

DRAFT

HUNTING PLAN
MIGRATORY BIRDS AND BIG GAME
HILLSIDE NATIONAL WILDLIFE REFUGE

Prepared:

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HILLSIDE NWR

TABLE OF CONTENTS

I. INTRODUCTION

- A. Location and General Description
- B. Habitat and Wildlife
- C. Refuge Development
- D. Refuge Objectives

II. HUNTING PROPOSAL AND JUSTIFICATION

- A. Big Game
- B. Migratory Birds

III. INTER-RELATIONSHIP WITH OTHER PROJECTS OR PROGRAMS

IV. FUND AND MANPOWER REQUIREMENTS

- A. Estimate for Entire Program
- B. Estimate for Each Hunt

APPENDIX A - Figure 1 - Designated Open Area for Waterfowl Hunt

I. INTRODUCTION

A. Location and General Description

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Hillside National Wildlife Refuge occupies 15,383 acres of west central Mississippi in the Mississippi/Yazoo River alluvial plain thirteen miles north of Yazoo City. The refuge is situated at the foot of the loess bluff hills between the hills and the Corps of Engineers Hillside Floodway levee in Holmes and Yazoo Counties.

The alluvial soils of the area are high in natural fertility and have clay, silty clay, silty clay loam, or silt loam textures. Very fine sandy loam, fine sandy loam, sandy loam, loam, and loamy sand are also present. Topography is flat to gently sloping. The climate is humid sub-tropical with an average annual temperature of 64.8 degrees. Mean annual rainfall is 51.8 inches. Economy in the sparsely populated area is centered around specialized agriculture. Major crops are cotton and soybeans.

Historically, the Yazoo Basin produced an abundance of diverse fish and wildlife resources. The clearing of bottomland hardwood forests in this century to produce agricultural crops has resulted in a drastic decline in these high quality resources.

Refuge lands were purchased by the Army Corps of Engineers under their Hillside Floodway, Yazoo Basin Project and transferred to the Fish and Wildlife Service in 1974 for operation as a National Wildlife Refuge. The refuge functions as a silt collection sump via a cutoff levee containing the altered channels of Black and Fannequasha Creeks.

B. Habitat and Wildlife

Refuge habitat types are dominated by bottomland hardwoods interspersed with bald cypress/tupelo-sloughs and "brakes" (Type 7 wetlands) in the wetter areas and buttonbush, water elm, swamp privet, and willow (Type 6 wetlands) in the more shallow depressions. Adjoining refuge land totaling 3,573 acres is in agricultural production under the Service's cooperative farming program.

The fauna is diverse with many popular and important species present. Refuge wetlands are noted for large waterfowl wintering populations. Mallards are the most numerous species with wigeon, pintail, green-winged teal, and wood ducks being common. Waterfowl concentrations of up to 125,000 have been observed in recent years. Vast acreages of agricultural land in the Yazoo Basin attract high concentrations of mourning dove. This species has probably suffered less from changing agricultural practices than any other. Numerous species of shore birds and other migratory and resident birds

utilize the refuge. Gray and fox squirrel, white-tailed deer, swamp and cottontail rabbit, raccoon, and bobwhite quail are the principal resident game species. Common furbearing species include nutria, beaver, raccoon, muskrat, and bobcat. The endangered American alligator occurs naturally on the refuge and the southern bald eagle, also endangered, is an occasional winter visitor. Non-game wildlife is also abundant in the Basin. Mississippi State University listed 46 species of mammals, 168 species of birds, and 83 species of herpetofauna in the Yazoo Backwater Area in their Environmental Inventory and Assessment of the Yazoo Pump Study. Sloughs, streams, and marsh areas support a number of warm water fishes. Fishery resources have been seriously reduced by the Hillside Floodway Project.

C. Refuge Development

Graveled roads border the refuge to the south and east, and U.S. Highway 49 E follows the west boundary from Techeva Creek at the Holmes/Yazoo County line to the Hillside Floodway levee just north of Parker Bayou. The levee and the Howard blacktop road intersect at the north end of the refuge to complete the all weather, perimeter road system. An east-west hard surface road bisects the refuge 4.5 miles east of Thornton, Mississippi. Only a few deteriorated logging and farm access roads are present within the refuge interior. Several abandoned farm tenant shacks and one hunting cabin that still remain will be removed in the near future. Approximately 7 miles of barbed wire fence have been removed. Prior to FWS ownership of Hillside Refuge 3,573 acres of bottomland hardwood timber were cleared and placed in agricultural production. Approximately 1,600 acres of the agricultural land is in the Turkey Point agricultural unit at the south end of the refuge. The Corps of Engineers Hillside Floodway levee that borders the refuge to the west contains runoff from the altered channels of Black and Fannegusha Creeks and diverts water flow into Parker Bayou at the west end of the Turkey Point agricultural unit.

Renovation of two existing buildings to meet temporary office and storage needs was completed in FY78. A 30'x60' permanent storage/maintenance building located on the Christmas Plantation agricultural unit is nearing completion.

Proposed development consists of: construction of a 2.3 mile embankment and two water control structures to seasonally inundate a 3,000 acre waterfowl impoundment; construction of additional support facilities at the maintenance complex site, construction of one self-service visitor center, one 12 mile interpretive driving trail, and two walking trails; and rehabilitation of 6.1 miles of existing roads and 18.5 miles of ditch drains.

D. Refuge Objectives

Specific refuge objectives have not yet been established. NWR System objectives and FWS intent, however, clearly indicate our primary goals to be endangered species preservation and enhancement, waterfowl protection and habitat enhancement, bottomland hardwood habitat preservation, and provision of substantial opportunities for wildlife-oriented public use.

II. HUNTING PROPOSAL AND JUSTIFICATION

The proposal will allow regulated sport hunting within the framework set forth by the state of Mississippi through the issuance of annual regulations which establish open seasons, season lengths, daily bag and possession limits, shooting hours, time and area closures, and other species management provisions. Hunts will be further controlled by the operation of a hunter information/check station, field observations and bag checks, and vehicle limitations. Time and space scheduling and/or zoning may be employed if circumstances justify such action to buffer conflicting refuge uses.

A huntable population of white-tailed deer exists on the refuge, and annual harvest will be necessary to maintain the herd and its supporting habitat in a desirable and healthy status. State recommendations on season lengths and harvest quotas will be used as a base for the establishment of annual deer hunting regulations. Eastern wild turkey are known to exist in the loess hills east of the refuge. At the present time however, use of the refuge by this species is limited and an open season is not planned.

The planned action also proposes to open certain refuge lands to the hunting of migratory waterfowl and mourning dove. Sixty percent of the refuge will remain closed to waterfowl hunting. The planned 3,000 acre impoundment will be located in the closed area which will provide ample sanctuary for ducks to rest and feed. Waterfowl hunting will be allowed three days per week in the morning hours only. The hunt plan proposes the mandatory use of steel shot and a daily check in/out policy for waterfowl hunters. Mourning dove hunts will be alternated between several agricultural fields ranging in size from 50 to 200 acres. Woodcock, snipe and rail will be included as incidental species during waterfowl hunts when State seasons for these species coincide with refuge waterfowl seasons. State bag and possession limits apply for all species.

A. Big Game

Administration of Big Game Hunt

Deer kills must be checked in at an established refuge information/check station or at the refuge headquarters. Vehicle operation on refuge lands will be restricted to the perimeter road system, the Thornton blacktop road, and designated interior roads. Off-road vehicles will be restricted to those roads open to two-wheel drive vehicles.

Data

Yazoo Basin soils and loess deposits influencing the refuge are fertile and produce high quality white-tailed deer habitat capable of supporting one deer per 12-15 acres. Deer density on the 11,800+ acres of available habitat is estimated at one deer per 25-28 acres or about 420 to 470 deer. Optimum density from a refuge management standpoint would be in the neighborhood of one deer per 20 acres of habitat.

Estimated Hunter Participation and Harvest

Between 125 and 200 deer hunters are expected to participate in refuge deer hunts. The present population level and a hunter success ratio of 27.3 percent (Mississippi Mail Survey of Game Harvest for 1976-77) indicate a harvest in the range of 30 to 50 deer. Crippling loss would increase the kill by another 10 to 15 percent.

Justification

Based on quantitative and qualitative measures of deer habitat present on the refuge and on population parameters of the proposed species, annual hunting seasons can be legitimately employed to consume that segment of the population referred to as the "annual surplus". This proposal will provide substantial outdoor recreational opportunities to the public in a region where sport hunting is a principal recreational pursuit.

Deer density is expected to increase substantially as a result of habitat capability and management afforded under the FWS refuge program.

B. Migratory Birds

Administration of Migratory Bird Hunts

A permit system employed during waterfowl and mourning ^{grouse} hunts will require hunters to check in/out daily at an established information/check station. This system will serve to acquaint hunters with refuge regulations and will allow the collection of reliable harvest data.

Data

Winter waterfowl use is highly dependent on the degree of rainfall in the Black Creek watershed. During years when water levels are within the normal range, waterfowl use peaks at approximately 125,000 ducks. Waterfowl use days are in the range of from 6 to 9 million annually. About 70 percent of wintering waterfowl using the refuge are mallards. Wood duck, teal, wigeon, and pintail are other notable species.

Fall mourning dove populations in the Yazoo Basin are considered high. Densities during the hunting seasons are dependent on agricultural and climatic conditions and on migrations of birds fledged in other states.

Population data on woodcock, snipe, and rail on the refuge is limited.

Estimated Hunter Participation and Harvest

For the 1977-78 waterfowl season, 4,394 state duck stamps were sold in Holmes, Yazoo, and Hinds Counties. Since a notable portion of the quality waterfowl habitat in this three county area occurs in the Hillside Floodway, it is estimated that 50% of Yazoo and Holmes County duck hunters will hunt on Hillside Refuge along with an equal number of Hinds County hunters. Participation from outside the three county area is expected to be somewhat limited. The total number of duck hunters expected on the refuge is estimated at 700 to 750. According to the Mississippi Mail Survey of Game Harvest for 1976-77, Delta waterfowl hunters averaged 8.9 days afield and bagged a mean of 23.6 ducks for the season. Based on the above data and assumptions, and taking into consideration the planned three half-day per week hunts, a logical estimate of hunter participation would be 2,700 to 3,100 hunter use days. The expected harvest is 7,000 to 8,000 ducks. A crippling loss of 20 percent, or 1,500 ducks, is expected.

Dove hunter participation and harvest are highly variable and are dependent largely on fall dove concentrations. During the 1976-77 season Mississippi Delta dove hunters harvested an average of 7.13 birds per day afield. From 100 to 200 hunters per day are expected to participate in refuge dove hunts during average to good years. The expected daily harvest is \pm 1,000 birds.

Woodcock, snipe, and rail harvest is expected to be small.

Justification

Historically, refuge wetlands and agricultural lands have been noted waterfowl and dove hunting areas. It is desirable to continue these activities, although with greater restrictions, in order to provide public hunting opportunities and to utilize renewable resources.

Sixty percent of the refuge will be maintained as a sanctuary for feeding and resting waterfowl while the remainder will be open to hunting for 3 half-days per week during the statewide waterfowl season. In addition to encouraging greater waterfowl use of the hunted area, this should also lead to greater hunter success and quality hunting.

III. INTERRELATIONSHIP WITH OTHER PROJECTS OR PROGRAMS

Program design and management for Hillside Refuge will focus on migratory waterfowl protection and habitat preservation and enhancement. The proposal is not expected to have any significant impact on these objectives. A minimum of 60 percent of the refuge will be maintained as a waterfowl sanctuary throughout the waterfowl hunting season. Waterfowl hunting on the remaining portion of the refuge will be limited to 3 half-days per week during the statewide season and subject to annual migratory bird hunting regulations designed to limit the harvest of migratory birds to desirable levels. Dove hunting fields will be located to minimize lead shot deposition in refuge wetlands.

The endangered American alligator is known to occur in refuge wetlands and the southern bald eagle is an occasional winter visitor. Several ivory-billed woodpecker sightings have been reported near the refuge in recent years by amateur birdwatchers, but none have been confirmed. Although potential does exist for conflicts between the hunting program and endangered species, the disturbance level is expected to be minimal and below that of similar non-refuge habitats in the Yazoo Basin.

Migratory bird and big game seasons will overlap to some degree with small game hunts. No conflicts of any consequence are expected.

Sport fishing and hunting activities will overlap to some degree, particularly during the fall period. No conflicts of any consequence are expected, however, because of the nature of habitats present and the time span between peak use periods for these activities.

The demand for non-consumptive wildlife-oriented public use on Hillside NWR is moderate and a slow but constant increase is expected. No conflicts of any consequence are expected to occur. Should a serious melee arise, consideration will be given to time and space scheduling and/or zoning.

IV. FUND AND MANPOWER REQUIREMENTS

A. Estimate for Entire Program

<u>1. General Administration</u>	<u>Man Days</u>	<u>Cost</u>
a. Hunting plan & environmental assessment preparation, rule-making procedures	67	\$ 4,900
b. Printing of regulations, news releases; inquiries, public meetings, informational bulletin preparation & placement	22	1,750
<u>2. Enforcement</u>		
Exclusive of assistance from state conservation officers and federal special agents	74	4,330
<u>3. Public Use and Harvest Surveys</u>	7	500
<u>4. Information/Check Station Operation</u>	36	1,040
<u>5. Equipment Use, Fuel, Etc.</u>		1,440
	Total O & M	<u>\$13,960</u>
<u>6. Capital Investments</u>		
1 Hustler ATV and Trailer		3,100
2 Honda ATVs		1,600
2 Trucks, ½ ton, 4x2		10,000
2 Mobile Radios		2,400
1 Portable Information/Check Station		1,100
Misc. Law Enforcement Equipment		720
		<u>\$18,920</u>

B. Estimate for Each Hunt

1. <u>Waterfowl</u>	<u>Man Days</u>	<u>Cost</u>
a. Enforcement	40	\$2,400
b. Information/Check Station Operation	30	840
c. Equipment Use, Fuel, Etc. (2,000 miles)		750
Total O & M	70	\$3,990
2. <u>Dove</u>		
a. Enforcement	8	480
b. Information/check station operation	6	200
c. Equipment Use, Fuel, Etc. (1,000 miles)		380
Total O & M	14	\$1,060
3. <u>Deer (Archery)</u>		
a. Enforcement	14	750
b. Public Use & Harvest Survey	3	200
c. Equipment Use, Fuel, Etc. (1,100 miles)		170
Total O & M	17	\$1,120
4. <u>Deer (Muzzle Loader)</u>		
a. Enforcement	12	700
b. Public Use & Harvest Survey	4	300
c. Equipment Use, Fuel, Etc. (900 miles)		140
Total O & M	16	\$1,140

Figure 1

Hillside National Wildlife Refuge

HOLMES AND YAZOO COUNTIES, MISSISSIPPI

