APPENDIX B

ENVIRONMENTAL RESOURCES

March 2016

FEDERAL CONSISTENCY DETERMINATION/ WATER QUALITY CERTIFICATION

State of New Jersey
Department of Environmental Protection
Site Remediation Program
Office of Dredging and Sediment Technology
P.O. Box 028
Trenton, NJ 08625
(609) 292-1250
FAX (609) 777-1914

Bradley M. Campbell
Commissioner

October 24, 2002

Mr. Leonard Houston, Chief
Environmental Analysis Branch
Department of the Army, Corps of Engineers
Jacob K. Javits Federal Building
New York, New York 10278-0090

RE: Federal Consistency Determination / Water Quality Certification
File: 0714-02-0005.1
Project: Minish Passaic River Waterfront Park and Historic Area
Contract Area 3

Dear Mr. Houston:

The Office of Dredging and Sediment Technology received your request for a Federal Consistency Determination, as required by Section 307 of the Federal Coastal Zone Management Act, for Construction Contract No. 3 of the Joseph G. Minish Passaic River Waterfront Park and Historic Area. The subject request for federal consistency and Water Quality Certification was submitted on August 28, 2002.

The Minish Park project will create a continuous public waterfront park extending 9,200 linear feet along the Passaic River Waterfront in the City of Newark. This Federal Consistency Determination and Water Quality Certification is issued for Contract No. 3 only. The area of Contract 3 is from the northern extent of the project at Bridge Street to the existing Contract #1 bulkhead, and is referred to on the approved plans as Station 0+00 to Station 20+03. Future phases of the project will require independent determinations as the specific construction plans are developed those future contracts.

Contract 3 involves the construction of approximately 2,000 linear feet of new sheet pile bulkhead. The bulkhead alignment will conform to the location of the existing bulkhead except in the area between Station 14+00 to 20+00. In these areas, filling of the water area outshore of the existing bulkhead is necessary in order to accommodate two combined sewer overflow structures, and to avoid impacting an historic railroad abutment within the project area (located at Station 16+67 to Station 16+82). The construction of the bulkhead will require the removal of approximately 900 cubic yards of sediments from the Passaic River.

Contract 3 also involves the construction of a number of stormwater drainage outfalls. and other stormwater structures along the new bulkhead line.

This project requires the filling of approximately 12,000 square feet of open waters to accommodate the new bulkhead and the above referenced combined sewer overflow structures structures. This fill will be compensated for by the surplus in cut resulting from the reconfigured boat basin under contract 1, and three acres of wetland restoration planned for the south reach of the project.

0714-02-0005.1

The project is shown on plans submitted to this Office in 23 sheets, titled "Joseph G. Minish Passaic River Waterfront Park and Historic Area Newark, New Jersey – Construction Contract No. 3 Station 0+00 To Station 20+02", dated and prepared by the U.S. Army Engineer District New York.

The Rules on Coastal Zone Management (N.J.A.C. 7:7E) constitute New Jersey's enforceable policies under its federally approved Coastal Zone Management Program. Contract No. 1 of the Joseph G. Minish Passaic River Waterfront Park and Historic Area has been reviewed under the following Rules on Coastal Zone Management: Finfish Migratory Pathways (7:7E-3.5), Navigation Channels (7:7E-3.7), Submerged Infrastructure (7:7E-3.12), Intertidal and Subtidal Shallows (7:7E-3.15), Filled Water's Edge (7:7E-3.23), Historic and Archaeological Resources (7:7E-3.36), special Hazard Areas (7:7E-3.41), Special Urban Areas (7:7E-3.43), New Dredging (7:7E-4.2(g)), Filling (7:7E-4.2(j), Coastal Engineering (7:7E-7.11), Dredged Material Disposal on Land (7:7E-7.12), Water Quality (7:7E-8.4) and Public Access to the Waterfront (7:7E-8.11). Based on the above summary of details of the project as presented in the Federal Consistency Determination request dated August 28, 2002, and in the May 1996 Design Memorandum for this project; **I have determined that Contract No. 3 of the Joseph G. Minish Passaic River Waterfront Park and Historic Area project is consistent with the Rules on Coastal Zone Management and New Jersey's federally approved Coastal Management Program.**

Please be advised, the Corps' contractor shall be responsible to secure an Acceptable Use Determination from the Department of Environmental Protection, Office of Dredging and Sediment Technology for the end use of the decontaminated sediment once the final placement site has been identified. However, based on the preliminary sediment analytical results it appears as though this material will exceed the placement criteria established for the currently operating upland beneficial use sites. Therefore, it is likely that this material will have to go to a solid waste facility licensed to accept this material.

I have also reviewed this project for potential water quality impacts. Provided that the following conditions are met, I have determined that this project is not likely to cause a violation of New Jersey's Surface Water Quality Standards (N.J.A.C. 7:9B-1.1 et seq.). Therefore, this **determination includes the State's Water Quality Certification pursuant to Section 401 of the federal Water Pollution Control Act (33 USC 1251 et seq.) subject to the following conditions:**

1. A "No barge overflow" condition applies to the dredging and transport of any contaminated dredged material.

2. All dredging of contaminated fine-grained material shall be accomplished during low tide on the exposed mud flat. Where this is not possible, silt fences, curtains, or other containment [illegible] Passaic River.

[illegible] of

4. All barges, scows or containers used to transport sediment shall be watertight and tarped during transit.

5. All soil meeting the Non-residential Direct Contact Soil Cleanup Criteria may be used as backfill behind the newly constructed bulkhead. However, that material must be covered with a minimum of six inches of clean soil or crushed stone upon project completion. Separate or more stringent criteria may be applied to the soil on the PSE&G Front Street Coal Gas Site.

6. All workers shall have received requisite training for handling contaminated soil and sediments in accordance with OSHA requirements.

7. Nothing in this approval shall be deemed to in any way affect the responsibilities of PSE&G under their Memorandum of Agreement with the Department dated August 24, 1995 for the remediation of the former PSE&G Front Street Coal Gas Site.

8. The Corps, its contractor and PSE&G shall work cooperatively to develop a contingency plan that outlines what procedures and remedies shall be implemented should petroleum product or coal tar be encountered during construction of this project. Said procedures and remedies shall be designed to prevent discharge of any contamination into the Passaic River. Further, should this level of contamination be encountered during construction, the bulkhead design shall be revisited to determine that it will not interfere with a remedial strategy for the site. The ACOE shall not proceed with work between Station 4+00 to Station 7+00 until such time as the PSE&G interim RAWP is approved in writing, and Waterfront Development Permit #0714-98-0003.1 is modified to reflect said change in the RAWP.

9. A minimum 40-foot wide permanent easement shall be provided along the entire length of bulkhead constructed under this contract reserving that area for the future permanent public promenade and landscaping.

Should you have any questions in this regard, please do not hesitate to contact me at (609) 292-8838.

Sincerely,

Suzanne U. Dietrick, Acting Chief
Office of Dredging and Sediment Technology
Site Remediation Program

C: Joel Pecchioli, Office of Program Coordination
Richard Gimello, Executive Director, NJDOT Office of Maritime Resources
Michael Kenney, SRP, BCM
John Moyle, Bureau of Engineering and Construction

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Mr. Leonard Houston, Chief
Environmental Analysis Branch
Department of the Army, Corps of Engineers
Jacob K. Javits Federal Building
New York, New York 10278-0090

January 28, 2005

RE: Federal Consistency Determination / Water Quality Certification
File: 0000-04-0019.1 CDT 040001
Project: Minish Passaic River Waterfront Park and Historic Area
Contract Area 4 / Project's Tidal Wetlands Mitigation Area

Dear Mr. Houston:

The Office of Dredging and Sediment Technology received your request for a Federal Consistency Determination, as required by Section 307 of the Federal Coastal Zone Management Act, for Construction Contract No. 4 of the Joseph G. Minish Passaic River Waterfront Park and Historic Area. The subject request for federal consistency and Water Quality Certification was submitted on July 19, 2004. Additional information was submitted by the NY District Army Corps of Engineers (NY District) on December 17, 2004 in response to a deficiency letter dated August 13, 2004 from the Department.

Phase I of the Joseph G. Minish Passaic River Waterfront Park and Historic Area project will create a continuous public waterfront park extending 9,200 linear feet along the Passaic River Waterfront in the City of Newark. This Federal Consistency Determination and Water Quality Certification is issued for Contract No. 4 only. The area of Contract 4 is from Newark Penn Station easterly to Brill Street in Newark, NJ and has been designated on the development plans as the construction segment from Station 37 + 10 to Station 92 + 16.26. Previous contract areas 1, 2 and 3 received separate federal consistency determinations from the Department.

Contract 4 involves the construction of approximately 2,300 linear feet of new sheet pile bulkhead (Station 37+10 to 60+00) and the construction of outlet structures and drainage outlets. The project also calls for the re-grading of 3,200 linear feet of riverbank between the Jackson Street Bridge east to Brill Street. The 1.93acre tidal wetland mitigation area will consist of two areas, the Primary Wetland Area (Station 69 +84 to Station 83+36) and the Supplemental Wetland Area (Station 60+00 to Station 68+73). The tidal wetland mitigation area is being constructed to offset the loss of 24, 467.75 square feet (0.56 acres) of open water from the entire project. The mitigation area equates to a ratio of 3.4 :1 for the loss of open water.

This project requires the filling of 10,879.44 square feet of open waters to accommodate the new bulkhead and the above referenced combined sewer overflow structures structures. This contract provides for the creation of 5,480.3 square feet of open water through the re-grading of the shoreline in the area between Jackson Street Bridge and Brill Street. Therefore, the total loss of open water from this contract is 5,399.14 square feet. This loss has been factored into the calculation of the total loss of open water for the entire project as discussed above.

The project is shown on plans consisting of 62 sheets entitled, "Joseph G. Minish Passaic River Waterfront Park and Historic Area Newark, New Jersey – Construction Contract No. 3 Station 37+10 To Station 92+13.59", dated October 28, 2004, and prepared by the U.S. Army Engineer District New York.

The Rules on Coastal Zone Management (N.J.A.C. 7:7E) constitute New Jersey's enforceable policies under its federally approved Coastal Zone Management Program. Contract No. 4 of the Joseph G. Minish Passaic River Waterfront Park and Historic Area has been reviewed under the following Rules on Coastal Zone Management: Finfish Migratory Pathways (7:7E-3.5), Navigation Channels (7:7E-3.7), Submerged Infrastructure (7:7E-3.12), Intertidal and Subtidal Shallows (7:7E-3.15), Filled Water's Edge (7:7E-3.23), Historic and Archaeological Resources (7:7E-3.36), Special Hazard Areas (7:7E-3.41), Special Urban Areas (7:7E-3.43), Mitigation Proposals for Wetlands and Intertidal and Subtidal Shallows (7:7E-3B)New Dredging (7:7E-4.2(g)), Filling (7:7E-4.2(j), Coastal Engineering (7:7E-7.11), Dredged Material Disposal on Land (7:7E-7.12), Water Quality (7:7E-8.4) and Public Access to the Waterfront (7:7E-8.11). Based on the above summary of details of the project as presented in the Federal Consistency Determination request dated July 19, 2004 as amended on December 17, 2004 , and in the May 1996 Design Memorandum for this project; **I have determined that Contract No. 4 of the Joseph G. Minish Passaic River Waterfront Park and Historic Area project is consistent with the Rules on Coastal Zone Management and New Jersey's federally approved Coastal Management Program provided the following conditions are met:**

1. **Prior to construction, the NY District or its designated contract shall provide written notification to the Department of the disposal location for the sediments excavated from the wetland mitigation area and the material removed for the bulkhead construction. Based on the preliminary sediment/soil analytical results, this material exceeds the placement criteria established for the currently operating upland beneficial use sites. Therefore, it is likely that this material will have to go to a solid waste facility licensed to accept this material.**

2. The NY District shall comply with the conditions specified in the attached "Coastal Wetland Mitigation Conditions" as it relates to monitoring and reporting requirements for the mitigation project.

3. Within 6 months from the date of this Federal Consistency Determination, the NY District shall obtain final approval from the Department on the document entitled "Tidal Wetland Mitigation and Restoration Demonstration Study Monitoring Work Plan" (draft dated November 2004) upon completion of coordination of the review of the document with the Lower Passaic River Restoration Study team.

I have also reviewed this project for potential water quality impacts. Provided that the following conditions are met, I have determined that this project is not likely to cause a violation of New Jersey's Surface Water Quality Standards (N.J.A.C. 7:9B-1.1 et seq.). **Therefore, this determination includes the State's Water Quality Certification pursuant to Section 401 of the federal Water Pollution Control Act (33 USC 1251 et seq.) subject to the following conditions:**

1. A "No barge overflow" condition applies to the dredging and transport of any contaminated dredged material.

2. Silt fences, curtains, or other containment features shall be employed to prevent contaminated sediment from entering the Passaic River during the entire project.

3. Dredged material shall be placed deliberately in the barge in order to prevent spillage of material overboard.

4. All barges, scows or containers used to transport sediment shall be watertight and tarped during transit.

5. All workers shall have received requisite training for handling contaminated soil and sediments in accordance with OSHA requirements.

6. Nothing in this approval shall be deemed to in any way affect the responsibilities of PSE&G under their Memorandum of Agreement dated August 12, 1997, and the Interim Remedial Measure Selection Report/Interim Remedial Measure Work Plan dated July 14, 2003 as approved by the Department on October 31, 2003 for the Former Market Street Gas Works Site.

7. The Corps, its contractor and PSE&G shall work cooperatively to develop a contingency plan that outlines what procedures and remedies shall be implemented should petroleum product or coal tar be encountered during construction of this project. Said procedures and remedies shall be designed to prevent discharge of any contamination into the Passaic River. Further, should this level of contamination be encountered during construction, the bulkhead design shall be revisited to determine that it will not interfere with a remedial strategy for the site.

8. A minimum 40-foot wide permanent easement shall be provided along the entire length of bulkhead constructed under this contract reserving that area for the future permanent public promenade and landscaping.

Should you have any questions in this regard, please do not hesitate to contact me at (609) 292-8838.

Sincerely,

Suzanne U. Dietrick, Acting Chief
Office of Dredging and Sediment Technology
Site Remediation Program

Enclosure

C: Lisa Baron, NJDOT Office of Maritime Resources
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Ms. Alice Yeh
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Ms. Reyhan Mehran
NOAA
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COASTAL WETLAND MITIGATION CONDITIONS

1. The NY District shall complete and sign a Department approved conservation restriction for the mitigation site. The restriction shall be included on the deed, and recorded in the office of the County Clerk (the Registrar of Deeds and Mortgages in some counties), in the county wherein the lands of the mitigation project are located, within 10 days of approval of the wetland mitigation proposal.

2. The NY District shall notify the Land Use Regulation Program, in writing, at least thirty (30) days in advance of the start of construction of the wetland mitigation project for an on-site pre-construction meeting between the NY District, the contractor, the consultant and the Program.

3. The mitigation designer must be present during critical stages of construction of the mitigation project this includes but is not limited to herbicide applications, sub-grade inspection, final grade inspection, and planting inspection to ensure the intent of the mitigation design and their predicted wetland hydrology is realized in the landscape. Mitigation designs are not static documents and changes may be necessary to ensure success of the project. It shall be the prerogative of the mitigation consultant to make changes to the design should field conditions warrant such action.

4. Immediately following final grading of the site, a disc must be run over the site to eliminate compaction. The mitigation designer must be present to oversee this phase of the project and confirm with the Land Use Regulation Program this activity has occurred prior to planting of the site.

5. Immediately following the final grading of the mitigation site and prior to planting, the NY District shall notify the Land Use Regulation Program for a post-grading construction meeting between the NY District, contractor, consultant and the Land Use Regulation Program. The NY District must give the Program at least thirty (30) days notice prior to the date of this meeting.

6. Within 30 days following the final grading and planting of the mitigation project, the NY District shall submit a final report to the Land Use Regulation Program. The final report shall contain, at a minimum, the following information:

   a. A completed WETLAND MITIGATION PROJECT COMPLETION OF CONSTRUCTION FORM (attached) which certifies that the mitigation project has been constructed as designed and that the proposed area of wetland creation, restoration or enhancement has been accomplished;

   b. As built plans which depict final grade elevations at one foot contours and include a table of the species and quantities of vegetation that were planted including any grasses that may have been used for soil stabilization purposes;

   c. Show on the as-built plans that the boundaries of the wetland mitigation area has been visibly marked with 3 inch white PVC pipe extending 4 feet above

the ground surface. The stakes must remain on the site for the entire monitoring period;

d. Photos of the constructed wetland mitigation project with a photo location map as well as the GPS waypoints in NJ state plane coordinates NAD 1983;

e. To document that the required amount of soil has been placed/replaced over the entire area of the mitigation site, provide a minimum of 6 soil profile descriptions to a depth of 20 inches. The location of each soil profile description should be depicted on the as built plan as well as provide the GPS waypoints in NJ state plane coordinates NAD 1983;

f. The NY District shall post the mitigation area with several permanent signs, which identify the site as a wetland mitigation project and that mowing, cutting, dumping and draining of the property is prohibited; and

g. The sign must also state the name of the site, a contact name and phone number.

7. If the Land Use Regulation Program determines that the mitigation project is not constructed in conformance with the approved plan, the NY District will be notified in writing and will have 60 days to submit a proposal to indicate how the project will be corrected.

8. The NY District shall monitor the mitigation project for 3 full growing seasons after the mitigation project has been constructed. The NY District shall submit monitoring reports to the Land Use Regulation Program no later than December 31st of each monitoring year (All monitoring report must include the standard items identified in the attachment and the information requested below).

9. All monitoring reports will include all the following information:

a. All monitoring reports except the final one must include documentation that it is anticipated, based on field data, that the goals of the wetland mitigation project including the transition area, as stated in the approved wetland mitigation proposal and the permit will be satisfied. If the NY District is finding problems with the mitigation project and does not anticipate the site will be a full success then recommendations on how to rectify the problems must be included in the report with a time frame in which they will be completed;

b. All monitoring reports except the final one must include field data to document that the site is progressing towards 85 percent survival and 85 percent area coverage of mitigation plantings or target hydrophytes (Target hydrophytes are non-invasive native species to the area and similar to ones identified on the mitigation planting plan). If the proposed plant community is a scrub/shrub or forested wetland or wetland buffer the NY District must also demonstrate each year with data that the woody species are thriving, increasing in stem density and height each year. If the field data shows that the mitigation project is

failing to meet the vegetation survival, coverage and health goals, the monitoring report should contain a discussion of steps that will be taken to rectify the problem, including a schedule of implementation;

c. All monitoring reports except the final one must include documentation of any invasive or noxious species (see below for list of species) colonizing the site and how they are being eliminated. The NY District is required to eliminate either through hand-pulling, application of a pesticide or other Land Use Regulation Program approved method any occurrence of an invasive/noxious species on the mitigation site during the monitoring period;

d. All monitoring reports except the final one must include documentation that demonstrates the proposed hydrologic regime as specified in the mitigation proposal appears to be met. If the NY District is finding problems with the mitigation project and does not anticipate the proposed hydrologic regime will be or has not been met then recommendations on how to rectify the problem must be included in the report along with a time frame within which it will be completed;

e. The final monitoring report must include documentation to demonstrate that the goals of the wetland mitigation project including the required wetland buffer, as stated in the approved wetland mitigation proposal and the permit, has been satisfied. Documentation for this report will also include a field wetland delineation of the wetland mitigation project based on techniques as specified in the Federal Manual for Identifying and Delineating Jurisdictional Wetlands (1989);

f. The final monitoring report must include documentation the site has an 85 percent survival and 85 percent area coverage of the mitigation plantings or target hydrophytes. The NY District must also document that all plant species are healthy and thriving and if the proposed plant community contains trees demonstrate that the trees are at least five feet in height;

g. The final monitoring report must include documentation demonstrating the site is less than 10 percent occupied by invasive or noxious species such as but not limited to *Phalaris arundinacea* (Reed canary grass), *Phragmities australis* (Common reed grass), *Pueraria lobata* (Kudzu), *Typha latifloia* (Broad-leaved cattail), *Typha angustifolia* (Narrowed leaved cattail), *Lythrum salicaria* (Purple loosestrife), *Ailanthus altissima* (Tree-of-heaven), *Berberis thunbergi* (Japanese barberry), *Berberis vulgaris* (Common barberry), *Elaeagnus angustifloia* (Russian olive), *Elaeagnus umbellata* (Autumn olive), *Ligustrum obtusifolium* (Japanese privet), *Ligustrum vulgare* (Common privet) and *Rosa multiforia* (Multiflora rose);

h. The final monitoring report must include documentation that demonstrates that the proposed hydrologic regime as specified in the mitigation proposal, which proves the mitigation site is a wetland has been satisfied. The documentation shall include when appropriate monitoring well data, tide gauge data,

photographs and field observation notes collected throughout the monitoring period; and

10. Once the required monitoring period has expired and the NY District has submitted the final monitoring report, the Land Use Regulation Program will make the finding that the mitigation project is either a success or a failure. This mitigation project will be considered successful if the NY District demonstrates all of the following:

    a. That the goals of the wetland mitigation project including acreage and the required wetland buffer, as stated in the approved wetland mitigation proposal and the permit, has been satisfied. The NY District must submit a field wetland delineation of the wetland mitigation project based on the Federal Manual for Identifying and Delineating Jurisdictional Wetlands (1989) which shows the exact acreage of wetlands in the mitigation area;

    b. The site has an 85 percent survival and 85 percent area coverage of the mitigation plantings or target hydrophytes which are species native to the area and similar to ones identified on the mitigation planting plan. All plant species in the mitigation area are healthy and thriving. All trees are at least five feet in height;

    c. The site is less than 10 percent occupied by invasive or noxious species such as but not limited to *Phalaris arundinacea* (Reed canary grass), *Phragmities australis* (Common reed grass), *Pueraria montana* (Kudzu), *Typha latifloia* (Broad-leaved cattail), *Typha angustifolia* (Narrowed leaved cattail), *Lythrum salicaria* (Purple loosestrife), *Ailanthus altissima* (Tree-of-heaven), *Berberis thunbergi* (Japanese barberry), *Berberis vulgaris* (Common barberry), *Elaeagnus angustifloia* (Russian olive), *Elaeagnus umbellata* (Autumn olive), *Ligustrum obtusifolium* (Japanese privet), *Ligustrum vulgare* (Common privet) and *Rosa multiforia* (Multiflora rose); and,

    d. The proposed hydrologic regime as specified in the mitigation proposal, which proves the mitigation site is a wetland has been satisfied.

11. If the mitigation project is considered a failure, the NY District is required to submit a revised mitigation plan to rectify the wetland mitigation site. The plan shall be submitted within 60 days of receipt of the letter from the Program indicating the wetland mitigation project was a failure. The financial surety, if required, will not be released by the Program until such time that the NY District satisfies the success criteria as stipulated in condition number 15.

12. The NY District shall assume all liability for accomplishing corrective work should the Land Use Regulation Program determine that the compensatory mitigation has not been 100% satisfactory. Remedial work may include re-grading and/or replanting the mitigation site. This responsibility is incumbent upon the NY District until such time that the Land Use Regulation Program makes the finding that the mitigation project is successful.

UNITED STATES FISH AND WILDLIFE COORDINATION ACT
COORDINATION

United States Department of the Interior
FISH AND WILDLIFE SERVICE

New Jersey Field Office
Ecological Services
4 East Jimmie Leeds Road, Unit 4
Galloway, New Jersey 08205
Tel: 609/646 9310/Fax: 609/646 0352
http://www.fws.gov/northeast/njfieldoffice/

2016-CPA-0090a

Peter Weppler, Chief
Environmental Analysis Branch, New York District
U.S. Army Corps of Engineers
Jacob K. Javits Federal Building
New York, New York 10278-0090
Attention: Diana Kohtio

APR 2 2 2016

Subject: Final Planning Aid Letter for the Joseph G. Minish Passaic River Waterfront Park and Historic Area, City of Newark, Essex County, New Jersey.

Dear Mr. Weppler:

The U.S. Fish and Wildlife Service (Service) has prepared the subject final Planning Aid Letter (PAL) for the U.S. Army Corps of Engineers, New York District (Corps) regarding the planned completion of a multi-phased project titled "Joseph G. Minish Passaic River Waterfront Park and Historic Area" (Project). The Project is located along the west bank of the Passaic River between Bridge and Brill Streets in the City of Newark, New Jersey. This final PAL was prepared in accordance with a fiscal year 2014 Scope of Work and interagency agreement pursuant to the Fish and Wildlife Coordination Act of 1958 (FWCA) (48 Stat. 401, as amended; 16 U.S.C. 661 *et seq.*). This final PAL constitutes the report of the Secretary of the Interior as required by Section 2(b) of the FWCA and amends a FWCA 2(b) Report prepared by the Service dated May 1996.

The subject final PAL provides input, guidance and recommendations to the Corps regarding conservation resource issues for the remaining parts of Phase One of the Project. All remaining phases of the Project (II and III) will be addressed by the Service at a later date after the Corps and the local cost-sharing sponsor, New Jersey Department of Environmental Protection (NJDEP), have agreed upon the next course of action.

The final PAL contains updated information on wildlife resources, an assessment of potential impacts of the Project, and the review of potential mitigation associated with the Project, with an emphasis on selecting a preferred alternative that will compensate for 0.56 acre of expected aquatic resource impacts. Comments provided in this final PAL are based on information the Corps provided to the Service; review of an amended Environmental Assessment (EA) dated October 2015; several site visits conducted by the Service; updated studies, academic research, field notes, site photographs, maps; and analysis of Geographic Information Systems data sets (ArcGIS® version 10.1)(GIS). The final PAL represents comments in coordination with the New Jersey Division of Fish and Wildlife (NJDFW) and the National Marine Fisheries Service (NMFS).

AUTHORITY

The Corps and the Service coordinate during project planning to conserve, protect, and enhance fish, wildlife, and plants and their habitats. Legislation relevant to natural resource protection for this project includes the FWCA, the Endangered Species Act (ESA) (87 Stat. 884, as amended; (16 U.S.C. 15.31 *et seq.*), the National Environmental Policy Act (NEPA) (83 Stat. 852; as amended, 42 U.S.C. 4321 *et seq.*), the Migratory Bird Treaty Act (MBTA) (40 Stat. 755; 16 U.S.C. 703-712), and the Bald and Golden Eagle Protection Act (BGEPA) (54 Stat. 250 as amended; 16 U.S.C. 668-668d). For projects authorized under Water Resource Development Act (33 U.S.C. 2201 *et seq.*), the ESA and the FWCA represent the primary authorities under which the Service cooperates and coordinates with the Corps.

The following comments constitute Service concerns for fish and wildlife resources and do not preclude separate review and comments by the Service pursuant to the December 22, 1993 Memorandum of Agreement among the U.S. Environmental Protection Agency (USEPA), NJDEP, and the Service, if project implementation requires a permit from the NJDEP pursuant to the New Jersey Freshwater Wetlands Protection Act (N.J.S.A. 13:9B *et seq.*); nor do they preclude comments or recommendations on any documents prepared pursuant to NEPA.

PROJECT DESCRIPTION

The Service provided the Corps a FWCA 2(b) Report for the Project in May 1996. Subsequent to the Service's FWCA 2(b) Report, several portions of the first of three phases of the Project were completed by the Corps. Then, in response to extensive storm damages resulting from Hurricane Sandy and an increased vulnerability to future events, Congress passed the Disaster Relief Appropriations Act of 2013, Public Law (P.L.) 113-2. The Project was identified as an authorized, but partially constructed project, in the Corps' Second Interim Report to Congress, Disaster Relief Appropriations Act of 2013 (DRAA).

With the passage of the DRAA, the Corps was given the authority and funding to complete ongoing coastal storm damage risk reduction projects and studies in the Northeast. As part of the planning and implementation process for the Project, the Corps would update previous engineering and design efforts, physical surveys, and environmental compliance.

On February 19, 2016, the Service provided a draft PAL to the Corps, NJDFW, and NMFS. The focus of this final PAL is to evaluate potential Project impacts on the completion of Phase I of the Project's three phases and to offer construction and monitoring recommendations to minimize and/or mitigate expected impacts of the Project. Phase I includes bulkhead and stream bank stabilization features, grading and landscaping along the Passaic River in the City of Newark, as well as offsite wetland mitigation. As identified in the preliminary plan in 1996, Phase I included construction of 6,000 feet of bulkhead and 3,200 linear feet of stream bank stabilization. This phase has been partially constructed. Remaining construction includes 2,858 linear feet of bulkhead, 2,658 linear feet of stream bank stabilization, landscaping, 1.68 acres of wetland mitigation, and the installation of railings and access ladders along the bulkhead, including those sections previously constructed.

The recommended plan would complete construction of Phase I of the project and effectively reduce erosion and provide for shore protection; provide environmental mitigation; and support recreation and economic development.

Figure 1 provided by the Corps lists the status of the Phase I project elements starting at the upstream project limit at Bridge Street and continuing downstream to Brill Street:

- Station 0+00 to Station 20+03 - bulkhead not yet constructed (Contract 3).
- Station 20+03 to Station 24+48.57 - bulkhead construction completed; railings and access ladders not yet constructed.
- Station 24+48.45 to 37+10 - bulkhead construction completed; railings and access ladders not yet constructed.
- Station 37+10 to 45+68.60 - bulkhead not yet constructed (Contract 4).
- Station 45+68.60 to 57+80.10 - bulkhead construction completed; railings and access ladders not yet constructed.
- Station 57+80.10 to 62+00, Station 69+75 to 75+00, Station 75+00 to 92+13.59 - streambank stabilization areas not yet constructed (Contract 4).
- Wetland Mitigation – not yet constructed (location to be determined).

Phases II and III of the Project will be constructed at a later date and includes a waterfront walkway, park, and recreation facilities to provide recreation, social, and economic development benefits.

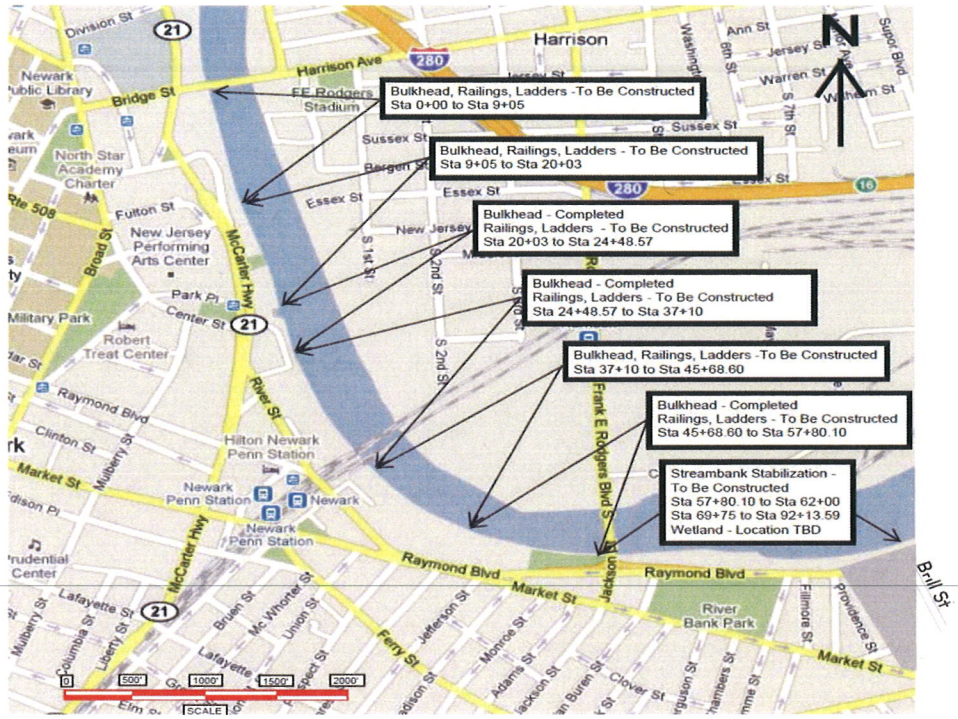

Figure 1. Phase 1 Project Segment from Bridge Street to Brill Street, Newark, New Jersey.

FISH AND WILDLIFE RESOURCES

There have been several changes regarding potential Project related impacts to fish and wildlife resources that were not addressed in the Service's May 1996 FWCA 2(b) Report. They include new species listings and de-listings pursuant to the ESA; the recent petition to list several species under the ESA; additional landscaping recommendations associated with the National Pollinator Initiative; and the review of 10 off-site mitigation alternatives.

Endangered and Threatened Species

Since the Service prepared the May 1996 FWCA 2(b) Report, several species of fauna have been de-listed and listed under the ESA. This includes the delisting of the peregrine falcon (*Falco peregrinus*) in 1999 and the bald eagle (*Haliaeetus leucocephalus)* in 2007. Currently, there are two known occurrences of the peregrine falcon within one-half mile of the Project site. There are no known occurrences of the bald eagle in or in the vicinity of the Project area. Both the peregrine falcon and the bald eagle remain protected under the MBTA; the bald eagle also receives protection status pursuant to BGEPA. As both of these species are protected under New Jersey Endangered and Non-game Species Conservation Act (N.J.S.A. 23:2A-1), the Service recommends that continued coordination occur with the NJDFW Endangered and Nongame Species Program (ENSP) to determine if any time-of-year construction windows are warranted, or if the preferred mitigation alternative may have an effect on State listed species.

Northern Long-eared Bat

Potential summer habitat for the federally listed (threatened) northern long-eared bat (*Myotis septentrionalis*) is present within one mile of the project area. The northern long-eared bat has a similar life history as the closely related and federally listed (endangered) Indiana bat (*Myotis sodalis*), roosting in trees and foraging on flying insects. In areas of potential habitat for northern long-eared bat, seasonal restrictions for tree removal are recommended from April 1 through September 30. For more information, please refer to the enclosed narrative on the biology and threats to northern long-eared bat.

Species under Review for Federal Listing

The Service is evaluating the little brown bat (*Myotis lucifugus*), tri-colored bat (*Perimyotis subflavus*), and the monarch butterfly (*Danaus plexippus*) to determine if listing under the ESA is warranted. The three species may be present in the Project area. A fourth proposed species, the American eel (*Anguilla rostrata*) is known to be present in the Project area; however, on October 2015, the Service determined that listing the American eel was not warranted. The remaining "proposed for listing" species do not currently receive any substantive or procedural protection under the ESA, and the Service has not yet determined if listing of any of these three species is warranted. However, the Corps and other Federal action agencies should be aware that these species have/are being evaluated for possible listing and may wish to include them in field surveys and/or impact assessments, particularly for projects with long-term planning horizons and/or long operational lives.

The Service notes that there are three bridges that span the Passaic River that are in the Project boundary. Bridges have been documented as important roosting habitat for 24 species of bats (Keeley and Tuttle 1999). On April 4, 2015 (copy enclosed), the Corps agreed to investigate bat

use of the Project site to ensure the Project will not affect a federally listed species.

Except for the above mentioned species, no other federally listed or proposed threatened or endangered flora or fauna under Service jurisdiction are known to occur in the vicinity of the Project. Additional consultation will be necessary when the Corps identifies their off-site mitigation site, as the selection of a preferred mitigation site may impact a federally listed species. If additional information on federally listed species becomes available, or if Project plans change, this determination may be reconsidered.

Migratory Birds

According to Niles *et al.* (2001), and an ongoing census study conducted at the Rutgers University Newark Campus (http://ebird.org/ebird/nj/hotspot/L657485), which is within 0.6 mile of the Project area, over 140 species of breeding/nesting or transient migratory bird species have been identified within or in the vicinity of the Project area. Table 1 represents a species list compiled from each of these references.

Migratory birds are a Federal trust resource responsibility of the Service pursuant to the MBTA. Many species of migratory birds have experienced population declines in recent decades, largely due to direct and indirect destruction and fragmentation of their habitats (Dunne 1989). The MBTA prohibits taking, killing, possession, transportation, and importation of migratory birds, their eggs, parts, and nests, except when specifically authorized by the Department of the Interior. Unlike the ESA, neither the MBTA nor its implementing regulations at 50 CFR Part 21 provide for permitting of "incidental take" of migratory birds.

According to the NJDFW's Guidance Manual for the Protection of Fish and Wildlife Resources dated July 2008 (NJDFW Guidance), the general timing restriction to protect nesting migratory birds from tree or shrub/scrub removal is March 15 to July 31. Failure to do so may result in the illegal destruction of nests with eggs or unfledged chicks. According to the NJDFW Guidance, this recommended seasonal restriction should be expanded to March 1 for nesting raptors and to August 15 for all nesting migratory birds. As discussed above, the three bridges that are located in the Project area may be habitat for bats. In an e-mail dated April 4, 2015 (enclosed) the Corps has agreed to assesses the use of these bridges to ensure project related activities do not impact bat or avian species that may be using the bridges.

Table 1. Migratory Birds of the Newark Study Area.

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* is a State listed species and ! indicates a State species of concern

Accipiter cooperii	Cooper's hawk
Accipiter striatus	Sharp-shinned hawk (!)
Actitis macularius	Spotted sandpiper (!)
Agelaius phoeniceus	Red-winged blackbird
Aix sponsa	Wood duck
Ammodramus savannarum	Grasshopper sparrow (*)
Anas platytrhyncos	Mallard
Archilochus colubris	Ruby-throat hummingbird
Ardea Herodias	Great blue heron (!)

Baelophus bicolor	Tufted titmouse
Bombycilla cedrorum	Cedar waxwing
Branta bernicla	Brant
Branta canadensis	Canada goose
Bubo virginianus	Great horned owl
Buteo jamaicensis	Red-tailed hawk
Buteo lineatus	Red-shouldered hawk
Buteo platypterus	Broad-winged hawk (!)
Butorides virescens	Green heron
Caprimulgus carolinensis	Chuck-will's-widow
Caprimulgus vociferous	Whip-poor-will (!)
Cardinalis cardinalis	Northern cardinal
Carpodacus purpureus	Purple finch
Carduelis pinus	Pine siskin
Cathartes aura	Turkey vulture
Catharus fuscescens	Veery (!)
Catharus guttatus	Hermit thrush
Catharus minimus	Gray-cheeked thrush
Catharus ustulatus	Swainson's thrush
Certhia americana	Brown creeper
Chaetura pelagica	Chimney swift
Charadrius vociferous	Killdeer
Chen caerulescens	Snow goose
Chondestes grammacus	Lark sparrow
Chordeiles minor	Common nighthawk (!)
Circus cyaneus	Northern harrier (*)
Cistothorus palustris	Marsh wren
Coccyzus americanus	Yellow-billed cuckoo
Colaptes auratus	Northern flicker
Columba livia	Rock dove
Contopus virens	Eastern wood pewee
Coragyps atratus	Black vulture
Corvus brachyrhynchos	American crow
Corvus corax	Common raven
Corvus ossifragus	Fish crow
Cyanocitta cristata	Blue jay
Cygnus olor	Mute swan
Dendroica caerulescens	Black-throated blue warbler (!)
Dendroica castanea	Bay-breasted warbler
Dendroica cerulea	Cerulean warbler (!)
Dendroica discolor	Prairie warbler
Dendroica dominica	Yellow-throated warbler
Dendroica fusca	Blackburnian warbler (!)
Dendroica magnolia	Magnolia warbler
Dendroica pensylvanica	Chestnut-sided warbler
Dendroica petechia	Yellow warbler
Dendroica striata	Blackpoll warbler
Dendroica tigina	Cape May warbler
Dendroica virens	Black-throated green warbler (!)

Dimetella carolinensis	Gray catbird
Dryocopus pileatus	Pileated woodpecker
Empidonax minimus	Least flycatcher (!)
Empidonax trailii	Willow flycatcher
Empidonax virescens	Acadian flycatcher
Falco columbarius	Merlin
Falco peregrinus	Peregrine falcon (*)
Falco sparverius	American kestrel (!)
Gavia immer	Common loon
Geothypis trichas	Common yellowthroat
Haemorhous mexicanus	House finch
Haliaeetus leucocephalus	Bald eagle (*)
Helmitheros vermivora	Worm-eating warbler (!)
Hirundo rustica	Barn swallow
Hylocichla mustelina	Wood thrush (!)
Icteria virens	Yellow-breasted chat
Icterus galbula	Northern oriole
Icterus spurius	Orchard oriole
Junco hyemalis	Dark-eyed junco
Larus delawarensis	Ring-billed gull
Larus argentatus	Herring gull
Larus marinus	Great Black-backed gull
Megaceryle alcyon	Belted kingfisher
Melanerpes carolinus	Red-bellied woodpecker
Melospiza georgiana	Swamp sparrow
Melospiza lincolnii	Lincoln sparrow
Melospiza melodia	Song sparrow
Mergus merganser	Common merganser
Mimus polyglottos	Northern mockingbird
Mniotilta varia	Black-and-white warbler
Molothrus ater	Brown-headed cowbird
Myiarchus crinitus	Great-crested flycatcher
Oporornis formosus	Kentucky warbler (!)
Oporornis agilis	Connecticut warbler
Oporornisphiladelphia	Mourning warbler
Otus asio	Eastern screech-owl
Pandion haliaetus	Osprey
Parkesia motacilla	Louisiana waterthrush
Parula americana	Northern parula
Passer domesticus	House sparrow
Passerculus sandwichensis	Savannah sparrow
Passerella iliaca	Fox sparrow
Passerina cyanea	Indigo bunting
Petrochelidon pyrrhonota	Cliff swallow
Phalacrocorax auritus	Double-breasted cormorant
Pheucticus ludovicianus	Rose-breasted grosbeak
Picoides pubescens	Downy woodpecker
Picoides villosus	Hairy woodpecker
Pipilo erythrophthalmus	Rufous-sided (Eastern) towhee

Piranga olivacea	Scarlet tanager
Piranga rubra	Summer tanager
Poecile atricapillus	Black-capped chickadee
Polioptila caerulea	Blue-gray gnatcatcher
Progne subis	Purple martin
Quiscalus quiscula	Common grackle
Regulus calendula	Ruby-crowned kinglet
Regulus satrapa	Golden-crowned kinglet
Sayornis phoebe	Eastern phoebe
Seiurus motacilla	Louisiana waterthrush
Seiurus noveboracensis	Northern waterthrush
Scolopax minor	American woodcock
Setophaga ruticilla	American redstart
Seiurus aurocapilla	Ovenbird
Sialia sialis	Eastern bluebird
Sitta Canadensis	Red-breasted nuthatch
Sitta carolinensis	White-breasted nuthatch
Sphyrapicus varius	Yellow-bellied sapsucker
Spinus tristis	American goldfinch
Spiza Americana	Dickcissel
Spizella arborea	American tree sparrow
Spizella pallida	Clay-colored sparrow
Spizella passerina	Chipping sparrow
Spizella pussilla	Field sparrow
Stelgidopteryx serripennis	Northern rough-winged swallow
Sturnella magna	Eastern meadowlark
Sturnus vulgaris	European Starling
Tachycineta bicolor	Tree swallow
Thryothurua ludovicianus	Carolina wren
Toxostoma rufum	Brown thrasher (!)
Tringa flavipes	Lesser yellowlegs
Troglodydes aedon	House wren
Troglodydes troglodydes	Winter wren (!)
Turdus migratorius	American robin
Tyrannus tyrannus	Eastern kingbird
Vermivora cyanoptera	Blue-winged warbler
Vermivora ruficapilla	Nashville warbler (!)
Vermivora peregrina	Tennessee warbler
Vireo flavifrons	Yellow-throated vireo
Vireo gilvus	Warbling vireo
Vireo griseus	White-eyed vireo
Vireo olivaceus	Red-eyed vireo
Vireo solitaries	Blue-headed vireo (!)
Wilsonia canadensis	Canada warbler (!)
Wilsonia pusilla	Wilson's warbler

Zenaida macroura	Mourning dove
Zonotrichia albicollis	White-throated sparrow
Zonotrichia leucophrys	White-crowned sparrow

Finfish

Louis Berger Group, Inc., (2014) identified 38 finfish species within an eight-mile length of the Passaic River, that includes the Project's study area. Predominant fish caught during four sampling events in 2010 and 2011 included winter flounder (*Pseudopleuronectes americanus*), Atlantic silverside (*Menidia menidia*), striped bass (*Morone saxatilis*), three-spine stickleback (*Gasterosteus aculeatus*), scup (*Stenotomus chrysops*), bay anchovy (*Engraulidae sp.*), weakfish (*Cynoscion regalis*), summer flounder (*Paralichthys dentatus*), northern pipefish (*Syngnathus fuscus*), northern puffer (*Sphoeroides maculates*), and bluefish (*Pomatomus saltatrix*). A sampling effort by the Jacques Whitford Company in 2001 (TAMS 2004) performed at the confluence of the Passaic River and Newark Bay (approximately 3 miles from the Project site) also revealed a species list similar to that found in the Louis Berger Group 2014 Report. A complete list of species from each of these studies can be found on Table 2. On May 16, 2014 the NMFS recommended no in-water work from March 1 through June 30 for the Project, of any given year, to minimize adverse impacts to anadromous fish passage (copy enclosed). In an e-mail dated April 6, 2016 (enclosed), the NJDFW concurred with this time of year restriction for all in-water work. The NJDFW also recommended the addition of two finfish species be incorporated into the Service's Final PAL. These two added species may be found in the Project area. They include the American shad (*Alosa sapidissima*) and the blueback herring (*Alosa aestivalis*).

Crustaceans, Mollusks, and Benthic Invertebrates

As demonstrated in numerous studies undertaken in the Lower Passaic River, high concentrations of toxic, persistent, and bioaccumulative contaminants are widespread in the sediments of the Passaic River. This has affected the crustacean, bivalve, and benthic communities of the Project area. In the Louis Berger Group Report (2014), surveys resulted in consistent results of biotic communities known for pollution tolerance. These species are heavily influenced by the urban setting of the Project area. Dominant taxon was either a polychaete (*Leitoscoloplos* or *Marenzellaria viridis*), and oligochaete (*Tubificoides heterochaetus* or *Limnodrilus hoffmeisteri*) or a crustacean (*Cyathura polita*). Blue crab was the dominant invertebrate (*Callinectes sapidus*), followed by grass shrimp (*Palaemonetes pugio*) and mud crab (unspecified), while in the Mollusk family the blue mussel (*Mytilus edulis*) and a unidentified snail was found in the Project vicinity.

Table 2. Fish of the Newark Study Area

Alosa pseudoharengus	Alewife
Alosa aestivalis	Blueback herring
Alosa sapidissima	American shad
Ameiurus nebulosus	Brown bullhead
Anchoa mitchilli	Bay anchovy

Anguilla rostrata	American eel
Bairdiella chrysoura	Silver perch
Brevoortia tyrannus	Atlantic menhaden
Caranx hippos	Crevalle jack
Catastomus commersoni	White sucker
Cynoscion regalis	Weakfish
Cyprinus carpio	Common carp
Dorosoma cepedianum	Gizzard shad
Ethoestoma olmstedi	Tessellated darter
Fundulus diaphanus	Banded killifish
Fundulus heteroclitus	Mummichog
Fundulus majalis	Striped killifish
Lepomis auritus	Redbreast sunfish
Lepomis gibbosus	Pumpkinseed
Lepomis macrochirus	Bluegill
Meirus catus	White catfish
Menidia beryllina	Inland (Tidewater) silverside
Menidia menidia	Atlantic silverside
Micropterus salmoides	Largemouth bass
Morone americana	White perch
Microgadus tomcod	Atlantic tomcod
Micropogonias undulatus	Atlantic croaker
Micropterus dolomieu	Smallmouth bass
Morone saxatilis	Striped bass
Mugil cephalus	Striped mullet
Notropis hudsonius	Spottail shiner
Paralichthys dentatus	Summer flounder
Prionotus carolinus	Northern searobin
Pomatomus saltatrix	Bluefish
Pomoxis nigromaculatus	Black crappie
Pseudopleuronectes americanus	Winter flounder
Syngnathus fuscus	Northern pipefish
Trinectes maculatus	Hogchoker
Gobiidae	Goby

Pollinators

The Project involves the stabilization of the shoreline of the Passaic River, including a bulkhead and several passive recreation components. Some of the passive recreation components include the development of a native landscaping plan. In a telephone conversation with the Corps on April 6, 2015, the Corps agreed to include native plants, including plants that support pollinators into Project landscaping designs, where possible.

Pollinators contribute substantially to the economy of the United States and are vital in maintaining healthy ecosystems, yet severe losses to pollinator species from the environment, including honey bees, native bees, bats, and butterflies, have been observed over the past few decades. Honey bee (*Apis mellifera L.*) pollination alone adds more than $15 billion in value to agricultural crops each year in the United States (United States Department of Agriculture

2015)(USDA). The number of honey bee colonies declined about 50 percent from 1940s levels; and since the 2008 emergence of Colony Collapse Disorder (CCD - a phenomenon that occurs when the majority of worker bees in a colony disappear), annual losses of honey bee colonies averaged about 30.5 percent (USEPA 2014). CCD was first observed in the winter of 2006/2007 when large-scale losses of managed honey bee colonies in the United States were observed (vanEngelsdorp *et. al* 2009). Another pollinator species experiencing steep population decline is the monarch butterfly. The number of migrating monarch butterflies reached an all-time low in 2013-2014, reduced by 97 percent from the 1996-1997 high and by 90 percent from the 20-year average (Rendón-Salinas and Tavera-Alonso 2014).

In an effort to ensure the sustainability of food production systems, avoid additional economic impact on the agricultural sector, and protect the health of the environment, President Obama established the Pollinator Health Task Force to expand Federal efforts to reverse pollinator losses and help restore populations to healthy levels. In a June 20, 2014 memorandum, the President called on Federal agencies, including the Service, the Corps, and the USDA to "develop... plans to enhance pollinator habitat, and subsequently implement, as appropriate, such plans on their managed lands and facilities, consistent with their missions and public safety;" and for the Corps to "incorporate conservation practices for pollinator habitat improvement on ... projects across the country" (Obama 2014).

With the potential listing of the monarch butterfly for protection under the ESA, the Service has a mandate to work in collaboration with the Monarch Joint Venture (a partnership of Federal and State agencies, non-governmental organizations, and academic programs) to increase monarch butterfly habitat (milkweed and foraging food sources).

CONTAMINANTS

The Project site is within the Lower Passaic River Study Area (between miles 4 and 6 of the Passaic River), whose river sediments contain some of the highest levels of legacy contaminants found in the United States in marine and estuarine sediments (Natural Resource Defense Council 2003). The risk from sediment contamination on fish and wildlife has been long studied for the Passaic River and Newark Bay areas. The Project site is located on the Passaic River, which is known to contain elevated levels of toxic compounds, including but not limited to: chlorinated dioxins, particularly 2,3,7,8 – tetrechlorodibenzo-*p*-dioxin (2,3,7,8 – TCDD); chlorinated furans; polychlorinated biphenyls (PCBs); and heavy metals, including mercury.

Ecological risks were mostly associated with exposure to:

- for benthic invertebrates - 2,3,7,8-TCDD, total PCBs, dieldrin, total dichlorodiphenyltrichloroethane (as the sum of its isomers and metabolites; total DDT), and polycyclic aromatic hydrocarbons (PAHs);
- for fish - TCDD Toxic Equivalents (TEQ) (based on dioxin and furan congeners), copper and total PCBs; and,
- for wildlife - total PCBs (Aroclors), TCDD TEQ (based on dioxin/furans and PCBs), total DDx and mercury (Louis Berger Group Inc. 2014).

Due to measured levels of TCDD TEQ, totals PCBs, and methylmercury in Passaic River fish and crabs, NJDEP (2015) maintains a "do not eat or harvest" fish advisory for the tidal portions

of the Passaic River, including the Project area. The fish advisories are maintained due to calculated cancer risks identified for individuals eating fish and crab from the Passaic River.

In the Louis Berger Group Inc. 2014 Report, the sources of contamination to the Passaic River (including the Project site) were examined. While, much of the contaminant input has been reduced in the watershed, the 2014 report identified sources that threaten future remediation under consideration for the Lower Passaic River Study Area. One of the sources for recontamination of the Passaic River is point source discharges from upstream (above Dundee Dam) and Newark Bay. Newark Bay was considered a secondary source of re-contamination for PCBs and mercury for the 8-mile Lower Passaic River Superfund Study Area. A significant source of solids (and contamination) for Newark Bay included the Kill Van Kull, the Arthur Kill, the Hackensack River and the Lower Passaic River (Louis Berger Group Inc. 2014). The Passaic River also receives freshwater and solids from three major tributaries below the Dundee Dam: the Saddle River; the Third River; and the Second River. Collectively, these tributaries contribute less than 10% of the total solids to the Lower Passaic River; are not tidally influenced; pose less contaminant risk; and were major focus areas for identifying appropriate Project mitigation alternatives. On May 16, 2014, the NMFS recommended that best management practices, such as the use of turbidity barriers, be implemented during Project construction, in order to minimize the amount of suspended sediment released into the waterway.

ALTERNATIVE ANALYSIS

The Project involves filling approximately 0.56 acre of the Passaic River, and according to the Clean Water Act (CWA) (33 U.S.C. 403), and the National "No Net Loss" goal for replacing the functions and values of lost aquatic habitat, the Corps should develop a mitigation plan to offset expected impacts. However, due to the remedial, ecological, and financial complications associated with the contaminated sediments of the Passaic River, Newark Bay, and other surrounding sources, the Corps investigated potential mitigation sites beyond the influence (upstream) of the tidal portions of Passaic River.

Based on this upstream strategy to avoid contaminant risk, the Service examined ten sites to determine their likelihood of meeting the Corps wetland mitigation requirement. Each of the sites was visited by Service personnel on July 1 and 2, 2015. A discussion follows on the merits of each of these sites.

The Service notes that the Corps has yet to select one of these mitigation options as their preferred alternative; however, additional mitigation sites may become available for further evaluation, prior to the Project receiving final approval. The Service is committed to assisting the Corps in selecting a mitigation alternative that meets the goals of the CWA: "...to restore and maintain the chemical, physical, and biological integrity of the Nation's waters." In addition, Service recommendations on any mitigation alternative will be consistent with the definition of "durability" for all compensatory mitigation ["...for the duration of the associated impacts (including direct and indirect impacts) of the authorized action."] as set forth by Presidential Memorandum dated November 3, 2015 (Obama 2015). The Service recommends that a long-term management and monitoring plan be developed for all mitigation and landscaping activities associated with the Project for a minimum of five years after construction. The plan should include provisions for eradication of any invasive species that exceeds 5 percent of any restored area, either uplands or wetlands.

Mitigation sites considered

On July 1 and 2, 2015 the Service visited the following alternative sites for consideration by the Corps to perform wetlands mitigation in association with the Project. River flow was high during both inspection days. A brief discussion on habitat suitability and their potential use as a mitigation site is discussed. In general, all of the alternatives that were adjacent to the Passaic River were discounted principally due to recontamination risk, and secondarily due to the threat of being colonized by invasive species [Japanese knotweed (*Fallopia japonica*) and the common reed (*Phragmites australis*)]. Some sites were also heavily vegetated with mature riparian forests and, if constructed, would trade valuable migratory bird habitat for wetlands habitat and were not considered further. Finally, areas that would be difficult to access with heavy equipment were eliminated (*e.g.* steep topography, the presence of adjacent infrastructure [*e.g.*, roads and commercial or residential development] and narrow watercourses).

1. Bloomfield – Scientific Glass

The Bloomfield – Scientific Glass mitigation site was not part of the original suite of alternative sites provided by the Corps, and is located in Bloomfield, Essex County, New Jersey. The alternative site was immediately downstream of another alternative considered – Bloomfield Country Club (see below). This site possesses two watercourses that form the east and western boundaries of the site and drain to the 2nd River. A rail line or abandoned utility line is on the eastern border of the property. The confluence of the two streams meets at the southern property border providing hydrology to the site. The site is also cleared of most vegetation (abandoned residential development) with the exception of two riparian mature forested corridors that adjoin the two water courses.

The site offered the most potential of any of the sites examined to date due to its sustained hydrology; its location well upstream of the tidally influenced Passaic River; a willing co-sponsor and land owner (Bloomfield Township); and complimentary other existing and proposed adjacent land uses (*i.e.*, the township has planned a multi-use recreational park for the mitigation site that includes a storm water/wetland construction component). The Service attended several meetings with the Corps, Bloomfield Township and their agents, Rutgers University, and NJDEP to further explore the viability of this site. On January 14, 2016, the Corps advised the Service that this site was no longer under consideration as another funding stream would likely pay for its' construction.

2. Semel Avenue

The Semel Avenue site is located in Garfield Township, Bergen County, New Jersey. The site included steep slopes just downstream of the Dundee Dam and adjoined River Drive. The site is vegetated with mature trees including red maple (*Acer rubrum*), eastern cottonwood (*Populus deltoides*) , and the American sycamore (*Platanus occidentalis*). The understory was dominated by Japanese knotweed. There is public access on the site for kayak and canoe launching. Due to the effects of continued pollutant loading of the river from above the Dundee Dam as identified in the Louis Berger Group, Inc. 2014 Report, and the effects of tidal influences from the Lower Passaic River, including Newark Bay, the likelihood of this mitigation site recontaminating would be high. The Service did not recommend this site due to the high likelihood of invasive species encroachment and recontamination; the loss of significant mature riparian habitat; and the difficulty of access and construction due to the steep banks of the site.

3. Clifton Dundee Canal

The Clifton Dundee Canal site is located in the City of Clifton, Passaic County, New Jersey. This alternative was on the opposite shoreline of the Semel Avenue alternative and exhibited similar habitat tradeoff and contaminant risk issues. Eastern Cottonwood, red maple, and American sycamore dominated the overstory while Japanese knotweed dominated the understory. The site consisted of a gentle slope to the Passaic River and could be easily accessed with construction equipment. This site appears under management by the Clifton Recreation Department (posted with fish harvesting advisories by Clifton Health Department). The site is also in sight of the Dundee Dam and is located in close proximity to a busy roadway. Due to the risk of recontamination from up and downstream sources; potential impacts on existing park use; and adverse impacts due to the loss of a mature riparian forest, the Service does not recommend this site as a viable mitigation alternative.

4. Dundee Island Preserve/Pulaski Park

The Dundee Island Preserve/Pulaski Park adjoins the Passaic River and is encompassed by an iron fence and is located in Clifton, Passaic County, New Jersey. The site is approximately 10-feet above river grade and was recently cleared of mature silver maples (*Acer saccharinum*) that exceeded five feet in diameter. The site possesses a rail line with four rail spurs running parallel to the river, raising questions on the site's availability to be considered as a viable alternative from a land use perspective. The site is devoid of much vegetation except on the steep river bank which displayed some cottonwoods and large stands of Japanese knotweed. The site also adjoins a condominium complex and several recreational ball fields making access potentially difficult for construction equipment. Sustained hydrology will be an issue for the site (unless it is substantially excavated). The site does offer some potential for stormwater mitigation as most of the nearby commercial district's stormwater discharges directly into the Passaic River. Due to the site containing an existing rail bed and several rail spurs; the large soil quantities needing excavation; the close proximity to the polluted Passaic River and its likelihood or becoming recontaminated; and the likelihood that invasive species will be a long-term issue for the property, the Service does not recommend this site as a viable mitigation alternative.

5. Botany Street

The Botany Street mitigation alternative is located in Elmwood Park, Bergen County, New Jersey. The site is also heavily infested with Japanese knotweed as the dominant shrub cover with a mature riparian forest of eastern cottonwoods, red maple, and American sycamore and very steep banks (1:2). Some of the land is already developed as a passive recreational park that adjoins River Road and the Passaic River, with associated off-street parking, landscaping, and public restrooms. Due to its steep banks; already existing parkland infrastructure; site recontamination risk; and the presence of a river bank dominated by a mature riparian forest; and the expected invasive species concerns, the Service does not recommend this site for potential mitigation.

6. Joe Sessleman Park

The Joe Sessleman Park is located in the City of Passaic, Passaic County, New Jersey and was immediately discounted as the site is already developed as a municipal parkland containing

numerous buildings, parking infrastructure, and an amphitheater. The banks are steep and vegetated with a mature riparian forest. Access to the river's banks by the Service was prevented due to a six-foot high chain linked fence. Due to the site's existing use as a municipal park; the potential for recontamination risk; and the observed riparian mature forest with likely invasive species issues, the Service does not recommend this as a viable mitigation alternative.

7. 3rd River Clifton Pond

The 3rd River Clifton Pond site is also located in the City of Passaic, Passaic County, New Jersey. The site is bound by commercial and residential infrastructure, and New Jersey Route 3. The site is steeply banked (1:2 slopes) and would prove very difficult for construction access and developing a staging area. A creek runs through the site so sustained hydrology is evident. This site was ruled out as potential alternative due to the conflicts of trading off one habitat for another; the site's steep banks; and expected land use conflicts. It is unknown if the Passaic River and its contaminated sediments influence this site so further investigation would be necessary if this site is selected by the Corps as its preferred alternative.

8. 3rd River Confluence with Passaic River

The 3rd River Confluence with Passaic River site is located just downstream of the 3rd River Clifton Pond alternative in the City of Passaic, Passaic County, New Jersey. The site could not be accessed by the Service. A review of the State's GIS database revealed a heavily vegetated site that immediately adjoins the Passaic River. Further investigation of the site is warranted, including obtaining permission to gain access to the site. Re-contamination risk and colonization of invasive species may be an issue regarding long-term durability of the site.

9. 2nd River Mills

The 2nd River Mills site is located on the 2nd River, in Glen Ridge, Essex County, New Jersey. The site is heavily vegetated with a mature riparian forest; has very steep banks (1:2 slopes); and has a very narrow waterway making wetland creation not practicable. Sustained hydrology was evident. No invasive species was identified. Contaminant risk does not appear an issue with this site. Roadways and residential housing adjoin the creek, making it very difficult to perform any construction on the site. The Service ruled out this site as a potential mitigation alternative due to the site's characteristics, including steep slopes, adjacent infrastructure, and mature riparian forest.

10. Glen Ridge Country Club

The Glen Ridge Country Club site is located on lands owned and operated by the Bloomfield Country Club in Bloomfield Township, Essex County, New Jersey. The site appears as a headwater area for an unnamed creek that is immediately upstream of the Bloomfiels-Scientific Glass alternative (see above). The unnamed waterway drains into 2nd River. Site access was limited due active recreational activities being conducted at the Country Club. This alternative is surrounded by residential housing and roadway infrastructure. This alternative may involve reclaiming some of the managed golf greens and fairways if this site is selected as the preferred alternative. The site is generally cleared, with a rolling to flat topography, and does not possess the invasive species issues seen at most of the other alternative sites. Contaminant risk does not appear an issue with this site. There appears a small headwall dam at the southern end of the

property, and the watercourse appeared dry during the inspection making hydrology a potential issue. This site also deserves additional review by the Corps to determine if the owners would be willing to change some of the existing fairways to a potential wetland mitigation site.

SERVICE COMMENTS AND RECOMMENDATIONS

The proposed project area is in a highly-developed region of New Jersey that supports limited fish and wildlife resources. Overall, implementation of the project may enhance fish and wildlife habitat within the project area. In addition, the establishment of recreational facilities within the project area could provide the public with an opportunity to appreciate fish and wildlife species within an area that is otherwise dominated by urban features. Enhancement would be accomplished by reducing erosion and sedimentation; reducing adverse water quality impacts from stormwater runoff; and providing valuable flood protection and passive recreational opportunities.

The Service recommends continued close coordination among the Corps, NMFS, NJDEP, NJDFW, ENSP, and New Jersey Natural Heritage Program to avoid potential adverse impacts of construction activities on fish and wildlife resources and habitats that may result from Project implementation.

In order to avoid and minimizing potential adverse impacts on sensitive natural resources and federally or State-listed species within the Project area, the Service recommends incorporating the following measures into project planning.

1. Implement a time of year construction window from March 1 through June 30 for all in-water work to protect anadromous fish passage.
2. Investigate bridge use by bats and implement necessary mitigative measures to ensure the Project, including the mitigation site, does not affect a federally listed species. If any of avian or bat species are discovered utilizing any of the three bridges, the Corps would adhere to seasonal restrictions from March 1 through September 30 of any given year to avoid "take" of any listed bat species (protected under ESA) or any nesting migratory bird protected pursuant to MBTA that may be utilizing the Project area.
3. Conclude ESA consultation for the mitigation site to ensure the Project does not affect a federally listed species under Service jurisdiction.
4. Include native pollinator plant species in all phases of Project mitigation and final construction, wherever possible.
5. Implement BMPs to minimize turbidity of the water column for all in-water work.
6. Develop and implement a long-term management and monitoring plan for all mitigation and landscaping activities associated with the Project. Monitoring should be consistent with the 2008 Mitigation Rule (*i.e.*, 5 years) and include provisions for invasive species control, should any invasive species exceed 5 percent of any restored area, either uplands or wetlands.
7. Continue coordination with all stakeholders to identify a viable and durable mitigation site. This should include further evaluation of the 3rd River Clifton Pond, 3rd River Confluence with the Passaic River, the Glen Ridge Country Club, and any other sites that the Corps or others identify. Prior to Project implementation, the Corps should identify a mitigation site.

The Service continues to look forward to working cooperatively with the Corps to maximize benefits to our Nation's fish and wildlife resources from the proposed Project. Please contact Steve Mars at 609-382-5267 should you have any question regarding this final PAL.

Sincerely,

for Eric Schrading
Field Supervisor

Enclosures (NLEB Narrative and April 4, 2016 email)

CC: Kelly Davis: Kelly.Davis@dep.nj.gov
Karen Green: Karen.Greene@noaa.gov
Diana Kohtio: Diana.M.Kohtio@usace.army.mil

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U.S. FISH AND WILDLIFE SERVICE SPECIES NARRATIVES:
Biology and Threats of Federally Listed Species in New Jersey

Northern Long-Eared Bat (*Myotis septentrionalis*)

A final rule to list northern long-eared bat as threatened was published on April 2, 2015, with an effective date of May 4, 2015.

The northern long-eared bat (*Myotis septentrionalis*) is a medium sized bat weighing approximately 5 to 8 grams with females slightly larger than males. The northern long-eared bat is distinguished from other *Myotis* species by its long ears.

The northern long-eared bat overwinters in caves and abandoned mines. Hibernacula are typically large with constant temperatures, high humidity and no air currents. Within hibernacula, northern long-eared bats are found in tight crevices and cracks with only nose and ears visible. The northern long-eared bat congregates in the vicinity of their hibernacula in August or September and enters into hibernation in October and November. The bat shows a high degree of philopatry (using the same site multiple years) to hibernaculum, although they may not return to the same hibernaculum in successive years. Movement between hibernacula throughout the winter has also been observed. There are eight known hibernacula in Northern New Jersey.

In April northern long-eared bats emerge from hibernation and migrate to summer habitat. Migratory movements are short compared to the Indiana bat, with movement typically between 35 miles and 55 miles. Once at summer habitat, the northern long-eared bat is comparable to the Indiana bat in terms of summer roost selection, but appears to be more opportunistic. Northern long-eared bats roost singly or in colonies underneath bark, in cavities, or in crevices of both live and dead trees. Maternity colonies generally consist of 30 to 60 individuals. Males and non-reproductive females may roost in cooler places, like caves and mines. Roosting northern long-eared bats have also been observed in humanmade structures, such as buildings, barns, sheds, cabins, under eaves of buildings, and in bat houses. In southern New Jersey the northern long-eared bat is known to roost in Atlantic white cedar.

Preferred foraging areas are in forested habitats. The northern long-eared bat emerges at dusk and feeds on moths, flies, leafhoppers, caddisflies, and beetles approximately 3 to 10 feet above the ground. Gleaning arachnids and other insects from foliage is also a foraging technique used by northern long-eared bats.

The distribution of the northern long-eared bat includes the Midwest and Northeast of the United States, and all Canadian provinces west to the southern Yukon Territory and Eastern British Columbia. In New Jersey, the northern long-eared bat is found statewide.

Federal Interagency Meeting Comment Form

Project: U.S. Army Corps
Minnish Park Project

Commenting Agency: NOAA Fisheries

Project Manager: Melissa Alvarez

Waterway/Location: Passaic River
Newark, Essex Co., NJ

Activity: Bulkhead replacements, back fill, possible riprap

ESSENTIAL FISH HABITAT (EFH)

Project may adversely affect EFH.

ESSENTIAL FISH HABITAT CONSERVATION RECOMMENDATIONS

(Note: EFH CRs require a response from the federal action agency within 30 days of receipt or 10 days before a permit is issued if CRs are not included as a special condition of the permit).

1. No in-water work from 3/1 to 6/30 to minimize adverse effects to anadromous fish passage. Anadromous fish such as alewife and blueback herring migrate through the Kill van Kull to upstream spawning areas in the Hackensack and Passaic Rivers. These species are a food source for federally managed species such as bluefish, winter flounder, little skate, winter skate, scup, and summer flounder. An adverse effect on prey species can be considered an adverse effect on EFH.
2. The sediments in the waterway contain elevated levels of a variety of contaminants, best management practices such as the use of turbidity barriers should be used to limit the amount of suspended sediment released into the waterway.
3. Provide compensatory mitigation as appropriate for areas of the river that are filled to during the installation of the bulkhead.

FISH AND WILDLIFE COORDINATION ACT COMMENTS

See EFH CRs above.

ENDANGERED SPECIES ACT

No threatened or endangered species under the jurisdiction of the NMFS are known to occur in the action area. As a result, further coordination with NMFS PRD is not necessary. Should project plans change and alter the basis for determination, or if new species or critical habitat is designated, coordination should be reinitiated.

OTHER

1. Comply with NJDEP permit conditions

SIGNATURE: Karen Greene DATE: 5/16/2014

BISON CONNECT

Mars, Steve <steve_mars@fws.gov>

Re: NYD Response to draft PAL for Minish Park

Karen Greene - NOAA Federal <karen.greene@noaa.gov> Wed, Apr 6, 2016 at 1:47 PM
To: "Davis, Kelly" <Kelly.Davis@dep.nj.gov>
Cc: "Mars, Steve" <steve_mars@fws.gov>

Hi Steve,

I agree with Kelly, but the estuarine portions of the Passaic River has been designated as EFH for a number of federally managed species including winter flounder, windowpane, bluefish, summer flounder and others, so consultation with us under the MSA will also be needed.

Karen Greene
Mid-Atlantic Field Offices Supervisor
NOAA/National Marine Fisheries Service
Greater Atlantic Regional Fisheries Office
Habitat Conservation Division
James J. Howard Marine Sciences Laboratory
74 Magruder Rd.
Highlands, NJ 07732
732 872-3023 (office)

On Wed, Apr 6, 2016 at 1:30 PM, Davis, Kelly <Kelly.Davis@dep.nj.gov> wrote:

> Steve,
>
> The NJDFW would concur with the FWS recommendations outlined in the Draft Planning Aid Letter for the Joseph G. Minish Passaic River Waterfront Park and
>
> Historic Area for species and resources under our purview.
>
> NJDFW would add *Alosa Sapidissima* - American Shad & *Alosa Aestivalis* - Blue-back Herring to Table 2: Fish of the Newark Study Area.
>
> Kelly
>
> Kelly Davis, Biologist - Fisheries
> N.J. Division of Fish and Wildlife - Office of Env. Review
> P.O. Box 394, 1255 County Rt. 629
> Lebanon, NJ 08833
> Tel: (908) 236-2118
> kelly.davis@dep.nj.gov

From: Mars, Steve <steve_mars@fws.gov>
Sent: Tuesday, April 5, 2016 1:07 PM

To: Karen Greene - NOAA Federal; Davis, Kelly
Subject: Fwd: NYD Response to draft PAL for Minish Park

Karen and Kelly: Is your agency in concurrence with the FWS recommendations made for the subject project? I am enclosing a copy of our draft report to the Corps in case your copy is not handy. The Corps is hoping for the Service to send them our final report by the end of the week. Thanks Steve

---------- Forwarded message ----------
From: **Kohtio, Diana M. NAN** <Diana.M.Kohtio@usace.army.mil>
Date: Mon, Apr 4, 2016 at 5:32 PM
Subject: NYD Response to draft PAL for Minish Park
To: "Mars, Steve" <steve_mars@fws.gov>
Cc: "Weppler, Peter M NAN02" <Peter.M.Weppler@usace.army.mil>

Steve,

Thank you for your draft PAL submission and subsequent discussion. The New York District concurs with all of the recommendations outlined in the draft report. Specifically, we agree to the following:

Special condition - Prior to construction, the NYD will investigate bridge use by bats and avian nesting species to ensure that construction in the project area does not affect any federally listed species.

Future mitigation site- The District will continue to coordinate with the USFWS regarding the selection of a viable and durable mitigation site. This includes further investigation into the sites listed in the daft PAL and future sites for consideration.

Attached is the final needs response from NMFS. If you have any further questions please let me know.

Regards,

Diana

Diana M. Kohtio
Biologist, Coastal Ecosystem Section
U.S. Army Corps of Engineers - Planning
26 Federal Plaza - Room 2151
New York, NY 10278-0090
Tel: 917-790-8619

FISH AND WILDLIFE COORDINATION ACT
SECTION 2(b) REPORT

ASSESSMENT OF THE JOSEPH G. MINISH PASSAIC RIVER WATERFRONT PARK AND HISTORIC AREA NEWARK STREAMBANK RESTORATION PROJECT NEWARK, ESSEX COUNTY, NEW JERSEY

Prepared for:

U.S. Army, Corps of Engineers
New York District
Passaic River Division
New York, New York 10278-0090

Prepared by:

U.S. Fish and Wildlife Service
Ecological Services, Region 5
New Jersey Field Office
Pleasantville, New Jersey 08232

Preparers: Eric P. Schrading and Peter M. Benjamin
Assistant Project Leader: John C. Staples
Project Leader: Clifford G. Day

May 1996

TABLE OF CONTENTS

LIST OF FIGURES

APPENDICES

I. INTRODUCTION

This constitutes the U.S. Fish and Wildlife Service's (Service), Fish and Wildlife Coordination Act, Section 2(b) report describing the fish and wildlife resources and supporting ecosystems in the area of the Corps of Engineers proposed Joseph G. Minish Passaic River Waterfront Park and Historic Area - Newark Streambank Restoration Project (project). This report is provided in accordance with a Fiscal Year-1995 scope-of-work agreement with the Passaic River Division, New York District, Army Corps of Engineers (Corps). The information presented in this report documents the fish and wildlife resources in the project area, identifies potential adverse impacts to those resources, provides recommendations to minimize adverse impacts, and identifies data gaps. The project area is located along the west bank of the Passaic River, in Newark, Essex County, New Jersey (Figure 1).

The Newark Streambank Restoration Project was authorized under Section 101(a)(18)(B) of the Water Resources Development Act (WRDA) of 1990 (PL 101-640). Project authorization was contained within the overall authorization of the Passaic River Mainstem Flood Protection Project. Authorization calls for the construction of environmental and other streambank restoration measures including bulkheads, recreation facilities, greenbelt areas, and scenic overlook facilities on the west bank of the Passaic River in Newark between Bridge Street and Jackson Street.

Section 118 of the WRDA of 1992 (PL 102-580) designated the name of the Streambank Restoration project to change to "Joseph G. Minish Passaic River Waterfront Park and Historic Area." The WRDA of 1992 also extended the area and provisions of the project. The extension covered the area beyond Jackson Street south to Brill Street.

II. PROJECT DESCRIPTION

The purposes of the project are to provide for improved streambank protection to prevent erosion, provide environmental restoration, and provide additional recreational facilities in an area marked by a deficit of open space. The project goals must also ensure compatible and complementary plans consistent with the City of Newark's master plan for the area (U.S. Army Corps of Engineers, 1995a). The non-federal sponsor of the project is the New Jersey Department of Environmental Protection (NJDEP).

The project area extends approximately 9,000 linear feet from Bridge Street to Brill Street and is generally limited to an approximately 40 to 200-foot-wide strip along the Passaic River. The project also extends back to McCarter Highway and Raymond Boulevard in several areas to provide access. The limits of the project are subject to change given property owner interests in development. Such property owners include Penn Station, Hartz Mountain, Inc., Newark Housing Authority, Public Service Electric and Gas, Inc., and other businesses. The project is divided into two reaches: the upper reach (5,800 linear feet) extending from Bridge Street to Jackson Street and the lower reach (3,200 linear feet) extending from Jackson Street to Brill Street.

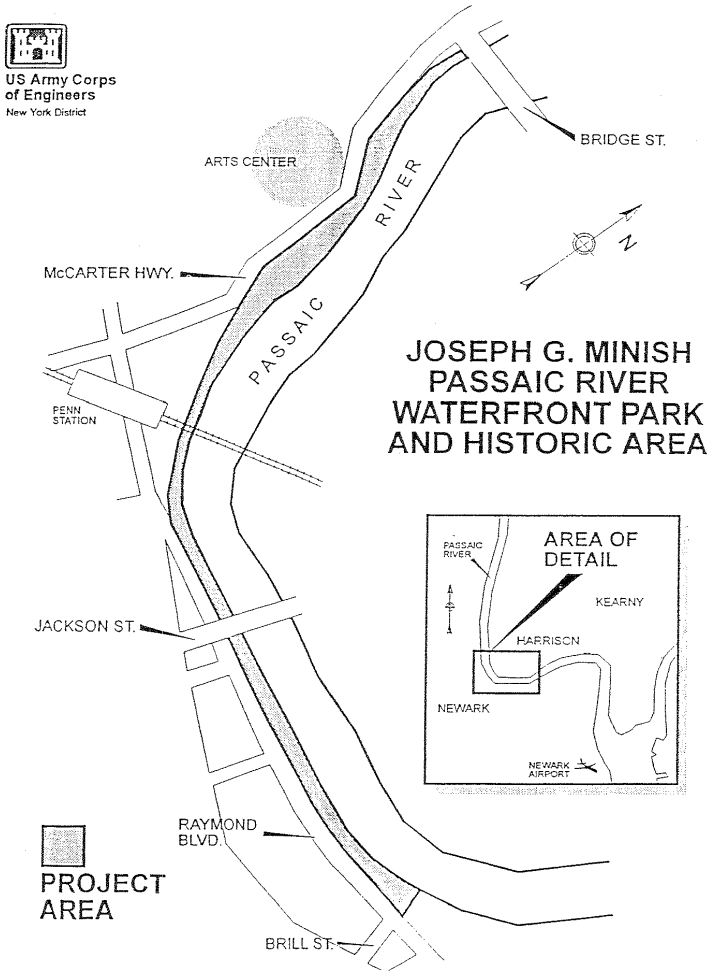

Figure 1. Project area for the Joseph G. Minish Passaic River Waterfront Park and Historic Area.

The project has two major physical components: streambank restoration (i.e., bulkheading or bank stabilization) and surface landscaping with recreational features. The Corps proposes new bulkheads in the form of a steel sheet-pile wall capped with concrete from mean low water to the upland ground surface along the upper reach. Anchors would tie the proposed bulkhead back into the ground as needed. The landward side of the proposed bulkhead would be backfilled between the new bulkhead and the existing bulkheads with fill extending back as needed for the desired grade. The placement of clean fill in the area allows the ground to be raised to elevations at or approaching the 100-year flood elevation. Increasing the ground elevation would reduce future flooding and deterioration of the riverbank. The placement of clean fill would also serve to cap the existing material, which contains contaminants (U.S. Army Corps of Engineers, 1995b). Contaminants are discussed in detail in Section V.

The riverbank along the lower reach would be regraded to establish natural contours. Clean fill, rip-rap, geotextiles, and planting of native vegetation would be used to stabilize the bank and restore riverbank vegetation (U.S. Army Corps of Engineers, 1995c). The Corps proposes to establish a natural gradient between the Passaic River edge and the existing uplands, which would include mudflats, tidal wetlands, and a narrow riparian corridor. The narrow riparian corridor would provide a buffer between the proposed walkway and the proposed tidal wetlands. To prevent erosion, vegetation would be planted along sections of the riverbank where the slope is steep.

Landscaping and recreational features are proposed along the entire project area (i.e., upper and lower reaches). The project includes a promenade, which would include paved walkways and bikeways along the upland areas of the project area (U.S. Army Corps of Engineers, 1995c). The paving includes several different materials including stone, concrete, and inlaid masonry. The promenade would extend back from the proposed bulkhead and riverbank stabilization approximately 40 feet in width. Low maintenance trees, bushes, and other vegetation are proposed throughout the project area. The Corps proposes to use low walls of varied elevations to prevent pedestrian movement in areas where vegetative plantings are proposed. Overlooks along the paved walkway are also proposed. Recreational features and accommodations also include the construction of benches, picnic tables, drinking fountains, lighting, riverfront fencing, a boat basin and provision for boating access to the Passaic River, ornamental fountains, and small pavilions (U.S. Army Corps of Engineers, 1995c).

The Corps proposes to install a storm-water management system to prevent continued erosion and deterioration of the Passaic River bank, and to improve water quality in the project area. Drainage would be carried under the proposed promenades to catch basins as needed, and separators would be used to remove oils from stormwater emanating from impervious surfaces. The NJDEP (the non-federal sponsor) would acquire the necessary easements or in-fee use for the project area including any temporary easements necessary for construction activities (U.S. Army Corps of Engineers, 1995c).

III. METHODS AND PROCEDURES

The information and findings presented in this report are based on review of the August 1995 draft Design Memorandum and Environmental Assessment for the project and other information supplied by the Corps. The content of this report is also based on review of Service files and library material; coordination with Corps project managers and the New Jersey Division of Fish, Game and Wildlife (NJDFGW); and, a site visit conducted on November 17, 1994.

IV. PHYSICAL CHARACTERISTICS

The upper reach (5,800 linear feet) extending from Bridge Street to Jackson Street contains bulkheading. Some of the bulkheads in this reach are in good condition while others are seriously deteriorated. Most of the bulkheading in this reach is constructed from wood or stone and subject to considerable degeneration. Commercial and industrial land use predominate this reach of the project area. Several tracts are vacant and are temporarily being used as parking areas, while others are permanent paved parking areas. Adjacent properties along the upper reach include: Public Service Electric and Gas, Inc. facilities (power substation); Amtrack, NJ Transit, and PATH stations; Newark Fire Training Center; various parking facilities; a Welco Gas Corporation facility; and a helicopter landing pad.

The lower reach (3,200 linear feet) extending from Jackson Street to Brill Street is a narrow park that is not well maintained. Much of the reach is overgrown with grass, brush, and weedy vegetation. The riverbank along this reach is typically steep and debris covers most of the area. The water's edge exhibits some evidence of an old, dilapidated bulkhead. During low tide, portions of a narrow tidal flat are exposed. Much of the mudflat consists of cobble, mud, and debris. The tidal wetlands that do appear in the lower reach are significantly degraded by erosion, and debris. The southern end of the lower reach is a commercial site that contains large containers stacked in several rows along the river.

Much of the project area is below elevations of 10 feet as referenced to the National Geodetic Vertical Datum of 1929 and are within the 100-year floodplain. As such, the project area is subject to periodic storm surge inundation. The authorized depth of the navigation channel along the project area is 20 feet, but due to the lack of recent dredging, the channel depth is typically 15-20 feet. Along the bulkhead, the depths range from shallow mud flats (exposed at low tide) to 15 feet (U.S. Army Corps of Engineers, 1995a).

V. CONTAMINANTS

The project area contains environmental contaminants in the soil and groundwater. Typically, oils and other hydrocarbon-based products have been identified in the area (U.S. Army Corps of Engineers, 1995b). The sediments from the Passaic River also contain a mix of contaminants including PCBs and dioxins. The Corps completed a draft "Hazardous, Toxic, and Radiological Waste Chemical Analyses Report" (U.S. Army Corps of Engineers, 1995b) identifying specific contaminants occurring in the project area. The report contains summaries of borehole, river sediment, and groundwater sampling results and provides record searches on contaminants. The Corps (1995b) identified a variety of volatile organics, semi-volatile organics, heavy metals, and petroleum hydrocarbons existing in the project area.

According to the Corps (1995b), sediments from the Passaic River were being analyzed for potential reuse as fill landward of the reconstructed bulkhead and as landscape cover. The Service expressed concern in our draft FWCA report (Schrading, 1995) that the Corps assessment of the extent of sediment contamination was insufficient to allow a determination regarding the potential effects of this reuse on fish and wildlife resources. The Corps draft Design Memorandum also indicates that excavated sediments may be used as backfill; however, subsequent to the release of the draft Design Memorandum the Corps modified its project plans to indicate that all river sediments excavated during construction would be removed from the project area and properly disposed of (Tumminello, pers. comm., 1996). Additionally, any exposed sediments in the area where streambank stabilization / wetland restoration are proposed would be covered with 2 to 3 feet of clean fill material, which should be sufficient to prevent exposure of aquatic organisms to contaminated sediments.

The above-described modifications to the project plans resolve most of the Service's concerns regarding site contamination. Outstanding Service concerns regarding contaminants involve the potential resuspension and redistribution of contaminants during project construction. Section VII of this report provides recommendations for minimizing potential redistribution of contaminated sediments.

VI. FISH AND WILDLIFE RESOURCES

A. VEGETATION

Wetlands associated with the west bank of the Passaic River are of limited extent due to past clearing and filling for development. Wetland areas within the project area include mudflats and degraded emergent tidal wetlands. Vegetation in the project area is limited to the river bank and the park area in the lower reach. Vegetation in the park consists of grasses, early colonizing bushes and trees, including tree-of-heaven (*Ailanthus altissima*),

sumac (*Rhus* spp.), box elder (*Acer negundo*), and silver maple (*Acer saccarinum*). Common reed (*Phragmites australis*) is also present in emergent wetlands along the project area. The limited amount of vegetation within the proposed project area provides little habitat value for wildlife species.

B. MACROINVERTEBRATES

Macroinvertebrate species diversity is limited in the project area and is dominated by pollution-tolerant species (Papson, 1981a). Benthic macroinvertebrate species that are reported to occur in the Passaic River include midge larvae (*Chironomidae*), tibificid worms, round worms (*Nematoda*), leaches (*Arynchobdellida* spp.), and polycheate worms (*Polychaeta*) (Lawler, Natusky, and Skelly Engineers, 1975; Ichthyological Associates, Inc., 1974). Similarly, Papson's (1981a) investigation of the lower Passaic River revealed chironomid larvae, polychaete worms, and gastropods (*Gastropoda*). All benthic macroinvertebrate species are tolerant of heavy organic pollutant loads characteristic of the lower Passaic River.

C. FISH

Species composition includes resident, anadromous, and introduced species. Continued degradation and loss of the aquatic and wooded riparian and emergent habitats, particularly the loss of spawning and nursery areas, have greatly decreased the composition and distribution of fishery resources. Heavy pollutant loads also contribute to this degradation and limit resident fish populations in the lower Passaic River. Habitat for anadromous fish is also limited. Anadromous spawning runs are restricted to the mainstem Passaic River upstream to Dundee Dam. The Passaic River, however, was never considered an important river for American shad (*Alosa sapidissma*) because the Great Falls present a natural barrier 24 miles upstream.

Fish in the tidal segment (i.e., Newark Bay to Dundee Dam) were sampled by Papson (1981b) and Ichthyological Associates (1974). Although Papson (1981b) was investigating anadromous fish in the tidal segment of the lower Passaic River, other species were collected, including gizzard shad (*Dorosoma cepedianum*), eastern silvery minnow (*Hybognathus regius*), satinfin shiner (*Notropis analostanus*), golden shiner (*Notemigonus crysoleucas*), blacknose dace (*Rhinichthys atratulus*), and banded killifish (*Fundulus diaphanus*). Papson (1981b) also collected anadromous blueback herring (*Alosa aestivalis*), alewife (*A. pseudoharengus*), American shad, and semi-anadromous white perch (*Morone americana*) and striped bass (*M. saxatilis*). Similarly, Ichthyological Associates (1974) collected and identified these anadromous species in addition to American eel (*Anguilla rostrata*), Atlantic menhaden (*Brevoortia tyrannus*), bay anchovy (*Anchoa mitchilli*), rainbow smelt (*Osmerus mordax*), goldfish (*Carassius auratus*), carp (*Cyprinus carpio*), brown bullhead (*Ictalurus nebulosus*), silver hake (*Merluccius bilinearis*), Atlantic tomcod (*Microgadus tomcod*), mummichog (*Fundulus heteroclitus*), threespine stickleback (*Gasterosteus aculeatus*), northern pipefish (*Syngnathus fuscus*), pumpkinseed sunfish (*Lepomis gibbosus*), bluegill sunfish (*L. macrochirus*), largemouth bass (*Micropterus salmoides*), black crappie (*Pomoxis nigromaculatus*), and spot (*Leisotomus xanthurus*).

D. BIRDS AND MAMMALS

The project area provides limited habitat for avian species due to the highly urbanized nature of the site. Species commonly associated with urbanized river areas along the Passaic River include the house sparrow (*Passer domesticus*), song sparrow (*Melospiza melodia*), starling (*Sturnus vulgaris*), mockingbird (*Mimus polygottos*), and American robin (*Turdus migratorius*) (New Jersey Division of Fish, Game and Wildlife, 1994). Several migratory species may occur temporarily in the riverine and estuarine components of the project area including redhead (*Aythya americana*), canvasback (*A. valisineria*), bufflehead (*Bucephala clangula*), black duck (*Anas rubripes*), and northern harrier (*Circus cyaneus*). However, due to the lack of any substantial food or cover habitat for these species, the project area supports these species only temporarily. Ring-billed gulls (*Larus delawarensis*) and herring gulls (*L. argentatus*) may also be present in the project area. Typical mammalian species common in the project area include rats (*Rattus* spp.), house mouse (*Mus musculus*), and gray squirrel (*Sciurus carolinensis*) (New Jersey Division of Fish, Game and Wildlife, 1994).

E. ENDANGERED AND THREATENED SPECIES

A review of Service records indicates that the peregrine falcon (*Falco peregrinus*), a federally listed endangered species, nests within one-half mile of the northern end of the project area. The peregrine falcon has recently expanded its range and is now found nesting and hunting near urban areas. Peregrine falcons may be expected to forage for prey such as songbirds, gulls, terns, shorebirds, and wading birds within the project area. Peregrine falcons could also be expected to use the bridges within the project area as nesting sites in the future.

Except for the peregrine falcon and an occasional transient bald eagle (*Haliaeetus leucocephalus*), no other federally listed or proposed threatened or endangered species under Service jurisdiction pursuant to the Endangered Species Act of 1973 (ESA) (87 Stat. 884, as amended; 16 U.S.C. 1531 *et seq.*), are known to occur within the project area. Due to the nature of the project and its location in an urbanized area, the proposed project is not likely to adversely affect federally listed threatened or endangered species under Service jurisdiction or their critical habitats. No further consultation pursuant to Section 7(a)(2) of the ESA is required by the Service. If project plans change, this determination may be reconsidered. Appendix A provides a list of federally listed and candidate species in New Jersey.

Review of the Biological and Conservation Database revealed that no reports of State-listed endangered or threatened species have been received from within the project area (New Jersey Division of Fish, Game and Wildlife, 1995). Appendix B provides a summary of State-listed threatened and endangered species.

VII. IDENTIFICATION OF IMPACTS AND MITIGATIVE MEASURES

A. IMPACTS

Overall, project implementation would result in minimal adverse impacts to fish and wildlife resources. Minimal impacts are anticipated due to the lack of any significant habitat for fish and wildlife species within the project area. Upon completion, the project would stabilize the riverbank within the upper reach of the project area, reducing erosion and sedimentation. The project would also stabilize and enhance the riverbank along the lower reach of the project area by restoring mudflats, tidal wetlands, and riparian vegetation. The project would also reduce the adverse impacts of current stormwater runoff within the project area by properly treating such runoff prior to discharge into the Passaic River. Riverbank stabilization and enhancement of existing wetlands would result in beneficial impacts for many species of fish and wildlife.

Construction activity would likely result in a temporary increase in erosion and sedimentation. Resuspension of sediment in the water column during construction could adversely impact fisheries resources, particularly anadromous and semi-anadromous species such as blueback herring, alewife, American shad, and striped bass (Papson, pers. comm., 1995). Resuspension of sediment could also mobilize contaminants, which may be harmful to aquatic organisms. The project implementation would temporarily degrade the water quality of the Passaic River in the project area.

Regrading the riverbank in the lower reach could allow for the expansion of common reed, an invasive species that is considered an undesirable cover type for wildlife species. Additionally, while the Service supports the increased access to the river that would be afforded via installation of a marina basin and boat launch, increased boat traffic could degrade water quality in the project area and reduce the value of the area for fish and wildlife. Specifically, increased boat use, trash and debris accumulation at the marina access, and introduction of hydrocarbon-based pollutants associated with motorboat use would degrade water quality in the project area and adversely affect fish and wildlife. The Service understands that current plans do not include construction of a marina, but merely identify a location for a possible future marina. Any future marina would require State and federal permits, which would be the responsibility of the marina sponsor to obtain. The potential environmental effects of the marina and measures to mitigate any adverse impacts would be considered during the review of any permit application.

B. MITIGATIVE MEASURES

Construction-related adverse impacts to the water quality of the Passaic River and its dependent aquatic organisms could be minimized through the use of sediment control devices (e.g., silt fence and turbidity curtains). Avoiding construction activities that would result in excessive siltation during the migration of anadromous and semi-anadromous fish species (April 1 to June 30)

would also minimize impacts to these fisheries resources (Papson, pers. comm., 1995). Additionally, limiting the use of construction equipment along the riverbank would minimize impacts on these already degraded wetlands. The use of wide-tracked (low density) construction equipment or the operation of construction equipment from construction mats in wetland areas would minimize compaction and degradation of existing wetland areas. Operating barge-mounted equipment over mudflats during high tide would also minimize impacts on mudflat areas.

The Corps should ensure that only native vegetation is used within the project area. In addition, vegetation disturbed by construction-related activities should be reestablished with appropriate native species, particularly in wetland areas (e.g., *Spartina alterniflora*). In order to eliminate the spread or establishment of common reed in the project area, the Service recommends that the Corps develop a contingency plan that allows for the monitoring of common reed within the project area. If common reed does establish or spread, the contingency plan should outline methods of control and eradication of common reed through biological control (e.g., regular tidal flushing) or limited chemical control (e.g., herbicides).

Finally, maintenance of the project area over the long term and elimination of development pressures should also be addressed by the Corps. The Service recommends that the project area be placed under a conservation easement. A conservation easement should be established with the NJDFGW or another reputable non-profit environmental organization.

VIII. DATA GAPS

The only remaining data gap related to this project is the need for detailed construction plans identifying the location and size of construction areas and all proposed project features, including detailed grading, planting and monitoring plans for the wetland restoration area. It is understood that these plans will be developed during the next phase of the planning process, and reviewed as part of the State permitting process.

IX. CONCLUSIONS AND RECOMMENDATIONS

The proposed project area is in a highly-developed region of New Jersey that supports limited fish and wildlife resources. Overall, implementation of the project would enhance fish and wildlife habitat within the project area. Enhancement would be accomplished by reducing erosion and sedimentation, reducing adverse water-quality impacts from stormwater runoff, and enhancing mudflats, tidal wetlands, and riparian habitats. In addition, the establishment of recreational facilities within the project area could provide the public with an opportunity to appreciate fish and wildlife species within an area that is otherwise dominated by urban features.

It is the view of the Service that project-related adverse impacts to fish and wildlife could be minimized by incorporating the following recommendations into the final project design.

1. Use sediment control devices (e.g., silt fence and turbidity curtains) to minimize erosion and sedimentation.

2. Avoid construction activities that cause excessive siltation during fish migration periods (April 1 to June 30) or coordinate with the NJDFGW, Bureau of Freshwater Fisheries to minimize impacts to fish resources during this migration period.

3. Limit the use of construction equipment along the riverbank to minimize impacts on wetlands.

4. Use wide-tracked (low density) construction equipment or operate construction equipment from construction mats in wetland areas to minimize compaction and degradation of existing wetland areas.

5. Minimize impacts on mudflat areas by restricting the operation of barge-mounted construction equipment during high tide.

6. Plant only native vegetation and replant disturbed wetland areas with appropriate native species (e.g., *Spartina alterniflora*).

7. Develop a contingency plan that allows for the monitoring of common reed within the project area. If common reed does establish or spread, the contingency plan should contain methods of control and eradication of common reed through biological control (e.g., regular tidal flushing) or limited chemical control (e.g., herbicides).

8. Establish a conservation easement for the project area. A conservation easement should be established with the NJDFGW or a reputable non-profit environmental organization.

X. REFERENCES

A. LITERATURE CITED

Ichthyological Associates, Inc. 1974. An ecological study of the Passaic River in the vicinity of the Essex Generating Station, Newark, New Jersey. In Demonstration of absence prior appreciable harm respective of change - application for in-position of alternative thermal effluent limitations, Essex Stream Electric Generation Station Unit No. 1, PSE&G Co. Newark, New Jersey. 131 pp.

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New Jersey Division of Fish, Game and Wildlife. 1994. Notable information on New Jersey animals database. New Jersey Department of Environmental Protection. Trenton, New Jersey.

_____. 1995. Biological and conservation database. New Jersey Department of Environmental Protection. Trenton, New Jersey.

Papson, R.A. 1981a. An aquatic analysis of the Passaic River Basin, New Jersey. New Jersey Division of Fish, Game and Wildlife, Bureau of Freshwater Fisheries. Prepared for the U.S. Department of the Interior, Fish and Wildlife Service, State College, Pennsylvania. 130 pp.

_____. 1981b. Passaic River anadromous fish study. Phase I report. New Jersey Division of Fish, Game and Wildlife, Bureau of Freshwater Fisheries. Prepared for the U.S. Department of the Interior, Fish and Wildlife Service, State College, Pennsylvania.

Schrading, E.P. 1995. Fish and Wildlife Coordination Act, Section 2(b) report (draft): assessment of the Joseph G. Minish Passaic River waterfront park and historic area - Newark streambank restoration project, Newark, Essex County, New Jersey. U.S. Department of the Interior, Fish and Wildlife Service, Pleasantville, New Jersey.

U.S. Army Corps of Engineers. 1995a. Joseph G. Minish Passaic River waterfront park and historic area. Passaic River flood damage reduction project. Streambank restoration element. West bank of the Passaic River, Newark, New Jersey. New York District, Passaic River Division, Hoboken, New Jersey.

_____. 1995b. Appendix I: Hazardous, toxic and radiological waste chemical analysis report (draft). New York District, Passaic River Division, Hoboken, New Jersey.

_____. 1995c. Design Memorandum (draft): Joseph G. Minish Passaic River Waterfront park and historic area, Newark, New Jersey. New York District, Passaic River Division, Hoboken, New Jersey.

B. PERSONAL COMMUNICATIONS

Papson, R.A. Fisheries Biologist. 1995. Bureau of Freshwater Fisheries, New Jersey Division of Fish, Game and Wildlife. Trenton, New Jersey.

Tumminello, P. Project Manager. 1996. U.S. Army Corps of Engineers, New York District, Passaic River Division. Hoboken, New Jersey.

APPENDIX A

Federally Listed Endangered and Threatened Species and Candidate Species in New Jersey

Revised 9/95

FEDERALLY LISTED ENDANGERED AND THREATENED SPECIES IN NEW JERSEY

An **ENDANGERED SPECIES** is any species that is in danger of extinction throughout all or a significant portion of its range.

A **THREATENED SPECIES** is any species that is likely to become an endangered species within the foreseeable future throughout all or a significant portion of its range.

FISHES

Sturgeon, shortnose*	Acipenser brevirostrum	E

REPTILES

Turtle, Atl. Ridley*	Lepidochelys kempii	E
Turtle, green*	Chelonia mydas	T
Turtle, hawksbill*	Eretmochelys imbricata	E
Turtle, leatherback*	Dermochelys coriacea	E
Turtle, loggerhead*	Caretta caretta	T

BIRDS

Eagle, bald	Haliaeetus leucocephalus	T
Falcon, Am. peregrine	Falco peregrinus anatum	E
Plover, piping	Charadrius melodus	T
Tern, roseate	Sterna dougallii dougallii	E

MAMMALS

Bat, Indiana	Myotis sodalis	E
Cougar, eastern	Felis concolor couguar	E+
Whale, blue*	Balaenoptera musculus	E
Whale, finback*	Balaenoptera physalus	E
Whale, humpback*	Megaptera novaeangliae	E
Whale, right*	Balaena glacialis	E
Whale, sei*	Balaenoptera borealis	E
Whale, sperm*	Physeter macrocephalus	E
Wolf, gray	Canis lupus	E+

INVERTEBRATES

Dwarf wedge mussel	Alasmidonta heterodon	E+
Beetle, northeastern beach tiger	Cicindela dorsalis dorsalis	T
Butterfly, Mitchell satyr	Neonympha m. mitchellii	E+
American burying beetle	Nicrophorus americanus	E+

PLANTS

Pogonia, small whorled	Isotria medeoloides	E
Swamp pink	Helonias bullata	T
Orchid, eastern prairie fringed	Platanthera leucophaea	T+
Knieskern's beaked-rush	Rhynchospora knieskernii	T
American chaffseed	Schwalbea americana	E
Joint-vetch, sensitive	Aeschynomene virginica	T
Pigweed, sea-beach	Amaranthus pumilus	T+

STATUS:

E: endangered species
T: threatened species
+: presumed extirpated
PE: proposed endangered
PT: proposed threatened

* Except for sea turtle nesting habitat, principal responsibility for these species is vested with the National Marine Fisheries Service.

Note: for a complete listing of Endangered and Threatened Wildlife and Plants refer to 50 CFR 17.11 and 17.12, August 20, 1994

Revised 9/7/95

FEDERAL CANDIDATE SPECIES IN NEW JERSEY

CANDIDATE SPECIES are species that appear to warrant consideration for addition to the federal List of Endangered and Threatened Wildlife and Plants. Although these species receive no substantive or procedural protection under the Endangered Species Act, the U.S. Fish and Wildlife Service encourages federal agencies and other planners to give consideration to these species in the environmental planning process.

SPECIES	
Bog turtle	Clemmys muhlenbergii
Bog asphodel	Narthecium americanum

Note: Taxa formerly known as "Category 2" candidate species are now known as "species of special concern." Species of special concern are those species for which the Service does not have conclusive data to support listing the species under the Endangered Species Act at this time. Taxa formerly known as "Category 3B" or "Category 3C" candidate species are no longer considered candidate species nor are they considered species of special concern. Category 3B species were determined, on the basis of current taxonomic understanding, not to represent distinct taxa meeting the Act's definition of "species." Category 3C species are those species that have proven to be more abundant than previously believed and/or those that are not subject to any identifiable threat. If further research or changes in habitat indicate a significant decline in any of these taxa, they may be reevaluated for possible inclusion as candidate species or species of special concern.

For complete listings of taxa under review as candidate species or species of special concern, refer to Federal Register Vol. 59, No. 219, Nov. 15, 1994 (Animal) and Vol. 58, No. 188, September 30, 1993 (Plants).

APPENDIX B

State-Listed Endangered and Threatened
Species in New Jersey

ENDANGERED AND THREATENED WILDLIFE OF NEW JERSEY

Endangered Species are those whose prospects for survival in New Jersey are in immediate danger because of a loss or change in habitat, over-exploitation, predation, competition, disease, disturbance or contamination. Assistance is needed to prevent future extinction in New Jersey.

Threatened Species are those who may become endangered if conditions surrounding them begin to or continue to deteriorate.

BIRDS

Endangered

Pied-billed Grebe,* *Podilymbus podiceps*
Bald Eagle, *Haliaeetus leucocephalus***
Northern Harrier,* *Circus cyaneus*
Cooper's Hawk, *Accipiter cooperii*
Red-shouldered Hawk, *Buteo lineatus* (Breeding)
Peregrine Falcon, *Falco peregrinus***
Piping Plover, *Charadrius melodus***
Upland Sandpiper, *Bartramia longicauda*
Roseate Tern, *Sterna dougallii*
Least Tern, *Sterna antillarum*
Black Skimmer, *Rynchops niger*
Short-eared Owl,* *Asio flammeus*
Sedge Wren, *Cistothorus platensis*
Loggerhead Shrike, *Lanius ludovicianus*
Vesper Sparrow, *Pooecetes gramineus*
Henslow's Sparrow, *Ammodramus henslowii*

Threatened

American Bittern*, *Botaurus lentiginosos*
Great Blue Heron*, *Ardea herodias*
Little Blue Heron, *Egretta caerulea**
Yellow-crowned Night Heron, *Nyctanassa violaceus*
Osprey, *Pandion haliaetus*
Northern Goshawk, *Accipiter gentilis*
Red-shouldered Hawk, *Buteo lineatus* (Non-breeding)
Black Rail, *Laterallus jamaicensis*
Long-eared Owl, *Asio otus*
Barred Owl, *Strix varia*
Red-headed Woodpecker, *Melanerpes erythrocephalus*
Cliff Swallow,* *Hirundo pyrrhonota*
Savannah Sparrow, *Passerculus sandwichensis*
Ipswich Sparrow, *Passerculus sandwichensis princeps*
Grasshopper Sparrow, *Ammodramus savannarum*
Bobolink, *Dolichonyx oryzivorus*

*Only breeding population considered endangered or threatened
**Federally endangered or threatened

REPTILES

Endangered

Bog Turtle, *Clemmys muhlenbergi*
Atlantic Hawksbill, *Eretmochelys imbricata***
Atlantic Loggerhead, *Caretta caretta***
Atlantic Ridley, *Lepidochelys kempi***
Atlantic Leatherback, *Dermochelys coriacea***
Corn Snake, *Elaphe g. guttata*
Timber Rattlesnake, *Crotalus h. horridus*

Threatened

Wood Turtle, *Clemmys insculpta*
Atlantic Green Turtle, *Chelonia mydas***
Northern Pine Snake, *Pituophis m. melanoleucus*

**Federally endangered or threatened

ENDANGERED AND NONGAME SPECIES PROGRAM

NEW JERSEY DEPARTMENT OF ENVIRONMENTAL PROTECTION AND ENERGY
DIVISION OF FISH, GAME AND WILDLIFE

AMPHIBIANS

Endangered

Tremblay's Salamander, *Ambystoma tremblayi*
Blue-spotted Salamander, *Ambystoma laterale*
Eastern Tiger Salamander, *Ambystoma t. tigrinum*
Pine Barrens Treefrog, *Hyla andersonii*
Southern Gray Treefrog, *Hyla chrysoscelis*

Threatened

Long-tailed Salamander, *Eurycea longicauda*
Eastern Mud Salamander, *Pseudotriton montanus*

MAMMALS

Endangered

Bobcat, *Lynx rufus*
Eastern Woodrat, *Neotoma floridana*
Sperm Whale *Physeter, macrocephalus* **
Fin Whale, *Balaenoptera physalus* **
Sei Whale, *Balaenoptera borealis* **
Blue Whale, *Balaenoptera musculus* **
Humpback Whale, *Megaptera novaeangliae* **
Black Right Whale, *Balaena glacialis* **

INVERTEBRATES

Endangered

Mitchell's Satyr (butterfly), *Neonympha m. mitchellii* **
Northeastern Beach Tiger Beetle, *Cicindela d. dorsalis*
American Burying Beetle, *Nicrophorus americanus* **
Dwarf Wedge Mussel, *Alasmidonta heterodon* **

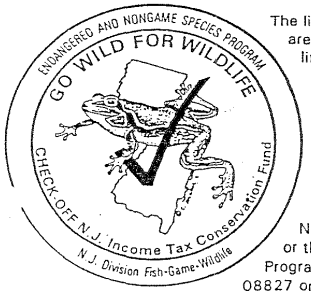
**Federally endangered

FISH

Endangered

Shortnose Sturgeon, *Acipenser brevirostrum* **

List revisions: March 29, 1979
January 17, 1984
May 6, 1985
July 20, 1987
June 3, 1991



The lists of New Jersey's endangered and nongame wildlife species are maintained by the DEP&E's Division of Fish, Game and Wildlife's, Endangered and Nongame Species Program. These lists are used to determine protection and management actions necessary to insure the survival of the State's endangered and nongame wildlife. This work is made possible only through voluntary contributions received through the Wildlife Check-off on the New Jersey State Tax Form. The Wildlife Check-off is the only major funding source for the protection and management of the State's endangered and nongame wildlife resource. For more information about the Endangered and Nongame Species Program or to report a sighting of endangered or threatened wildlife contact: Endangered and Nongame Species Program, Northern District Office, Box 383 R.D. 1, Hampton, N.J. 08827 or call (908) 735-8975.

APPENDIX C

Coordination with the New Jersey
Division of Fish, Game and Wildlife

United States Department of the Interior

FISH AND WILDLIFE SERVICE

Ecological Services
927 North Main Street (Bldg. D1)
Pleasantville, New Jersey 08232

Tel: 609-646-9310
FAX: 609-646-0352

IN REPLY REFER TO:

FP-95/12

July 24, 1995

Robert McDowell, Director
New Jersey Division of Fish, Game and Wildlife
CN 400
Trenton, New Jersey 08625

Dear Mr. McDowell:

Enclosed is the U.S. Fish and Wildlife Service's (Service) Draft Fish and Wildlife Coordination Act Report entitled, "Assessment of the Joseph G. Minish Passaic River Waterfront Park and Historic Area, Newark Streambank Restoration Project, Newark, Essex County, New Jersey." This constitutes the Service's report on fish and wildlife impacts that can be expected to result from the Army Corps of Engineers' (Corps) proposed plan to construct the Joseph G. Minish Passaic River Waterfront Park and Historic Area. This report has been prepared pursuant to Section 2(b) of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 *et seq.*) and is for inclusion in the Corps' Final Detailed Project Report and Environmental Assessment.

The Service's report contains an assessment of the proposed plan and recommendations for protection of fish and wildlife resources. Please provide a letter of comment including indication of concurrence, or lack thereof, within 20 days from the date of this letter. If there are any questions concerning this report, please contact John Staples or Eric Schrading of my staff.

Thank you for your assistance in this matter.

Sincerely,

Clifford G. Day
Supervisor

Enclosure

State of New Jersey
Department of Environmental Protection

Christine Todd Whitman
Governor

Robert C. Shinn, Jr.
Commissioner

DIVISION OF FISH, GAME, AND WILDLIFE
CN400
TRENTON, NEW JERSEY 08625-0400

AUGUST 8, 1995

Clifford Day
US Fish and Wildlife Service
927 N. Main Street, Bldg. D.
Pleasantville, NJ 08232

Dear Mr. Day:

This serves to inform you that the Division of Fish, Game and Wildlife concurs with the USFWS's Draft Fish and Wildlife Coordination Act Section 2(b) Report entitled "Assessment of the Joseph G. Minish Passaic River Waterfront Park and Historic Area, Newark Streambank Restoration Project, Newark, Essex County, New Jersey."

We concur with the identification of impacts and the mitigation measures proposed; we recognize and agree with the data gaps in the project area. We support your conclusions and recommendations with special emphasis on requiring conservation easements to protect the restored areas indefinitely.

We hope this information is of service to you.

Sincerely,

Robert McDowell, Director
Division of Fish, Game and Wildlife

c: A. Didun
R. Papson

CENAN-PR-M (335-2-5c) 2 April 1996

MEMORANDUM FOR THE RECORD

SUBJECT: Joseph G. Minish Passaic River Waterfront Park and Historic Area, Newark, New Jersey - Conversation with Peter Benjamin of U.S. Fish and Wildlife Service

1. On Tuesday April 2, 1996 a telephone conversation was held with Pete Benjamin of the U.S. Fish and Wildlife Service to initiate the final FWCA report for the subject project.

2. The following points were discussed as they relate to items in the FWCA report (page noted).

a. Page 4. The draft design memorandum plans (Oversize sheets to Volume I) show a stormwater management plan. The park grading will be such that runoff will be directed to catch basins on the edges of the walkway and landscaped areas. Runoff collected at the catch basins will be carried to the Passaic River through drain pipes in the park. For the parking areas, traps in the basins will stop oils from entering the river. The traps will require cleaning as part of the periodic maintenance of the park. Coordination with NJDEP indicates that the traps are required. The details of the stormwater plan will be developed as part of the upcoming plans and specs phase and before State permits are filed by NJDEP as project partner. Volume II - Hydrology and Hydraulics presents the analyses for developing the drainage plan.

b. Page 5. No additional sediment testing is scheduled unless required for the issuing of a specific permit. This would be carried out before construction. Usually such testing is required within six months of construction work. The construction of the project is approximately 18 months away at the earliest. At the time the Service prepared the draft FWCA report sediment testing was still underway. All the results along with the complete design memorandum are being forwarded to the Service for use in preparing the final report. The sampling to date is considered sufficient in determining the extent of contaminants in the area as it relates to construction of the project.

c. Page 5 and 10. The landside sampling sites are based upon the record search of historic uses in the project area and where contaminant problems might occur. River sampling was performed along the entire waterfront (Holes spaced along the river down the entire bank). River sampling data from previous programs and the recent USEPA sampling

were also reviewed. The results indicate fairly uniform contaminant concentrations along the waterfront. The collected data indicates that control of sediment resuspension while driving the pilings for the new bulkhead will be necessary. This would be required even in "clean" sediment to prevent turbidity. The use of silt curtains around the floating plant used to drive the piles will control sediment movement.

d. Page 6. Background holes were selected based upon the record search. Sites were selected where no known or expected contamination was identified in the project area. Given the nature of the urban area, it was anticipated that all holes would encounter groundwater with petroleum product contamination. The groundwater movement to the river out of the Newark area made this a fairly probable occurrence and is reflected in many of the sample holes.

e. Page 9. The project will improve runoff into the river due to the removal of debris in the park and traps in stormwater basins. Some temporary impacts will occur during construction, but can be minimized by preventing resuspension of river sediment and control of landside runoff.

f. Page 9 and 10. Regrading the bank and creating a tidal wetland in the lower reach of the project will be monitored to prevent the invasion of undesirable species. The boat basin and launch facility will be coordinated with NJDEP to limit problems relating to boat related pollutants.

g. Page 10. Data gaps identified by the Service such as the need for more detailed plans are addressed in the draft design memorandum forwarded for use in preparing the final FWCA report.

h. Page 11, item 3. The proposed tidal wetland will be constructed on an approximate three acre mudflat. Testing of the mudflat indicates a number of contaminants. The placement of clean fill to achieve proper elevations for daily inundation of the wetland will cap the existing contaminants since two to three feet of fill is needed. The Service feels that this would be sufficient and the plant species' root systems will be within the zone of clean fill. A rock berm on the outer edge of the wetland will prevent debris from entering and reduce erosion by waves from the navigation channel.

3. It was agreed that the final report could be prepared by early May since the revisions appear to be minor. A meeting is being arranged with NJDEP to discuss the final report and the Service would like to attend if scheduling permits.

4. The above memorandum documents the discussions based upon the authors recollection and comments should be sent to the author if clarification is required.

Paul Tumminello
Project Manager

DEPARTMENT OF THE ARMY
NEW YORK DISTRICT CORPS OF ENGINEERS
PASSAIC RIVER DIVISION
80 RIVER STREET
HOBOKEN, NEW JERSEY 07030-5607

April 23, 1995

REPLY TO
ATTENTION OF
CENAN-PR

Passaic River Division

Mr. Bernard Moore
Engineering and Construction
New Jersey Department of
Environmental Protection and Energy
1510 Hooper Avenue
Toms River, New Jersey 08753

Dear Mr. Moore:

The U.S. Army Corps of Engineers is preparing the final Design Memorandum for the Joseph G. Minish Passaic River Waterfront Park and Historic Area. You previously provided the Corps with a letter for the draft Design Memorandum indicating support and the State's funding mechanism for the project. An updated letter of support and funding is necessary before the final Design Memorandum is released. The report is scheduled for completion in early May and a letter from you by then would be appreciated.

Enclosed for your information are responses to comments made on the draft Environmental Assessment by the NJDEP Office of Program Coordination. A meeting is scheduled on April 24, 1996 with your office and the Office of Program Coordination to discuss the comments and responses. The meeting should resolve the concerns raised on the draft Environmental Assessment and allow completion of the final Environmental Assessment with the Design Memorandum.

I look forward to continued coordination with you on this matter and hope that the enclosed information is satisfactory to your needs. Any questions you may have should be directed to Paul Tumminello at 201/656-4420.

Sincerely,

for S. J. BUCOLO, P.E.
Chief, Passaic River Division

Enclosure

CENAN-PR-M (335-2-5c)

23 April 1996
Revised 24 April 1996

MEMORANDUM FOR THE RECORD

SUBJECT: Joseph G. Minish Passaic River Waterfront Park and Historic Area, Newark, New Jersey - Response to NJDEP Comments and Coordination Meeting

INTRODUCTION

The responses (presented on the next page) are to the comments made by the NJDEP Office of Program Coordination's letter of 31 October 1995 on the subject project. It should be noted that the NJDEP is the non-Federal Sponsor of the project and will also make application for necessary permits through its Office of Natural Resources, Division of Engineering and Construction. Responses are keyed by number to the comments in the attached NJDEP letter.

On 24 April 1996 a meeting was held to discuss the NJDEP comments with the reviewers. The following responses have been modified to include the items discussed at the meeting. In attendance were: Gene Keller, Joel Piccoli, and Larry Beier of the NJDEP and Joseph Deery and Paul Tumminello of the U.S. Army Corps of Engineers.

The main concern of the NJDEP reviewers was the disposal of contaminated river sediments behind the replacement bulkhead. The NJDEP indicated that it did not agree to the FONSI on the draft Environmental Assessment because of the concern. The plan has been revised such that contaminated river sediment will be disposed of in accordance with its regulatory classification. This means that the river sediment which contains various contaminants including dioxin will not be placed behind the bulkhead, but disposed of offsite. The NJDEP indicated that this would be satisfactory and the Corps and NJDEP would coordinate further on the disposal and potential disposal sites.

The other major items discussed were the Federal consistency application and the replacement bulkhead proximity to the existing bulkhead. The Design Memorandum contains most of the information necessary for Federal consistency. The Corps and NJDEP will prepare a separate document for Federal consistency as the plans and specs are underway. The plans and specs would identify specifics that can be presented in the Federal consistency application that are not identified in the Design Memorandum.

The replacement bulkhead will be placed as close to the existing bulkhead and usually within 18 inches. At the meeting, areas were identified on project maps where physical constraints prevent the replacement bulkhead from being within 18 inches. These areas include sections of collapsed bulkhead, an outfall location and an angled section of wall near the heliport. The NJDEP will review the plans and determine whether the replacement can extend beyond the 18

inches for these sites. Generally, the NJDEP indicated that the outfall sites would not be a problem and areas where the bulkhead had collapsed were also not a problem if the replacement was at least along the alignment of the old bulkhead. This is further discussed below along with other points at the meeting.

RESPONSES (Reference attached NJDEP letter)

1. In general, all sediment removed from the Passaic River, currently exhibiting semi-volatile and chlorinated organics, and heavy metals will be disposed of in accordance with its regulatory classification. No river sediment shall be reused as fill material. This change is part of the revisions since the release of the draft Design Memorandum. The extent of excavation in the river and on the bank has been reduced from an initial range of 40,000 to 70,000 cubic yards to approximately 2,000 cubic yards of sediment and 10,000 cubic yards of bank or upland excavation. The 2,000 yards of river sediment will be removed to accommodate the replacement of the old bulkhead with a new one. The sediment is of an organic nature and is very poor as a fill material. Only bank material and imported material will be reused as fill. Originally, the sediment was to have been mixed with bank material, but comments and further refinement of the design has led to the above change. The Corps and NJDEP agreed that a specific site within the State could not be identified at this time and that assuming out of state disposal was acceptable at this stage of the project. Physical construction is at least two years away and a specific site would be identified at the time permits are prepared prior to field work.

2. Refer to response 1. All analytical data evaluated for the HTRW Site Investigation Report shall be transmitted to the Department, herein, as requested. No samples were analyzed from 6-12 feet below sediment level, since no removal of deep sediment is proposed.

3. The Corps evaluated dioxin concentrations using EPA's Toxicological Equivalent Factors (TEF) for Human Health Criteria (Walker and Peterson, 1991; updated 4/95). We did not evaluate for Toxicological Equivalent Factors (TEF) for Ecological receptors, as noted in the NJDEP comment. Since all river sediment containing dioxin will not be reused, as originally proposed, but will be disposed of in accordance with regulatory policy, the evaluation is not pertinent. It is presented in the final Design Memorandum for information purposes only.

4. Refer to responses 1 and 2.

5. The placement of material, regulated or not, behind a concrete capped, sheet pile bulkhead is much more environmentally sensitive to water quality, than to the existing condition whereby sediment containing known contaminants are being transported into the Passaic River as the bulkhead continues to fails and the bank erodes. Again, we do not propose to reuse river sediments behind the bulkhead as fill. Further, the placement of fill (existing bank excavation and imported) for construction of the replacement bulkhead does not constitute open water filling.

6. No additional testing is planned as part of design. Testing to date is adequate for design and determination of construction related impacts. The USFWS comment indicating that additional testing would be completed was not correct. The USFWS had not received all the test results at the time the draft FWCA report was prepared. The USFWS has received all the results for consideration in the final FWCA. Additional testing will only be conducted if necessary for the purposes of permitting and would be performed prior to construction which is approximately two years away.

7. The testing done by the USEPA was reviewed by the Corps during the preparation of the final Design Memorandum. The results of the USEPA program confirm the Corps testing since the results are similar in terms of contaminants identified and concentrations. The Corps will not repeat the USEPA results in the Final Environmental Assessment, but only make reference to it. The USEPA results do not provide any new information as it relates to the design and construction of the project.

8. As discussed above, no river sediment will be reused. The placement of a concrete cap on the steel bulkhead extending below low water will prevent material from dispersing to the river. During construction, dispersal will be prevented by dewatering and then placing fill. The use of a silt curtain will also prevent material from moving outside of the construction site.

9. In a November 1994 meeting with the Department concerning analytical data evaluation for the Passaic River Mainstem Flood Damage Reduction Project, we were informed by the Bureau of Site Remediation that soils in excess of the most stringent Interim Residential Soil Cleanup Criteria (RSCC) could be reused on the contiguous property in project features, or potentially, on sites where the contaminant levels are higher than the soils. This philosophy was used in assessing our data and determining remedial actions. In addition, the covering of soils in excess of the RSCC with imported fill and/or concrete structures will eliminate potential exposure pathways and will be protective of both public and ecological health. The NJDEP Land Use Regulatory Program will also review the plans regarding the disposition of contaminated soils. At this stage, it appears that there are no problems with reuse of the soils on the bank as fill material.

10. The Final Environmental Assessment will identify the specific areas where sediment will be excavated. Standard methods for shallow or exposed excavation will be used. The depth will be approximately two feet. The excavation is only required to accommodate the replacement bulkhead. The material will be placed on truck or barge for transport. No excavation will be performed for this project in the boat basin or docks. Those areas are future projects to be performed by others and are clearly marked as such on the plans. Further, all work will be contained by use of a silt curtain to prevent resuspension and dispersal of material beyond the construction site.

11. The outfall headwalls to be reconstructed are shown on the plans in both the draft and the final Design Memorandum. The Corps will only replace the headwalls and not install new outfalls for purposes other than the project unless the non-Federal sponsor requests the new construction to be performed. The cost would then be borne by the sponsor.

12. It is understood that a number of permits are required. The applications would be made through the Office of Natural Resources, Division of Engineering and Construction as sponsor after a project cooperation agreement is signed and construction funds appropriated. More detailed plans to support permit applications will be prepared prior to this as part of the plans and specs phase which will begin later this year. The replacement bulkhead will be placed as close to the old bulkhead where it remains standing and this is usually within 18 inches. Due to physical constraints, the replacement bulkhead will be further offshore (i.e. an area of collapsed bulkhead where the bank has washed out) in some areas.

In order to create the new wetlands, fill will be placed in the mudflat below Jackson Street. The flat is submerged during high tide. The fill is required as a base for the wetland plantings. The use of sloped rock toes will also be utilized in several areas along the restored bank below Jackson Street to prevent erosion and stabilize the bank. The draft and final plans show the location of the rock placement and wetland site. This area might require an open water fill permit.

13. See responses above regarding the use of contaminated material behind the bulkhead.

14. It is agreed that coordination on Federal Consistency should take place prior to formal application as discussed above.

15. The Corps agrees that a public private partnership will help ensure the long term success of the project and that heavy programming of the space is important. Further, once the project is turned over to the sponsor, it is the Corps understanding that the lands will fall under Green Acres parkland regulations.

16. Coordination was conducted with the Essex County Parks Department early in the study. The Corps signed documents with the County allowing access to the County property for purposes of surveying and subsurface exploration. The County Parks Department was provided plans of the project. Further, Essex County has endorsed the project. Documentation will be provided in the final Design Memorandum.

17. The Corps is aware of the lands diverted for the Jackson Street site. As presently planned in the project, the parcels will be for park/recreation lands.

18. The cultural resources have been coordinated with the SHPO and a Cultural Assessment was prepared. It follows the Environmental Assessment in the Design Memorandum.

19. The Corps agrees that the project significantly improves the natural resources of the area and will provide a benefit to the people of Newark.

Paul Tumminello
Project Manager

Attch

State of New Jersey

Christine Todd Whitman
Governor

Department of Environmental Protection
Office of Program Coordination
CN 418
Trenton, NJ 08625-0418
Phone 609-292-2662
Fax 609-777-0942

Robert C. Shinn, Jr.
Commissioner

October 31, 1995

Mr. S.J. Bucolo
Chief, Passaic River Division
New York District Corps of Engineers
80 River Street
Hoboken, NJ 07030-5607

RE: Joseph G. Minish Passaic River
Waterfront Park and Historic Area

Dear Mr. Bucolo:

The Office of Program Coordination of the New Jersey Department of Environmental Protection (NJDEP) has completed it's review of the Draft Design Memorandum, Environmental Assessment (EA) and Finding of No Significant Impact (FONSI) for the Joseph G. Minish Passaic River Waterfront Park and Historic Area, Newark. The proposed project is consistent with several policies of New Jersey's Open Space and Outdoor Recreation Plan, and as such, the NJDEP supports the development of this waterfront park. We cannot at this time, however, concur with the FONSI since we have concerns regarding the use the material to be dredged as fill behind the new bulkhead. We offer the following comments regrading the fill material; permitting; site remediation; and impacts on parklands, cultural resources, and natural resources for your consideration.

Fill Material

The sediment test results data included in Appendix I can be summarized as following:

- all ten sampling locations had reported exceedances of the Interim New Jersey Residential Soil Cleanup Criteria for numerous semi-volatile organic compounds;

- all ten sampling locations had reported exceedances of the Interim New Jersey Residential Soil Cleanup Criteria for the metals arsenic, cadmium, and lead;

- six of the ten sampling locations had reported exceedances of the Interim NJ Residential Soil Cleanup

Criteria for the pesticides aldrin and/or dieldrin, usually in the 0-6 feet sample layer;

- dioxin and furan testing was performed only for the 0-6 feet sample layer, the investigators assumed that dioxin/furans would be regulated at the level of 1 ppb (one exceedance of this level was noted at sampling location WTH-9);

- sample WTH-3 had a reported lead level of 22,000 ppm, which may result in its classification as a "hazardous waste".

The results summarized above indicate that the material to be dredged, given its proposed use as fill behind the new bulkhead in a proposed park, is contaminated at levels which may be of concern to our Department. Past studies referenced in the Draft EA also document sediment contamination in the project area. A determination as to the acceptability of the proposed use of this material should be made by our Department's Site Remediation Program. (1)

With particular reference to dioxins/furans, the assumption that regulatory concern will occur at a level of 1 ppb may be not correct. In addition, no data was collected for the deeper (6-12 feet) sediments. This may be a significant problem with the sediment data. The dioxin data collected for the surface (0-6 feet) samples should be transmitted to the Department. (2)

The U.S. Fish Wildlife Service Section (USFWS) 2(b) report recommends that the guideline values of Long and Morgan (1990) be used to evaluate potential adverse ecological impacts of the dredging operations and use of the sediments as backfill. We agree with this recommendation, but note that the 1990 study has been recently updated (i.e. Long et al., 1995). (3)

In general, the summary information presented in Appendices B and I of the Draft EA does not provide adequate information for our Department to evaluate the potential human and ecological impacts of the proposed dredging operations and use of the sediments as backfill behind the proposed bulkhead. A more detailed summary of the bulk sediment chemistry and total organic carbon analyses, not just a listing of those samples where "exceedances" were observed, is needed. However, the use of this information could be limited due to the fact that grain size analyses of the sediments collected for the chemical analyses were not conducted (Appendix B: Appendix A, page 2). (4)

Sediment testing procedures presented in the Draft EA states (Appendix I, page I-16, IV-A-3), that sediment testing was not performed consistent with U.S. Army Corps of Engineers (USACE) requirements because the dredged material would be placed behind the proposed bulkhead. This was considered to be an "upland" (5)

area. However, the new bulkhead is to be constructed further out from the shoreline than the existing bulkhead. Thus, the use of the dredged material for backfill will result in the filling of open water. In addition, the actual dredging operations will result in the dispersal of sediments, and thus de facto filling of open water. Thus, it would appear that the USACE Section 404(b)1 testing requirements should be applicable to this project.

The USFWS Section 2(b) report notes that additional sediment testing will be conducted during the construction phase of this project. It would appear this testing (bulk sediment chemistry, elutriate, toxicity) would meet the USACE Section 404(b)1 testing requirement noted above. We concur with the USFWS recommendation that this testing be conducted at one time. Further, it is recommended that this testing be completed during the planning or design phase of the project, as the results of this testing may impact design and construction features of the proposed project. (6)

Appendix I, page I-14, Section C notes that the U.S. Environmental Protection Agency (USEPA) will be conducting additional sediment sampling in the project area. An evaluation of this data should also be included in the National Environmental Policy Act (NEPA) documentation for this proposed project. (7)

In regard to mitigation measures, it is not clear whether simply containing the contaminated dredged material behind a steel sheet bulkhead will adequately prevent the dispersal of contaminated sediments. It may be appropriate to include geotextile liners on the inner side of the bulkhead, similar to that incorporated in the Military Ocean Terminal Bayonne (MOTBY) bulkhead project. Likewise, there is potential for significant dispersal of suspended sediments as the dredged material placed behind the bulkhead dewaters and discharges into the Passaic River. Again, the procedures developed for the MOTBY bulkhead project may prove effective for this proposed project. (8)

Additionally, given that the sediments are contaminated with various pollutants at levels that exceed the Interim NJ Residential Soil Cleanup Criteria, it is not clear if covering the dredged material with two feet of clean fill or a concrete pad (Appendix I, page I-34) will be adequately protective of public and ecological health. A determination as to the effectiveness of this procedure should be made by the Site Remediation Program, as noted above. (9)

The Draft EA should have clearly identified those areas to be dredged, the dredging method(s) to be employed, the proposed depth of dredged, and resulting volumes of dredged material. It would appear that the following areas will require dredging: (10)

- the proposed boat basin;

- a "Proposed Dock (By Others)" shown on Figures 14-1(2) and (3);

- "tidal flats upstream of Penn Station" noted in Appendix I, page I-34.

Page EA-2 states that a total of 40,000 to 70,000 cubic yards of material will be excavated and used as backfill. What portion of this amount is dredged material?

Page 14, Section XIII-5 notes that existing outfall must be rebuilt. Where are these outfalls currently located, what purpose(s) do they serve, and where/how are they to be rebuilt? Note that permits/modifications may be needed to rebuild these outfalls. (11)

Permitting

The Department's Land Use Regulation Program (LURP) fully supports the concept of revitalizing urban waterfronts and increasing public access to these urban waterfront areas. However, the project will require a Federal Consistency Determination from the LURP pursuant to Section 307 of the federal Coastal Zone Management Act. From the level of detail provided on the plans submitted with the Draft EA, it is difficult to determine whether the project proposes the placement of fill outshore of the current day mean high water line, Any fill placed outshore of the mean high water line would also require an Open Water Fill Permit issued pursuant to the Freshwater Wetlands Protection Act (N.J.S.A. 13:9B) and the implementing Rules (N.J.A.C. 7:A). A stream encroachment Permit will not be required for this project. (12)

Due to the lack of suitable site plans, only general guidance can be provided at this time. Foremost, bulkhead reconstruction should be accomplished within 18 inches of the face of the existing deteriorated structure. Any extension of the bulkhead by more than 18 inches must meet the criteria for new bulkheads and the placement of fill in a water area. Similarly, fill placed below mean high water in other areas must be kept to the minimum necessary to achieve proper bank stabilization. The LURP encourages the use of sloped revetments and vegetation where possible to accomplish bank stabilization. In the area of proposed tidal wetlands, the slope of the revetment should be minimized to the extent possible to prevent wave reflection and scouring of the proposed wetland area.

As part of the Federal Consistency application, the LURP will require a risk assessment and concurrence by appropriate agencies, concerning the use of contaminated sediment, dredged from the river, as backfill behind the new bulkhead. (13)

(14)

In addition, an application for a Federal Consistency must include detailed plans depicting the relationship of proposed construction to all Special Areas and Water Areas described in the Rules on Coastal Zone Management and a statement of compliance with the Rules on Coastal Zone Management (N.J.A.C. 7:7E), which specifically addresses all applicable coastal policies. Based on this cursory review the following policies must be addressed: Finfish Migratory Pathways (7:7E-3.5); Navigation Channels (7:7E-3.7); Intertidal and Subtidal Shallows (7:7E-3.15; Filled Water's Edges (7:7E-3.5); Historic and Archaeological Resources (7:7E-3.36); Public Open Space (7:7E-3.40); Special Hazard Areas (7.7E-3.41); Special Urban Areas (7:7E-3.43); General Areas Acceptability Conditions for Uses including Recreational Docks and Piers, Dredging, and Filling (7:7E-4.2 e, f, g, and j); General Land Areas Policies (7:7E-5.1-5.7); Resort Recreation Use Rules (7:7E-7.3); Marina Development (7:7E-7.3A); Dredged Spoil Disposal on Land (7:7A-7.12); Stormwater Management (7:7E-8.7); Vegetation (7:7E-8.8); Public Access to the Waterfront (7:7E-8.11); Buffers and Compatibility (7:7A-8.13) and Traffic (7:7E-8.4).

The LURP urges the USACE, and/or the nonfederal sponsors, as appropriate, to hold a preapplication conference with the LURP to discuss the project and these policies in greater detail. A preapplication conference can be scheduled with Larry Bair at 609-633-9377. Please do not hesitate to contact the LURP if you have any additional question in this regard.

Site Remediation

Our Department's Bureau of Field Operations, Case Assignment Section has reviewed the State's Comprehensive Site List which references information concerning cases within its remedial permitting and enforcement bureaus of the Site Remediation Program. For your information is the attached list of sites which are cases that exhibit areas of concern and appear to be within 0.5 miles of the proposed project.

(15)

Parklands

As noted above, the proposed project is consistent with several policies of New Jersey's Open Space and Outdoor Recreation Plan, and as such, the NJDEP supports the development of this waterfront park. There are, however, three areas that our Department's Green Acres Program has comments on: park operation and maintenance, coordination with Essex County Parks, and the Jackson Street Bridge.

The operation and maintenance of public park and recreation areas is a responsibility requiring significant commitment from a managing agency. Since it is the nonfederal sponsor's

responsibility for operation and maintenance, consideration of these costs must be addressed. The Draft EA estimates annual operation and maintenance costs to be $108,000 per year. It would be impractical to expect the State to assume any significant responsibility for operation and maintenance. The State's appropriate role for operation and maintenance would be in technical assistance or funding from existing programs, such as Green Acres or Clean Communities. Daily and routine tasks should be the responsibility of the City of Newark.

The Draft EA recommends that a public/private partnership be created for operation and maintenance. The Green Acres Program recommends that Newark be the lead agency for and be directly involved with such an entity. This model has worked very well with the rehabilitation and restoration of Central Park in Manhattan. The Central Park Conservancy, in collaboration with New York Parks Department, is working on all aspects of the operation and maintenance of Central Park. Such a format could serve this project well.

We also recommend that the waterfront be heavily programmed. Programming will help the park develop an identity, cultivate local support, establish a sense of ownership, and deter vandalism. The Green Acres Program believes that regular and diverse programming will be essential to the success of this project. It is a strategy that should be used for the long term protection and management of the waterfront park which it will require as a public open space and recreation area.

No reference was made in the Draft EA to coordination with the Essex County Department of Parks, Recreation and Cultural Affairs. This county department owns and manages Riverbank Park, which is a component of the waterfront promenade. While it is unlikely that Essex County would object to Riverbank Park being used as an element of the waterfront park, it would seem reasonable that they should be asked and be coordinated with accordingly. (16)

In 1989, the City of Newark diverted a portion of Riverbank Park for the reconstruction of Jackson Street Bridge. Newark agreed to dedicate Block 2026 Lots 7, 19, 22 and Block 1 Lots 60, 61, 62 and 63 for public recreation and conservation purposes as replacement parkland. These parcels are located along the Passaic River. Any use of these riverfront parcels for a non-recreation/conservation purpose will require the prior approval of the Commissioner of the NJDEP and the New Jersey State House Commission. (17)

Cultural Resources (18)

Attached for your information is a copy of recent letter from New Jersey's Deputy State Historic Preservation Officer

regarding potential impacts of the proposed project to cultural resources.

Natural Resources

Our Department's Division of Fish, Game and Wildlife supports the project, since it could significantly improve the area aesthetically and would encourage the use of the natural resources (e.g. fishing, birding) remaining in the area. They support the reconstruction of bulkhead areas as they would provide accessibility to the Passaic River for fishing, and concur with the restoration of tidal wetlands at the downstream end of the project. In particular they support the boat launch/basin in the vicinity of Center Street, although do note that parking for trailored vehicles appear scarce and may become a problem (see blueprint sheet Figure 14-1(3)). (19)

Also please note that the Division of Fish Game and Wildlife has also reviewed this project as the USFWS'S Draft Fish and Wildlife Coordination Act Section 2(b) Report entitled "Assessment of the Joseph G. Minish Passaic River Waterfront Park and Historic Area, Newark Streambank Restoration Project, Newark, Essex County, New Jersey". They concurred with the USFWS's recommendations and conclusions with special emphasis on requiring conservation easements to protect the restored areas indefinitely.

Thank you for giving the New Jersey Department of Environmental Protection the opportunity to review the documents for this valuable project. We hope that our comments will assist with the selection of an environmentally sound course of action.

Sincerely,

Lawrence Schmidt
Director
Office of Program Coordination

Attachments

c: Bernard Moore, NJDEP
Robert Van Fossen, NJDEP
Larry Baier, NJDEP
Robert McDowell, NJDEP
Dorothy Guzzo, NJDEP
Ernest Hahn, NJDEP
Robert Stokes, NJDEP

NATIONAL MARINE FISHERIES SERVICE COORDINATION

Kohtio, Diana M. NAN

From: Melissa Alvarez - NOAA Federal <melissa.alvarez@noaa.gov>
Sent: Monday, September 28, 2015 2:21 PM
To: Kohtio, Diana M. NAN
Cc: Weppler, Peter M NAN02; Karen Greene - NOAA Federal
Subject: [EXTERNAL] Joseph G. Minish Park

Follow Up Flag: Follow up
Flag Status: Flagged

Diana,

Upon review of the Phase 1 - Draft Hurricane Sandy Limited Reevalution Report, NOAA NMFS has concluded that no further coordination is required at this time. USACE mentions in the Section 404 (b)(1) Evaluation, Section 2: Factual Determination, e: Aquatic Ecosystem, #8 that affects on EFH should be mitigated with specific conservation recommendations (eg. observation of environmental windows and use of turbidity barriers) that would be included into the construction plan.

On May 16, 2014 NOAA NMFS provided three conservation recommendations. It is understood, by the above statement these three recommendations will be included in the construction plan. Should project plans change and alter the basis for those recommendations, or if new species or critical habitat is designated coordination should be reinitiated.

Melissa D. Alvarez, PWS
Marine Habitat Resource Specialist
Habitat Conservation Division
National Marine Fisheries Service
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Highlands, NJ 07732
(732) 872-3116 phone
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melissa.alvarez@noaa.gov <mailto:melissa.alvarez@noaa.gov>
Blockedhttp://www.greateratlantic.fisheries.noaa.gov/

Federal Interagency Meeting Comment Form

Project: U.S. Army Corps
Minnish Park Project

Commenting Agency: NOAA Fisheries

Project Manager: Melissa Alvarez

Waterway/Location: Passaic River
Newark, Essex Co., NJ

Activity: Bulkhead replacements, back fill, possible riprap

ESSENTIAL FISH HABITAT (EFH)

Project may adversely affect EFH.

ESSENTIAL FISH HABITAT CONSERVATION RECOMMENDATIONS

(Note: EFH CRs require a response from the federal action agency within 30 days of receipt or 10 days before a permit is issued if CRs are not included as a special condition of the permit).

1. No in-water work from 3/1 to 6/30 to minimize adverse effects to anadromous fish passage. Anadromous fish such as alewife and blueback herring migrate through the Kill van Kull to upstream spawning areas in the Hackensack and Passaic Rivers. These species are a food source for federally managed species such as bluefish, winter flounder, little skate, winter skate, scup, and summer flounder. An adverse effect on prey species can be considered an adverse effect on EFH.
2. The sediments in the waterway contain elevated levels of a variety of contaminants, best management practices such as the use of turbidity barriers should be used to limit the amount of suspended sediment released into the waterway.
3. Provide compensatory mitigation as appropriate for areas of the river that are filled to during the installation of the bulkhead.

FISH AND WILDLIFE COORDINATION ACT COMMENTS

See EFH CRs above.

ENDANGERED SPECIES ACT

No threatened or endangered species under the jurisdiction of the NMFS are known to occur in the action area. As a result, further coordination with NMFS PRD is not necessary. Should project plans change and alter the basis for determination, or if new species or critical habitat is designated, coordination should be reinitiated.

OTHER

1. Comply with NJDEP permit conditions

SIGNATURE: Karen Greene DATE: 5/16/2014

EFH ASSESSMENT WORKSHEET FOR FEDERAL AGENCIES (modified 08/04)

PROJECT NAME: Joseph G. Minish Passaic River Waterfront Park **DATE:** March 10, 2014

PROJECT NO.: N/A **LOCATION:** City of Newark, Essex County, New Jersey

PREPARER: Melissa Alvarez, Project Biologist

Step 1. Use the Habitat Conservation Division EFH webpage, Guide to Essential Fish Habitat Designations in the Northeastern United States to generate the list of designated EFH for federally-managed species for the geographic area of interest (http://www.nero.noaa.gov/hcd/index2a.htm). Use the species list as part of the initial screening process to determine if EFH for those species occurs in the vicinity of the proposed action. Attach that list to the worksheet because it will be used in later steps. Make a preliminary determination on the need to conduct an EFH Consultation.

1. INITIAL CONSIDERATIONS		
EFH Designations	**Yes**	**No**
Is the action located in or adjacent to EFH designated for eggs?	x	
Is the action located in or adjacent to EFH designated for larvae?	x	
Is the action located in or adjacent to EFH designated for juveniles?	x	
Is the action located in or adjacent to EFH designated for adults?	**x**	
Is the action located in or adjacent to EFH designated for spawning adults?	**x**	
If you answered no to all questions above, then EFH consultation is not required -go to Section 5. If you answered yes to any of the above questions proceed to Section 2 and complete remainder of the worksheet.		

Step 2. In order to assess impacts, it is critical to know the habitat characteristics of the site before the activity is undertaken. Use existing information, to the extent possible, in answering these questions. Please note that, there may be circumstances in which new information must be collected to appropriately characterize the site and assess impacts.

2. SITE CHARACTERISTICS	
Site Characteristics	**Description**
Is the site intertidal, sub-tidal, or water column?	**Water column**
What are the sediment characteristics?	**Silty sand and silty gravel.**
Is Habitat Area of Particular Concern (HAPC) designated at or near the site? If so what type, size, characteristics?	**No**
Is there submerged aquatic vegetation (SAV) at or adjacent to project site? If so describe the spatial extent.	**No**
What is typical salinity and temperature regime/range?	**River Mile 0 to 8.2 includes the Brackish River Section (RM 0 to 6) and a portion of the Transitional River Section (RM 6 to 9). Minish is around RM 3.5ish** **This brackish river section represents the portion of the LPR closest to the confluence with Newark Bay where the water salinity is defined as almost always mesohaline (5-18 part per thousand [ppt]) to polyhaline (18-30 ppt). The transitional section of the river represents the portion of the LPR between the freshwater and brackish sections of the river where the salinity values fluctuate under typical tidal conditions. This section of the river is influenced by saltwater intrusion and mixing, thus water conditions vary continuously from oligohaline (0.5-5 ppt) to mesohaline.**
What is the normal frequency of site disturbance, both natural and man-made?	**minimal**
What is the area of proposed impact (work footprint & far afield)?	**The Minish Park project is proposed for the west bank of the Passaic River from Bridge Street and McCarter Highway in the north to Brill Street and Raymond Boulevard in the south in the City of Newark, New Jersey. The project area covers approximately 2 miles on the Lower Valley of the Passaic River, and extends from the shoreline inland approximately 40 to 200 feet.**

Step 3. This section is used to describe the anticipated impacts from the proposed action on the physical/chemical/biological environment at the project site and areas adjacent to the site that may be affected.

3. DESCRIPTION OF IMPACTS			
Impacts	**Y**	**N**	**Description**
Nature and duration of activity(s)			**Bulkhead replacement, minor excavation associated with the bulkhead, back fill of bulkhead and stream bank stabilization. This work is scheduled to take 526 work days and is broken into two contracts of 263 days each.**
Will benthic community be disturbed?	**X**		**Temporarily.**
Will SAV be impacted?		**X**	
Will sediments be altered and/or sedimentation rates change?	**X**		**Sediments will be removed and replaced with gravel to existing grade in the immediate area of the concrete cap on the bulkhead.**
Will turbidity increase?	**X**		**The turbidity may change during construction, but this will be a temporary impact and BMPS will be utilized to minimize the turbidity. *Longterm* turbidity will decrease as the project will stabilize the upper and lower reaches of the project area, reducing erosion and sedimentation, reducing adverse impacts of current stormwater runoff by treating such runoff prior to discharge into the Passaic River.**
Will water depth change?		**X**	
Will contaminants be released into sediments or water column?		**X**	
Will tidal flow, currents or wave patterns be altered?		**X**	
Will ambient salinity or temperature regime change?		**X**	
Will water quality be altered?		**X**	

Step 4. This section is used to evaluate the consequences of the proposed action on the functions and values of EFH as well as the vulnerability of the EFH species and their life stages. Identify which species from the EFH species list (generated in Step 1) will be adversely impacted from the action. Assessment of EFH impacts should be based upon the site characteristics identified in Step 2 and the nature of the impacts described within Step 3. The Guide to EFH Descriptions webpage (http://www.nero.noaa.gov/hcd/list.htm) should be used during this assessment to determine the ecological parameters/preferences associated with each species listed and the potential impact to those parameters.

4. EFH ASSESSMENT			
Functions and Values	**Y**	**N**	**Describe habitat type, species and life stages to be adversely impacted**
Will functions and values of EFH be impacted for:			
Spawning	**X**		**Contaminated silty sediments exist on the river bottom in the area to be excavated for the concrete cap. This will affect the winter flounder spawning, but would be a temporary impact as the turbidity would occur only during the construction of the cap. Appropriate BMP's such as cofferdams or turbidity curtains will be utilized to minimize the movement of these sediments. Timing of work will also be adjusted to avoid work during peak spawning periods.**
Nursery	**X**		**Many of the species that may be present either passing through or residents will be temporarily affected by the in water work of the placement of the sheetpile bulkhead and the associated concrete cap. Appropriate BMP's such as cofferdams or turbidity curtains will be utilized to minimize these impacts. In water work will occur outside of the March 1 – June 30 window, to avoid further disruption or damage to the habitat area.**
Forage	**X**		**Many of the species that may be present either passing through or residents will be temporarily affected by the in water work of the placement of the sheetpile bulkhead and the associated concrete cap. Appropriate BMP's such as cofferdams or turbidity curtains will be utilized to minimize these impacts. In water work will occur outside of the March 1 – June 30 window, to avoid further disruption or damage to the habitat area.**
Shelter		**X**	

Will impacts be temporary or permanent?			**All turbidity impacts will be temporary. Permanent impacts include areas to be excavated and gravel to be placed in kind in front of concrete cap, and areas between the new bulkhead and current high water will be backfilled.**
Will compensatory mitigation be used?	**X**		**Yes, already negotiated with NJDEP.**

Step 5. This section provides the Federal agency=s determination on the degree of impact to EFH from the proposed action. The EFH determination also dictates the type of EFH consultation that will be required with NOAA Fisheries.

5. DETERMINATION OF IMPACT		
	/	**Federal Agency=s EFH Determination**
Overall degree of adverse effects on EFH (not including compensatory mitigation) will be: **(check the appropriate statement)**		**There is no adverse effect on EFH** **EFH Consultation is not required**
	X	**The adverse effect on EFH is not substantial.** **This is a request for an abbreviated EFH consultation. This worksheet is being submitted to NMFS to satisfy the EFH Assessment requirement.**
		The adverse effect on EFH is substantial. **This is a request for an expanded EFH consultation. A detailed written EFH assessment will be submitted to NMFS expanding upon the impacts revealed in this worksheet.**

Step 6. Consultation with NOAA Fisheries may also be required if the proposed action results in adverse impacts to other NOAA-trust resources, such as anadromous fish, shellfish, crustaceans, or their habitats. Some examples of other NOAA-trust resources are listed below. Inquiries regarding potential impacts to marine mammals or threatened/endangered species should be directed to NOAA Fisheries' Protected Resources Division.

6. OTHER NOAA-TRUST RESOURCES IMPACT ASSESSMENT	
Species known to occur at site (list others that may apply)	**Describe habitat impact type (i.e., physical, chemical, or biological disruption of spawning and/or egg development habitat, juvenile nursery and/or adult feeding or migration habitat).**
alewife	**X – Species mainly found up river, but maybe a transient to the site. No disruption expected as they are capable of avoiding the project during construction.**
blueback herring	**X – Species mainly found up river, but maybe a transient to the site. No disruption expected as they are capable of avoiding the project during construction.**
rainbow smelt	
Atlantic sturgeon	
Atlantic menhaden	**X – Species mainly found up river, but maybe a transient to the site. No disruption expected as they are capable of avoiding the project during construction.**
American shad	**X – Species mainly found up river, but maybe a transient to the site. No disruption expected as they are capable of avoiding the project during construction.**
American eel	
American lobster	
blue mussels	
soft-shell clams	

quahog	
Other species:	

Summary of Essential Fish Habitat (EFH) Designations

Name of Estuary/ Bay/ River: **Hudson River / Raritan / Sandy Hook Bays, New York/ New Jersey**

10° x 10° latitude and longitude squares included in this bay or estuary or river (southeast corner boundaries):

3940/7350; 3940/7400; 3930/7350; 3930/7400; 3930/7410; 3920/7350; 3920/7400; 3920/7410;

3910/7420

Species	Eggs	Larvae	Juveniles	Adults	Spawning Adults
red hake *(Urophycis chuss)*		M,S	M,S	M,S	
winter flounder *(Pleuronectes americanus)*	M,S	M,S	M,S	M,S	M,S
windowpane flounder *(Scopthalmus aquosus)*	M,S	M,S	M,S	M,S	M,S
American plaice *(Hippoglossoides platessoides)*		M,S	M,S	M,S	
Atlantic sea herring *(Clupea harengus)*		M,S	M,S	M,S	
bluefish *(Pomatomus saltatrix)*			M,S	M,S	
Atlantic butterfish *(Peprilus triacanthus)*		M	M,S	M,S	
Atlantic mackerel *(Scomber scombrus)*			S	S	
summer flounder *(Paralicthys dentatus)*		F,M,S	M,S	M,S	
scup *(Stenotomus chrysops)*	S	S	S	S	
black sea bass *(Centropristus striata)*			M,S	M,S	

king mackerel *(Scomberomorus cavalla)*	X	X	X	X	
Spanish mackerel *(Scomberomorus maculatus)*	X	X	X	X	
cobia *(Rachycentron canadum)*	X	X	X	X	

RECORD OF NON-APPLICABILITY (RONA)

Project Name: Joseph G. Minish Passaic River Waterfront Park & Historic Area - Phase 1
Reference: Equipment list provided by Alicia Gould to Jenine Gallo

Project/Action Point of Contact: David Gentile

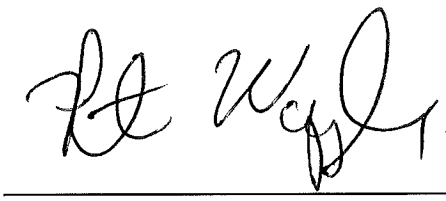
Begin Date: January 2015

End Date: December 2015

1. The project described above has been evaluated for Section 176 of the Clean Air Act. Project related emissions associated with the federal action were estimated to evaluate the applicability of General Conformity regulations (40CFR§93 Subpart B).

2. The requirements of this rule do not apply because the total direct and indirect emissions from this project are significantly less than the 100 tons trigger levels for NO_x, VOC, or CO for each project year (40CFR§93.153(b)(1) & (2)). The estimated total NO_x emissions for the project are 22 tons for 2015. VOC and CO are significantly lower than the NO_x emission estimates as NO_x is the primary mass criteria pollutant from diesel equipment.

3. The project is presumed to conform with the General Conformity requirements and is exempted from Subpart B under 40CFR§93.153(c)(1).



Peter M. Weppler
Chief, Environmental Analysis Branch
Planning Division

U.S. Army Corps of Engineers
Joseph G. Minish Passaic River Waterfront Park & Historic Area - Phase 1
General Conformity Related Emission Estimates
DRAFT

12-Nov-13

Description	Category	Horsepower (approx.)	Load Factor	Hours	hphrs
Asphalt paver, 10.0' (3.1 m) wide, self propelled, w/19' (5.8 m) screed extension, wheel	Other diesel engines	225	0.59	24.61	3,267
Compactor, roller, vibratory, 26.5" (674 mm) wide, 0.8 ton (0.7 mt), double drum, walk-behind	Compactor	250	0.43	31.08	3,341
Compactor, vibroplate, 18" (457 mm) wide x 21.5" (546 mm) plate	Compactor	250	0.43	4.98	535
Crane, hydraulic, self-propelled, rough terrain, 30 ton (27 mt), 80' (24.4 m) boom, 4x4	Crane	225	0.43	70.46	6,817
Crane, hydraulic, self-propelled, yard, 9 ton (8 mt), 44' (13.4 m) boom, 4x4	Crane	225	0.43	9.25	895
Crane, hydraulic, truck mounted, 25 ton (22.7 mt), 80' (24.4 m) boom, 6x4	Off-road truck	225	0.59	28.72	3,813
Crane, hydraulic, truck mounted, 65 ton (59.0 mt), 126' (38.4 m) boom, 8x4	Off-road truck	225	0.59	36.04	4,784
Crane, mechanical, lattice boom, crawler, dragline/clamshell, 0.50 cy (0.4 m3), 17 ton (15 mt), 100' (30.5 m) boom (add bucket)	Crane	225	0.43	12.90	1,248
Crane, mechanical, lattice boom, crawler, dragline/clamshell, 2.5 cy (1.9 m3), 60 ton (54 mt), 50' (15.2 m) boom (add bucket)	Crane	225	0.43	4,909.70	475,013
Cranes, hydraulic, truck mtd, 14 ton, 80' boom, 6x4	Off-road truck	225	0.59	432.24	57,380
Fork lift, yard, 2,500 lb (1,134 kg), 13.5' (4.1m) high, telescoping - straight mast	Forklift	175	0.59	104.00	10,738
Generator set, skid mounted, 125 kw, variable power settings, reconnectible	Generator	175	0.43	2.48	187
Grader, motor, articulated, 135 hp (101 kw), 12' (3.6 m) blade width	Grader	135	0.59	19.58	1,560
Hydraulic excavator, crawler, 11,500 lbs, 0.62 cy bucket, 17'10" max digging depth	Excavator	50	0.59	288.64	8,515
Hydraulic excavator, crawler, 55,000 lb (24,948 kg), 1.50 cy (1.2 m3) bucket, 23.3' (7.1 m) max digging depth	Excavator	300	0.59	45.04	7,972
Hydraulic excavator, crawler, 70,000 lb (31,751 kg), 2.00 cy (1.5 m3) bucket, 21.6' (6.6 m) max digging depth	Excavator	300	0.59	86.96	15,392
Loader, front end, crawler, 1.30 cy (1.0 m3) bucket	Skid Steer Loader	110	0.21	19.58	452
Loader, front end, wheel, 2.60 cy bucket, articulated, 4x4	Rubber tired loader	175	0.59	93.27	9,630
Loader/backhoe, wheel, 0.80 cy (0.6 m3) front end bucket, 9.8' (3.0 m) depth of hoe, 24" (0.61 m) dipper, 4x4	Backhoe	110	0.21	240.45	5,554
Marine equipment, boats & launches, truckable workboat w/pilot house & push knees, inboard, 20.25' x 8' x 3'		1,000	0.50	208.00	104,000
Pile hammer, double acting, diesel, 18,100 ft-lbs (2,502 kgf-m) (add leads & crane)	Crane	225	0.43	2,441.90	236,254
Pile hammer, driver/extractor, vibratory, 80 ton (73 mt) force drive (add leads & crane)	Crane	225	0.43	2,467.80	238,760
Roller, static, self-propelled, pneumatic, 30.00 ton, 78" wide, 8 tire, asphalt compactor	Other diesel engines	250	0.59	93.27	13,757
Roller, static, self-propelled, pneumatic, 9 tires, 14 ton (12.7 mt), 68" (1.7 m) wide	Other diesel engines	150	0.59	24.61	2,178
Roller, vibratory, self-propelled, double drum, smooth, 6 ton (5.4 mt), 66" (1.7 m) wide, asphalt compactor	Other diesel engines	100	0.59	19.58	1,155
Roller, vibratory, self-propelled, double drum, smooth, 2.7 ton (2.5 mt), 47"(3.8 m) wide, asphalt compactor	Other diesel engines	100	0.59	33.20	1,959
Roller, vibratory, towed, single drum, sheepsfoot, 25.5 ton (23.1 mt), 72" (1.8 m) wide, sheepsfoot (add towing unit)	Other diesel engines	250	0.59	6.39	943
Tractor, crawler (dozer), 145 hp, powershift, w/5.60 cy semi-u blade (add attachments)	Dozer	145	0.59	93.27	7,979
Tractor, crawler (dozer), 181-250 hp (135-186 kw), powershift, lgp, w/universal blade	Dozer	250	0.59	182.57	26,929
Tractor, crawler (dozer), 251-300 hp (187-224 kw), powershift, w/universal blade	Dozer	300	0.59	19.58	3,466
Truck, off-highway, rigid frame, 31.7 cy, 41.6 ton, 4x4, rear dump	Off-road truck	400	0.59	917.12	216,440
Truck, off-highway, rigid frame, 78.6 cy, 100 ton, 4x4, rear dump	Off-road truck	1,000	0.59	735.68	434,051
Truck, water, off-highway, 5,000 gal, w/cat 613c tractor	Off-road truck	250	0.59	93.27	13,757
Welder, engine driven, diesel, 300 amp, trailer mounted	Other diesel engines	35	0.59	143.08	2,955
	All non-road equipment hours			**13,939.30**	**1,921,676**
	Approximate non-road emission factor, g/hphr				9.5
	Approximate non-road emissions from the project, tons				**20.1**

404(b)1 REVIEW

JOSEPH G. MINISH
PASSAIC RIVER WATERFRONT PARK AND HISTORIC AREA
PHASE I
Newark, Essex County, NJ
Section 404 (b)(1) Evaluation

I. PROJECT DESCRIPTION

a. Location: Newark, Essex County, New Jersey.

b. General Description: Construction of a bulkhead along the Passaic River from Bridge Street to Jackson Street in Newark, NJ; stabilization of the riverbank with rip-rap from Jackson Street to Brill Street. Grading and seeding of the toe of the slope is planned to occur post construction in areas along the lower reach of the project area. Installation of railings and access ladders along the bulkhead including those sections previously constructed.

c. Authority and Purpose: The Joseph G. Minish Passaic River Waterfront Park and Historic Area Project (Minish Park) was authorized for construction in WRDA of 1990 (Public Law 101-640) as an element of the Passaic River Flood Damage Reduction Project on November 28, 1990, modified in the WRDA of 1992 (Public Law 102-580) by extending the project area, and further modified in the WRDA of 1996 (Public Law 104-303). Following Hurricane Sandy the Minish Park project became eligible for funding under P.L. 113-2, the Disaster Relief Appropriation Act of 2013. The purpose of the project is to provide for improved stream bank protection to prevent erosion and protect the western Passaic River bank from tidal storms.

d. General Description of Fill Material:

1.) Characteristics of Material: The fill along the bulkhead and stream bank stabilization shall be either reused from excavation, if classified safe from contaminants, or will be imported from off site. Any material imported from off-site will match the native soils in the area. Crushed stone will be placed in river below the bottom of the concrete cap.

2.) Quantity of Material: Phase 1 requires approximately 15,498 CY of clean fill.

3.) Source of Material: The fill material will come from an approved source, to be determined by the contractor.

e. Description of the Proposed Discharge Sites:

1.) Location: Project area as described in Ib, above.

2.) Size: The area on the landward side of the proposed bulkhead will be earth filled to an appropriate grade level effectively burying the existing bulkhead in place and will extend at least 40’ landward of the bulkhead along 2,858 linear feet. The stream bank slope will be re-graded,

through cut and fill along 2,658 linear feet. Approximately 12'' of crushed stone will be placed below the concrete cap along 2,858 linear feet of proposed bulkhead.
3.) Type of Site/Habitat: Urban/degraded riverine habitat.

4.) Time and Duration of Disposal: Construction activities are anticipated to commence in spring 2016 and take approximately 12 months.

f. Description of Disposal Method: Land based construction equipment will be used to construct the bulkhead and stream bank stabilization measure.

II. FACTUAL DETERMINATION

a. Physical Substrate Determinations:

1) Substrate Elevation and Slope: In order to accommodate future Phase II and Phase III development, the area adjacent to the bulkhead will have a consistent 1% cross slope pitched towards the bulkhead. The proposed grading throughout all new bulkhead locations will end with 3H:1V slope where the proposed grades meet the existing ground. In order to stabilize the slope along the southern banks of the Passaic River, cut and fill activities shall be carried out at 2.5H:1V slopes. Bottom of the slope shall be at an elevation -2 NGVD and meet the existing bank at the proposed slope. The height of the banks varies from 20', 15' and 10' along the alignment. Portion of the bank proposed with a reno mattress shall be graded with 2H:1V slope. The bottom of the slope shall be at elevation -3 NGVD and shall extended 8' high along the banks. No major impacts are expected.

2) Sediment Type: No major impacts are expected because sediments similar to those present in the placement areas would be utilized.

3) Dredged/Fill Material Movement: All sediment below Mean High Water (MHW) is assumed contaminated for all contract areas and shall be removed from the project area implementing sediment control measures. All sediment will be tested to determine how the soil may be disposed. Finer sediments disruption during construction may occur. Best management practices in the will be employed to contain the sediment to within the Project Area to the greatest extent practicable.

4) Physical Effects on Benthos: Some benthic forms may be smothered by burial. Long-term effects are not anticipated.

5) Other Effects: Not Applicable

6) Actions Taken to Minimize Impacts: Best management practices (BMP) will be implemented during construction. BMP's include:

- Silt fences and appropriate measures would be used to reduce the risks posed by runoff during construction activities These risks include increased

concentrations of suspended solids and turbidity, or contamination in soil or groundwater of the Passaic River;

- Soil excavated for construction would be placed behind sheet bulkheads to prevent direct contact with the Passaic River;

- Silt curtains or other appropriate devices would be used to separate areas to be excavated from the river to reduce the risk of resuspension of sediment and contaminants;

- Locating heavy construction equipment on the slope of the bank near the water would be avoided to the extent possible to reduce potential runoff of soil into the Passaic River.

- Wide track ("low density") construction equipment would be used where possible to reduce the impact of the machinery on the soil and prevent potential runoff.

- Use of coffer dams during in water construction to more effectively control sediment pollution.

b. Water Circulation, Fluctuation and Salinity Determinations:

1) Water, Consider Effects on:

a. Salinity- No effect
b. Water Chemistry- No effects
c. Clarity- Water clarity may be slightly impacted during construction activities; No long-term effect is anticipated.
d. Color- No effect
e. Odor- No effect
f. Taste – No effect
g. Dissolved Gas Levels- No effect
h. Nutrients- No effect
i. Eutrophication- No effect
j. Others as Appropriate- No other adverse impacts are anticipated from the project.

2) Current Patterns and Circulation: TBD

a. Current Patterns and Flow-
b. Velocity-
c. Stratification-
d. Hydrologic Regime-

3) Normal Water Level Fluctuations: TBD

4) Salinity Gradients: Not applicable

5) Actions Taken to Minimize Impacts: TBD

c. Suspended Particulate/Turbidity Determinations:

1) Expected Changes in Suspended Particulates and Turbidity Levels in Vicinity of Disposal Sites: Suspension of particulates and turbidity levels will increase during the construction of the bulkhead and stream bank stabilization. Impacts are expected to be short term.

2) Effects on Chemical/Physical Properties of the Water Column:

a. Light Penetration- Turbidity during construction activities may temporarily reduce light penetration through the water column within the work area.
b. Dissolved Oxygen- The project may have an insignificant and temporary impact on dissolved oxygen within the immediate work area during construction activities.
c. Toxic Metals and Organics- All sediment below Mean High Water (MHW) are assumed contaminated for all contract areas and shall be removed from the project area. All sediment will be tested to determine how the soil may be disposed. Finer sediments disruption during construction may occur. Best management practices will be employed to contain the sediment to within the Project Area to the greatest extent practicable.
d. Pathogens- The project will not cause any change in pathogen levels as no sewage or animal waste use or treatment is involved.
e. Aesthetics- Temporary short-term increase in turbidity are expected, but the water is naturally turbid within the study area.
f. Others as Appropriate- Not applicable

3) Effects on Biota:

a. Primary Production, Photosynthesis- Not applicable
b. Suspension/ Filter Feeders- Any filter feeding species within the immediate work area could be adversely impacted by the increased sediment and uptake.
c. Sight Feeders- Turbidity during construction activities could negatively impact sight feeding species although it is expected that most of these species will avoid the area during construction. The turbidity will be a temporary condition that will decrease once construction activities cease.

4) Actions Taken to Minimize Impacts: Best management practices (BMP) will be employed to reduce the area that could be impacted by turbidity (see A6).

d. Contaminant Determinations: Widespread contamination exists within the study area and within the broader Lower Passaic River. As such, all sediment below Mean High Water (MHW) are assumed contaminated for all contract areas therefore there is the potential, through excavation and sediment transport, to spread contaminants or expose sediment with higher toxin levels than existing surface material contamination levels. These impacts will be mitigated for through Best Management Practices (see A6). Additionally, all soil removed from this site

encountered in this area are assumed to be contaminated and shall be removed from the project area. All soil will be tested to determine how the soil may be disposed.

e. Aquatic Ecosystem and Organism Determinations:

1) Effects on Plankton: No effect.

2) Effects on Benthos: Any benthic species located within the project area at the time of construction will be removed as a result of excavation or will be buried during fill activities. Because there will not be a significant modification of the substrate, it is expected that recolonization of species similar to those inhabiting the project area prior to construction will occur through recruitment or drift from upstream populations after construction.

3) Effects on Nekton: No effect.

4) Effects on Aquatic Food Web: No effect.

5) Effects on Special Aquatic Sites:

a. Sanctuaries and Refuges Non applicable
b. Wetlands- Non applicable
c. Mudflats- Permanent impacts include loss of benthic habitat in areas in front of the new bulkhead which will be excavated and stabilized with gravel placed in front of the concrete cap and the area on the landward side of the bulkhead which will be earth filled. The footprint of these permanent impacts is minimal (<0.56 acres) and as such no permanent impacts to the Passaic River mudflats within the project area are anticipated.
d. Vegetated Shallows- Non applicable
e. Coral Reefs- Non applicable
f. Riffle and Pool Complexes- Non applicable

6) Threatened and Endangered Species: Based on a review of the U.S. Fish and Wildlife Service IPac planning tool there are 23 migratory birds of concern that may be affected by earth moving activities within the project area. NJ geo-web database review indicated that the tidal rivers, inland bays, and other tidal waters of the project area are considered foraging habitat for Little Blue Heron (*Egretta caerulea*), Glossy Ibis (*Plegadis falcinellus*), and Snowy Egret (*Egretta thula*). American Shad (*Alosa sapidissima)*, classified by the State of New Jersey as threatened, is found in the Lower Valley. In addition, there is a potential of Indiana bat, a federal and state endangered species, to occur within the project area due to its proximity to known hibernaculum. Due to the disturbed nature of the project area and the fact that proposed project does not significantly change the existing character of the project area, no impacts to state and federal species will occur. A tree clearing restriction of 1 April through 30 September will be included in the construction specifications as a contingency to protect any potential roosting Indiana bats within the project area.

7) Other Wildlife: Activities such as bulkhead replacement, minor excavation associated with the bulkhead, back fill of bulkhead, and stream bank stabilization will cause short term adverse

affect to EFH. Contaminated silty sediments exist on the river bottom within the project area and construction activities may temporarily affect migrant or resident species. Winter flounder spawning may be affected due to increased turbidity and sedimentation on eggs during the in water construction activities. The project is not expected to have significant adverse long-term impacts on waterfowl, upland birds or mammals in the Project Area.

8) Actions to Minimize Impacts: BMP's will be implemented to mitigate for impacts (see A6). Additionally, compensatory wetland mitigation for impacts to open water/mudflats has been negotiated with NJDEP. Consultation with NOAA- Fisheries has determined that short term affects on EFH should be mitigated with specific conservation recommendations (eg. observation of environmental windows and use of turbidity barriers) that would be included into the construction plan.

f. Proposed Disposal Site Determinations:

1) Mixing Zone: Not applicable

2) Determination of Compliance with Applicable Water Quality Standards: Fill will be clean construction material and will meet water quality standards.

3) Potential Effects on Human Use Characteristic:

a. Municipal and Private Water Supply – Not applicable
b. Recreational and Commercial Fisheries – Not applicable
c. Water Related Recreation- Temporary impacts to water related recreation may occur during construction, no long term impacts will occur. The project will make the area more amenable to future water recreation activities.
d. Aesthetics – The proposed project will not have a significant adverse impact on aesthetics. Due to contaminant issues all soil removed from this site will be removed from the project area.
e. Parks, National and Historical Monuments, National Seashores, Wilderness Areas, Research Sites, and Similar Preserves – No adverse effects are anticipated. A MOA with the appropriate resource agencies is in place and site monitoring will be conducted as needed.

g. Determination of Cumulative Effects on the Aquatic Ecosystem: The Council on Environmental Quality (CEQ) definition of cumulative impacts as found in 40 Code of Federal Regulation (CFR) Section 1508.7 is as follows: "Cumulative Impact is the impact on the environment which results from the incremental impact of the action when added to other past, present and reasonably foreseeable future actions regardless of what agency (Federal or nonfederal) or persons undertakes such other acts."

The purpose of accounting for cumulative impacts is to analyze the incremental affects from all recent, concurrent or near future projects that occur within the same functional ecological area as the Joseph G. Minish Waterfront Park and Historic Area Project.

The geographic area for cumulative impacts analysis is defined as the tidal brackish river section of the Passaic River; preliminarily defined as the portion that falls between River Mile 0 and River Mile 6 (just north of the Interstate 280 in Newark). This section of the Lower Passaic River represents a functional ecological zone linked by salinity, ecosystem type, tidal exchange, and dredging history. Due to the highly urbanized and degraded condition of the study area;

cumulative impacts to land-based resources are considered for all open space/park parcels within the study area.

Past actions include: 1) the portions of the bulkhead that have already been constructed by the USACE/NJDEP; 2) the Newark Riverfront Park and walkway; and 3) the 2012 USEPA completed Phase I Tierra Removal of 40,000 cubic yards of contaminated sediment and capping adjacent to the Diamond Alkali facility (downstream of the project area at River Mile 3).

Future actions include: 1) the EPA proposed remedy for the sediment in the lower 8.3 miles; 2) USACE/NJDEP Passaic River Main Stem Flood Risk Management Project, most alternatives are structural and include the addition of floodwalls and levees; 3) Phases II and III of the Joseph G. Minish Waterfront Park and Historic Area Project. Phase II proposes the construction of a pedestrian walkway and bicycle path. Phase III proposes recreation facilities, and enables the development of complementary facilities by others; and 4) Newark Riverfront Revival (NRR), an initiative of the City of Newark aims to re-connect Newark residents to the Passaic River waterfront. The initiatives revolve around revitalization of open space/parks (including the above mentioned Newark Riverfront Park).

The past and future actions considered have or could modify the Passaic River habitat through stabilization measures such as the addition of hard structures such as bulkhead and rip rap along the stream banks, removal and placement of sediment along the river bottom, clearing of vegetation along the stream banks, modification of the channel, and addition of pavement (Phase II and III) to the re-graded areas above stream bank.

These actions combined with the proposed action will temporarily increase turbidity in the Passaic River, temporarily degrading water quality and fishery habitat. Since the proposed action is located in a highly urbanized and degraded area that has undergone multiple disturbances, the cumulative impacts will be minimal. Impacts to open water/ mudflat accounts for < 1 acre of habitat and since the proposed project is the replacement of an existing deteriorating bulkhead, it is not expected that the overall extent of the mudflats will be significantly decreased. In water disturbance to the Passaic River will predominantly be temporary.

Land-based impacts due to potential Phase II and III addition of paths and recreational facilities and future activities of the NRR initiative will further decrease the amount of open space and permeable surface through addition of walking/biking paths and park facilities. The cumulative environmental impacts of these park plans will be minimal as the terrestrial habitat within the study area is extremely limited. Additionally, no mature, native vegetation will be cleared from the terrestrial habitat.

Potential cultural impacts stemming from implementing Phases II and III of the Joseph G. Minish Waterfront Park and Historic Area Project are addressed in the project's signed Programmatic Agreement (PA) (Appendix C). The City of Newark has been working with the USACE's PA for areas where their project actions on the Newark Riverfront Park overlap the area covered by the PA. They have also conducted their own cultural resources investigations in coordination with the New Jersey Historic Preservation Office. The USACE is preparing cultural resource documentation for the USACE/NJDEP Passaic River Main Stem Flood Risk Management Project as part of that specific project. Any cultural resource impacts associated the EPA project would be addressed by EPA. Potential impacts from work by other entities may be subject to cultural resources review under applicable regulations.

The past and future as well as the proposed action will increase the amount of hardened shorelines along the Passaic. However, the Lower Passaic River is channelized and dominated by hardened shorelines. Within the study area, the majority of the stream banks are comprised of hardened and deteriorating structures, with commercial and industrial buildings extending to the edge of the bank. It has been estimated that only 12% of the shoreline along the lower six miles of the main stem contains either areas with aquatic/riparian vegetation interspersed with bulkhead and/or riprap or areas of riprap with substantial overhanging riparian vegetation (Iannuzzi &Ludwig 2004). Resulting hydrodynamics leaves any remaining natural shorelines susceptible to erosion. The proposed bank stabilization will prevent further erosion of the stream bank within the project area, which will secure the park and can have water quality impacts. Therefore, the proposed action will not result in additional or increased adverse environmental or cultural resources impacts.

h. Determination of Secondary Effects on the Aquatic Ecosystem: No secondary effects on the aquatic ecosystem are expected from this project.

III. FINDINGS OF COMPLIANCE OR NON-COMPLIANCE WITH THE RESTRICTIONS ON DISCHARGE.

a. No significant adaptation of the Section 404(b)(1) guidelines was made relative to this evaluation.
b. The objective of providing stream bank protection and preventing erosion necessitates the completion of Phase I of the Minish Park Project.
c. The proposed activity will not violate the Toxic Effluent Standards of Section 307 of the Clean Water Act.
d. The proposed disposal operations will not harm any Federal or state endangered species or its critical habitat under the Endangered Species Act of 1973.
e. The proposed discharge of fill material will not result in significant adverse effects on human health and welfare, including municipal and private water supplies, fish, wildlife, and special aquatic sites. The life stages of aquatic life and other wildlife will not be significantly affected. Significant adverse effects on aquatic ecosystem diversity, productivity and stability, and recreational, aesthetic and economic values are not expected to occur.
f. Appropriate steps to minimize potential adverse impacts of the discharge of fill material include the implementation of an erosion and sediment control plan and judicious engineering practices.

MITIGATION
BASELINE SITE ASSESSMENTS

893. Third River- Confluence with Passaic River

Location: River reach between the mouth of the Third River and Route 3 in Clifton, NJ.
Size: 15.48 acres
Current Land Use: Open space, fringe habitat bounded by NJ 21.

Site Description: The Third River generally flows un-interrupted into the Passaic River and is tidally influenced in this lower stretch. Much of the land use in this area is corporate/industrial or residential. Route 21 runs along the Passaic through its confluence with the Third River and there is a retention wall along the Passaic River side of this site. There is a good portion of forested fringe habitat at the bottom stretch of the Third River along both banks. The area at the south west bank of the Third River has a large un-developed portion of land where an area of sedimentation has re-vegetated with invasive species. The east bank on the northern half of this site is landscaped, planted, and has a paved walking path along it as part of the condominium complex.

This site consists of approximately 3,000 linear feet of the Third River and surrounding wetlands and uplands as well as shoreline at the confluence of Third River with the Lower Passaic River located in Clifton Township. The surrounding environment consists mainly of a combination of residential and commercial developments and roadways, resulting in significant erosion and sedimentation within waterways. The middle third of the site includes two apartment complexes on the west shore of Third River and condominiums along the east shore. The lower third of the site includes a construction business as well as office building adjacent to Third River. In addition the site receives stormwater from State Route 3 and State Route 21 and adjacent businesses and residential developments. The eastern side of the unnamed tributary is bordered by a steep slope and residential development. Historic dumping has occurred along lower eastern side of Third River.

Wetlands: Forested wetlands occur along southern portions of the shore of this site. These wetlands are primarily vegetated with red maple, and silver maple. The majority of the majority of the streambanks along Third River within the site are relatively steep wetlands are lacking or have been replaced with cement and debris armament. The native herbaceous vegetation along we west streambank has been replaced with Japanese knotweed. Herbaceous vegetation along the east streambank, behind the condominiums, has been cut and removed by landscaping crews.
Uplands: Uplands along Third River within the site are forested primarily with silver and red maples, but riparian areas are dominated by Japanese knotweed. A narrow strip of forest runs alongside the river, tightly surrounded by development. Upland areas within the site are dominated by a number of nonnative and invasive species.
Stream Channel and Banks: Most of the streambank of the Third River within the site is steep with spots of erosion and areas of where the bank has been stabilized with cement or opportunistic debris. Cement, brick, and stone fill material is also present; very little of the river's original floodplain remains. Several large trees have fallen into the river within the site near the mouth, impeding drainage at higher flows.
Ecological Value: The ecological value of the waterways, their associated wetlands and uplands is fairly high, given that they are the only remaining vegetation buffer between the heavy development of the area and the waterway. Waterfowl, egrets and songbirds were identified within the very narrow site. However, upland and wetland habitat at the site are dominated by nonnative invasive vegetation, limiting ecological value. The forested riparian buffer between the surrounding commercial

development somewhat buffers the riverine habitat from upland impacts in this intensely developed region.

Restoration Recommendations (Applicable Target Ecosystem Characteristics):
Sediment Contamination – Potential dredging and/or capping of contaminated sediment based on sediment sampling.
Tributary Connections – Restoration to ≈2,503.10 linear feet of stream bed and banks and creation of ≈7.90 acres of flood plain in the vacant lot at the mouth of the Third River. Potentially, dredging and re-grading of elevations to counter balance sedimentation. Preserve and restore riparian buffer, remove invasive species and re-plant with natives.
Public Access – Creation of Greenway in collaboration with City of Clifton and Passaic River Coalition. Greenway would provide recreation and wildlife preservation.

Existing Site Specific Data Inventory

A. Survey, Maps and GIS: USGS digital raster graphic maps and NJDEP Regional Data inclusive of this site

B. Real/Estate/ Ownership: Anticipated local, public ownership.

C. Site History and Land Use: No data obtained.

D. Biological Studies/ Fauna: Third River Watershed Characterization Study (1999), Natural Resources Inventory (2003).

E. Biological Studies/ General Environment: Third River Watershed Characterization Study (1999), Natural Resources Inventory (2003).

F. Geotechnical: No data obtained.

G. Hydraulics and Hydrology: Third River Watershed Characterization Study (1999).

H. Water and Sediment: Third River Watershed Characterization Study (1999).

I. Historical and Cultural Resources: No data obtained.

References:

Clifton Health Department/Clifton Environmental Protective Commission. Third River Watershed Characterization Study. September 1999.

Passaic River Coalition. Natural Resources Inventory: City of Cifton. May 2003.

US Army Corps of Engineers
New York District

CRP 893 Third River (Mouth)

Newark Bay / Hackensack River / Passaic River

0 55 110 220 330 440 Feet

N
W E
S

894. Third River- Clifton Pond

Location: Pond is located between Route 3 and Oak St. in Clifton, NJ. Site begins ≈ 0.68 miles upstream from confluence with Passaic River.
Size: 30.83 acres
Current Land Use: Open space/wetland/pond

Site Description: This site consists of approximately 6,400 linear feet of the Third River and an unnamed tributary, Yantacaw Pond and surrounding wetlands and uplands located in Clifton Township approximately half a mile from the Third River's confluence with the Lower Passaic River. The surrounding environment consists primarily of commercial developments and roadways, resulting in significant erosion and sedimentation within waterways. The site includes Yantacaw Pond, which receives stormwater from State Route 3 and adjacent businesses, ultimately discharging to Third River via stormwater ditch between the pond and the river. The eastern side of the unnamed tributary is bordered by a steep slope and residential development. Historic dumping has occurred along this side of the tributary.

Wetlands: *Phragmites*-dominated emergent wetlands are present at the along the lower reach of the unnamed tributary and in and around Yantacaw Pond. Iron oxide-stained water was observed flowing in a small stream which apparently is the outlet of Yantacaw Pond flowing to Third River. Upstream portions of Third River within the site have relatively steep streambanks and wetlands are lacking.
Uplands: Uplands along the unnamed tributary are forested primarily with silver and red maples, but riparian areas are dominated by Japanese knotweed. A narrow strip of forest runs alongside the river in the central portion of the site, tightly surrounded by commercial development. Uplands along the Third River upstream of Yancataw Pond consist of a thin strip of forest between the river and adjacent developments, fragmented by several road crossings. Upland areas within the site contain a number of nonnative and invasive species.
Stream Channel and Banks: The unnamed tributary is channelized in the area adjacent to Costco, with significant erosion and undercut banks, but natural sinuosity is present in the lower reach where *Phragmites*-dominated wetlands occur. The tributary has significant presence of algae and anthropogenic debris. The substrate of the tributary varies from cement chunks to sand, gravel and cobble. Considerable streambank erosion occurs below the confluence of the tributary and the Third River, and also at a spot where stormwater from Route 3 directly enters the river. Most of the streambank of the Third River within the site is steep with spots of erosion and areas of where the bank has been stabilized with cement. Upstream of Route 3, displaced slabs of cement originating from shoreline stabilization have partially dammed the river. This area also contains a number of pipes crossing the river which are mostly buried into the riverbed. Streambanks upstream of Route 3 are generally steep, and some areas have cement retaining walls supporting adjacent development (i.e. light industry along Kingsland Road).
Ecological Value: The ecological value of the waterways, their associated wetlands and uplands is fairly high, given the heavy development of the area. Waterfowl, egrets and a black-crowned night heron were identified in Yantacaw Pond during the site visit. The forested riparian buffer between the surrounding commercial development somewhat buffers the riverine habitat from upland impacts in this intensely developed region. Turtles, carp, rainbow trout, and several small unidentified fish species were seen in the Third River at this site. The streambed under the Route 3 Bridge is stabilized with an articulated concrete block mattress which may impede fish passage at low flows, and the failed bank stabilization upstream of Route 3 likely blocks fish passage at most flows.

Restoration Recommendations (Applicable Target Ecosystem Characteristics):
Sediment Contamination – Potential dredging and/or capping of contaminated sediment based on sediment sampling.
Coastal Wetlands (freshwater) – Investigate potential to create ≈7.60 acres of forested wetlands in highlighted areas. Low elevations in these areas may require minimal re-grading. Removal of invasive species and re-planting with natives will enhance wetland function.
Tributary Connections – Restoration of ≈ 6,383.54 linear feet of stream bed and banks and re-connection of ≈14.21acres of forested floodplain. Potentially, re-grade elevations to counter balance sedimentation. Preserve and restore riparian buffer, remove invasive species and re-plant with natives. Re-assess culvert capacity in channelized and underground portions.
Public Access – Creation of Greenway in collaboration with City of Clifton and Passaic River Coalition. Greenway would provide recreation and wildlife preservation. School is located near site with underutilized parking lots. This area has great potential for park and playgrounds.

Existing Site Specific Data Inventory

A. Survey, Maps and GIS: USGS digital raster graphic maps and NJDEP Regional Data inclusive of this site

B. Real/Estate/ Ownership: Anticipated to be local, public ownership.

C. Site History and Land Use: No Data obtained

D. Biological Studies/ Fauna: Third River Watershed Characterization Study (1999), Natural Resources Inventory (2003).

E. Biological Studies/ General Environment: Third River Watershed Characterization Study (1999), Natural Resources Inventory (2003).

F. Geotechnical: No data obtained.

G. Hydraulics and Hydrology: Third River Watershed Characterization Study (1999).

H. Water and Sediment: Third River Watershed Characterization Study (1999).

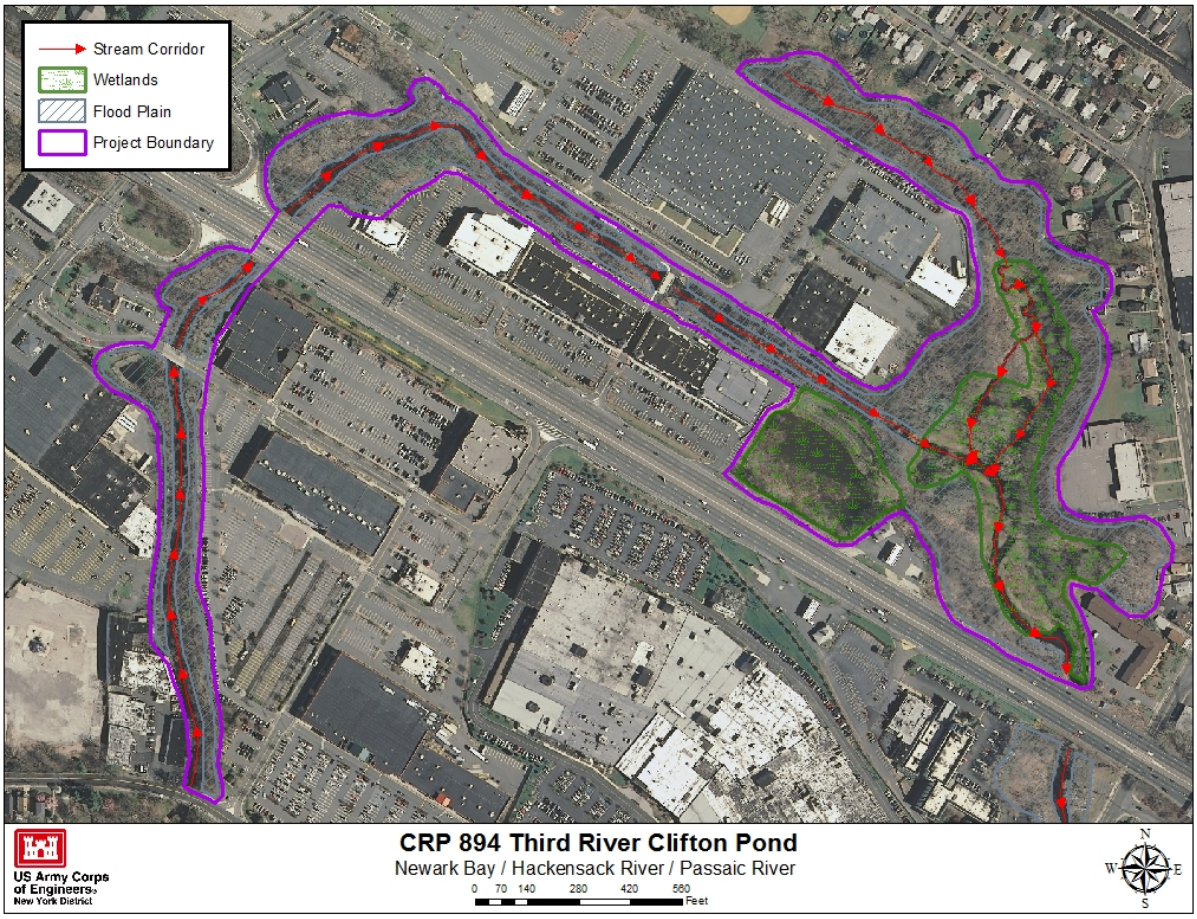
I. Historical and Cultural Resources: No Data obtained.

References:

Clifton Health Department/Clifton Environmental Protective Commission. Third River Watershed Characterization Study. September 1999.

Passaic River Coalition. Natural Resources Inventory: City of Cifton. May 2003.

NOAA Restoration Center Passaic River Restoration Opportunities Report. July 9, 2004.


Stream Corridor
Wetlands
Flood Plain
Project Boundary
US Army Corps of Engineers
New York District
CRP 894 Third River Clifton Pond
Newark Bay / Hackensack River / Passaic River
0 70 140 280 420 560
Feet
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S

897. Third River Glen Ridge Country Club

Category: Existing restoration, preservation and/or mitigation site.
Location: Near Glen Ridge Country Club at the confluence of the Third River and Springer Brook. Downstream boundary of site begins ≈ 6.65 miles from the confluence with the Passaic River.
Size: 25.74 acres
Current Land Use: Open space, residential.

Site Description: Forested strip of land lines the river and is surrounded by residential properties. At the confluence flooding is severe and the nearby homes generally have a great deal of damage. Currently, a bad rainfall will inundate only the golf course and back yards of homes of Broad St., but any flood will cause damage to the many homes on Lakewood, Clark and Augustus Streets. This area should be reserved for flood plain but there may be a COAH issue. Township of Bloomfield Master Plan (2002) has recognized the vacant land along the Third River at the end of Lionsgate Drive as an opportunity for preservation.

This site consists of approximately 6,000 linear feet of the Third River and its tributary Springer Brook, in Bloomfield Township. The upper 1,800 feet of the Third River at this site passes through the Glen Ridge Country Club golf course. Downstream of the golf course, a forested strip of land lines the river and Springer Brook which joins the Third River within the site. Residential properties surround much of Springer Brook and the Third River downstream of the golf course. Heavy rainfall can flood the golf course and homes on Broad, Lakewood, Clark and Augustus Streets. Bloomfield Township recently purchased the 13-acre Lion Gate property on which roads and structural drainage features had been constructed as part of a now abandoned residential development. The site is in close proximity to the NJDEP known contaminated Scientific Glass Apparatus Corp. site where glassware and mercury thermometers were manufactured.

Wetlands: Springer Brook passes through hardwood-dominated forested floodplain wetlands which are relatively undisturbed except for scattered piles of historic fill. Green ash, spicebush, skunk cabbage, and sensitive fern are common along Springer Brook. Wetlands are lacking along the generally steep streambanks of the Third River.
Uplands: Uplands within the site consist of the maintained turf of the golf course and a continuous but often narrow strip of hardwood forest located between the Third River and residential properties. Upland areas have considerable cover of nonnative species such as Norway maple, Asiatic bittersweet, Japanese knotweed, Japanese barberry, and escaped ornamental species including wisteria.
Stream Channel and Banks: Springer Brook has low, vegetated banks and a sand and gravel substrate. Part of the northern portion of the brook appeared to have been straightened/widened. Portions of the brook are vegetated with pennywort. Within the golf course, the Third River is of uniform width and has its banks stabilized with riprap. Elsewhere within the site, the Third River typically has steep banks which are actively eroding in some areas. The streambed consists primarily of gravel, cobble and broken bedrock. Springer Brook and Third River have good forest cover of overhanging trees. Anthropogenic debris is common in and along both waterways.

Ecological Value: With the exception of the golf course portion of the site, the ecological value of the waterways, their associated wetlands and uplands is fairly high. The continuity of forested riparian buffer between the surrounding residential developments provides unfragmented habitat for forest-dependent species in an environment where little forested habitat remains. The golf course portion of the site is of low habitat value, lacking a riparian buffer, instream cover and shade. A low head dam in the Third River at the southern end of the golf course impedes fish passage at normal flows.

Restoration Recommendations (Applicable Target Ecosystem Characteristics):
Sediment Contamination – Potential dredging and/or capping of contaminated sediment based on sediment sampling. Site is in close proximity to a NJDEP mercury known contaminated site (SGA, 2003).
Tributary Connections – Restoration to ≈6,044.45 linear feet of stream banks to include stabilization of eroded and unstable hardened shorelines to create a natural shoreline, particularly on the side that is not yet developed. Preservation of riparian buffer and creation of ≈9.91acres of flood plain through re-grading of elevations, removal of invasive species, and planting of native plants.

Existing Site Specific Data Inventory

A. Survey, Maps and GIS: USGS digital raster graphic maps and NJDEP Regional Data inclusive of this site

B. Real/Estate/ Ownership: Glen Ridge Country Club

C. Site History and Land Use: No data obtained.

D. Biological Studies/ Fauna: No data obtained.

E. Biological Studies/ General Environment: No data obtained.

F. Geotechnical: No data obtained.

G. Hydraulics and Hydrology: No data obtained.

H. Water and Sediment: No data obtained.

I. Historical and Cultural Resources: No data obtained.

References:

2002 Master Plan Township of Bloomfield Essex County, NJ

SGA Scientific Inc. Technical Review Panel Decision Document, Site remediation and Waste Management Program. 2003.


Stream Corridor
Flood Plain
Project Boundary
US Army Corps
of Engineers
New York District
CRP 897 Third River Glen Ridge Country Club
Newark Bay / Hackensack River / Passaic River
0 75 150 300 450 600
Feet
N
W
E
S

PROPOSED SEED SPECIES AND MIXTURES

Proposed Seed Species and Mixtures

Native Seed Mix	Lawn Seed Mix	Temporary Seed Mix
Perennial Wildflowers	tall fescue (*Lolium arundinaceum*)	annual rye grass (*Lolium multiflorum*)
butterfly weed (*Asclepias tuberosa*)	Kentucky bluegrass (*Poa pratensis*)	
zig zag aster (*Aster prenanthoides*)	perennial ryegrass (*Lolium perenne*)	
New England aster (*Aster novae-angliae*)		
indian paintbrush (*Castilleja coccinea*)		
oxeye daisy (*Chrysanthemum leucanth*)		
lance-leaved coreopsis (*Coreopsis lanceolata*)		
hardy ageratum (*Eupatorium coelestinum*)		
ox-eyed sunflower (*Heliopsis helianthoides*)		
perennial lupine (*Lupinus perennis*)		
showy evening primrose (*Oenothera speciosa*)		
beardtongue (*Penstemon digitalis*)		
summer phlox (*Phlox paniculata*)		
black-eyed susan (*Rudbeckia hirta*)		
brown-eyed susan (*Rudbeckia triloba*)		
early goldenrod (*Solidago juncea*)		
Grasses		
little bluestem (*Andropogon scoparius*)		
blaze big bluestem (*Andropogon gerardii*)		
niagra switchgrass (*Panicum virgatum*)		
blackwell side oats grama (*Bouteloua curtipendula*)		
trailway annual rye (*Lolium multiflorum*)		