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September 22, 2023

CERTIFICATE OF THE SECRETARY OF ENERGY AND ENVIRONMENTAL AFFAIRS
ON THE
SPECIAL REVIEW PROCEDURE

PROJECT NAME	: Restoring the 1450 Marsh for Resiliency
PROJECT MUNICIPALITY	: Ipswich, Newbury, and Rowley
PROJECT WATERSHED	: Merrimac River
EEA NUMBER	: 16714
PROJECT PROPONENT	: U.S. Fish and Wildlife Service
DATE NOTICED IN MONITOR	: June 7, 2023

Pursuant to the Massachusetts Environmental Policy Act (MEPA; M.G. L. c. 30, ss. 61-62L) and Section 11.09 of the MEPA regulations (301 CMR 11.00), I hereby establish a Special Review Procedure (SRP) to guide the MEPA review of this salt marsh restoration project and future restoration activities proposed by the U.S. Fish and Wildlife Service ("Proponent" or "USFWS") at the Parker River National Wildlife Refuge ("PRNWR" or "Refuge"). A final MEPA certificate on this project, involving restoration activities over an initial 1,450 acres of the Refuge (hereinafter, the "1450 Marsh Project"), was issued on August 16, 2023, which granted a Waiver of the requirement to file an Environmental Impact Report (EIR) and indicated an intent to establish this SRP to govern future restoration activities at the Refuge. Notice of the issuance of this SRP was published in the Environmental Monitor on August 23, 2023 for a 14-day public review and comment period. I did not receive any public comments on the draft SRP. Accordingly, I will publish notice of the final SRP in the next Environmental Monitor.

Project Description

As described in the Expanded Environmental Notification Form (EENF), the USFWS proposes to enhance and restore ±1,450 acres of salt marsh on the PRNWR that has sustained historic anthropogenic alterations. The proposed methodology includes three primary approaches to restore a more natural ebb and flood cycle to the marsh and enhance the ability to adjust to increasing flooding. These approaches include 1) ditch remediation, which involves harvesting salt marsh hay from hand-

mown 20-foot-wide swaths adjacent to the ditches to be treated, placing it to depths of 8-9 inches, and securing it with twine and wood stakes to increase sedimentation to create a substrate for native salt marsh vegetation; 2) construction of a series of runnels, which are relatively small and shallow excavated swales ±48-80 centimeters (cm) wide and ±25-30 cm deep,[1] intended to drain excessively waterlogged areas to prevent or reverse the formation of large pools and marsh platform collapse due to vegetation die-off; and 3) creation of structured micro-topography islands on the marsh platform with material excavated from the runnels intended to provide additional habitat to benefit the state-listed salt marsh sparrow, which nests exclusively in the high marsh. In areas where the material may not be suitable for marsh islands (i.e., unvegetated) and the equipment to do so is available, the material may be dispersed thinly over the marsh.

According to the EENF, from 2014 to the present, USFWS and partners have researched, implemented and tested various restoration techniques (including the three primary ones identified in the project) to address specific issues or symptoms of salt marsh degradation, such as excessive standing water and vegetation dieback believed to be caused by legacy agricultural and mosquito control infrastructure that impound water on the marsh, the effects of which are exacerbated by sea level rise. The purpose of each pilot study was to understand the underlying cause of each issue or symptom and to test innovative, low-cost, low-impact techniques to restore marsh surface hydrology. Beginning in 2021, these various restoration techniques were combined in a single unit of ±100 acres (Pilot Project) to demonstrate an integrated management approach which combines lessons learned from previous studies.

The EENF indicates that potential future salt marsh restoration is anticipated on an up to 1,200 additional acres in the Refuge;[2] however, the nature and scope of this work will be dependent on the monitoring and conclusions developed from the 1450 Marsh Project. Therefore, no conceptual plans are available for future work at this stage, and impacts associated with potential future work were not included in the EENF. The Proponent indicates that future restoration activities at the Refuge will take place exclusively on federal land and will likely adhere to the same protocols and procedures outlined for the 1450 Marsh Project, including detailed monitoring and adaptive management (corrective action) measures that have been developed based on similar prior work conducted by the USFWS. The Proponent indicates that the protocols outlined for the 1450 Marsh Project represent best practices for salt marsh restoration activity, and, given the compelling and urgent need for salt marsh restoration in the face of rapid climate change, requests that the SRP continue to allow EIR waivers or other streamlined reviews of future projects that follow substantially the same methodologies as outlined for the 1450 Marsh Project. To the extent material changes in design are proposed as a result of monitoring or the need to implement corrective action measures, additional MEPA review would be required. The Proponent indicates that establishment of an SRP to govern the entirety of salt marsh restoration activities proposed by USFWS at the Refuge is consistent with programmatic reviews allowed under MEPA regulations and the National Environmental Policy Act (NEPA).[3] This SRP would guide the review of future restoration activities conducted by the USFWS at the Refuge.

As noted, a Certificate on the EENF was issued on August 16, 2023, which determined that the

[1] According to supplemental information, this is the depth concluded by pilot studies to maintain the channel without clogging, while also not overdraining peat, which can lead to elevation loss due to oxidation.
[2] According to USFWS, this additional acreage will be assessed as restoration activities move forward.
[3] According to USFWS, the Habitat Management Plan (HMP) and Environmental Assessment (EA) are currently undergoing internal review and are expected to be published for public review in mid-September.

1450 Marsh Project does not require submission of an EIR. In a separate Draft Record of Decision (DROD), also issued on August 16, 2023, I proposed to grant a Waiver from the requirement to prepare a mandatory EIR for the proposed project. The Certificate on the EENF sets forth the issues that must be addressed by the Proponent during subsequent permitting and discusses comments and recommendations submitted by reviewing agencies during MEPA review.

Jurisdiction and Permitting

The project is subject to MEPA review and a mandatory EIR pursuant to 301 CMR 11.03(3)(a)(1)(a) and 11.03(3)(a)(1)(b) because it requires Agency Action and will result in alteration of one or more acres of Salt Marsh and 10 or more acres of other wetlands (LSCSF). The project also exceeds the Environmental Notification Form (ENF) review threshold at 301 CMR 11.03(3)(b)(1)(c) for alteration of 1,000 or more square feet (sf) of Salt Marsh or ORW. The project will require a Section 401 Water Quality Certification (WQC) from the Massachusetts Department of Environmental Protection (MassDEP). It is subject to the May 2010 MEPA Greenhouse Gas (GHG) Emissions Policy and Protocol (GHG Policy).

The project will require authorization under the General Permits for Massachusetts from the U.S. Army Corps of Engineers (ACOE) in accordance with Section 404 of the federal Clean Water Act. Because the project is proposed on federal land by a federal agency, federal consistency review by the Massachusetts Office of Coastal Zone Management (CZM) is not required.[4]

Because the project is not seeking Financial Assistance from an Agency, MEPA jurisdiction extends to those aspects of the project that are within the subject matter of any required or potentially required Agency Actions and that may cause Damage to the Environment, as defined in the MEPA regulations.

SPECIAL REVIEW PROCEDURE

In the EENF, the Proponent requested that I establish an SRP to govern future salt marsh restoration projects at the Refuge, in light of the anticipated similarity in protocols and procedures to be used in future projects and the urgency of implementing such projects in a timely fashion to meet the challenges of climate change. The EENF provides a baseline overview of the impacts for the 1450 Marsh Project and includes an alternatives analysis to support selection of restoration techniques. The EENF does not provide a description of future restoration projects or associated locations and, therefore, does not provide an analysis of impacts for these future projects. It demonstrates that proceeding with salt marsh restoration on the 1,450 acres of the Refuge will not foreclose future alternatives for later salt marsh restoration projects, as future work is anticipated to occur at geographically distinct locations that

[4] CZM comments state that CZM federal consistency is not needed. However, a WQC from MassDEP under the Clean Water Act is still required for the project, which triggers the need for MEPA review. As noted, USFWS has not objected to the need for MEPA review for the 1450 Marsh Project but has requested an SRP to effectuate a programmatic or area-wide review of similar salt marsh restoration techniques proposed over an additional 1,200 acres of the Refuge.

are not dependent on the locations and alternatives selected for the 1450 Marsh Project. As noted, the Proponent indicates that future restoration activities at the Refuge will take place exclusively on federal land and will likely adhere to the same protocols and procedures outlined for the 1450 Marsh Project, including detailed monitoring and corrective action measures. The Proponent indicates that the protocols outlined for the 1450 Marsh Project represent best practices for salt marsh restoration activity, and emphasizes the need for rapid implementation of restoration activities to meet the challenges of climate change. Therefore, the Proponent requests an SRP, in the nature of a programmatic or area-wide review, which would acknowledge the adequacy of information and analysis contained in the EENF for the 1450 Marsh Project and continue to allow EIR waivers or other streamlined reviews of future projects that follow substantially the same methodologies as outlined for the 1450 Marsh Project. To the extent material changes in design are proposed as a result of monitoring or the need to implement corrective action measures, additional MEPA review would be required.

To effectuate the purposes set forth above, and based on the information contained in the EENF for the 1450 Marsh Project and comments received thereto, I hereby establish an SRP, pursuant to 301 CMR 11.09(4)(a)-(b), to guide review of future salt marsh restoration activities proposed by the USFWS at the Refuge. I find that this SRP serves the purposes of MEPA, including providing meaningful opportunities for public review, analysis of alternatives, and consideration of cumulative environmental impacts. This programmatic approach enables a common assessment of restoration methodologies with similar environmental impacts, so as to streamline reviews of future projects using similar methodologies and thereby expedite delivery of projects having clear environmental benefits. This approach also helps to set a future baseline in relation to which future projects and alternatives can be described and analyzed. This SRP shall not apply to any other proponent other than USFWS or any activities proposed at the Refuge other than those described herein, and shall not apply to any salt marsh restoration activities proposed outside the Refuge.

While reviewing agencies have not expressed opposition to the establishment of this SRP, I acknowledge comments received noting certain technical details that were not available during MEPA review of the 1450 Marsh Project and are anticipated to be provided during subsequent permitting. The USFWS has also acknowledged that several units within the initial 1,450-acre restoration area will be restored by external contractors, for which contract specifications have yet to be finalized to ensure proper oversight and quality control. The USFWS generally acknowledges that proposed activities are still considered experimental and cannot be characterized as standard engineering techniques or methods. In light of these outstanding issues, and to allow for additional public comments to inform the nature of filings and information to be provided as part of future USFWS projects, I am issuing this Proposed SRP with a 14-day review and public comment period.

1450 Marsh Project

I issued a Draft Record of Decision (DROD) on August 16, 2023 proposing to grant a Waiver from the requirement to prepare an EIR for the project described in the EENF. In accordance with 301 CMR 11.15(2), the DROD will be published in the *Environmental Monitor* on August 23, 2023 which will commence the public comment period, which lasts 14 days and will conclude on September 6, 2023. Based on written comments received concerning the DROD, I shall issue a Final Record of Decision (FROD) or a Scope within seven days after the close of the public comment period, in accordance with 301 CMR 11.15(6).

Future USFWS Salt Marsh Restoration Projects

As described in the EENF, the USFWS anticipates using the following three main restoration techniques to enhance and restore up to 1,200 additional acres of salt marsh at the Refuge:

1. ditch remediation through placement of salt hay placed into selected ditches to restore natural tidal hydrology as described in Section 5.1 of the EENF
2. construction of shallow runnels and removal of ditch plugs to restore natural hydrology and enable tidal flushing within the dimensions as described in Section 5.2 of the EENF
3. beneficial re-use of excavated runnel or ditch plug material placed on the marsh to create microtopography or spread thinly over the marsh to encourage vertical accretion of the marsh and wildlife habitat as described in Section 5.3 of the EENF

Table 4 in the EENF identifies the success criteria that will be evaluated for specific metrics associated with each of the three restoration techniques. It also describes the type of monitoring that would be conducted for each success criteria and proposed adaptive management.

Success criteria for ditch remediation includes no vegetation dieback in marsh panels in between ditches and healthy vegetation and signs of natural runnel formation if ditches are inundated; development of lateral hydrology; vegetation in the ditch with no standing water; elevation at or slightly below (less than 15 cm) the marsh surface; and increase in the elevation of the marsh platform. Monitoring will include use of dataloggers, lateral runnel development, vegetation community mapping to capture lateral hydrology and inundated panels, rapid assessment, photo points, aerial assessment, field verification, and comparison of elevation transects. Adaptive management would include adding micro-runnels to problem area if not self-corrected within three years post-restoration (ditches reach 15 cm below marsh surface); removing clogs or adding spot treatment to address clogged sections.

Success criteria for runneling includes ditches and pools ebbing and flooding with minimal lag or restriction; groundwater drained to 15-25 cm below the surface at all but a week of spring tides; increase in % cover highly migratory species and thatch and decrease in bare ground; channels that will not clog but may change to accommodate new tidal volume, and draining pools gain elevation over time and revegetate. Monitoring will include rapid assessment, vegetation community mapping to detect changes in pool and creek morphology and response of vegetation, use of dataloggers, comparison of transects (paired with elevation data) to non-restored site, as-built dimensions using ArcGIS Survey123, and comparing the dimension of select runnels post-construction (year 1, 3, 5, 10) to naturally breached creeks. Adaptive management would include adjusting the runnel dimension or constructing additional Priority 2 runnels. It is anticipated that monitoring would occur for a minimum of three years prior to adapting management, unless marsh degradation is dramatic.

Success criteria for microtopography islands includes islands vegetated with 90-100% native salt marsh plants and 60% thatch by second growing season; minimal inundation and vegetation change adjacent to the islands; elevation of the island below 1.8 meters; and marsh elevation constant within three years. Monitoring will include rapid assessment for vegetation colonization and elevation survey for subset of islands. Adaptive management would include lowering the elevation of the island with a shovel if it is too high based on presence of upland or invasive plants and controlling invasive species if needed.

Additionally, general success criteria at the marsh level post-restoration would include a hydrological network in equilibrium with the tideshed, no clogging of channels within five years, start of sinuosity in channels, decreasing dimensions with higher order creeks, restored area with reduced % of inundated marsh and a decrease in the unvegetated to vegetated area (UVVR) ratio (goal of less than 0.15), ground hydrology that is not overly drained by multiple runnels draining wet marsh areas, increase in % highly migratory species and total vegetation, and marsh accretion related to various metrics (i.e., plant species, elevation, flooding frequency, etc.). Monitoring will include use of dataloggers, aerial assessment, vegetation community mapping, UVVR remote mapping, observation if tiered channel network is adapting similarly to naturally breached channels, and comparing marsh accretion with 3-7 years of pre-restoration baseline data.

The EENF includes a description of the design steps (including data collection) taken to determine the proposed locations for each type of restoration technique (Section 4.0 Restoration Design Process). It identifies the primary subsidence driver within each proposed treatment area, which assists in determining the most appropriate restoration technique to employ. Oxidation Subsidence Trajectory (OST) caused by extensive ditching lowers the groundwater elevation or zone of saturation within the peat soil column. Waterlogged Subsidence Trajectory (WST) results in standing water or surface saturation caused by the extended inundation of the marsh surface from clogged or altered drainage infrastructure. Tideshed delineations are used to help determine what ditches to keep open and which to remediate. Runnels are proposed to address blockages in upper reaches of marsh; they will serve as primary channels within a tideshed or address later stages of WST. Locations for runneling were identified based on tideshed delineations and current marsh inundation where it was necessary to reach equilibrium, but subsidence is not advanced.

A. Future Projects Consistent with EENF

Any future salt marsh restoration project undertaken by the USFWS at the Refuge during the next 10 years which adheres to the protocols and procedures outlined in Sections 5.1 to 5.3 of the EENF (including specified parameters for runnel size and dimension, deposition of excavated material using the methods described, monitoring and adaptive management/corrective action protocols, and contractor specifications) will be subject to this SRP and will not require further MEPA review provided that the project complies with all terms and conditions in the Final MEPA Certificate issued on August 16, 2023 for the 1450 Marsh Project and associated Final Section 61 Findings issued by Participating Agencies.

However, the MEPA Office will be notified in writing at least 60 days prior to commencement of any future project as follows:

a. Notification shall include reference to the final SRP and include design maps indicating locations of proposed runnels, ditch remediation, and equipment paths as well as proposed monitoring plans and estimated schedule for implementation.

b. Notification shall describe all state, local and federal permitting required for the project and the status of permit applications.

c. Notification shall include a cumulative update on restoration activities conducted to date on

the 1,450 acres identified in the EENF and any additional acreage in the Refuge subject to this SRP and include engineering level (as-built) plans for work performed to date, final contract specifications used to oversee external contractor work, and technical details supporting the results of monitoring conducted.

d. For any adaptive management/corrective action measures implemented to date, the notification should contain a full description of such measures and the reasons that triggered use of such measures. To the extent quantitative metrics were used to trigger corrective actions (e.g., % deviation from design limits), such metrics should be specified.

Each notification provided in the manner described above shall be published in the Environmental Monitor for a 20-day public comment period. To the extent a series of projects are proposed over a common geographical area (such as the initial 1,450 acres reviewed in the EENF), the USFWS is encouraged to file a single notification that applies to such area. Following review of public comments, the Secretary shall make a determination as to whether the proposed project is consistent with the description of restoration activities and associated methods as set forth in the EENF. The Secretary shall notify the Proponent of this determination within 10 days of the close of comments, and absent such notification, it shall be presumed that the proposed project is consistent with the EENF and may proceed without the need for MEPA review.

B. Future Projects Not Consistent with EENF

Consistent with 301 CMR 11.10, a Notice of Project Change (NPC) shall be required to the extent future projects propose material changes to design or methods as compared to those set forth in the EENF. The following shall be deemed to be a material change requiring the filing of an NPC:

a. Restoration projects that exceed the specified parameters for runnel size and dimension, deposition of excavated material in a manner that differs from the methods described, or ditch remediation that is proposed to be conducted using materials or methods other than those described in the EENF.

b. Restoration that requires adaptive management/corrective action measures or monitoring metrics or protocols not identified in the EENF.

c. Restoration that requires adaptive management/corrective action measures triggered by greater than 30% deviation from the proposed design limits.

d. Restoration projects otherwise meeting the SRP criteria but undertaken by USFWS outside of federal boundaries.

e. Restoration projects to be undertaken by contractors with oversight protocols that differ from those identified in the EENF.

As noted in Section A above, upon filing of notification of a future project, the Secretary shall make a determination as to whether the proposed project is consistent with the description of protocols and procedures for restoration activities as set forth in the EENF. It shall be presumed that the proposed

project is consistent with the EENF, unless it proposes the modifications enumerated above in this Section B. To the extent the Secretary determines that a modification constitutes a material change for other reasons, the parties shall meet and confer to reach consensus as to the need for MEPA review, and may extend the comment period for up to 30 days to conduct this consultation. In the event the parties do not reach agreement, the Secretary may determine that an NPC is required.

C. Future Projects Not Subject to this SRP

The SRP will not apply to the following projects (in these cases, USFWS should consult with the MEPA Office to determine the appropriate mechanism for review if warranted):

a. Restoration projects otherwise meeting the SRP criteria but undertaken by USFWS with the use of state funding.

b. Restoration that is proposed by USFWS using methods other than those described in the EENF.

As noted above, this SRP shall not apply to any other proponent other than USFWS or any activities proposed at the Refuge other than those described herein, and shall not apply to any salt marsh restoration activities proposed outside the Refuge.

Citizens Advisory Committee

The MEPA regulations at 310 CMR 11.09(3) allow for the establishment of a Citizen's Advisory Committee (CAC) to assist with public and agency review and comment. In this case, a CAC is not warranted to support the SRP or MEPA review.

Circulation Requirements

Consistent with the circulation requirements for NPCs under 11.10(7) of the MEPA regulations, any MEPA documents submitted pursuant to this SRP should be circulated to any Agency or Person that received or commented on prior filings, as well as to each local, federal, and state agency from which the Proponent will seek permits or approvals. In addition, any NPCs for future restoration projects at the Refuge should comply with the distribution requirements for ENFs under Section 11.16(1)-(2) of the MEPA regulations.

Modification of the Special Review Procedure

If the Proponent wishes to change any provision in this SRP, it may file a request for modification of the SRP in the form of an NPC. The Secretary will then review the request and issue an Amended SRP if appropriate. The Secretary may make technical amendments upon a written request from the Proponent.

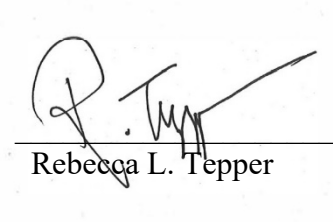
Term of SRP

This SRP shall expire ten (10) years from the date of this SRP. This term is subject to the project change and lapse of time provisions under 301 CMR 11.10. The parties shall meet and confer at least 60 days prior to expiration to determine whether to extend and/or amend the SRP, if the restoration program described herein has not been completed within ten years of the date of this SRP.

Conclusion

The USFWS's signature below indicates consent to the establishment of an SRP and the specific provisions outlined in this Certificate. USFWS shall ensure compliance with this SRP by their successors and assigns or other entity contracted by the USFWS to carry out the projects that are subject to the procedures set forth in this SRP.

9/22/2023
Date



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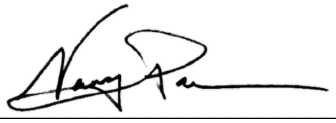
9/25/2023
Date



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RLT/PPP/ppp