

EXAMPLE ESA BIOLOGICAL ASSESSMENT

14th Street Bridges Rehabilitation Project

Shortnose Sturgeon Biological Assessment



d.
District Department of
Transportation

14th Street Bridges Rehabilitation Project

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14th Street Bridges Rehabilitation Project

Shortnose Sturgeon Biological Assessment

1. Introduction

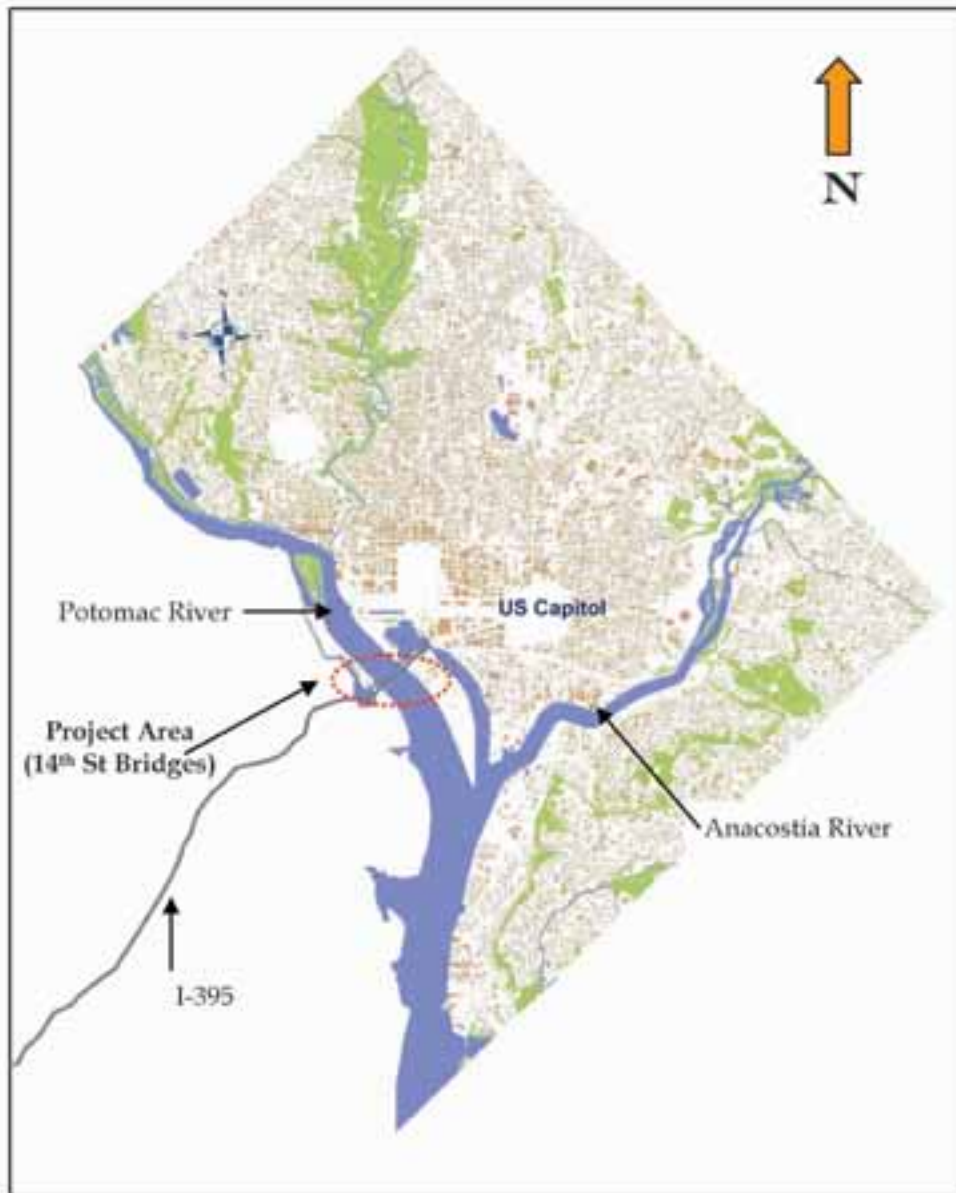
The District Department of Transportation (DDOT) and the Federal Highway Administration (FHWA) are preparing to rehabilitate the northbound and southbound 14th Street Bridges over the Potomac River. The two bridges connect Virginia, south of the river and the Washington DC, north of the river. This memo is being prepared to assess the effect of the 14th Street Bridge Rehabilitation project on the *Acipenser brevirostrum* (shortnose sturgeon). The shortnose sturgeon is federally listed as an endangered species, and recent surveys conducted by the U.S. Fish and Wildlife Service (USFWS) have documented the presence of shortnose sturgeon in the nearby Potomac River. Through Section 7 consultations, mandated by the Endangered Species Act, federal agencies are required to assess the impact(s) of federal projects on shortnose sturgeon.

This biological assessment for the shortnose sturgeon evaluates the impact of the 14th Street Bridge Rehabilitation Project and incorporates information from similar assessments for other projects on the Anacostia and Potomac Rivers: including the Woodrow Wilson Bridge (WWB) project (Potomac Crossing Consultants, 2000), the South Capitol Street project (DDOT, 2007), and the 11th Street Bridges project (CH2MHill, 2006).

2. Project Description

Action Area

The northbound 14th St. Bridge, also known as the Arland D. Williams Jr. Memorial Bridge, is a single bascule span structure with fifteen approach spans. The bridge, which carries four lanes, one-way northbound of 14th Street over the Potomac River and Ohio Drive, was originally constructed in 1950 and rehabilitated in 1976. The bridge is 78 ft. wide out-to-out, 62 ft. wide curb-to-curb, and 2,434 ft. long.



The southbound 14th St Bridge, also known as the George Mason Memorial Bridge, is a fifteen span continuous multi-steel plate girder structure with a composite concrete deck. The structure has two approach spans (including an exit ramp on the south approach span) consisting of concrete rigid frames supported on concrete abutments with stone fascia, and fourteen piers with stone fascia. The bridge, which carries four lanes of one-way 14th Street southbound traffic over the Potomac River and Ohio Drive, was originally constructed in 1960 and rehabilitated in 1984. The bridge is 66-1/2 ft. wide out-to-out, with a clear roadway width of 55 ft., and a total structure length of 2,265 ft.

Other bridges over the Potomac River in the vicinity of the 14th Street Bridge and the project include the Rochambeau Memorial Bridge, Metrorail, and CSX railroad bridges, upstream and down stream respectively (Figure 1).

Rehabilitation Activities

The rehabilitation work involves rehabilitation of some piers on north direction of the bridge and cleaning and structural repair work on the southern direction of the bridge. Rehabilitation activities on both sides of the bridge will require work inside the Potomac River and will be conducted from platforms, barges and other watercraft floating on the Potomac River. Weighted turbidity curtains capable of accommodating tidal fluctuations will be placed around all barges and other watercraft to be stationed in the river and will remain in place until the watercrafts leave the site. Testing of water, sediments and turbidity samples will be conducted at the location of each turbidity curtain in accordance with the requirements of the District Department of the Environment (DDOE) Water Quality Certification. Details of rehabilitation activities on each direction are discussed below.



Northbound 14th Street Bridge Rehabilitation Work

Rehabilitation on the northbound 14th Street Bridge will include the construction of cofferdams to repair and arrest the cracking of Piers 3, 4, 5, 6, and 14. Turbidity curtains around the cofferdams will be installed prior to cofferdams construction and remain in place to the end of the work. Specific pier rehabilitation work will include the following:

- Designing and installing a cofferdam system around each pier to facilitate the excavation and construction of the pier rehabilitation on "dry" land. This will require dewatering of the area inside the cofferdam.
- The casting of a tremie seal course in the bottom of the cofferdam and dewatering to expose the pier shaft and the footing. The work also includes any other work required to seal the bottom of the cofferdam.

- The removal of masonry cladding and concrete from the pier shaft. The disposal away from the site of all removed cladding; except those stones to be reinstalled, if any.
- Washing the entire exposed surfaces of the footing and pier shafts with low pressure, clean, potable water. Inspection of these surfaces for all sizes of cracks and spalls. Preparation of a location map detailing the width and length of the visible cracks and spalls of each surface.
- Roughening of the surface of and drilling holes in existing concrete and installation of dowels in the holes.
- Installation of reinforcement for the encasement and ducts and anchorage hardware for the post-tensioning system.
- Forming and casting of a reinforced concrete encasement around the footings and pier shafts, including supplying all reinforcement and incidentals as shown on the contract drawings. Self-consolidating concrete shall be used for the entire encasement.
- Installation of post-tensioning tendons and anchorage hardware and post-tensioning and grouting the system.
- Backfilling inside the cofferdam to the original elevation of the river bed.
- Removal and the disposal of the cofferdam away from the site. The turbidity curtain shall remain in place during cofferdam removal and will be removed and disposed of away from the site.

Other rehabilitation will include the design, installation and removal of temporary protection shields beneath and along portion of the superstructure repairs and as required during performance of the work to provide protection to pedestrians, vehicular traffic, bicycle traffic, parkland, river traffic and Potomac River from encroachment of construction items and debris.

The bituminous bridge wearing surface will be replaced with a Latex-Modified Concrete overlay on the fixed spans and on the cellular abutments. Additionally, the wearing surface on the bascule span and the approach slabs will be replaced with asphalt after other concrete repairs to the deck, top of cellular abutment and approach slabs and repairs to the steel deck plate of the movable span have been completed. Final rehabilitation activities will include the following:

- Strengthening of existing Trunnion Support 1, 2, and 3;
- Replacement of the elastomeric joint seal and rebuilding the bridge deck expansion joint, at the North Abutment;
- Repair of the other existing piers and the abutments concrete and masonry joints;
- Operator's House repairs;
- Removal of existing paint, blast cleaning and application of new coatings on site for portions of the steel structures of the existing Northbound 14th Street Bridge and other metal appurtenances at locations indicated on plans and to all new steel installed under this contract.
- Repair of concrete cracks, spalled and deteriorated concrete areas and otherwise defective concrete in the structure.

- Bascule shear lock repairs and bascule girder repairs and strengthening.

Southbound of 14th Street Bridge Rehabilitation Work

Rehabilitation on the southbound 14th Street Bridge will include removal and disposal of existing paint; blast cleaning and application of new coatings to all existing and newly installed steel structures and other metal appurtenance. Other repair work on the southbound structure will include deck repairs, deck joint repairs, parapet repairs, structural steel repairs, substructure concrete repairs, traffic railing repairs, pier masonry repairs, and other miscellaneous repairs.

Temporary protection shields will be installed beneath and along portion of the superstructure repairs during performance of the work to provide protection to pedestrians, vehicular traffic, bicycle traffic, park land, river traffic and Potomac River from encroachment of construction items and debris.

3. Status of Shortnose Sturgeon in Potomac River

The shortnose sturgeon was originally listed as endangered by the USFWS on March 11, 1967 under the Endangered Species Preservation Act (32 FR 4001, Appendix I). The National Marine Fisheries Service (NMFS) later assumed jurisdiction for the shortnose sturgeon under a 1974 government reorganization plan (38 FR 41370). Generally, USFWS manages land and freshwater species, while NMFS manages marine and anadromous species.

Shortnose sturgeon historically occurred in most large river systems along the east coast of North America. However, the species is now considered to be rare to absent from many of the rivers of its former range, including the Potomac. Shortnose sturgeon numbers have declined drastically from pollution and over fishing to the point where the species is severely depleted in most of its former range. It is stated in the South Capitol Street Project's biological assessment that in the past years, surveys for shortnose sturgeon within the Potomac River have found very few fish (DDOT, 2007).

The first published account of shortnose sturgeon in the Potomac River was 1876 record from a general list of the fishes of Maryland (NMFS, 1998). A U.S. Army Corps of Engineers sponsored netting study that took place in the late 1990s through 2000, which surveyed the Potomac River from the Chesapeake Bay to Little Falls, did not catch any shortnose sturgeon. Based on sampling of fish by the DC Fisheries and Wildlife Division, seven shortnose sturgeon have been documented in the Potomac River at the following locations: two at the mouth of the river near Ophelia, Virginia (May 3, 2000, and March 26, 2001); one at the mouth of Saint Mary's River (April 21, 1998); three at the mouth of Potomac Creek (May 17, 1996, and March 8, 2002) (NMFS, 2005).

In a Potomac River shortnose sturgeon netting study initiated in 2004 by the National Park Service, U.S. Geological Survey, and the USFWS, one adult female shortnose sturgeon with fully developed eggs was captured in September of 2005 just above Indian Head, Maryland off of Craney Island (Kynard et al. 2006). This fish was fitted with a radio transmitter, and its movements were tracked every seven to ten days. Based on an August 22, 2006 email from Matthew Breece, project manager for the study, the female sturgeon remained in the general area

of its capture until late March or early April 2006, at which time it moved up the Potomac River. On April 10, 2006 the egg-laden female arrived at Chain Bridge below Little Falls. This area of the Potomac River has suitable spawning habitat for sturgeon. However, the study team attempted to net spawned eggs and also looked for additional sturgeon near the location of the tagged female, but with no success. After seven days, the female returned downriver, and by May was located in an area near Port Tobacco, Maryland. A second egg-bearing female shortnose sturgeon was captured and fitted with a transmitter in April of 2006 in Pope Creek. This fish did not move upriver as the other tagged female. According to Matthew Breece, both tagged female shortnose sturgeon have remained within an area between Quantico Marine Base and Indian Head since June 2006.

4. Shortnose Sturgeon Habitat Characteristics

Shortnose sturgeons are found in rivers, estuaries, and the sea, but populations are confined mostly to natal rivers and estuaries. The species appears to be estuarine anadromous in the southern part of its range, but in some northern rivers it is "freshwater amphidromous" (i.e., adults spawn in freshwater but regularly enter saltwater habitats during their life) (NMFS, 1998). The species tend to migrate from the marine environment to fresh water to spawn during late winter-early summer (Shepherd, 2006). Young of the year (YOY) tends to remain completely within fresh water for 3 to 5 years before migrating to the near-shore saline environment. Direct evidence from the egg-bearing female shortnose sturgeon tagged in the fall of 2005 from the Potomac River, indicated that during the fall of 2005 and winter of 2006 the fish remained within freshwater just upstream of the saltwater wedge (Kynard et al. 2006).

Shortnose sturgeon typically spawn within channel habitats with firm bottom substrates (gravel, rubble, boulders) at the farthest upstream location to which they have access (NMFS 1998). Eggs are deposited on hard surfaces on the bottom where they adhere for 4 to 6 days until hatching (Shepherd, 2006). Spawning adults tend to migrate directly to spawning sites and then wander back downstream. According to information contained within the WWB shortnose sturgeon biological assessment, as well as discussions with researchers for the South Capitol Street Project biological assessment (Mike Mangold, USFWS, personal communication), it is presumed that the primary, and possibly only potential spawning location in the Potomac River is just below Little Falls a short distance from the action area (DDOT, 2007). Hatched embryos would likely remain near the point of hatching until their yolk-sac had been absorbed before beginning to move downstream (Richmond and Kynard 1995). These YOY would likely remain in deeper channels within the fresh water portion of the Potomac River, and would not be expected to move downstream.

Shortnose sturgeons are considered to be benthic omnivores, and their diet shifts during different life stages (NMFS 1998). Juveniles feed primarily on insect larvae and small crustaceans, while adults feed primarily on small molluscs (Dadswell et al. 1984). However, some older juveniles and non-spawning adults may move upstream to feed on shallow shoals that support submerged aquatic vegetation (SAV). Asiatic clam is the likely food source of adult shortnose sturgeon in the upper Potomac River.

5. Analysis of Effects on Shortnose Sturgeon

Direct and Indirect Effects

A Final Recovery Plan for the shortnose sturgeon was prepared by the NMFS in 1998 (NMFS, 1998). The plan indicates that projects that may adversely affect sturgeon include dredging, pollutant or thermal discharges, bridge construction/removal, dam construction, removal and relicensing, and power plant construction and operation. These activities could result in direct effects to shortnose sturgeon resulting in the taking of adult or young sturgeon during construction or through the disruption of migratory pathways. The term “take” as defined by the Endangered Species Act (Section 3(19)) means to harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or to attempt to engage in any such conduct. These types of effects seem unlikely since the likelihood of sturgeon being present in the action area is extremely low. Additionally, none of the activities stated in the Recovery Plan are expected to occur during the 14th Street Bridge Rehabilitation Project. All rehabilitation work would occur from barges, thus avoiding the need for dredging. There will be no demolition or major construction. Cofferdams will be installed to minimize impacts and their installation and removal may cause minor, localized resuspension of some sediment. Turbidity curtains will be used to provide sedimentation protection and prevent debris in the water. Other temporary protection shields would be installed as added protection.

Indirect effects could occur later in time if long term impacts to water quality or sturgeon habitat result from bridge construction. The project is not expected to have long term negative effects on water quality or habitat, and therefore, no indirect effects are anticipated from the project.

Cumulative Effects

The other project likely to occur over the Potomac River is the improvement from the 14th Corridor Project. This project is currently in the planning stages and may require more extensive construction than the 14th Street Bridge Rehabilitation Project. Additionally, the 14th Street Corridor Project will not occur at the same time as the 14th Street Bridge Rehabilitation Project. Other projects in the area include the Frederick Douglass Memorial Bridge Project and the 11th Street Bridges Project. However, these projects will occur over the Anacostia River, away from the action area. A Biological Assessment of the potential impacts to shortnose sturgeon from the 11th Street Bridges project was completed in early August 2006 (CH2M HILL 2006). The Biological Assessment concludes that the project is not likely to adversely affect shortnose sturgeon. In a letter dated August 29, 2006 (Appendix B), the NMFS concurred with that finding. Therefore, a cumulative adverse effect on shortnose sturgeon or an incidental taking of sturgeon is not anticipated. No other river projects are known.

6. Conservation Measures

The following conservation measures were taken from the WWB Project and modified for the 14th Street Rehabilitation Project since blasting and dredging will not occur. These methods have been proven effective in reducing impacts to fish during construction of the WWB.

Time of Year Restrictions

Time-of-year restrictions on rehabilitation activities (cofferdam installation and pier repair) will be used so that these activities will occur outside of the likely period of shortnose sturgeon occurrence. The life history of the shortnose sturgeon suggests that YOY sturgeon within the Potomac River could potentially be present in the project action area from February 15 to July 1. This time period will also satisfy DC DOH and DC DOH Fish and Wildlife Management Division (DCFWMD) time-of-year restrictions to protect spawning anadromous fishes in general. This would likewise protect any potential spawning/migrating adult sturgeon within the project area in the Potomac River as well. Therefore, the FHWA and DDOT propose to restrict rehabilitation work from February 15 to July 1 for the 14th Street Rehabilitation Project.

Technical Impact Reduction

Technical impact reduction techniques are structures or methods used to reduce potential impacts by reducing pressure waves from constant movement in the water in the immediate area. Impact reduction techniques such as physical barriers (e.g., cofferdams and bubble curtains) described in the Biological Assessments for the WWB (PCC 2000, 2003) will be used to mitigate potential impacts from underwater activities during this project. Cofferdams are the most widely used and are proven to substantially reduce impacts (Keevin, 1998). Turbidity curtains will also be used around pier repair work and badges to provide a physical barrier between the rehabilitation activities and fish. These curtains would also act to contain suspended solids from leaving the work site.

7. Conclusion

The 14th Street Rehabilitation Project will involve rehabilitation of five piers on north direction of the bridge and cleaning and structural repair work on the southern direction of the bridge. Rehabilitation activities on both sides of the bridge will require work inside the Potomac River and will be conducted from platforms, barges and other watercraft floating on the Potomac River. Weighted turbidity curtains capable of accommodating tidal fluctuations will be placed around all barges and other watercraft to be stationed in the river and will remain in place until the watercrafts leave the site. These curtains would also act to contain suspended solids from leaving the work site. Testing of water, sediments and turbidity samples will be conducted at the location of each turbidity curtain in accordance with the requirements of the DDOE Water Quality Certification.

There have been records of two adult female shortnose sturgeon within the Potomac River; however, based on studies and research conducted for the WWB Project and the South Capital Street Project, and habitat characteristics of the shortnose sturgeon, it is presumed that the primary, and possibly only potential location for the fish is in the upper Potomac River. The shortnose sturgeon was last recorded in the Potomac River, in June 2006. The likely food source for the shortnose sturgeon, Asiatic clams, is prevalent in the upper Potomac River. Although it is likely that the fish could swim towards the action area, conservation measures outlined above, including the use of cofferdams and avoidance of underwater blasting techniques and dredging,

will reduce the possibility for direct impacts to shortnose sturgeon. These techniques will include time-of-year restrictions to avoid potential conflict with sturgeon and other anadromous fishes. This time-of-year restriction will be from February 15 to July 1. Other protective measures will include techniques used by the WWB Project to reduce potential impacts to sturgeon and other fishes from shock waves associated with cofferdam installation, and pier repair.

For these reasons, based on the best available scientific and commercial data and professional judgment, is that the rehabilitation activities associated with the 14th Street Bridge Rehabilitation is not likely to adversely affect the federally listed endangered shortnose sturgeon.

8. References

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- Shepherd, Gary, 2006. Atlantic and Shortnose Sturgeons, December 2006, Washington D.C.



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of Transportation
Federal Highway
Administration

District of Columbia Division
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APR 14 2009

In Reply Refer To: HDA-DC

Ms. Mary Colligan
Assistant Regional Administrator for Protected Resources
National Marine Fisheries Service
Northeast Regional Office
1 Blackburn Drive
Gloucester, MA 01930-2298

Dear Ms. Colligan:

In compliance with 50 CFR §402.08, the District of Columbia Division of the Federal Highway Administration (FHWA) designates the District of Columbia Department of Transportation (DDOT) to act as FHWA's non-Federal representative for the purpose of conducting informal consultation with National Marine Fisheries Service regarding Section 7 of the Endangered Species Act.

The assigned designation of non-federal representation by FHWA to DDOT is specific to issues concerning the potential of occurrence regarding the presence of Shortnose Sturgeon (*Acipenser brevirostrum*) in the Potomac River located in Washington, DC. This informal consultation request for ESA section 7 is crucial regarding compliance with the National Environmental Policy Act (NEPA) as it relates to the 14th Street Bridges Rehabilitation Project.

If there are any questions, please contact Mr. Michael Hicks at (202) 219-3513 (michael.hicks@fhwa.dot.gov)

Sincerely,

Mark R. Kehrli
Division Administrator

cc: Faisal Hameed, DDOT
Konjit Eskender, DDOT
Julie Crocker, NOAA

**MOVING THE
AMERICAN
ECONOMY**



GOVERNMENT OF THE DISTRICT OF COLUMBIA
DEPARTMENT OF TRANSPORTATION



Transportation Policy & Planning Administration

May 20, 2009

Ms. Julie Crocker
Endangered Species Coordinator
National Marine Fisheries Service
Northeast Regional Office
Protected Resources Division
1 Blackburn Drive
Gloucester, MA 01930-2298

Dear Ms. Crocker:

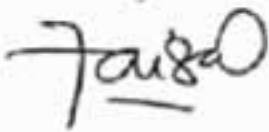
Re: Section 7 Endangered Species Act Consultation for the 14th Street Bridge Rehabilitation Project, Washington, DC

In compliance with 50 CFR §402.12, the District Department of Transportation (DDOT) is submitting for your review, an assessment of impacts relative to the potential of occurrence for the presence of the Shortnose Sturgeon (*Acipenser brevirostrum*) in the Potomac River located in Washington, DC. DDOT is the non-Federal representative of Federal Highway Administration (FHWA), as nominated by FHWA in its letter dated April 14, 2009.

As discussed in the enclosed Assessment document and in our early coordination in April 2009, it is our assessment that the 4th Street Bridge Rehabilitation Project poses no risk to the Shortnose Sturgeon or its habitat. Our analysis and assessment was prepared using information presented in the Woodrow Wilson Bridge Biological Assessment for Shortnose Sturgeon (2000, 2003), 11th Street Bridges Biological Assessment for Shortnose Sturgeon (2007), and South Capitol Street Biological Assessment for Shortnose Sturgeon (2008). Further information was obtained by coordination with Army Corps of Engineers, FHWA, and the DC Department of Environment (DDOE).

In accordance with the Endangered Species Act, we would like to request your concurrence that the 14th Street Bridge Rehabilitation Project is not likely to adversely affect the endangered Shortnose Sturgeon.

Sincerely,

A handwritten signature in black ink, appearing to read "Faisal Hameed". The signature is stylized and cursive.

Faisal Hameed
Manager,
Project Development & Environment Branch
202-671-2326

cc: Mike Hicks (FHWA)
Mark Clabaugh (DDOT)
Konjit Eskender (DDOT)
Austina Casey (DDOT)



UNITED STATES DEPARTMENT OF COMMERCE
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JUL - 1 2009

Faisal Hameed, Manager
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2000 14th Street, VW
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Diane Pavek
National Park Service
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Center for Urban Ecology
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Washington, DC 20007

Re: 14th Street Bridges Project

Dear Mr. Hameed and Ms. Pavek,

This is in response to correspondence regarding the 14th Street Bridges Rehabilitation Project. The District of Columbia Department of Transportation (DDOT) and the Federal Highway Administration (FHWA) are preparing to rehabilitate the northbound and southbound 14th Street Bridges over the Potomac River. The two bridges connect Virginia, south of the river and Washington DC, north of the river. As noted in the letter dated April 14, 2009 from Mark Kehrl of the US Federal Highway Administration (FHWA), the DDOT has been designated by the FHWA as a non-federal representative for the purposes of conducting consultation pursuant to Section 7 of the Endangered Species Act (ESA) of 1973, as amended.

DDOT, in cooperation with FHWA, proposes to rehabilitate the 14th Street Bridges which cross the Potomac River. DDOT, acting as the FHWA's non-federal representative, is the lead agency for the proposed action and is receiving funding from FHWA for the rehabilitation project. As the river bottom at the project site is under the jurisdiction of the National Park Service (NPS), the NPS is proposing to issue a Special Use Permit to DDOT. In a letter dated June 15, 2009, NPS indicated to National Marine Fisheries Service (NMFS) that they had reviewed the proposed action and DDOT's Biological Assessment and that they agreed that DDOT was the appropriate lead agency for the consultation and that the subject consultation letter would also encompass the NPS' permitting action. DDOT has made the preliminary determination that the proposed action is not likely to adversely affect any species listed under the jurisdiction of NMFS and has requested that NMFS concur with this determination.

Proposed Action

The northbound 14th St. Bridge, also known as the Arland D. Williams Jr. Memorial Bridge, is a single bascule span structure with fifteen approach spans. The bridge, which carries four lanes, one way northbound of 14th Street over the Potomac River and Ohio Drive, was originally



constructed in 1950 and rehabilitated in 1976. The southbound 14th St Bridge, also known as the George Mason Memorial Bridge, is a fifteen span continuous multi-steel plate girder structure with a composite concrete deck. The structure has two approach spans (including an exit ramp on the south approach span) consisting of concrete rigid frames supported on concrete abutments with stone fascia, and fourteen piers with stone fascia. The bridge, which carries four lanes of one-way 14th Street southbound traffic over the Potomac River and Ohio Drive, was originally constructed in 1960 and rehabilitated in 1984.

The rehabilitation work involves rehabilitation of some piers on the north direction of the bridge and cleaning and structural repair work on the southern direction of the bridge. The proposed project will include repairs to the bridge superstructure, including the roadway, as well as work on the operator's house located on top of the bridge. In-water work is limited to repairs on several of the northbound and southbound bridge piers and will occur within sealed sheet pile cofferdams. For the northbound bridge, there are thirteen piers across the river, five are planned for repairs, with a maximum of three piers under construction at any time. Structural work will include: installing cofferdams around the piers so that work can proceed in the dry, excavating around piers within the cofferdams, removing cladding, casting concrete pier jackets, and making repairs to the bascule span support system. Repairs to the southbound bridge will be performed simultaneously with northbound bridge work, and will involve cleaning and painting the superstructure steel and minor structural repairs. Prior to any work on the bridge structure, cofferdams will be placed around the bridge piers. All cofferdams will be constructed outside of the February 15 – July 1 time frame when listed species will be present.

NMFS Listed Species in the Action Area

The action area is defined as "all areas to be affected directly or indirectly by the Federal action and not merely the immediate area involved in the action" (50CFR§402.02). For this project, the action area includes the footprint of the two bridges as well as the area encompassed by the cofferdams and the underwater area where effects of sheet pile installation for the cofferdams (i.e., increase in suspended sediment and noise) will be experienced. This area is expected to encompass all of the effects of the proposed dredging project. The 14th Street Bridges are located approximately 12 km downstream of the Little Falls Dam at approximately river kilometer (rkm) 179.

The federally endangered shortnose sturgeon (*Acipenser brevirostrum*) is known to be present in the Potomac River. Through March 2008, the incidental capture of 73 individual shortnose sturgeon in Maryland waters of the Chesapeake Bay has been reported via the Fish and Wildlife Service's Atlantic Sturgeon reward program. Two fish were recaptured within one to two weeks of their initial capture date (February 1999 in the mainstem of the Bay and then in the Sassafras River and May/June 2000 in the mainstem of the Bay). All of these fish were captured alive in either commercial or recreational fisheries.

Most of the shortnose sturgeon documented in the reward program have been caught in the upper Bay, from Kent Island to the mouth of the Susquehanna River and the C&D Canal, in Fishing Bay and around Hoopers Island in the middle Bay, and in the Potomac River (Litwiler 2001, Skjeveland et al. 2000; Welsh et al, 2002). Twelve shortnose sturgeon have been captured in the

Potomac River since 1996. The eleven shortnose sturgeon captured in the Potomac River and reported via the FWS reward program were documented in the following locations: six at the mouth of the river (May 3, 2000, March 26, 2001, two on March 8, 2002, December 10, 2004, May 22, 2005); one at the mouth of the Saint Mary's River (April 21, 1998); one at the mouth of Potomac Creek (May 17, 1996); one at rkm 63 (March 22, 2006); one at rkm 57 (Cobb Bar; December 23, 2007); and, one at rkm 48 (March 14, 2008). Additionally, 1 adult female was captured by USGS researchers within the Potomac River (at rkm 103) in September 2005.

An ongoing tagging and telemetry study of shortnose sturgeon in the Potomac River began in 2004 (Kynard 2007). Three shortnose sturgeon (the 9/22/05, 3/22/06 and 3/14/08 fish mentioned above) have been tagged with CART tags (Combined Acoustic and Radio Transmitting). While the sex and reproductive status of the 2008 fish is unknown, the 2005 and 2006 fish were both females with late stage eggs. Tracking has demonstrated that the two females spent the majority of the year in a 79-km reach between river km 141–63. The 2005 female migrated upstream in spring 2006 to a 2-km reach (river km 187–185) containing habitat determined to be suitable for spawning (Kynard et al. 2007). The fish tagged in 2008 has not been detected by the telemetry array that is within the Potomac River. This suggests that the fish either shed the tag or that the fish has left the Potomac River. Information available to date indicates that the 2005 and 2006 fish have remained within the Potomac River since they were tagged, with both fish overwintering in the Potomac River near Mattawoman Creek. The occurrence of pre-spawning females in the Potomac River suggests that a spawning population of shortnose sturgeon continues to exist in this river system.

While an extensive study of shortnose sturgeon in the Potomac River has not been conducted, the data resulting from the tracking of the two females by Kynard et al. (2007) provides valuable information on habitat use and the likely distribution of the species within the River. The two tracked fish have been concentrated in a 79km stretch of the river, from rkm 141 to rkm 63, with excursions upstream of this reach limited to the spring time when one female made a presumed spawning migration to the area below Little Falls. The researchers also indicate that not much change would be expected in the size of the foraging-overwintering concentration area even with a larger sample size of tracked adults. The type of habitat used did not change based on season, with the majority of time spent in the channel or channel edge, with very few excursions to shoal habitat. The range of water depth used was 7.0 – 21.3 meters. The limited use of areas outside of the deep water channel is likely due to the lack of forage items in those habitats, which is supported by evidence of limited shortnose sturgeon forage items in the River (Kynard et al. 2007). As shortnose sturgeon use similar habitats throughout their range, it is possible to make some conclusions regarding the likelihood of shortnose sturgeon occurring in a particular location. Shortnose sturgeon are typically found in the deepest areas (i.e., greater than 3 meters) with suitable dissolved oxygen (i.e., greater than 5 parts per million); often this type of habitat occurs in deepwater navigation channels. While foraging, shortnose sturgeon can also be found in shallower water over mudflats of shellfish beds. During the winter or during the summer while seeking out thermal refugia, shortnose sturgeon are known to occur in deep holes. These assumptions regarding shortnose sturgeon distribution are well supported by the Kynard et al. (2007) study as they found that shortnose sturgeon were largely restricted to the deep water channel as forage items in shallower areas were limited.

Shortnose sturgeon have been documented to spawn between 8 and 18°C. Shortnose sturgeon eggs generally hatch after approximately 9-12 days (Buckley and Kynard 1981). The larvae are photonegative, remaining on the bottom for several days. Larvae are expected to begin swimming downstream at 9-14 days old (Richmond and Kynard 1995). This initial downstream migration generally lasts two to three days (Richmond and Kynard 1995). Studies (Kynard and Horgan 2002) suggest that larvae move approximately 7.5km/day during this initial 2 to 3 day migration. Based on water temperature data in the Potomac River from 2004-2007, water temperatures are expected to be between 8 and 15°C for several days between March 20 and April 23 each year (Kynard 2007). Temperatures typically reach 18°C by May 15.

As noted above, the only time of year when adult shortnose sturgeon are likely to occur this far upstream is while migrating to and from the presumed spawning area near Little Falls, likely between rkm 187 (Chain Bridge) and rkm 184.5 (Fletchers Landing) and return rapidly downstream into the tidal river after spawning. As spawning is limited to a several day period between late March and mid-May, adult shortnose sturgeon could be present in the action area throughout this time period. Due to the demersal, adhesive nature of shortnose sturgeon eggs, eggs will be restricted to the immediate spawning area and do not occur in the action area. Larvae are likely to migrate through the action area; based on the likely dates of spawning, larvae are likely to begin migrating from the spawning grounds between March 29 and June 11. As larvae migrate approximately 7.5km/day during their 2-3 migration period, and the action area is located within 7.5km of the spawning grounds, larvae would not be present past June 12. Based on the best available information, all life stages of shortnose sturgeon are only likely to be present in the action area between mid March and mid June of any year.

Effects of the Action

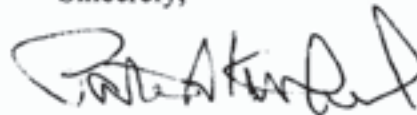
As noted above, the proposed project involves the rehabilitation of two bridges over the Potomac River. In-water work will be limited to structural repairs to existing bridge piers. Work will be accomplished within sheet-pile cofferdams and from barges temporarily sited within the river. An in-water work window will prohibit the installation of cofferdams between February 15 and July 1 of any year.

As noted above, shortnose sturgeon are only likely to occur in the action area between mid-March and mid-June; as such, no shortnose sturgeon will be present in the action area when cofferdams are installed (July 2 – February 14 only). Based on an analysis of steel sheet pile driving activities, effects of increased under water noise will be experienced only within approximately 10 meters of the pile being driven (Jones and Stoke 2007). As any shortnose sturgeon in the river are likely to be several kilometers downstream of the action area, no shortnose sturgeon will be exposed to increased levels of underwater noise resulting from the installation of the steel sheet piles that will compose the cofferdam. Additionally, as any increases in turbidity will be limited to the immediate area surrounding the sheet piles, no shortnose sturgeon will be exposed to these increases in turbidity. As such, the effects of cofferdam installation on shortnose sturgeon are discountable.

During the time of year when shortnose sturgeon could be migrating through the action area, work will be ongoing from barges and within the cofferdams. However, as only an extremely small percentage of the river will be enclosed within cofferdams, there will be sufficient zone of passage for migrating adults and larvae and any effect to migratory movements of any life stage of shortnose sturgeon. Further, while the cofferdams will preclude the use of the enclosed area by foraging shortnose sturgeon, the extremely small area affected combined with the location within a migratory corridor where only opportunistic foraging is likely to occur, makes any effects to the availability of prey for shortnose sturgeon insignificant. The presence of barges and work occurring on these barges will not affect shortnose sturgeon as it will not cause any changes in their behavior or otherwise effect any individuals. As all of the other work on the bridge (i.e., repainting, replacement and repair of decking) will occur above the water line where shortnose sturgeon do not occur, there will be no effect to this species from this work.

Based on the analysis that any effects to shortnose sturgeon from the proposed action will be insignificant or discountable, NMFS is able to concur with the determination that the proposed 14th Street Bridges rehabilitation is not likely to adversely affect any listed species under NMFS jurisdiction. Therefore, no further consultation pursuant to section 7 of the ESA is required. Reinitiation of consultation is required and shall be requested by the Federal agency or by the Service, where discretionary Federal involvement or control over the action has been retained or is authorized by law and: (a) If new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not previously considered in the consultation; (b) If the identified action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was not considered in the consultation; or (c) If a new species is listed or critical habitat designated that may be affected by the identified action. Should you have any questions about this correspondence please contact Julie Crocker of my staff at (978) 282-8480 or by e-mail (Julie.Crocker@Noaa.gov).

Sincerely,



Patricia A. Kurkul
Regional Administrator

Ec: Crocker, F/NER3
Nichols, F/NER4 – Annapolis