

Appendix B



Planning team site visit

Findings of Appropriateness and Compatibility Determinations for Alternative B: The Service-preferred Alternative

- **Compatibility Determinations for Priority Public Uses, page B-1**
 - » Environmental Education, Wildlife Observation, Interpretation and Photography
 - » Public Deer Hunting
 - » Recreational Fishing
- **Findings of Appropriateness and Compatibility Determinations for Other Uses, page B-41**
 - » Cooperative Farming
 - » Firewood Cutting
 - » Research
 - » Retrieval of Hunting Dogs
- **Uses Found to be “Not Appropriate,” page B-95**
 - » Bicycling Off-road
 - » Camping
 - » Dog Training and Field Trials
 - » Horseback Riding
 - » Jogging Off-road
 - » Pets on Refuge Roads and Trails
 - » Picnicking
 - » Swimming / Sunbathing
 - » Use of All-terrain Vehicles
 - » Use of Pursuit Dogs for Hunting

COMPATIBILITY DETERMINATION

Project Title: Environmental Education, Wildlife Observation, Interpretation and Photography

Station Name: Rappahannock River Valley National Wildlife Refuge

Date Established: May 28, 1996

Establishing Authorities:

The Emergency Wetlands Resources Act of 1986 (100 Stat. 3582-91) for: "...the conservation of the wetlands of the Nation in order to maintain the public benefits they provide and to help fulfill international obligations contained in various migratory bird treaties and conventions..." (16 U.S.C. §3901(b); 100 Stat. 3583).

The Endangered Species Act of 1973 (16 U.S.C. §1531-1543), as amended: "...to conserve (A) fish or wildlife which are listed as endangered species or threatened species...or (B) plants..." (16 U.S.C. §1534).

The Land and Water Conservation Fund Act (P.L. 88-578; 16 U.S.C. §4601; 78 Stat. 897) for: "...the acquisition of areas needed for conserving endangered or threatened species of fish, wildlife and plants..." (P.L. 94-422; 90 Stat. 1313).

Purpose for which Established:

The purposes for which the Rappahannock River Valley National Wildlife Refuge was established are:

"...for use as an inviolate sanctuary, or for any other management purpose, for migratory birds ... 16 U.S.C. § 715d (Migratory Bird Conservation Act)," and

"... to conserve (A) fish or wildlife which are listed as endangered species or threatened species ... or (B) plants ... 16 U.S.C. § 1534 (Endangered Species Act of 1973)," and

"... the conservation of the wetlands of the Nation in order to maintain the public benefits they provide and to help fulfill international obligations contained in various migratory bird treaties and conventions ... 16 U.S.C. § 3901(b), 100 Stat. 3583 (Emergency Wetlands Resources Act of 1986)," and

"...for the development, advancement, management, conservation, and protection of fish and wildlife resources ... 16 U.S.C. § 742f(a)(4) (Fish and Wildlife Act of 1956)."

National Wildlife Refuge System Mission: To administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans.

Description of Proposed Use: The following questions and answers provide a concise description of the proposed use.

1. What is the use? Is the use a priority public use? The uses are environmental education, wildlife observation, interpretation, and photography, all of which are priority public uses of the Refuge System.

2. Where would the use be conducted? We would allow these uses on the Hutchinson Tract (Tract 11c), the Laurel Grove (Tract 13), the Port Royal Unit (Tracts 23 and 24), the Tayloe Tract (Tracts 12, 12a, 12b), the Wellford Fee Tract (Tract 37) and the Wilna Tract (Tract 11). The Wilna Tract is also the site of the Refuge headquarters. We may also allow these uses on other tracts on a case-by-case basis. If they are allowed on other tracts, special use permits would be issued to ensure that the activities follow the stipulations and general compatibility standards set forth in this determination. See attached maps B.1 – B.5.

General description of the affected areas:

Hutchinson Tract (Tract 11c)

The Hutchinson Tract is 727.35 acres located along Mt. Landing Creek in Essex County. It has nearly 3,000 feet of frontage along U.S. Route 17, making it an ideal location to attract and welcome visitors. Habitats include 197 acres of planted warm season grasses, 145 acres of planted hardwoods, 240 acres of mixed upland and wet forest types, 134 acres of tidal marsh and open water, and 11 acres of roads and administrative areas. Gravel and dirt roads bisect the tract, one of which extends from Route 17 to Mt. Landing Road (State Route 627). Another road ends at an existing boat dock and pier on Mt. Landing Creek.

Wildlife observation and photography would occur primarily along 2.2 miles of existing refuge roads and along approximately 2.7 miles of trails paralleling the road and along the interface of woods and fields. Interpretive kiosks would be placed at strategic points such as the entrance area and at the old pier site on Mt. Landing Creek. We would facilitate additional interpretation and wildlife observation by replacing the existing pier and boat dock with a floating canoe/kayak launch and developing an interpretive water trail along Mt. Landing Creek. Environmental education would occur at various places on the property, depending on the educational activity. We would use a covered pavilion near the entrance to stage field trips, and some educational activities could also occur in the upland fields at this location. We would create up to three parking areas, and provide up to two restrooms, to facilitate these priority uses. A proposed site plan for visitor facilities is attached.

We manage this property primarily for breeding, migrating and wintering birds. Most of our active management (mowing, prescribed burning, invasive species control) is directed toward maintaining approximately 200 acres of grassland habitat. We also monitor and control invasive populations of phragmites in the tidal marshes to maintain the high quality of that habitat for waterfowl, marsh birds, and wading birds.

Laurel Grove Tract (Tract 13)

The Laurel Grove Tract is 463 acres located in southern Richmond County. It contains approximately 0.8 miles along Farnham Creek. In 2003, we worked with partners to restore 205 acres from cropland to forest by planting over 60,000 hardwood saplings. Within that area, hydrology was restored on 50 acres by ditch plugging and breaking drainage tiles. The remainder of the tract consists of mixed hardwood and pine forest encompassing 240 acres, seven acres of tidal marsh, a 10-acre man-made, freshwater pond, and one acre of developed administrative land. The tract is bisected by a dirt road.

Nearly all activities would occur in the vicinity of the 10-acre pond. We would create a small (no more than 10 vehicles) parking lot to facilitate priority uses, which would be located on the site where three grain silos now stand. The silos have been declared excess property and will be removed. From there, a wildlife observation trail would cross the dam that holds back the pond, and circumvent the pond back to the parking lot, using Farnham Road for the last leg of the trail. Farnham Road is a two-lane country road that ends at Farnham Creek, adjacent to the Laurel Grove Tract, and traffic is sparse. An interpretive kiosk would be installed adjacent to the parking lot. Environmental education field trips and other special events may be allowed into the interior of the tract, along the existing dirt road, with advance planning and approval.

Management at Laurel Grove is primarily aimed at reducing occurrences of invasive plants. Planted trees are currently providing early successional shrub habitat for nesting, migrating and wintering birds, while mature woodlands are providing habitat needs for a variety of wildlife including forest birds, reptiles and amphibians.

Port Royal Unit (Tracts 23 and 24)

The Port Royal Unit is comprised of two adjacent tracts totaling 123 acres in Caroline County. This unit is located near the intersection of U.S. Route 17 and U.S. Route 301, offering opportunities to attract travelers who choose alternative routes to the interstate highway system. It is also currently the closest refuge property to major population centers such as Washington, D.C. and Northern Virginia. Combined, the two tracts contain 71 acres of early successional and grassland habitat, 45 acres of forested habitat, and 7 acres of freshwater tidal marsh and open tidal water. There are two access points from paved county roads.

We would permit wildlife observation and photography from trails extending from the entrance area, along the edge of a field, along the Rappahannock River and along the woods edge bordering the tidal marsh. We would create a small (less than 10 vehicles) parking lot to facilitate priority uses. We would install an interpretive kiosk near the parking lot. We would install a photo blind adjacent to the tidal marsh. Environmental education field trips would be permitted throughout the property with advance planning and approval.

With regard to habitat management, there are several invasive plant species that occur on the unit and that we are actively seeking to eliminate or control: autumn olive, tree of heaven, and Johnson grass. We are managing approximately 50 acres in grassland and allowing 21 acres of former cropland to grow into forest along the River. Bald eagles have nested on the property, requiring that any recreational use or construction be done in accordance with management guidelines for bald eagles. Many other bird species use the property for nesting, during

migration, and during winter. There is an abundance of reptiles, particularly turtles, in and around the tidal marsh and creek.

Tayloe Tract (Tracts 12, 12a, and 12b)

The Tayloe Tract was the first property protected as part of the refuge, having been acquired in May 1996. It is also one of the largest refuge properties at 1,112 acres. It is located in Richmond County, and has approximately six miles of frontage on Cat Point Creek, one of the refuge's highest priority areas for land protection. Habitats break down as follows: 355 acres of wooded swamp and upland forest, 277 acres of freshwater tidal marsh and open tidal water, 225 acres of grassland and early successional habitat, 217 acres of agricultural land, 30 acres of wet meadow, and eight acres of roads and other administrative lands. Approximately 2.5 miles of gravel and dirt roads provide access within the tract, which also has over one mile of frontage on State Route 634. A modular building constructed in 2007 is used for staff quarters.

Wildlife observation and photography would occur primarily from the existing dirt and gravel roads. A small parking area (10-15 vehicles) would be constructed near the entrance from Route 634, and from there access would be by foot, unless advance approval was obtained, such as for environmental education field trips and guided bird walks. Environmental education would be permitted throughout the property if scheduled and approved in advance. The Tayloe Tract provides an excellent opportunity to interpret the evolution of wildlife management, from historic methodologies such as planting food plots for wildlife, to more current techniques such as restoring lands to historic habitat conditions. This could be accomplished with messages on kiosks, a brochure, and through guided talks.

There is a great deal of active management occurring on the Tayloe Tract, including planting and management of warm season grasslands, reforestation, cropland management (for an interim period as restoration plans are completed), and invasive species control. In addition to providing year-round habitat for a variety of migratory birds and resident wildlife, these management activities also lend themselves to conveying important interpretive messages. Bald eagles use the shoreline of Cat Point Creek extensively for nesting and roosting, so bald eagle management guidelines must be followed for all public use and other management actions.

Wellford Fee Tract (Tract 37)

This tract is one of three purchased from the same family, the other two being conservation easements. Tract 37 was purchased in fee title and consists of 154.2 acres, with approximately one mile of frontage on Little Carter Creek. It contains 40 acres of wooded swamp and forest, 12 acres of wet meadow, six acres of freshwater tidal marsh and open water, three acres of gravel road and other administrative areas, and 93 acres of early successional habitat, about 60 acres of which was planted to native hardwoods and shrubs in 2007. There is an office trailer on the property occupied by staff of the Department of Game and Inland Fisheries through a Memorandum of Agreement. There is also a one-acre private inholding in the center of the property. The property is accessible from U.S. Route 360, with nearly one-half mile of frontage on this four-lane divided highway.

We would allow wildlife observation, interpretation and photography from the entrance at Route 360 and parallel to Route 360 to a turn-around at Little Carter Creek. We would install an

interpretive kiosk and wildlife viewing platform at the turn-around. We would construct a one-lane gravel road for access, with pull-off areas for vehicle passing. We would also install a bronze memorial plaque that we purchased to pay tribute to the now deceased landowner who conveyed the property to the refuge. We would also install a sign reading: “Forests for the Future” along Route 360 to inform passersby of the partnership project.

Management of this tract is directed toward complete reforestation, with the exception of administrative areas. We also are monitoring and treating invasive species as time and funding permit. Partners are assisting in monitoring the success of the tree planting effort.

Wilna Tract (Tract 11)

The Wilna Tract is approximately 974 acres, and as noted above, is the current location of the refuge headquarters. The Wilna House headquarters dates from the 1830s, offering opportunities for historic as well as environmental interpretation. A new, modular building was constructed near Wilna Pond in 2007 to serve as an environmental education classroom, meeting room, and temporary quarters. There are a variety of habitats including 507 acres of wooded swamp and upland forest, 388 acres of grassland and other early successional habitats, 52 acres of freshwater tidal marsh and open water, nine acres of wet meadow, 2 acres of beachfront on the Rappahannock River, and 16 acres of roads and other administrative areas. Included in the open water category is the 35-acre Wilna Pond, a freshwater impoundment. The Wilna Tract has nearly one mile of frontage on the Rappahannock River and is accessible from State Route 640 (Sandy Lane).

Wildlife observation and photography would occur along existing refuge roads and from existing trails in the vicinity of Wilna Pond and behind the headquarters building. Environmental education opportunities will be centered in the Wilna Pond area, but may be permitted throughout the unit, if planned and scheduled in advance. Interpretive messages will be displayed on kiosks and inside buildings. Photography would occur mostly in the vicinity of Wilna Pond, and a photo blind is planned for construction overlooking a beaver pond along Wilna Creek.

As with the Tayloe Tract, there is a great deal of habitat management occurring on the Wilna Tract, including burning and mowing of warm season grasslands, invasive species control, riparian restoration and management, and erosion control (planned). A wide variety of birds use grasslands, shrub lands, and forests year round, as do many resident wildlife species. Bald eagles use the Wilna Tract extensively and bald eagle guidelines will be followed.

3. When would the use be conducted? Eventually, we plan to allow public access for these priority uses daily, from sunrise to sunset. The process will be gradual as we install appropriate signs, gates, and other measures to control access and ensure safety, quality, and compatibility. We expect most environmental education field trips will be coordinated and scheduled in advance. If law enforcement problems arise, we may limit hours or otherwise restrict access.

Hunting is permitted on several refuge tracts, including most of those tracts listed above. During the hunting season, we will either close areas to activities other than hunting or segregate users to ensure public safety.

4. How would the use be conducted? We plan to offer structured, teacher-led environmental education on a pre-scheduled basis. We would conduct teacher workshops to familiarize teachers with wildlife and nature-based curricula and refuge facilities, and would expect teachers to direct their students in structured activities in the many available habitats. The Wilna Pond site will be our preferred environmental education location due to the facilities currently available and the proximity to the headquarters. We have a pier and modular building that will serve as a sampling platform and indoor classroom, respectively. Habitats available for sampling and study include the pond itself, freshwater marsh, forest, and grassland. We would provide equipment, as funding allows, and an orientation on the day of the field trips.

Other uses would be self-guided, except for the occasional guided bird walk or similar special activity. We will comply with accessibility standards in trail and other facility construction. We will utilize existing roads and trails wherever possible to minimize loss of existing habitats. Interpretive signs along the trails and overlooks will provide messages for visitors that complement the habitat types and wildlife found in each area. We plan to construct at least two photo blinds to facilitate a high quality experience.

5. Why is the use being proposed? These uses are being proposed by the refuge to accommodate four of the priority public uses of the Refuge System. There is a scarcity of public lands in the Northern Neck and Middle Peninsula of Virginia for wildlife-oriented recreation, particularly for environmental education. There are few areas on the Northern Neck or Middle Peninsula Planning Districts that provide opportunities for “nature study,” as defined in the 2002 Virginia Outdoors Plan. We have the opportunity to provide compatible, priority public uses in a manner and location that will offer high quality wildlife-dependent recreation, and maintain the level of current fish and wildlife values.

Availability of Resources: Facilities or materials needed to support these uses include upgrading and maintaining access roads, creating and maintaining parking areas, constructing and maintaining restrooms, producing brochures and maintaining our web site to explain refuge regulations and describe permitted activities, creating and maintaining accessible trails, constructing a non-motorized boat launch, fishing pier, and pavilion at the Hutchinson tract, purchasing and installing kiosks, designing and producing panels to provide interpretive messages, and constructing photo blinds.

Funding for visitor improvements comes from a variety of sources including general management capability funds, challenge cost share projects, grant funds, contributions, and special project funds. We will complete and maintain projects and facilities as funds become available and will use volunteers and partners to help in construction and maintenance.

Over the past five years, approximately \$275,000 has been allocated from special project funds to create infrastructure at the Wilna Pond site. We have \$1 million available from Federal Highway Administration funding to upgrade refuge roads in 2008. In 2007, \$310,000 was allocated for visitor enhancements at the Hutchinson Tract. An additional \$10,000 for portions of the Hutchinson Tract projects was received from donations and a Chesapeake Gateways grant. Sufficient staff and maintenance funding within our base budget of nearly \$850,000 is available to make annual progress toward completion of all the projects described above and to maintain those already completed.

Anticipated Impacts on Refuge Purpose: The activities proposed herein are supported by the goals and objectives of the refuge's Draft Comprehensive Conservation Plan. Providing compatible wildlife-dependent recreation and education is common to all alternatives listed in the CCP. The Service's preferred alternative lists the following goal related to visitor use of the refuge:

Goal 4: Promote enjoyment and stewardship of our Nation's natural resources by providing quality, wildlife-dependent recreation and education opportunities on refuge lands and waters.

Under Alternative B, Goal 4, there are three objectives that relate to topics covered in this determination:

Objective 4.5 Wildlife Observation and Photography,
Objective 4.6 Environmental Education, and
Objective 4.7 On-site Interpretation

As noted on page one of this compatibility determination, there are four purposes for establishment and management of this refuge. In general, they relate to four primary conservation and management responsibilities:

1. Migratory birds,
2. Threatened and endangered plant and animal species,
3. Wetlands, and
4. Other fish and wildlife resources.

Following is a discussion on the anticipated impacts of the proposed uses related to the resources listed within refuge purposes.

Potential impacts to birds: An indirect benefit to upland habitats and associated species would derive from careful, strategic placement of trails and interpretive signs. Public awareness and appreciation of the refuge, its habitats, and resources would inspire some to volunteer or in other ways support the refuge needs and conservation of resources on the landscape in general.

Increases in annual visitor numbers from constructing new trails along the edges of fields and forests at Hutchinson, a public canoe/kayak launch at Hutchinson, improvements to the existing public recreation area at Wilna, and other planned activities described herein have the potential to cause loss of land bird habitat and disturbance to nesting, migrating, and wintering birds. However, the potential impacts vary due to each tract's respective habitat management scenario and the types of visitor use. Direct impacts on wildlife in the form of disturbance can be expected wherever humans have access to an area, and the degree may vary depending on the habitat type. In general, human presence disturbs most wildlife, which typically results in a temporary displacement without long-term effects on individuals or populations. Some species, such as wood thrush, will avoid areas frequented by people, such as developed trails and buildings, while other species, particularly highly social species such as eastern tufted titmouse, Carolina chickadee, or Carolina wren, seem unaffected or even drawn to a human presence.

When visitors approach too closely to nests, they may cause the adult bird to flush exposing the eggs to weather events or predators. Provided that visitor use is confined to trails, disturbance during the breeding season will be limited to the trail area. The extent of this disturbance on either side of the trail also depends on visibility, the density of vegetation through which the trail is laid. Overall, direct impacts from non-consumptive uses should be greatly reduced if trails and other high-use facilities avoid area-sensitive habitats (interiors of grasslands and forests) and are confined to a 300-foot edge zone, which is what we plan to implement.

Potential impacts to threatened and endangered species: We included bald eagles in this section due to the fact that they were a focal species during refuge establishment and because of the extra protection they are afforded under the Bald and Golden Eagle Protection Act. The only federal-threatened species confirmed to exist on the refuge is the sensitive joint-vetch.

Permitting public access to any waterfront or marsh managed by the refuge holds the possibility of impacting bald eagles or sensitive joint vetch. Impacts may either be displacement or temporary disturbance depending on the extent of use of a given site by visitors and eagles. We plan to provide public facilities to facilitate wildlife observation, photography, and interpretation on Mt. Landing Creek, Wilna Pond, and Laurel Grove Pond. We will also provide public access to the banks of the Rappahannock River, Roy's Run, Farnham Creek, Cat Point Creek, and Little Carter Creek. All of these water bodies are used by bald eagles, some in high concentrations and for nesting. As trees mature and forest riparian buffers are improved, sites with low concentrations will likely increase in importance to bald eagles.

We will avoid potential adverse impacts to bald eagles by strictly following the management guidelines developed in consultation with the DGIF and the Center for Conservation Biology. These include sight and distance setbacks from nests and concentration areas and time-of-year restrictions.

None of these plans will impact known locations of sensitive joint vetch.

Potential impacts to wetlands: Potential adverse impacts to wetlands could arise if facilities were improperly placed in wetland habitats, if public use were allowed to occur directly in wetlands, or if erosion of sediments into wetlands was allowed to occur during facility construction.

The only facilities proposed for construction in wetlands are the pier and canoe/kayak launch and the proposed elevated boardwalk at the Hutchinson Tract. Together, construction of these facilities will cause temporary and minimal (less than 0.01 acre) impacts to wetlands. We will employ silt fencing and other best management practices during construction of any facilities in proximity of wetlands to avoid runoff of sediments.

Many of our interpretive messages remind visitors of the importance of wetlands and the many beneficial functions they provide to society, including wildlife habitat, flood protection, groundwater recharge and nutrient uptake.

Potential impacts to other fish and wildlife: Mammals in Virginia occupy a diverse array of habitat types, ecological niches and food webs and play an important role in the ecosystems in

the refuge boundary. As a taxonomic group, mammals will also benefit from the refuge land protection and management actions relative to riparian habitats, forests, grasslands, shrub, and wetlands proposed for listed species, waterfowl, and migratory birds. Likewise, the refuge will benefit from careful attention to the impacts to mammals resulting from any of its activities. We evaluated the management actions and public uses proposed for each of the refuge CCP alternatives for their potential to benefit or adversely affect large and small, aerial, terrestrial, and wetland mammals. The activities described in this determination should have no long-term impact on mammal use of the refuge.

Protection and good stewardship of the area's herpetofauna is another priority of the refuge, and fits into nearly all the goals for wetlands, uplands, and riparian habitats. We evaluated the public uses described herein for their potential to benefit or adversely affect amphibians and reptiles or their habitats used for mating, reproduction, over-wintering, and foraging. Although most species that occur on the refuge are very common and widespread, there is concern for two species of turtle: eastern box and spotted, and amphibians everywhere are considered to be experiencing a general decline. Some areas are experiencing loss of mixed mature forest due to development or high rates of conversion to timber farms. This impacts vernal pools needed by amphibians for over-wintering and reproduction. No vernal pools will be impacted by these proposed activities. Public outreach and education efforts by the refuge that emphasize buffering of wetlands, connectivity and easy access between forest, grassland, and wetlands, protection of vernal pools, and augmentation of patch size will benefit amphibians and reptiles on an even larger scale where embraced by other landowners.

Sometimes maintenance actions for public use may involve preparations or outcomes that have direct negative impacts to amphibians and reptiles. Mowing of grassy access roads and public use trails occasionally destroys turtles, snakes or frogs if conducted during times of movement (warm months). The best way to minimize this direct type of negative impact is to keep public use and access roads mowed short so that they do not become attractive habitat. However, in many cases it will be impossible to find a perfect time to carry out maintenance actions that will completely avoid conflict for wildlife.

Opening a limited amount of habitat for the public to experience and appreciate through a network of interpretive trail systems and outdoor classroom sites should heighten an awareness of the habitat needs and plight of declining reptiles and amphibians in the minds of children and adults. There is limited opportunity in the refuge boundary area for adults to be exposed to the more reticent, uncommon, or interior species of reptiles and amphibians in natural habitats. Adults are homeowners, landowners, land managers, and land-use decision makers, and they have considerable influence on the value systems of children. Opportunities to learn and marvel about the habits, appearance, and needs of reptiles and amphibians and their role in the ecosystem will indirectly benefit this group of animals if these learning experiences translate into beneficial changes in landscaping, yard maintenance, farming practices, pesticide use, and management of towns and communities.

Enhancement and expansion of the trail systems for public use poses the potential threat of blocking access between different habitat types, depending on the placement, length, width, and substrate material of the trails. Some salamander species will not cross openings that are too wide or dry, bare ground (Vinson 1998), thus earthen trails, if exposed to sunlight could become dry enough to form a barrier. Gravel roads or trails, even though thought to be permeable, may

also act as a barrier to salamander movement (Marsh et al. 2005). The graveled trails planned for the near future are for wheelchair access and will therefore be located on level terrain, avoiding ravines which are home to amphibians and reptiles. At most these trails will be five miles in length on four tracts, and their widths no more than six feet. Other walking trails will be simple cleared paths and perhaps mulched in some locations, but these too will avoid moist ravines close to amphibian habitat.

Disturbance to basking or nesting turtles may occur where public use is concentrated at points where land and water interface. Basking turtles can usually find alternate resting surfaces. Nesting turtles, once engaged in the act of digging usually will not allow their attention to be drawn to anything else, and at such time are vulnerable to predators. A turtle wishing to make landfall to attempt egg-laying however, may be dissuaded by the presence of humans at the site. Because there will be ample wetland-forest-grassland interface elsewhere, we expect that the cumulative impact of roads and trails to amphibians and reptiles at the landscape scale will be insignificant.

Expansion of facilities such as the Wilna Lodge may result in adverse impacts to nocturnal amphibians where motion-detection security lamps are installed. Artificial illumination may have both positive and negative impacts on the nocturnal behavior and ecology of frogs (Buchanan 2002) and salamanders (Wise and Buchanan 2002). While it may enhance prey detection it may also hurt predator avoidance, cause aggression between individuals of the same species, cause temporary blindness in frogs (sudden bright light), disrupt or confuse migration to or from ponds for salamanders (Wise and Buchanan) or inhibit reproduction by frogs adapted to low illumination (Buchanan).

In summary, our research, observations and knowledge of the area provide no evidence that cumulatively, the visitor activities we propose to allow will have an unacceptable effect on wildlife resources or their habitats. We do not expect a substantial increase in the cumulative effects of visitor use over the 15 year timeframe of this plan. Refuge staff will monitor and evaluate the effects of visitor use, in collaboration with state agencies and partners, to discern and respond to unacceptable impacts on wildlife or habitats.

Public Review and Comment: This determination will be available for a public review and comment period in conjunction with the release of the Draft Comprehensive Conservation Plan for the refuge.

Determination (check one below):

_____ **Use is Not Compatible**

 X **Use is Compatible With the Following Stipulations**

Stipulations Necessary to Ensure Compatibility:

1. All activities will comply with the Bald Eagle Protection Guidelines for Virginia, jointly developed by the U.S. Fish and Wildlife Service and the Virginia Department of Game and Inland Fisheries, in consultation with the Center for Conservation Biology.
2. Uses will be monitored as needed to ensure that the programs contribute to refuge objectives.
3. Migratory bird populations will be monitored through annual breeding and wintering surveys, as funds allow, to ensure the continued health and vitality of these species.

Justification: Environmental education, wildlife observation, interpretation, and photography are four of the six priority public uses of the National Wildlife Refuge System and have been determined to be compatible activities on hundreds of other refuges nationwide. The Refuge System Improvement Act of 1997 instructs refuge managers to seek ways to accommodate these six activities. The refuge properties described in this determination offer a wide variety of habitats and compatible wildlife-dependent recreational and educational opportunities. They provide a wealth of avifauna and other “watchable wildlife,” that can be enjoyed by the public without causing negative impacts to the diversity or productivity to fish, wildlife or plants that now use it. Impacts from this proposal, both short-term and long-term, direct, indirect, and cumulative, are expected to be minor and are not expected to diminish the value of the refuge for its stated objectives. The area affected by the proposed use represents a small fraction of the refuge land area. Available parking and size of the facilities will typically limit use at any given time, except during special events. Monitoring bird use will provide a basis for future recommendations to ensure the continued productivity of refuge habitats.

In accordance with 50 CFR 26.41, opening the Rappahannock River Valley National Wildlife Refuge to environmental education, wildlife observation, interpretation, and photography, as described herein, will not materially interfere with, or detract from, the fulfillment of the National Wildlife Refuge System mission or the purposes for which the refuge was established.

References:

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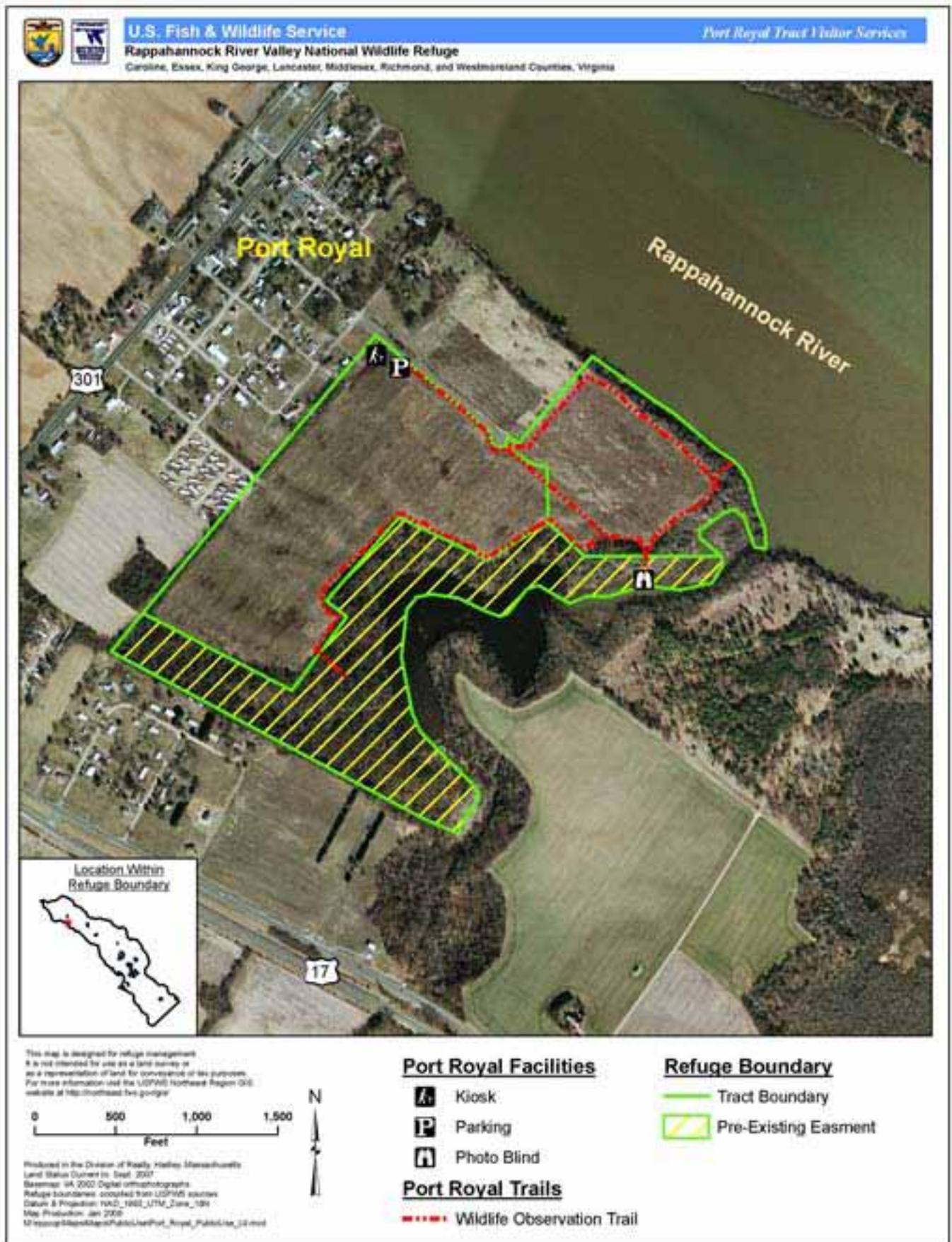
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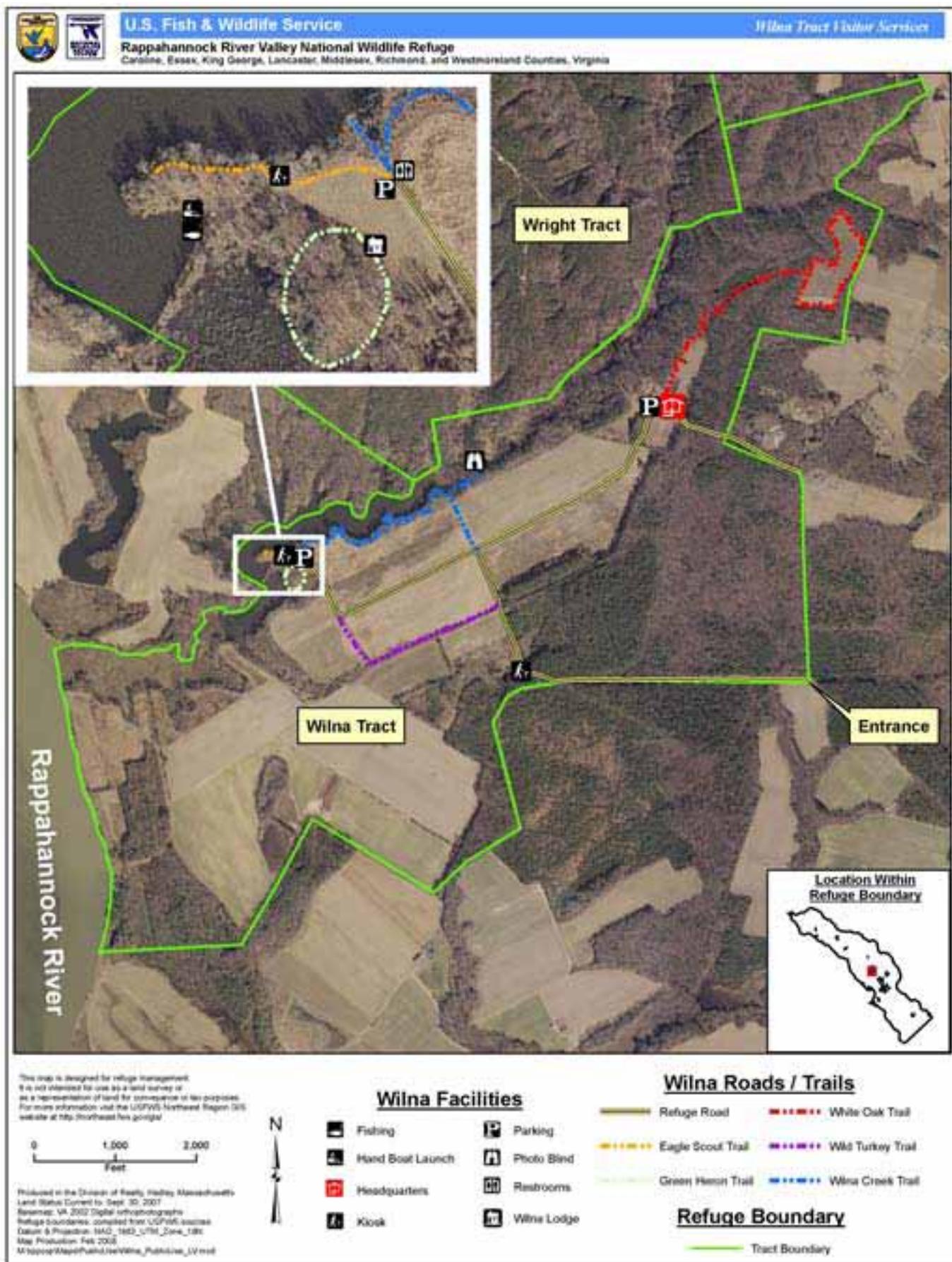
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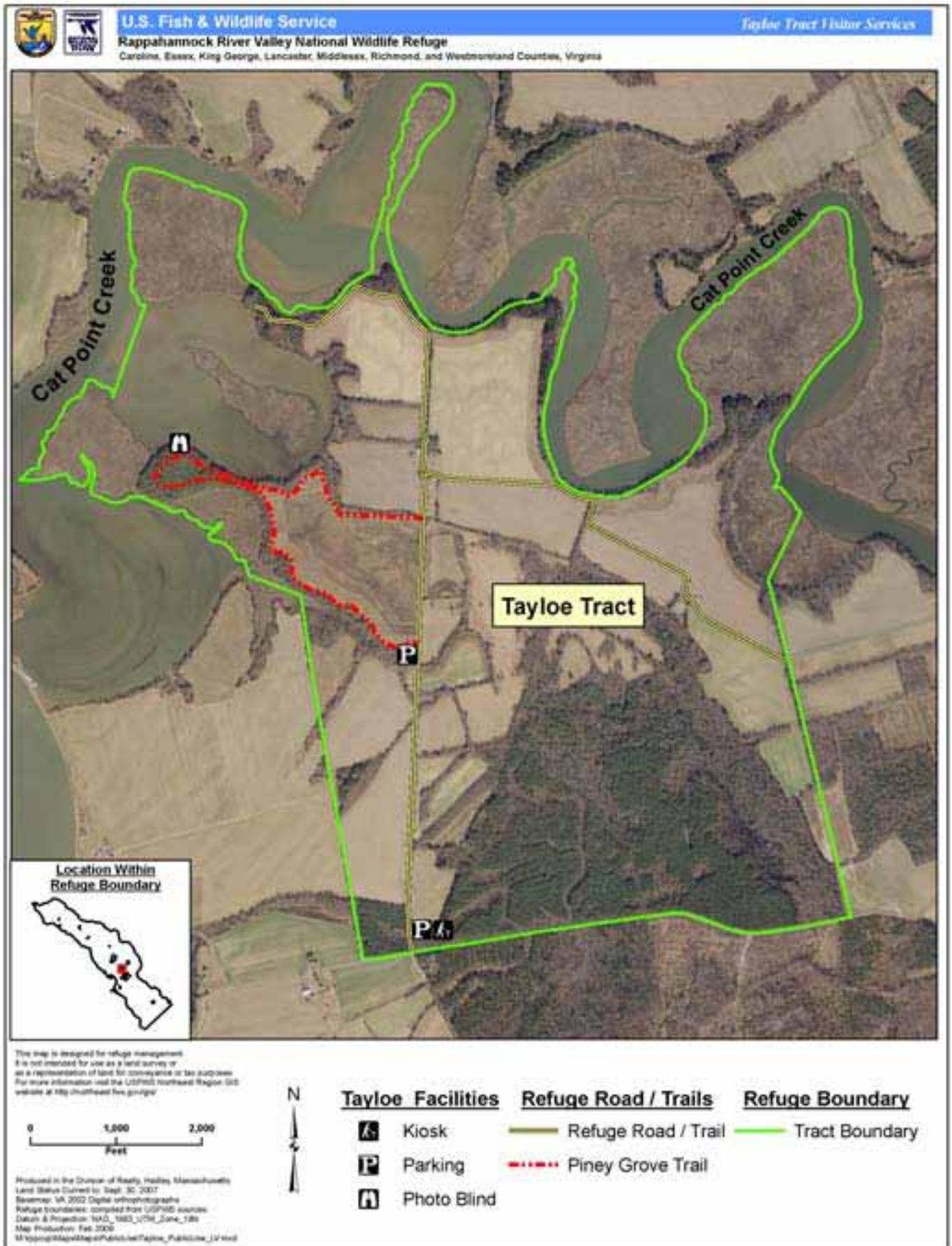
Signature: Refuge Manager: _____
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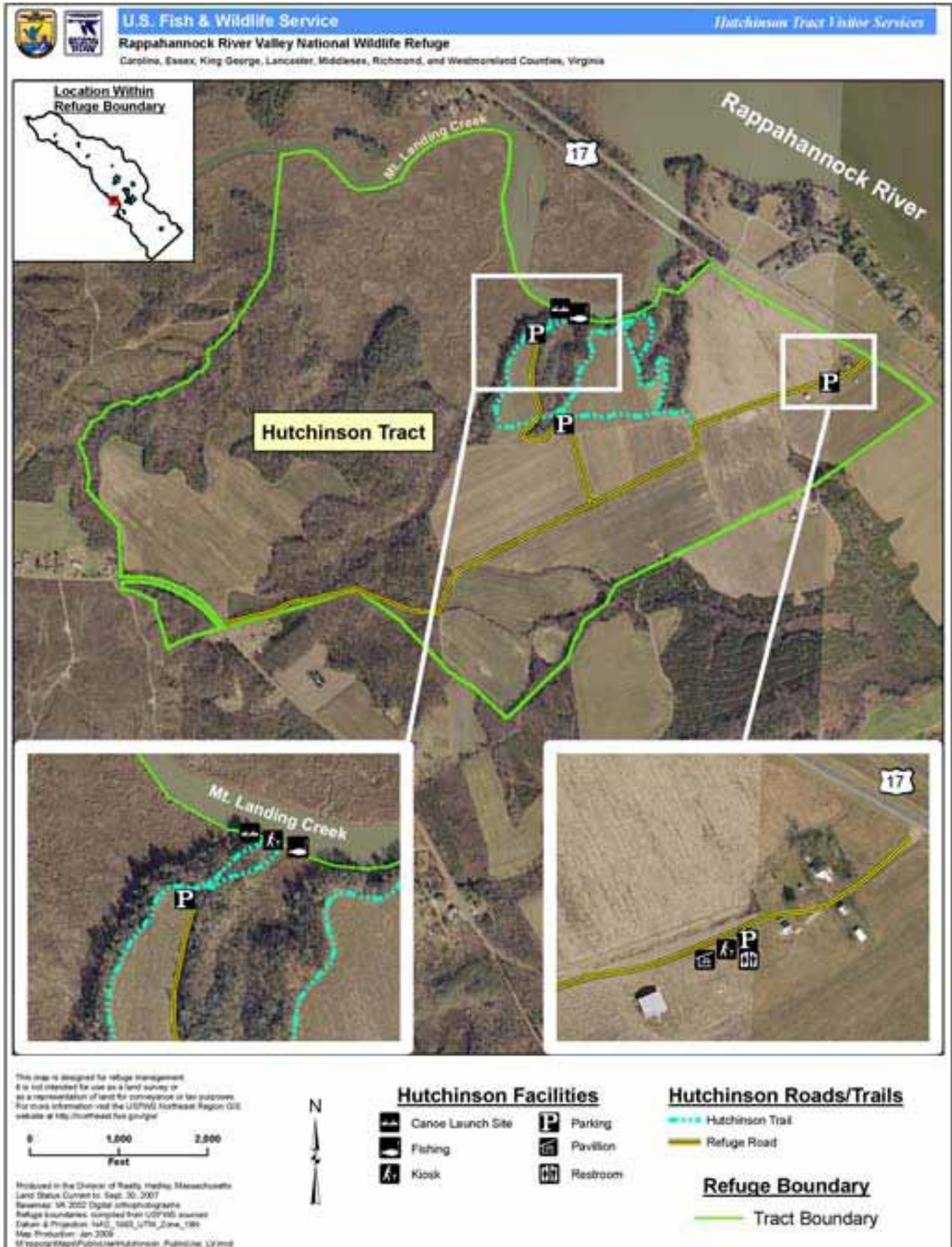
Concurrence: Regional Chief: _____
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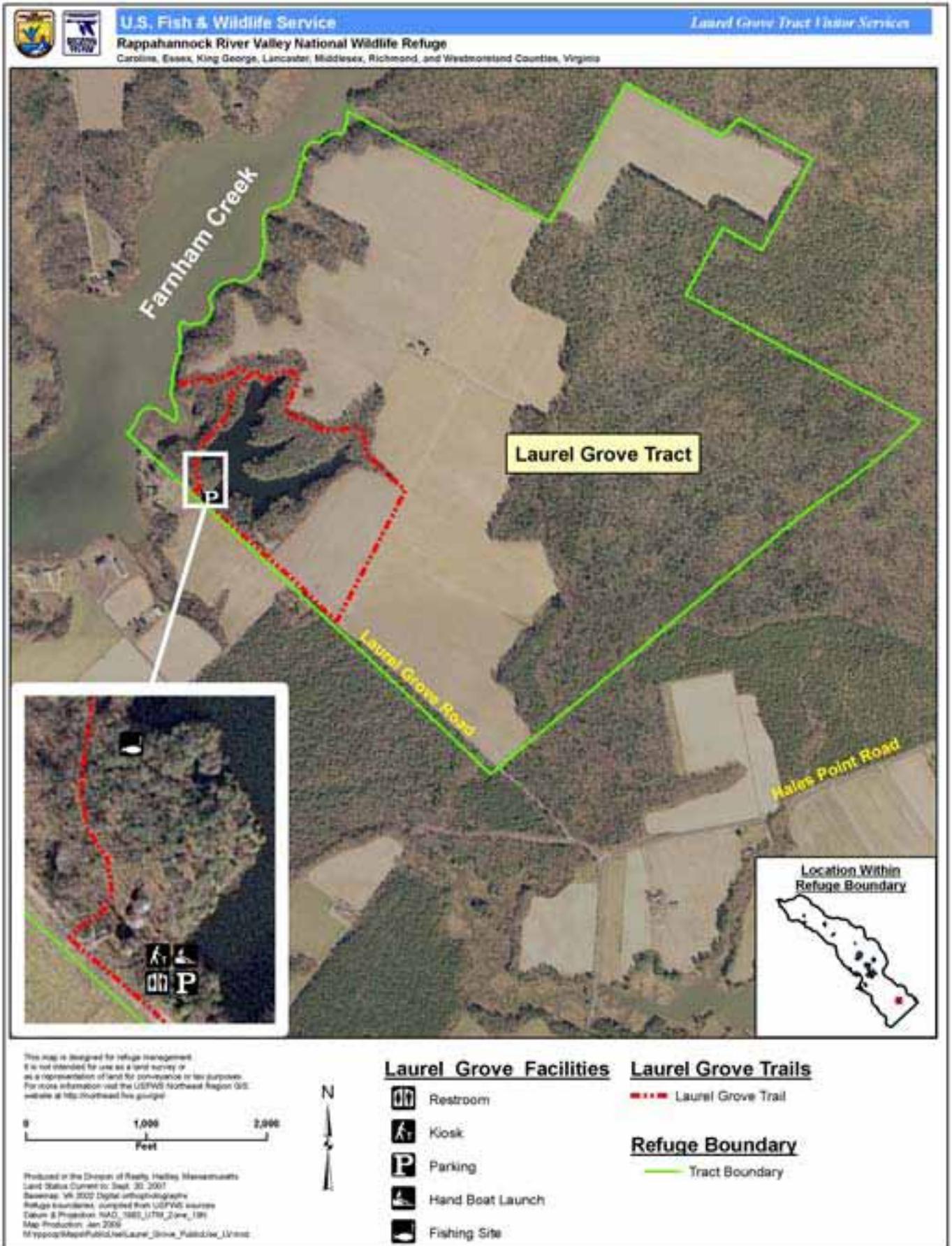
Mandatory 15-year Re-evaluation Date: _____











COMPATIBILITY DETERMINATION

Project Title: Public Deer Hunting

Station Name: Rappahannock River Valley National Wildlife Refuge

Date Established: May 28, 1996

Establishing Authorities:

The Emergency Wetlands Resources Act of 1986 (100 Stat. 3582-91) for: "...the conservation of the wetlands of the Nation in order to maintain the public benefits they provide and to help fulfill international obligations contained in various migratory bird treaties and conventions..." (16 U.S.C. §3901(b); 100 Stat. 3583).

The Endangered Species Act of 1973 (16 U.S.C. §1531-1543), as amended: "...to conserve (A) fish or wildlife which are listed as endangered species or threatened species...or (B) plants..." (16 U.S.C. §1534).

The Land and Water Conservation Fund Act (P.L. 88-578; 16 U.S.C. §4601; 78 Stat. 897) for: "...the acquisition of areas needed for conserving endangered or threatened species of fish, wildlife and plants..." (P.L. 94-422; 90 Stat. 1313).

Purpose for which Established:

The purposes for which the Rappahannock River Valley National Wildlife Refuge was established are:

"...for the development, advancement, management, conservation, and protection of fish and wildlife resources...16 U.S.C. 742f(a)(4)... for the benefit of the United States Fish and Wildlife Service, in performing its activities and services. Such acceptance may be subject to the terms of any restrictive or affirmative covenant, or condition of servitude... 16 U.S. C. 742f(b)(1) (Fish and Wildlife Act of 1956);

...for the conservation of the wetlands of the Nation in order to maintain the public benefits they provide and to help fulfill international obligations contained in various migratory bird treaties and conventions ... 16 U.S.C. 3901(b), 100 Stat. 3583 (Emergency Wetlands Resources Act of 1986); and

...to conserve (A) fish or wildlife which are listed as endangered or threatened species ... or (B) plants ... 16 U.S.C. 1534 (Endangered Species Act of 1973)".

National Wildlife Refuge System Mission: To administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans.

Description of Proposed Use: We propose to open the Refuge to public deer hunting within the hunting framework established by the Commonwealth of Virginia. All current and future Refuge properties may be opened if the conditions of the hunt conform to the stipulations of this determination. Hunting is one of the six priority public uses of the National Wildlife Refuge System.

We are proposing a deer hunting program for two primary reasons:

- 1) To maintain the deer population at a level commensurate with available habitat, in order to maintain the health of the herd and prevent habitat degradation that accompanies an overpopulation of deer, and
- 2) To provide high-quality wildlife-dependent recreational opportunities, in accordance with the National Wildlife Refuge System Administration Act.

As of December 31, 2001, the Refuge consists of 4, 842 acres in 11 tracts, spread over five counties. Habitats include forested riparian zones, fresh and brackish water tidal marsh, upland and bottomland hardwood forest, regenerating pine and mixed hardwood forest, managed grasslands, reverting scrub/shrub fields, and agricultural lands.

Riparian areas are important to roosting and nesting bald eagles. In 2000-2001, 80 active bald eagle nests were observed along the lower Rappahannock River. Eagle concentration areas are located along the River shoreline for approximately 25 miles within the Refuge boundary. The River, adjoining wetlands, and agricultural fields are used by an average of 20,000 ducks, 30,000 geese and 1,000 swans during winter and migration. Over 240 species of birds have been recorded in the Refuge vicinity. The most important wildlife resources found on the Refuge and vicinity during the deer hunting season are bald eagles and migrating and wintering birds.

Hunting could potentially occur from the first week in October to the first week in January. Hunting hours are one-half hour before sunrise to one-half hour after sunset, Monday through Saturday. Sunday hunting is prohibited by State law. Archery season typically extends from the first week in October through the third week in November. Muzzleloading season typically occurs during the second two weeks in November. Firearms season typically extends from the third week in November through the first week in January. The Refuge hunting program may allow hunting during each of these seasons. County firearms regulations prohibit the use of rifles for deer hunting; during the firearms season, only shotguns would be permitted. The Refuge will develop regulations regarding season dates, methods of take, bag limits, open and closed areas, and other program details on an annual basis. These will be included as permit conditions required of each Refuge hunter.

The number of hunters will be determined by the number of acres opened during a given year. A ratio of one hunter, per 25 acres of habitat suitable for hunting, will promote hunter safety and a quality hunting experience. Areas not expected to harbor deer or provide safe hunting opportunities (e.g. tidal marsh and open land) will be excluded from this calculation.

Facilities needed to support hunting will be minimal. We will identify or create several small parking areas, each capable of holding two to ten vehicles. Some of these areas will simply be fields that may be mowed or posted to designate parking areas. Existing roads and pull off areas will be used to the maximum extent possible to avoid any additional loss of habitat. Parking areas will not be located in or near sensitive habitats, such as eagle roosting areas. We will post all Refuge tracts open for hunting, as well as any safety zones or other closed areas.

Availability of Resources: As noted above, development of facilities to support hunting will be minimal. Most of the costs associated with the hunting program will be salary of permanent full time staff. Currently, the staff includes no law enforcement personnel. We will ensure compliance of Federal and State regulations in cooperation with Service special agents, Refuge law enforcement staff brought in on intermittent details, and State game wardens. Some per diem costs, estimated at \$320/year will be incurred when employing staff from other refuges.

An analysis of costs associated with the hunting program, included as part of the Deer Hunting Management Plan, is summarized below:

Pre-hunt preparation staff salary:	\$3,065 (includes processing applications, conducting stakeholder meetings, parking lot construction, posting, and annual hunt program preparation);
Conducting the hunt staff salary:	\$1,612 (includes staffing check station, checking parking areas, opening/closing gates, law enforcement);
Supplies and materials:	\$1,800 (includes signs, posts, postage, copying, envelopes, and check station supplies)
Total:	\$6,477

We plan to charge a \$10.00 permit fee for those selected to hunt. We will request to be included in the recreational fee demonstration program, whereby we will receive 80% of our fee receipts to put back into hunting and other public use programs. Cost estimates are based on 400 applicants and 332 selected hunters for the initial opening (83 hunters per day for four days). Sufficient financial resources exist within the annual Refuge budget to administer this program without significantly impacting other wildlife management responsibilities.

Anticipated Impacts on Refuge Purpose: We assessed the impacts of a hunting program in a Draft Environmental Assessment prepared in December 2001. Impacts discussed in the EA are as follows:

Based on a nationwide survey of all states (Krausman 1992), deer were effectively controlled with hunting and habitat manipulation in many areas where they were overpopulated. The remaining overpopulated herds were either not hunted, had an inadequate doe harvest, or an inadequate general harvest. Because the population of deer in the Refuge boundary area is open, with numerous tracts and corridors for movement and contact with other herds, it is unlikely that hunting will reduce the population to such low levels as to place it at risk of becoming genetically bottlenecked. Also, no prevention or control of epizootic hemorrhagic disease exists to date except by keeping populations below the carrying capacity of their habitats. In a 10-year study in northwestern Pennsylvania examining the impacts of varying densities of deer on deer health and habitat, starvation mortality resulted when densities reached higher than 25 deer per square kilometer (247 acres). Species richness and abundance of shrubs and herbaceous vegetation was also shown to decline when deer densities reach between 4-8 deer/km² (deCalesta and Stout 1997). At high densities, deer may act as a host reservoir for Lyme-disease bearing ticks (Jones et al. 1998). Reducing the deer population will reduce the potential for Lyme disease transmission. Based on these considerations, it is anticipated that hunting would have a positive impact on deer health and quality and habitat condition. Reducing the deer population will also benefit the surrounding human community by reducing damage on crops and residential landscape vegetation.

No adverse impacts to vegetation from trampling from hunters is likely, as most species will have already undergone senescence or become dormant. Soil and water quality are not expected to experience any negative effects under this alternative. The deer hunt would occur outside of the breeding period of most species, thereby avoiding any potential disturbance. The Refuge will abide by the joint Service-State Bald Eagle Protection Guidelines for Virginia. These guidelines provide distance and time-of-year restrictions for activities that could disturb nesting or roosting eagles. Guidelines in effect as of this Environmental Assessment would dictate a season closure of December 1. A Section 7 Consultation with the USFWS Virginia Field Office determined that there will be no adverse impact on bald eagles. No adverse effects on migratory birds or inter-jurisdictional fishes are anticipated as a result of establishing a hunt program. Wintering or resident birds (such as bobwhite quail, wild turkey and savannah sparrows), small mammals, and reptiles may experience some flushing, but there is ample cover in the form of marsh, hedgerows, shrubland, and tall grasses for flushed wildlife to repair to, therefore it is expected that this disturbance will be temporary and normal use will resume shortly after the hunt closes each day.

A managed hunt would provide the public with a quality wildlife-dependent recreational opportunity, as is consistent with the requirements of the National Wildlife Refuge Improvement Act of 1997. The Refuge will be open to hunting starting from the State season opening (usually first week in October) opening until November 30. The Refuge may close to other public uses during hunt days, unless these uses can be safely sequestered from locations of hunting activity.

Public Review and Comment: A news release announcing the availability of this determination, and the Draft Environmental Assessment, for a 30-day public review and comment period, was issued to the following media outlets and individuals on December 14, 2001:

Daily Press
 Northern Neck News
 Rappahannock Record
 Rappahannock Times
 Richmond Times Dispatch
 Westmoreland News
 WRAR radio
 WNNT radio
 Office of Senator John Warner
 Office of Senator George Allen
 Office of Representative Jo Ann Davis

The only comment received regarding compatibility was one phone call from a private citizen who felt that hunting, in general, was incompatible on national wildlife refuges.

Determination (check one below):

_____ **Use is Not Compatible**

 X **Use is Compatible With the Following Stipulations**

Stipulations Necessary to Ensure Compatibility:

1. All deer hunting will end by December 1 to prevent disturbance to eagle concentration areas and nesting sites. This complies with the Bald Eagle Protection Guidelines for Virginia, jointly developed by the U.S. Fish and Wildlife Service and the Virginia Department of Game and Inland Fisheries.
2. Results of the hunt, to include impacts from hunters and hunter success, will be reviewed annually to ensure that the program contributes to Refuge objectives in managing deer numbers and protecting habitats.

3. Expansions of the hunt area will only occur if sufficient staff resources exist to safely and effectively administer the program without detracting substantially from higher priority activities.

Justification: Hunting is one of the six priority public uses of the National Wildlife Refuge System and has been determined to be a compatible activity on hundreds of other refuges nationwide.

In the absence of a deer hunting program, or other removal process, deer impacts on Refuge habitats are expected to be severe. The following discussion from the Draft Environmental Assessment of the deer hunting proposal outlines these impacts:

The no-action alternative includes long-term negative effects such as potential for disease epidemic (Demarais et al 2000), increase in automobile accident rates, browsing pressure on vegetation and crops, and severe habitat degradation (Cypher and Cypher 1988). Overbrowsing will eventually affect the abundance and distribution of vegetative species and have continued effects on the composition of forest canopy for a long time after the deer herd is reduced. For grasslands, cover would quickly regenerate (Porter 1991), however, species composition may be permanently altered. The effects on vegetation composition and forest regeneration is of great concern to Refuge management for maintaining bald eagle and other migratory bird habitat. The intensity of grazing on woody browse in forest fragments is inversely proportionate to the availability of field forbs (Augustine and Jordan 1998). Pastures and old fields are vulnerable to overgrazing when deer densities are high because they contain more and higher quality forage, especially in spring and summer (Johnson et al. 1995). Cumulative effects of grazing over successive years may result in reduced plant reproduction and growth (Augustine and Frelich 1998) and height (Anderson 1994), which exposes sensitive plants and places them at risk of extirpation (Augustine and Frelich 1998). The Refuge is concerned about the impacts this phenomena may have on breeding and wintering bird populations and on the existing exemplary plant communities found on the Refuge.

One management concern is that ungulate populations generally overshoot the ultimate carrying capacity of the habitat before an equilibrium is reached (McCullough 1982). White-tailed deer are more prone to habitat alteration during this process than many other species due to their high reproductive potential (McCullough 1982; McCullough 1997), with substantial impact on the vegetation. Deer foraging habits and preferences can change plant composition and structure over time (Russell and Fowler 1999, Augustine and Jordan 1998, Brown and Parker 1997, Van Deelen et al. 1996, Porter et al. 1991) and such alterations have subsequent impacts on other wildlife, such as songbird species richness and abundance (DeCalesta 1994). This impact is magnified when other factors, such as mild weather, alternative food sources (such as crops), and reduced annual mortality allow populations to quickly increase in numbers.

In addition to a general decrease in habitat quality, impacts of high deer densities include a decline in overall deer population health as evidenced by decreased body weights, increased occurrence of deformities, increased levels of internal and external parasitism, decreased body fat deposits, and disease transmission (Cypher and Cypher 1988, Fischer et al. 1995, Demarais et al. 2000).

If allowed to progress unchecked by natural predators or management, deer reproductive potential can be very high. For example, just one mating pair can grow to 1,000 in 10 years, including natural mortality (Yarrow and Yarrow 1999). Although a weak correlation exists between density and fertility rates (reproduction declines at high densities), substantial reproduction still occurs when densities exceed 50 deer per square kilometer (247 acres) (Swihart 1998). This is because of higher number of adult does in the population, and even though they have lowered reproduction, collectively they produce a large number of offspring each year. The goal of the Refuge, therefore, is not to only manage the deer herd to protect habitat but also to protect the overall health of the herd.

Finally, local communities have relied on hunting to curb population growth and limit crop damage from deer, and to provide outdoor recreation. Many of the Refuge units were once farms that participated in local hunts or were open to local hunt clubs. To permanently retire these units from hunting or some type of population reduction would in effect undermine and impair local ability to curb deer population growth on Northern Neck and would result in a loss of wildlife-dependent recreational opportunity. This loss is contrary to the goals of the NWR system.

Signature: Refuge Manager: Joseph F. McCauley 1/14/02
Signature and Date

Concurrence: Regional Chief: Anthony D. Leger 1/28/2002
Signature and Date

Mandatory 10- or 15-year Re-evaluation Date: January 1, 2017

COMPATIBILITY DETERMINATION

Project Title: Recreational fishing

Station Name: Rappahannock River Valley National Wildlife Refuge

Date Established: May 28, 1996

Establishing Authorities:

The Emergency Wetlands Resources Act of 1986 (100 Stat. 3582-91) for: "...the conservation of the wetlands of the Nation in order to maintain the public benefits they provide and to help fulfill international obligations contained in various migratory bird treaties and conventions..." (16 U.S.C. §3901(b); 100 Stat. 3583).

The Endangered Species Act of 1973 (16 U.S.C. §1531-1543), as amended: "...to conserve (A) fish or wildlife which are listed as endangered species or threatened species...or (B) plants..." (16 U.S.C. §1534).

The Land and Water Conservation Fund Act (P.L. 88-578; 16 U.S.C. §4601; 78 Stat. 897) for: "...the acquisition of areas needed for conserving endangered or threatened species of fish, wildlife and plants..." (P.L. 94-422; 90 Stat. 1313).

Purpose for which Established:

The purposes for which the Rappahannock River Valley National Wildlife Refuge was established are:

"...for use as an inviolate sanctuary, or for any other management purpose, for migratory birds ... 16 U.S.C. § 715d (Migratory Bird Conservation Act)," and

"... to conserve (A) fish or wildlife which are listed as endangered species or threatened species ... or (B) plants ... 16 U.S.C. § 1534 (Endangered Species Act of 1973)," and

"... the conservation of the wetlands of the Nation in order to maintain the public benefits they provide and to help fulfill international obligations contained in various migratory bird treaties and conventions ... 16 U.S.C. § 3901(b), 100 Stat. 3583 (Emergency Wetlands Resources Act of 1986)," and

"...for the development, advancement, management, conservation, and protection of fish and wildlife resources ... 16 U.S.C. § 742f(a)(4) (Fish and Wildlife Act of 1956)."

National Wildlife Refuge System Mission: To administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of the fish, wildlife, and plant resources and their habitats within the United States for the benefit of present and future generations of Americans.

Description of Proposed Use: The following questions and answers provide a concise description of the proposed use.

1. What is the use? Is the use a priority public use? The use is recreational fishing, which is a priority public use of the Refuge System.

2. Where would the use be conducted? We would allow this use on the Hutchinson Tract (Tract 11c), the Laurel Grove Tract (Tract 13), the Toby's Point Tract (Tract 10), and the Wilna Tract (Tract 11) (see attached Rappahannock River Valley National Wildlife Refuge map). The Wilna Tract is also the site of the Refuge headquarters. We may also allow these uses on other tracts on a case-by-case basis. If they are allowed on other tracts, special use permits would be issued to ensure that the activities follow the stipulations and general compatibility standards set forth in this determination.

General description of the affected areas:

Wilna Tract (Tract 11)

The Wilna Tract is approximately 974 acres, and as noted above, is the current location of the refuge headquarters, and the 35-acre freshwater Wilna Pond. Of the 7,711 acres currently under refuge ownership, this is the largest freshwater pond habitat on the refuge. It represents 0.45% of the total refuge ownership. It has an average depth of 5 to 6 feet and sustains a healthy, productive fishery (Galvez and Swihart 2000). Additional facilities that enhance this recreational fishing opportunity include an accessible comfort station and fishing pier. Fishing is conducted from the fishing pier, levee shoreline, and by hand-launch boat, as was approved in the Public Sport Fishing Plan and Compatibility Determination in 1996.

The pier serves both environmental education and fishing uses, but environmental education activities have priority over fishing use. In the event that an environmental education visit is planned, the pier would be closed to fishing for its duration.

There are a variety of habitats including 507 acres of wooded swamp and upland forest, 388 acres of grassland and other early successional habitats, 52 acres of freshwater tidal marsh and open water, nine acres of wet meadow, 2 acres of beachfront on the Rappahannock River, and 16 acres of roads and other administrative areas. The Wilna Tract has nearly one mile of frontage on the Rappahannock River and is accessible from State Route 640 (Sandy Lane).

There is considerable habitat management occurring on the Wilna Tract, including burning and mowing of warm season grasslands, invasive species control, riparian restoration and management, and erosion control (planned). A wide variety of birds use grasslands, shrub lands, and forests year round, as do many resident wildlife species. Bald eagles use the Wilna Tract extensively and bald eagle management guidelines will be followed.

Hutchinson Tract (Tract 11c)

The Hutchinson Tract is 727 acres located in Essex County along Mt. Landing Creek, a tributary of the Rappahannock River. Fishing at this tract would be facilitated by replacing the existing pier with an accessible fishing pier and floating canoe/kayak launch on Mt. Landing Creek. We

would provide an accessible comfort station, up to two parking areas, and informational signs and brochures containing refuge-specific and state fishing regulations to facilitate this use. Boat access will be provided for hand-launched canoes/kayaks only. A proposed site plan for visitor facilities is attached.

Habitats include 197 acres of planted warm season grasses, 145 acres of planted hardwoods, 240 acres of mixed upland and wet forest types, 134 acres of tidal marsh and open water, and 11 acres of roads and administrative areas. Gravel and dirt roads bisect the tract, one of which extends from Route 17 to Mt. Landing Road (State Route 627). Another road ends at the proposed boat launch and fishing pier on Mt. Landing Creek.

We manage this property primarily for breeding, migrating and wintering birds. Most of our active management (mowing, prescribed burning, invasive species control) is directed toward maintaining approximately 200 acres of grassland habitat. We also monitor and control invasive populations of phragmites in the tidal marshes to maintain the high quality of that habitat for waterfowl, marsh birds, and wading birds.

Laurel Grove Tract (Tract 13)

The Laurel Grove Tract is 463 acres located in southern Richmond County. It contains approximately 1.8 miles along Farnham Creek and the 10-acre freshwater Laurel Grove Pond. This pond is relatively deep, averaging over six feet throughout, with abrupt changes in water depth occurring just a few feet from the shoreline (Moss 2007). Marshall Dam, an embankment dam, separates the lake from Farnham Creek.

We propose to allow fishing from the pond shoreline and hand-launched non-motorized boats, canoes, or kayaks. We would provide a small (no more than 10 vehicles) parking lot to facilitate this use, which would be located on the site where three grain silos now stand. The silos have been declared excess property and will be removed. In addition, an interpretive kiosk would be installed adjacent to the parking lot to provide visitors with refuge-specific and state fishing regulations.

The remainder of the tract consists of mixed hardwood and pine forest encompassing 240 acres, 7 acres of tidal marsh, and 1 acre of developed administrative land. In 2003, we worked with partners to restore 205 acres from cropland to forest by planting over 60,000 hardwood saplings on this tract. Within that area, hydrology was restored on 50 acres by ditch plugging and breaking drainage tiles. The tract is bisected by a dirt road.

Management at Laurel Grove is primarily aimed at reducing occurrences of invasive plants. Planted trees are currently providing early successional shrub habitat for nesting, migrating and wintering birds, while mature woodlands are providing habitat needs for a variety of wildlife including forest birds, reptiles and amphibians.

Toby's Point Tract (Tract 10)

The Toby's Point Tract is 365 acres located in King George County, near its border with Westmoreland County. This tract adjoins with Wilmont Landing, a county-owned and maintained landing which includes a fishing pier, informational kiosk, boat ramp, and parking

lot. To complement to the existing county pier fishing, we would offer fishing opportunities on approximately 100 feet of refuge shoreline along the Rappahannock River. The existing fishing pier is small, allowing for only one or two anglers at a time. Bank fishing has historically occurred in this area. In cooperation with the county, we would provide informational signs and brochures containing refuge-specific and state fishing regulations.

The remainder of the tract consists of 291 acres of mixed hardwood forest, 66 acres of loblolly forest, and 75 acres of tidal marsh and swamp, with over 2 miles of river frontage. With the exception of invasive species control, this tract is not currently in need of active habitat management, aside from protection and annual white-tailed deer hunts.

As additional lands are acquired, fishing may be considered for other areas.

3. When would the use be conducted? Eventually, we plan to allow public access for recreational fishing on these tracts from official sunrise to sunset. The process of opening each tract will be phased-in as we install appropriate signs, gates, and other measures to control access and ensure safety, quality, and compatibility. If law enforcement problems arise, we may limit hours or otherwise restrict access on a tract by tract basis.

Hunting is permitted on several refuge tracts, including those listed above. During the hunting season, we will either close areas to fishing and other activities not related to hunting, or segregate users to ensure public safety.

4. How would the use be conducted? We are proposing to open the refuge to recreational fishing on these tracts according to State regulations, with some additional restrictions to protect fish and wildlife using the refuge, including the pond areas. We would permit fishing by rod and reel or hook and line only. Angler access will be different at each tract and is detailed above in section 2. No lead sinkers will be permitted. Fishing for largemouth bass will be catch and release only in the Wilna and Laurel Grove ponds to maintain the existing health and productivity of the fisheries.

5. Why is the use being proposed? This use is being proposed by the refuge to accommodate one of the priority public uses of the Refuge System. There is a scarcity of public fishing opportunities in the Northern Neck and Middle Peninsula of Virginia, and this is coupled with an increasing demand for access to recreational waters. For those citizens without access to boats, fishing opportunities are limited. According to the 2006 Virginia Outdoor Survey, the second biggest need for outdoor recreation in the next five years is increased public access to recreational waters (VDCR 2007). This is supported by the U. S. Geological Survey's Community Survey that was conducted for the refuge's Comprehensive Conservation Plan (CCP). When asked which additional recreational opportunities community members desired on the refuge, the second highest mean desirability was for fishing (USGS 2007). Additionally, according to the 2002 Virginia Outdoors Plan, there continues to be a lack of opportunity in the region for lake fishing. When compared to the demand, this is projected to be in deficit by 2010 in both the Northern Neck and Middle Peninsula. We have the opportunity to provide public recreational fishing opportunities in manners and locations that will offer high quality wildlife-dependent recreation, and maintain the level of current fish and wildlife values.

Availability of Resources: Facilities or materials needed to support this use include upgrading