WDFW	Washington Department of Fish and Wildlife

9. List of Preparers

Agencies Consulted:

Washington State Department of Natural Resources

Washington State Department of Health (Rob Banes)

U.S. Food and Drug Administration, Pacific Region (Jessie Deloach, Aquaculture Specialist)

Washington State Department of Ecology (Perry Lund)

National Marine Fisheries Service, Regional Aquaculture Coordinator, Dr. Laura Hoberecht

Prepared by:

Don H. Beckham, LMI. MPA, Energy and Environmental Policy, American University, 1982. BS, Applied Sciences, US Naval Academy, 1971.

Francis J. Reilly, Jr., LMI. Doctoral Candidate Aquatic Toxicology, New York University Institute of Environmental Medicine, 1989, MS Ecology East Carolina University, 1979. BS Biology, Wheeling Jesuit University, 1976, BS Chemistry, Wheeling Jesuit University, 1976.

Paul L. Marx, Chief, Financial Services Division, NOAA/National Marine Fisheries Service, BS University of Maryland, Business Management, 1979; MBA, George Washington University, 1983; MA, U.S. Naval War College, International Strategy, 1989.

10. Distribution List

There is no distribution list for this EA. The document and supporting exhibits will be made available on the Financial Services Division's web site.

ATTACHMENT 1

DEPARTMENT OF THE ARMY
SEATTLE DISTRICT, CORPS OF ENGINEERS
P.O. BOX 3755
SEATTLE, WASHINGTON 98124-3755

REPLY TO
ATTENTION OF

Regulatory Branch

AUG 23 2012

\fr Mark Ballo
Brady's Oysters Inc.
3714 Oyster Place
Aberdeen, Washington 98520

Reference: NWS-2010-0079
Brady's Oysters Inc.

Dear Mr. Ballo:

We have reviewed your application to continue an existing aquaculture operation on DNR lease 20-A 11861 parcel B in Grays Harbor near Westport, Grays Harbor, Washington. The operation consists of 5.94 acre project area which includes: the 5.94 acre project area currently in Pacific oyster *(Crossostrea gigas)* and Kumamoto oyster *(Crassostrea sikamea)* production. All 5.91 acres are cultivated via long line. All 5.94 acres have been available for commercial shellfish aquaculture activities prior to March 12, 2007. There is an existing boat ramp constructed out of oyster shells, with adjacent stock piles in the upland. No other attendant features exist on site. Based on the information you provided to us, Nationwide Permit (NWP) 48. *Commercial Shellfish Aquaculture Activities* (Federal Register February 2L 2012. Vol. 77. No. 34). authorizes your operation as depicted on the enclosed drawings dated January 19, 2010.

In order for this authorization to be valid, you must ensure the work is performed in accordance with the enclosed *Nationwide Permit 48. Terms and Conditions.* You must also implement and abide by the enclosed *Special Conditions.for Commercial Shellfish Aquarnlr11n: Acr il·it ies.* Failure to comply with all applicable terms and conditions will invalidate your authorization and could result in a violation of Section 404 of the Clean Water Act and/or Section 10 of the Rivers and Harbors Act.

This authorization is valid until March 18, 2017, unless NWP 48 is modified, reissued. or revoked prior to this date. If you intend to continue commercial shellfish aquaculture operations after March 18. 2017, it is your responsibility to submit an application for reauthorization prior to this expiration date.

If you plan to expand your operation into a new area or an area of your lease in which there has been no previous aquaculture activity, you need to obtain separate authorization prior to undertaking those activities. In addition. if you plan to change the cultivation or harvesting method or the species cultivated in your existing operation, you will need to submit revised plans

to this office and obtain our approval before making any changes. Please note, compensatory mitigation may be required for new impacts and we may need to reinitiate consultation with the National Marine Fisheri Service and U.S. Fish and Wildlife Service in order to authorize any work not already included in the enclosed plans. Please be reminded that you must also obtain all State and local permits that apply to this project.

We have reviewed your project pursuant to the requirements of the Endangered Species Act, the Magnuson-Stevens Fishery Conservation and Management Act, and the National Historic Preservation Act. We have determined this project complies with the requirements of these laws provided you comply with all terms and conditions of this authorization. Your project also complies with the Washington State Department of Ecology's (Ecology) Water Quality Certification and the Coastal Zone Management Act requirements for this NWP. No further coordination with Ecology is required.

Grays Harbor is a water of the U.S. If you believe this is inaccurate, you may request a preliminary or approved jurisdictional determination (JD). If you do request a jurisdictional determination, please be aware that we may request additional information from you to complete the JD and that the work authorized in this letter may not occur until the JD has been completed.

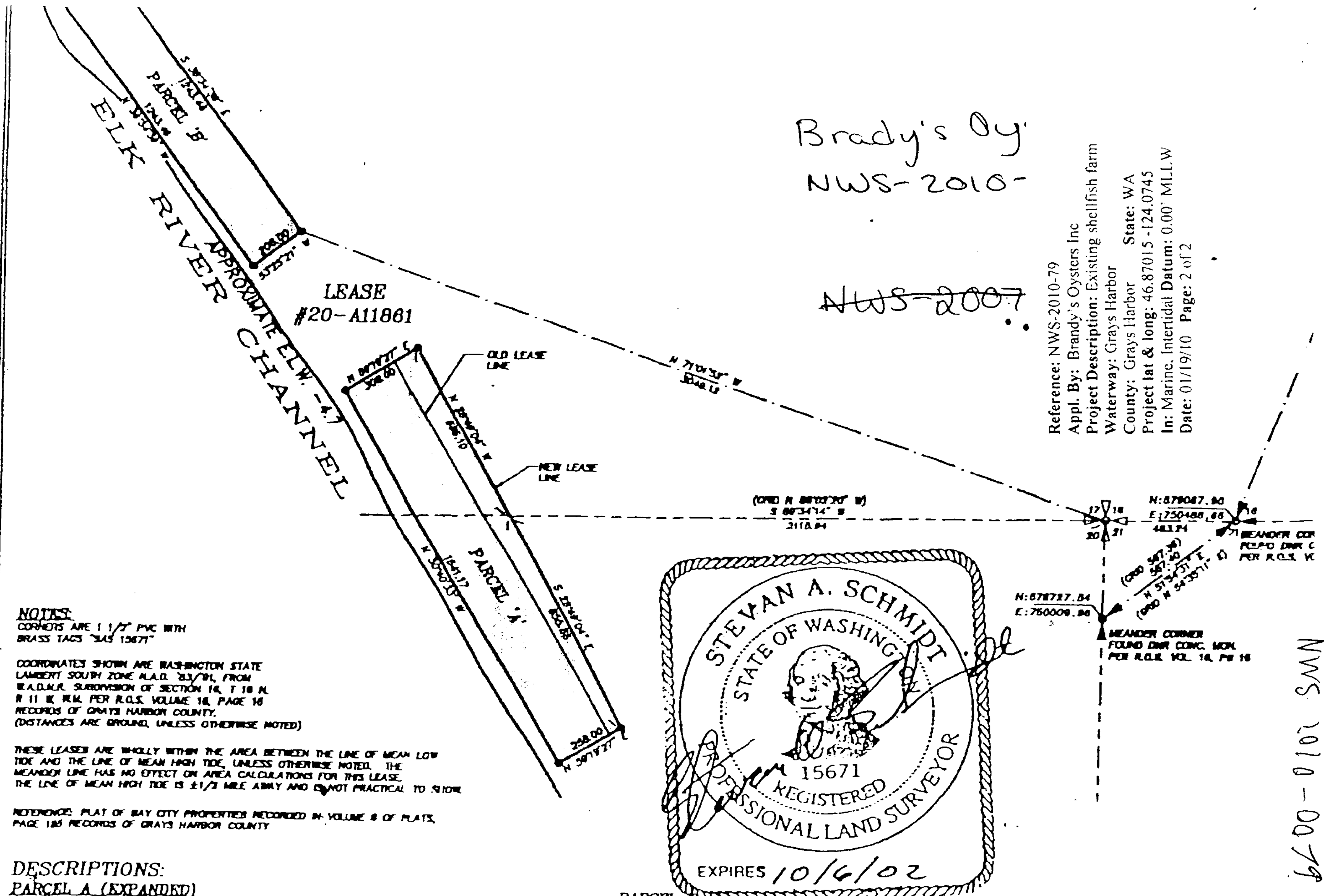
Thank you for your cooperation during the permitting process. We are interested in your experience with our Regulatory Program and encourage you to complete a customer service survey form. This form and information about our program is available on our website at http://W'hw.nws. usace.army.mil/Missions/CivilWorks/Regulatory.aspx. If you have any questions, please contact me at (206) 439-4536 for via email at dale.j.jordan@usace.army.mil.

Sincerely,

Jess Jordan, Project Manager
Regulato ry Branch

Enclosures

Reference: NWS-2010-79
Appl. By: Brandy's Oysters Inc
Project Description: Existing shellfish farm
Waterway: Grays Harbor
County: Grays Harbor State: WA
Project lat & long: 46.87015 -124.0745
In: Marine, Intertidal Datum: 0.00' MLLW
Date: 01/19/10 Page: 2 of 2



NOTES:
CORNERS ARE 1 1/2" PVC WITH BRASS TAGS "SAS 15671"

COORDINATES SHOWN ARE WASHINGTON STATE LAMBERT SOUTH ZONE N.A.D. '83/'91, FROM W.A.D.N.R. SUBDIVISION OF SECTION 16, T 16 N, R 11 W, W.M. PER R.O.S. VOLUME 16, PAGE 16 RECORDS OF GRAYS HARBOR COUNTY. (DISTANCES ARE GROUND, UNLESS OTHERWISE NOTED)

THESE LEASES ARE WHOLLY WITHIN THE AREA BETWEEN THE LINE OF MEAN LOW TIDE AND THE LINE OF MEAN HIGH TIDE, UNLESS OTHERWISE NOTED. THE MEANDER LINE HAS NO EFFECT ON AREA CALCULATIONS FOR THIS LEASE. THE LINE OF MEAN HIGH TIDE IS ±1/2 MILE AWAY AND IS NOT PRACTICAL TO SHOW.

REFERENCE: PLAT OF BAY CITY PROPERTIES RECORDED IN VOLUME 8 OF PLATS, PAGE 185 RECORDS OF GRAYS HARBOR COUNTY

DESCRIPTIONS:

PARCEL A (EXPANDED)

THAT PORTION OF THE TIDELANDS OF THE SECOND CLASS OF GRAYS HARBOR OWNED BY THE STATE OF WASHINGTON LOCATED IN SECTIONS 17 AND 20, ALL IN TOWNSHIP 16 NORTH, RANGE 11 WEST W.M., GRAYS HARBOR COUNTY, DESCRIBED AS FOLLOWS: COMMENCING AT THE WESTERLY MOST MEANDER CORNER COMMON TO SECTIONS 16 AND 21, ALL IN TOWNSHIP 16 NORTH, RANGE 11 WEST W.M.; THENCE SOUTH 88°34'14" WEST ON AN EXTENSION OF THE SOUTH LINE OF SAID SECTION 16 A DISTANCE OF 483.24 FEET TO A CALCULATED POSITION FOR THE SECTION CORNER COMMON TO SECTIONS 16, 17, 20 AND 21; THENCE CONTINUE SOUTH 88°34'14" WEST A DISTANCE OF 2118.84 FEET TO THE TRUE POINT OF BEGINNING OF SAID TIDELANDS LEASE; THENCE SOUTH 29°49'04" EAST 856.88 FEET; THENCE SOUTH 64°18'27" WEST A DISTANCE OF 258.00 FEET; THENCE NORTH 30°40'33" WEST A DISTANCE OF 1541.17 FEET; THENCE NORTH 89°18'27" EAST A DISTANCE OF 308.00 FEET; THENCE SOUTH 29°49'04" EAST A DISTANCE OF 858.10 FEET TO THE POINT OF [illegible] CONTAINING 10.01 ACRES.

PARCEL B

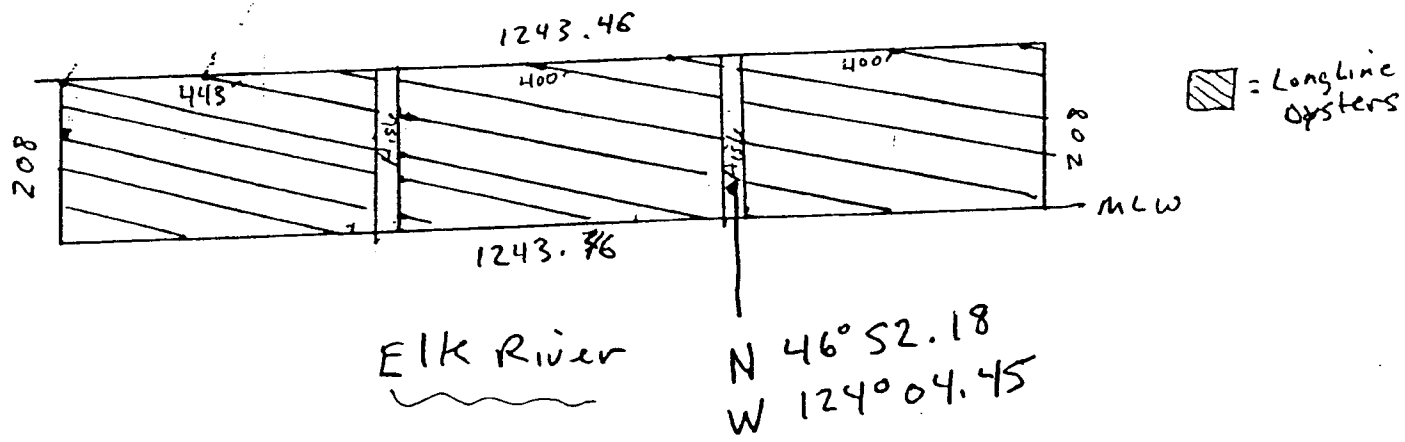
THAT PORTION OF THE TIDELANDS OF THE SECOND CLASS OF GRAYS HARBOR OWNED BY THE STATE OF WASHINGTON LOCATED IN SECTION 17, TOWNSHIP 16 NORTH, RANGE 11 WEST W.M., GRAYS HARBOR COUNTY, DESCRIBED AS FOLLOWS: COMMENCING AT THE WESTERLY MOST MEANDER CORNER COMMON TO SECTIONS 16 AND 21, ALL IN TOWNSHIP 16 NORTH, RANGE 11 WEST W.M.; THENCE SOUTH 88°34'14" WEST ON AN EXTENSION OF THE SOUTH LINE OF SAID SECTION 16 A DISTANCE OF 483.24 FEET TO A CALCULATED POSITION FOR THE SECTION CORNER COMMON TO SECTIONS 16, 17, 20 AND 21; THENCE NORTH 71°01'53" WEST A DISTANCE OF 3,048.13 FEET TO THE TRUE POINT OF BEGINNING OF SAID TIDELANDS LEASE; THENCE SOUTH 53°26'21" WEST A DISTANCE OF 208.00 FEET; THENCE NORTH 30°34'30" WEST A DISTANCE OF 1243.48 FEET; THENCE NORTH 53°26'21" EAST A DISTANCE OF 208.00 FEET; THENCE SOUTH 30°34'30" EAST A DISTANCE OF 1243.48 FEET TO THE POINT OF BEGINNING, CONTAINING 5.94 ACRES.

NWS-2010-0079

NWS-2010-0
~~NWS-2007-~~
Bradys Oysters Ir

DNR Lease
20-A11861
Parcel B

Reference: NWS-2010-79
Appl. By: Brandy's Oysters Inc
Project Description: Existing shellfish farm
Waterway: Grays Harbor
County: Grays Harbor **State:** WA
Project lat & long: 46.87015 -124.0745
In: Marine, Intertidal **Datum:** 0.00' MLLW
Date: 01/19/10 **Page:** 1 of 2



Eelgrass exist from MLW towards river channel

MHW is too far away to show on map

NWS-2010-0079

ATTACHMENT 2

E-Concurrence for Aquaculture Loan

Scott Anderson - NOAA Federal <scott.anderson@noaa.goV> Mon, Sep 23, 2013 at 12:12 PM
To: Christine Eckels - NOAA Federal <christine.eckels@noaa.goV>
Cc: Laura Hoberecht - NOAA Federal <Laura.Hoberecht@noaa.goV>, Matthew Longenbaugh - NOAA Federal <matthew.longenbaugh@noaa.goV>

Dear Ms. Eckels:

The NMFS financial Services Division, Federal Finance Program proposes to process a loan for the purchase of 2 existing Washington State Shellfish Leases and Refinance of bank debt. This electronic concurrence addresses the effect of this loan and subsequent actions on North American Green Sturgeon and Pacific Eulachon, and designated Critical Habitat for Green Sturgeon. Refer to NMFS 2013-10611.

The applicants are Brady's Oysters and Elk River Enterprises, LLP, the leases are numbered 20-A 12690 and 20-072564, respectively.

Lease #20-A 12690 covers 5.7 acres of fallow tideland to grow Pacific Oysters using longline method.
Lease # 20-072564 covers 4.85 acres of fallow tideland to grow Pacific and Kumomoto oysters using longline method. Both leases are located in Grays Harbor, Washington.

Both of these sites and culture methods were analyzed as part of the 2007 BiOp on NWP48 and subsequent reinitiation (attached).

Because the loan will not fund new culture methods, areas, or species not previously analyzed, effects from this proposed action will not change from what was previously analyzed. Therefore, NMFS concurs this Federal Action is "not likely to adversely affect" North American Green Sturgeon or Pacific Eulachon, or designated Critical Habitat for Green Sturgeon.

Sincerely,
Scott E. Anderson

Scott E. Anderson
ESA Biologist
National Marine Fisheries Service
360.753.5828

2 attachments

2008-04151 NWP48 BO Final.docx
432K

D **FINAL201004010_NWP_48_4-25-2011doc**
191K

ATTACHMENT 3

United States Department of the Interior

FISH AND WILDLIFE SERVICE

Washington Fish and Wildlife Office
510 Desmond Dr. SE, Suite 102
Lacey, Washington 98503

OCT 30 2013

In Reply Refer To:
OIEWFW00-2013-1-0504

Christine Eckels
Financial Services Division
National Marine Fisheries Service
7600 Sand Point Way NE
Seattle, Washington 98115

Dear Ms. Eckels:

Subject: Loan Application for Purchase of Washington State Shellfish Leases (Brady's Oysters, Inc. and Elk River Enterprises, LLP)

This letter is in response to your correspondence, dated September 16, 2013, and received in our office on September 17, 2013, requesting consultation on the proposed purchase of an existing aquaculture farm under the National Marine Fisheries Service's (NMFS) Federal Finance Loan Program. The NMFS has provided information in support of "may affect, not likely to adversely affect" determinations for the bull trout *(Salvelinus confluentus)* and marbled murrelet *(Bracyhramphus marmoratus)*. This informal consultation has been conducted in accordance with section 7(a)(2) of the Endangered Species Act of 1973, as amended (16 U.S.C. 1531 *et* seq.)(Act).

Lease numbers 20-A12690 and 20-072564 include approximately 10.5 acres of fallow tideland located in the South Bay of Grays Harbor, Grays Harbor County, Washington. The Applicants have plans to continue long line oyster cultivation on the parcels, which have been under some form of cultivation since 1970 or earlier. The NMFS proposes to fund, or partially fund, purchase of the leases, creating a nexus requiring consultation under the Act.

The U.S. Fish and Wildlife Service (Service) concurs with your effect determinations for the bull trout and marbled murrelet. Provision of a loan and funding for the purchase of Washington State shellfish leases is "not likely to adversely affect" listed species or designated critical habitat under Service jurisdiction. However, with this letter the Service does not and cannot address future operations of the proposed farm.

NMFS should advise the Applicants that future farm operations will likely require permits issued by the U.S. Army Corps of Engineers, Washington Department of Ecology, Grays Harbor County, and/or other permit authorities. Issuance of a permit or permit verification by the U.S. Army Corps of Engineers would require and afford the opportunity for consultation with the Service addressing future farm operations.

This concludes informal consultation pursuant to the regulations implementing the Act (50 CFR 402.13). The action should be re-analyzed if new information reveals effects to listed species or critical habitat in a manner, or to an extent, not considered in this consultation. The action should also be re-analyzed if subsequently modified in a manner that causes an effect to a listed species or critical habitat that was not considered in this consultation, and/or a new species is listed or critical habitat is designated that may be affected by the action.

If you have any questions about this letter or our shared responsibilities under the Act, please contact Ryan McReynolds at (360) 753-6047 or Martha Jensen at (360) 753-9000.

Sincerely,

Martha L. Jensen

Ken S. Berg, Manager
Washington Fish and Wildlife Office