

April 17, 1998

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Federal Highway Administration  
1504 Santa Rosa Road  
Richmond, Virginia 23229

Colonel Robert H. Reardon, Jr.  
District Engineer  
Norfolk District, Corps of Engineers  
Fort Norfolk, 803 Front Street  
Norfolk, Virginia 23510-1096

Attn: Mr. Edward Sundra, FHWA  
Mr. David Byrd, Corps

Re: Route 40 near Stony Creek, Virginia  
VDOT Project #: 0040-091-V11,  
C502, B605

Gentlemen:

The U.S. Fish and Wildlife Service has reviewed project plans for the Virginia Department of Transportation (VDOT) project number 0040-091-V11-C502,B605. VDOT proposes to widen and upgrade the existing bridge on Route 40 over the Nottoway River in Sussex County, Virginia. Your November 25, 1997 request for formal consultation was received by the Service on November 28, 1997. This document represents the Service's biological opinion on the effects of that action on the dwarf wedge mussel (*Alasmidonta heterodon*) and Roanoke logperch (*Percina rex*) in accordance with Section 7 of the Endangered Species Act of 1973, as amended, (16 U.S.C. 1531 et seq.). A complete administrative record of this consultation is on file in this office.

#### I. CONSULTATION HISTORY

Consultation history regarding this project is provided in Appendix A.

## II. BIOLOGICAL OPINION

### DESCRIPTION OF PROPOSED ACTION

VDOT has applied for a federal permit and federal funds to replace the existing 2-lane bridge over the Nottoway River in Sussex County, Virginia near the Town of Stony Creek. Construction is scheduled to begin in October of 1998, with an estimated completion date of the summer of 1999. The bridge will be completed in phased construction in order to maintain traffic flow on Route 40.

The existing bridge is 174 feet long and 23 feet wide and is supported by 2 instream piers. The proposed bridge will be 197 feet long and 48 feet wide and will be supported by 2 instream pile bents with 10 - 18" x 18" piles each. The pile bents will have a combined footprint area of 192 square feet.

The proposed bridge will be built in two phases as follows:

- securing the existing bridge with 10 temporary, instream H-piles measuring 12" x 12,"
- demolishing one side of the existing bridge (all material will be captured to prevent its entry into the Nottoway River),
- driving 1 instream, 18" x 18," concrete test pile and 8 instream, 18" x 18," permanent concrete piles (4 piles per pile bent),
- removal of the test pile and completion of the first portion of the pile caps and deck of the new bridge,
- demolition of the remainder of the existing bridge and removal of the temporary H-pile supports,
- driving 12 instream, 18" x 18," permanent concrete piles (6 piles per pile bent),
- completion of the remaining pile caps and deck of the new bridge.

All instream construction will be accomplished by use of flexi-floats and, therefore, no construction equipment will be located on the river bottom. The test piles and the temporary H-pile supports will be removed to the level of the river bottom by the use of divers, heavy-duty pinchers, or by another method in one continuous operation (no double-handling within the river) so that no portions of these various elements enter the stream or are left protruding above the stream bottom. The existing instream bridge piers will be removed to the level of the river bottom in such a manner as to prevent the entry of concrete into the stream.

### RANGEWIDE STATUS OF THE DWARF WEDGE MUSSEL

Life History - The dwarf wedge mussel is a small (1.5 inches long) freshwater mussel. It is the only North American freshwater mussel that has a right valve with two lateral teeth and a left valve with only one tooth (opposite of all other North American species having lateral teeth). There is some sexual dimorphism in the shape and size of the shell. The dwarf wedge mussel lives in Atlantic drainage rivers and creeks of various sizes where the current is moderate. This species lives on muddy sand, sand, and gravel bottoms (USFWS 1993). To survive, it needs a stable streambed with little silt deposition and well-oxygenated water that is free of pollutants.

The dwarf wedge mussel is considered to be a long-term brooder. Long-term brooders typically spawn in late summer and become gravid in September, with glochidia larvae maturing in November. Michaelson (1993) estimated that glochidia release occurs in April in North Carolina. Three host fish have been found for this mussel: the tessellated darter (*Etheostoma olmstedi*), the Johnny darter (*E. nigrum*), and the mottled sculpin (*Cottus bairdi*) (Michaelson 1993). The mottled sculpin is not found in the principal range of the dwarf wedge mussel, but it is likely that the slimy sculpin (*C. congatus*), which occurs within this mussel's range, is a suitable host (Michaelson 1993).

Status of the Species Within its Range - The dwarf wedge mussel was Federally listed as endangered on March 14, 1990. It was found historically in the Atlantic coastal plain from North Carolina to New Brunswick in about 70 locations in 15 major drainages. It is now extant in only 28 locations in eight drainages in Vermont, New Hampshire, Connecticut, New York, Pennsylvania, Maryland, Virginia, and North Carolina. In Virginia, extant populations are known from Aquia Creek (Stafford County), Nottoway River (Nottoway, Lunenburg, and Sussex Counties), Cedar and Carter Runs (Fauquier County), Po River (Spotsylvania County), and South Anna River (Louisa County). Historic records are known from Mountain Run (Culpeper County), Marsh Run (Fauquier County), Blue River (Orange County), Ni River (Spotsylvania County), Maury River at Lexington (Rockbridge County), and South Anna River (Hanover County). Michaelson (1993) categorized the status of the Aquia Creek population as fair to good, while the populations in the South Anna and Nottoway Rivers were considered poor. He listed reproductive status for these three sites as unknown.

Threats to the Species - The main cause of decline for this species is water quality degradation (Michaelson 1993). Agricultural, domestic, and industrial pollution have resulted in the continuing decline and ultimate loss of this species from previously occupied habitat (USFWS 1993). Impoundments have also resulted in the elimination of mussels from their former habitat (USFWS 1993). Siltation from construction, agriculture, silviculture, and removal of streambank vegetation is also an important factor in the decline of many freshwater mussels, including the dwarf wedge mussel (USFWS 1993). Sediment loads in waterways during periods of high discharge may be abrasive to mussel shells. This erosion of the outer shell may result in the corrosion of the underlying shell layers (USFWS 1993). Feeding mollusks will close their valves during periods of heavy siltation to avoid

irritation and clogging of feeding structures (Loar *et al.* 1980). Excessive siltation can result in death from suffocation and interference with feeding (Ellis 1936). Land use changes may also affect the dwarf wedge mussel. Removal of streambank vegetation affects the physical and biological processes of streams (USFWS 1993). Tree removal alters the amount of organic material and light reaching the stream, impacting both the temperature and dissolved oxygen, which are critical factors for both mussels and fish (USFWS 1993).

Recovery Goals and Accomplishments - Most of the dwarf wedge mussel populations are small and geographically isolated from each other. This isolation restricts exchange of genetic material between populations and reduces genetic variability within populations. It is likely that several of these populations are now below the level required to maintain long-term genetic viability. The small population sizes also make this species vulnerable to over-collecting. To recover this species (i.e., remove it from the Federal list of threatened and endangered species), habitat with extant populations must be protected and enhanced and populations must be established or enhanced within rivers and river corridors that historically contained the species (USFWS 1993).

#### RANGEWIDE STATUS OF THE ROANOKE LOGPERCH

Life History - The Roanoke logperch was listed as an endangered species on July 18, 1989 (50 CFR 17.11). *Percina rex* is a large darter in the Percidae family that reaches 144 mm (5.5 inches) total length. It is characterized by an elongate, cylindrical to slab-sided body, conical snout and complete lateral line. The back is dark green, sides are greenish to yellowish and the belly is white to yellowish.

The Roanoke logperch occupies medium to large warm-water streams and rivers of moderate gradient with relatively unsilted substrata. Habitat use by the species varies with age, spawning condition, and seasonal temperature (Burkhead 1983). During different phases of life history and season, every major riverine habitat is exploited by the logperch. Males are associated with shallow riffles during the reproductive period, whereas females are common in deep runs over gravel and small cobble, which are the observed spawning areas. Young and juveniles usually occupy slow runs and pools with clean sand bottoms. Winter habitat of all individuals is assumed to be under boulders in deep pools. Except in winter, all age classes are intolerant of moderately to heavily silted substrata (Burkhead 1983).

The species commonly lives five to six years (Simonson and Neves 1986). Males mature in two years and most females mature in three years (Burkhead and Jenkins 1991). Spawning occurs in April or May. In April of 1982, Noel M. Burkhead observed the spawning of Roanoke logperch. Two males approached a gravid female. Upon locating the female, the males displayed to each other and fought until the loser retreated. At spawning, the pair was located on the gravelly stream substrate and gametes were released by both sexes simultaneously in various locations within an approximately 20 centimeter area. After eggs are laid, there is no subsequent parental care (Page and Swofford 1984).

To feed, the Roanoke logperch flips stones over with its snout and ingests the exposed prey. The species does not actively select certain taxa but consumes most food items encountered. Young feed

primarily on chironomid larvae and adults primarily consume caddisfly larvae and chironomids (Burkhead 1983).

Status of the Species Within its Range - There is limited knowledge on the Roanoke logperch's historical distribution. The species was first discovered by D.S. Jordan in 1889 in the upper Roanoke River near Roanoke, Virginia. In 1949, three specimens were taken in Sappony Creek, a tributary to Stony Creek and ultimately the Nottoway River. The logperch was taken in Stony Creek in 1966 and 1970 and the Pigg River in 1967 and 1968 (Jenkins 1977). In the mid-1970s, the species was reported from the Roanoke River near Brookneal, Virginia and one adult was taken from Town Creek, a Smith River tributary (Jenkins 1977). Currently, the largest population is found in the Roanoke River. Each population is found in relatively low densities.

The distribution of the Roanoke logperch was determined in 1985 and 1986 by Simonson and Neves (1986). The species was found to occur in four populations located in the upper Roanoke River upstream of Niagara Dam into the North and South Forks. In the North Fork of the Roanoke River, the species exists from just downstream of the State Route 603 bridge downstream to the Roanoke River. It has been found in Tinker Creek approximately 3.2 stream kilometers above its confluence with the Roanoke River (Adams 1986). The Roanoke logperch was found in the Pigg River system from just upstream of the Leesville Reservoir in Pittsylvania County upstream to the State Route 890 bridge. In 1986, one individual was found in Big Chestnut Creek. In the Nottoway River system, the species was found from the State Route 619 bridge downstream to just above the State Route 40 bridge. It has also been found at several locations in Stony Creek and in Butterwood Creek, a tributary to Sappony Creek. In the Smith River system, the Roanoke logperch has been found upstream of Philpott Reservoir to just upstream of Charity, Virginia (Simonson and Neves 1986).

Threats to the Species - The main causes of decline of this species are thought to be habitat loss and alteration due to turbidity and siltation, chemical spills, organic pollution, channelization, impoundments, and cold water releases (U.S. Fish and Wildlife Service 1992). Of these, siltation is thought to be the most widespread problem. Excessive silt deposition reduces habitat heterogeneity and primary productivity; increases egg and larval mortality; abrades organisms; and alters, degrades, and entombs macrobenthic communities (Burkhead and Jenkins 1991). In the Nottoway River, siltation generated by poor agricultural and logging practices is the major problem in the watershed.

Recovery Goals and Accomplishments - The Roanoke logperch was listed as endangered on August 18, 1989 (U.S. Fish and Wildlife Service 1992). The recovery goal is to maintain or restore viable populations of the logperch in a significant portion of its historical range (U. S. Fish and Wildlife Service 1992). This can be accomplished by: (1) protecting and enhancing habitat containing the logperch, and (2) expanding populations within river corridors that either now support this species or supported it historically.

Work on goal 1 has been initiated through riparian habitat restoration work. The Service, the Virginia

Department of Game and Inland Fisheries, Natural Resources Conservation Service, local Soil and Water Conservation Districts, and private landowners, have completed the following restoration projects to aid in the recovery of the logperch, and additional projects are planned:

- o In 1995, a riparian restoration project was completed on the North Fork Roanoke River in Montgomery County. The project included construction of a livestock exclusion fence (2,750 feet), an alternative watering system, native tree and shrub plantings in the riparian corridor, bank stabilization, and an armored stream crossing for livestock and equipment access.
- o In 1995, a restoration project was completed on the Nottoway River in Greensville County. The project included construction of a livestock fence (8,000 feet) and an alternative watering system.
- o In 1995, a riparian restoration project was completed on Stony Creek, a tributary to the Nottoway River, in Dinwiddie County. The project included construction of a livestock fence (5,500 feet), vegetative stabilization of an old feed lot, and an alternative watering system.
- o In 1995, a riparian restoration project was completed on an unnamed tributary to the Nottoway River in Nottoway County. The project included construction of a livestock fence (800 feet) and an alternative watering system.

More extensive habitat protection and restoration, through reductions in nonpoint runoff and restoration of wooded riparian areas, will be needed to accomplish goal 1. No such large-scale effort has been implemented. Efforts to control and minimize the effects of point discharges, chemical spills, and water withdrawals will also be necessary.

A portion of goal 2 has been met through the Ferguson et al. (1994) study, during which the known range of the logperch was documented further upstream in the North Fork Roanoke River. In addition, the Virginia Department of Game and Inland Fisheries have documented a range extension in the Nottoway River and possibly in the Smith River. Further data collection in the Meherrin River (currently planned for the spring of 1998) will also contribute to meeting this goal. No reintroduction efforts have been initiated due to lack of funding.

Reclassification of the logperch to threatened can occur when the likelihood of extinction in the foreseeable future has been eliminated by meeting the following criteria: (1) populations are shown to be stable or expanding and reproducing (as evidenced by sustained recruitment) in each of the following river systems: upper Roanoke, Pigg, Smith, and Nottoway; achievement of this criteria will be determined by population monitoring over at least a ten-year period, and (2) each of the known populations is protected from present and foreseeable threats that may interfere with the species survival (U.S. Fish and Wildlife Service 1992). After those two criteria have been met, the logperch may be delisted when habitat improvement measures have been developed and successfully implemented, as evidenced by a sustained increase in logperch population size and/or length of river reach inhabited within the upper Roanoke drainage and a similar increase in at least two of the other three logperch populations (Pigg, Smith, Nottoway) (U.S. Fish and Wildlife Service 1992). Considering the severe threats to this species due to continuing declines in water quality and habitat, recovery of the logperch currently seems problematic at best. Simonson and Neves (1986) stated that one or more logperch populations "may be in jeopardy of extirpation, and all but one population are of limited size." They concluded "The future outlook for the Roanoke logperch appears precarious without improvements or protection of existing water quality and habitat."

## ENVIRONMENTAL BASELINE

Description of the Action Area - The action area for this biological opinion consists of that portion of the Nottoway River between 200 meters upstream of the existing bridge and 800 meters downstream of this bridge.

Status of the Dwarf Wedge Mussel in the Action Area - Dr. Richard Neves of Virginia Polytechnic and State University conducted a mussel survey of the action area on July 11, 1996. During this survey, one specimen of the dwarf wedge mussel was found approximately 600 meters downstream of the Route 40 bridge. Survey procedures and sampling consisted of snorkeling the stream within the designated reach to collect and identify all live mussels and valves. Additionally, stream banks and margins were checked for muskrat middens and miscellaneous shells. The survey consisted of

approximately 19 man-hours.

Status of the Roanoke Logperch in the Action Area - Two fisheries biologists from the Virginia Cooperative Fish and Wildlife Research Unit at Virginia Polytechnic and State University, under the direction of Dr. Paul Angermeier, conducted a survey of the action area on June 19-20, 1996. The survey was conducted by use of an electrofishing boat. Sampled fish were released at their capture location. During this survey, two adult Roanoke logperch were captured, one approximately 190 meters upstream of the bridge and the other approximately 500 meters downstream of the bridge.

### EFFECTS OF THE ACTION

Direct Effects - In evaluating the effects of the Federal action under consideration in this consultation, 50 CFR 402.2 and 402.14(g)(3) require the Service to evaluate the direct and indirect effects of the action on the species. Direct impacts to the dwarf wedge mussel and Roanoke logperch associated with this project include the potential to kill and/or injure both species during construction through use of heavy equipment. Both species may be killed or stressed due to siltation of the stream from construction-related activity. Mussels are found at or below the surface of the streambed and thus may be crushed by driving of piles into the stream bottom. As stated above, direct effects will occur downstream and slightly upstream due to siltation. Siltation will result in harm to mussels and logperch through impairing their ability to feed as discussed in Threats to the Species.

Indirect Effects - Indirect effects are defined as those that are caused by the proposed action and are later in time, but still are reasonably certain to occur (50 CFR 402.02). Indirect effects to adult and larval mussels and logperch will result from siltation during rain events after construction. Removal and disturbance of streamside vegetation will encourage erosion from the site thereby increasing turbidity in the Nottoway River.

Cumulative Effects - Cumulative effects include the effects of future State, local, or private actions that are reasonably certain to occur in the action area considered in this biological opinion. Future federal actions that are unrelated to the proposed action are not considered in this section because they require separate consultation pursuant to Section 7 of the Endangered Species Act. Cumulative effects likely to impact the dwarf wedge mussel and Roanoke logperch in the future include ongoing siltation, and toxics inputs into the waterway from the bridge and roadway in the action area.

### CONCLUSION

After reviewing the current status of the dwarf wedge mussel and the Roanoke logperch throughout their range and in the action area, the environmental baseline for the action area, the effects of the proposed action and the cumulative effects, it is the Service's biological opinion that the action, as proposed, is not likely to jeopardize the continued existence of the dwarf wedge mussel and the Roanoke logperch. No critical habitat has been designated for these species, therefore, none will be

affected.

### III. INCIDENTAL TAKE STATEMENT

Sections 4(d) and 9 of the ESA, as amended, prohibit taking (harass, harm, pursue, hunt, shoot, wound, kill, trap, capture or collect, or attempt to engage in any such conduct) of listed species of fish or wildlife without a special exemption. Harm is further defined to include significant habitat modification or degradation that results in death or injury to listed species by significantly impairing essential behavioral patterns such as breeding, feeding, or sheltering. Harass is defined as actions that create the likelihood of injury to listed species to such an extent as to significantly disrupt normal behavior patterns, which include, but are not limited to, breeding, feeding, or sheltering. Incidental take is any take of listed animal species that results from, but is not the purpose of, carrying out an otherwise lawful activity conducted by the federal agency or applicant. Under the terms of Section 7(b)(4) and Section 7(o)(2), taking that is incidental to and not intended as part of the agency action is not considered a prohibited taking provided that such taking is in compliance with the terms and conditions of this incidental take statement.

#### AMOUNT OR EXTENT OF TAKE

The Service anticipates that incidental take of dwarf wedge mussels and Roanoke logperch may occur during construction in the form of harm of an unknown number of individuals due to physical disturbance, siltation, and other water quality degradation, in that portion of the Nottoway River from 200 meters upstream of the Route 40 bridge to 800 meters downstream of the bridge.

#### REASONABLE AND PRUDENT MEASURES

The measures described below are nondiscretionary, and must be implemented by FHWA and the Corps of Engineers so that they become binding conditions of any permit and federal funds issued to the applicant in order for the exemption in Section 7(o)(2) to apply. FHWA and the Corps have a continuing duty to regulate the activity covered by this incidental take statement. If the FHWA and the Corps (1) fail to require the applicant to adhere to the terms and conditions of the incidental take statement through enforceable terms that are added to the permit, and/or (2) fail to retain oversight to ensure compliance with these terms and conditions, the protective coverage of Section 7(o)(2) may lapse. The Service considers the following reasonable and prudent measures to be necessary and appropriate to minimize take of the dwarf wedge mussel and Roanoke logperch.

The Service believes that the following reasonable and prudent measures are necessary and appropriate to minimize take:

- o Construction must be conducted during the time of year when impacts to the dwarf wedge

mussel and Roanoke logperch reproductive cycles are minimized. Construction must be avoided during April through June and August through September when dwarf wedge mussels are releasing glochidia and spawning, respectively, and during mid-March through June when the Roanoke logperch is spawning.

- o Siltation of the water column of the Nottoway River must be minimized to the maximum extent possible to avoid stress or death of dwarf wedge mussels and Roanoke logperch.
- o Activity within the Nottoway River must be minimized to avoid siltation and physical injury to dwarf wedge mussels and Roanoke logperch. No machinery will be allowed in the river and human traffic in the river must be minimized and confined to the area of the existing bridge. Workbridge supports and cofferdams must be located as close to the existing bridge as possible.

#### TERMS AND CONDITIONS

In order to be exempt from the prohibitions of Section 9 of the Endangered Species Act, FHWA and the Corps must comply with the following terms and conditions, which implement the reasonable and prudent measures described above and outline the required reporting/monitoring requirements. Monitoring is not required for this project because only a small number of the dwarf wedge mussels and Roanoke logperch are likely to be affected by the proposed project and the anticipated take is minimal. These terms and conditions are nondiscretionary.

1. No instream work will be allowed during the time period of March 15 through June 30 and August 15 through September 30 (inclusive), of any year to allow for spawning of the Roanoke logperch and for spawning and glochidial release of the dwarf wedge mussel.
2. No mechanized equipment will be allowed in the river or its adjacent waters. Any equipment operated from the adjacent shoreline will operate from a rock construction pad or be placed on a mat to reduce sedimentation into the Nottoway River.
3. All floodplain and wetland fill must be removed from the construction area immediately upon the termination of construction and resultant exposed soils will be stabilized and seeded immediately following disturbance.
4. Vegetation removal adjacent to the streambank will be minimized. Trees will be felled on land rather than into the waters of the Nottoway River.

5. To minimize potential runoff, stumps/root wads will not be removed after vegetation clearing.
6. Human traffic within the river during construction will be minimized.
7. No excavation of the stream bottom will be allowed.
8. Sediment and erosion controls must be strictly adhered to in accordance with the Virginia Erosion and Sediment Control Handbook. All exposed soils will be stabilized and seeded immediately following disturbance.
9. All portions of the existing bridge will be removed from its existing location and will not be allowed to enter the river after removal from the bridge. All debris will be contained and removed from the site.
10. The applicant is required to notify the Service before initiation of construction and upon completion of the project at the address given below. All additional information to be sent to the Service should be sent to the following address:

Virginia Field Office  
U.S. Fish and Wildlife Service  
P.O. Box 99  
6669 Short Lane  
Gloucester, VA 23061  
Phone (804) 693-6694  
Fax (804) 693-9032

11. Care must be taken in handling any dead specimens of proposed or listed species that are found in the project area to preserve biological material in the best possible state. In conjunction with the preservation of any dead specimens, the finder has the responsibility to ensure that evidence intrinsic to determining the cause of death of the specimen is not unnecessarily disturbed. The finding of dead specimens does not imply enforcement proceedings pursuant to the ESA. The reporting of dead specimens is required to enable the Service to determine if take is reached or exceeded and to ensure that the terms and conditions are appropriate and effective. Upon locating a dead specimen, notify the Service at the address provided.

#### IV. CONSERVATION RECOMMENDATIONS

Section 7(a)(1) of the ESA directs federal agencies to utilize their authorities to further the purposes of the ESA by carrying out conservation programs for the benefit of endangered and threatened species. Conservation recommendations are discretionary agency activities to further minimize or avoid adverse

effects of a proposed action on listed species or critical habitat, to help implement recovery plans and other recovery activities, or to develop information to benefit the species.

- A. The project vicinity is rural and the riparian corridor of the Nottoway River is largely composed of wooded tracts and numerous agricultural fields, many of which come within very close proximity (i.e. 100 feet) to the river proper. Runoff from these agricultural fields may contain relatively high levels of nutrients and

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solids.

Vegetated riparian buffers can be very effective at removing substantial amounts of these pollutants before they enter the river. Furthermore, vegetated riparian corridors provide high quality habitat for wildlife such as reptiles and amphibians, migratory landbirds, waterfowl, wading birds, and mammals.

In order to improve water quality and habitat for the federally listed species in the project area, the Service recommends that FHWA or VDOT provide funding for riparian restoration upstream of the Route 40 bridge crossing. Various federal and state agencies, as well as private consulting firms, could perform riparian restoration in this area provided that funding were made available. Many options exist for obtaining access to these lands; however, purchasing permanent conservation easements from landowners seems to be perhaps the most effective. Please contact this office if we can provide further assistance with such an initiative.

B. In his final mussel survey results, Dr. Richard Neves stated:

“The lack of other species known to occur in the Nottoway River, . . . leads me to wonder about water quality in this river reach. Has there been water quality degradation emanating from the town of Stony Creek that has reduced the expected diversity and abundance of mussels at this site? As judged by physical habitat characteristics, mussel diversity should have been greater than the few species collected.”

In a later conversation, Dr. Neves stated that sources of such a potential water quality problem could be an upstream sewage treatment plant or changes in water chemistry that could occur due to the numerous borrow pits in the area. The Service recommends that FHWA or VDOT work with the Virginia Department of Environmental Quality to investigate such potential problems so that once identified, mitigative measures can be taken to improve water quality in the Nottoway River.

In order for the Service to be kept informed of actions that minimize or avoid adverse effects or benefit listed species or their habitats, the Service requests notification of the implementation of any of these conservation recommendations by FHWA, the Corps, and/or VDOT.

#### V. REINITIATION - CLOSING STATEMENT

This concludes formal consultation on the action outlined in the FHWA request. As provided in 50

CFR 402.16, reinitiation of formal consultation is required where discretionary federal agency involvement or control over the action has been retained and if: (1) the amount or extent of incidental take is exceeded; (2) new information reveals effects of the action that may affect listed species or critical habitat in a manner or to an extent not considered in this opinion; (3) the action is subsequently modified in a manner that causes an effect to the listed species or critical habitat not considered in this opinion; or (4) a new species is listed or critical habitat designated that may be affected by the action. In instances where the amount or extent of incidental take is exceeded, any operations causing such take must cease pending reinitiation.

If this opinion does not contain national security or confidential business information, the Service will provide copies to the appropriate state natural resource agencies ten business days after the date of this opinion.

The Service appreciates the opportunity to work with FHWA and the Corps in fulfilling our mutual responsibilities under the Endangered Species Act. Please contact William Hester of this office at (804) 693-6694, ext. 134 if you require additional information or wish to discuss our comments further.

Sincerely,

Karen L. Mayne  
Supervisor  
Virginia Field Office

Attachment

cc: Mr. Ricky Woody  
VDOT Headquarters, Richmond, VA

## REFERENCES

- Adams, W. 1986. personal communication. IN: Simonson, T.D. and R.J. Neves. 1986. A status survey of the orangefin madtom (*Noturus gilberti*) and Roanoke logperch (*Percina rex*). Virginia Polytechnic Institute and State University. Blacksburg, VA. 103 pp.
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