

October 19, 1992

To: Carol Carpenter, CBFO

From: Cindy Schulz, VFO

Subject: Final Opinion for John's Signature

Please have John sign the final opinion. Send the final opinion to the Corps via Federal Express. Send a copy to the City of Portsmouth via Federal Express:

Dept. of Public Utilities
City of Portsmouth
Attn: Jim Spacek
801 Crawford Street
Portsmouth, VA 23705
804-393-8691

Envelopes for the bccs are included, including one for me. Please see that Judy Jacobs gets a copy.

Thanks!!

Colonel Richard C. Johns
District Engineer
Norfolk District, Corps of Engineers
803 Front Street
Norfolk, VA 23510-1096

Attn: Mr. Greg Culpepper
Regulatory Branch

Re: CENAO-CO-R 92-0004-5, City of Portsmouth, Virginia

Dear Colonel Johns:

This responds to your August 3, 1992 request for formal consultation under Section 7(a)(2) of the Endangered Species Act (87 Stat. 884, as amended; 16 U.S.C. 1531 et seq.), regarding impacts of the Department of the Army (DOA) permit application CENAO-CO-R 92-0004-5 by the City of Portsmouth on the Dismal Swamp southeastern shrew (*Sorex longirostris fisheri*), a Federally listed threatened species. The City of Portsmouth has applied for a permit to build a water transmission line known as the Churchland transmission main in Suffolk, Virginia. The

purpose of this pipeline is to provide raw water to the City of Portsmouth for resale to the Cities of Chesapeake and Suffolk. This letter constitutes the U.S. Fish and Wildlife Service's (Service) Biological Opinion on this permit application, as required by Section 7(b) of the Endangered Species Act. This letter also provides the separate comments of the Service and the Department of the Interior pursuant to the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.), which are included following the Biological Opinion.

SCOPE OF THE BIOLOGICAL OPINION

This Biological Opinion covers the DOA permit application CENAO-CO-R 92-0004-5 by the City of Portsmouth (the City). The City has applied for a Federal permit to construct an 8.5-mile, 42-inch water transmission main from Nansemond Parkway (Route 337), slightly west of Shoulders Hill Road (Route 623), along the active Norfolk and Western Railway right-of-way and the abandoned CSX Transportation right-of-way to an existing water line at the intersection of Wilroy Road and Constance Road (U.S. Route 58) in Suffolk, Virginia (Figure 1). The total width of construction is 35 feet. Within this 35-foot right-of-way, a permanent easement of 15 feet will be maintained in an herbaceous or low shrub community after construction to allow for pipeline maintenance. Forested areas that are cleared during construction and are beyond the 15-foot maintenance easement will be replanted with species similar to those that were cleared. The project will include four creek crossings, Bennetts, Burnetts Mill, Shingle, and Quaker Neck Creeks, all of which drain into the Nansemond River.

For ease of discussion, the pipeline route can be divided into three sections (Figure 2). Area 1 will impact 0.40 acres of palustrine emergent wetlands, all within the maintenance easement. Although the information received from the applicant indicated that Area 1 included scrub-shrub wetlands, during a site visit on May 28, 1992 little woody vegetation was observed within the area to be impacted. Area 2 will impact 8.69 acres of palustrine forested wetlands (3.72 acres within the maintenance easement and 4.97 acres within the construction easement) and 0.01 acres of non-vegetated wetlands (within the maintenance easement). Total wetland impacts for this project are 9.1 acres. Areas 1 and 2 are those areas where the Dismal Swamp southeastern shrew (the shrew) is known to be present. However, Area 1 provides only marginal habitat for the shrew. For the remaining portion of the project (Area 3), south of the intersection of Route 337 and U.S. 58/460 to the intersection of Wilroy and Constance Roads, a Norfolk District Regional Permit 19 has been issued for the crossing of Shingle and Burnetts Mill Creeks and an unnamed ditch. Therefore, Area 3 will not be included as part of the Biological Opinion.

CONSULTATION HISTORY

Consultation history regarding this project is provided in Appendix A. During discussions on the draft Biological Opinion, the Service, the Corps, and the City agreed to the following:

1. No monitoring plan will be required for the trees planted in the cleared areas outside the 15-foot maintenance easement, because after project completion the City will no longer have access to the area outside the maintenance easement.
2. The City will be allowed 3 months after the issuance of the Corps permit to submit a mitigation plan to the Service for the permanent loss of shrew habitat. Service receipt of the compensation plan is guaranteed by the passing of a City resolution (Figure 4) and a Corps permit condition that does not allow the City to transport water through the transmission line until mitigation has been completed and approved by the Service.

BIOLOGY AND STATUS OF THE DISMAL SWAMP SOUTHEASTERN SHREW

The Dismal Swamp southeastern shrew is a tiny mouse-like mammal, weighing less than 0.2 ounces and measuring approximately 4 inches in length. Its distribution is considered to be coincidental with the boundaries of the historic Dismal Swamp (the Swamp), an extensive contiguous wetland complex that once occupied most of the low-lying land between Norfolk, Virginia and the Albemarle Sound in North Carolina. Historically, this wetland complex was maintained in a variety of successional stages (such as marshes, canebrakes, pocosins, and forest) by natural fires. The original Swamp ecosystem has been greatly reduced in size as a result of urban development and the clearing and draining of land for agriculture. Most of the remaining wetlands are now forested. About 197,680 acres of these wetlands still remain, more than half of which are preserved by the Service as the Great Dismal Swamp National Wildlife Refuge, created in 1974. The Service is attempting to restore some of the vegetational and successional diversity to the Swamp ecosystem.

Within the historic Swamp boundaries, the shrew is likely to exist at highest densities in early successional wetland habitats, such as cane stands, shrub-dominated areas, and young, open forests, which retain a fairly dense herbaceous understory. The shrew is also known to occur at high densities within cleared right-of-ways, such as those used for utility lines, as these areas often contain early successional wetland habitats such as scrub-shrub wetlands. Older wetland forests also provide habitat diversity important to the integrity and dynamic structure of the shrew population as a whole. Rose (1983) found that the shrew was most abundant in mid-successional, 12 to 15 year-old regenerating forests having a dense understory, moist organic soils, and moderate leaf litter. The main reasons for the shrew's decline are habitat loss and habitat modification, primarily draining and drying of wetlands, and interbreeding with the common upland subspecies (*Sorex longirostris longirostris*) (Rose and Padgett 1991).

EFFECTS OF THE FEDERAL ACTION ON THE DISMAL SWAMP SOUTHEASTERN SHREW AND ITS HABITAT

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 effects of the action on the species. Direct impacts to the shrew associated with this project include the potential for the killing of shrews by construction vehicles and heavy equipment used to clear vegetation and construct the pipeline and during stockpiling of materials and equipment. The shrew stays above ground under vegetation and does not burrow underground, and, thus may be crushed by vehicles, heavy equipment, and heavy materials, such as sections of pipe.

Additional direct effects of this project on the shrew are loss of habitat, both temporary and permanent. Although shrews will utilize recently cleared areas, as discussed in the Biology and Status of the Dismal Swamp Southeastern Shrew section, they are most abundant in 12 to 15 year-old woodlands. During pipeline construction and stockpiling of equipment, the cleared area will be unusable to shrews. Within the maintenance easement, 0.41 acres of marginal shrew habitat will be temporarily lost because it will be maintained in its original state after construction, and 3.72 acres will be permanently lost or become marginal habitat because it will be converted from palustrine forested wetlands to emergent or shrub-scrub wetlands. Within the construction easement, 4.97 acres of shrew habitat will be temporarily lost when palustrine forested wetlands are cleared, but replanted after construction.

OPINION OF THE SERVICE

The Dismal Swamp southeastern shrew is threatened primarily due to habitat loss and alteration, and the potential for interbreeding. Given the small proportion of the total shrew population that will be affected by this project and the fact that cleared woodlands outside of the maintenance easement will be replanted and eventually become forested, it is the opinion of the Service that this project is not likely to jeopardize the continued existence of the Dismal Swamp southeastern shrew.

INCIDENTAL TAKE

Sections 4(d) and 9 of the Endangered Species Act, 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 such 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. 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 an incidental take statement.

Pursuant to 50 CFR 402.14 (g)(7), the Service is to formulate a statement concerning the incidental take of a listed species. This statement must include the level of take that is anticipated to occur due to the Federal action. The Service is to develop, and the Federal agency and/or applicant is to implement, reasonable and prudent measures that will minimize the impacts of the action on the species. In addition, the Service must set the terms and conditions that must be complied with. If the level of incidental take is exceeded, formal consultation under Section 7 must be reinitiated.

The measures described below are nondiscretionary, and must be implemented by the Corps so that they become binding conditions of any permit issued to the applicant in order for the exemption in 7(o)(2) to apply. The Corps has a continuing duty to regulate the activity that is covered by this incidental take statement. If the Corps fails 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, the protective coverage of 7(o)(2) may lapse.

Amount and Extent of Take

Because the population density and total habitat of the Dismal Swamp southeastern shrew within the project area has not been determined and the actual number of shrews that will be killed during clearing of vegetation, stockpiling of equipment, and project construction is unknown, the amount of take shall be defined by the areal extent of the potential habitat affected. This incidental take statement authorizes the taking of Dismal Swamp southeastern shrews between the Nansemond Parkway (Route 337) in the Shoulders Hill area and the intersection of the Nansemond Parkway (Route 337) and U.S. 58/460 Bypass within the 35-foot construction easement resulting from construction activities, vegetation removal, stockpiling of materials, and permanent loss of habitat. The estimated acreage of shrew habitat within this area is 9.1 acres.

Reasonable and Prudent Measures

The incidental take statement provides measures that are necessary or appropriate to minimize take of the listed species. Such measures should decrease the level of take to the maximum extent possible and/or describe methods by which to replace the capability of the population or habitat to support preactivity levels. These measures are to be reasonable and prudent, meaning that the nature of the corrective action required is commensurate with the impact on the species/habitat (e.g., a minor effect on the species/habitat resulting from the action requires minor effort to minimize, while an anticipated significant, but not jeopardy, level of take may require substantially greater effort to minimize). Such measures are to be within the authority or capability of the agency or applicant to perform, and should not alter the basic purpose, location, scope, or duration of the Federally permitted action.

In order to be exempt from the prohibitions of Section 9 of the Endangered Species Act, the City of Portsmouth is responsible for compliance with the following reasonable and prudent measures. These measures must be incorporated as binding conditions of any DOA permit issued by the Corps:

1. The following measures will be taken during construction and maintenance activities associated with the project:

a. No use of vehicles or heavy equipment will occur outside the 35-foot construction easement.

b. No placement of fill material or stockpiling of materials will occur outside the 35-foot construction easement.

c. No ground disturbance or vegetation clearing will occur outside of the 35-foot construction easement.

d. To minimize disturbance of the litter layer and enhance tree resprouting, stumps/root wads will not be removed after vegetation clearing, if possible.

e. To minimize potential hydrologic alterations, the top two feet of topsoil will be stockpiled and kept covered, and then replaced immediately after the pipe is laid and restored to original elevations.

f. All work in wetlands will be done on mats where practicable, preferably during the driest period of the year (May-October).

g. Initial and maintenance clearing of wetlands will be done by hand where practicable.

h. No use of broad scale or aerial herbicide applications in wetlands.

2. Any cleared areas outside the 15-foot maintenance easement must be replanted with native species of trees, similar to those species that were removed during clearing. Within 6 months of the issuance of a Corps permit, the following information must be sent to and approved by the Service prior to site restoration: list of proposed trees by species, that includes quantities, sizes, plant condition (bare root, container, etc.), spacing, and plant viability condition; fertilizer formulations and rates; any geographical constraints on the origin of plant materials; timetables for planting; proposed methods to control wildlife depredation; and what plant materials (if any) that may be field collected and where they will be taken. Tree planting must be completed within 30 days of project completion, unless otherwise authorized by the Service.

3. To mitigate for the temporary loss of shrew habitat (5.38 acres), habitat known to be used by the shrew must be replaced at a 1:1 ratio. A total of 5.38 acres of palustrine forested wetlands must be purchased within one of the areas indicated in Figure 4, preferably adjacent to the pipeline right-of-way. The area purchased must be adjacent to other wooded habitat known to be used by the shrew. The City shall cause these wetlands to be preserved in perpetuity through the establishment of a permanent conservation easement on the property that precludes future development, draining, filling, or harvesting of commercial timber on the property. Once an appropriate site is found, the Service must be notified to allow us to visit and approve the site. A copy of the U.S.G.S. topographical map showing the location of the site, and acreage figures and habitat types (based on Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of Wetlands and Deepwater Habitats of the United States. U.S. Fish and Wildlife Service Publ. FWS/OBS-79-31. Washington, D.C.) for existing vegetation, including adjacent buffer and/or upland areas must be sent to the Service. The site must be purchased within 6 months of the issuance of the Corps permit.

4. To mitigate for the permanent loss of shrew habitat (3.72 acres), temporarily flooded palustrine forested wetlands must be created or restored. The permanent impacts to shrew habitat must be compensated at a 2:1 ratio, that is, 2 acres of wetlands restored or created for each acre impacted. A total of 7.44 acres must be restored or created. This compensation may be through restoration of prior-converted cropland or farmed wetlands to palustrine forested wetlands or through creation of palustrine forested wetlands within one of the areas shown in Figure 4. The restored or created wetlands shall be adjacent to existing forested wetlands that currently provide viable shrew habitat. The wetlands created must be planted with native tree species found in adjacent wetlands with a regional indicator status of facultative or wetter, as listed in the most recent version of the National List of Plant Species That Occur in Wetlands: Northeast (Region 1) (U.S. Fish and Wildlife Service. St. Petersburg, FL). The City shall cause these wetlands to be preserved in perpetuity through the establishment of a permanent conservation easement on the property that precludes future development, draining, filling, or harvesting of commercial timber on the property. The wetland compensation must be constructed simultaneously with the permitted wetland alteration and be completed and approved by the Service before the City is allowed to transport water through the transmission line. A compensation plan must be submitted to the Service within 3 months of the issuance of the Corps permit. The plan must be submitted in sufficient detail for engineering and biological review. The following information is required:

a. Plan and cross sectional drawings at a 1"=100' scale and at 1-foot contours.

b. Acreage figures and habitat types (based on Cowardin, L.M., V. Carter, F.C. Golet, and E.T. LaRoe. 1979. Classification of Wetlands and Deepwater Habitats of the United States. U.S. Fish and Wildlife Service Publ. FWS/OBS-79-31. Washington, D.C.) for existing and proposed vegetation, including adjacent buffer and/or upland areas.

c. Existing and proposed hydrology, including duration, and time of year of hydroperiod; surface and ground water elevations; and source of hydrology. Unless site-specific hydrologic information is available, the City will be responsible for obtaining this information for the site.

d. Detailed plans and specifications on any water control structures or measures required to maintain the hydrology of the site.

- e. List of proposed vegetation by species, densities, location, and elevation.
- f. Detailed map of soil types, volume and type of soils to be excavated or added to the site, volume and type of soil amendments to be added, and locations for obtaining or disposing of any soil materials.
- g. Detailed sedimentation and erosion control plan.
- h. Construction and reporting timetables and site inspection approval checkpoints. A critical inspection approval checkpoint will be ground elevations and water control structure elevations prior to vegetation planting.
- i. Landscaping specifications for plant materials to include: plant lists for seeding and planting that include quantities, sizes, plant condition (bare root, container, etc.), spacing, and plant viability condition; fertilizer formulations and rates; any geographical constraints on the origin of plant materials; names and addresses of acceptable commercial sources of plant materials; timetables for planting; proposed methods to control wildlife depredation; what plant materials (if any) that may be field collected and where they will be taken; any landscaping guarantees that will be required.
- j. A maintenance plan that includes methods to be used by the City for maintaining the wetland after construction including, but not limited to, such factors as maintenance of hydrology, removal of nuisance plant species, and replanting methods and requirements. The plan must insure the survival of 80% of the planted or recruited wetland tree species and seasonal wetland hydrology over a period of ten years from the completion of the construction of the site.
- k. A monitoring plan, to be conducted by the City, that will extend over a period of ten years from the completion of the construction of the site. The following information must be gathered in April and August of years 1, 2, and 3 and submitted to the Service by June 1 and October 1 of those years, respectively. The same information must be gathered during August of years 5, 7, and 10 and submitted to the Service by October 1 of those years: 1) a map and accompanying lists showing dominant vegetation and species conditions at defined transect and/or plot locations throughout the site in the herbaceous, shrub, and tree strata (using professionally accepted vegetation sampling techniques); 2) soil conditions; 3) indicators of surface and ground water hydrology; and 4) qualitative observations of fish and wildlife use of the site. In addition, surface and ground water levels at established locations throughout the site must be taken once a week during the period of March 15 through April 1 of years 1, 2, 3, 5, and 10 of the monitoring program. If replanting or regrading of the site to maintain the 80% tree survival rate is necessary, the requirement to monitor the site beyond 10 years may be imposed upon the City at the discretion of the Service.

Reporting and Monitoring Requirements

The terms and conditions of the incidental take statement require the City to notify the Service upon the initiation and completion of the construction of the pipeline and at the time points indicated in Conditions 2, 3, and 4 of the incidental take statement. The contact for these reporting requirements is as follows:

Virginia Field Office
U.S. Fish and Wildlife Service
Mid-County Center, U.S. Route 17
P.O. Box 480
White Marsh, VA 23183
(804) 693-6694

Upon locating a dead, injured, or sick endangered or threatened species specimen, initial

notification must be made to the nearest Service Law Enforcement Office. Contact either of the following Law Enforcement offices:

Division of Law Enforcement
U.S. Fish and Wildlife Service
8301 Willis Church Road
Richmond, VA 23231
(804) 771-2481

Division of Law Enforcement
U.S. Fish and Wildlife Service
P.O. Box 187
Yorktown, VA 23690
(804) 890-0003

Care should be taken in handling sick or injured specimens to ensure effective treatment and care in handling dead specimens to preserve biological material in the best possible state for later analysis of cause of death. In conjunction with the care of sick or injured endangered species or preservation of biological materials from a dead animal, the finder has the responsibility to ensure that evidence intrinsic to the specimen is not unnecessarily disturbed.

REINITIATION OF FORMAL CONSULTATION

This concludes formal consultation on this Federal action. As required by 50 CFR 402.16, reinitiation of formal consultation by the Corps is required if: (1) the amount or extent of incidental take is reached; (2) new information reveals effects of the action that may impact listed species or critical habitat in a manner or to an extent not considered in this Opinion; (3) the agency action is subsequently modified in a manner that causes an effect to the listed species or critical habitat that was 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 that are causing such take must be stopped in the interim period between the initiation and completion of the new consultation if any additional taking is likely to occur.

FISH AND WILDLIFE COORDINATION ACT REPORT

The following comments constitute the report of the Service and the Department of the Interior on this project and are submitted under provisions of the Fish and Wildlife Coordination Act (48 Stat. 401, as amended; 16 U.S.C. 661 et seq.).

Fish and Wildlife Resources in the Project Area

The description of the resources of the project site and the impacts associated with the construction and use of the pipeline included under the Service's Biological Opinion are pertinent to our comments under the Fish and Wildlife Coordination Act.

One of the Service's primary concerns is the protection of wetland habitat. Wetlands are valuable resource areas for a number of reasons. They can improve water quality by filtering out sediments and by absorbing excess nutrients and pollutants. They provide rich habitat for a variety of fish and wildlife species. Forested wetlands in particular play a major role in stream ecosystem quality by helping to control water temperature, contributing food matter, controlling upland runoff into streams, and stabilizing stream banks. Forested wetlands also provide habitat for mammals and birds and are used as breeding areas by amphibians. In the late 1970s, palustrine vegetated wetlands comprised 72% of Virginia's one million acres of wetlands. Palustrine forested wetlands were the most abundant of these, making up approximately 60% of the wetlands in the state. Since the 1950s, Virginia has lost approximately 7% (57,000 acres) of its palustrine vegetated wetlands, most of which were forested wetlands (Tiner and Finn 1986). The majority of the wetlands associated with and adjacent to this project are palustrine forested wetlands that provide important habitat for fish and wildlife, including endangered species.

In accordance with the Service's Mitigation Policy (Federal Register Vol. 46, No. 15, January 23, 1981), we have placed the wetlands in the project area in Resource Category 2, defined as habitat of high value that is relatively scarce on a national basis or in the ecoregion section. This determination is based on the high value of these types of wetlands to migratory birds, endangered and threatened species, and anadromous fish, as well as other species of fish and wildlife, and based on the fact that these wetland types are undergoing losses at both the national and ecoregion level.

Project Impacts

The Dismal Swamp southeastern shrew is known to occur at this site, therefore, individuals of this species have the potential to be killed during clearing of vegetation and construction of the project. A more detailed discussion of impacts to the shrew is provided in the Biological Opinion.

Area 1 will impact 0.40 acres of palustrine emergent/shrub-scrub wetlands. Area 2 will impact 8.69 acres of palustrine forested wetlands and 0.01 acres of non-vegetated wetlands. Total wetland impacts for this project are 9.1 acres. The cleared palustrine forested wetlands outside of the maintenance easement will be replanted with native tree species and eventually return to their original state. Therefore, although the wetland values will eventually return, until the planted trees reach the age of the cleared trees, the existing wetland values and functions will be lost. The cleared palustrine forested wetlands within the maintenance easement will be converted to palustrine shrub-scrub and emergent wetlands. Therefore, while some wetland functions will be retained, values specifically associated with forested wetlands will be lost.

Mitigation of Project Impacts

The Service's mitigation goal for Resource Category 2 habitats is no net loss of in-kind habitat value. In order to fully compensate for loss of resource values and provide for no net loss of in-kind habitat value, the Service recommends compensation for the loss of palustrine forested wetlands at a 2 to 1 ratio, that is, 2 acres of wetlands created for each acre impacted. Because habitat for the Dismal Swamp southeastern shrew is forested wetlands, the 2:1 mitigation required for the shrew will also serve as mitigation for the wetland impacts.

The Service's recommendation to the Corps under the Fish and Wildlife Coordination Act regarding mitigation of impacts to the Dismal Swamp southeastern shrew and other wildlife species that utilize this habitat type are the same as our recommendations given under the Endangered Species Act. We recommend that the conditions provided on pages 5-8 of the Biological Opinion be included as conditions of any DOA permit issued to the City of Portsmouth.

The Service appreciates the opportunity to work with the Corps in fulfilling our mutual responsibilities under the Endangered Species Act and the Fish and Wildlife Coordination Act. Please contact Cindy Schulz of our Virginia Field Office at (804) 693-6694 if you require additional information or wish to discuss our comments further.

Sincerely,

John P. Wolfli
Supervisor
Chesapeake Bay Field Office

REFERENCES

Rose, R. K. 1983. A study of two rare mammals endemic to the Virginia/North Carolina Dismal Swamp. Prepared for U.S. Fish and Wildlife Service. Newton Corner, MA.

Rose, R. K. and T. M. Padgett. 1991. Southeastern shrew. In Terwilliger, K., ed. Virginia's endangered species. McDonald and Woodward Publishing Company. Blacksburg, VA.

Tiner, R. W., Jr. and J. T. Finn. 1986. Status and recent trends of wetlands in five mid-Atlantic states: Delaware, Maryland, Pennsylvania, Virginia, and West Virginia. U.S. Fish and Wildlife Service, Region 5, National Wetlands Inventory Project, Newton Corner, MA and U.S. Environmental Protection Agency, Region III, Philadelphia, PA. Cooperative publication. 40pp.

Appendix A - Consultation History

04-04-92 The Service received a letter from HDR Engineering, consultants for the City of Portsmouth, requesting information on threatened and endangered species that may be impacted by the proposed project.

05-28-92 The Service participated in a site visit with the Corps and HDR Engineering.

06-02-92 The Service sent a letter to HDR Engineering providing information on threatened and endangered species that may be impacted by the proposed project.

07-02-92 The Service sent a letter to the Corps requesting further information on the project and providing items to be included in the Corps' request for formal consultation.

07-15-92 The Corps telephoned the Service to determine if the section of the project that does not contain shrew habitat could be permitted immediately.

07-22-92 The Service informed the Corps that the section of the pipeline between Route 337 and the intersection of Wilroy and Constance Roads (Area 3) could be permitted, as long as the alignment of the remaining pipeline route would not be affected.

08-04-92 The Service received a copy of the Norfolk District Regional Permit 19 issued to the City of Portsmouth for Area 3.

08-05-92 The Service participated in an on-site meeting with the Corps and HDR Engineering to discuss the pipeline crossing under Route 337 and its intersection with U.S. 58/460 Bypass.

08-05-92 The Service received the Corps' request for initiation of formal consultation.

09-21-92 The Corps requested a draft copy of the Biological Opinion.

09-29-92 The Service sent copies of the draft Biological Opinion to the Corps and the City.

(CSchulz:08/06/92)
(filename:chrchlnd.bo)

bcc: ARD/FWE, Newton Corner, MA
VFO, White Marsh, VA
(ATTN: Cindy Schulz)
VDGIF, Richmond, VA
(ATTN: Ray Fernald)
(ATTN: Karen Terwilliger)
Division of Natural Heritage
Virginia Department of Conservation and Recreation