

MEMORANDUM FOR RECORD

SUBJECT: Department of the Army Environmental Assessment and Statement of Findings for the Above-Referenced Re-issuance of 17-RP-20.

This document constitutes the Environmental Assessment, 404(b)(1) Guidelines Evaluation, as applicable, Public Interest Review, and Statement of Findings for the subject task.

1.0 Introduction and Overview: Information about the proposal subject to one or more of the Corps' regulatory authorities is provided in Section 1, detailed evaluation of the activity is found in Sections 2 through 11 and findings are documented in Section 12 of this memorandum. Further, summary information about the activity including administrative history of actions taken during project evaluation is attached (ORM2 Summary).

1.1 Task: Re-issuance of 17-RP-20 for Virginia Marine Resources Commission (VMRC) oyster and fish haven reef creation and maintenance activities.

Note: Regarding permit authority below, Section 103 of the Marine Protection, Research, and Sanctuaries Act of 1972, as amended (33 U.S.C. 1401), does not apply to the ocean fish havens due to the 40 CFR 220.1(c)(2): Exclusions. No permit shall be required for, the placement or deposit of oyster shells or other materials for the purpose of developing, maintaining or harvesting fisheries resources; provided, such placement or deposit is regulated under or is a part of an authorized State or Federal program (this 17-RP-20) certified to EPA by the agency authorized to enforce the regulation (the Corps), or to administer the program, as the case may be; and provided further, that the National Oceanic and Atmospheric Administration, the U.S. Coast Guard, and the U.S. Army Corps of Engineers concur in such placement or deposit as it may affect their responsibilities and such concurrence is evidenced by letters of concurrence from these agencies.

Section 220.1(c)(3)(ii) also states that no permit hereunder shall be required for, "Construction of any fixed structure or artificial island, or the intentional placement of any device in ocean waters or on or in the submerged land beneath such waters, for a purpose other than disposal when such construction or such placement is otherwise regulated by Federal or State law or made pursuant to an authorized Federal or State program certified to EPA by the agency authorized to enforce the regulations or to administer the program, as the case may be."

Further this is not "dumping" as defined by 40 CFR 220.2(e), as that term does not include the deposit of oyster shells, or other materials when such deposit is

made for the purpose of developing, maintaining, or harvesting fisheries resources and is otherwise regulated by Federal or State law or occurs pursuant to an authorized Federal (this 17-RP-20) or State program.

- 1.2 Activity location: Virginia rivers, bays, and ocean off shore locations in or adjacent to Virginia.
- 1.3 Description of activity requiring permit: Depending on the availability of funds, VMRC creates artificial oyster and fish haven reefs or enhances existing natural or artificial oyster and fish haven reefs owned, operated or managed by the Commonwealth of Virginia; and dredges historical shellfish reefs, with in-situ discharge of washed sediments, and as directed by the Commission to plant, use, or sell such shells or other materials in whatever manner the Commission deems to be in the best interest of the Commonwealth.
 - 1.3.1 Proposed avoidance and minimization measures: The proposed work is the minimum needed to create artificial oyster and fish haven reefs or enhance existing natural or artificial oyster and fish haven reefs owned, operated or managed by the Commonwealth of Virginia; and dredge historical shellfish reefs, with in-situ discharge of washed sediments.
 - 1.3.2 Proposed compensatory mitigation: None required.
- 1.4 Existing conditions and any applicable project history:

The VMRC Conservation and Replenishment Department (CRD) has the responsibility for managing and restoring the oyster resources in the Commonwealth. To clarify the extent of authorized work for oyster shell fossil shell dredging and planting, the permit applications generally include a range of impacts, based in part on CRD funding, and in part on needed shell planting. Therefore, most Corps permit verifications are to hydraulic dredge 50,000 to 150,000 cubic yards of fossil shell and sediments, wash sediment from the shell, transfer the shell to barges, and redeposit the 25,000 to 75,000 cubic yards of wash sediments to the dredge site (i.e. in-situ); and subsequently plant clean shell material on specified oyster reef sites.

Past fossil shell dredging by VMRC has been near of Tribell shoals, in the vicinity of 37.2117, -76.6618, generally two miles northeast of Hog Island, and north of where Skiffes Creek joins the James River. More than 11 million bushels of shell have been mined at this location, loaded on barges, and then transported and deployed on oyster beds throughout the Commonwealth. The following acreages/sites described below are all located within the Tribell Shoals vicinity. By using the elephant trunk discharge hose, VMRC expects most of the sand and silt to return right back in the cut as they

are working. The dredge contractor has noted that they have never seen any fish come up the dredge and onto the shell barge, but have observed occasional small blue crabs.

In 2015, VMRC dredged at a 9-acre shell bed. They would use a nearby 5-acre area if fossil shell is exhausted at the 9-acre site. VMRC dredged about 50,000 cubic yards, to recover about 25,000 cubic yards of shell. The shell was placed (planted) on 37 restoration projects in the Lower James and Rappahannock Rivers, and in Pocomoke and Tangier Sounds, on 1,142 acres of sanctuary and harvest reefs.

In 2014, VMRC dredged at a 9-acre shell bed. They would use a nearby 5-acre area if fossil shell is exhausted at the 9-acre site. VMRC dredged about 80,000 cubic yards, to recover about 40,000 cubic yards of shell. The shell was placed (planted) on 47 restoration projects in the Lower James, York, Piankatank, Great Wicomico, and Rappahannock Rivers, Mobjack Bay, Chesapeake Bay near Gwynns Island and in Pocomoke and Tangier Sounds., on 754 acres of sanctuary and harvest reefs.

In 2013, VMRC dredged at a 24-acre shell bed. They would use a nearby 9-acre area if fossil shell is exhausted at the 24-acre site. VMRC dredged about 120,000 cubic yards, to recover about 60,000 cubic yards of shell. The shell was placed (planted) on 36 restoration projects in the James, York, and Rappahannock Rivers, Mobjack Bay, and areas in the Chesapeake Bay near Gwynn's Island and in Pocomoke and Tangier Sounds, on 1,040 acres of sanctuary and harvest reefs.

In 2012, VMRC dredged at a 24-acre area. They would use a nearby 9-acre area if fossil shell is exhausted at the 24-acre site. VMRC dredged about 100,000 cubic yards, to recover about 50,000 cubic yards of shell. The shell was placed (planted) on 19 restoration projects in the James River, Mobjack Bay, Piankatank River, Rappahannock River, and Tangier and Pocomoke Sounds, on 444 acres of sanctuary and harvest reefs.

Funding was not available for 2011, and as a result, there was no shell dredge or shell planting.

In 2010, VMRC dredged at about a 24-acre area. They would use a nearby 9-acre area if fossil shell is exhausted at the 24-acre site. VMRC dredged about 200,000 cubic yards, to recover about 100,000 cubic yards of shell. The shell was placed (planted) on 11 restoration projects in the York River, Chesapeake Bay, and coastal bays ocean side from Eastern Shore, on 109 acres of oyster reef.

Procurement for shell dredge and planting did not occur for the years 2007 – 2009.

In 2016 VMRC conducted fossil shell dredging in about 10 feet of water, dredging to a depth of -50 feet MLLW, with return of fine sediments to the dredge area, in the vicinity of 36.943348°, -76.439564°. This new dredge site is just west of the Monitor Merrimac tunnel, mostly within a small part of Virginia Public Ground #2. The dredge area is located about 4,500 feet from the natural deep water channel along the Newport News shipyard, and about 9,000 feet west of the south end of the Monitor-Merrimac tunnel. In this process, about 60,000 cubic yards of fossil shell sediment is dredged, with a recovery of about 30,000 cubic yards of shell and re-deposit of 30,000 cubic yards of return sediments. The dredge area is about 650 acres, but VMRC does not expect to dredge more than five acres each year. The shell was placed (planted) on 32 restoration projects in the James River, York River, Rappahannock River, and Tangier and Pocomoke Sounds in the Chesapeake Bay of Virginia, on 580 acres of oyster reef.

1.5 Permit Authority: Section 10 of the Rivers and Harbors Act (33 USC 403) and Section 404 of the Clean Water Act (33 USC 1344).

2.0 Scope of review for National Environmental Policy Act (i.e. scope of analysis), Section 7 of the Endangered Species Act (i.e. action area), and Section 106 of the National Historic Preservation Act (i.e. permit area)

2.1 Determination of scope of analysis for National Environmental Policy Act (NEPA):

The scope of analysis includes the specific activity requiring a Department of the Army permit. Other portions of the entire project are not included because the Corps does not have sufficient control and responsibility to warrant federal review.

Final description of scope of analysis: The scope is all aquatic areas proposed for fossil shell dredging, all shell planting sites, and all fish havens where structural material will be placed.

2.2 Determination of the “action area” for Section 7 of the Endangered Species Act (ESA):

The scope is all aquatic areas proposed for fossil shell dredging, all shell planting sites, and all fish havens where structural material will be placed.

2.3 Determination of permit area for Section 106 of the National Historic Preservation Act (NHPA):

The permit area includes only those areas comprising waters of the United States that will be directly affected by the proposed work or structures. Activities outside of waters of the U.S. are not included because all three tests identified in 33 CFR 325, Appendix C(g)(1) have not been met.

Final description of the permit area: The permit area is all aquatic areas proposed for fossil shell dredging, all shell planting sites, and all fish havens where structural material will be placed.

3.0 Purpose and Need

- 3.1 Purpose and need for the project as provided by the applicant and reviewed by the Corps: VMRC serves as a steward of the Commonwealth's marine and aquatic resources, and protectors of its tidal waters and homelands, for present and future generations. The need for the project is to permit VMRC to create artificial oyster and fish haven reefs or enhance existing natural or artificial oyster and fish haven reefs owned, operated or managed by the Commonwealth of Virginia; and dredge historical shellfish reefs, with in-situ discharge of washed sediments.
- 3.2 Basic project purpose, as determined by the Corps: The basic purpose is for VMRC to manage public oyster and fish resources.
- 3.3 Water dependency determination: N/A, activity is not located in a special aquatic site. Locating a reef in a special aquatic site would not meet the purpose and need of a proposed reef project.
- 3.4 Overall project purpose, as determined by the Corps: The overall project purpose is for VMRC to create public artificial oyster and fish haven reefs or enhance existing natural or artificial public oyster and fish haven reefs owned, operated or managed by the Commonwealth of Virginia; and dredge historical shellfish reefs, with in-situ discharge of washed sediments.

4.0 Coordination

- 4.1 The results of coordinating the proposal on Public Notice (PN) are identified below, including a summary of issues raised, any applicant response and the Corps' evaluation of concerns.

Were comments received in response to the PN? Yes

Were comments forwarded to the applicant for response? No

Was a public meeting and/or hearing requested and, if so, was one conducted? No, no public hearing or meeting was requested.

Comments received in response to public notice:

Comment 1:

Virginia Department of Conservation and Recreation. DCR does not anticipate adverse impact to any natural heritage resources.

Applicant's Response: N/A

Corps Evaluation: Comments did not require action.

Additional discussion of submitted comments, applicant response and/or Corps' evaluation: N/A

4.2 Were additional issues raised by the Corps including any as a result of coordination with other Corps offices? No

4.3 Were comments raised that do not require further discussion because they address activities and/or effects outside of the Corps' purview? No

5.0 Alternatives Analysis (33 CFR Part 325 Appendix B(7), 40 CFR 230.5(c) and 40 CFR 1502.14). An evaluation of alternatives is required under NEPA and under the Section 404(b)(1) Guidelines for projects that include the discharge of dredged or fill material. NEPA requires discussion of a reasonable range of alternatives, including the no action alternative, and the effects of those alternatives; under the Guidelines, practicability of alternatives is taken into consideration and no alternative may be permitted if there is a less environmentally damaging practicable alternative.

5.1 Site selection/screening criteria: In order to be practicable, an alternative must be available, achieve the project purpose (as defined by the Corps), and be feasible when considering cost, logistics and existing technology.

Corps-determined criteria for evaluating alternatives: The proposed work is inherently minimal in nature, and this task is to consider reissuance of a regional permit.

5.2 Description of alternatives

5.2.1 No action alternative:

VMRC serves as a steward of the Commonwealth's marine and aquatic resources, and protectors of its tidal waters and homelands, for present and future generations. VMRC works to create and maintain sustainable fisheries for the benefit of all anglers and the ecosystem.

The Conservation and Replenishment Department (CRD) of the Virginia Marine Resources Commission (VMRC) is responsible for the restoration and maintenance of public oyster beds in the Commonwealth.

In addition, VMRC has promoted and manages fish havens, i.e. artificial fish reefs, for recreational demands. The goal of Virginia's Artificial Reef Program is to replicate a fish habitat close to that which occurs naturally. Each site provides feeding grounds and shelter for reef dwelling fish, which in turn attract larger predator fish. Artificial reef construction is part of a continuing effort to replenish fish populations for the sport fishermen.

No action (deciding not to reissue the Regional Permit 20) would result in reviewing all proposed projects under the Individual Permit process, a less efficient manner to evaluate projects with minimal impacts to the environment. While an individual permit is an option, the increase in the Corps' workload and permit processing time and cost to the applicant would be detrimental to efficient management of activities of inherently minimal adverse impact. Failure to re-issue this Regional Permit would have no demonstrable benefit to the aquatic environment, would not be in the best interest of the public, nor achieve the Corps' goal of fair and efficient permit review.

5.2.2 Other alternatives

alternative 2: Re-issue the 12-RP-20. As a possibility, there may have been no recommended changes from the previous 12-RP-20. However, due to resource agency comments we received, minor clarifications in the form of special conditions were made to help ensure the reissuance does not adversely impact listed species or critical habitat. Likewise, suggestions were made with regard to Section 408 permission due to possible impact to other federal projects.

Alternative 3: Reissue 12-RP-20 with revisions to the scope of activities authorized by the permit. We considered this option, but based on our review and lack of comments requesting we broaden or restrict the scope, there is no foreseeable need to change the scope of this permit.

5.3 Evaluate alternatives that are not practicable or reasonable: Alternative 1, processing these projects as a standard permit, would increase workload and permit processing times, would be detrimental to efficient management of activities of inherently minimal adverse impact, would have no demonstrable benefit to the aquatic environment, would not be in the best interest of the public, and would not achieve the Corps' goal of fair and efficient permit review. We have determined that Alternative 1 is not practicable. Alternative 2 is practicable. Alternative 3 is not being carried over as it was found to be unnecessary.

5.4 Least environmentally damaging alternative under the 404(b)(1) Guidelines (if applicable) and environmentally preferred alternative under NEPA:

The least environmentally damaging practicable alternative (LEDPA) is Alternative 2, to re-issue 12-RP-20 as 17-RP-20 with the addition of a few special conditions to address resource agency concerns.

6.0 Evaluation for Compliance with the Section 404(b)(1) Guidelines. The following sequence of evaluation is consistent with 40 CFR 230.5

6.1 Practicable alternatives to the proposed discharge consistent with 40 CFR 230.5(c) are evaluated in Section 5. The statements below summarize the analysis of alternatives.

In summary, based on the analysis in Section 5.0 above, the no-action alternative, which would not involve discharge into waters, is not practicable.

It has been determined that there are no alternatives to the proposed discharge that would be less environmentally damaging. (Subpart B, 40 CFR 230.10(a)). Alternative 2 with special conditions is the practicable alternative with the least adverse impact on the aquatic ecosystem, and it does not have other significant environmental consequences.

6.2 Candidate disposal site delineation (Subpart B, 40 CFR 230.11(f)). Each disposal site shall be specified through the application of these Guidelines:

Discussion: The disposal site is the fossil shell extraction site, and accounts for the re-deposition of washed sediments in situ. The planting of washed fossil shell on natural and artificial oyster reef sites is the beneficial discharge of the permitted activity.

6.3 Potential impacts on physical and chemical characteristics of the non-living environment (Subpart C). See Table 1:

Table 1 – Potential Impacts on Physical and Chemical Characteristics						
Physical and Chemical Characteristics	N/A	No Effect	Negligible Effect	Minor Effect (Short Term)	Minor Effect (Long Term)	Major Effect
Substrate			X			
Suspended particulates/ turbidity				X		
Water		X				
Current patterns and water circulation			X			
Normal water fluctuations			X			

Table 1 – Potential Impacts on Physical and Chemical Characteristics						
Physical and Chemical Characteristics	N/A	No Effect	Negligible Effect	Minor Effect (Short Term)	Minor Effect (Long Term)	Major Effect
Salinity gradients		X				

Discussion: The disposal site is the fossil shell extraction site. A specialized fossil shell dredge will return dredged sediments within minutes of extraction to the bottom. The water depth will increase 10-20 feet over a broad area, and is therefore considered to have overall negligible impact.

6.4 Potential impacts on the living communities or human uses (Subparts D, E and F):

6.4.1 Potential impacts on the biological characteristics of the aquatic ecosystem (Subpart D). See Table 2:

Table 2 – Potential Impacts on Biological Characteristics						
Biological characteristics	N/A	No Effect	Negligible Effect	Minor Effect (Short Term)	Minor Effect (Long Term)	Major Effect
Threatened and endangered species			X			
Fish, crustaceans, mollusk, and other aquatic organisms						X
Other wildlife		X				

Discussion: Fish and oyster habitat enhancement is a major beneficial effect.

6.4.2 Potential impacts on special aquatic sites (Subpart E). See Table 3:

Table 3 – Potential Impacts on Special Aquatic Sites						
Special Aquatic Sites	N/A	No Effect	Negligible Effect	Minor Effect (Short Term)	Minor Effect (Long Term)	Major Effect
Sanctuaries and refuges		X				
Wetlands		X				

Table 3 – Potential Impacts on Special Aquatic Sites						
Special Aquatic Sites	N/A	No Effect	Negligible Effect	Minor Effect (Short Term)	Minor Effect (Long Term)	Major Effect
Mud flats		X				
Vegetated shallows		X				
Coral reefs		X				
Riffle pool complexes		X				

Discuss: N/A. The site is not a special aquatic site.

6.4.3 Potential impacts on human use characteristics (Subpart F). See Table 4:

Table 4 – Potential Impacts on Human Use Characteristics						
Human Use Characteristics	N/A	No Effect	Negligible Effect	Minor Effect (Short Term)	Minor Effect (Long Term)	Major Effect
Municipal and private water supplies		X				
Recreational and commercial fisheries						X
Water-related recreation						X
Aesthetics		X				
Parks, national and historical monuments, national seashores, wilderness areas, research sites, and similar preserves		X				

Discussion: Use of 17-RP-20 will have major beneficial effect for fisheries and recreation.

6.5 Pre-testing evaluation (Subpart G, 40 CFR 230.60):

The following has been considered in evaluating the biological availability of possible contaminants in dredged or fill material. See Table 5:

Table 5 – Possible Contaminants in Dredged/Fill Material	
Physical characteristics	X
Hydrography in relation to known or anticipated sources of contaminants	X
Results from previous testing of the material or similar material in the vicinity of the project	X
Known, significant sources of persistent pesticides from land runoff or percolation	X
Spill records for petroleum products or designated (Section 331 of CWA) hazardous substances	X
Other public records or significant introduction of contaminants from industries, municipalities, or other sources	X
Known existence of substantial material deposits of substances which could be released in harmful quantities to the aquatic environment by man-induced discharge activities	X

Discussion: The shell dredge site is an area of fossil shell oyster reef, buried under 10-20 feet of mud and silt sediments. Post shell extraction, the site will remain mud and silt sediments at the same extraction site. Therefore, little or no effect to the site is expected by the shell dredge activity.

It has been determined that testing is not required because the discharge and extraction sites are adjacent, subject to the same sources of contaminants and have substantially similar materials. Although the discharge material may be a carrier of contaminants, it is not likely to degrade the disposal site.

6.6 Evaluation and testing (Subpart G, 40 CFR 230-61):

Discussion: Testing is not required, as there is no reason to believe that any source of contaminants is likely to have affected the site, and as noted above, the extraction and discharge site is the same site.

6.7 Actions to minimize adverse impacts (Subpart H). The following actions, as appropriate, have been taken through application of 40 CFR 230.70-230.77 to ensure minimal adverse effects of the proposed discharge. See Table 6:

Table 6 – Actions to Ensure Adverse Effects are Minimized	
Actions concerning the location of the discharge	X
Actions concerning the material to be discharged	X
Actions controlling the material after discharge	X
Actions affecting the method of dispersion	X
Actions affecting plant and animal populations	X

Table 6 – Actions to Ensure Adverse Effects are Minimized	
Actions affecting human use	X

Discussion: The nature of fossil shell dredging is such that extraction and discharge to the same location is completed with minutes. Discharge pipes are deep beneath the dredge platform and help to return sediments within very close proximity to the extraction site.

6.8 Factual Determinations (Subpart B, 40 CFR 230-11). The following determinations are made based on the applicable information above, including actions to minimize effects and consideration for contaminants. See Table 7:

Table 7 – Factual Determinations of Potential Impacts						
Site	N/A	No Effect	Negligible Effect	Minor Effect (Short Term)	Minor Effect (Long Term)	Major Effect
Physical substrate			X			
Water circulation, fluctuation and salinity			X			
Suspended particulates/turbidity			X			
Contaminants		X				
Aquatic ecosystem and organisms			X			
Proposed disposal site			X			
Cumulative effects on the aquatic ecosystem			X			
Secondary effects on the aquatic ecosystem			X			

Discussion: The nature of fossil shell dredging is such that extraction and discharge to the same location is completed with minutes. Discharge pipes are deep beneath the dredge platform and help to return sediments within very close proximity to the extraction site.

6.9 Findings of compliance or non-compliance with the restrictions on discharges (40 CFR 230.10(a-d) and 230.12). Based on the information above, including the factual determinations, the proposed discharge has been evaluated to determine whether any of the restrictions on discharge would occur. See Table 8:

Table 8 – Compliance with Restrictions on Discharge		
Subject	Yes	No
1. Is there a practicable alternative to the proposed discharge that would be less damaging to the environment (any alternative with less aquatic resource effects, or an alternative with more aquatic resource effects that avoids other significant adverse environmental consequences?)		X
2. Will the discharge cause or contribute to violations of any applicable water quality standards?		X
3. Will the discharge violate any toxic effluent standards (under Section 307 of the Act)?		X
4. Will the discharge jeopardize the continued existence of endangered or threatened species or their critical habitat?		X
5. Will the discharge violate standards set by the Department of Commerce to protect marine sanctuaries?		X
6. Will the discharge cause or contribute to significant degradation of waters of the U.S.?		X
7. Have all appropriate and practicable steps (Subpart H, 40 CFR 230.70) been taken to minimize the potential adverse impacts of the discharge on the aquatic ecosystem?	X	

Discussion: VMRC will dredge shell and redeposit fine sediments in-situ at the dredge site. Dredging is short term, and will comply with a time of year restriction to minimize adverse impact to fishery resources near the dredge site.

7.0 General Public Interest Review (33 CFR 320.4 and RGL 84-09)

The decision whether to issue a permit will be based on an evaluation of the probable impacts, including cumulative impacts, of the proposed activity and its intended use on the public interest as stated at 33 CFR 320.4(a). To the extent appropriate, the public interest review below also includes consideration of additional policies as described in 33 CFR 320.4(b) through (r). The benefits which reasonably may be expected to accrue from the proposal are balanced against its reasonably foreseeable detriments.

7.1 All public interest factors have been reviewed and those that are relevant to the proposal are considered and discussed in additional detail. See Table 9 and any discussion that follows.

Table 9: Public Interest Factors	Effects					
	None	Detrimental	Neutral (mitigated)	Negligible	Beneficial	Not Applicable
1. Conservation: Restores and enhances habitat.					X	
2. Economics: Supports improved use of commercial site.					X	
3. Aesthetics: Existing appearance of sites will not change.	X					
4. General Environmental Concerns: Small size and scope of action is inherently minimal.				X		
5. Wetlands: None affected.						X
6. Historic Properties: Dredge avoids possible wreck sites.	X					
7. Fish and Wildlife Values: Positive habitat enhancement.					X	
8. Flood Hazards: Sites are in tidal waters.						X
9. Floodplain Values: Sites are in tidal waters.						X
10. Land Use: Sites are in tidal waters.						X
11. Navigation: Work is within existing fish havens, marked as obstructions.				X		
12. Shoreline Erosion and Accretion: Sites are in tidal waters.						X
13. Recreation: VMRC efforts promote recreation.					X	
14. Water Supply and Conservation: Sites are in tidal waters.						X
15. Water Quality:: Adverse impact will be associated with short term turbidity in the vicinity of the fossil shell dredge site. Positive water quality benefits will result from hundreds of acres of enhanced oyster reef.				X	X	
16. Energy Needs: Not relevant to habitat work.						X
17. Safety: Safety is not relevant to habitat work.						X
18. Food and Fiber Production: Habitat improvements will support use of seafood resources.					X	
19. Mineral Needs: Sites are in tidal waters.						X

Table 9: Public Interest Factors	Effects					
	None	Detrimental	Neutral (mitigated)	Negligible	Beneficial	Not Applicable
20. Consideration of Property Ownership: Site improvements are limited to VMRC resources.					X	
21. Needs and Welfare of the People: Habitat improvements will support continued use of seafood resources.					X	

Additional discussion of effects on factors above: See comments above that explain effect of action.

7.2 The relative extent of the public and private need for the proposed structure or work:

Habitat improvements will support continued use of seafood resources. This will be of benefit to the public that desires to catch or purchase seafood products and of benefit to the Commonwealth that desires to promote use of seafood resources.

7.3 If there are unresolved conflicts as to resource use, explain how the practicability of using reasonable alternative locations and methods to accomplish the objective of the proposed structure or work was considered.

Discussion: There were no unresolved conflicts identified as to resource use.

7.4 The extent and permanence of the beneficial and/or detrimental effects that the proposed work is likely to have on the public and private use to which the area is suited:

Detrimental effects are expected to be minimal and permanent.

Beneficial effects are expected to be more than minimal and permanent.

Habitat improvements will support continued use of seafood resources, with minimal adverse impact to the aquatic environment. This will be of benefit to the public that desires to catch or purchase seafood products and to the Commonwealth that desires to promote use of seafood resources.

8.0 Consideration of Cumulative Impacts

(40 CFR 230.11(g) and 40 CFR 1508.7, RGL 84-9) Cumulative impacts result from the incremental environmental impact of an action when added to all other past, present, and reasonably foreseeable future actions. They can result from individually

minor direct and indirect but collectively significant actions taking place over a period of time. A cumulative effects assessment should consider both direct and indirect, or secondary, impacts. Indirect impacts result from actions that occur later in time or are farther removed in distance from the original action, but still reasonably foreseeable.

- 8.1 Identify/describe the direct and indirect effects of the proposed activity:
The VMRC Conservation and Replenishment Department (CRD) has the responsibility for managing and restoring the oyster resources in the Commonwealth. To clarify the extent of authorized work for oyster shell fossil shell dredging and planting, the permit applications generally include a range of impacts, based in part on CRD funding, and in part on needed shell planting. Therefore, the direct effect of most Corps permit verifications are to hydraulic dredge 50,000 to 150,000 cubic yards of fossil shell and sediments, wash sediment from the shell, transfer the shell to barges, and redeposit the 25,000 to 75,000 cubic yards of wash sediments to the dredge site (i.e. in-situ); and subsequently plant clean shell material on specified oyster reef sites.

Private sector artificial reef construction in the 1950s led to the eventual development of a state supported effort in the early 1970s. As did its predecessors, Virginia's Artificial Reef Program relies upon "vessels of opportunity" and scrap materials as mainstays for reef construction. Between 1974 and 1977, six Liberty Ships were sunk on off-shore reefs. Since 1976, over one half million tires in various configurations have been placed on sites in Chesapeake Bay and the Atlantic Ocean.

In the mid-1980s, the program became involved in the development of its first specifically designed pre-fabricated reef structure, the concrete "Igloo." By December of 1991, approximately 100 of these units were in service.

In the late 80's and early 90's, Virginia's program produced a second designed structure, a concrete tetrahedron. Past monitoring efforts have consisted of research involving the design, siting and biological characteristics of test structures, development of catch per unit effort (CPUE) and general user data, and pre- and post-deployment stability surveys using side-scan sonar. Future projects will center on determining the cost effectiveness of designed structures vs. materials of opportunity, as well as a review of overall program direction; i.e., evaluation of potential afforded by alternate schemes of habitat development.

The direct effect of numerous VMRC artificial reef fish havens are periodic additions of structural materials such as concrete bridge beams, piles, steel. In 2014, VMRC deployed 4,500 tons of concrete structure to the Back River fish haven reef. In January 2015, such materials were approved for Anglers, Nandua, The Cell, and Cherrystone fish haven reefs, each receiving 950 tons of structural additions.

In 2016, structural demolition material from the Lesner Bridge, about 18,000 tons, was

approved for placement at the Cabbage Patch fish haven. The Navy was also in contact with VMRC to provide 100 tons of fiber optic cabling to the off shore Triangle fish haven.

The only indirect effect is associated with temporary turbidity during fossil shell dredging activity. Due to tidal ebb and flow, and the short term nature of the dredging, turbidity is generally limited to the immediate vicinity of the dredge site.

- 8.2 The geographic scope for the cumulative effects assessment is: Virginia rivers, bays, and ocean off shore locations in or adjacent to Virginia..
- 8.3 The temporal scope of this assessment covers: Virginia rivers, bays, and ocean off shore locations in or adjacent to Virginia.
- 8.4 Describe the affected environment: Virginia rivers, bays, and ocean off shore locations in or adjacent to Virginia.
- 8.5 Determine the environmental consequences:

On an annual basis, 10 to 20 acres of buried fossil shell oyster reef will yield some 100,000 cubic yards of fossil oyster shell, to be planted on about 500 acres of active oyster reef.

Subject to the availability of clean structural materials, existing fish havens will have added structural elements to enhance habitat diversity and promote recreational fishing.

- 8.6 Discuss any mitigation to avoid, minimize or compensate for cumulative effects: None required due to inherent minimal adverse impacts and great beneficial impact.
- 8.7 Conclusions regarding cumulative impacts:

When considering the overall impacts that will result from this project, in relation to the overall impacts from past, present, and reasonably foreseeable future projects, the cumulative impacts are not considered to be significantly adverse. Compensatory mitigation will not be required to help offset the impacts.

9.0 Mitigation(33 CFR 320.4(r), 33 CFR Part 332, 40 CFR 230.70-77, 40 CFR 1508.20 and 40 CFR 1502.14)

- 9.1 Avoidance and Minimization: When evaluating a proposal including regulated activities in waters of the United States, consideration must be given to avoiding and

minimizing effects to those waters. Avoidance and minimization measures are described above in Sections 1 and 3.

Were any other mitigative actions including project modifications discussed with the applicant that were implemented to minimize adverse project impacts? (see 33 CFR 320.4(r)(1)(i)) No

- 9.2 Is compensatory mitigation required to offset environmental losses resulting from proposed unavoidable impacts to waters of the United States? No

For any "No", provide rationale on how the subject component(s) of the compensatory mitigation plan will be addressed as special conditions or why no special conditions are required: The impact is minimal and limited to oyster shell dredging. The shell dredging is short term, with only temporary turbidity while wash sediments are returned in-situ to the extraction site, literally within minutes of the shell dredging. Oyster shell planting is a known and inherently beneficial practice. No special aquatic sites are affected by RP-20 permitted actions.

Placement of clean structural elements within fish havens has only a positive effect on habitat enhancement, and therefore does not require compensatory mitigation.

10.0 Compliance with Other Laws, Policies, and Requirements

- 10.1 **Section 7(a)(2) of the Endangered Species Act (ESA):** Refer to Section 2.2 for description of action area for Section 7.

- 10.1.1 Has another federal agency taken steps to document compliance with Section 7 of the ESA and completed consultation(s) as required? No

If yes, identify that agency, the actions taken to document compliance with Section 7 and whether those actions are sufficient to ensure the activity(s) requiring DA authorization is in compliance with Section 7 of the ESA:

- 10.1.2 Known species/critical habitat present: Yes

Effect determination(s), including no effect, for all known species/habitat, and basis for determination(s): 17-RP-20 reissuance is not likely to adversely affect species or habitat. Additional project specific effect determinations will be made on all proposed activities requesting verification under 17-RP-20, in accordance with the standard operating procedures in place at that time.

- 10.1.3 Consultation with either the National Marine Fisheries Service and/or the U.S. Fish and Wildlife Service was initiated and completed as required, for any determinations other than "no effect" (see the attached "Summary" sheet for begin date, end date and

closure method of the consultation). Based on a review of the above information, the Corps has determined that it has fulfilled its responsibilities under Section 7(a)(2) of the ESA.

10.2 Magnuson-Stevens Fishery Conservation and Management Act (Magnuson-Stevens Act), Essential Fish Habitat (EFH).

10.2.1 Has another federal agency taken steps to comply with the EFH provisions of the Magnuson-Stevens Act? No

If yes, identify the agency, the actions taken to document compliance with the Magnuson Stevens Act and whether those actions are sufficient to ensure the activity(s) requiring DA authorization is in compliance the EFH provisions.

10.2.2 Did the proposed project require review under the Magnuson-Stevens Act? Yes. Fossil oyster shell dredging in the James River, and planting of clean dredged fossil oyster shell in various river and bay locations, and placement of structural materials in various river, bay, and ocean fish havens may affect the EFH for the egg, larval, juvenile, and adult life stages of numerous species.

10.2.3 If yes, EFH species or complexes considered: *All species/complexes in the geographic scope of this permit*

10.2.4 Consultation with the National Marine Fisheries Service was initiated and completed as required (see the attached "Summary" sheet for consultation type, begin date, end date and closure method of the consultation). Time of year restrictions are based on previous recommendations from Virginia Department of Game and Inland Fisheries, with concurrence by NMFS Habitat Conservation Division. Based on a review of the above information, the Corps has determined that it has fulfilled its responsibilities under EFH provisions of the Magnuson-Stevens Act.

10.3 Section 106 of the National Historic Preservation Act (Section 106): Refer to Section 2.3 for permit area determination.

10.3.1 Has another federal agency taken steps to comply with Section 106 and completed consultation(s) as required?
No

If yes, identify that agency, the actions taken to document compliance with Section 106 and whether those actions are sufficient to ensure the activity(s) requiring DA authorization is in compliance with Section 106 of the NHPA.

10.3.2 Known cultural resource sites present and/or survey or other additional information needed? Yes.

Basis for effect determination(s) for all known site(s) and/or site(s) identified by a survey: There is a ship wreck in the Lower James River fossil shell resource area. In consultation with the SHPO, we determined that an avoidance area is sufficient to avoid potential impact to the wreck area.

10.3.3 Consultation was initiated and completed as required with the appropriate agencies, tribes and/or other parties for any determinations other than “no potential to cause effects” (see the attached “Summary” sheet for consultation type, begin date, end date and closure method of the consultation). Based on a review of the information above, the Corps has determined that it has fulfilled its responsibilities under Section 106 of the NHPA.

10.4 Tribal Trust Responsibilities

10.4.1 Was government-to-government consultation conducted with Federally-recognized Tribe(s)? No

Provide a description of any consultation(s) conducted including results and how concerns about significant effects to protected tribal resources, tribal rights and/or Indian lands were addressed. The Corps has determined that it has fulfilled its tribal trust responsibilities.

10.5 Section 401 of the Clean Water Act – Water Quality Certification (WQC)

10.5.1 Is a Section 401 WQC required, and if so, has the certification been issued or waived? An individual water quality certification is required and has been issued by the certifying agency. The certification was unconditional.

10.6 Coastal Zone Management Act (CZMA)

10.6.1 Is a CZMA consistency concurrence required, and if so, has the concurrence been issued, waived or presumed? An individual CZMA consistency concurrence is required and has been issued by the appropriate agency.

10.7 Wild and Scenic Rivers Act

10.7.1 Is the project located in a component of the National Wild and Scenic River System, or in a river officially designated by Congress as a “study river” for possible inclusion in the system? No

If yes, summarize coordination and the determination on whether activity will adversely affect the Wild and Scenic River designation or study status. The Corps has determined that it has fulfilled its responsibilities under the Wild and Scenic Rivers Act.

10.8 Effects on Federal Projects (33 USC 408)

10.8.1 Does the applicant also require permission under Section 14 of the Rivers and Harbors Act (33 USC 408) because the activity, in whole or in part, would alter, occupy or use a Corps Civil Works project? Yes.

If yes, provide date that permission is provided: Section 408 permission was provided for the Lower James River dredge site for fossil shell on April 4, 2016. Existing oyster shell reefs and designated fish havens do not affect civil works projects. A condition will be added to 17-RP-20 that any new reefs that may potentially affect any federal project may need Section 408 review before any commencing any 17-RP-20 activity that may otherwise be authorized.

10.9 Corps Wetland Policy (33 CFR 320.4(b))

10.9.1 Does the project propose to impact wetlands? No

10.10 Other (as needed):

11.0 Special Conditions

11.1 Are special conditions required to protect the public interest, ensure effects are not significant and/or ensure compliance of the activity with any of the laws above? Yes

11.2 Required special condition(s)

1. No portion of the reef will be constructed in areas of known submerged aquatic vegetation (SAV) beds.
2. Any proposed new artificial reef (oyster or fish haven), shall be coordinated with, and have no objection from USCG Sector Hampton Roads, Waterways Management Chief, and USCG District Five Waterways Management Branch. In addition, there must be a Corps verification, in writing, regarding any need of permission, pursuant to Section 14 of the Rivers and Harbors Act of 1899, 33 USC 408 (Section 408).
3. If the 17-RP-20 activity also requires permission from the Corps pursuant to 33 U.S.C. 408 because it will alter or temporarily or permanently occupy or use a U.S. Army Corps of Engineers (USACE) federally authorized Civil Works project (a "USACE project"), the activity that requires section 408 permission is not authorized until the Norfolk District Corps grants the section 408 permission to alter, occupy, or use the USACE project, and the district engineer issues a written 17-RP-20 verification.
4. Prior to authorization of artificial reefing for fish havens (*i.e.* ocean sinking) of any ships, vessels, or mechanized vehicles and to ensure the project is conducted in an environmentally sound manner, such ships, vessels and mechanized vehicles shall

be prepared for reefing consistent with EPA guidance entitled *Best Management Practice for Preparing Vessels Intended to Create Artificial Reefs*, EPA842-B-06-002 (May 2006). The permittee must notify the United States Environmental Protection Agency (EPA) Region III Coastal Science Team Leader, 1650 Arch Street, Philadelphia, PA 19103, 215-814-2137 at least 60 days prior to the proposed reefing activity and allow EPA reasonable opportunity upon request to inspect the ship, vessel, or mechanized vessel prior to reefing. This provision does not supersede any of EPA's existing statutory authorities to inspect the ship, vessel or mechanized vessel.

- a. Failure to comply with the Toxic Substances Control Act, 15 U.S.C. § 2601, et seq. (TSCA) is a violation of this permit.
 - b. All material used in the construction of the reefs shall be of clean suitable material and free of petroleum and other hydrocarbons (oil, grease, asphalt and creosote), toxic residues (including but not limited to mercury, cadmium and lead), and loose, free floating material and other deleterious substances. Reefing preparations for all vessels and mechanized vehicles shall include the removal of: all liquid fuels, oils and greases; all asbestos that is loose or may become loose during vessel sinking; all manufactured products containing greater than or equal to (\geq) 50 parts per million (ppm) of solid PCBs, all liquid PCBs regardless of concentration and all materials contaminated by PCB spills where the concentration of the original PCB source is \geq 50ppm; all harmful exterior hull anti-fouling systems that are determined to be active; all exfoliating (peeling) and exfoliated paint; all loose debris, including materials or equipment that are not permanently attached to the vessel that could be transported into the water column during a sinking event; and all other materials that may negatively impact the biological, physical, or chemical characteristics of the marine environment. Such preparation also shall include the removal, or sealing, of all accessible friable asbestos. Vessel owners must also document that no PCBs at concentrations greater than 50ppm remain on board the vessel. This may require representative PCB sampling by those intending to use this RP.
5. Vessels or mechanized vehicles shall be inspected by the United States Coast Guard to ensure hazardous material will not enter the watershed.
 6. If the work involves hydraulic dredging of old shellfish reefs an automatic time of year restriction will apply for between February 15 and June 15 of any year unless consultation with the NOAA Fisheries (NOAA) confirms there will be no impact for protection of anadromous fish migration and spawning.
 7. The Corps will coordinate individual shell dredging events with NOAA Fisheries Service, Protected Species Division and Habitat Conservation Division; and/or the U.S. Fish and Wildlife, Virginia Field Office for the purpose of Endangered Species consultation and Essential Fish Habitat assessment.

8. A proponent (“permittee” or “applicant”) of work proposed in portions of the following waterways may require an easement to be obtained from the Corps Real Estate Division to cross government property before any construction can take place:
 - a. James River
 - b. Lynnhaven Inlet and Connecting Waters
 - c. All Local Cooperation Agreement areas
 - d. Dismal Swamp Canal
 - e. Albemarle and Chesapeake Canal
 - f. Appomattox River
9. For further information on the need to obtain a government easement, please contact Norfolk District's Real Estate Office at the address on the first page of this Regional Permit or telephone (757) 201-7736.
10. If the display of lights and signals on the structure or work authorized herein is not otherwise provided for by law, such lights and signals as may be prescribed by the United States Coast Guard shall be installed and maintained at the expense of the permittee. The USCG may be reached at the following address and telephone number: Commander (oan), Fifth Coast Guard District, Federal Building, 431 Crawford Street, Portsmouth, Virginia 23704-5004, telephone number (757) 398-6230.
11. If and when the permittee desires to abandon the authorized activity he or she must restore the area to a condition satisfactory to the District Commander unless the permittee is transferring his or her interest to a third party. See general condition number 39.
12. The Secretary of the Army or his/her authorized representative may direct the permittee to restore the waterway to its former condition, with no expense to the United States. If the permittee fails to comply with the directive, the Secretary or his/her representative may restore the area to its former condition, by contract or otherwise, and recover the cost thereof from the permittee.
13. No activity is authorized pursuant to this RP if it causes more than a minimal adverse effect on an adjacent property owner's right of access to navigable waters, or causes more than a minimal adverse effect on navigation, both commercially and recreationally. Such a reevaluation may result in a determination that it is appropriate to use the suspension, modification, and revocation procedures contained in 33 CFR 325.7 or enforcement procedures such as those contained in 33 CFR 326.4 and 326.5. The referenced enforcement procedures provide for the issuance of an administrative order requiring you to comply with the terms and conditions of your permit and for the initiation of legal action where appropriate. You will be required to

pay for any corrective measures ordered by this office, and if you fail to comply with such directive, this office may in certain situations (such as those specified in 33 CFR 209.170) accomplish the corrective measures by contract or otherwise and bill you for the cost. In addition, unpermitted work or violation of permit conditions may result in civil, criminal or administrative penalties (33 U.S.C. 406).

14. Any structure authorized shall be properly maintained, including maintenance to ensure public safety.

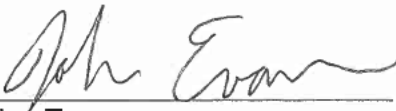
Rationale: The 17-RP-20 special conditions are those needed to insure compliance with other laws, add a supplemental review of new reefs, and insure that the individual and cumulative impact meet the criteria to be permitted as a general permit activity.

12.0 Findings and Determinations

- 12.1 Section 176(c) of the Clean Air Act General Conformity Rule Review: The proposed permit action has been analyzed for conformity applicability pursuant to regulations implementing Section 176(c) of the Clean Air Act. It has been determined that the activities proposed under this permit will not exceed de minimis levels of direct or indirect emissions of a criteria pollutant or its precursors and are exempted by 40 CFR Part 93.153. Any later indirect emissions are generally not within the Corps' continuing program responsibility and generally cannot be practicably controlled by the Corps. For these reasons a conformity determination is not required for this permit action.
- 12.2 Presidential Executive Orders (EO):
 - 12.2.1 EO 13175, Consultation with Indian Tribes, Alaska Natives, and Native Hawaiians: This action has no substantial effect on one or more Indian tribes, Alaska or Hawaiian natives.
 - 12.2.2 EO 11988, Floodplain Management: This action is not located in a floodplain.
 - 12.2.3 EO 12898, Environmental Justice: The Corps has determined that the proposed project would not use methods or practices that discriminate on the basis of race, color or national origin nor would it have a disproportionate effect on minority or low-income communities.
 - 12.2.4 EO 13112, Invasive Species: There are no invasive species issues involved in this proposed project.
 - 12.2.5 EO 13212 and EO 13302, Energy Supply and Availability: The proposal is not one that will increase the production, transmission, or conservation of energy, or strengthen pipeline safety.

- 12.3 Findings of No Significant Impact: Having reviewed the information provided by the applicant and all interested parties and an assessment of the environmental impacts, I find that this permit action will not have a significant impact on the quality of the human environment. Therefore, an environmental impact statement will not be required.
- 12.4 Compliance with the Section 404(b)(1) Guidelines: Having completed the evaluation above, I have determined that the proposed discharge complies with the Guidelines, with the inclusion of the appropriate and practicable special conditions to minimize pollution or adverse effects to the affected ecosystem.
- 12.5 Public interest determination: Having reviewed and considered the information above, I find that the proposed project is not contrary to the public interest.

PREPARED BY:



John Evans

Date: 10/10/17

REVIEWED BY:



Kim Baggett

Date: 10/10/17