Draft Biological Evaluation
For the Issuance of Permit DC0000019
Washington Aqueduct
EPA Region III
Under the Clean Water Act
March 27, 2002

Federal Action:

The Federal action under consideration is the Environmental Protection Agency's (EPA) issuance of a revised National Pollutant Discharge and Elimination (NPDES) permit for the Washington Aqueduct.

The National Marine Fisheries Service (NMFS), which is the federal agency with responsibility for the shortnosed sturgeon (*Acipenser brevirostrum*) under the Endangered Species Act (ESA), has advised that the habitat at Little Falls is consistent with the preferred shortnose sturgeon spawning habitat.

Since 1993, EPA has overseen two water quality studies which suggest that, overall, the aluminum-bearing sediment discharges from the Aqueduct are not toxic to fish; however, if eggs or early life stages are present in the vicinity of the discharges during the Spring spawning season, the discharges may have a smothering effect upon them. As a result of these studies and the recommendations of a 1998 Fisheries Panel, EPA has focused upon protecting the most sensitive life stages of aquatic species while looking for a long-term solution to reduce or remove the solids discharge from the Potomac River.

Regulatory Background on the Proposed Permit:

The Clean Water Act (CWA) requires that all facilities which discharge pollutants from a point source into the waters of the United States are required to obtain an NPDES permit. NPDES permits may either be issued by the EPA or by a state which has an EPA-approved permitting program. In the instance of permits issued to facilities in the District of Columbia, EPA is the permitting authority.

A permit is typically a license for a facility to discharge a specified amount of a pollutant into a receiving water under certain conditions. The Washington Aqueduct, which provides drinking water for three wholesale customers, the District of Columbia and two areas in Virginia, currently operates under an NPDES permit that was issued on April 3, 1989. This permit allows for the discharge of residual solids at specified high river flows which result from the cleaning out of large sedimentation basins located at both Dalecarlia and Georgetown. These sediments are pumped into the Dalecarlia plant with the raw water that is used to make drinking water. Pumped raw water settles at the Dalecarlia Reservoir where approximately 51% of the solids are removed. From the reservoir, sediment containing process water is routed to either the

Dalecarlia sedimentation basins or the Georgetown sedimentation basins where aluminum sulfate is added to enhance solids removal.

NPDES permits are typically written for a five year period of time**.** If a permittee has timely applied for a new permit prior to the expiration date of the old permit, the terms and conditions of an expired permit remain in effect until a new permit is issued. In the case of the Washington Aqueduct, the Corps of Engineers made a timely application, so the terms and conditions of the expired permit have remained in effect since May 2, 1994.

The present permit contains monitoring requirements but no specific effluent limits on total suspended solids, total aluminum, total iron and flow. The permit specifically prohibits the discharge of floating solids and visible foam. The permit requires the permittee to meet a pH level of not less than 6.0 standard units nor greater than 8.5 units. The permittee reports its monitoring results to EPA on Discharge Monitoring Reports.

The present permit required the permittee to conduct a biological study to determine the effect of the discharge upon aquatic species. This requirement was met in February of 1993, when Dynamac, a contractor for the permittee, issued a report which concluded that there were no apparent water quality effects from the release of the Aqueduct effluent and sediments.

In 1995, EPA prepared a draft permit, however, for a variety of reasons this permit was never issued. Instead, the Washington Aqueduct and its customers agreed to engage in a second study intended to further define the effects of the discharge upon the Potomac River. The study plan was approved in 1999 and on October 4, 2001, a final report was issued. In addition to the 2001 Water Quality Study, EPA requested and the permittee agreed to perform a series of computer model runs demonstrating the effect of the discharges at lower river flows than specified in the Aqueduct's existing permit. The results of these studies showed that at lower river flows, the discharges are not toxic to aquatic species.

In addition to the 1993 and 2001 scientific studies, in April 1998, EPA entered into an Interagency Agreement (IAG) with the U.S. Fish and Wildlife Service (FWS). The purpose of the IAG was to determine whether or not there were any cost-effective, short-term remedies which could be implemented prior to issuance of a reissued NPDES permit, which would avoid potential impacts to fish species that migrate or spawn in the Potomac River in the vicinity of the Aqueduct discharges. This effort involved creation of the Fisheries Panel, which issued the 1999 Report of Panel Recommendations.

Now that the studies are complete, EPA is planning to issue a revised permit. EPA plans to public notice a draft permit on March 28, 2002 and anticipates that a final permit will be issued in the Fall of 2002. Please refer to the section entitled, *Manner in Which the Draft Permit May Affect Listed Species,* below, for a description of the terms and conditions of the draft permit.

The Scope and Results of the Water Quality Studies

As noted above, the customers agreed to enter into a scientific study of the Aqueduct discharges which included the following six parts:

1. An effluent dilution and fate study, where a computer simulated river flow and the suspended solid's plume to determine acute and chronic dilution factors as a function of effluent loading and river flow. Plume mapping studies were conducted at Outfall 002 (Dalecarlia Basin) and Outfall 003 (Georgetown Reservoir).

   This portion of the study showed the following results:

   a. At Outfall 002, 22 percent of the total solids released passed beyond the downstream of the model during a 24-hour run. The resulting depositional footprint estimated using the SED2D model was 1 mm thick in the vicinity of Outfall 002, and decreased to approximately 0.02 mm downstream in the vicinity of Roosevelt Island.

   b. From Outfall 003, approximately 13 percent of the discharged solids passed beyond the downstream end of the model during a 24 hour run. SED2D model indicated that the resulting depositional footprint typically exceeded 1 mm in the first 350 m, exceeded 0.2 mm for approximately 2,500 meters along the shallow near-shore region downstream, and decreased to approximately 0.05 mm in the vicinity of Roosevelt Island.

   c. For Outfall 002, a chronic mixing zone dilution factor (at the permitted river flow of 153 cms) is calculated to be 51. Using EPA's 1 hour float time approach, the acute dilution factor is calculated to be 169 in this rapidly moving portion of the Potomac River. The complete mix dilution factor for Outfall 002 is 1,160.

   d. At Outfall 003, the chronic mixing zone dilution factor is 4.3. The 1 hour average exposure approach used to determine the acute criterion results in a dilution factor of approximately 2.3. The complete mix dilution factor would be a factor of 136. This dilution factor could be increased (that is, improved) by modifications to the outfall, which are considered in the proposed permit.

2. Effluent toxicity testing to determine the toxicity of discharges to freshwater species. Toxicity tests were conducted on three different fractions of the Aqueduct effluent: whole effluent samples (for the acute toxicity tests), supernatant from the settled whole effluent (for the chronic toxicity tests) and the settled solids of the whole effluent (for the benthic tests).

   This portion of the study showed the following results:

a. The acute test results indicate that (with one exception) the whole effluent samples collected for the preliminary testing and for Rounds #1 through #4 were not acutely toxic to the test organisms. The 48- and 96-hour LC50 values were >100 percent effluent (TUa <1.0) for the waterflea (*D. Magna*), the fathead minnow (*P. Promelas*) and the striped bass (*M. Saxatilis*). One fathead minnow test showed some level of dose-related acute toxicity which resulted in a 96-hour LC50 value of 29.3 percent effluent.

b. The chronic toxicity test results showed that in two of the four rounds, the effluent was not chronically toxic. In the other two rounds, the lowest 7-day chronic value (ChV) for a fish or invertebrate was 35.4 percent effluent. Similarly, the Dynamac study concluded "that the effluent released from the sampled sedimentation basins had no effect on either morality or growth of fathead minnows."

c. For the benthic testing, the 10-day values (based on survival) from the four rounds of testing were>100 percent sample, but the effluent concentration causing a reduction in growth (the IC25 value) ranged from 6.9 to 32.8 percent effluent.

It should be noted that for the laboratory tests, test organisms were continuously exposed in the laboratory for a period of 2 - 10 days (depending upon the test) while actual water column exposure in the Potomac is transient, lasting approximately 4 - 8 hours. In practical terms this means that the above results are very conservative.

3. Effluent chemical characterization, using existing effluent discharge data to calculate preliminary projections of receiving water concentrations in comparison to water quality criteria.

The results show that total aluminum concentrations for the Dalecarlia and Georgetown basins averaged 2,273 and 1,510 mg/L, respectively, for the period 1997 to 2001. EA Engineering's data included both total and dissolved aluminum, and indicated that the percentage of dissolved aluminum is considerably less than one percent of the total aluminum value in the effluent samples. Although total aluminum concentrations are high, effluent toxicity testing indicates that the aluminum in the effluent samples is not highly bioavailable or toxic.

4. An analysis of the Potomac's fishery to determine the effect of the discharge upon key anadromous and resident fish species. Life history information for each species identified by the Study Plan was presented followed by a discussion of the potential effects of Aqueduct discharges on the fish community.

The report indicated that the potential impacts to the fishery would be primarily restricted to young life stages of some of the fish species of concern. Juvenile and adult fish would be expected to avoid the discharges if stressed. Larvae, and particularly eggs, however, would be

less able to avoid the sediment plume in the discharge areas.

Risks to young life stages of fish from the discharge would be from suspended solids (either in the water column or deposited on the substrate) and elevated aluminum concentrations. Studies from this water quality program indicate that a substantial quantity of solids falls to the substrate within a reasonably small area near the discharge (primarily from Outfall 003) and there could be moderate risk to several fish species of concern from sediment discharges when these young life stages are present. The primary risk would be from deposition of suspended solids onto eggs and larvae (causing smothering and reduced oxygen levels) which could affect survival. However, the area potentially affected represents a small portion of the Aqueduct study area.

5. An analysis of the Potomac's macroinvertebrate community to characterize the community prior to and after discharge.

   The results of this portion of the study are as follows:

   a. The substrate in the study area consists of boulders, bedrock and mud. Large bedrock formations were evident along the shoreline and also in mid-river where they are above the water surface during low tide. The softer sediments are in patches between or on these rock substrate areas. Sediments are continually redistributed following medium to high river flow events.

   b. A large load of sediment naturally moves through this segment of the Potomac during periods of increased flows, and deposits in the wider, slower current velocity segments of the river. This large amount of sediment compromised some of the tests.

   c. The benthic community consisted of tolerant species which, according to the report, is a consequence of the rigorous conditions to which they are exposed. A large amount of natural sediment load is transported through this area and the benthic community has adapted to this.

Based upon this and other observations during the study, EA has concluded that the Aqueduct discharge does not have a substantial or cumulative impact upon the tolerant benthic community present in this reach of the Potomac River.

6. An analysis of a modification of the aluminum criteria in the event the other parts of the Aqueduct Study show that this would be desirable. This portion of the study has not been authorized because the other parts of the Aqueduct Study did not indicate that modification was desirable.

<u>Results of Additional Modeling Runs</u>

In addition to the above Water Quality Studies, at EPA's request EA ran computer model studies of Washington Aqueduct Outfalls 002, 003 and 004. (As noted above, Outfall 002 drains all of the Dalecarlia sedimentation basins, Outfall 003 drains Georgetown sedimentation basin number 2 and Outfall 004 drains Georgetown sedimentation basin number 1). Each of the outfalls was modeled at the following river flow conditions:

- 3,490 mgd river flow, ebb tide, 3 hour clean out(Outfall 004 only)(this is the river flow specified in the current NPDES permit);
- 2,500 mgd river flow, ebb tide, 3-hour clean out(Outfalls 002 and 003);
- 1,500 mgd river flow, ebb tide, 3-hour clean out (Outfalls 002 and 003);
- 800 mgd river flow, ebb tide, 3-hour clean out (Outfalls 002 and 003).

The analysis that resulted shows that the sediments could be discharged from Outfall 002 at a river flow as low as 800 mgd with no adverse toxicological effect (either chronic or acute), and the sediments could be discharged from outfalls 003 and 004 at a river flow of 1,500 mgd with no adverse toxicological effect (either chronic or acute).

Additional computer generated studies showed that the District of Columbia Water Quality Standard would not be exceeded at the 800 mgd flow rate for Dalecarlia or 1,500 mgd flow for the Georgetown sedimentation basins.

The Study Area

The study area for the Washington Aqueduct Water Quality Studies includes an 8.0 km stretch of the Potomac River just above the Little Falls Pumping Station in Maryland south past Theodore Roosevelt Island to the Arlington Memorial Bridge.

List of Federally Identified Species Within the Study Area

The following federally endangered or threatened species have been identified by the Services as inhabiting or having the potential to be located within the study area and thus subject or potentially subject to this NPDES permitting action:

1) Shortnose Sturgeon (*Acipenser brevirostrum*) - The National Marine Fisheries Service through the U.S. FWS, has been involved with two projects within the Potomac River Basin which involved shortnose sturgeon. The first of these projects was a gill netting study which was carried out between 1998 and 2000, and covered certain areas of the Potomac River and Upper Chesapeake Bay. The second was a fisherman's reward program which began in 1996 and is continuing. It covers sturgeon in Maryland waters of the Chesapeake Bay and its tributaries.

The gillnet study included 24 sampling locations within the Chesapeake Bay. Five of the locations were on the Potomac River, e.g., Gunston Cove Deep, Deep area above Rt 301 Bridge,

Nanjemoy Deep, Pomonkey Hole Deep and Deep area below Rt. 301 Bridge. The Route 301 sites and Gunston Cove Sites are approximately 30 and 74 miles down river, respectively, from the discharge outfalls for the Washington Aqueduct.

No shortnose sturgeon were caught during the sampling at any of the locations in the Potomac River.

The sturgeon reward program returned 43 shortnose sturgeon of which, only four were caught in the Potomac. Two were caught at the mouth of the Potomac River (123 miles downstream of the Aqueduct), one at the mouth of the St. Mary's River in the Potomac (113 miles downstream of the Aqueduct) and one at the mouth of Potomac Creek (55 miles downstream of the Aqueduct). The only other confirmed report of a shortnose sturgeon being taken from the Potomac was in the vicinity of the District of Columbia in 1876.

In addition to the two projects described above, FWS conducted additional sampling in the mainstem tidal Potomac River. The area of this study was between Chain Bridge and the area known as Three Sisters. These studies were anchored gill net studies and did not result in the capture of any shortnose sturgeon. However, these studies did not follow the NMFS' protocol fro sampling for sturgeon. As a result, one of the requirements in the draft permit requires the permittee to conduct a gill net study overseen by NMFS.

Although the Services concede that no shortnose sturgeon have been caught in the vicinity of the Washington Aqueduct outfalls, they have concluded that the habitat at Little Falls (which is on the northwestern border of Maryland and the District) is consistent with the preferred shortnose sturgeon spawning habitat in other river systems. This habitat includes coarse grain sediment, appropriate flow conditions and fresh water. In addition, shortnose sturgeon usually spawn at the uppermost point of migration within a river, which in the Potomac is probably Little Falls.

<u>Other Federally Identified Species of Potential Concern in the Potomac River Basin</u>

Although the following species may be generally in other areas of the Potomac Basin, EPA and FWS have determined for the reasons stated below that the Bald Eagle and Dwarf Wedge Mussel do not occur in the study area. Therefore no further consultation is necessary with respect to these species:

1. The Bald Eagle (*Haliaeetus leucocephalus*) - The bald eagle has the potential to be found at many locations along the shoreline of the Potomac River. Due to the increase in the numbers over the years, the bald eagle is under consideration for delisting from the list of endangered and/or threatened species. Based on a revised recovery plan, which was prepared for the species in 1990, it was listed as endangered and, therefore, will be evaluated in this biological evaluation.

The bald eagle's primary foraging habitat are bays, supplemented by other more aquatic areas along the shorelines of rivers and lakes or perched in the trees bordering such rivers. In addition it may be found in freshwater marshes on hillocks, muskrat houses, bare sand or mud bars and isolated trees. There is well documented evidence to support its role as predator, scavenger and pirate, exploiting a variety of food sources such as birds, mammals, fish (consisting primarily of menhaden, large gizzard shad, white perch and catfish) and waterfowl depending upon food abundance. This role increases the primary and secondary susceptibility of the bald eagle populations to pesticides, toxic substances and other sources of potentially lethal pollutant contaminants.

The bald eagle may occur on an occasional or transient basis at almost any location along the Potomac River, and thus an individual could be present, albeit unpredictably and infrequently, within the study area. However, no concentration areas or nests are present within the study area. The nearest nests occur eight miles upstream of the upstream end of the area and three miles downstream of the downstream end of the area. Results of the water quality study for Aqueduct support the conclusion that Aqueduct discharges are unlikely to affect these nesting eagles or their productivity. The pollutants of concern in the discharge are suspended solids and aluminum. Results of the effluent fate and transport modeling indicate that detectable changes in water quality parameters for these pollutants do not appear to extend much beyond the Theodore Roosevelt Bridge. The closest bald eagle nest is more than three miles downstream from this area. Since nesting bald eagles generally forage with one mile of their nests, it is therefore unlikely, that eagles would be foraging in the plume-impacted area. In addition, the Aqueduct's discharges are intermittent, further reducing the likelihood of exposure of foraging bald eagles to the effluent. Indirect effects due to contamination of upstream food sources also appear unlikely, as aluminum is not a contaminant that biomagnifies in the food chain.

2. The Dwarf Wedge Mussel - Within the Potomac River Basin, the dwarf wedge mussel populations are known to be extant in only three small Potomac River tributaries –the Aquia Creek in Virginia and the Nanjemoy Creek and MacIntosh Run, both in Maryland. The confluences of these rivers are approximately 40, 50 and 80 miles, respectively, downstream of the southernmost Washington Aqueduct discharge. From these confluences, the precise location of the populations is a considerable distance upstream along each tributary (at least 11 additional miles upstream on Aquia Creek, 9 miles on Nanjemoy Creek and 8 miles on MacIntosh Run).

For the District of Columbia, two historical records exist (1887 and 1892) for the dwarf wedge mussel. Over the past decade since the dwarf wedge mussel was listed as endangered, extensive searches of the non-tidal Potomac River and the C and O Canal, both in Maryland and the District of Columbia, and the Potomac tributaries in Virginia have been conducted by a variety of groups. Other than the populations described above, no additional dwarf wedge mussel specimens have been found within the Potomac drainage. The best scientific evidence indicates that dwarf wedge mussels do not occur in tidal waters and there are no recent records for the dwarf wedge mussels in the mainstem Potomac above the head of tide.

Habitat requirements for the dwarf wedge mussels include high gradient, soft water, non-tidal habitat. It lives on muddy sand, sand and gravel bottoms in creeks and rivers of varying sizes, in areas of slow to moderate current and little silt deposition.

Manner in Which The Draft Permit May Affect Listed Species

The primary focus of the March 2002 draft NPDES permit is to protect the Spring spawning season on the Potomac River which, in accordance with the 1999 Report of Panel Recommendations, is defined as February 15 through June 15. During this period the permittee is prohibited from discharging sediments from the Dalecarlia sedimentation basins and may only discharge from either of the Georgetown sedimentation basins if there is a need for emergency maintenance.

The 2002 draft permit contains controls divided into four areas: 1) technology-based controls, 2) water quality based controls, 3) management of the sediment discharges, and 4) new fisheries studies.

1. The technology-based portion of the draft permit allows credit to the Washington Aqueduct for the approximately 51% of solids it currently removes from the incoming raw water. These solids settle out of the water in the Dalecarlia Reservoir and are subsequently dredged and land applied offsite. They are never returned to the Potomac. The technology-based portion of the permit also requires the permittee to perform an analysis of alternatives to increase the amount of sediment removed from 51% to no less than 80 % removed. This analysis must include engineering alternatives, costs and a proposed schedule for implementation for each of the options.

2. The water quality-based controls recognize the results of the two scientific studies (Dynamac, 1993 and EA, 2001) which demonstrate that the sediment discharges have a negligible affect upon the Potomac River. The permit allows the permittee to release the aqueous and the sediment portions of the discharge at lower river flows, in order to provide the ability to meet the prohibition on discharge during the spawning season.

3. In recognition of the potential sensitivity of the early lifestages of fin fish to these sediment discharges, this draft permit provides for the strict management of the sediment releases to the Potomac River. These management controls include, but are not limited to, the prohibition of discharge during the spawning season (except as noted above) and for the Georgetown basins, an increased solids release time and doubling of the amount of raw river water used to flush the basins.

4. The draft permit provides for the completion of a gill net study, which is to be overseen by the NMFS, to determine if the endangered shortnose sturgeon is present in this reach of the Potomac River.

A summary of each of the new permit conditions is as follows:

- Combines former permit numbers DC000329 and DC0000019. Public notice is also hereby being given regarding the termination of old permit DC0000329;

- Adds a new monitoring requirement for chlorine in the discharge of the Dalecarlia sedimentation basins and treated water blowoff through outfalls 002, 006 and 007. Since chlorinated water is not used to flush the Georgetown sedimentation basins, monitoring for chlorine at Georgetown is not required;

- Permittee may not discharge from Outfall 002, which is the discharge point for the Dalecarlia sedimentation basins, during the Spring Spawning Season which is defined as February 15 through June 15 each year, except for emergency maintenance conditions. However, from June 16 through February 14 each year, permittee may discharge the Dalecarlia sedimentation basins when the Potomac River flow is 800 million gallons per day or greater;

- Permittee may not discharge from Outfalls 003 or 004, which are the principal discharge points for the Georgetown sedimentation basins, during the Spring Spawning Season which is defined as February 15 through June 15 each year except for emergency maintenance (see the next item). From June 16 through February 14 each year, permittee may discharge the Georgetown sedimentation basins to the Potomac River when the river flow reaches 1500 million gallons per day or greater. In addition, permittee shall increase the amount of time for draining the liquid portion of the discharge from the present 12 hours to15 hours. The amount of time for flushing the sediments shall be increased from the present 4 hours to 8 hours. In addition, the permittee shall double the amount of raw river water used to flush and clean the Georgetown sedimentation basins;

- In recognition of the important part that the Dalecarlia and Georgetown sedimentation basins play in the treatment of drinking water, in the event of a mechanical malfunction necessitating emergency maintenance of any pumps, pipes, basins, valves or other appurtenance at Dalecarlia or Georgetown during the Spring Spawning Season, permittee shall notify the District of Columbia Department of Health and the EPA Region III of the need for such maintenance and the potential or actual need for an emergency discharge from the sedimentation basins. No such emergency discharge shall occur until such notification is given;

- The basis for technology-based limits and conditions is Best Conventional Control Technology (BCT) which is applicable to the Total Suspended Solids (TSS) and Best Available Technology (BAT) for aluminum and iron. The Best Professional Judgement (BPJ) analysis for BCT and BAT in this permit allows credit for the

approximately 50% solids removal already achieved by sedimentation in the Dalecarlia Reservoir. In addition, this permit requires completion of a conceptual study plan designed to identify additional engineering controls capable of achieving an additional 35% reduction in incoming solids. Please refer to section 7 for further discussion of EPA derived BPJ limits;

- The basis for Water Quality-Based Effluent Limits and conditions are the 1993 Dynamac Study and the 2001 Water Quality Study performed by EA Engineering and Sciences, LTD. These studies show that the aluminum bearing sediment is neither acutely nor chronically toxic to fish, however, during the spring spawning season there may be smothering of young species if they happen to be in the water column at the time of the discharge. This permit has a strict prohibition of sediment discharge during the Spring spawning season;

- The draft permit updates the administrative penalty provisions;

- Adds a requirement to submit Discharge Monitoring Reports to the U.S. Fish and Wildlife Service (FWS) and National Marine Fisheries Service (NMFS) so discharges can be evaluated for the effect, if any, on endangered species;

- Requires development and implementation of a Best Management Practices Plan. This requirement is carried over from old permit DC0000329;

- Permittee shall submit a plan which details options for the removal and offsite deposition of sediment from the reservoir and sedimentation basins;

- Permittee shall remove all rocks from the vicinity of Outfall 002 which impede the flow of effluent from that outfall;

- Adds a requirement to perform a comprehensive study, using NMFS protocols, to determine the presence of shortnose sturgeon in the upper tidal Potomac River; and

- The permittee shall redesign each of the outfalls which are located on public land to improve lower visual profiles and improve the aesthetic quality of each outfall.

Long-term Goal for Sediment Management

Reducing the sediment discharges from the Washington Aqueduct are part of a much larger sediment load problem in the Potomac River and Chesapeake Bay and must be viewed in that context. One must consider that the discharged sediments (except for the alum which is added as a flocculent), are not contaminants or pollutants that are added by the permittee as part of the water treatment process, rather, they are pumped into the plant with the raw Potomac River

water that is treated to become drinking water. This means that controlling the amount of sediment load upstream of the Aqueduct's intakes will have an effect upon the amount of sediment that is discharged back into the Potomac. Controlling upstream sources of contaminants, including TSS and metals, is a mandate for several large environmental programs including EPA's Total Maximum Daily Load program; the Chesapeake Bay Agreements; tributary strategies undertaken by the states of Maryland, Virginia, West Virginia and Pennsylvania; improvements in river water quality which result from the implementation of upstream municipal separate storm sewer (MS4) permits; and stream bank restoration projects which are underway by environmental organizations such as the Potomac Conservancy and the Maryland Department of Natural Resources.

Other opportunities for sediment control are offered by EPA's wet weather control programs, most notably the National Combined Sewer Overflow (CSO) Control Strategy. The CSO Strategy requires that municipalities, including the District of Columbia, and large municipalities upstream of the District, prepare and implement Long Term Control Plans (LTCP). Once approved, EPA is required to incorporate LTCP improvements into NPDES permits. The District of Columbia Water and Sewer Authority (WASA) is in the process of complying with this requirement and it submitted a draft LTCP to EPA in June of 2001.

The intent of this permit cycle, and possibly future permits, is to manage the sediment releases to protect the fisheries, perform studies to gauge the health of the river system and establish a plan for the phased construction of affordable engineered improvements to decrease or eliminate the Washington Aqueduct's sediment bearing effluent load to the Potomac until such time a permanent solution is built. At the same time, the upstream riparian improvements and other programs should reduce the sediment load (which will also decrease the amount of sediment released during the interim time period).

Summary Determination

As presented above, the focus of this draft permit is to more effectively protect the listed species and critical habitat of the Potomac River in the vicinity of the Washington Aqueduct discharges and to perform a more definitive study to determine if shortnose sturgeon are present at that location. All scientific studies performed to date show that the conditions contained in this draft permit are protective of the aquatic species and their habitat and District of Columbia Water Quality Standards. Therefore, it is EPA's opinion that the public notice and ultimate issuance of this draft permit is not likely to adversely affect the listed species or critical habitat. On the contrary, issuance of this permit is the first step in an overall plan to significantly reduce or eliminate these discharges from the Potomac River.

At this time, EPA has prepared the public notice the draft permit for a period of 30 days. . The purpose of the public comment period is to solicit comments from interested citizens or groups which EPA will consider prior to issuing a final NPDES permit. Since the issuance of this permit is a preliminary step in a continuing process, EPA expects that there will be

additional opportunity to reevaluate potential impacts upon threatened and endangered species and their habitats.