Sport Hunting
Decision Document Package
for

BOND SWAMP NWR

Contents

1. Sport Hunting Plan

SPORT HUNTING PLAN

UNITED STATES FISH AND WILDLIFE SERVICE BOND SWAMP NATIONAL WILDLIFE REFUGE

MARCH 2007

Recommended by	Refuge Manager	Date:
Reviewed by	Refuge Supervisor	Date:
Concurrence by	Regional Chief, NWRS	Date:
Approved by	Regional Director	Date:

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1. INTRODUCTION

Bond Swamp National Wildlife Refuge is located along the Ocmulgee River in Bibb and Twiggs Counties, Georgia, approximately 6 miles south of the city of Macon. The refuge was established on October 16, 1989 to protect approximately 6,500 acres of wetlands and adjacent upland habitats on the Ocmulgee River floodplain. In 1999 the U.S. Fish and Wildlife Service expanded the acquisition boundary of the refuge to provide enhanced protection for approximately 12,000 additional acres of threatened wetland ecosystem associated with the Ocmulgee River. The proposed expansion serves as an important component of the Ocmulgee Heritage Greenway project, which seeks to protect large wetland tracts along the Ocmulgee River and to create an integrated system of scenic, historic and recreational resources along the river for the enjoyment of the public. In 2000 the refuge added 786 acres fee title on the west side of the Ocmulgee River. In July 2006 the Service and the State of Georgia signed a management agreement for the refuge to manage 1,072 acres of state owned land within the acquisition boundary. Currently the refuge manages 7,348 acres and 5,455 acres are open to hunting.

The refuge is located on the fall line separating two geophysical regions, the Piedmont and the Atlantic Coastal Plain. A rich diversity of habitat types and wildlife occur along this interface area. The natural habitats range from mixed hardwood-pine ridges with exposed granite outcroppings to tupelo gum swamps with abundant beaver swamps, creeks, tributaries, and oxbow lakes.

A major drainage system flows into the wetland area forming much of the rich bottomlands. The drainage system is part of the Alcovy/Ocmulgee Corridor that flows through the Piedmont and Coastal Plain Provinces. These forested wetlands not only provide a rich diversity of fish and wildlife, but they also serve to enhance the quality of the area's water resources.

The forested wetlands on the refuge are an excellent example of an intact and functioning floodplain. Dominant overstory species include tupelo gum, black gum, red maple, sweet gum, swamp chestnut oak, ash, hickory, sycamore, water oak, willow oak, and overcup oak. Common understory species include honeysuckle, trumpet creeper, muscadine, rattan vine, poison ivy, and river cane.

The rich and varied habitats found on the refuge provide for a diversity of wildlife. Endangered species that occur in the area include the shortnose sturgeon and wood stork.

One threatened species in the area is the Southern bald eagle. An active eagle nest is located on the refuge and a number of eaglets have fledged from this site over the past ten years.

Waterfowl make extensive use of the wetlands during their migration and wintering periods. Principal species include the mallard, wood duck, black duck, blue-winged teal, and ring-necked duck. The area contains outstanding wood duck habitat and is a haven for many species of marsh and water birds. Isolated beaver ponds serve as rookery sites and loafing grounds for water birds.

The floodplain forests of the refuge are extremely important for populations of neotropical migratory birds and other bird species. Species of special concern which use the refuge for nesting and migration include the Swainson's warbler, prothonotary warbler, yellowbill cuckoo, Acadian flycatcher, and wood thrush. Other species include woodpeckers, doves, kingfishers, hummingbirds, goatsuckers, swifts, galliformes, and raptors.

Numerous mammalian species also inhabit the refuge. White-tailed deer are numerous. The refuge area has a long history of deer hunting with hunting done by the previous owners. Feral hogs are very abundant and cause extensive habitat damage. Rabbits, beaver, mink, muskrat, squirrels, and other small mammals are common. Black bears are also found on the refuge.

The area's combination of warm climate and moist conditions provides ideal habitat for a variety of reptilian and amphibian species. The most notable member of the group is the American alligator, which is found in small numbers.

2. CONFORMANCE WITH STATUTORY AUTHORITIES

Establishing and Acquisition Authorities: Fish and Wildlife Act of 1956 (16 U.S.C. 742f(b)(1)); Emergency Wetlands Resources Act of 1986 (16 U.S.C. 3901(b) 100 Stat. 3583).

Purpose for which the Refuge was Established: "...for the development, advancement, management, conservation, and protection of fish and wildlife resources..." and "...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..."

"...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..."

OTHER APPLICABLE LAWS, REGULATIONS, AND POLICY:

National Wildlife Refuge System Improvement Acto of 1997

National Wildlife Refuge System Administration Act of 1966 (16 U.S.C. 668dd-668ee)

Refuge Recreation Act of 1962 (16 U.S.C. 460k-460k-4)

Title 50 of the Code of Federal Regulations Subchapters B and C

The Refuge Manual

The Service Manual

Emergency Wetlands Resources Act of 1986 (16 U.S.C. 3901(b)

Endangered Species Act of 1973 (16 U.S.C. 1531-1543)

Bald Eagle Protection Act of 1940 (16 U.S.C. 668-668d)

National Environmental Policy Act of 1969 (P.L. 91-190, 42 U.S.C. 4321-4347)

Migratory Bird Treaty Act of 1918 (16 U.S.C. 703-712)

Migratory Bird Hunting and Conservation Stamp Act (16 U.S.C. 718-718h)

Under the National Wildlife Refuge System Improvement Act of 1997 and the Refuge Recreation Act of 1962, the Service may not permit public recreational activities on a national wildlife refuge unless the activities are first determined to be compatible with the purposes of the refuge. In 1999 an interim Compatibility Determination was completed as part of the Environmental Assessment and Land Protection Plan for the proposed expansion of Bond Swamp Refuge. The 1999 Compatibility Determination determined that hunting as outlined in this hunt management plan is compatible with the purposes of Bond Swamp NWR. In response to a 2003 lawsuit filed by the Fund for Animals, the U.S. Fish and Wildlife Service will amend or rewrite environmental assessments that describe hunting programs at twenty-three national wildlife refuges located in the Southeast Region. The new environmental assessments will address the cumulative impacts of hunting at all refuges which were named in or otherwise affected by the lawsuit. This document has been revised to address these issues. A revised copy of the Compatibility Determination is attached. A funding statement has been prepared and is part of the Compatibility Determination. An Environmental Assessment, Environmental Action Memorandum, and Section 7 Evaluation were prepared with this document. A letter of concurrence from the State of Georgia will also be attached.

3. STATEMENT OF OBJECTIVES

The following objectives for Bond Swamp NWR were set during a planning process that included significant public involvement:

- (1) To preserve and protect a diverse, threatened wetland ecosystem and its associated values.
- (2) To preserve, protect, reestablish, and manage for endangered and threatened species of wildlife.
- (3) To manage for migratory birds with emphasis on providing optimum habitat for wintering waterfowl and enhancing nesting and brood habitat for wood ducks.
- (4) To manage for native wildlife species and their associated habitats.
- (5) To provide opportunities for compatible public, educational, interpretational, and recreational opportunities associated with wildlife and their habitats.
- (6) The objectives set during the refuge expansion project also addressed recreation with the following objective: to work in partnership with the local Ocmulgee Heritage Greenway to protect valuable natural resources and provide quality recreational opportunities.
 The National Wildlife Refuge System Manual states that the objectives for refuge hunting programs are as follows:
- (a). To provide the general public with a quality, wildlife- oriented recreational experience and an opportunity to utilize a renewable resource; and

(b). To maintain wildlife populations at levels compatible with the refuge habitat.

The hunting program objectives of this plan are to:

- (1). Control, and in as much as possible eliminate, a large feral hog population that is causing extensive damage to the refuge ecosystem and its flora and fauna.
- (2). Control and maintain the white-tailed deer population at a point where it is compatible with plant and animal communities.
- (3). Provide the public with compatible wildlife-oriented recreation through the use of a renewable resource.

Hunting as proposed in this plan will help the refuge meet its objectives through protecting a threatened ecosystem from damage, protecting the habitat of native wildlife and migratory birds, protecting unique and important plant species, and by providing the public with recreational opportunities associated with wildlife.

4. ASSESSMENT

Hunting in this area is a traditional form of wildlife-dependent recreation. The refuge has a long history of being hunted before acquisition by the U.S. Fish and Wildlife Service. Hunting by the previous owners helped keep feral hog populations under control and provide annual pressure to the deer population. The refuge was closed to hunting from 1989 to 1999 awaiting funding and staff. The feral hog and deer populations in the area increased until the flood of 1994 which dramatically reduced most wildlife populations in the floodplain. However by 1997 populations of deer and hogs had surpassed pre-flood conditions.

The Wildlife Resources Division for the Georgia Department of Natural Resources (GAWRD) estimates the deer population at 25-30 deer per square mile in the upper coastal plain and on adjacent state wildlife management areas. Based on this estimate the Bond Swamp Refuge deer population can be estimated at 288-345 deer. Average annual harvest from 1999-2006 was 20 deer or 6-7% of the population. There is a large base of scientific information published on deer population parameters and habitat utilization. Based on refuge harvest data and the published literature, the level of hunting pressure on Bond Swamp Refuge has not had a cumulative adverse effect on the deer population.

Warner Robins Air Force Base (WRAFB) has 8,500 acres just south of Bond Swamp Refuge on the west side of the Ocmulgee River. WRAFB issues 100-150 permits annually to military, civilian, and contract base personnel) for white-tailed deer and feral hog hunting. Annual harvest averages 60-70 deer and 250-300 feral hogs. Hunt seasons follow state deer hunting regulations and seasons. Feral hog hunting may be extended for up to 9 months depending on the extent of hog damage identified in a given year. The base also conducts a volunteer hog trapping program and currently has 12 contracts open. The objectives of the WRAFB hunt program are to bring an invasive species (feral hogs) under control and deer hunting contributes

to recreation, habitat management, and airfield safety. (WRAFB personal comm. 2007)

Feral hogs are a non-native species that eat practically anything including plants, nuts, berries, roots, salamanders, and snakes. They root up plants and the soil searching for food destroying both plants and animals in the process and also disturb areas of dirt by making large wallows. They also compete with native wildlife for acorns, berries, and other food. Some of the wildlife on the refuge adversely impacted by feral hogs, include black bears, neotropical birds, resident birds, small mammals, reptiles, and amphibians.

The feral hogs reproduce abundantly with a female having several litters per year and have few natural predators in the area. An alligator may occasionally take a pig swimming across a stream, but there is no effective predation to help keep the feral hogs population in check.

The feral hogs also carry a number of diseases that can infect domestic livestock and humans.

It is the policy of the Fish and Wildlife Service and the Department of the Interior to eliminate non-native and feral animal species. While the actual elimination of hogs from the refuge is probably not possible, public hunting will be an important tool in controlling the population to reduce damage they cause to the ecosystem.

A native species of wildlife present on the refuge, the white-tailed deer, also can and does adversely impact ecosystems. Deer have high reproductive potential and no natural predators in the area. Uncontrolled deer populations can reach the level where they overbrowse plants to the point of destroying plants, altering plant composition, altering wildlife populations that are dependant on plants communities, and in the process altering ecological succession and diversity. Public hunting is the most effective management tool available to keep deer populations compatible with refuge objectives.

The hog and deer hunting outlined in this management plan will help the refuge meet both management and public use objectives.

5. <u>DESCRIPTION OF HUNTING PROGRAM</u>

Bond Swamp NWR is in the acquisition stage and currently contains 7,348 acres. Most future acquisitions will be in the floodplain and primarily bottomland hardwoods. There are approximately 1,000 acres of uplands along and east of the Highway 23 and another approximately 170 acres on and adjacent to Brown's Mount.

Wild hogs are found primarily in the floodplain west of the highway and on Brown's Mount. White-tailed deer are found throughout the refuge except in open water areas.

Most of the refuge will be open to hunting. Exceptions will be a 700 foot primary protection zone around an active bald eagle nest and safety zones around facilities or trails. During the hunts, the area will be closed to all public use except for hunters with permits. This closure will be done for safety purposes.

Species to be hunted are feral hogs and white-tailed deer. Hunts may be conducted in September, October, December, January, and February. Hunting patterns and dates are subject to change to insure all hunts are biologically sound, provide quality recreation, and are in conformance with Service policy.

Permits are required for all hunts by policy and will be limited to ensure the hunt is compatible with objectives, is biologically sound, and is safe for the public and refuge neighbors.

A letter of concurrence from Georgia DNR is attached. Coordination is done with the State on a bi-annual basis.

Check stations will be used to gather biological data, provide hunter information, and to serve as a point of contact in case of emergencies or other hunter needs.

A combination of U.S. Fish and Wildlife Refuge Law Enforcement Officers from Piedmont and Bond Swamp Refuges and Georgia DNR Conservation Rangers will provide preventive and active law enforcement.

The hunts will be scheduled so they will not conflict with the Piedmont hunts. This will allow the Piedmont staff to assist any Bond Swamp staff with the hunt. The hunts will require 1 biological staff and 1-2 law enforcement officers (Refuge and/or DNR).

6. MEASURES TAKEN TO AVOID CONFLICTS WITH OTHER MANAGEMENT OBJECTIVES

- A. <u>Biological Conflicts:</u> An Intra Service Section 7 consultation has been prepared. There is no known conflict with any endangered species. A primary protection zone of 700 feet has been placed around the active bald eagle nest. This area will be closed to human entry. This meets requirements of the bald eagle recovery plan. Biological data will be collected and analyzed to ensure that the hunts are biologically sound and an annual hunt evaluation report discussing compatibility will be prepared by the refuge staff. An active law enforcement program will ensure regulation compliance and protect refuge resources.
- B. <u>Public Use Conflicts:</u> Measures taken to reduce conflict with other public uses will include setting hunt dates at a time when there will be minimal conflicts with other uses, establishing no hunting zones around public use facilities, closing the hunt area to other public use during the limited hunt seasons, and conducting a proactive education program about hunting. An active refuge law enforcement program will ensure regulation compliance and protect the public.
- C. <u>Administrative Conflicts:</u> The hunt program will be administered by Piedmont NWR which has a long established hunt administrative program. Hunts dates will be selected to minimize conflicts with the Piedmont hunts and the hunt administrative program.

7. CONDUCT OF HUNT

The general conduct of the hunts will be the same as past years and is described in the annual refuge specific hunting and fishing regulations. Specific regulations are developed for each hunt season and evaluated annually.

Hunting is and always has been a very important aspect of living in central Georgia. There has not been any serious opposition to hunting on Piedmont or Bond Swamp Refuges. During the 1999 Environmental Assessment 80 comments were received by the public. Only a couple comments referred to hunting in general. Since the hunting program was initiated the refuge has received only a few comments against hunting but many comments endorsing the hunting program or looking to expand the program. An educational program will stress the importance of hunting on the refuge. If the decision was made not to hold the hunts there would be a large public outcry of protest from the hunting community.

This hunt plan is conservatively based and designed to meet management needs and work out access and logistics problems associated with establishing hunting on the new refuge within the staffing and funding resources available. When the CCP for Bond Swamp is conducted additional hunting opportunities can be evaluated with additional public input and the additional base of biological information that should be available at that time. The deer and hog hunting programs will also be adjusted on a bi-annual basis in coordination and cooperation with the Georgia DNR.

Hunters must obtain a free refuge permit and sign-in at the check station prior to hunting. No quota or permit fee will be required at this time. Hunt permits may be obtained by mail or on site.

The standard Piedmont media list will be used to announce and publicize hunts. Demand is expected to remain high.

Orientation is not required but pre-hunt scouting is encouraged. Refuge staff post information at check stations and law enforcement officers provide information and assist hunters in the field.

Hunter requirements including age, type weapons, and hunter safety training have been and will continue to be coordinated with the Georgia DNR.

Hunters will be required to take all harvested deer and feral hogs to a refuge check station.

A list of stipulations necessary to ensure this activity is compatible with refuge objectives are also discussed in the Bond Swamp Compatibility Determination for hunting white-tailed deer and feral hogs. Hunting may be permitted in accordance with special refuge and State of Georgia regulations and licensing/permitting requirements, with the following exceptions:

The refuge will be open for public use during daylight hours only.

Vehicle use will be limited to open maintained roads.

Some areas of the refuge may be zoned or restricted to season of use while others areas may be closed to all public use.

Boats or other personal equipment may not be left on the refuge overnight.

No gasoline boat motors will be allowed, except on the Ocmulgee River.

Firearms/bows will be prohibited except during permitted refuge hunts.

Biological data will be collected and analyzed to ensure that the hunts are biologically sound and annual hunt evaluation reports discussing compatibility will be prepared by refuge staff.

An active refuge law enforcement program will ensure regulation compliance and protect refuge resources.

No public camping will be allowed.

When the refuge's Comprehensive Conservation Plan is completed, additional refuge-specific regulations may be implemented.

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Figure 1. Map of Bond Swamp NWR depicting refuge boundary and areas designated as open or closed to hunting.

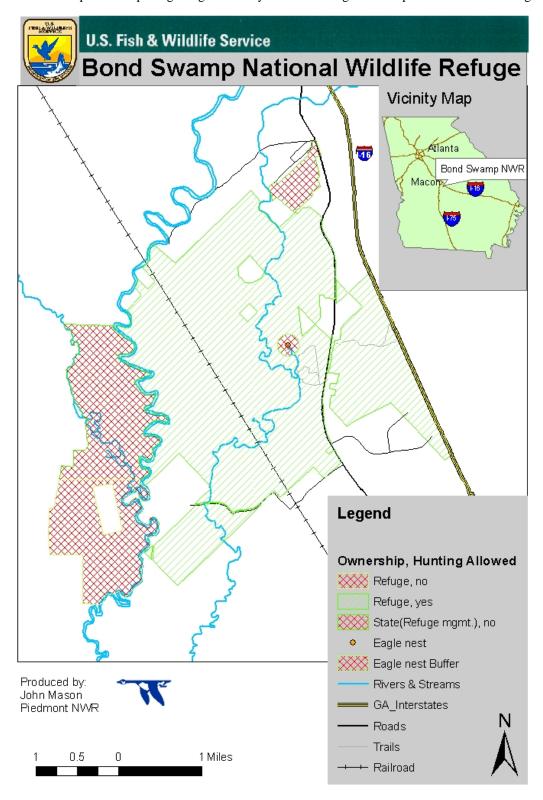


Table 1. Bond Swamp National Wildlife Refuge deer and feral hog hunt history 1999 – 2007

YEAR	ARCHERY		DECEMBER DEER / HOG		JANUARY HOG ONLY		FEBRUARY HOG ONLY		TOTAL # DAYS a	TOTAL #HUNTERS SIGNED IN	TOTAL DEER HARVESTED	TOTAL HOGS HARVESTED
	DEER	HOG	DEER	HOG	DEER	HOG	DEER	нос				
1999-2000			20	33		3		17	9 (0)	130	20	53
2000-2001	8	11	11	14		23		10	9 (4)	330	19	58
2001-2002	8	4	11	9		11		26	15 (6)	295	19	50
2002-2003	9	22	13	35		48		18	15 (6)	359	22	123
2003-2004	3	17	28	13		11		8	22 (13)	357	31	49
2004-2005	6	20	11	23		39		12	22 (13)	353	17	94
2005-2006	4	8	11	6		23		10	32 (23)	427	15	47
2006-2007	3	15	11	21		47		24	30 (21)	424	14	107

Total days () = # archery days in total

Quota for gun hunts increased in the 2001-2002 season: December deer/hog hunt = 75 to 100

Hog hunts = 75 to 150

Quota for gun hunts increased in the 2005-2006 season: December deer/hog hunt=remained at 100 Hog hunts =150 to 200

Table 2. Bond Swamp National Wildlife Refuge hunter participation 1999 – 2007

YEAR	ARCHERY		DECEMBER DEER / HOG		JANUARY HOG ONLY		FEBRUARY HOG ONLY		TOTAL # DAYS a	TOTAL #HUNTERS SIGNED IN	TOTAL DEER HARVESTED	TOTAL HOGS HARVESTED
		# sign- in	# paid	# sign- in	# paid	# sign- in	# paid	# sign- in				
1999- 2000			65	61	47	24	34	45	9 (0)	130	20	53
2000- 2001		215	56	51	x	34	х	30	9 (4)	330	19	58
2001- 2002		122	73	61	81	58	79	54	15 (6)	295	19	50
2002- 2003		157	77	50	112	87	87	65	15 (6)	359	22	123
2003 - 2004		184	82	65	100	74	105	65	22 (13)	357	31	49
2004 - 2005		217	68	55	107	81	99	74	22 (13)	353	17	94
2005 - 2006		143	77	55	161	129	145	100	32 (23)	427	15	47
2006- 2007		143	84	60	152	110	150	111	32 (23)	424	14	107

Hog hunts = 150 to 200

Total 150 hunters paid 2000-2001- 56 paid for deer/hog and remaining 94 paid for 2 hog hunts. Χ

Total days () = # archery days in total Quota for gun hunts increased in the 2001-2002 season: December deer/hog hunt = 75 to 100 Hog hunts = 75 to 150

Quota for gun hunts increased in the 2005-2006 season: December deer/hog hunt =remained at 100