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CERTIFICATE OF THE SECRETARY OF ENERGY AND ENVIRONMENTAL AFFAIRS
ON THE
DRAFT ENVIRONMENTAL IMPACT REPORT

PROJECT NAME	: Herring River Restoration Project
PROJECT MUNICIPALITY	: Wellfleet and Truro
PROJECT WATERSHED	: Cape Cod
EEA NUMBER	: 14272
PROJECT PROPONENT	: Towns of Wellfleet and Truro
DATE NOTICED IN MONITOR	: October 22, 2012

As Secretary of Energy and Environmental Affairs, I hereby determine that the Draft Environmental Impact Report (DEIR)[1] submitted on this project adequately and properly complies with the Massachusetts Environmental Policy Act (MEPA) (M.G.L. c. 30, ss. 61-62I) and with its implementing regulations (301 CMR 11.00). The Towns of Wellfleet and Truro (the Towns) must prepare and submit for review a Final Environmental Impact Report (FEIR) in response to the Scope provided below. The project is undergoing a coordinated review process under the National Environmental Policy Act (NEPA) and the Cape Cod Commission Act as a Development of Regional Impact (DRI).

Project Description

The project consists of the proposed restoration of native tidal wetland habitat to large portions of the Herring River floodplain in and adjacent to the Cape Cod National Seashore (the Seashore) by re-establishing tidal exchange in the river basin and connected sub-basins. Tidal exchange modifications will be facilitated through changes to the existing dike and tidal control

[1] In accordance with the Special Review Procedure established by Secretary Bowles, the DEIR is a joint document filed to meet the requirements of both MEPA and the National Environmental Policy Act (NEPA). For the purposes of this Certificate the DEIR will be referred to as the draft Environmental Impact Statement (EIS)/Environmental Impact Report (draft EIS/EIR) to reflect the joint nature of the filing.

structure at Chequessett Neck Road, establishment or alteration of other tidal control structures within the project area, and adaptive management techniques to incrementally achieve improved native estuarine habitat. The project seeks to balance an ecological goal of restoring the full natural tidal range in as much of the Herring River floodplain as practicable with controlling tidal range in certain areas to protect existing land uses. This project represents the single largest salt marsh restoration project in New England to date. I have received numerous comments from various State and federal environmental agencies supporting the project and its anticipated ecological benefits. However, several project components require additional review and consideration, most notably, the anticipated on-going process between the Towns, the Seashore and low-lying property owners that may incur varying degrees of impact associated with increased tidal flow within the Herring River estuary.

The geographic study area (the project area) examined in the draft EIS/EIR consists of the approximately 1,100-acre Herring River estuary[2] in the Towns of Wellfleet and Truro. The Herring River (along with its floodplain, tributary streams, and associated estuarine habitats within Wellfleet Harbor) was the largest tidal river and estuary complex on the Outer Cape prior to its historic alteration. Approximately 80 percent of the River's floodplain is located within Seashore boundaries, with the river itself extending from Wellfleet Harbor northeast for nearly four miles to Herring Pond in North Wellfleet. Bound Brook, a major tributary, extends northwest to Ryder Beach in South Truro. The Herring River basin is separated from Wellfleet Harbor by the Chequessett Neck Road Dike. The dike has three six-foot wide box culverts, each with an attached flow control structure. One culvert has an adjustable sluice gate that is currently set open at 24 inches and allows limited bi-directional tidal flow. The remaining two culverts have tidal flap gates designed to permit flow only during outgoing (ebb) tides. The project area includes the Herring River's Upper, Lower and Middle basins as well as a series of additional sub-basins which are physically, chemically, and biologically distinct from the Herring River itself. These stream sub-basins include: Duck Harbor, Mill Creek, Lower and Upper Bound Brook, and Lower and Upper Pole Dike Creek. Below is a brief description of each distinct sub-component of the project area:

Lower Herring River – Approximately 166 acres in area, Lower Herring River is located immediately upstream of the Chequessett Neck Road Dike and extends northerly to the High Toss Road crossing;

Middle Herring River – Approximately 74 acres in area, Middle Herring River extends from the High Toss Road crossing north to Bound Brook Island Road;

Upper Herring River – Approximately 156 acres in area, Upper Herring River extends northeast from Bound Brook Island Road and east of Route 6 to Herring Pond;

Mill Creek –Approximately 80 acres in area, Mill Creek extends easterly from its confluence with the Herring River (located about 1,600 feet east of the Chequessett Neck Road Dike) between the Chequessett Yacht and Country Club (CYCC) and Old Chequessett Neck Road;

Lower Pole Dike Creek – Approximately 114 acres in area, Lower Pole Dike Creek extends northeast from High Toss Road to Pole Dike Road;

[2] Approximately defined by the landward limit of the floodplain of the river and its tributaries.

Upper Pole Dike Creek – an area of about 174 areas of freshwater marsh, Upper Pole Dike Creek extends east of Pole Dike Road and includes an area of wetland and floodplain north of Wellfleet Center and east of Route 6;

Duck Harbor – Approximately 131 acres in area, Duck Harbor extends from the mainstem of the Herring River west to the Duck Harbor barrier beach;

Lower Bound Brook –Approximately 86 acres in area, Lower Bound Brook extends to the north and west of the Herring River north of Old County Road; and

Upper Bound Brook – Approximately 148 acres in area, Upper Bound Brook is located northwest of Lower Bound Brook and extends into the Ryder Hollow area of Truro.

According to the draft EIS/EIR, in 1909 the Town of Wellfleet diked the mouth of the Herring River in an effort to drain the breeding area for salt marsh mosquitoes (the Chequessett Neck Road Dike). As a further attempt to control mosquitoes, the Town of Wellfleet dug drainage ditches in the marsh upstream of the dike structure. By the mid-1930s, the Herring River mainstem, now flowing with freshwater, was channelized and straightened, cutting off many creek meanders between High Toss Road and Route 6, substantially reducing the length of the river. Subsequent to the diking of the Herring River, development occurred within the historic reaches of the estuary, in some cases at low elevations within the floodplain. Notable construction within the floodplain includes a portion of the CYCC 9-hole golf course and private residences. Over the decades the Chequessett Neck Road Dike has deteriorated, been repaired, and efforts have been made to modify control structures to increase tidal flow to the Herring River. Despite these efforts, estuary conditions continued to degrade after the tide gates were repaired. Concerns about tidal flooding of private properties and increased mosquito production prevented the Town of Wellfleet from opening the existing tide gate further than 24 inches, where it has remained since 1984.

The draft EIS/EIR identified key adverse ecological impacts resulting from the over 100 years of tidal restriction and salt marsh drainage. These include:

- Tidal restriction (lack of tidal inflow and outflow);
- Plant community changes (including loss of salt marsh vegetation and increase in non-native, invasive species);
- Loss of estuarine habitat and degradation of water quality;
- Alteration of natural sediment processes and increased salt marsh surface subsidence;
- Nuisance mosquito production; and
- Impediments to river herring migration.

A set of project objectives were created by the National Park Service (NPS) and the Herring River Restoration Committee (HRRC) to guide the project's design and review of potential project alternatives. These project objectives include:

- To the extent practicable, given adjacent infrastructure and other social constraints, re-establish the natural tidal range, salinity distribution, and sedimentation patterns of the 1,100-acre estuary;
- Improve estuarine water quality for resident estuarine and migratory animals including fish, shellfish, and waterbirds;

- Protect and enhance harvestable shellfish resources both within the estuary and in receiving waters of Wellfleet Bay;
- Restore the connection between the estuary and the larger marine environment to recover the estuary's functions as (1) a nursery for marine animals and (2) a source of organic matter for export to near-shore waters;
- Remove physical impediments to migratory fish passage to restore once-abundant river herring and eel runs;
- Re-establish the estuarine gradient of native salt, brackish, and freshwater marsh habitats in place of the invasive non-native and upland plants that have colonized most parts of the degraded flood plain;
- Restore normal sediment accumulation on the wetland surface to counter subsidence and to allow the Herring River marshes to accrete in the face of sea-level rise;
- Re-establish the natural control of nuisance mosquitoes by restoring tidal range and flushing, water quality, and predatory fish access;
- Restore the expansive marshes and tidal waters that were once a principal maritime focus of both Native Americans and European settlers of outer Cape Cod in a manner that preserves the area's important cultural resources;
- Minimize adverse impacts to cultural resources during project construction and adaptive management phases;
- Minimize adverse impacts to surrounding land uses, such as domestic residences, low-lying roads, wells, septic systems, commercial properties, and private property, including the CYCC;
- Educate visitors and the general public by demonstrating the connection between productive estuaries and salt marshes and a natural tidal regime;
- Improve finfishing and shellfishing opportunities; and
- Enhance opportunities for canoeing, kayaking, and wildlife viewing over a diversity of restored wetland and open-water habitats.

Project impacts were evaluated in the draft EIS/EIR for a variety of project alternatives using the aforementioned objectives as a framework for assessment of how each project alternative is consistent with or advances project goals.

Project Review History and Background

The Towns committed as part of a Special Review Procedure (SRP) established by Secretary Bowles to file one set of environmental review documents that fulfill the requirements of NEPA, MEPA and the Cape Cod Commission (CCC). A Certificate Establishing a Special Review Procedure was issued on June 20, 2008 to provide for coordination of MEPA review with other environmental and developmental review and permitting processes. It was determined that coordinated review allows for maximum public and agency understanding of the project to ensure that review by regulatory agencies is as efficient as possible.

Given the coordinated nature of the draft EIS/EIR, the document was provided with an extended review period under the MEPA regulations (301 CMR 11.00) to coincide with the review period required by NEPA. The draft EIS/EIR was published in the October 22, 2012 issue

of the Environmental Monitor, with a comment period that concluded on December 12, 2012. A joint CCC/MEPA hearing was held on November 8, 2012 in conformance with joint review requirements between the CCC and MEPA.

The project has a lengthy history of coordination between local, State and federal officials and agencies given the complex nature and scope of the proposed project. Subsequent to an August 2005 Memorandum of Understanding (MOU) between the Town of Wellfleet and the Seashore, the Herring River Technical Committee (HRTC) was established to review scientific and technical data and consider community concerns regarding the feasibility of restoring the wetland system. In January 2006 the HRTC produced a "Full Report of the Herring River Technical Committee" which recommended the tidal restoration of the Herring River estuary. The HRTC worked to develop a Conceptual Restoration Plan (CRP) for the Herring River estuary which described possible ways to restore the Herring River. A second MOU was created on November 13, 2007 between the Seashore and the Towns accepting the CRP, agreeing to move forward with a detailed restoration plan, and establishing a new committee, the HRRC. This detailed restoration plan is the subject of this draft EIS/EIR. In addition, as directed in the Certificate on the EENF, a Technical Working Group (TWG) was established to identify and address environmental management and permitting issues associated with the project. The TWG met quarterly throughout the preparation of the draft EIS/EIR to assist in the development of study methodologies and protocols to ensure that these data meet the requirements anticipated as part of the permitting and approval processes. The TWG included members of various State, federal and local environmental and permitting agencies, as well as members of the HRRC.

Jurisdiction and Permitting

This project is subject to MEPA review and requires the preparation of a mandatory EIR because it requires State Agency Actions and exceeds several EIR thresholds, including but not limited to:

- Alteration of one or more acres of salt marsh or bordering vegetated wetlands (301 CMR 11.03(3)(a)(a));
- Alteration of ten or more acres of any other wetlands (301 CMR 11.03(3)(a)(b)); and
- Alteration requiring a variance in accordance with the Wetlands Protection Act (301 CMR 11.03(3)(a)(2));

The project will require a variance in accordance with the Wetlands Protection Act, an Individual Section 401 Water Quality Certification variance, and a Chapter 91 (c.91) License from the Massachusetts Department of Environmental Protection (MassDEP). A Conservation and Management Permit may be required in conformance with the Massachusetts Endangered Species Act (MESA) (M.G.L. c.131A and 321 CMR 10.00); however the Towns intend to prepare a Habitat Management Plan, which if approved, will exempt the project from MESA review. Federal Consistency Review will be required in accordance with the Coastal Zone Management Act of 1972. The project will require an Individual Permit from the United States Army Corps of Engineers (USACE) in accordance with Section 404 of the Clean Water Act and Section 10 of the Rivers and Harbors Act. Review and approval in compliance with the National Historic

Preservation Act (NHPA) and the Massachusetts Historical Commission pursuant to Section 106 requirements and M.G.L. c.9, ss. 26-27C will also be required. Finally, the project will require review under the Wellfleet Environmental Protection Bylaw and the Truro Conservation Bylaw. The project site is located in the Wellfleet Harbor Area of Critical Environmental Concern (ACEC).

The project will receive Financial Assistance, in part, from State Agencies. Therefore, MEPA jurisdiction for this project is broad and extends to all aspects of the project that are likely, directly or indirectly, to cause Damage to the Environment as defined in the MEPA regulations.

Review of the DEIR

General

The draft EIS/EIR addressed the issues noted in the Certificate on the EENF and included additional information to respond to the Scope and to comments received on the EENF. As this is a joint document, the report included additional data and discussion as necessary to meet the requirements of the NEPA process, in addition to those outlined by MEPA and the CCC. The draft EIS/EIR followed the general guidance for outline and content in compliance with Section 11.07 of the MEPA regulations.

The draft EIS/EIR included a lengthy narrative with supporting graphics, data and appendices describing the existing conditions in the project area, including background on historic conditions, as appropriate. This existing conditions (referred to as Affected Environment in the report) assessment serves as the baseline against which potential impacts associated with each proposed alternative were measured. The existing conditions summary illustrated the environmental impacts of the tidal restriction and anthropogenic alteration within the Herring River estuary with regard to overall estuary health and functionality as an ecosystem. The draft EIS/EIR also described potential environmental impacts for all project alternatives, included proposed conditions plans illustrating estimated areas of impact associated with each alternative, and proposed mitigation measures to offset certain types of impacts (i.e., low-lying property flooding, etc.). The significance of potential impacts were assessed with consideration for both context and intensity. Finally, the draft EIS/EIR considered the cumulative impacts of the project by combining the impacts of the considered alternative with other past, present and reasonably forseeable future actions.

The draft EIS/EIR included a summary of the expected changes from tidal restoration within the estuary, including but not limited to: higher average water levels, lower low tides, reduced mosquito production, reversal of chemical processes that have caused high acidity and mobilized toxic metals, increased sediment transport and deposition, increased dissolved oxygen concentrations, dilution of fecal coliform counts, re-establishment of wetland plant communities, enhanced canoe and kayak access, and increase in diverse marine and estuarine resources.

A key component of the project included hydrodynamic modeling of the estuary to simulate potential changes to the project area under a variety of restoration scenarios. This model

allowed for the evaluation of specific questions about potential change to surface water elevations, flow velocities, salinity changes, and sediment processes within the estuary. These data were essential to the completion of the alternatives analysis, facilitating the evaluation of potential environmental impacts associated with each contemplated restoration scenario.

Project Permitting

The draft EIS/EIR identified applicable federal, State and local environmental policies and permitting requirements. Specifically, the draft EIS/EIR identified each anticipated State permitting requirement, how the project intends to comply with permitting standards and requirements, or if these requirements cannot be met, how the project will use a variance process to permit the project's environmental impacts. I note that given the restorative nature of the proposed project, the applicability of performance standards or mitigation requirements remains unclear in certain instances. The draft EIS/EIR included a discussion outlining the Town's position on how the project meets the MassDEP wetlands variance criteria.

Components of the project will require c.91 Licenses in accordance with 310 CMR 9.00. Within the Herring River project area, c.91 jurisdiction potentially extends to the placement of fill and the new construction, substantial alteration, or expansion of existing structures below the historic (pre-Chequessett Neck Road Dike) mean high water line. No structures or fill in the Herring River floodplain (with the exception of the Bound Brook Road culvert) currently have c.91 Licenses. Therefore, new license applications will need to be submitted for all fill and structures below historic mean high water.

The draft EIS/EIR included a proposed regulatory permitting strategy, developed in consultation with the TWG, that acknowledges the need for a coordinated and comprehensive permitting strategy that facilitates efficient review, accommodates a long-term and dynamic implementation program, and ensures proper environmental protection and public input throughout the process. Restoration activities will proceed in an incremental and phased approach that will be guided by, and adjusted in response to, the adaptive management plan.

This permitting strategy includes the Towns applying for one set of comprehensive permits and approvals from all federal, State, and local regulatory authorities. Permits and approvals will be requested for the longest allowable timeframe. Permit applications will be grouped into two classes:

- **Class 1:** Elements that are required for initial project implementation and are certain to occur (e.g., construction of the main dike, construction of the dike at Mill Creek under Alternative D, and elevation of low-lying roads); and flood-proofing or other mitigation to impacted structures. Detailed plans, data and narratives will be provided in the initial permit applications;
- **Class 2:** Elements that may or may not be implemented, or have an uncertain extent of implementation (e.g., channel modifications, grading, and vegetation management), and that would be determined by future monitoring and adaptive management decisions. Details on Class 2-type projects will be provided in a broad fashion in the initial permit

applications, with further detail provided if and/or when they are proposed for implementation based upon adaptive management analysis.

The Towns have proposed the formation of a standing Regulatory Oversight Committee (ROC) as a successor to the TWG, comprised of representatives of regulatory authorities having jurisdiction over project activities. After the initial dike construction is complete and the project begins the adaptive management phase, the ROC will have the authority to review and approve substantial project design changes to Class 1 elements and more detailed design plans, methodologies, and specific restoration management actions related to Class 2 elements.

As proposed, ROC members will meet at least annually to review the monitoring results associated with the adaptive management plan and consider proposed changes and/or refinements to project designs and management activities. ROC meetings will be open to the public and will be noticed in advance through the Environmental Monitor and Town websites, with written public comment opportunities for consideration by the ROC. Deliberations, decisions, and official meeting minutes from ROC meetings will also be made publicly available.

Each representative of the ROC will determine for their respective jurisdictional authority whether the implementation of proposed Class 1 changes and/or Class 2 refinements may proceed under the original comprehensive permit authorization or require a formal proposal for amendment or modification of said permit. If formal review is required, the Towns will submit an application for permit amendment in compliance with the applicable regulations and procedures.

Adaptive Management Plan

The Herring River project will follow an adaptive approach to achieve restored tidal conditions though the management of adjustable tide-control gates and the implementation of other restoration actions over a period of years. The proposed adaptive management approach is designed to minimize risk to property and the environment given current uncertainties about the response of the Herring River system to the proposed restoration efforts. Despite extensive modeling efforts and data gathering, uncertainties remain about how specific ecological processes will respond to the proposed actions over the short-term and long-term.

An Adaptive Management Plan (AMP) is proposed in conjunction with the project to facilitate the achievement of project objectives and goals given the long-term, phased restoration process and project complexity. According to the draft EIS/EIR, adaptive management is a formal, iterative process where 1) a problem is assessed, 2) potential management actions are designed and implemented, 3) actions and resource responses are monitored over time, 4) data are evaluated, and 5) actions are adjusted as necessary to better achieve desired management outcomes. Succinctly, adaptive management is an approach for simultaneously managing and learning about the dynamics of resources under management to aid in the decision-making process when uncertainties exist.

The draft EIS/EIR provided an overview of the proposed AMP process for the project. This overview included a discussion of the general steps for adaptive management planning. Implementation of adaptive management requires careful planning, which the draft EIS/EIR described as a two-step process: a deliberative or set-up phase in which key components are

formalized and an iterative process consisting of decision making, implementation, monitoring and feedback. The set-up phase will have several sub-components including:

- soliciting stakeholder involvement;
- creation of clear, measureable and fundamental objectives for desired resource conditions;
- establishment and description of a complete set of available management actions, or combination of actions;
- use of predictive modeling and hypotheses; and
- design of a careful monitoring plan to track system response after implementation of a management decision.

The set-up phase will provide the necessary framework for selecting the most appropriate actions for each step to achieve multiple management objectives - given the status of the current system - and predict outcomes of each possible management alternative. Predictions will consider uncertainty in the system through the use of multiple hypotheses using the current state of system knowledge. The information established during the set-up phase will inform the decision making process within the iterative phase. Selecting the best alternative will involve balancing the anticipated costs and benefits of any action when compared to project management objectives and accounting for tradeoffs in the future. Confidence in decision making will improve over time as the understanding of the system evolves with new information gathered as part of the monitoring process and as models (hypotheses) are supported or refuted by data and observations.

The draft EIS/EIR described adaptive management principles and processes as they will apply to the restoration of the Herring River estuary. Using the project's fundamental ecological goals of restoring natural hydrological conditions and ecosystem functions in the watershed, a series of means objectives will be identified to collectively describe the inter-related physical, chemical, and biological processes that need to be established to achieve project goals. These means objectives may include targeted water surface elevations, salinity levels, sediment transport and other estuarine processes. The draft EIS/EIR also highlighted potential areas of uncertainty for each topic explored as part of this document (i.e., salinity, aquatic species, etc.). Potential management actions will include both primary management actions (i.e., incremental tide gate opening, etc.) and secondary management actions (i.e., removal of woody vegetation, creation of tidal channels, etc.). Predictive models will be developed linking actions to outcomes to facilitate the identification of key ecological relationships or uncertainties. These models will be critical to provide an enhanced understanding of changes in vegetation, water quality, sediment distribution, and other processes as a function of modified hydrodynamics. Monitoring variables identified as part of the adaptive management process will provide the needed information to compare predictions to observations in order to properly assess alternative hypotheses of system functioning. Potential monitoring categories include: water surface elevations, water column salinity, vegetation and wetland habitat, sediment spatial distribution, marsh accretion, abundance and distribution of State-listed rare species and obligate habitat, and water quality. Monitoring protocols will be established to ensure that the monitoring plan is designed to provide appropriate information within the spatial and temporal scales required by the adaptive management decision making process.

A central component of the AMP will be a strategy for how management decision for the project will be made and who will make them. The draft EIS/EIR envisions that several integrated groups will be established to oversee and manage the implementation of the Herring River project and the AMP. The core of these groups will be an Executive Committee that includes representatives from the Towns and the Seashore. A Management Committee will be established to meet regularly to review and discuss day-to-day project details and make management recommendations to the Towns and the Seashore. The Management Committee will develop a science team to be responsible for monitoring and data reporting and to work closely with Seashore natural resource staff and other collaborators. A Technical Oversight Committee, analogous to the current TWG, will be established to review monitoring reports and results of predictive models, as well as Management Committee recommendations. It will authorize propsoed management actions requiring regulatory review according to guidelines set forth by individual permitting agencies. At each decision point to alter tidal control gate openings or to implement any of the secondary management actions, the Management Committee will review monitoring data and reports and revisit the predictive models to assess system responses to previous decisions. New data will be integrated into the models to update the credibility of each hypothesis. Throughout the process, the Management Committee will continue to receive feedback from stakeholders, revisit the adaptive management plan objectives, and refine management actions, models, and the monitoring plan as new information becomes available.

Alternatives Analysis

I commend the Towns for evaluating a thorough set of potential restoration alternatives for the Herring River estuary. The alternatives analyzed were screened by the Towns for their ability to meet the project purpose and objectives for technical, logistical, and financial feasibility, and for their ability to avoid significant adverse impacts. Using the MEPA and NEPA alternatives analyses requirements (either from applicable regulations or the EENF Certificate), the HRRC conducted public scoping sessions and workshops to refine the many possible restoration alternatives for the Herring River. The HRRC considered various types of tidal control structures, a number of control points, and widths of openings at Chequessett Neck Road Dike to narrow down potential alternatives.

In 2010, additional hydrodynamic modeling was conducted to develop an understanding of the range of tidal influences, salinities, and sediment transport that could be expected under the range of the three selected restoration scenarios. These initial modeling results were used to establish the range of tidal influences that could be expected and a lower and upper point of restoration potential. This type of analysis was critical to allow for an assessment of the potential environmental impacts associated with each alternative under a maximum restoration outcome. To assist in the determination of the Preferred Alternative (Alternative D), the HRRC conducted a three-day Value Analysis/Choosing by Advantages workshop in June 2011 to compare and rank the benefits, impacts, and costs of the action alternatives.

According to the draft EIS/EIR the action alternatives represent "bookends" of the minimum and maximum tidal exchange restoration necessary to meet project objectives, where Alternative B achieves the minimally acceptable tidal restoration with the least impacts, and Alternative D achieves the maximum practicable tidal restoration possible with more impacts,

given the limitations of present day land use in the Herring River floodplain. Each alternative describes the possible endpoints of incremental tidal restoration. The final degree of tidal exchange may fall somewhere between the "bookends" pending the results of the proposed adaptive management program. The draft EIS/EIR included a discussion of how each alternative did or did not meet the project's established objectives.

Alternative A – No Action: this alternative maintains the existing 18-foot-wide Chequessett Neck Road Dike with two flap gates and one adjustable tide gate. No tidal restoration will occur. As part of the current process by the Federal Emergency Management Agency (FEMA) to redraw National Flood Insurance Program Flood Maps and Risk Mapping Assessments in Barnstable County, FEMA will be considering existing flood control structures and whether they meet specific standards. According to the draft EIS/EIR, structures that do not meet these specific standards will be decertified and therefore areas landward will be mapped as floodplains under the assumption that the dike does not provide any flood protection. Early indications subsequent to informal consultation between the Town of Wellfleet and FEMA are that the existing Chequessett Neck Road Dike will not meet these standards and therefore low-lying areas which are currently not in a mapped flood zone may be remapped as floodplain areas. In this scenario certain properties will be required to obtain flood insurance if the Town of Wellfleet does not upgrade the dike to meet FEMA design guidelines.

Alternative B – New Tidal Control Structure at Chequessett Neck – No Dike at Mill Creek: this alternative includes a 165-foot-wide series of culverts with adjustable tide gates installed in the Chequessett Neck Road Dike. The Mill Creek sub-basin will be left open to the Herring River, thereby subjecting the sub-basin to a limited tidal regime controlled at the Chequessett Neck Road Dike. Tide gates will be opened incrementally to a maximum of three feet with an objective of obtaining a mean high spring tide of 4.8 feet and a 100-year storm driven tide of 6.0 feet in the Lower Herring River. These tidal elevations represent the maximum restoration possible without the need to install a secondary tidal control structure at Mill Creek. Tides in upstream basins will be lower because of natural tide attenuation. Proposed flood proofing actions will be designed to accommodate 100-year storm driven tidal flooding up to 5.9 feet within the Mill Creek sub-basin and 5.3 feet in the Upper Pole Dike Creek sub-basin. Hydrodynamic modeling shows that several areas of the CYCC golf course will be affected by the tidal inundation levels proposed under this alternative. Options to address these impacts are discussed later in this Certificate.

Alternative C – New Tidal Control Structure at Chequessett Neck – Dike at Mill Creek that Excludes Tidal Flow: this alternative includes a 165-foot-wide series of culverts with adjustable tide gates installed in the Chequessett Neck Road Dike. Tide gates at the Chequessett Neck Road Dike will be fully opened (incrementally) to allow mean high water spring tides up to 5.6 feet and 100-year storm driven tides up to 7.5 feet in the Lower Herring River. This alternative provides the highest practicable high tide water surface elevations possible given the constraints of current land uses in the flood plain. To avoid flood impacts to low-lying private properties within the Mill Creek sub-basin, and thereby eliminate the need for additional flood protection measures for CYCC and other Mill Creek properties, this alternative includes the construction of a tidal exclusion dike at the mouth of Mill Creek. This Mill Creek Dike will eliminate tidal influence to the sub-basin and be designed to the

minimum recommended crest height of two feet above the projected 100-year storm surge elevation (i.e., 9.5 feet). A one-way, flapper-style tide gate, possibly along with a mechanical pump, will be installed in the dike to allow freshwater to drain from the Mill Creek sub-basin toward the Herring River. Construction of this dike will require approximately 2,900 cy of fill and will permanently impact 12,500 sf of wetland. A construction work area encompassing approximately 2.4 acres of vegetated wetlands will also be temporarily impacted for construction dewatering purposes. Tides in upstream basins will be lower because of natural tide attenuation. Mitigation actions proposed throughout the remainder of the estuary will be designed to accommodate flooding up to the anticipated maximum tidal elevations.

Alternative D – New Tidal Control Structure at Chequessett Neck Dike – Dike at Mill Creek that Partially Restores Tidal Flow: this alternative includes a 165-foot-wide series of culverts with adjustable tide gates installed in the Chequessett Neck Road Dike. Tide gates at the Chequessett Neck Road Dike will be fully opened (incrementally) to allow mean high water spring tides up to 5.6 feet and 100-year storm driven tides up to 7.5 feet in the Lower Herring River. Tides in upstream basins will be lower because of natural tide attenuation. With the exception of Mill Creek, mitigation actions proposed throughout the remainder of the estuary will be designed to accommodate flooding up to the anticipated maximum tidal elevations. This alternative includes the construction of a dike at the mouth of Mill Creek with an adjustable, two-way tide gate which would be managed to partially restore tidal flow to the sub-basin. Mean spring high tides will be limited to 4.7 feet and 100-year storm driven events to a maximum of 5.9 feet in Mill Creek. The impacts of the dike's construction will be similar to Alternative C, while flood proofing described in Alternative B will be required for Mill Creek (e.g., CYCC mitigation and low-lying private properties).

As noted previously, under Alternatives B and D two options for mitigating potential flood impacts to the CYCC golf course were evaluated.

Option 1: Relocate the affected portions of the facility to upland locations currently owned by the CYCC. This will involve clearing, grading, and planting of new golf holes and a practice area. Approximately 30 acres of long-term upland disturbance will be generated under this option. One fairway will not be able to be relocated because of its proximity to the clubhouse and would require filling and regrading to raise elevations above the floodplain.

Option 2: Elevate the affected portions of the facility by providing necessary quantities of fill, regrading, and replanting the areas. Fill quantities are estimated at approximately 150,000 cubic yards (cy) along with 32 acres of disturbance for grading and site preparation. Portions of five low-lying golf holes will be reconstructed to a minimum elevation of 6.7 feet, which is two feet above the mean spring tide in Mill Creek.

As noted in the draft EIS/EIR, the comparative habitat restoration potential for each alternative are summarized below:

Alternative	Total Acres of Habitat Restored
Alternative A	0
Alternative B w/ Option 1	898.7
Alternative B w/ Option 2	881.1
Alternative C	912.7
Alternative D w/ Option 1	964.3
Alternative D w/ Option 2	956.0

Furthermore, the draft EIS/EIR identified a series of project elements common to all action alternatives. These include:

Incremental Tidal Restoration and Adaptive Management – Incremental tidal restoration will be used to allow monitoring of the system so that unexpected and/or undesirable outcomes can be detected and appropriate response actions taken. The Herring River estuary is a complex and dynamic wetland system and restoration efforts will occur in a long-term, phased manner over many years.

Monitoring – Field monitoring will be closely tied to the adaptive management process and designed to measure progress towards project objectives and assumptions built into the conceptual models. In addition to traditional ecological monitoring, these data will be used to support management decision making and assessment.

Vegetation Management – Upon restoration of tides to the estuary, the composition of plant communities are expected to change due to changes in tidal range, frequency and duration of tidal flooding, soil saturation, and salinity. Management of flood plain vegetation (mostly the removal of shrubs and trees before salt water reaches them and invasive vegetation contorl) will facilitate re-establishment of tidal marsh, reduce impediments to fish passage, and reduce mosquito breeding habitat. Potential techniques to manage woody vegetation include cutting, chipping, burning and targeted herbicide application. Vegetation management actions will be similar in type and implemented in an identical manner for each action alternative; however, the spatial extent and timing of when actions would be taken may vary.

Low-Lying Road Crossings and Culverts – Several segments of Pole Dike, Bound Brook Island, and Old County Roads will be vulnerable to high tide flooding subsequent to the proposed restoration. Mitigation for these impacts includes either the elevation or relocation of road surfaces and culverts. The draft EIS/EIR estimates that approximately 8,000 linear feet of road could be elevated to a minimum grade of 5.5 feet, which will require widening road bases and increasing culvert sizes. Elevating the roads above the 100-year storm elevation will require filling approximately 4,000 sf of adjacent wetlands, while only protecting against annual high water (AHW) will minimize wetland loss to 2,300 sf. Relocation options include altering road alignments onto a nearby former railroad right-of-way, which will further reduce potential wetland loss.

High Toss Road – Complete removal of the existing tidal restriction at High Toss road is a major component of the project under all action alternatives. The Herring River presently passes under High Toss Road (the second road that crosses the river) approximately one mile upstream from Chequessett Neck Road. High Toss Road is an infrequently traveled, unpaved earthen berm capable of accommodating emergency vehicle access to Griffin Island. The Herring River passes under the road at the western end though a five-foot diameter concrete culvert. Under all restoration scenarios High Toss Road will be overtopped daily by seawater and ebb tide drainage will be impeded by the causeway without modifications to the roadway.

To enhance tidal exchange and eliminate the restriction at High Toss Road the Towns will replace the existing five-foot culvert with either a properly designed box culvert or an open channel. An open channel may include a small bridge spanning the river if pedestrian and/or vehicle access is continued. According to the draft EIS/EIR, under either option, a tidal channel approximately 30-feet wide will be needed for adequate tidal conveyance. An open channel scenario will require the construction of a bridge designed for suitable vehicle loading.

Additional measures will also be implemented under all action alternatives to mitigate the anticipated flooding of High Toss Road at high tides greater than approximately three feet. Mitigation options explored include elevation of the roadway, abandonment and removal of the roadway, or periodic closure of the roadway during certain tidal events. Elevation or periodic closure of the roadway will still require that side slopes of the existing roadway be stabilized, while elevation of the roadway will likely also require widening of the roadway base, resulting in approximately 13,000 sf of impact to adjacent wetlands. If abandonment and removal of the roadway is pursued (contingent upon further public comment and consultation between the Town of Wellfleet and the Seashore), the length of roadway between Rainbow Lane and the parking area at Duck Harbor Road (approximately 1,000 feet) will be decommissioned. An additional 12,000 sf of wetland will be restored if this roadway segment is removed. If continued pedestrian and/or bicycle access is desired in this area, a boardwalk could be constructed across the floodplain and river.

Restoration of Tidal Channel and Marsh Surface Elevation – To achieve full tidal restoration, actions will be necessary to reverse previous direct and indirect alteration of the system's topography, bathymetry, and drainage capacity. Supplemental habitat management actions will be implemented to counteract the limitations created by these historic alterations (e.g., mosquito ditching, channelization, and marsh subsidence). These potential actions include, but are not limited to:

- Dredging of accumulated sediment to establish a natural bottom of the Herring River channel at the appropriate depth and maximize ebb tide drainage;
- Creation of small channels and ditches to improve tidal circulation;
- Restoring natural channel sinuosity;
- Removing lateral ditch dredge spoil berms and other anthropogenic material on the marsh surface to facilitate drainage of ponded water; and
- Applying a thin layer of dredged material to build up subsided marsh surfaces.

Upper Pole Dike Creek – The Upper Pole Dike Creek sub-basin contains approximately 130 private parcels located at least in part within the historic floodplain. According to the draft EIS/EIR, modeling shows that portions of these low-lying properties will potentially be affected by restored tides. Flood impacts will be addressed on a property-specific basis or by restricting tidal flow at Pole Dike Road with either the existing road culvert or a tide control gate.

Public Access and Recreation Opportunities – Given that the Herring River is located in the Seashore's "natural zone" which is managed to protect natural processes with limited infrastructure, development of public access points or visitor facilities are likely to occur at the discretion of adjacent landowners or stakeholders (e.g., the Towns, Wellfleet Conservation Trust, Friends of Herring River). Chequessett Neck Road Dike will be designed to include safe fishing access sites. Other opportunities that warrant further investigation include canoe or kayak launches, walking trails, and access to recreational shellfishing areas.

The draft EIS/EIR also included a brief description of alternatives that were considered but dismissed from consideration during the evaluation process. These alternatives include:

- Replace the dike with a bridge and fully restore the entire estuary (i.e., no control structures);
- Fully open the existing tide gates;
- Rebuild the dike with tidal openings less than 165 feet;
- Tidal power generation at the new Chequessett Neck Road Dike; and
- Unrestricted tide flow at Chequessett Neck

Selected Preferred Alternative

The Preferred Alternative (of Environmentally Preferable Alternative as defined by NEPA) is Alternative D with Option 2 (elevated fairways and practice areas at CYCC). The Preferred Alternative was evaluated based on its ability to meet the plan objectives and potential impacts on the environment. This alternative was considered the best to protect, preserve, and enhance historic, cultural and natural resources while maximizing tidal restoration potential. Impacts associated with the Preferred Alternative, and described in greater detail later in this Certificate, are based on end-point conditions (i.e., the final tide gate configuration) after the adaptive management process is completed and the project is fully implemented. It is anticipated that some impacts, such as improvements to water quality and sub-tidal habitat, will begin relatively soon after tidal exchange is restored. Other changes, especially those involving vegetation/wetland habitat change and marsh surface accretion, will continue for decades, until the system reaches a state of self-sustainable equilibrium.

Salinity of Surface Waters

The project is strongly influenced by the geographic extent of tidal inundation with saline water, the variable salinities of that water, the frequency and depth of inundation (both during daily cycles and infrequent storm events), and the volume of tidal water (i.e., tidal prism) moving in and out of the estuary. Existing conditions within Wellfleet Harbor include salinity ranges between 30 and 32 part per thousand (ppt). Construction of the Chequessett Neck Road Dike has

limited upstream mean tide range to only 2.2 feet compared to 10.3 feet downstream of the dike. Because of this altered hydrology, saline waters during high tide currently extend 1.2 miles upstream of the dike. Monitoring data between 2006 and 2010 conducted by the Seashore confirm that waters within the upper estuary are consistently fresh, with other data documenting that saline waters never reach High Toss Road during normal tides.

Under the Preferred Alternative, the predicted mean high spring tide water surface elevation of approximately 5.6 feet in the Lower Herring River will restore tidal influence to approximately 890 acres of the former Herring River floodplain. High salinity water will consistently reach the Lower Herring River, Middle Herring River, Lower Pole Dike Creek, and Mill Creek sub-basins, and the eastern half of the Duck Harbor sub-basin, while salinity levels will remain low (generally below 5 ppt) in the upper portions of the Herring River, Bound Brook, and Upper Pole Dike Creek sub-basins. These salinity changes will result in permanent, estuary-wide changes in the penetration of high salinity water into lower and mid-floodplain sub-basins, critical to achieving the desired transition from a degraded freshwater wetland to a functioning estuarine wetland.

Water and Sediment Quality

The Herring River is designated a Class SA water (the highest coastal and marine class) under the Massachusetts Surface Water Quality Standards (314 CMR 4.00) requiring excellent habitat for fish, other aquatic life and wildlife, and primary and secondary recreation. The Herring River is also designated by the Commonwealth as an Outstanding Resource Water (ORW) (314 CMR 4.06(3)). The Herring River estuary does not meet its targeted designations under Massachusetts' regulations due to its degraded water quality conditions. These degraded water quality conditions have resulted in the Herring River being listed on the 303(d) list of impaired waters under the federal Clean Water Act (CWA). The Herring River segment between Herring Pond and High Toss Road is impaired for metals and pH, while the segment from south of High Toss Road to Wellfleet Harbor is impaired for pathogens.

The results of various research efforts, data gathering and monitoring were presented to characterize existing water and sediment quality within the project area. The draft EIS/EIR indicates that the Herring River currently suffers from low dissolved oxygen concentrations, highly acidic water resulting from the oxidation of organic matter and iron-sulfide minerals in salt marsh soils, increased dissolved iron concentrations in locations with the lowest rates of flushing, and dissolved aluminum concentrations above levels of concern within some portions of the estuary all resulting in degraded water quality. The draft EIS/EIR also notes the accumulation of nutrients within the Herring River due to a lack of tidal flushing. While pesticides were used historically within the system for mosquito control, samples analyzed did not exceed NOAA guideline values. Finally, high fecal coliform concentrations (likely from wildlife in the estuary and watershed) have kept the Herring River downstream of the dike permanently closed for shellfishing in some parts and only conditionally approved in other parts.

Under the Preferred Alternative, the project is expected to reduce system residence times upstream of High Toss Road by a factor of 33 (4801 hours vs. 144 hours), resulting in regular tidal flushing of the Herring River estuary with well-oxygenated water from Wellfleet Harbor. This is

expected to maintain dissolved oxygen concentrations above State water quality standards at all times. However, summertime dissolved oxygen levels could remain low in ponded areas and obstructed ditches that are not regularly flushed by tidal waters. Tidal flushing is also expected to reduce acidification within the mid-portion of the Herring River estuary where saline water will again saturate drained peat. Restored salinities will reduce the leaching of aluminum and iron from the soils to receiving waters in concentrations that stress aquatic life. Decreased decomposition and increased saturation of soil pore spaces with water will also prevent further subsidence of the marsh surface. Improved tidal flushing will dilute and remove nutrients from the system with each tide cycle and the gradual reintroduction of tidal exchange is expected to allow ammonium-nitrogen to be slowly released, avoiding nitrogen loading that could contribute to algal blooms in receiving waters. Fecal coliform concentrations are also expected to substantially decrease with regular tidal flushing and will likely allow for the removal of the Herring River from the 303(d) list for pathogens.

Sediment Transport and Soils

When the Herring River was diked, sediment transport processes were interrupted and both the salt marsh and the underlying peat began to subside. Opening the dike and increasing tidal exchange will mobilize sediment that has accumulated within the existing channels as a natural tidal channel system begins to re-establish itself. Restoration of sediment transport processes will enhance accretion of sediment on subsided marsh plains, restore the dimension and pattern of tidal channels, and potentially influence ecological processes and resources. Changes in the tidal water surface elevation in the estuary, along with the subsidence of the marsh surface during the last 100 years, will be monitored to ensure a successful transition back to a salt marsh within healthy vegetation. The draft EIS/EIR identified the various types of soils within the project area, as determined and classified by the U.S. Department of Agriculture Natural Resources Conservation Service (NRCS). Approximately 80 percent of the Herring River floodplain is comprised of hydric soils.

Sediment transport analyses of the existing system found that normal tidal flow velocities are sufficient to initiate sediment movement, but only in the vicinity of the Chequessett Neck Road Dike. The study also confirmed that the system is flood-dominant; meaning that net transport of the sediment is into the Herring River. The dike has also caused a substantial reduction in flow velocity during flood tides in the area immediately downstream of the dike (as compared to pre-dike conditions), which likely has resulted in settling and deposition of suspended sediment during the slack flood tide in this area. Tidal restrictions have adversely affected the process of sediment deposition on salt marshes within the estuary. The construction of the Chequessett Neck Road Dike in 1909 reduced the upstream transport of inorganic sediment from reaching the salt marshes within the basin and marsh drainage has increased the rate of organic peat decomposition by aerating and drying the sediment, causing soil pore spaces to collapse and marsh elevations to subside. Much of the former salt marsh surface is approximately one to three feet lower than the mean high water elevation of 4.8 feet in Wellfleet Harbor.

The Preferred Alternative will enhance sediment transport throughout the Herring River estuary. Three classes of sediment transport are anticipated to occur: bedload, suspended load, and suspended fines. In response to increased tidal flow, the fine sediments that have accumulated

in the tidal channels upstream and downstream of the dike will be temporarily mobilized as suspended load and suspended fines. Over a longer period, bank and bed erosion will increase the dimensions of the restored tidal conditions. Finally, the increased tide gate opening will alter the long-term sediment transport patterns in the marsh, providing a source of marine sediment to the marsh surface.

The draft EIS/EIR describes the potential project impacts of sediment transport on changes to tidal channels and marsh elevations and identifies the three sources of sediment as inorganic matter from Wellfleet Harbor, upland sediment sources, and organic matter. While the rate and depth of sediment accretion cannot be quantified with certainty, the Preferred Alternative will increase the areas of potential sediment mobilization upstream of the Chequessett Neck Road Dike during normal tidal conditions to 58 acres and to approximately 217 acres under 100-year storm conditions. This is substantially greater than the 0.1-acre of potential sediment mobilization under existing conditions. Areas of increased erosion upstream of the dike will be mostly confined to the future location of a more defined Herring River Channel. Areas of potential sediment mobilization downstream of the dike during normal tidal conditions will increase by 75 percent (98 vs. 56 acres) over existing conditions and by 50 percent (230 vs. 153 acres) during 100-year storm events. Sediment mobilization may also pose potential adverse impacts in the form of sedimentation of shellfish beds downstream of the dike.

The project will result in estuary-wide, beneficial changes to hydric soil types within the floodplain by increasing pore space, soil pH, and organic content as the soils are subjected to tidal inundation. Local changes in soil texture are also possible dependent upon the different erosional and/or depositional forces placed upon varying soil types. Widespread change to existing soils from freshwater non-tidal soils to estuarine sub-tidal and inter-tidal soil types will occur over the adaptive management period.

Wetland Habitats and Vegetation

The draft EIS/EIR included a summary of current wetland habitats and vegetation within the Herring River floodplain based upon vegetation mapping conducted by the Seashore. Typical vegetation within six separate vegetation classes were identified and mapped as part of the draft EIS/EIR. Vegetation cover type categories include: salt marsh, brackish marsh, freshwater marsh/meadow, shrublands, woodlands, and dune/heathlands. Sub-tidal/open water and developed areas were also identified as part of the existing conditions analysis. The project's potential impacts to wetland resource areas regulated in accordance with the Massachusetts Wetlands Protection Act and Section 401 of the CWA were also provided. The draft EIS/EIR included a detailed discussion of wetland resource areas present within the project area, applicable performance standards, the types of activities proposed in each wetland resource areas, and how the proposed activities meet these performance standards or criteria. As noted previously, a variance will be required from MassDEP for certain components of the work, as the project cannot meet all of the applicable performance standards or approval criteria as defined by the Wetlands Protection Act or Section 401 of the CWA and the Massachusetts Surface Water Quality Standards. The draft EIS/EIR discussed how the project intends to meet the criteria established by MassDEP for each variance process. While general estimates were provided regarding project impacts to wetland resource areas (detailed throughout this Certificate), wetland impact estimates

related to secondary restoration activities and floodproofing have not yet been determined. These impacts will be assessed upon further project design, AMP implementation, and land owner consultations.

Re-introduction of tidal flows within the Herring River estuary will result in the widespread restoration of degraded coastal wetlands to estuarine sub-tidal and inter-tidal habitats. The draft EIS/EIR provided a thorough analysis and discussion of the predicted changes in vegetation cover type for each sub-basin. Under the Preferred Alternative, approximately 873 acres of existing vegetated area will be affected by the mean high water spring tide. Many changes in wetland habitat and vegetation will occur in conjunction with the project, notably the extensive restoration of salt marsh vegetative communities, primarily in the Lower Herring and Middle Herring River, and Lower Pole Dike Creek sub-basins. Due to the low salinity levels expected in the upper reaches of the system, little if any salt marsh vegetation will colonize the Upper Herring River, Upper Bound Brook, and Upper Pole Dike Creek sub-basins. Wetter conditions driven by tidal forcing with periodic influxes of brackish water may cause some degree of vegetation change, favoring certain types of wetland species over upland species. Within the Duck Harbor and Lower Bound Brook sub-basins salt marsh species are expected to colonize marsh areas adjacent to tidal channels and in some areas extend landward across the marsh surface. A wetland-to-upland transition zone (between the mean high water spring tide and the AHW tide elevations) is anticipated along the landward periphery of most of the upstream sub-basins. Subsided, former salt marsh areas within the Middle and Upper Herring River, Lower and Upper Pole Dike Creek, Duck Harbor and Lower Bound Brook sub-basins will be subject to sediment accretion and thus support a mix of salt marsh, brackish, and tidal freshwater plant communities. The draft EIS/EIR discussed the project's impacts on existing stands of common reed (*Phragmites australis*), a non-native invasive plant, and the potential for areas of common reed to shift within the estuary as tidal restrictions are removed. Invasive species management is a key component of the adaptive management plan proposed for the project.

Aquatic Species/Fisheries

The draft EIS/EIR summarizes inventories and wildlife observations describing the aquatic fauna existing within the Herring River estuary, and where appropriate, the receiving waters of Wellfleet Harbor. According to the draft EIS/EIR, the estuary downstream of the Chequessett Neck Road Dike is characterized by estuarine species that are dependent on marine conditions, while the abrupt change in salinity and tidal flushing in the Lower Herring River basin between the dike and High Toss Road results in a dramatic change in species richness and abundance, with species more tolerant of lower salinities becoming most dominant. Upstream of High Toss Road only freshwater or anadromous/catadromous species are found. The draft EIS/EIR lists the types and abundance of estuarine finfish, macroinvertebrate, and anadromous and catadromous fish species, and shellfish within the Herring River estuary.

The project is expected to have positive long-term benefit on finfishing and shellfishing within the estuary. The draft EIS/EIR described the existing conditions of the shellfishing industry, limitations on commercial and recreation harvesting, and aquaculture. Four commercially important species were identified: northern quahog (*Mercenaria mercenaria*), eastern oyster (*Crassostrea virginica*), bay scallop (*Argopecten irradians*), and softshell clam

(*Mya arenaria*). Currently, shellfishing is prohibited in a 90-acre area immediately downstream of the Chequessett Neck Road Dike and within the Herring River due to poor water quality caused by fecal coliform bacteria. Finfishing is an important commercial industry and recreational activity, with bluefish (*Pomatomus saltatrix*) and striped bass (*Morone saxatilis*) as the two predominately fished species in Wellfleet Harbor. Estuaries provide habitats for finfish to spawn and grow, with many species dependent upon estuarine conditions for at least some stage of their lifecycle.

The Preferred Alternative will change the Herring River estuary from a largely freshwater system to a largely tide-influenced system with saline waters extending much farther upstream than existing conditions. Total estimated estuarine habitat under the Preferred Alternative will be approximately 878 acres. Areas upstream of the dike where salinity penetrates are expected to experience an increase in diversity and population of resident estuarine fish species. More habitat will be available for spawning of certain species, with the exact amount of habitat available dependent upon accessibility within the system. Freshwater fish species habitat will be reduced in the lower sub-basins; however, in the upper basins improved water quality and levels are expected to benefit these species. The new dike will benefit all species of anadramous and catadramous fish, including river herring, hickory shad, white perch and American eel through better fish passage, while improved water quality and salinity levels will increase the amount of nursery habitat for juvenile fish. The project will also directly and indirectly benefit commercial and recreational finfishing improvements to habitat and water quality.

The increased salinity levels will improve conditions for shellfish to recolonize the area. Softshell and hard clams will likely be able to colonize areas upstream of the dike within their preferred salinity ranges. It is unlikely that oysters will establish themselves naturally upstream of the dike, unless the bottom substrate of the river hardens naturally with restoration. The mobilization of sediment during tidal restoration erosion processes is not expected to negatively impact softshell and hard clams; however, oysters may be temporarily impacted by fine grain sediments flushed out of the Herring River. The draft EIS/EIR indicated that sediment transport processes in Wellfleet Harbor are far more dependent on tidally-driven forces in Cape Cod Bay then whatever forces may be exerted by a new, larger tidal opening at the Herring River. Therefore, there are no long-term negative impacts to aquaculture resources in Wellfleet Harbor expected in association with the project.

Rare Species

The draft EIS/EIR identified six State-listed wildlife species within the project area that are currently listed as rare, threatened or endangered by the Natural Heritage and Endangered Species Program (NHESP) and regulated in accordance with the MESA. These wildlife species include: three birds, American bittern (*Botaurus lentiginosus*), least bittern (*Ixobrychus exilis*), and northern harrier (*Circus cyaneus*); two reptiles, diamondback terrapin (*Malaclemys terrapin*) and eastern box turtle (*Terrapene c. Carolina*); and one invertebrate, water-willow stem borer (*Papaipema sulphurata*). The draft EIS/EIR described each of the aforementioned protected species as well as their current status within the Herring River estuary.

According to the draft EIS/EIR, restoration of the Herring River estuary will likely affect State-listed species and their habitats, although not all impacts will be adverse:

- **Northern Harrier**: while small habitat changes may occur in the Bound Brook sub-basin where nesting pairs have been recorded, these changes are not expected to hinder future nesting activities. Areas suitable for harrier nesting will remain unchanged or may increase. The project will provide improved habitat for foraging.
- **American Bittern and Least Bittern**: while these species primarily use freshwater marsh habitats, they both also use brackish marsh habitats. Existing foraging, resting, or migratory habitat for these species will be affected or shifted by project.
- **Diamondback Terrapin**: while these species may be temporarily affected during the dike construction process, over the long-term the project is expected to restore hundreds of acres of nesting, nursery, wintering and foraging habitat in the Lower Herring River, Mill Creek, Middle Herring River, Lower Pole Dike Creek sub-basins and portions of the Duck Harbor sub-basin (up to 30 times more habitat than existing conditions).
- **Eastern Box Turtle**: the project will restore more saline and/or wetter conditions in areas that have dried out subsequent to construction of the dike. As conditions gradually change through incremental restoration of tides, turtles are expected to move to adjacent uplands. Turtles may be restricted in movement throughout the estuary in comparison to existing conditions, and will likely move to the periphery of the project area into upland areas. Turtles may be displaced from up to 890 acres influenced during mean high spring tide.
- **Water-Willow Stem-Borer**: this nocturnal moth feeds almost exclusively on water-willow (*Decodon verticillatus*), a plant species with a low tolerance to frequent inundation by salt water. The project will affect the distribution of water-willow within the estuary's ecosystem, and may die off in certain sub-basins and increase in others. The project is not expected to have a negative impact on the regional population of the Stem-Borer.

Terrestrial Wildlife

According to the draft EIS/EIR, over 450 species of amphibians, reptiles, fish, birds, and mammals depend on the diversity of upland, wetland, and coastal ecosystems found in the Seashore and nearby environs. Depending on the species, the Seashore may provide habitat all year round, or only during nesting season, migration, or winter. The draft EIS/EIR identified known species and described suitable habitat for freshwater marsh birds and upland birds, salt marsh birds, mammals, reptiles and amphibians. Much of these data were derived from ongoing Seashore monitoring and surveying efforts.

The project will result in habitat changes that will affect the distribution of terrestrial wildlife. Mammals, reptiles, and amphibians will gradually relocate to suitable habitat as the estuary undergoes the expected transition from degraded freshwater wetland to functioning estuarine wetland. No significant adverse impacts on regional populations are anticipated. There will be a substantial change in the composition of birds species that use the area for nesting, foraging, migration, etc. based upon the corresponding changes to vegetation associated within the floodplain. Changes in avian community structure include an overall increase in species abundance and a shift from a community of generalist species to one dominated by waterfowl, shorebirds, and wading birds.

Archaeological and Historic Resources

Archaeological resources in the project area were assessed through a combination of archival research, site file research, and walkover surveys. The draft EIS/EIR included a summary and characterization of pre-contact Native American, contact, and post-contact Euro-American archaeological sites. These resources were used to document known archaeological resources within the Herring River restoration areas and to identify areas where unknown archaeological resources may exist. This information, in combination with predictive models developed for archaeological resources elsewhere in the region, were then used to plot areas of archaeological sensitivity within the area of potential effect (APE). The APE is the geographic area in which an undertaking may cause changes in the character or use of historic properties, as defined under Section 106 of the NHPA. For this project the APE is defined as areas in the estuary below the 10-foot contour elevation, and certain upland areas where project impacts may occur, such as areas around CYCC, the Chequessett Neck Road Dike, and several low-lying roads including High Toss, Bound Brook Island and Pole Dike Roads. Potential impacts to archaeological resources will be primarily associated with the footprints of construction activities, as well as any other ground-disturbing activities, including borrow or construction staging areas.

According to the draft EIS/EIR, the APE was investigated by the Public Archaeology Laboratory in 2011; however, significant archaeological resources have yet to be identified pending final project design, and steps to identify, evaluate, and mitigate any adverse effects to significant properties are currently being developed in a Programmatic Agreement (PA) among consulting parties.

No structures located in the Herring River estuary are listed in the National Register of Historic Places. However, according to the draft EIS/EIR, a former tidal gristmill once spanned an historic dike at Mill Creek. Additionally, the Atwood-Higgins House, listed on the National Register in 1976, and other buildings associated with the house lie within 100 meters of the APE in the area associated with the restoration project near the confluence of Bound Brook and the Herring River on the eastern tip of Bound Brook Island. Other historic structures may be identified and evaluated as the extent of the project impacts are finalized; steps necessary to identify and evaluate historic structures in the APE will be defined in the PA currently under development.

Low-Lying Properties and Roads

According to the draft EIS/EIR, approximately 390 non-federally owned properties lie partially or fully within the Herring River floodplain that existed prior to the construction of the Chequessett Neck Road Dike. These properties include residential land, parcels owned by non-profit organizations, non-federal conservation land, commercial parcels, municipal lands, and undeveloped land. In total, these parcels cover approximately 354 acres within the Herring River floodplain. Residential properties are primarily located in the Upper Pole Dike Creek, Mill Creek, and Bound Brook sub-basins. As noted previously, the CYCC nine-hole golf course is located on approximately 106 acres, with approximately 37 acres of this land located within the historic floodplain of the Mill Creek sub-basin.

In the Preferred Alternative, all or portions of CYCC golf holes 1, 6, 7, 8, and 9 and the practice areas will be impacted by tidal waters and require modifications to avoid flooding. The Preferred Alternative includes implementing Option 2 at the CYCC, which includes retaining the current layout of the course, but elevating the low-lying golf holes, and relocating the practice area to an upland site that will also serve as the borrow area for the fill needed to elevate the low fairways. The current practice areas and the area between fairways 7 and 8 will be restored to a tidal wetland. The Preferred Alternative is expected to result in approximately 360,000 sf (8.3 acres) of direct wetland loss by filling the low areas.

The Preferred Alternative will also impact low-lying residential properties with varying degrees and frequencies. The draft EIS/EIR noted that hydrodynamic modeling results, aerial photography, topographic and ground survey data, and property records from the Town's assessor's databases were used to compile a preliminary list of privately owned properties potentially affected by the proposed increased tidal exchange. Properties were categorized based on the frequency of tidal water reaching the property and the nature of the land or structures impacted. The draft EIS/EIR included a description of each of these categories. These categories include:

- No physical impact;
- Infrequent Impact to Natural Vegetation;
- Frequent Impact to Natural Vegetation;
- Infrequent Impact to Cultivated Vegetation;
- Frequent Impact to Cultivated Vegetation;
- Infrequent Impact to Structures; and
- Frequent Flooding to Structures.

The draft EIS/EIR also identified potential jurisdictional changes to low-lying land uses due to physical changes within the Herring River estuary. These laws and regulations include the Wellfleet Zoning Bylaw, the Massachusetts Wetlands Protection Act and local wetland bylaws, and the Massachusetts Rivers Protection Act. Such jurisdictional changes may result in a reduction in lot sizes, new requirements for wetlands permitting, or the applicability of new wetlands regulations and performance standards. The draft EIS/EIR includes a summary table of potentially affected parcels based upon the various alternatives and impact categories. The Preferred Alternative will physically affect 179 parcels, with 11 of those parcels subjected to frequent impacts to structures, and nine parcels with infrequent impacts to structures.[3] Additionally, 169 parcels will not be physically impacted by water, but will be affected by a change in the location of the jurisdictional Riverfront Area.

Properties with predicted substantial impacts will require additional site-specific analysis to confirm and refine potential impacts and to develop cost-effective flood mitigation measures. According to the draft EIS/EIR, these measures generally could include: elevating or relocating driveways and landscaping, moving wells, building small berms or flood walls, moving or elevating structures, and compensation for lost value or voluntary sale of easements or other interests in land. The HRRC contacted potentially affected landowners prior to the release of the

[3] The total of physically affected parcels include physically affected driveways, wells, and buildings; several parcels include multiple affected structures; a total of approximately 29 structures could potentially be affected, of which six are residences.

draft EIS/EIR and offered to meet with owners individually to discuss the project and its potential impacts. A process for formal agreements between substantially affected landowners and the Towns will be developed as part of the third MOU between the Towns and the Seashore outlining the project's path towards implementation.

The project area also includes several segments of low-lying roads within the historic Herring River floodplain that will be susceptible to flooding after tidal exchange is restored. The draft EIS/EIR included the approximate lowest elevation and approximate length within the floodplain for each potentially affected roadway segment. The draft EIS/EIR also identified and characterized each roadway. Affected roadways include: High Toss, Pole Dike, Bound Brook Island, Old Country, Old Chequessett Neck, Duck Harbor and Ryder Beach Roads, and Rainbow Lane.

Output from the hydrodynamic model was used to compare the potential high tide elevations resulting from each of the action alternatives to determine the extent of possible flood impacts. These comparisons were used to develop conceptual plans for road surface elevation and realignment options for several high road segments. The draft EIS/EIR summarizes low-lying road impacts for two categories of roads, paved and sand and fire roads. The Preferred Alternative will impact approximately 9,397 feet of paved roads and approximately 10,727 feet of sand and fire roads. Options to mitigate impacts to these roadway segments include elevation, relocation, culvert replacement or construction, and acceptance of minimal risk. The draft EIS/EIR includes a conceptual discussion of improvements or modifications to Bound Brook Island, Pole Dike Creek and High Toss Roads to mitigate potential impacts from increased tidal inundation and flooding.

Greenhouse Gas Emissions

The Towns considered the contribution of predicted sea-level rise throughout the preparation of the hydrodynamic modeling process that was used to inform the selection of the Preferred Alternative. The project itself is also expected to function as a buffer to climate change, by increasing available wetlands to diffuse storm surges and stormwater runoff.

Construction Period

The Preferred Alternative includes the construction of at least two dikes, relocation or elevation of several roadway segments, installation of new culverts at road crossings in upstream project areas, and filling and relocating portions of the CYCC golf course. Secondary management actions, such as channel dredging and vegetation clearing will also incur construction-related impacts. While the project will be implemented over a long period of time, construction related impacts will be relatively short in duration with short-term impacts to soils, vegetation, water quality, and habitat. Permanent impacts to wetland resource areas are also anticipated in conjunction with the construction of the tide control structures, CYCC improvements, and roadway modifications.

According to the draft EIS/EIR previously disturbed areas will be used to stage equipment and materials to the extent possible. For dike construction, the sites will be dewatered using coffer dams and pumps, or other common methods for dike construction. These short-term disturbances

associated with construction (dewatering and staging) may occur on approximately eight acres and will be restored when construction is complete. Individual construction elements are not anticipated to occur concurrently and are likely to be phased in over time. All low-lying roads do not need to be elevated at the start of the incremental tidal restoration and could be delayed or phased throughout the construction period. All construction impacts will be mitigated through the use of best management practices (BMPs). Activities related to residential flood proofing may have direct localized impact, but will be limited in scale compared to the size of the overall project. The exact length of secondary management action construction activities are unknown at this time and will be determined as part of the AMP process.

The Towns will implement time-of-year (TOY) restrictions as necessary to limit potential impacts to certain types of species during various construction phases contingent upon the type of work proposed, the location of the work, and the timing and duration of the activity. The comment letter from the Massachusetts Division of Marine Fisheries (DMF) noted that TOY restrictions will not be necessary in cases in which work is buffered by cofferdams and silt curtains, but installation and removal of these structures should be performed outside the relevant TOY windows. BMPs will also be implemented to reduce impacts to anadramous and catadramous fish passage, shellfisheries, and wildlife.

As the preliminary designs for the new Chequessett Neck Road Dike have not been completed, the draft EIS/EIR provided a broad estimate of construction impacts associated with dike construction. The potential area of construction-related impact is estimated at 103,000 sf (2.4 acres) currently comprised of the dike itself and adjacent inter- and sub-tidal wetland areas. Dike reconstruction and associated dewatering, sub-grade preparation, slope protection, and other work will be confined to this footprint. Impacts will be limited to temporary loss of wetland habitat and short-term increases in sedimentation within waters adjacent to the dike. However, if the Towns decide to increase the elevation of the dike beyond the 11.3-foot crest elevation presently in place, permanent wetland impacts will be incurred to allow for widening of the base of the dike. The draft EIS/EIR noted that preliminary engineering analyses indicate that complete closure of Chequessett Neck Road would substantially reduce construction time and costs for rebuilding the dike. If Chequessett Neck Road is closed for a portion of the construction period, High Toss Road and Duck Harbor Road are proposed as detour routes. To accommodate this traffic, these two roadways will require temporary improvements (surface grading, vegetation clearing).

SCOPE

The FEIR should follow Section 11.07 of the MEPA regulations for outline and content, as modified by this scope. In accordance with the joint MEPA/CCC review of the project, I hereby incorporate the CCC comment letter on the draft EIS/EIR into the Scope by reference. It is my understanding that upon conclusion of the MEPA process, the CCC's Development of Regional Impact (DRI) process will begin.

The FEIR should include an update on additional stakeholder outreach, meetings with permitting agencies, and additional studies undertaken to inform the project's design and advancement towards construction. The FEIR should include a refined proposed Adaptive

Management Plan to provide additional information on the plan's elements and potential action items in light of relevant comments received. The FEIR should identify any changes to the proposed Preferred Alternative since the filing and review of the draft EIS/EIR.

Permitting

The FEIR should provide an update to the proposed comprehensive permitting methodology with State and federal Agencies based upon ongoing collaborative efforts with permitting authorities. The FEIR should provide additional clarification of the proposed permitting review process as requested in the MassDEP comment letter.

Wetland Habitat and Vegetation

As requested by MassDEP, the FEIR should include an estimate as to the amount of salt marsh, based upon the current modeling, expected to expand and how much of the area of *Phragmites* will be converted/lost to this expansion. The FEIR should estimate the amount of *Phragmites* currently present within the Herring River estuary, and graphically identify those areas that under the Preferred Alternative may be susceptible to *Phragmites* colonization due to anticipated salinity levels and other relevant ecological factors.

According to the MassDEP comment letter, portions of the Herring River estuary are under a Coastal Restriction Order pursuant to M.G.L. c.120, s.105. The FEIR should identify those areas subject to the restriction order and discuss how the project will or will not comply with the order's requirements.

CYCC Impacts

A major component of the Preferred Alternative includes the filling of the fairways and relocation of the practice range to an adjacent upland area. While I acknowledge that this project element will occur on private property with the owner's consent, additional clarification is required in the FEIR to fully understand the impacts of this project component to archaeological, rare species and wetland resources. The FEIR should include a graphic (at a legible scale) that identifies the anticipated areas of flooding under the Preferred Alternative within the Mill Creek sub-basin, the location of the fairways slated for filling, and the conceptual location of the proposed borrow area and future practice range at CYCC.

Low-Lying Roads

The FEIR should include conceptual design plans, engineering studies or traffic analyses, as appropriate, to clarify potential wetlands, habitat or other relevant environmental impacts associated with the elevation, relocation, culverting, or abandonment of low-lying roads under the Preferred Alternative. The FEIR should provide additional discussion of preferred mitigation alternatives for each potentially impacted low-lying roadway segment. If possible, the FEIR should discuss the temporal relationship of the incremental tidal-control gate opening to necessary mitigation actions for low-lying roadways. The FEIR should describe potential impacts associated

with the use of High Toss Road and Duck Harbor Road as detour routes if Chequessett Neck Road Dike is closed in its entirety during the dike construction period.

Low-Lying Properties

The FEIR should not identify specific properties or individual property owners to preserve privacy. However, the FEIR should provide an update regarding discussions or negotiations with low-lying property owners and the project's potential impacts to these properties under the Preferred Alternative. The FEIR should provide an outline of an anticipated process for formal agreements with substantially affected landowners. This process should consider how mitigation measures may be implemented on-site (i.e., construction of berms, etc.), potential monetary compensation, the potential impacts of sea-level rise, and how unintended property impacts may be assessed. The Towns should consider the requirements at 310 CMR 10.24(5)(6) regarding potential wetland impacts within an ACEC when establishing this process. The FEIR should clarify how the construction of a flapper-gate tide-control structure at Upper Pole Dike Creek may reduce potential impacts to low-lying properties within this sub-basin.

Aquatic Species / Fisheries

Several comment letters were received that focused on the potential project benefits associated with aquatic species and fisheries habitat and populations. These comments also included additional recommendations and guidance to limit potential harmful impacts to these resources, most notably during the construction period. Comments also were provided requesting clarity on potential mitigation measures proposed in conjunction with the project.

The FEIR should include a commitment as part of the project's construction and design plans to adopt the Essential Fish Habitat (EFH) conservation recommendations made by NOAA. The FEIR should identify potential management actions that may be undertaken with regard to potential impacts to shellfisheries if monitoring efforts indicate a negative impact to downstream shellfish beds.

The FEIR should include a commitment by the Towns to work proactively with the DMF to develop construction activity specific TOY staging to minimize impacts to marine resources. The updated construction period impact assessment should commit to maintaining a channel of free-flowing water of sufficient width and depth to permit fish passage during both spring adult migration as well as fall juvenile emigration of diadramous fishes and a minimization of siltation effects during shellfish and winter flounder spawning. The Towns should commit, as part of the FEIR, to consult with DMF as part of the dike design process with regards to diadramous fish passage and construction period BMPs.

Finally, the FEIR should include additional discussion regarding the potential impacts to fisheries habitat within the Herring River estuary directly associated with secondary management actions such as: the removal of upstream culverts, dredging of sediment, and removal of soil berms. Specifically, the FEIR should confirm how the project will seek to meet recommendations outlined in the Atlantic States Marine Fisheries Commission comment letter on the draft EIS/EIR.

Rare Species

The NHESP comment letter indicates that the project may qualify for a MESA Habitat Management Exemption (321 CMR 10.14(11)). However, in order for the NHESP to make a final determination, additional information must be submitted for review. I encourage the Towns to work with the NHESP prior to the preparation of the FEIR to determine the level of additional information necessary to satisfactorily demonstrate that the project will qualify for a MESA Habitat Management Exemption. To the extent practicable, additional information on rare species habitat impacts and mitigation efforts should be presented in the FEIR to assist in the evaluation of how the project will avoid, minimize and mitigate impacts to State-listed species and to inform MassDEP's wetlands variance process.

Archaeological and Historic Resources

As requested by the MHC, the FEIR should include a figure that depicts the APE for the Preferred Alternative in relation to identified historic resources and to portions of the project area identified as archaeologically sensitive. *This figure should not contain sensitive archaeological site locational information.* The MHC has also requested that, once developed, scaled existing and proposed conditions project plans and a draft scope for identification efforts for the Preferred Alternative be provided to all the consulting parties for review and comment. The FEIR should include an updated ancient and historic period archaeological context for the Preferred Alternative impact area that incorporates current data from the MHC's archaeological inventory and from recent archaeological survey reports conducted on federal land that have not been reported to the MHC for incorporation into the State archaeological inventory. Finally, the FEIR should include the Programmatic Agreement and a summary of consultations with consulting parties pursuant to Section 106 of the NHPA.

Construction Period Impacts

Based upon comments received or additional analysis conducted by the Towns, the FEIR should include an updated construction phasing and management plan. This updated plan should also include modifications to proposed construction period BMPs as recommended by federal or State Agencies.

Mitigation/Section 61 Findings

The draft EIS/EIR indicated that an MOU will be developed between the Towns and the Seashore to address advancement of the project up to, and through the construction phases. The FEIR should explain the schedule for development of the MOU, anticipated project components and actions that will be addressed within the agreement (i.e., operations and management of the tidal-control structures, public recreational access, etc.), and if feasible, a draft copy of the MOU.

The FEIR should include a separate chapter summarizing proposed mitigation measures. This chapter should also include draft Section 61 Findings for each State Agency that will issue permits for the project. The FEIR should contain clear commitments to implement mitigation measures, estimate the individual costs of each proposed measure, identify the parties responsible

for implementation, and contain a schedule for implementation. Given the phasing of build-out, the FEIR should identify development milestones upon which certain mitigation measures will be required to be implemented. I anticipate that the role of adaptive management as part of the project will be incorporated into these draft Section 61 findings with an amount of detail sufficient to satisfy State Agency requirements.

Responses to Comments/Circulation

The FEIR should contain a copy of this Certificate and a copy of each comment letter received. In order to ensure that the issues raised by commenters are addressed, the FEIR should include direct responses to comments to the extent that they are within MEPA jurisdiction. This directive is not intended to, and shall not be construed to, enlarge the scope of the FEIR beyond what has been expressly identified in this certificate.

The Towns should circulate the FEIR to those parties who commented on the ENF, to any State Agencies from which the Proponent will seek permits or approvals, and to any parties specified in section 11.16 of the MEPA regulations. A copy of the FEIR should be made available for review at the Wellfleet and Truro public libraries. The Towns should provide a hard copy of the FEIR to each State Agency and Town department from which the Towns will seek permits and approvals. Copies of the FEIR may be provided on CD-ROM, posted on a project website, or through other similar media for review by others on the project distribution list. The Town should discuss distribution and the anticipated comment period for the FEIR with the MEPA office prior to the filing of the document, as per MEPA regulations, the standard comment period on the FEIR (30 days) may not be extended.

December 21, 2012
Date

Richard K. Sullivan Jr.

Comments received:

10/30/2012 Donald H. Thimas
11/01/2012 Massachusetts Historical Commission
11/09/2012 Chequssett Yacht and Country Club
11/09/2012 Kate L. Rensky
11/10/2012 John W. Portnoy
11/11/2012 Barbara A. Brennessel
11/11/2012 Wellfleet Shellfish Advisory Board
11/12/2012 Charles A. Rheault
11/14/2012 Lisbeth W. Chapman
11/29/2012 United States Army Corps of Engineers
12/03/2012 National Oceanic and Atmospheric Administration
12/03/2012 Cape Cod Commission
12/05/2012 Laura Runkel

12/06/2012	Association to Preserve Cape Cod
12/07/2012	Commonwealth of Massachusetts Division of Fisheries and Wildlife – Natural Heritage and Endangered Species Program
12/07/2012	Thomas O'Connell
12/08/2012	Pamela S. Bauder
12/10/2012	Douglas E. Franklin
12/10/2012	Michael Parlante
12/10/2012	Martin Nieski
12/10/2012	Pamela S. Bauder (2nd letter)
12/10/2012	Ashely Fawkes-Sylver
12/10/2012	Robert LaPointe
12/11/2012	Candida P. Monteith
12/11/2012	Friends of the Herring River
12/11/2012	Town of Wellfleet Comprehensive Wastewater Management Planning Committee
12/11/2012	The Compact of Cape Cod Conservation Trusts, Inc.
12/11/2012	United States Environmental Protection Agency, Region 1
12/12/2012	Alfred L. Kraft
12/12/2012	Wellfleet Conservation Trust
12/12/2012	Atlantic States Marine Fisheries Commission
12/12/2012	Laura A. Runkel (2nd letter)
12/12/2012	Gail Ferguson
12/12/2012	Mass Audubon
12/12/2012	USGS S.O. Conte Anadromous Fish Research Center
12/12/2012	Susan Hannah
12/12/2012	Sea Run Brook Trout Coalition
12/12/2012	Commonwealth of Massachusetts – Division of Marine Fisheries
12/12/2012	Massachusetts Department of Environmental Protection –SERO
12/14/2012	Massachusetts Office of Coastal Zone Management

RKS/HSJ/hsj