UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration
NATIONAL MARINE FISHERIES SERVICE
GREATER ATLANTIC REGIONAL FISHERIES OFFICE
55 Great Republic Drive
Gloucester, MA 01930-2276

FEB 28 2017

Jennifer McCarthy
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US Army Corps of Engineers
New England District
696 Virginia Road
Concord, MA 01742

Re: Essential Fish Habitat Programmatic Consultation for General Permits, Standard Permits and Letters of Permission, for the States of Connecticut, Maine, Massachusetts, New Hampshire and Rhode Island.

Dear Ms. McCarthy:

This letter and Programmatic Consultation (PC) supersedes our earlier letter dated July 19, 2016. Section 305(b)(2) of the Magnuson-Stevens Fishery Conservation Management Act (MSA) requires Federal action agencies such as the Corps to consult with us for any action they authorize, fund or undertake that may adversely affect Essential Fish Habitat (EFH). Federal action agencies consult with us through the use of existing environmental review procedures, general concurrence, abbreviated consultation, expanded consultation or programmatic consultation (PC). However, the agency should use the most efficient approach for EFH consultation that is appropriate for a given action. Based on the EFH regulations at 50 CFR Subpart K, 600.9200, we believe the PC is an efficient method for us to consult with each other on the majority of projects that you routinely authorize under your Regulatory program through General Permits (GPs), standard permits (SPs) (also known as individual permits (IPs)), and Letters of Permission (LOPs), and to develop programmatic conservation recommendations (CRs) that will address reasonable foreseeable adverse impacts to EFH.

We evaluated the potential adverse effects to EFH resulting from commonly permitted GP projects in the New England Region. According to data provided to us from your permitting database for 2014 and 2015, approximately 235 acres and 301 acres of subtidal, intertidal, and riverine habitats in the New England region were impacted through 1,517 and 1,562 permits respectively, and we anticipate similar impacts to these habitats in 2017 and subsequent years. These acreage impacts are the result of dredging, structures and fill activities.

This EFH PC will reduce the number of projects that we will screen on an individual basis by programmatically issuing CRs for GP actions that may adversely affect EFH. In some cases, activities may have more than minimal adverse impacts on EFH, either individually or cumulatively; however, by modifying an activity according to the CRs provided herein, those impacts may be avoided or minimized and our EFH consultation requirements will be satisfied.

The U.S. Army Corps of Engineers, New England District Regulatory Division (Corps) issues two basic categories of permits: GPs for activities that have no more than minimal individual and cumulative adverse effects on the aquatic environment, and SPs/LOPs for projects that do not meet the terms and conditions of a GP. Upon a thorough review of the activity-based GPs that will be authorized, and consideration of the proposed activities that we have reviewed in the past that were proposed for issuance under SPs and LOPs, we have developed this EFH PC to allow for a more efficient consultation process for projects that are authorized under your Regulatory program.

The Corps has developed one state-wide GP document for each of these five states: Connecticut (CT), Maine (ME), Massachusetts (MA), New Hampshire (NH) and Rhode Island (RI). You are in the process of updating each state-wide GP to an activity-based format as the existing GPs are reauthorized. This will essentially continue your GP process, but under a new format.

As you know, we have been working with your office in implementing the GP program for over twenty years. This process has been mutually beneficial; it allowed you to efficiently authorize activities that had minimal impacts, and it allowed us to offer protections to our trust resources. As you continue to refine the GP process going forward, we will similarly adjust the format of our EFH consultation process so that it remains aligned. Our mutual goal is to have an EFH consultation process that continues to efficiently address these same minimal impact activities, and SPs and LOPs, in a way that is both protective and consistent across the New England Region.

Essential Fish Habitat Descriptions

The New England and the Mid-Atlantic Fishery Management Councils (NEFMC and MAFMC, respectively) have designated EFH for multiple Federally-managed fish and shellfish species occurring in marine, estuarine and riverine waters within the geographical range of the New England District. EFH includes pelagic habitat as well as benthic habitats such as sand, mud, gravel, cobble, natural rocky habitat, submerged aquatic vegetation (SAV) and areas containing shellfish. Structurally complex habitats, including hard bottom/natural rocky habitats and areas containing shellfish are productive habitat areas which provide shelter and forage for many of the managed species. In addition, special aquatic sites (SAS) are areas that are afforded additional protection due to their significant contribution to the environment under the 404(b)(1) Guidelines of the Clean Water Act, which states that SAS includes fish and wildlife sanctuaries and refuges, wetlands, mudflats, vegetated shallows, and riffles and pool complexes. EFH descriptions for each life stage of managed species in New England are listed at www.greateratlantic.fisheries.noaa.gov/hcd/list.htm. This document applies to EFH in tidal waters and streams with diadromous fish.

Submerged Aquatic Vegetation

Submerged aquatic vegetation such as eelgrass is known to play a critical ecosystem role. The U.S. Environmental Protection Agency (EPA) has designated SAV (referred to as vegetated shallows in the Section 404(b)(1) Guidelines), including eelgrass, as "special aquatic sites" under

the 404(b)(1) Guidelines due to its important role in the marine ecosystem for nesting, spawning, nursery cover and forage areas for fish and wildlife. Furthermore, the MAFMC has designated SAV, including eelgrass as a Habitat Area of Particular Concern (HAPC) for summer flounder EFH. Seagrasses provide important ecological services including fish and shellfish habitat, and shore-bird feeding habitats, nutrient and carbon cycling, sediment stabilization, and biodiversity (Thayer et al 1984, Fonseca and Cahalan 1992, Fonseca et al., 1998, Kenworthy et al 1998, Orth et al., 2006). In many locations along the east coast, eelgrass coverage has declined by fifty percent or more since the 1970's (Thayer et al. 1975, Short et al. 1993, Short and Burdick 1996). Loss of eelgrass is attributed to reduced water quality and clarity resulting from elevated inputs of nutrients or other pollutants such as suspended solids and disturbances such as dredging (Kemp et al. 1983, Short et al. 1993, Short and Burdick 1996, Orth et al. 2006). Eelgrass may also be adversely affected through shading and burial or smothering resulting from turbidity and subsequent sedimentation (Deegan and Buchsbaum 2005, Duarte et al. 2005, Johnson et al. 2008). In Massachusetts, surveys from 1995 to 2007 have shown statewide declines in seagrass cover in 90% of the embayments where it was studied (Costello and Kentworthy, 2010). In New Hampshire, eelgrass distribution throughout the entire Great Bay Estuary has declined precipitously since 1996, with a loss of 76% in the Great Bay and extirpation of nearly all beds in the Piscataqua River during that time (Short 2013). Given the widespread decline in eelgrass beds in New England, any additional loss to this habitat will likely significantly affect the resources that depend on these meadows. Successful compensatory mitigation for impacts to SAV can be costly and difficult to implement, making this habitat especially vulnerable to permanent loss.

Salt Marsh and Tidal Wetlands

Estuarine tidal wetlands are essential for healthy fisheries and coastlines. Salt marshes and tidal creeks provide food, refuge, and nursery habitat for several federally managed species. These systems support multiple forage fish species and invertebrates that serve as prey for commercially and recreationally valuable species (Steimle et al. 2000). Salt marshes also protect shorelines from erosion by buffering wave action and trapping sediments. They reduce flooding by absorbing rainwater and protect water quality by filtering runoff and metabolizing excess nutrients. Given the important nature of this habitat, impacts to tidal wetlands will likely significantly affect a variety of species and habitats.

Intertidal Mudflats

Mudflats serve as EFH for multiple managed fish species during spawning, juvenile and/or adult life history stages. The EPA has designated mudflats as SAS under 404(b)(l) Guidelines due to their important role in the marine ecosystem for spawning, nursery cover and forage areas for fish and wildlife. Juvenile fish and invertebrates seek shelter in mudflats by burrowing into the soft sediments. Mudflats support distinct benthic communities that provide important prey and foraging habitat for managed fish species (Cargnelli et al. 1999; Chang et al. 1999; Pereira et al. 1999; Stevenson et al. 2014). These habitats are particularly vulnerable to disturbances that may result in turbidity or scouring impacts. Compensatory mitigation for impacts to intertidal mudflat habitat can be difficult to implement, making this habitat especially vulnerable to permanent loss.

Hard Bottom Habitat

Structural complexity of habitats such as gravel, cobble, and boulders provide important functional value for fish as shelter and refuge from predators (Auster 1998; Auster and Langton 1999; NRC 2002; Stevenson et al. 2006). The relationship between benthic habitat complexity and demersal fish community diversity has been positively correlated (Malek et al. 2010). Multiple managed fish species have life-history stages that are dependent on, or mediated by, hard bottom habitats and attributes (Gotceitas et al.1995 , Lindholm et al. 1999, Klein-MacPhee 2002, Auster 2001, Auster 2005, Methratta and Link 2006). Hard bottom habitats provide a substrate for epibenthic growth which serves as additional refuge for juvenile fish and has been shown to significantly increase survivorship of juvenile cod (Lindholm et al. 1998 and 2001). These complex benthic substrates are vulnerable to disturbances that reduce complexity, particularly due to their extended recovery times (Bradshaw et al. 2000, Collie et al. 2005, Tamsett et al. 2010).

Areas Containing Shellfish

Shellfish provide an important ecological role through water column filtration, sediment stabilization as well as supplying habitat for multiple fish species (Zimmerman et al. 1989, Dames and Libes 1993, Coen et al. 1999, Nakamura and Kerciku 2000, Forster and Zettler 2004, Newell 2004, Coen and Grizzle 2007, McDermott et al. 2008). Shellfish are also an important food source for federally managed species (Steimle et al. 2000). Shellfish are susceptible to elevated levels of suspended sediments which can interfere with spawning success, feeding, and growth for shellfish such as mussels, clams, and oysters (Wilber and Clark 2001). Sessile species and life history stages are highly vulnerable to smothering and activities that may result in dislodgement of recently settled individuals.

Intertidal Habitat

Intertidal habitats support distinct marine communities and provide important foraging habitats and areas of refuge from predation for juvenile fish during periods of high tide (Helfman et al. 2009). Intertidal habitats include salt marsh vegetated habitats, mud and sandflats, in addition to sandy beaches and rocky shorelines. The functional value of these habitats may be adversely impacted by activities that result in increased erosional rates, changes in slope profiles, habitat type conversions, or decreased connectivity with shallow water subtidal habitats.

Shallow Water Habitat

Shallow water coastal, marine, and estuarine habitats are important for multiple managed fish species for spawning, juvenile and/or adult life history stages (Cargnelli et al. 1999, Chang et al . 1999, Pereira et al. 1999, Stevenson et al. 2014). Because of their shallow depths, seasonally warm water temperatures and proximity to nutrients derived from river runoff, these habitats are highly productive (Stevenson et al. 2014). Each shallow water habitat type provides EFH for multiple managed fish species. Mud and sand habitat types support distinct benthic communities that serve as EFH for managed fish species by directly providing prey and foraging habitat, or through emergent fauna providing increased structural complexity and shelter from predation. Habitat attributes within fine grained substrates also provide important functions for managed fish species including shelter, foraging, and prey (Wicklund 1966, Ogren et al. 1968, Stanley

1971, Shepard et al. 1986, Able and Fahay 1998). Sand waves and ridges serve as valuable habitat for refuge and shelter, as well as habitat for spawning and juvenile development for a variety of species. Gravel, cobble and boulder habitats provide structural complexity for managed fish species that require shelter and seek refuge from predation (Auster 1998, Auster and Langton 1999, NRC 2002, Stevenson et al. 2006, Stevenson et al. 2014). Due to their proximity to the coast, these shallow water habitats are vulnerable to degradation and loss from human activity.

Anadromous Fish

Anadromous fish provide a food source for several federally managed species (Buckel and Conover 1997, Steimle et al. 2000, McDermott et al. 2015). Anadromous species, including blueback herring, alewife, and American shad have been declining in numbers over the last several decades, largely due to fishing pressure and habitat loss (ASMFC 2009). Anadromous fish can be significantly impacted by waterway blockages during their upstream or downstream migrations. Blockages to fish movement can be caused by physical structures in the waterway such as dams or fill. Fish migration can also be blocked by turbidity plumes, thermal plumes or acoustic events. Suspended sediment can mask pheromones used by migratory fishes to reach their spawning grounds, impede their migration, and can smother immobile benthic organisms and newly-settled juvenile demersal fish (Auld and Schubel 1978; Breitburg 1988; Newcombe and MacDonald 1991; Burton 1993; Nelson and Wheeler 1997). Anadromous fish serve as prey for a number of federally-managed species and are therefore considered a component of EFH pursuant to the MSA. Actions that reduce the availability of prey species, either through direct harm or capture or through adverse impacts to the prey species' habitat are considered adverse effects on EFH.

Essential Fish Habitat Programmatic Consultation

Applicability

This EFH PC applies to all activities in tidal waters and streams with diadromous fish proposed for authorization under the five state GPs, IPs and LOPs that may adversely affect EFH and our other trust resources. The scope of analysis for this EFH PC includes all tidally-influenced waters of the U.S. and, as appropriate, non-tidal waters that support diadromous fish, within the New England region. This EFH PC provides our EFH CRs for projects that you routinely authorize under GPs and allows you to determine when an action under the GP will require EFH individual consultation with us.

General Concurrence

We will issue a general concurrence for self verification (SV) eligible activities that may adversely affect EFH but will likely result in no more than minimal adverse effects individually and cumulatively on EFH and other trust resources when they comply with the terms and conditions of the GPs (50 CFR 600.920(g)). Activities that are eligible for SV in the five New England states will be reviewed for general concurrence as those state GPs are reissued.

Programmatic EFH Conservation Recommendations

Appendix A contains the EFH CRs which are intended to avoid and minimize impacts to our trust resources for activities authorized under your Regulatory Program. These CRs are based upon both our experience and expertise, as well as our analysis in the most up-to-date science and literature. Specifically, we have been analyzing and providing CRs to you for over twenty years on substantially identical projects, and are familiar with these types of minimal impact projects. In addition, our office has evaluated a broad range of these activities in Impacts to marine fisheries habitat from nonfishing activities in the northeastern United States (Johnson et al 2008), and Shallow Water Benthic Habitats in the Gulf of Maine: A Summary of Habitat Use by Common Fish and Shellfish Species in the Gulf of Maine (Stevenson et al 2014). Based on these efforts, we have developed the CRs in Appendix A pursuant to Section 305(b)(2) of the MSA.

As you know, the action agency (Corps) determines whether or not an activity would have an adverse effect on EFH. Activities authorized under GPs (SV and Pre Construction Notification (PCN)), IPs and LOPs that would not adversely affect EFH are rare, but in these cases no EFH consultation (i.e., CRs or individual consultation) is needed. For those activities that will have an adverse affect on EFH, the Project Manager (PM) will incorporate CRs as special conditions or into the project plans, as appropriate, to avoid and minimize potential adverse effects to EFH. This may include provisions for the use of turbidity and erosion controls, time of year (TOY) restrictions, or other specific criteria to minimize adverse impacts on EFH.

Individual Consultation

Essential Fish Habitat individual consultation is required for certain activities identified in Appendix A. For these actions, the PM must initiate EFH individual consultation, which can be either abbreviated or expanded. The thresholds for requiring individual consultation are based upon the single and complete project and all direct, secondary and indirect impacts.

The abbreviated consultation procedures are used when the adverse effect(s) of an action could be alleviated through minor modifications. An abbreviated consultation should be initiated with a phone call or email from the PM to our staff to discuss the proposed action. We will notify the PM that:

1. The action would not adversely affect EFH likely due to project changes; no CRs are needed;
2. CRs can be provided based upon existing information; or
3. An EFH Assessment is needed.
4. An expanded consultation is needed due to the action resulting in substantial adverse effects on EFH. We will request via email or letter (at Supervisor level) to the branch chief that the Corps should initiate expanded consultation.

The assessment required for an abbreviated or expanded consultation:

Must contain:

1. A description of the action.
2. An analysis of the potential adverse effects of the action on EFH and the managed species.*
3. The Federal agency's conclusions regarding the effects of the action on EFH.
4. Proposed mitigation, if applicable.

Should contain the following if appropriate:

1. The results of an on-site inspection to evaluate the habitat and the site-specific effects of the project.
2. The views of recognized experts on the habitat or species that may be affected.
3. A review of pertinent literature and related information.
4. An analysis of alternatives to the action. Such analysis should include alternatives that could avoid or minimize adverse effects on EFH.
5. Other relevant information.

*The Corps may provide an EFH worksheet (http://www.greateratlantic.fisheries.noaa.gov/habitat/efh/ efhassessment.html) or use it as a guide to provide the necessary information and avoid delays. Per 50 CFR 600.920(e)(2), "The level of detail in an EFH assessment should be commensurate with the complexity and magnitude of the potential adverse effects of the action. For example, for relatively simple actions involving minor adverse effects on EFH, the assessment may be very brief. Actions that may pose a more serious threat to EFH warrant a correspondingly more detailed EFH Assessment".

If we receive an incomplete EFH assessment, we will request additional information within 10 business days for GPs and LOPs, and 30 business days for IPs. Upon receiving a complete EFH assessment, we will respond in writing to the PM within 30 days for an abbreviated consultation and within 60 days for an expanded consultation by providing:

1. EFH CRs; or
2. A concurrence that impacts are not more than minimal and CRs are unnecessary.

The Corps should contact us, or make a permit decision based upon the best information available, if we do not respond within the 30 or 60-day time frames.

Points of Contact

The points of contact for information on individual consultations and this EFH PC are:

Mike Johnson - Maine to Boston Harbor/Hull - mike.r.johnson@noaa.gov 978-281-9130
Alison Verkade - Cohasset, MA to Connecticut - alison.verkade@noaa.gov 978-281-9266

Reporting

The PM will indicate their action in the PCN Determination of Eligibility Checklist/MFR and indicate which CRs were accepted and provide justification for those CRs that were not

accepted. For the purpose of annual tracking, determination of the effectiveness of the EFH PC, and calculating cumulative impacts, the Corps will send each authorization and the PCN Determination of Eligibility Checklist/MFR to christopher.boelke@noaa.gov within 30 days of issuance.

Dispute Resolution

As soon as issues are identified, all reasonable efforts will be made to resolve them at the staff level. There will be instances, however, where the staff will not be successful. When this occurs, the issue should be raised to Corps branch chief and NMFS Habitat Field Office Supervisor. Dispute resolution should follow the procedures in the Section 404(q) MOA and its Local Coordination Procedures.

Monitoring and Revision

We will review this EFH PC with the Corps periodically to determine whether this EFH PC should be revised to account for any new information or technology or to better streamline the coordination process.

Supplemental Consultation

Pursuant to 50 CFR 600.920(1), you should reinitiate EFH consultation with us if the proposed action is substantially revised in a way that may adversely affect EFH, or if new information becomes available that affects the basis for our CRs. In the case of this EFH PC, you should reinitiate consultation with us if a proposed action is substantially revised in a way such that the activity is no longer covered by this EFH PC or if the GPs are changed in any manner that would affect the basis of these CRs. In addition, if we receive new or additional information that may affect our CRs, we will consider whether to request additional consultation with you and/or provide additional CRs.

Endangered Species Act and Marine Mammal Protection Act Consultations

This PC applies only to EFH consultations and does not obviate your responsibilities to consult with us under either the Endangered Species Act (ESA) or Marine Mammal Protection Act (MMPA). Section 7(a)(2) of the ESA states that each federal agency shall insure that any action they authorize, fund or carry out is not likely to jeopardize the continued existence of a listed species or result in the destruction or adverse modification of designated critical habitat. Any discretionary federal action that may affect a listed species should undergo Section 7 consultation. The MMPA prohibits, with certain exceptions, the take of marine mammals in U.S. waters and by U.S. citizens on the high seas. If the proposed action will result in the take of marine mammals, the appropriate authorization as issued under the MMPA should be obtained. Questions regarding these requirements should be directed to Mark Murray-Brown at (978) 281-9306.

Conclusion

In summary, this EFH PC on the New England District Regulatory program provides upfront EFH recommendations for projects that you routinely authorize. It provides an efficient method for us to consult with each other on these minor development projects. The consultation includes recommendations for the activities listed in Appendix A as well as information on what type of

projects may require individual review. Activities that are not covered in this PC will require individual consultation. We look forward to working with you to implement this PC. Should you have any questions, please contact Christopher Boelke at (978) 281-9131 or christopher.boelke@noaa.gov.

Louis A. Chiarella
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for Habitat Conservation

cc:
Kim Damon-Randall, PRD
Thomas Nies, NEFMC
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APPENDIX A: EFH Conservation Recommendations

1. Repair, Replacement and Maintenance

Activities that require individual consultation:

1. Impacts >100 SF of tidal SAV or natural rocky habitats.
2. Impacts >1000 SF of tidal SAS or intertidal areas.
3. All expansions >1/2 acre.
4. Replacement or maintenance of: a) sloped stabilization structures >200 LF and waterward of the existing toe, or b) vertical structures >18 inches waterward of the existing face and >200 LF.
5. Dam and flood control or levee repairs that will alter water levels or flood elevations.
6. Controls in streams that exceed the widths in #6 below or don't provide downstream passage.
7. Discharges of more than de minimus quantities of accumulated bottom sediments from or through a dam.
8. All work to tide gates without a Corps-approved operation and maintenance plan or alterations to tide gates that will affect the hydraulic regime.

Conservation recommendations for all other activities not identified above:

1. Require an SAV survey for activities within mapped or adjacent to known tidal SAV if a survey has not been conducted in 3 years in accordance with SAV Survey Guidance. Tidal SAV at the project site should be identified in the field prior to the start of work and equipment should not anchor or impact SAV.
2. No impacts to tidal SAS.
3. Work should not produce sedimentation in tidal SAS or natural rocky habitats. This may be achieved using setbacks of 100 feet from tidal SAV or 25 feet from tidal SAS or natural rocky habitats.
4. The TOY restriction in App. B should be required for work that produces greater than minimal turbidity or sedimentation in diadromous streams or tidal waters.
5. Appropriate soil erosion, sediment and turbidity controls should be used and maintained in effective operating condition during construction. Activities capable of producing greater than minimal turbidity or sedimentation should be done during periods of low-flow or no-flow, when the stream or tide is waterward of the work, or when controls are used to obtain dry work conditions. Work that produces greater than minimal turbidity or sedimentation should not be done during the TOY restriction(s) in App. B.
6. Controls in streams should be installed and removed during the same TOY work window when practicable. Controls (e.g., cofferdams) should not encroach: i) >25% from OHW in diadromous streams during the TOY restriction in App. B; or ii) >25% from MHW in tidal waters during the TOY restrictions for shellfish and w.flounder in App B); or iii) >50% from MHW in tidal waters during the TOY windows for shellfish and w.flounder in App B. This is to protect upstream fish passage. Maintain downstream fish passage throughout the project. Controls should be removed upon completion of work, but not until all exposed soil and other fills, as well as any work waterward of OHW or the HTL, are permanently stabilized. Sediment and debris collected by these devices should be removed and placed at an upland location in a manner that will prevent its later erosion into a waterway or wetland.

7. For replacement or maintenance of sloped stabilization structures, stabilization materials such as riprap should not extend waterward of the existing toe of slope. Replaced vertical structures should be located within the existing footprint where possible, but limited to the area within 18 inches of existing structures.
8. Compensatory mitigation should be provided for impacts to tidal SAS, intertidal areas, or natural rocky habitats.

2. Moorings

Activities that require individual consultation:
1. New or relocated moorings within SAS or intertidal areas.
2. New, expansions or boundary reconfigurations of mooring fields within SAS or intertidal areas; or in excess of 1/2 acre.

Conservation recommendations for all other activities not identified above:
1. New or relocated moorings, mooring field expansions or boundary reconfigurations should not be placed in SAS. Those in SAS should utilize low-impact mooring technology. Low impact mooring technology eliminates contact with the bottom substrate at all tides, such as helical anchors and elastic or other floating mooring tackle (i.e. no dragging chains).
2. Compensatory mitigation should be provided for all adverse impacts to SAS.

3. Pile-Supported Structures, Floats and Lifts

Activities that require individual consultation:
1. Structures (piers, ramps, floats, etc.) in tidal SAV or ≥150 LF over salt marsh waterward of MHW.
2. New public, community, government, or commercial boating facilities; or expansions of existing facilities within intertidal or tidal SAV.

Conservation recommendations for all other activities not identified above:
1. The lowermost part of the floats should be ≥18 inches above the substrate at all times*.
2. Structures shall have ≥1:1 height/width ratio** over salt marsh.
3. Docks, piers, ramps, or floats are not located within 25 feet of tidal SAV.
4. Compensatory mitigation should be provided for impacts to tidal SAS.

* This is to avoid grounding and propeller scour and to provide adequate circulation and flushing. This may be accomplished by siting in deep enough water, or by elevating the float with float stops or alternative methods to keep the float 18 inches off the bottom. Skids should only be used in areas where piles are not feasible and only on sandy or hard bottom substrates
** This is to minimize shading impacts. The height should be measured from the marsh substrate to the bottom of the longitudinal support beam.

4. Aids to Navigation and Temporary Recreational Structures

Activities that require individual consultation:
1. Impacts to ≥100 SF of tidal SAV.

Conservation recommendations for all other activities not identified above:
1. No structures should be located within tidal SAV.
2. Compensatory mitigation should be provided for impacts to tidal SAV.

5. Dredging, Disposal of Dredged Material, Beach Nourishment

Activities that require individual consultation:

1. Impacts to >100 SF of tidal SAV or natural rocky habitats.
2. Impacts to >1000 SF of tidal SAS, intertidal areas, or areas containing shellfish*.
3. New dredge** activities.
4. Nearshore disposal or beach nourishment material is inconsistent with the grain-size or type (e.g., sand over cobble) of the existing substrate.
5. Nearshore disposal or beach nourishment activities within: 1) 100 feet of tidal SAV; or 2) 25 feet of other tidal SAS, natural rocky habitats or areas containing shellfish.
6. New dredging to facilitate residential projects including docks or moorings, and new dredging conducted for the sole purpose of beach nourishment.

Conservation recommendations for all other activities not identified above:

1. Require an SAV survey for activities within mapped or adjacent to known tidal SAV if a survey has not been conducted in 3 years in accordance with SAV Survey Guidance. Tidal SAV at the project site should be identified in the field prior to the start of work and equipment should not anchor or impact SAV.
2. No dredging or disposal should be performed within the TOY restrictions stated in App. B.
3. No nearshore disposal or beach nourishment activities within: a) 100 feet of tidal SAV; or b) 25 feet of other tidal SAS, natural rocky habitats or areas containing shellfish.
4. No dredging should produce sedimentation in tidal SAS, natural rocky habitats or areas containing shellfish. This may be achieved using setbacks of 100 feet from tidal SAV or 25 feet from tidal SAS or natural rocky habitats.***
5. Rocks should be relocated to an area of equivalent depth and substrate type.
6. Dredged materials should be deposited and retained in an upland area to prevent sediments from reentering aquatic habitats; unless they are disposed of at either a U.S. EPA/Corps designated disposal site or a CAD cell.
7. Compensatory mitigation should be provided for impacts to tidal SAS, intertidal areas, natural rocky habitats, and areas containing shellfish. Compensatory mitigation should generally not be provided for: a) new or maintenance dredging in areas without these resources; or b) maintenance dredging in areas with these resources if compensatory mitigation was provided in the past.

*A shellfish survey is required to make this determination unless it is verified that minimal shellfish are present, e.g., per the maps in App. D or conversations with local officials.
**The GPs may define new dredging as "dredging of an area to a depth that has never been authorized by the Corps or dredged". For the purposes of this PC, new dredging doesn't include dredging a previously dredged area to a deeper depth, which is defined in some GPs as improvement dredging. The Corps should consider reviewing a maintenance dredging activity as new dredging if the area has been not used in accordance with its authorized project purpose.
***Hydraulic or mechanical dredging may not cause turbidity or sedimentation unless hydraulically dredging fines (i.e., silt and clay) involves: a) direct disposal into the ocean (rare); b) barge overflow; or c) an improperly constructed upland contained dredged material disposal area (e.g., beach or parking lot) such that sedimentation results in adjacent SAS. These are more

extreme examples, but impacts could still occur when performing other activities. MAS typically analyzes proposed dredging and disposal activities for turbidity and sedimentation.

6. Discharges of Dredged or Fill Material Incidental to the Construction of Bridges

Activities that require individual consultation:

1. Impacts ≥100 SF of tidal SAV or natural rocky habitats.
2. Impacts ≥1000 SF of tidal SAS or intertidal areas.
3. Impacts ≥1/2 acre of tidal resources.
4. Controls in streams that exceed the widths in #5 below or do not provide downstream passage.

Conservation recommendations for all other activities not identified above:

1. Require an SAV survey for activities within mapped or adjacent to mapped or known tidal SAV beds if a survey has not been conducted in 3 years in accordance with SAV Survey Guidance. Tidal SAV at the project should be identified in the field prior to the start of work and equipment should not impact SAV.
2. No excavation, dredging or fill activities should occur within: 1) intertidal areas, 2) 100 feet of tidal SAV, or 3) 25 feet of other tidal SAS or natural rocky habitats.
3. The TOY restriction in App. B should be required for work that produces greater than minimal turbidity or sedimentation in diadromous streams or tidal waters.
4. Appropriate soil erosion, sediment and turbidity controls should be used and maintained in effective operating condition during construction. Activities capable of producing greater than minimal turbidity or sedimentation should be done during periods of low-flow or no-flow, when the stream or tide is waterward of the work, or when controls are used to obtain dry work conditions. Work that produces greater than minimal turbidity or sedimentation should not be done during the TOY restriction(s) in App. B.
5. Controls in streams should be installed and removed during the same TOY work window when practicable. Controls (e.g., cofferdams) should not encroach: i) >25% from OHW in diadromous streams during the TOY restriction in App. B; or ii) >25% from MHW in tidal waters during the TOY restrictions for shellfish and w.flounder in App B); or iii) >50% from MHW in tidal waters during the TOY windows for shellfish and w.flounder in App B. This is to protect upstream fish passage. Maintain downstream fish passage throughout the project. Controls should be removed upon completion of work, but not until all exposed soil and other fills, as well as any work waterward of OHW or the HTL, are permanently stabilized. Sediment and debris collected by these devices should be removed and placed at an upland location in a manner that will prevent its later erosion into a waterway or wetland.
6. Compensatory mitigation should be provided for impacts to tidal SAS, intertidal areas, and natural rocky habitats.

7. Bank and Shoreline Stabilization

Activities that require individual consultation:

1. Impacts ≥100 SF of tidal SAV or natural rocky habitats.
2. Impacts to greater than 1000 SF of tidal SAS, intertidal areas, or areas containing shellfish* will require an individual EFH consultation.
3. All structures, fill, and/or armoring placed below MHW in excess of 200 LF.
4. Controls in streams that exceed the widths in #5 below or do not provide downstream passage.

Conservation recommendations for all other activities not identified above:

1. Require an SAV survey for activities within mapped or known tidal SAV if a survey has not been conducted in 3 years in accordance with SAV Survey Guidance. Tidal SAV at the project site should be identified in the field prior to the start of work and equipment should not anchor or impact SAV.
2. No activity should produce sedimentation in tidal SAS, natural rocky habitats or areas containing shellfish. This may be achieved using setbacks of 100 feet from tidal SAV or 25 feet from tidal SAS or natural rocky habitats.
3. The TOY restriction in App. B should be required for work that produces greater than minimal turbidity or sedimentation in diadromous streams or tidal waters.
4. Appropriate soil erosion, sediment and turbidity controls should be used and maintained in effective operating condition during construction. Work capable of producing turbidity or sedimentation should be done during periods of low-flow or no-flow, when the stream or tide is waterward of the work, or when controls are used to obtain dry work conditions. Work that produces greater than minimal turbidity or sedimentation should not be done during the TOY restriction(s) in App. B.
5. Controls in streams should be installed and removed during the same TOY work window when practicable. Controls (e.g., cofferdams) should not encroach: i) >25% from OHW in diadromous streams during the TOY restriction in App. B; or ii) >25% from MHW in tidal waters during the TOY restrictions for shellfish and w. flounder in App B; or iii) >50% from MHW in tidal waters during the TOY windows for shellfish and w.flounder in App B. This is to protect upstream fish passage. Maintain downstream fish passage throughout the project. Controls should be removed upon completion of work, but not until all exposed soil and other fills, as well as any work waterward of OHW or the HTL, are permanently stabilized. Sediment and debris collected by these devices should be removed and placed at an upland location in a manner that will prevent its later erosion into a waterway or wetland.
6. Fill should be located outside of tidal SAS, natural rocky habitats, or areas containing shellfish, and should not impact adjacent SAS, natural rocky habitats, or areas containing shellfish.
7. Compensatory mitigation should be provided for impacts to SAS, intertidal areas, natural rocky habitats, and areas containing shellfish.

*A shellfish survey is required to make this determination unless it is verified that minimal shellfish are present, e.g., per the maps in App. D or conversations with local officials.

8. Residential, Commercial and Institutional Developments, Recreational Facilities

Activities that require individual consultation:

1. Activities that involve stream channelization, relocation, or loss of streambed.
2. Impacts ≥100 SF of tidal SAV or natural rocky habitats.
3. Impacts ≥1000 SF of SAS or intertidal areas.
4. Impacts ≥1/2 acre of tidal resources.
5. Controls in streams that exceed the widths in #3 below or do not provide downstream passage.

Conservation recommendations for all other activities not identified above:

1. The TOY restriction in App. B should be required for work that produces greater than minimal turbidity or sedimentation in diadromous streams or tidal waters.
2. Appropriate soil erosion, sediment and turbidity controls should be used and maintained in effective operating condition during construction. Work capable of producing greater than minimal turbidity or sedimentation should be done during periods of low-flow or no-flow, when the stream or tide is waterward of the work, or when controls are used to obtain dry work conditions. Work that produces greater than minimal turbidity or sedimentation should not be done during the TOY restriction(s) in App. B.
3. Controls in streams should be installed and removed during the same TOY work window when practicable. Controls (e.g., cofferdams) should not encroach: i) >25% from OHW in diadromous streams during the TOY restriction in App. B; or ii) >25% from MHW in tidal waters during the TOY restrictions for shellfish and w.flounder in App B); or iii) >50% from MHW in tidal waters during the TOY windows for shellfish and w.flounder in App B. This is to protect upstream fish passage. Maintain downstream fish passage throughout the project. Controls should be removed upon completion of work, but not until all exposed soil and other fills, as well as any work waterward of OHW or the HTL, are permanently stabilized. Sediment and debris collected by these devices should be removed and placed at an upland location in a manner that will prevent its later erosion into a waterway or wetland.
4. Compensatory mitigation should be provided for impacts to tidal SAS, intertidal areas, or natural rocky habitats.

9. Utility Line Activities

Activities that require individual consultation:

1. Impacts ≥100 SF of tidal SAV or natural rocky habitats.
2. Impacts ≥1000 SF of tidal SAS, intertidal areas, or areas containing shellfish*.
3. Utility lines ≥100 linear feet (LF) installed by trench excavation, or ≥200 LF installed by jet-plow, fluidization or other direct burial methods.
4. Controls in streams that exceed the widths in #4 below or do not provide downstream passage.

Conservation recommendations for all other activities not identified above:

1. Require an SAV survey for activities within mapped or known tidal SAV if a survey has not been conducted in 3 years in accordance with SAV Survey Guidance. Tidal SAV at the project site should be identified in the field prior to the start of work and equipment should not anchor or impact SAV.
2. The TOY restriction in App. B should be required for work that produces greater than minimal turbidity or sedimentation in diadromous streams or tidal waters.
3. Appropriate soil erosion, sediment and turbidity controls should be used and maintained in effective operating condition during construction. Work capable of producing greater than minimal turbidity or sedimentation should be done during periods of low-flow or no-flow, when the stream or tide is water- ward of the work, or when controls are used to obtain dry work conditions. Work that produces greater than minimal turbidity or sedimentation should not be done during the TOY restriction(s) in App. B.
4. Controls in streams should be installed and removed during the same TOY work window when practicable. Controls (e.g., cofferdams) should not encroach: i) >25% from OHW in diadromous streams during the TOY restriction in App. B; or ii) >25% from MHW in tidal waters during the TOY restrictions for shellfish and w.flounder in App B); or iii) >50% from MHW in tidal waters during the TOY windows for shellfish and w.flounder in App B. This is to protect upstream fish passage. Maintain downstream fish passage throughout the project. Controls should be removed upon completion of work, but not until all exposed soil and other fills, as well as any work waterward of OHW or the HTL, are permanently stabilized. Sediment and debris collected by these devices should be removed and placed at an upland location in a manner that will prevent its later erosion into a waterway or wetland.
5. Trenches should be backfilled immediately after installation with excavated, native sediment.
6. Utility lines installed using trenching or direct burial methods should reestablish pre-construction elevations. If additional backfill material is needed to restore elevations to pre-construction conditions, the material should be of consistent type and grain-size as the existing substrate sediment.
7. Utility lines in non-tidal waters in or adjacent to SAS** and in tidal waters should utilize Horizontal Directional Drilling (HDD) where possible. The HDD work must be conditioned to include a frac-out contingency plan.
8. Pipelines and submerged cables should be buried when possible, instead of resting on the surface, to allow an area to return to preexisting conditions.
9. Align pipelines to avoid sensitive habitats including SAS** and hard bottom habitat, to the maximum extent possible.

10. Compensatory mitigation should be provided for impacts to SAS**, intertidal areas, natural rocky habitats, and areas containing shellfish.

* A shellfish survey is required to make this determination unless it it verified that minimal shellfish are present, e.g., per the resources in App. D or conversations with local officials.
** For non-tidal waters, SAS is comprised of SAV and rifle and pool complexes.

10. Linear Transportation Projects Including Stream Crossings/Stream and Water Crossings

Activities that require individual consultation:
1. Impacts ≥100 SF of tidal SAV or natural rocky habitats.
2. Impacts ≥1000 SF of tidal SAS or intertidal areas.
3. Impacts ≥1/2 acre of tidal resources.
4. Activities that involve stream channelization, relocation, or loss of streambed.
5. Controls in streams that exceed the widths in #5 below or do not provide downstream passage.
6. Crossings (new, replacement, extensions, etc.) that do not meet the Corps stream crossing requirements or involve slip-lining of existing culverts.

Conservation recommendations for all other activities not identified above:
1. No excavation, dredging or fill activities should occur within: 1) intertidal areas, 2) 100 feet of tidal SAV, or 3) 25 feet tidal SAS or natural rocky habitats.
2. The TOY restriction in App. B should be required for work that produces greater than minimal turbidity or sedimentation in diadromous streams or tidal waters.
3. Require an SAV survey for activities within mapped or known tidal SAV if a survey has not been conducted in 3 years in accordance with SAV Survey Guidance. Tidal SAV at the project site should be identified in the field prior to the start of work and equipment should not anchor or impact SAV.
4. Appropriate soil erosion, sediment and turbidity controls should be used and maintained in effective operating condition during construction. Work capable of producing greater than minimal turbidity or sedimentation should be done during periods of low-flow or no-flow, when the stream or tide is waterward of the work, or when controls are used to obtain dry work conditions. Work that produces turbidity or sedimentation should not be done during the TOY restriction(s) in App. B.
5. Controls in streams should be installed and removed during the same TOY work window when practicable. Controls (e.g., cofferdams) should not encroach: i) >25% from OHW in diadromous streams during the TOY restriction in App. B; or ii) >25% from MHW in tidal waters during the TOY restrictions for shellfish and w.flounder in App B); or iii) >50% from MHW in tidal waters during the TOY windows for shellfish and w.flounder in App B. This is to protect upstream fish passage. Maintain downstream fish passage throughout the project. Controls should be removed upon completion of work, but not until all exposed soil and other fills, as well as any work waterward of OHW or the HTL, are permanently stabilized. Sediment and debris collected by these devices should be removed and placed at an upland location in a manner that will prevent its later erosion into a waterway or wetland.

6. Excavated or dredged materials should be deposited and retained in an upland area to prevent sediments from reentering aquatic habitats, unless they are disposed of at either a US EPA/Corps designated disposal site or a CAD cell.
7. Compensatory mitigation should be provided for impacts to SAS (i.e., tidal SAS; or non-tidal SAV or rifle and pool), intertidal areas or natural rocky habitats.

11. Mining Activities

Activities that require individual consultation:

1. Mining activities located within riffle and pool complexes.
2. Controls in streams that exceed the widths in #4 below or do not provide downstream passage.

Conservation recommendations for all other activities not identified above:

1. No mining activities should occur within SAS, including riffle and pool complexes.
2. The TOY restriction in App. B should be required for work that produces greater than minimal turbidity or sedimentation in diadromous streams or tidal waters.
3. Appropriate soil erosion, sediment and turbidity controls should be used and maintained in effective operating condition during construction. Work capable of producing greater than minimal turbidity or sedimentation should be done during periods of low-flow or no-flow, when the stream or tide is waterward of the work, or when controls are used to obtain dry work conditions. Work that produces greater than minimal turbidity or sedimentation should not be done during the TOY restriction(s) in App. B.
4. Controls in streams should be installed and removed during the same TOY work window when practicable. Controls (e.g., cofferdams) should not encroach: i) >25% from OHW in diadromous streams during the TOY restriction in App. B; or ii) >25% from MHW in tidal waters during the TOY restrictions for shellfish and w.flounder in App B); or iii) >50% from MHW in tidal waters during the TOY windows for shellfish and w.flounder in App B. This is to protect upstream fish passage. Maintain downstream fish passage throughout the project. Controls should be removed upon completion of work, but not until all exposed soil and other fills, as well as any work waterward of OHW or the HTL, are permanently stabilized. Sediment and debris collected by these devices should be removed and placed at an upland location in a manner that will prevent its later erosion into a waterway or wetland.
5. Mined materials should be deposited and retained in an upland area to prevent sediments from reentering aquatic habitats.
6. Compensatory mitigation should be provided for impacts to SAS (i.e., tidal SAS; or non-tidal SAV or rifle and pool).

12. Boat Ramps and Marine Railways

Activities that require individual consultation:

1. Impacts ≥100 SF of tidal SAV or natural rocky habitats.
2. Impacts ≥1000 SF of tidal SAS, intertidal areas, or areas containing shellfish*.
3. Impacts ≥1/2 acre of tidal resources.
4. Controls in streams that exceed the widths in #5 below or do not provide downstream passage.

Conservation recommendations for all other activities not identified above:

1. No activity should produce sedimentation in tidal SAS, natural rocky habitats or areas containing shellfish. This may be achieved using setbacks of 100 feet from tidal SAV or 25 feet from tidal SAS or natural rocky habitats.
2. The TOY restriction in App. B should be required for work that produces greater than minimal turbidity or sedimentation in diadromous streams or tidal waters.
3. Require an SAV survey for activities within mapped or known tidal SAV if a survey has not been conducted in 3 years in accordance with SAV Survey Guidance. Tidal SAV at the project site should be identified in the field prior to the start of work and equipment should not anchor or impact SAV.
4. Appropriate soil erosion, sediment and turbidity controls should be used and maintained in effective operating condition during construction. Work capable of producing greater than minimal turbidity or sedimentation should be done during periods of low-flow or no-flow, when the stream or tide is waterward of the work, or when controls are used to obtain dry work conditions. Work that produces greater than minimal turbidity or sedimentation should not be done during the TOY restriction(s) in App. B.
5. Controls in streams should be installed and removed during the same TOY work window when practicable. Controls (e.g., cofferdams) should not encroach: i) >25% from OHW in diadromous streams during the TOY restriction in App. B; or ii) >25% from MHW in tidal waters during the TOY restrictions for shellfish and w.flounder in App B); or iii) >50% from MHW in tidal waters during the TOY windows for shellfish and w.flounder in App B. This is to protect upstream fish passage. Maintain downstream fish passage throughout the project. Controls should be removed upon completion of work, but not until all exposed soil and other fills, as well as any work waterward of OHW or the HTL, are permanently stabilized. Sediment and debris collected by these devices should be removed and placed at an upland location in a manner that will prevent its later erosion into a waterway or wetland.
6. Compensatory mitigation should be provided for impacts to tidal SAS (i.e., tidal SAS; or non-tidal SAV or rifle and pool), intertidal areas, natural rocky habitats, and areas containing shellfish.

* A shellfish survey is required to make this determination unless it is verified that minimal shellfish are present, e.g., per the maps in App. D or conversations with local officials.

13. Land and Water-Based Renewable Energy Generation Facilities

Activities that require individual consultation:

1. All projects related to renewable energy generation facilities.

14. Temporary Construction, Access, and Dewatering

Activities that require individual consultation:

1. Impacts to ≥100 SF of tidal SAV or natural rocky habitats.
2. Impacts to ≥1000 SF of tidal SAS or intertidal areas.
3. Impacts to ≥1/2 acre of tidal resources.
4. Controls in streams that exceed the widths in #9 below or do not provide downstream passage.
5. All temporary structures, construction access, and dewatering activities proposed to be in place for ≥2 years.

Conservation recommendations for all other activities not identified above:

1. All temporary structures, construction, access and dewatering actives should be located outside of tidal SAS or natural rocky habitats.
2. The TOY restriction in App. B should be required for work that produces greater than minimal turbidity or sedimentation in diadromous streams or tidal waters.
3. Temporary structures, construction, access, and dewatering activities should not be in place for >2 years.
4. No activity should produce sedimentation in tidal SAS or natural rocky habitats. This may be achieved using setbacks of 100 feet from tidal SAV or 25 feet from tidal SAS or natural rocky habitats.
5. No temporary construction, access, and dewatering should occur within 100 feet of SAV.
6. No activities should occur within 25 feet of tidal wetlands or mudflats.
7. Compensatory mitigation should be provided for activities that are in place >2 years.
8. Appropriate soil erosion, sediment and turbidity controls should be used and maintained in effective operating condition during construction. Work capable of producing greater than minimal turbidity or sedimentation should be done during periods of low-flow or no-flow, when the stream or tide is waterward of the work, or when controls are used to obtain dry work conditions. Work that produces greater than minimal turbidity or sedimentation should not be done during the TOY restriction(s) in App. B.
9. Controls in streams should be installed and removed during the same TOY work window when practicable. Controls (e.g., cofferdams) should not encroach: i) >25% from OHW in diadromous streams during the TOY restriction in App. B; or ii) >25% from MHW in tidal waters during the TOY restrictions for shellfish and w.flounder in App B); or iii) >50% from MHW in tidal waters during the TOY windows for shellfish and w.flounder in App B. This is to protect upstream fish passage. Maintain downstream fish passage throughout the project. Controls should be removed upon completion of work, but not until all exposed soil and other fills, as well as any work waterward of OHW or the HTL, are permanently stabilized. Sediment and debris collected by these devices should be removed and placed at an upland location in a manner that will prevent its later erosion into a waterway or wetland.

15. Reshaping Existing Drainage Ditches, New Ditches, and Mosquito Management

Activities that require individual consultation:

For reshaping existing drainage ditches or new ditches:
1. Impacts ≥100 SF of tidal SAV or natural rocky habitats.
2. Impacts ≥1000 SF of tidal SAS or intertidal areas.
3. Impacts to ≥1/2 acre of tidal resources.

16. Response Operation for Oil and Hazardous Substances

Activities that require individual EFH consultation:
1. Training activities with impacts ≥100 SF of tidal SAV or natural rocky habitats.
2. Training activities with impacts ≥1000 SF of tidal SAS, intertidal areas, or areas containing shellfish*.
3. Training structures with impacts to ≥1/2 acre of tidal resources.

Conservation recommendations for all other activities not identified above:
1. Training activities should be located outside of tidal SAS or natural rocky habitats and areas containing shellfish.
2. Compensatory mitigation should be provided for impacts to tidal SAS, natural rocky habitats, and areas containing shellfish.

*A shellfish survey is required to make this determination unless it is verified that minimal shellfish are present, e.g., per the maps in App. D or conversations with local officials.

17. Clean up of Hazardous and Toxic Waste

Activities that require individual consultation*:*
1. All cleanup activities within tidal waters.

18. Scientific Measurement Devices

Activities that require individual consultation:
1. Impacts ≥100 SF of tidal SAV or natural rocky habitats.
2. Impacts ≥1000 SF of tidal SAS or intertidal areas.
3. Impacts ≥1/2 acre of tidal resources.

Conservation recommendations for all other activities not identified above
1. No permanent impacts to tidal SAS, intertidal areas or natural rocky habitats.
2. Compensatory mitigation should be provided for impacts to tidal SAS, intertidal areas, or natural rocky habitats.

19. Survey Activities

Activities that require individual consultation:
1. Impacts ≥100 SF of tidal SAV or natural rocky habitats.
2. Impacts ≥1000 SF of tidal SAS or intertidal areas.
3. Impacts ≥1/2 acre of tidal resources.
4. Exploratory trenching activities, or other similar silt-producing survey activities.
5. Survey activities involving seismic testing.

Conservation recommendations for all other activities not identified above:
1. No permanent impacts to tidal SAS or natural rocky habitats.
2. Compensatory mitigation should be provided for impacts to tidal SAS, intertidal areas, or natural rocky habitats.

20. Agricultural Activities

Activities that require individual consultation:
1. Activities that involve stream channelization, relocation, or loss of streambed.
2. Controls in streams that exceed the widths in #3 below or do not provide downstream passage.

Conservation recommendations for all other activities not identified above:
1. The TOY restriction in App. B should be required for work that produces greater than minimal turbidity or sedimentation in diadromous streams or tidal waters.
2. Appropriate soil erosion, sediment and turbidity controls should be used and maintained in effective operating condition during construction. Work capable of producing greater than minimal turbidity or sedimentation should be done during periods of low-flow or no-flow, when the stream or tide is waterward of the work, or when controls are used to obtain dry work conditions. Work that produces greater than minimal turbidity or sedimentation should not be done during the TOY restriction(s) in App. B.
3. Controls in streams should be installed and removed during the same TOY work window when practicable. Controls (e.g., cofferdams) should not encroach: i) >25% from OHW in diadromous streams during the TOY restriction in App. B; or ii) >25% from MHW in tidal waters during the TOY restrictions for shellfish and w.flounder in App B); or iii) >50% from MHW in tidal waters during the TOY windows for shellfish and w.flounder in App B. This is to protect upstream fish passage. Maintain downstream fish passage throughout the project. Controls should be removed upon completion of work, but not until all exposed soil and other fills, as well as any work waterward of OHW or the HTL, are permanently stabilized. Sediment and debris collected by these devices should be removed and placed at an upland location in a manner that will prevent its later erosion into a waterway or wetland.

21. Fish and Wildlife Harvesting and Attraction Devices and Activities

Activities that require individual consultation:
1. Impacts ≥100 SF of tidal SAV or natural rocky habitats.
2. Impacts ≥1000 SF of tidal SAS or intertidal areas.
3. Impacts ≥1/2 acre of tidal resources.
4. Enclosures and impoundments for aquaculture activities within tidal waters.

Conservation recommendations for all other activities not identified above:
1. No permanent impacts to tidal SAS or natural rocky habitats.
2. Structures, cages, gear, or shell hash should not be located within 25 feet of, or suspended above, SAV. Shell hash should not be deposited in SAS to avoid conversion of habitats.
3. Seasonal structures should be removed during the off-season and stored in upland areas to minimize effects of habitat loss and shading that may occur from floats and cages.
4. Compensatory mitigation should be provided for impacts to tidal SAS, intertidal areas, or natural rocky habitats.

22. Aquaculture

Activities that require individual EFH consultation:
1. Impacts ≥100 SF of tidal SAV or natural rocky habitats.
2. Impacts ≥1000 SF of tidal SAS, intertidal areas, or areas containing shellfish*.
3. Impacts ≥1/2 acre of tidal resources.
4. Enclosures and impoundments for aquaculture activities within tidal waters.
5. Finfish aquaculture

Conservation recommendations for all other activities not identified above:
1. No permanent impacts to tidal SAS, natural rocky habitats, or areas containing shellfish.
2. Structures, cages, gear, or shell hash should not be located within 25 feet of, or suspended above, tidal SAV. Shell hash should not be deposited in tidal SAS to avoid conversion of habitats.
3. Seasonal structures should be removed during the off-season and stored in upland areas to minimize effects of habitat loss and shading that may occur from floats and cages.
4. Compensatory mitigation should be provided for impacts to tidal SAS, intertidal areas, natural rocky habitats, and areas containing shellfish.

* A shellfish survey is required to make this determination unless it is verified that minimal shellfish are present, e.g., per the maps in App. D or conversations with local officials.

23. Habitat Restoration, Establishment and Enhancement Activities

Activities that require individual consultation:

1. Impacts ≥100 SF of tidal SAV or natural rocky habitats.
2. Impacts ≥1000 SF of tidal SAS, intertidal areas, or areas containing shellfish*.
3. Impacts ≥1/2 acre of tidal resources.
4. All projects incorporating thin layer deposition for salt marsh wetland restoration.
5. Controls in streams that exceed the widths in #7 below or do not provide downstream passage.

Conservation recommendations for all other activities not identified above:

1. Seed shellfish, spatted-shell, or cultch should not be deposited in tidal SAS to avoid conversion of habitats.
2. The TOY restriction in App. B should be required for work that produces greater than minimal turbidity or sedimentation in diadromous streams or tidal waters.
3. No ancillary work should occur in tidal SAS or areas containing shellfish other than proactive habitat restoration or enhancement of SAS.
4. Habitat restoration projects should not result in a permanent conversion or loss of cobble or natural rocky habitat, SAS, or areas containing shellfish.
5. Only native species of vegetation should be planted and invasive species should be controlled within the restoration site.
6. Appropriate soil erosion, sediment and turbidity controls should be used and maintained in effective operating condition during construction. Work capable of producing greater than minimal turbidity or sedimentation should be done during periods of low-flow or no-flow, when the stream or tide is waterward of the work, or when controls are used to obtain dry work conditions. Work that produces greater than minimal turbidity or sedimentation should not be done during the TOY restriction(s) in App. B.
7. Controls in streams should be installed and removed during the same TOY work window when practicable. Controls (e.g., cofferdams) should not encroach: i) >25% from OHW in diadromous streams during the TOY restriction in App. B; or ii) >25% from MHW in tidal waters during the TOY restrictions for shellfish and w.flounder in App B); or iii) >50% from MHW in tidal waters during the TOY windows for shellfish and w.flounder in App B. This is to protect upstream fish passage. Maintain downstream fish passage throughout the project. Controls should be removed upon completion of work, but not until all exposed soil and other fills, as well as any work waterward of OHW or the HTL, are permanently stabilized. Sediment and debris collected by these devices should be removed and placed at an upland location in a manner that will prevent its later erosion into a waterway or wetland.

* A shellfish survey is required to make this determination unless it is verified that minimal shellfish are present, e.g., per the maps in App. D or conversations with local officials.

APPENDIX B
RECOMMENDED TIME OF YEAR RESTRICTIONS

Time of year (TOY) restrictions are provided for each New England state so that work (i.e., dredging or other in-water, turbidity and noise producing activities) may be avoided during sensitive life stages of managed species. These standard restrictions take into account the breeding, nursery and migration stages of managed species which are especially vulnerable to in-water silt-producing activities, dredging projects, noise impacts, or project activities which may encroach >25% into a waterway interfering with migration. In-water work for those projects or activities with EFH CRs to utilize the appropriate TOY restriction should not be completed during the TOY restriction provided below.

TOY RESTRICTIONS

State	TOY Restrictions
Connecticut	Winter Flounder[1]: • February 1 to May 31 • April 1 through June 30 north of Old Saybrook in the CT River • ≤42°F for 3 consecutive days in Mumford Cove and connecting parts of Venetian Harbor. Diadromous Fish: April 1 to June 30 Shellfish[2]: May 1 to September 30
Rhode Island	Winter Flounder[1]: February 1 to June 30 Diadromous Fish: March 15 to June 30 Shellfish[2]: May 1 to October 14
Massachusetts	Winter Flounder[1,3]: January 15 to June 30 Diadromous Fish: March 1 to June 30 Shellfish[2,3]: June 1 to October 31
New Hampshire	March 16 to November 14 of any year
Maine	Winter Flounder[1]: March 15 to June 30 Diadromous Fish: April 1 to June 30 Shellfish[2]: June 1 to October 31

1 See these areas at http://www.greateratlantic.fisheries.noaa.gov/hcd/list.htm.
2 See Appendix D
3 The Massachusetts Division of Marine Fisheries (MA DMF) has developed site-specific TOY restrictions for coastal alteration projects by waterbody. The TOY document provided on the MA DMF website at http://www.mass.gov/dfwele/dmf/publications/tr 47.pdf may be referenced for in-water alteration projects in applicable locations.

APPENDIX C
DEFINITIONS

Adverse effect: This means any impact that reduces quality and/or quantity of EFH. Adverse effects may include direct or indirect physical, chemical, or biological alterations of the waters or substrate and loss of, or injury to, benthic organisms, prey species and their habitat, and other ecosystem components, if such modifications reduce the quality and/or quantity of EFH. Adverse effects to EFH may result from actions occurring within EFH or outside of EFH and may include site-specific or habitat-wide impacts, including individual, cumulative, or synergistic consequences of actions.

Appropriate soil erosion, sediment and turbidity controls: These include cofferdams, bypass pumping around barriers immediately up and downstream of the work footprint (i.e., dam and pump), installation of sediment control barriers (i.e., silt fence, vegetated filter strips, geotextile silt fences, filter tubes, erosion control mixes, hay bales or other devices) downhill of all exposed areas, stream fords, retention of existing vegetated buffers, application of temporary mulching during construction, phased construction, and permanent seeding and stabilization, etc.

Greater than minimal turbidity and sedimentation: For the purposes of this document, "greater than minimal turbidity and sedimentation" is generally not considered to occur from the installation of sheet piles, removal of sheet piles when done in accordance with the Soil Erosion and Sediment Controls general condition of the GPs, the installation or removal of piles, dredging or excavating in predominantly sand and courser material, and dredged material disposal in the upland (e.g., beach or parking lot) into properly constructed upland contained dredged material disposal area.

Natural rocky habitats: These are composed of pebble/gravel, cobble, boulder, or rock ledge/outcrop substrate. Manufactured stone (e.g. cut or engineered rip-rap) is not considered a natural rocky habitat. Mixed substrate types (e.g. sand and pebble/gravel) should be considered natural rocky habitats where 30% or greater of the substrate type is composed of pebble/gravel. For mixed substrate type habitats with 10-30% of pebble/gravel sediments, which do not contain cobble, boulder or rock ledge/outcrop, coordination with NMFS should be conducted to determine if the habitat should be classified as a natural rocky habitat. All habitats containing cobble, boulder, or rock ledge/outcrop should be considered natural rocky habitats.

Special aquatic sites: These include inland and saltmarsh wetlands, mud flats, vegetated shallows, sanctuaries and refuges, coral reefs, and riffle and pool complexes. These are defined at 40 CFR 230.3 and listed in 40 CFR 230 Subpart E.

APPENDIX D
INFORMATION AND RESOURCES

Connecticut

NOTE: Shellfish information is required by the state and included on plans.

CT Bureau of Aquaculture: Shellfish maps and town information
http://www.ct.gov/doag/cwp/view.asp?a=3768&q=451508&doagNav=

CT GIS Resources: Data layers: Shellfish; Shellfish Classification Areas; CT managed shellfish beds
http://www.ct.gov/deep/cwp/view.asp?a=2698&q=323342&deepNav_GID=1707

Maps all natural shellfish beds in CT that were designated in 2014. It has layers for all habitat types (including natural rocky habitats and all SAS) with an added component based on exposure
http://clear3.uconn.edu/aquaculture

Eelgrass Maps
https://www.fws.gov/northeast/ecologicalservices/pdf/wetlands/2012_CT_Eelgrass_Final_Report_11_26_2013.pdf
http://www.ct.gov/deep/cwp/view.asp?a=2698&q=323342&deepNav_GID=1707
http://longislandsoundstudy.net/ (Long Island Sound study)

CT GIS Resources – Habitat and coastal resources data layers
http://www.ct.gov/deep/cwp/view.asp?a=2698&q=323342&deepNav_GID=1707
http://cteco.maps.arcgis.com/home/index.html

CT DEEP Office of Long Island Sound Programs and Fisheries
http://www.ct.gov/deep/

UConn MAGIC GIS data – coastal aerial photographs and
http://magic.lib.uconn.edu/

CT River Watershed Council
http://www.ctriver.org/

Maine

Maine Office of GIS Data Catalog:
http://www.maine.gov/megis/catalog.
Data layers include: molluscan shellfish area; mussel seed conservation areas; eelgrass maps; Atlantic salmon habitat.

State of Maine Shellfish Sanitation and Management:
http://www.maine.gov/dmr/shellfish-sanitation-management/index.html

Town shellfish information including shellfish conservation area maps
www.maine.gov/dmr/shellfish-sanitation-management/programs/municipal/ordinances/towninfo.html

Eelgrass maps:
http://www.maine.gov/dmr/science-research/species/eelgrass/index.html

Casco Bay Estuary Partnership:
http://www.cascobayestuary.org/ >> Resources >>

Maine GIS Stream Habitat Viewer:
http://mapserver.maine.gov/streamviewer/index.html

Massachusetts

MassGIS Data – Data layer: Shellfish Suitability Areas
http://maps.massgis.state.ma.us/map_ol/oliver.php shows locations of various species; metadata state "The polygons delineate areas that are believed to be suitable for shellfish based on the expertise of the Massachusetts Division of Marine Fisheries (MarineFisheries) and local Shellfish Constables, input from commercial fishermen, and information contained in maps and studies of shellfish in Massachusetts. The areas covered include sites where shellfish have been observed since the mid-1970's, but may not currently support any shellfish. Therefore, these maps represent potential habitat areas. Site specific surveys may be necessary to ascertain current distribution and abundance but will not be used to alter the designation of potential habitat without MarineFisheries input. Additionally, because of the changing habitat and water quality conditions, lands containing shellfish likely exist in areas not identified on these maps. As such, these layers should not be used as a primary source to make site specific assessments for impact or mitigation. (May 2011)"

MA Shellfish Sanitation and Management program
http://www.mass.gov/eea/agencies/dfg/dmf/programs-and-projects/shellfish-sanitation-and-management.html

Eelgrass maps
http://maps.massgis.state.ma.us/map_ol/oliver.php
http://maps.massgis.state.ma.us/images/dep/eelgrass/eelgrass_map.htm same data on both of these sites, just presented differently.

MassGIS Data – Habitat and coastal resources data layers
http://maps.massgis.state.ma.us/map_ol/oliver.php
http://maps.massgis.state.ma.us/map_ol/moris.php

MA DMF Recommended TOY Restrictions Document
http://www.mass.gov/eea/docs/dfg/dmf/publications/tr-47.pdf

Massachusetts Bays National Estuary Program
http://www.mass.gov/eea/agencies/mass-bays-program/

Buzzards Bay National Estuary Program
http://buzzardsbay.org/ This is an advisory and planning unit of MA CZM. Their website has informational pages on marine life in their area that link to the state pages in other sections on this sheet. This website does have current shellfish bed closure maps.

Massachusetts Division of Marine Fisheries
(http://www.mass.gov/eea/agencies/dfg/dmf/) poor link, use next one
http://www.mass.gov/eea/agencies/dfg/dmf/programs-and-projects/designated-shellfish-growing-areas.html maps of shellfish growing area classification (approved, conditionally approved, restricted, conditionally approved, prohibited)

Massachusetts Office of Coastal Zone Management
http://www.mass.gov/eea/agencies/czm/ no shellfish/fish mapping found at this site

New Hampshire

NH's Statewide GIS Clearinghouse, NH GRANIT:

http://www.granit.unh.edu.

Data layers include: aquaculture resources, eelgrass maps; shellfish water classification

NH Coastal Viewer:

http://www.granit.unh.edu/nhcoastalviewer

Shellfish aquaculture; eelgrass beds (current only); shellfish resources (current and historic)

State of NH Shellfish Program:

http://des.nh.gov/organization/divisions/water/wmb/shellfish/

Rhode Island

RI Shellfish and Aquaculture

http://www.dem.ri.gov/programs/fish-wildlife/marine-fisheries/shellfish-aquaculture.php

http://www.dem.ri.gov/programs/water/shellfish/

RI Shellfish Management Plan

http://www.rismp.org/

Eelgrass maps

http://www.savebay.org/file/2012_Mapping_Submerged_Aquatic_Vegetation_final_report_4_2013.pdf

RI GIS Data – Habitat and coastal resources data layers

http://ridemgis.maps.arcgis.com/apps/webappviewer/index.html?id=87e104c8adb449eb9f905e5f18020de5

Narraganset Bay Estuary Program

http://www.dem.ri.gov/programs/benviron/water/wetlands/wetldocs.htm

Rhode Island Division of Marine Fisheries

http://www.dem.ri.gov/

Rhode Island Coastal Resources Management Council

http://www.crmc.ri.gov/

APPENDIX E
STREAM WITH DIADROMOUS FISH

Connecticut
PENDING

Maine
PENDING

Massachusetts
Streams listed in "MA DMF Technical Report TR-47: Recommended Time of Year Restrictions (TOYs) for Coastal Alteration Projects to Protect Marine Fisheries Resources in Massachusetts"

New Hampshire

CONNECTICUT RIVER AND TRIBUTARIES

Ames Brook
Ammonoosuc River
Arlin Brook
Ash Swamp Brook
Ashuelot River
Beaver Brook
Beaver Brook
Beaver Brook
Bendell Brook
Benware Brook
Bill Little Brook
Bloods Brook
Burton Brook
Carpenters Brook
Carter Brook
Clark Brook
Cobb Brook
Cold River
Coleman Brook
Cone Brook
Conmary Brook
Cow Brook
Dyer Brook
Eastman Brook
Governors Brook
Grant Brook
Great Brook
Gulf, The
Gully Brook
Hackett Brook
Hewes Brook
Hubbard Brook
Hunt Mountain Brook
Israel River
Johns River
Kimball Brook
Liscomb Brook
Little Sugar River
Lyman Brook
Mascoma River
Mill Brook
Mink Brook
Mohawk River
Moore Brook
Oliverian Brook
Ox Brook
Partridge Brook
Petes Brook
Potter Brook
Roaring Brook
Roaring Brook
Roaring Brook
Scarritt Brook
Simms Stream
Slade Brook
Smarts Mill Brook
Smith Brook
Sprague Brook
Sugar River
Sweatt Brook
Upper Ammonoosuc River
Walker Brook

MERRIMACK RIVER AND TRIBUTARIES

Allen Brook
Baker Brook
Bennett Brook
Bow Bog Brook
Bow Brook
Bowman Brook
Bradleys Island
Brickyard Brook
Browns Brook
Bryant Brook
Burnham Brook
Cate Brook
Chandler Brook
Chase Brook
Cohas Brook
Cold Brook
Contoocook River
Cross Brook
Dalton Brook
Giles Pond -
Salmon Brook
Glines Brook
Hayward Brook
Horseshoe Island
Horseshoe Pond -
Naticook Brook
Knox Brook
Little Cohas Brook
Messer Brook
Millstone Brook
Nashua River
Needle Shop Brook
Nesenkeag Brook
Pemigewasset River
Penacook Lake
Piscataquog River
Pointer Club Brook
Punch Brook
Ray Brook
Riddle Brook
Sawmill Brook
Second Brook
Shaw Brook
Soucook River
Souhegan River
South Branch River
Stirrup Iron Brook
Suncook River
Tannery Brook
Turkey River
Watts Brook
Weeks Brook
Winnipesaukee River
Woods Brook

ANDROSCOGGIN RIVER AND TRIBUTARIES

Austin Mill Brook
Bean Brook
Bear Brook
Bog Brook
Cascade Alpine Brook
Chickwolnepy Stream
Clear Stream
Clement Brook
Conner Brook
Dead River
East Brook
Gates Brook
Goose Pond
Horne Brook
Island Brook
Josh Brook
Kidder Brook
Leadmine Brook
Leavitt Stream
Mollidgewock Brook
Moose Brook
Moose Pond
Moose River
Munn Pond
Pea Brook
Peabody Brook
Perkins Brook
Rattle River
Sessions Brook
Smoky
Camp Brook
Stearns Brook
Stony Brook
Tinker Brook
Umbagog Lake

SACO RIVER AND TRIBUTARIES

Albany Brook
Artist Brook
Avalanche Brook
Barlett Brook
Bearcamp River
Beech River
Bemis Brook
Conway Lake
Davis Brook
E.Branch Saco River
Echo Lake
Ellis River
Flume Cascade
Kearsarge Brook
Kendron Brook
Lucy Brook
Mason Brook
Meadow Brook
Mountain Brook
Nancy Brook
Ossipee River
Razor Brook
Rocky Branch
Sawyer River
Sleeper Brook
Swift River
Willey Brook

COCHECO RIVER
LAMPREY RIVER

Rhode Island

PENDING