

UNITED STATES FISH AND WILDLIFE SERVICE

ENVIRONMENTAL ACTION STATEMENT

Within the spirit and intent of the Council of Environmental Quality's regulations for implementing the National Environmental Policy Act (NEPA) and other statutes, orders, and policies that protect fish and wildlife resources, I have established the following administrative record and have determined that the action (see attachment): Amending Public Access Plan and Hunting and Fishing Plan

___ is a categorical exclusion as provided by 516 DM 2, Appendix 1, and 516 DM 6 (1.4B. 2).

No further documentation will therefore be made.

X is found not to have significant environmental effects as determined by the attached Environmental Assessment and Finding of No Significant Impact.

___ is found to have significant effects, and therefore further consideration of this action will require a notice of intent to be published in the Federal Register announcing the decision to prepare an EIS.

___ is not approved because of unacceptable environmental damage, or violation of Fish and Wildlife Service mandates, policy, regulations, or procedures.

___ is an emergency action within the context of 40 CFR 1506.11. Only those actions necessary to control the immediate impacts of the emergency will be taken. Other related actions remain subject to NEPA review.

Other supporting documents (list):

X Environmental Assessment and FONSI

X Compatibility Determination

X Public comments

X Intra-Service Section 7 Evaluation

[Signature] 1-22-04
(1) Initiator Date

[Signature] 2-5-04
(2) RHPO Date

Jeffrey C. Gorn 2-5-04
(3) REC Date

Tad W. Wright 2/5/04
(4) RC-NWRS Date

Christian W. Wooten 2/9/04
(5) RD Date

ACTING



Selection of Alternative and Finding of No Significant Impact

Amendments to the Public Access Plan and Hunting and Fishing Plan for Big Oaks National Wildlife Refuge Jefferson, Jennings and Ripley Counties, Indiana

An Environmental Assessment (EA) has been prepared to identify and publicly disclose the possible environmental consequences that amendments to the Public Access Plan and Hunting and Fishing Plan and the subsequent implementation of could have on the quality of the physical, biological, and human environment as required by the National Environmental Policy Act of 1969 (NEPA). The EA evaluated two action alternatives for implementing revisions to the Hunting and Fishing Plan and Public Access Plan. The EA also evaluated the consequences of no action by the Service.

Alternative Selection: Alternative C, which recommends amendments to the current Public Access Plan and the Hunting and Fishing Plan is selected for implementation.

Justification: Amendments to the current Public Access Plan and Hunting and Fishing Plan would provide more recreational opportunities for visitors of the refuge with minimal impact to habitat and wildlife. Expanded opportunities such as squirrel hunting and the collection of wild edible foods and shed deer antlers for personal use would be allowed on the refuge. All recreational activities would be limited and conducted under provisions of the public access plan and hunting and fishing plan with visitor enjoyment and safety as foremost considerations.

Finding: Based on an evaluation of the information contained in the Environmental Assessment and supporting documents, the amendments to the Public Access and Hunting and Fishing Plans of Big Oaks National Wildlife Refuge under Alternative B is not a major federal action which would significantly affect the quality of the human environment within the meaning of Section 102(2)(c) of the National Environmental Policy Act of 1969.

Supporting Documents:

Environmental Assessment

Interim Comprehensive Conservation Plan

Final Environmental Impact Statement for the Disposal of Reuse of the Jefferson Proving Ground (U. S. Army 1995).

Public Access Plan

Hunting and Fishing Plan

ACTING


Regional Director

2/9/04
Date

U. S. DEPARTMENT OF THE INTERIOR

FISH AND WILDLIFE SERVICE

ENVIRONMENTAL ASSESSMENT

Final (01/30/04)

for

Activities on Portions of Big Oaks National Wildlife Refuge as Proposed in the Revised Interim Hunting and Fishing and Public Access Plans.

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Abstract:

The U. S. Fish and Wildlife Service proposes to amend the hunting and fishing and public access plans for squirrel hunting, recreational fishing, and gathering activities (wild food and deer antlers). This Environmental Assessment is submitted to comply with the National Environmental Policy Act, major National Wildlife Refuge System goals regarding outdoor recreation opportunities, and Refuge objectives for providing compatible fish and wildlife-dependent recreation. Alternatives considered in this proposal include: A) No action (existing plan), B) amendments to Hunting and Fishing and Public Access Plans, except non-wildlife dependent use activities (i.e., collecting wild food and shed deer antlers) would not be permitted, and C) preferred alternative; amend the Hunting and Fishing and Public Access Plans to include squirrel hunting and special event fishing as well as gathering wild foods and shed deer antlers.

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SECTION 1. PURPOSE AND NEED FOR ACTION

INTRODUCTION

The U. S. Fish and Wildlife Service (Service) proposes to amend the hunting and fishing and public access plans for Big Oaks National Wildlife Refuge (NWR) for squirrel hunting, recreational fishing, and gathering activities (wild food and deer antlers). The Big Oaks NWR was established on June 1, 2000, under the authority of the Fish and Wildlife Act of 1954 "...for the development, advancement, management, conservation, and protection of fish and wildlife resources..." (16 U. S. C. § 742f (a) (4)). It is intended to fill a public need for the development, advancement, management, conservation, and protection of forest interior habitat and large contiguous blocks of grassland and shrubland habitat. It also conserves and protects an area known for its high quality summer habitat for the Indiana bat (*Myotis sodalis*). The refuge contributes to goals for ecosystem conservation and restoration, threatened and endangered species recovery, neotropical migrant bird conservation, biological diversity, and fish and wildlife oriented public recreation.

PURPOSE

The U. S. Fish and Wildlife Service proposes to amend the hunting and fishing and public access plans for squirrel hunting, recreational fishing, and gathering activities (wild food and deer antlers). This Environmental Assessment is being completed to evaluate the impacts to the resources on Big Oaks NWR that would be caused by amending the existing plans and to avoid, minimize, or mitigate for any adverse impacts if the plans are amended.

NEED

Providing compatible wildlife-dependent recreation on units of the National Wildlife Refuge System has always been a Service priority. In fact, one of the goals of the National Wildlife Refuge System is to provide refuge visitors with high quality, safe, wholesome, and enjoyable recreational experiences oriented toward wildlife to the extent these activities are compatible with the purposes for which the refuge was established."

In addition, the National Wildlife Refuge Administration Act of 1966 as amended in The Refuge Improvement Act of 1997 finds in Section 2, "When managed in accordance with principles of sound fish and wildlife management and administration, fishing, hunting, wildlife observation, and environmental education in national wildlife refuges have been and are expected to continue to be generally compatible uses."

In summary, the non-wildlife dependent and wildlife dependent activities, as herein proposed, are intended to: A) fulfill the Service's commitment to provide the public opportunities for outdoor recreation; B) provide valid fish and wildlife management techniques to influence the distribution and abundance of these animals to aid Big Oaks NWR habitat restoration and management activities; C) help insure healthy wildlife populations in balance with available habitat.

DECISIONS THAT NEED TO BE MADE

The Regional Director, U. S. Fish and Wildlife Service, Twin Cities, Minnesota, is the official responsible for determining the action to be taken in the proposal by choosing a proposed action (preferred alternative). The Service Director must also determine whether the selected alternative has a significant impact on the quality of the human environment, thus requiring the preparation of an Environmental Impact Statement (EIS).

PERMITS, LICENSES, AND OTHER COMPLIANCES REQUIRED

Permits: No federal, state or local permits or licenses are required to institute Big Oaks NWR public hunting and fishing programs, or other public use activities.

Endangered species: The Big Oaks NWR is within the known range of federally listed endangered or threatened species. Those species in jeopardy on a national basis include 1- Federally threatened and 1- Federally endangered listed species in areas in which the Service will be managing the natural resources.

A consultation pursuant to Section 7 of the Endangered Species Act was conducted as part of this assessment and is attached. No impacts are anticipated.

Historic preservation: Public use on National Wildlife Refuges, including hunting and fishing activities, can sometimes result in adverse effects to known and unknown historic properties including damage to historic structures, illegal collecting on archeological sites, and soil compaction and erosion of archeological sites.

Compatibility and Funding Certification: In compliance with the National Wildlife Refuge System Administrative Act and the Refuge Recreation Act, public uses must be compatible with the purpose(s) of a refuge and funding for administration of the use must be available. Attached are completed compatibility and funding certifications.

SECTION 2. ALTERNATIVES

Alternatives were developed that would be consistent with restrictions imposed on the Service under the Army MOA and related safety and environmental concerns and would complement future management programs of the refuge.

ALTERNATIVES ELIMINATED FROM DETAILED STUDY

An alternative was considered and dismissed from the study due to UXO safety issues related to the use of restricted access areas for public recreation. Specific areas on Big Oaks NWR have been designated by U.S. Army as restricted to all public entry due to the presence of UXO. Under this alternative these areas would have been used for recreation, therefore this alternative was dismissed because it failed to consider safety considerations specific to Big Oaks NWR.

Another alternate was considered and dismissed from the study due to regulations preventing the U.S. Fish and Wildlife Service from catering to special interest groups, which would subsequently reduce recreation opportunities to the general public. This alternative would have allowed hunting and fishing on designated areas of Big Oaks NWR after determining that: 1) such activity is consistent with resource objectives, and 2) biological monitoring programs on Big Oaks NWR or local Indiana Department of Natural Resources (IDNR) properties provide adequate assurances that target species support a harvestable surplus and would have provided former JPG sponsors special use privileges to access Big Oaks NWR for recreation opportunities. This alternative would have required a grandfather clause inserted into the Hunting and Fishing Plan delegating these special recreation privileges.

DESCRIPTION OF ALTERNATIVES CARRIED FORWARD FOR DETAILED ANALYSIS

Alternative A: No Amendments to the Hunting and Fishing and Public Access Plans, thus, no inclusion of squirrel hunting, non-wildlife dependent uses or revisions for recreational fishing (No Action).

Under this alternative, the refuge would remain closed to squirrel hunting. Only those hunting (deer and turkey) and fishing activities outlined in the current Hunting and Fishing and Public Access Plans would continue to be conducted in designated areas of the refuge.

The allotted number of boaters on Old Timbers Lake would remain the same. Fishing activities would only take place at Old Timbers Lake. And the collection of wild edible foods and shed deer antlers would not be permitted.

Alternative B: Amendments to the Hunting and Fishing and Public Access Plans would permit squirrel hunting and fishing on portions of Big Oaks NWR. Non-wildlife dependent uses (e.g., collecting/gathering of wild foods or shed deer antlers) would not be permitted.

This alternative would allow squirrel hunting on designated areas of Big Oaks NWR after determining that: 1) such activity is consistent with resource objectives and 2) biological monitoring programs on Big Oaks NWR or local Indiana Department of Natural Resources (IDNR) properties provide adequate assurances the target species supports a harvestable surplus. Existing areas of Big Oaks NWR currently proposed under this alternative are shown in the attached Hunting and Fishing Plan.

Squirrel hunting would be conducted in accordance with all applicable state and federal regulations. Coordination with IDNR biologists will promote continuity and understanding of Service and state resource goals and objectives, and will help assure that the decision-making process takes into account all interests.

Fishing interests will concentrate on large and smallmouth bass, bluegill, and catfish at Old Timber's Lake and special event fishing on refuge ponds and streams. The number of boats on

Old Timbers Lake would increase in number from 20 to 25.

Non-wildlife dependent uses (e.g., collecting/gathering of wild foods or shed deer antlers) would not be permitted under this alternative.

Alternative C (Preferred Alternative): Amendments to the Hunting and Fishing and Public Access Plans would permit squirrel hunting and fishing as well as gathering wild foods and shed deer antlers on portions of Big Oaks NWR.

This alternative would allow squirrel hunting on designated areas of Big Oaks NWR after determining that: 1) such activity is consistent with resource objectives and 2) biological monitoring programs on Big Oaks NWR or local IDNR properties provide adequate assurances the target species supports a harvestable surplus. Existing areas of Big Oaks NWR currently proposed under this alternative are shown in the attached Hunting and Fishing Plan.

Squirrel hunting would be conducted in accordance with all applicable state and federal regulations. Coordination with IDNR biologists will promote continuity and understanding of Service and state resource goals and objectives, and will help assure that the decision-making process takes into account all interests.

Fishing interests will concentrate on large and smallmouth bass, bluegill, and catfish at Old Timber's Lake and special event fishing on refuge ponds and streams. The number of boats on Old Timbers Lake would increase in number from 20 to 25.

In addition, non-wildlife dependent activities, specifically the collection of wild edible foods (i.e., mushrooms, nuts, wild asparagus and berries) and shed deer antlers for personal use only will be allowed in the Day-use area and in the special hunt areas.

SECTION 3. AFFECTED ENVIRONMENT

BACKGROUND

The Service, U. S. Army (Army) and Air National Guard (ANG) negotiated a Memorandum of Agreement (MOA) under which much of the former Jefferson Proving Ground (JPG) in southern Indiana became Big Oaks NWR in June, 2000. The refuge is managed using an "overlay" concept. Under the MOA, the Service is granted exclusive rights to manage approximately 50,000 acres as wildlife habitat. However, the Army retains fee title ownership and all the authority, responsibility, and liability for environmental remediation of contamination resulting from past Army activities including unexploded ordnance (UXO), depleted uranium (DU) and other contamination. ANG continues bombing operations, which involve training munitions (i.e., inert munition with a spotting charge), on two inholdings within the refuge's boundary. These parcels and the small parcel containing Old Timbers Lodge are not part of the refuge (Fig. 1).

Detailed descriptions of the physical, biological, land use, cultural, local socio-economic conditions of JPG/study area can be found within the 1995 FEIS and the 2000 Interim

Comprehensive Conservation Plan for Big Oaks NWR. A short description of the affected environment is detailed below.

PHYSICAL CHARACTERISTICS

Big Oaks NWR is situated on over 50,000 acres in southeastern Indiana within Jefferson, Ripley, and Jennings Counties. The refuge is about 55 miles north/northeast of Louisville, Kentucky and just north of the Ohio River. The nearest communities are Madison, Indiana, about 5 miles south of the southern boundary of the refuge, and Nebraska and Holton, Indiana, just north of the northern site boundary. The refuge is rectangular with the approximate dimensions of 15 miles in the north-south direction by about 6 miles in the east-west direction. The refuge occupies land north of the firing line of the former JPG.

Big Oaks NWR is underlain by deep, nearly level and gently sloping, poorly drained and somewhat poorly drained soils formed in a thin mantle of loess and in the underlying glacial drift. The surface layer of the soil is generally dark grayish brown or grayish brown, mottled, silty sandy clay, to a depth of 12 inches. The subsoil layer is composed of silty sandy clay that is light gray, yellowish brown, mottled, and friable. The subsoil layer extends below a depth of 6.5 feet. The available water capacity of the soil is very high and the permeability is slow. There is a perched, seasonal high water table at or near the surface during the winter and spring months.

BIOLOGICAL ENVIRONMENT

Upland forests comprise 27,384 acres (54%) of the approximate 50,000 acre refuge. The upland forest classification includes both evergreen and deciduous species ranging in age from young (~15-30 years) to mature (≥ 50 years). The primary evergreen species at the refuge is eastern red cedar (*Juniperus virginiana*). Dominant deciduous trees include sweetgum (*Liquidambar styraciflua*), red maple (*Acer rubrum*) and black gum (*Nyssa sylvatica*) on poorly drained upland depression sites. Tulip poplar (*Liriodendron tulipifera*) and white ash (*Fraxinus americana*) are the species making up the young upland forests on well drained sites. White oak (*Quercus alba*), red oak (*Quercus rubra*) and shagbark hickory (*Carya ovata*) are the dominant species on intermediate and within some mature upland forests. American beech (*Fagus grandifolia*) and sugar maple (*Acer saccharum*) dominate the remainder of the mature upland forests.

Our second most abundant habitat at Big Oaks NWR is grasslands. This habitat type makes up 8,443 acres (17%) of the refuge. The dominant grassland species at the refuge appears to be broomsedge (*Andropogon* sp.).

Other habitat types at the refuge include 5,241 acres (10%) palustrine wetland, 3,113 acres (6%) woodland, 6,093 acres (12%) early successional, 156 acres (0.5%) of open water, and 173 acres (0.5%) of bare soil and paved areas. Woodland species composition is comparable to that of upland forest. The palustrine wetland category includes all growth stages of palustrine vegetation including early successional and forested wetland.

The value of the habitat within Big Oaks NWR has been recognized at both the state and national

levels. Big Oaks NWR has been named a Globally Important Bird Area by the American Bird Conservancy due to large Henslow's sparrow populations within the refuge's grassland areas. The Indiana Department of Natural Resources states that, "JPG is indeed a natural treasure that contains a full array of the region's natural communities and species assemblages."

Big Oaks NWR provides habitats for, and subsequently attracts, an abundance of wildlife species. Twenty-two species of amphibians, 17 species of reptiles, 46 species of mammals, and 200 species of birds have either been recorded or can reasonably be expected to be present on the refuge for a portion of the year.

Species of concern on a national basis include 2 federally threatened or endangered species on the refuge. Federally listed bald eagles occur onsite during migration. Potential nesting habitat does exist on the refuge but nesting has not been documented for the area. The site also contains summer breeding and foraging habitat for the Federally endangered Indiana bat. No hibernacula are known to exist on the property.

CULTURAL/PALEONTOLOGICAL RESOURCES

The aboriginal cultural history of the region may be subdivided into five broad temporal periods: Paleo-Indian (10,500 - 8000 B.C.), Archaic (8000 - 1500 B.C.), Woodland (1500 B.C. - A.D. 1050), Upper Mississippian/Fort Ancient (A.D. 1000 - 1700), and Historic Native American (A.D. 1675 - 1773) (Mbutu et. al. 1996). Several sedentary Native American groups lived in the Ohio River valley until they were driven out in the late seventeenth century by the Beaver Wars, fought among Native Americans over access to the European fur trade (Hunter 1978). Beginning in the seventeenth century, other Native American groups migrated or were forced west and southward into what is now Indiana (Brasser 1978:84; Hunter 1978:590; Peckham 1978:1).

By the eighteenth century several Native American groups including the Miami, Wea, Piankawahaw, and Shawnee inhabited eastern Indiana, where they lived in summer agricultural villages and winter temporary hunting/trapping camps. Later arrivals in the area included the Delaware, Potawatomi, and Kickapoo groups (Stafford 1985:2-15). The Delaware and the Potawatomi are reported to have occupied the land east of Butlerville in Jennings County (Leland et al. 1956:89) that is today part of JPG (Mbutu et. al. 1996).

Indiana Territory was created by an Act of Congress on May 7, 1800 (Muncie 1932:2). When Indiana Territory was established, there were no Euro-American settlements on the land that later became Jefferson, Jennings, and Ripley counties. The land on which JPG is situated today was acquired from Native Americans as part of the Grouseland Purchase of 1811 (Hawkins and Walley 1995:III-12).

Euro-American settlement of JPG and its vicinity can be traced back to about 1811 (Baker 1991:7). The earliest Euro-American families in Jefferson, Jennings, and Ripley counties were subsistence farmers. Subsistence farming remained the principal occupation during the early half of the nineteenth century. By 1940, the portions of Jefferson, Jennings, and Ripley counties on which the refuge is located consisted of an area of dispersed farmsteads, schools, churches,

cemeteries, and small crossroad communities. JPG was established in 1941.

In 1996, Army contractors completed a Cultural Resources Management Plan (Mbutu et. al. 1996) for the former Jefferson Proving Ground. The plan identified 153 recorded archeological sites on the facility. Of these, the Oakdale School built in 1869, the 1932 Old Timbers Lodge (located on IANG Jefferson Range) and 4 bridges are currently listed on the National Register of Historic Places. In addition, 8 bridges are considered eligible or potentially eligible.

The Service is responsible for adverse impacts from its activities (i.e., including public use activities of hunting, fishing, and gathering) on historic and cultural resources located on the overlay refuge (Army maintains fee title to the property). The Army retains full rights and responsibility for maintaining historic and cultural resources on the former JPG on which Big Oaks NWR is overlaid. The Air National Guard has been given responsibility for maintenance of these structures (4 bridges and Oakdale School and Old Timbers Lodge) under a permit from the Army. The Service regulates public use activities that could disturb to historic and cultural resources that are adjacent or contiguous with Big Oaks NWR. Existing refuge regulations include a prohibition for searching for or removal/possession of objects of antiquity or historical significance or unexploded ordnance, munitions and any other item associated with the Army's historical mission.

LOCAL SOCIO-ECONOMIC CONDITIONS

The population within the three counties totaled 78,074 based on the 1990 census. From 1990 to 1999, population increased an estimated 12% to 87,394 within the 3 county area. Land use within the 3 county's 758,914 acre area is predominantly agriculture (67%). In 1989, the primary employment sector was manufacturing followed by government, retail trade and services sectors.

The number of visitors (20,000 use days/year in 2003) attracted to Big Oaks NWR has a positive impact on the local economy. Bird watching, and wildlife observation in general, provides recreation as well as a source of income for surrounding communities. Local sporting goods stores, gas stations and hotels are among the businesses that benefit from the refuge, especially during refuge deer and turkey hunting seasons. The National Wildlife Refuge System, with over 540 units nationwide, is increasingly recognized by wildlife enthusiasts for providing quality destinations to enjoy their pursuits.

SECTION 4. ENVIRONMENTAL CONSEQUENCES

The Refuge Recreation Act of 1962 (16 U. S. C. 460K) and the National Wildlife Refuge System Administration Act of 1966 (16 U. S. C. 668-ddee) provide authorization for hunting and fishing on National Wildlife Refuges. The effects of hunting and fishing on refuges have been examined in several environmental review documents, including the Final Environmental Impact Statement on the Operation of the National Wildlife Refuge System (1976), Recommendations on the Management of the National Wildlife Refuge System (1978), and the Draft Environmental Impact Statement on the Management of the National Wildlife Refuges (1988). Nothing in the establishing authority for the Big Oaks National Wildlife Refuge (Fish and Wildlife Act of 1956,

as amended {16 U. S. C. § 742 f(a) (4) } precludes hunting and fishing on the refuge.

Under Alternative A, Big Oaks NWR would essentially represent a sanctuary unavailable to the public for the harvest of squirrels. The public desire for this public use opportunity would not be met. In addition, the National Wildlife Refuge System goals, the President's Executive Order, and refuge objectives for public use opportunities would not be met. Alternative A would not authorize additional recreational fishing opportunities (i.e., increase in boats or special event fishing on ponds and streams within the refuge) or the collection of wild edible foods and shed deer antlers.

Alternatives B and C would allow a traditional public use opportunity, squirrel hunting, to be provided on Service lands. Providing this additional public use opportunity would have a positive impact on public perception of the refuge since a demand for this activity has been expressed by the public.

The hunting of squirrels will result in a seasonal removal of squirrels from the local population. However, this loss of individuals from the population, in accordance with specified seasons and regulations, is expected to be compensatory in nature. By compensatory, this means removing part of the population at the level that is lost naturally from predation, injury, disease, weather, competition, and other factors. Annual analysis of the population using available harvest data and consultation with personnel from adjacent state wildlife management lands will help determine any necessary annual adjustments in the hunting program. The disturbance of non-targeted wildlife under Alternatives B and C could result in additional stress on these animals, but the impacts are not expected to be significant. Squirrel hunting would be limited to only a portion (mid-August thru November on public use days) of the regular state hunting season (mid-August thru January) and number of persons per area would be limited as well. The use of squirrel hunting dogs would take place in the day-use area only. No lead shot would be allowed. With these constraints on visitor behavior, impacts to wildlife habitat and local plant communities are expected to be minor.

Alternatives B and C would also allow increased fishing opportunities by increasing the number of boats allotted on the lake and holding special fishing events (i.e., take a kid fishing day) on refuge ponds and streams. Increasing the number of boaters on the lake and holding special fishing events could be easily accommodated by refuge staff. Fishing activities would cause minimal disturbance to wildlife given the limited duration (April thru November) of the activity, boat limits, and restrictions imposed on boats.

Alternative C would not only allow squirrel hunting and increased fishing opportunities but would also allow the collection of wild edible foods and shed deer antlers for personal use only. Visitors will be limited to collecting such items during regularly scheduled public use days and only in areas that public entry is authorized. Closed areas that comprise half of the refuge acreage would be strictly off limits to all visitors. Although the collection of wild edible foods and shed antlers is not a wildlife-dependent recreational use, these activities are traditional, family oriented activity which provides an opportunity for those participating to collect wholesome, healthy foods while enjoying the beauty of the natural environment. The quantity

and frequency of wild edible foods and shed antler collecting is not expected to significantly diminish wildlife food sources or jeopardize wildlife survival.

There is an increased risk of inadvertent or illegal entry from public use areas into closed areas under Alternatives B and C. By allowing the aforementioned additional uses, the refuge may have to be monitored and patrolled to a greater extent than under the No Action Alternative. This increased risk can be minimized through the use of law enforcement, signage and brochures made available to the public. However, allowing these uses could also have the opposite effect since the availability of these recreational opportunities may remove part of the incentive for trespassing on the refuge. Existing refuge regulations include a prohibition for searching for or removal/possession of objects of antiquity or historical significance or unexploded ordnance, munitions and any other item associated with the Army's historical mission. Every refuge visitor attends a briefing where they are given copies of refuge regulations and informed not to conduct any ground disturbing activities.

Old Timbers Lodge is on Jefferson Range, and unauthorized entry is prohibited by ANG. If refuge visitors are allowed to visit Old Timbers Lodge they are escorted by Army, ANG or refuge staff. Oakdale School is not within a hunting area; visitors to Oakdale School are escorted by Army, ANG or refuge staff. Annually refuge personnel will coordinate with the Army and ANG on monitoring historic bridges from vandalism (e.g., shooting by hunters) and other impacts. Refuge personnel will check the known archeological sites within the hunting and day-use areas for vandalism, compaction, artifact exposure, and erosion.

The addition of public uses described in Alternatives B and C on the refuge could cause adverse impacts (i.e., synergistically) that each individual use would not. These additional uses in conjunction with existing uses could potentially add higher levels of adverse impacts such as wildlife disturbance, lowering the quality of habitat, and increase erosion and compaction of archaeological sites. The refuge currently controls the number of public use participants by limiting the number of users per recreational area. The numbers designated per area are conservative for safety reasons (e.g., hunting), to reduce adverse impacts (e.g., habitat degradation), and to keep recreational experience/quality high. The resulting influence of such controls should minimize the potential for cumulative adverse impacts, but diversify the types of high quality, mostly wildlife-dependent uses available on the refuge.

Formerly, Army "sponsors" (e.g., retired military or JPG employees) could hunt, fish, and collect berries, mushrooms and shed deer antlers at JPG. The historical limited use of JPG by the general public has long been perceived negatively by local residents not able to participate in these activities on the former JPG. For this reason, it is believed that the general public will view the addition of uses described in Alternatives B or C on the refuge as a positive event.

Public hunting opportunities (Alternative B) have decreased with suburban sprawl and the recent local trend of private leases on hunting lands and other types of access restrictions. Local fishing opportunities (Alternative B) are also limited, and even through increasing boat limits and having special fishing events on the refuge, the demand will probably exceed what the refuge could supply. Opportunities for berry and mushroom gathering (Alternative C) by the general public

are also limited locally and are decreasing due to sprawl and access restrictions. Recent negative trends nationally and regionally for wildlife dependent and other outdoor opportunities are similar to these local decreases due to suburban development and limits on public access on private land. Recent proposed national initiatives to increase opportunities for hunting and fishing include private landowner incentives to encourage public access on private land.

The preferred alternative (Alternative C) provides additional opportunities for public use, hunting, and fishing. The "no action" Alternative does not alleviate decreasing opportunities for hunting and fishing for the general public, but both Alternatives B and C provide additional opportunities for these activities on the refuge. The preferred alternative also adds wildfood (berries, mushrooms, and wild asparagus) and shed deer antler gathering for personal use, which provides additional wholesome recreation opportunities that are often combined with wildlife-dependent (e.g., hunting, fishing, or wildlife observation) activities. Staff can accommodate these amendments (e.g., squirrel hunting, increased number of boaters, special event fishing on ponds and streams, collection of wild edible foods, and shed deer antlers) to the Public Access Plan and Hunting and Fishing Plan with only minor adjustments in refuge operations to avoid and minimize any potential adverse impacts.

SECTION 5 ENVIRONMENTAL JUSTICE

Executive Order 12898, *Federal Actions to Address Environmental Justice in Minority populations and Low-Income Populations*, 59 Federal Register 7629 (1994), directs federal agencies to incorporate environmental justice in their decision making process. Federal agencies are directed to identify and address as appropriate, any disproportionately high and adverse environmental effects of their programs, policies, and activities on minority or low-income populations. No environmental justice issues exist for any of the alternatives.

SECTION 6 LIST OF PREPARERS AND REVIEWERS

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SECTION 7 PUBLIC REVIEW AND COMMENT

The public was notified by newspaper and other media regarding the draft Environmental Assessment concurrently within the comment period for the proposed changes to the Hunting and Fishing Plan. The public had the opportunity to review and make comments on all of the draft documents (EA, Hunting and Fishing Plan, and Public Access Plan); copies of these documents were available at the refuge office during the comment period. The comment period for the EA and Hunting and Fishing Plan lasted from August 15, 2003 to September 30, 2003. The comments are summarized below:

Public Comment	No. of comments
Support squirrel hunting	11
Support expanding to 25 boats	6
Support small game hunting	4
Refuge open more weekends	1
Refuge open year round	1
More areas open for public use	1
Ban hunting	2
Allow mushroom hunting	5
Allow small game and upland bird hunting	1
Support shed antler collecting	2
Support berry picking	2
Wants fishing in ponds and creeks	1
Wants raccoon hunting	2

Division of Fish and Wildlife, Indiana Department of Natural Resources provided comments that suggested that scientifically set seasons and bag limits support sustainable harvest for game species discussed in the plan. We agree with these comments and they were incorporated into the plans. The comments generated during the public comment period were generally favorable to the proposed changes to the Public Access Plan and Hunting and Fishing Plan. No new adverse impacts were communicated from the public during the comment period.

SELECTED REFERENCES

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- Hunter, W. A. 1978. History of the Ohio Valley. In *Handbook of North American Indians*, Vol. 15: NE, edited by B. G. Trigger, pp. 588-593 (Series editor W. C. Sturtevant). Smithsonian Institution, Washington, D.C.
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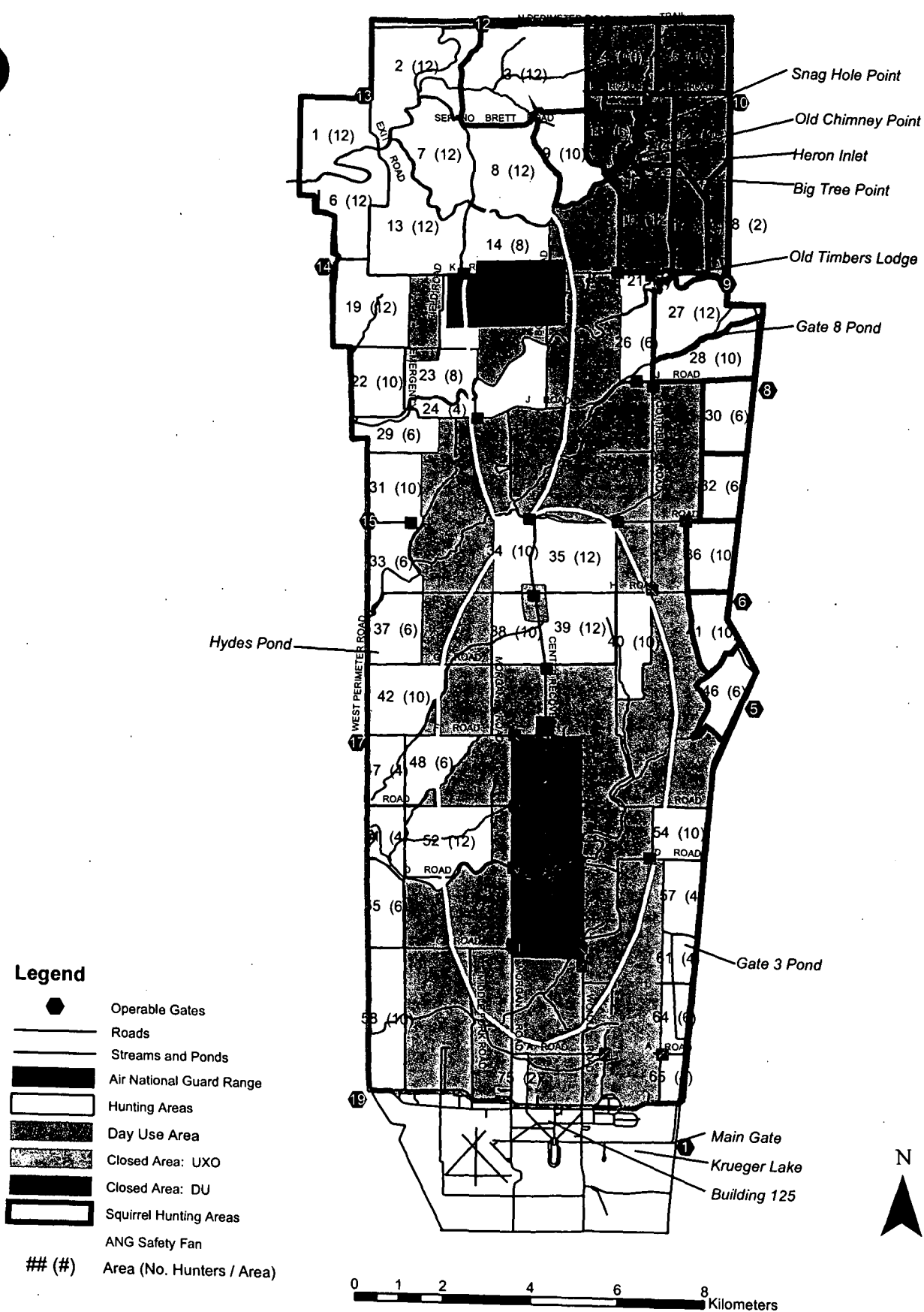


Fig. 1. Big Oaks National Wildlife Refuge Public Access Map

COMPATIBILITY DETERMINATION
BIG OAKS NATIONAL WILDLIFE REFUGE

Use: Hunting

Refuge Name: Big Oaks National Wildlife Refuge

Establishing and Acquisition Authority(ies): Big Oaks NWR was established by the statutory authority of 2 specific acts:

- 1) The Fish and Wildlife Act of 1956 [16 USC 742a - 742j] as amended authorizes the Secretary of the Interior to acquire interests in property "...for the development, advancement, management, conservation, and protection of fish and wildlife resources..."
- 2) The Endangered Species Act authorizes the Secretary of Interior to acquire interests in lands "to conserve fish, wildlife, and plants, including those which are listed as endangered or threatened..." [16 USC 1534].

Refuge Purpose(s): The purpose of Big Oaks NWR is for the development, advancement, management, conservation, and protection of fish and wildlife resources and to conserve fish, wildlife, and plants, including those which are listed as endangered or threatened. This purpose statement is derived directly from the authorities that established the refuge. The concise mission statement of Big Oaks NWR derives from this purpose and is "to preserve, conserve, and restore biodiversity and biological integrity for the benefit of present and future generations of Americans."

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 Use:

What is the use? Is the use a priority public use? Permit hunting (i.e., white-tailed deer, wild turkey, and fox and gray squirrels) on Big Oaks NWR in accordance with state and refuge regulations and seasons. Hunting is a priority public use on National Wildlife Refuges.

Where will the use be conducted? Hunting will occur in areas on Big Oaks NWR as identified by refuge maps at the time a permit is issued authorizing hunting.

When will the use be conducted? Hunters will be informed when a permit is issued of the dates, time, and location where hunting will be permitted. Hunting will occur during the daylight hours in refuge hunting areas during the refuge designated hunting season and/or scheduled public use days.

How would the use be conducted? State and refuge draw hunts will be conducted to establish a fair and impartial means to select hunters for refuge hunts. Hunters will be assigned to areas on the refuge where hunting can occur. The specific details as to the restrictions governing hunting will be outlined by the permit and within refuge and state hunting regulations to ensure that the activity is appropriate and compatible with the refuge's mission and purpose. Hunters may use a shotgun, muzzleloading shotgun, and bow and arrow to take deer and wild turkey. In addition, small game (i.e., squirrels) also may be hunted with a .22 rifle loaded with rim fire ammunition only. Squirrel hunters will be restricted to non-toxic shot. Refuge personnel perform law enforcement and operate the check station to collect hunter and biological data. All hunters are required to enter and exit the Refuge at the check station. For safety reasons, the hunt areas are closed to any other form of recreation during the hunting seasons. Access to hunting sites is accomplished by walking from a designated roadway. Entry into closed areas on the refuge is strictly prohibited. No ground disturbing activities will be authorized without Explosive Ordnance Disposal (EOD) and U.S. Army concurrence.

Why is the use being proposed? There is considerable public demand for hunting. Hunting is a priority public use on National Wildlife Refuges. The amount and limited duration of the hunting season will result in little impact on wildlife.

Availability of Resources: National Wildlife Refuges are typically opened for wildlife-dependent recreation. As a result, access trails, parking lots, signs and other facilities as well as staff to enforce regulations and maintain these facilities have been provided by the Service. These facilities will be maintained to meet the needs of the recreating public and will be used by those who are hunting. This use will require a seasonal increase in staff and maintenance expenditures. Additional law enforcement patrols will be needed to enforce hunting regulations. Permit fees (approximately \$15,000 generated by hunters) will be used to offset added expenditures. However, the administrative and maintenance costs associated with the hunting program will exceed the funds generated by the access permit fees. The deer hunting program will require approximately \$18,000 to administer, the turkey hunting program approximately \$8000 to administer and the small game hunting program approximately \$4000. The Service will not have to provide special equipment for these programs.

Based on a review of the refuge budget allocated for recreational use management, there is adequate funding to ensure compatibility and to administer and manage this recreational use.

Anticipated Impacts of the Use: Although hunting causes mortality and temporary disturbance to game species and other wildlife, harvesting game species can occur at a sustainable level if hunting is conducted in accordance with state seasons and regulations. Threatened and endangered species and their habitats will not be jeopardized because all traffic within recreational areas will be on established roads or by foot only, and refuge staff will monitor these habitats to ensure a minimum of disturbance. Hunting will occur in the spring and fall and have minor to no impact on the Indiana bat breeding. No other impacts are anticipated with this use.

Public Review and Comment: The public was notified by newspapers and other media about the compatibility determination process and the opportunity to review and comment on the initial

determination proposed by the Service. The comment period lasted from March 31, 2003 to April 30, 2003. In addition, the public also was notified regarding changes to the hunting and fishing plan and the opportunity to review the refuge management plan and make comments. This comment period lasted from August 15th, 2003 until September 30th, 2003. The Refuge received 18 written notifications from individuals who were in favor of allowing hunting. There were two opposing or negative components submitted.

Determination (check one below):

☐ Use is Not Compatible

☒ Use is Compatible With Following Stipulations

Stipulations Necessary to Ensure Compatibility:

1. Use of motorized vehicles and watercraft is prohibited except by permit or in designated parking areas, access trails or public roads.

2. Camping, overnight use and fires are prohibited.

3. All applicable State and Federal Regulations will apply.

4. Digging of plants or their roots is prohibited.

5. Damage to trees is prohibited.

6. No ground disturbing activity will occur without EOD support.

7. Only nontoxic shot will be allowed for small game species *(excluding .22 Ammunition)*
(.22 Ammo may include toxic materials)

Justification: This use has been determined compatible provided the above stipulations are implemented. This use is being permitted as it is a priority public use and will not diminish the primary purposes of the refuge as well as conservation of migratory birds and other wildlife. This use will meet the mission of the NWRS by providing hunting opportunities for the benefit of the American public while conserving fish, wildlife and plant resources on these lands.

Signature: Refuge Manager:

J. R. R. M. 1-30-04
(Signature and Date)

Concurrence: Regional Chief:

T. A. W. M. 2/6/04
(Signature and Date)

Mandatory 10- or 15-year Re-evaluation Date:

1-30-19

COMPATIBILITY DETERMINATION
BIG OAKS NATIONAL WILDLIFE REFUGE

Use: Collection of wild edible foods and shed deer antlers for personal use

Refuge Name: Big Oaks National Wildlife Refuge (NWR)

Establishing and Acquisition Authority(ies): Big Oaks NWR was established by the statutory authority of 2 specific acts:

- 1) The Fish and Wildlife Act of 1956 [16 USC 742a - 742j] as amended authorizes the Secretary of the Interior to acquire interests in property "...for the development, advancement, management, conservation, and protection of fish and wildlife resources...".
- 2) The Endangered Species Act authorizes the Secretary of Interior to acquire interests in lands "to conserve fish, wildlife, and plants, including those which are listed as endangered or threatened..." [16 USC 1534].

Refuge Purpose(s): The purpose of Big Oaks NWR is for the development, advancement, management, conservation, and protection of fish and wildlife resources and to conserve fish, wildlife, and plants, including those which are listed as endangered or threatened. This purpose statement is derived directly from the authorities that established the refuge. The concise mission statement of Big Oaks NWR derives from this purpose and is "to preserve, conserve, and restore biodiversity and biological integrity for the benefit of present and future generations of Americans."

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 Use:

What is the use? Is the use a priority public use? Allow refuge visitors to collect wild edible food products (i.e., mushrooms, nuts, wild asparagus and berries) and shed deer antlers on Big Oaks NWR for personal use only. Collecting is not a priority public use.

Where would the use be conducted? Areas on Big Oaks NWR as identified by maps at the time a permit is issued authorizing the collecting.

When would the use be conducted? Visitors will be informed when a permit is issued of the date, time, and location where they may collect wild edible foods and shed deer antlers. Collecting will occur during the daylight hours starting in early spring and will be permitted only during regularly scheduled public use days.

How would the use be conducted? Visitors will be assigned to areas on the refuge where wild edible foods and shed deer antlers may be collected. The specific details as to the restrictions governing the collecting will be outlined by the permit and within refuge specific regulations to ensure that the activity is appropriate and compatible with the refuge's mission and purpose. Wild edible foods are hand harvested by picking the products from the plant, gathering what has fallen to the ground or cutting by hand. Blackberries, morel mushrooms, and walnuts are examples of food products found on the refuge. These wild edible foods grow in the uplands and occupy a small percentage of the total upland acreage. Mushrooms are found throughout the refuge mainly in the forested areas. Shed deer antlers may be found by walking areas on the refuge open to public recreation. Access to harvest sites is accomplished by walking from a designated roadway. Wild foods and deer antlers are for personal use only and cannot be sold. Entry into closed areas on the refuge is strictly prohibited. No ground disturbing activities will be authorized without Explosive Ordnance Disposal (EOD) and U.S. Army concurrence.

Why is the use being proposed? There is considerable public demand for the collection of wild edible foods and shed deer antlers. The amount and limited duration of the harvest will result in little to no impact on available forage for wildlife.

Collection of wild edible foods are not a wildlife-dependent recreational use, but these activities occur infrequently. For a small number of people, this is a traditional, family oriented activity which provides an opportunity for those participating to collect wholesome, healthy foods while enjoying the beauty of the natural environment. Shed antler collecting is also not a wildlife-dependent recreational use and it too occurs infrequently.

Availability of Resources: National Wildlife Refuges are typically opened for wildlife-dependent recreation. As a result, roads, parking lots, signs and other facilities as well as staff to enforce regulations and maintain these facilities have been provided by the Service. These facilities will be maintained to meet the needs of the recreating public and will be used incidentally by those who are collecting wild edible foods and shed deer antlers. These uses will not require a significant increase in additional maintenance or enforcement staff expenditures. Public access fees will be used to offset refuge expenditures resulting from these uses. An estimated \$1000 will be generated by access fees for these activities. Approximately \$2000 of staff and maintenance costs may be required to administer these uses. The Service will not have to provide special equipment.

Based on a review of the refuge budget allocated for recreational use management, there is adequate funding to ensure compatibility and to administer and manage this recreational use.

Anticipated Impacts of the Use: The quantity and frequency of wild edible food and shed antler collecting is not expected to significantly diminish wildlife food sources or jeopardize wildlife survival. Public participation in the collection of foods and antlers on the refuge is expected to be low and insignificant. Closed areas on the refuge will be strictly off limits to all visitors.

Short-term disturbance to wildlife may occur during these activities, but will be insignificant. Most of these activities occur in early spring or late summer or fall, prior to or after migratory

bird nesting season. These activities should not result in short or long-term impacts that adversely affect the purposes of the refuge or the mission of the National Wildlife Refuge System.

Public Review and Comment: The public was notified by newspapers and other media about the compatibility determination process and the opportunity to review and comment on the initial determination proposed by the Service. The comment period lasted from March 31, 2003 to April 30, 2003. The Refuge received 11 written notifications from individuals who were in favor of allowing mushroom hunting and berry picking. There were no opposing or negative components submitted.

Determination (check one below):

☐ Use is Not Compatible

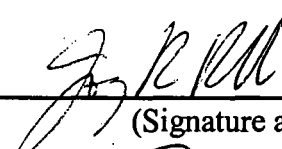
☒ Use is Compatible With Following Stipulations

Stipulations Necessary to Ensure Compatibility:

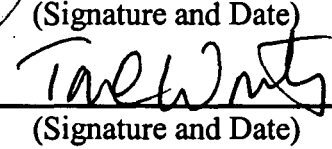
- The use of motorized vehicles or motorized water craft is prohibited except by permit or in designated parking areas, access trails or public roads.
- Camping, overnight use and fires are prohibited.
- Digging of plants or their roots is prohibited.
- Wild edible foods and shed deer antlers are for personal use and cannot be sold.
- Damage to trees is prohibited.
- Only shed antlers can be collected, no other animal parts can be collected (i.e., skulls or bones).

Justification: These uses will have limited and localized impacts when conducted within the stipulations above. Administration of the use will require little to no administrative time or funding because it will occur in conjunction with and during regular refuge dates and times. This use will not diminish the primary purposes of the refuge, or the conservation of other migratory birds and wildlife.

Signature: Refuge Manager:

 1-30-04
(Signature and Date)

Concurrence: Regional Chief:

 2/5/04
(Signature and Date)

Mandatory 10- or 15- year Re-evaluation Date:

1-30-14

COMPATIBILITY DETERMINATION
BIG OAKS NATIONAL WILDLIFE REFUGE

Use: Fishing

Refuge Name: Big Oaks National Wildlife Refuge

Establishing and Acquisition Authority(ies): Big Oaks NWR was established by the statutory authority of 2 specific acts:

- 1) The Fish and Wildlife Act of 1956 [16 USC 742a - 742j] as amended authorizes the Secretary of the Interior to acquire interests in property "...for the development, advancement, management, conservation, and protection of fish and wildlife resources...".
- 2) The Endangered Species Act authorizes the Secretary of Interior to acquire interests in lands "to conserve fish, wildlife, and plants, including those which are listed as endangered or threatened..." [16 USC 1534].

Refuge Purpose(s): The purpose of Big Oaks NWR is for the development, advancement, management, conservation, and protection of fish and wildlife resources and to conserve fish, wildlife, and plants, including those which are listed as endangered or threatened. This purpose statement is derived directly from the authorities that established the refuge. The concise mission statement of Big Oaks NWR derives from this purpose and is "to preserve, conserve, and restore biodiversity and biological integrity for the benefit of present and future generations of Americans."

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 Use:

What is the use? Is the use a priority public use? Permit fishing on Big Oaks NWR in accordance with state and refuge regulations. Fishing is a priority public use on National Wildlife Refuges.

Where will the use be conducted? Fishing will occur in areas on Big Oaks NWR as identified by refuge maps at the time a permit is issued authorizing the activity. The areas include Old Timbers Lake and special event fishing in ponds and streams in the day-use and special hunt areas.

When will the use be conducted? Anglers will be informed when a permit is issued of the dates, time, and location where fishing will be permitted. Fishing will occur in daylight hours during the refuge's scheduled public use days or as a special event.

How would the use be conducted? All anglers are required to obtain a public access permit and enter and exit the Refuge at the office. Anglers will be authorized to fish in Old Timbers Lake during scheduled public use days from April through November. There are several ponds and streams located on the refuge that may be opened for fishing during special events (e.g., take a kid fishing day). Because of limited facilities and lake size, only 25 boats will be allowed on Old Timbers Lake at any one time. A lottery system will be used to select boaters. Only boats powered by an electric trolling motor or those that are rowed or paddled are permitted on the lake. Only fishing with rod and reel or pole and line is permitted. Access to fishing sites is accomplished by walking from a designated roadway or parking area. A refuge fishing brochure will be available to the public to provide information on allowed activities and fishing rules and regulations. Entry into closed areas on the refuge is strictly prohibited. No ground disturbing activities will be authorized without Explosive Ordnance Disposal (EOD) and U.S. Army concurrence.

Why is the use being proposed? There is considerable public demand for fishing. Fishing is a priority public use on National Wildlife Refuges. Fishing has occurred on Old Timbers Lake and other areas on the property prior to the establishment of the refuge with little to no impact on wildlife.

Availability of Resources: National Wildlife Refuges are typically opened for wildlife-dependent recreation. As a result, access trails, parking lots, signs and other facilities as well as staff to enforce regulations and maintain these facilities have been provided by the Service. These facilities will be maintained to meet the needs of the recreating public and will be used by those who are fishing. This use will require staff and maintenance expenditures. Additional law enforcement patrols will be needed to enforce fishing regulations. Permit fees will be used to offset added expenditures. However, the administrative and maintenance costs associated with the fishing program will exceed the approximately \$5,000 generated by the access permit fees. Approximately \$10,000 of staff costs and \$10,000 in maintenance costs will be used to administer this use. The U.S. Fish and Wildlife Service and the Indiana Department of Natural Resources have periodically monitored the fisheries within Old Timbers Lake since 1997. Fishery biologists have liberalized state size restrictions on black bass to enhance fishery health because of under fishing. The Service will not have to provide special equipment for this program.

Based on a review of the refuge budget allocated for recreational use management, there is adequate funding to ensure compatibility and to administer and manage this recreational use.

Anticipated Impacts of the Use: Although fishing can cause mortality and temporary disturbance to fish species and other wildlife, fishing within legal state limits should not impact the resource. Threatened and endangered (TE) species and their habitats will not be jeopardized because all traffic within recreational areas will be on established roads or by foot only, and refuge staff will monitor these habitats to ensure a minimum of disturbance. Fishing will occur from April to November and have minor to no impact on the Indiana bat breeding. Restrictions on boats will be imposed to reduce the potential impact on TE species, migratory birds, and other wildlife species. No other impacts are anticipated with this use.

Public Review and Comment: The public was notified by newspapers and other media about the compatibility determination process and the opportunity to review and comment on the initial determination proposed by the Service. The comment period lasted from March 31, 2003 to April 30, 2003. In addition, the public also was notified regarding changes to the hunting and fishing plan and the opportunity to review the refuge management plan and make comments. This comment period lasted from August 15th, 2003 until September 30th, 2003. The Refuge received 10 written notifications from individuals who were in favor of expanding or increasing fishing opportunities. There were no opposing or negative components.

Determination (check one below):

☐ Use is Not Compatible

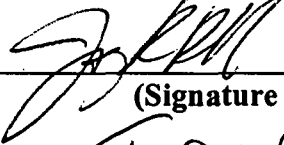
☒ Use is Compatible With Following Stipulations

Stipulations Necessary to Ensure Compatibility:

1. Use of gas powered motorized watercraft is prohibited except by permit.
2. Camping, overnight use and fires are not permitted.
3. All applicable State and Federal Regulations will apply.
4. Trotlines or limb lines are not permitted
5. Damage to trees is not permitted.
6. No ground disturbing activity will occur without EOD support.

Justification: This use has been determined compatible provided the above stipulations are implemented. This use is being permitted as it is a priority public use and will not diminish the primary purposes of the refuge as well as conservation of migratory birds and other wildlife. This use will meet the mission of the NWRS by providing fishing opportunities for the benefit of the American public while conserving fish, wildlife and plant resources on these lands.

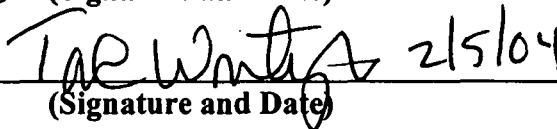
Signature: Refuge Manager:



1-30-04

(Signature and Date)

Concurrence: Regional Chief:



2/5/04

(Signature and Date)

Mandatory 10- or 15-year Re-evaluation Date:

1-30-19



Interim Hunting and Fishing Plan for Big Oaks National Wildlife Refuge

Prepared by:

Ceresa Vansell
Wildlife Biologist

Date:

1-20-04

Reviewed by:

Jay RM
Refuge Manager

Date:

1-20-04

Reviewed by:

Barry Christman
Refuge Supervisor

Date:

2-5-04

Reviewed by:

Tad Wentholt
Regional Chief - NWR System

Date:

2/5/04

Approved by:

Charlie Wadley
Regional Director

Date:

2/9/04

ACTING

I. Introduction

Through a Memorandum of Agreement (MOA) between the U. S. Fish and Wildlife Service (Service), U.S. Army (Army) and U. S. Air Force (Air Force), the Service obtained a 25-year real estate permit, with renewal options, from the Army that established a National Wildlife Refuge on a portion of the closed military base known as Jefferson Proving Ground (JPG). The primary goal in designating a portion of JPG as Big Oaks NWR was to preserve and manage significant wildlife habitats found on the site. There is presently limited public hunting and fishing in areas designated for such activities in consultation with the Army. This Hunting and Fishing Plan (Plan) was developed to provide direction and continuity to guide all interim hunting and fishing activities on Big Oaks NWR.

Much of Big Oaks NWR contains unexploded ordnance (UXO), depleted uranium (DU), and other contaminants. The existence of these contaminants causes safety, management and funding concerns specific to Big Oaks NWR. Because of these safety issues specific to Big Oaks NWR, due to the Army's former mission at JPG and the ANG training facility located on the interior of JPG, there will be specific refuge regulations required to be followed during a refuge visit. Most are summarized in this Hunting and Fishing Plan or within the Interim Public Access Plan (Attachment 1).

II. Conformance with Statutory Authorities

This overlay refuge was established by the statutory authority of 2 specific Acts:

- 1) The Fish and Wildlife Act of 1956 [16 USC 742a-742j] as amended authorizes the Secretary of the Interior to acquire interests in property "...for the development, advancement, management, conservation, and protection of fish and wildlife resources..."
- 2) The Endangered Species Act authorizes the Secretary of Interior to acquire interests in lands "to conserve fish, wildlife, and plants, including those which are listed as endangered or threatened..." [16 USC 1534].

This refuge establishment fulfills a public need for the development, advancement, management, conservation, and protection of forest interior habitat and large contiguous blocks of grassland and shrubland habitat. It also conserves and protects an area known for its high quality summer habitat for the Indiana bat (*Myotis sodalis*).

The purpose of Big Oaks NWR (NWR) is for the development, advancement, management, conservation, and protection of fish and wildlife resources and to conserve fish, wildlife, and plants, including those which are listed as endangered or threatened. This purpose statement is derived directly from the authorities that established the refuge.

Funding for the hunting and fishing program is part of the refuge's annual budget. Additional funds are acquired through the access fee required for hunting and fishing on the refuge. It is anticipated that the hunting and fishing program will require the expenditure of \$52,000 for staffing and maintenance above the general operational costs of the refuge.

III. Statement of Goals

The concise mission statement of Big Oaks NWR derives from the purpose of the refuge and is "to preserve, conserve, and restore biodiversity and biological integrity for the benefit of present and future generations of Americans."

A. Refuge Goals:

1. To preserve, conserve, and restore fish, wildlife, and plants listed as endangered and threatened and those species of management concern whose populations are declining.
2. To preserve, conserve, and restore a natural diversity and abundance of fish, wildlife, and plants by protecting, restoring, and managing large blocks of forest, grassland, shrubland habitats.
3. To provide interpretive, educational and research opportunities with the emphasis on resource conservation, restoration, and enhancement, and on biodiversity and biological integrity.
4. To provide the public with opportunities for high quality wildlife-oriented recreation to the extent these activities are compatible with the mission of the refuge, public safety and the terms of the Army's real estate permit for use of the property.

B. Hunting and Fishing Program Objectives:

Big Oaks NWR will provide for public recreational opportunities in a manner which is compatible with the purpose for which the refuge was established and consistent with safety considerations specific to this refuge. The Refuge Improvement Act of 1997 finds in Section 2, "When managed in accordance with principles of sound fish and wildlife management and administration, fishing, hunting, wildlife observation, and environmental education in national wildlife refuges have been and are expected to continue to be generally compatible uses."

A goal of Big Oaks NWR is the provision of high quality, wildlife-dependent recreation opportunities that are consistent with the mission of the refuge. The refuge would increase the accessibility of the area to the public for hunting and fishing and will

promote activities relevant to Big Oaks NWR's management of natural resources.

IV. Assessment

- A. Federal and State regulations permit hunting of species to maximize utilization of harvestable surpluses of resident game and to tailor harvest opportunities to local needs. These regulations permit harvests that are consistent with the well being of migratory and resident animal populations that use the area. Permit drawn hunts for the general public have been conducted for deer (since the 1960's) and turkey hunting (since 1984) on some areas of JPG. Squirrel hunting had occurred on the area since the 1960's but was curtailed in 2000 due to the limited number of refuge staff. The general public hunts were coordinated with the Indiana Department of Natural Resources, Division of Fish and Wildlife (IDFW).

Gray and fox squirrels are present throughout the wooded areas of the refuge. Squirrel hunting will occur on a portion of the refuge and a limited number of hunters will be given access to each area due to safety concerns associated with unexploded ordnance and monitoring visitor access. The harvest of squirrels could occur at a sustainable level if hunting is conducted in accordance with State seasons and bag limits.

Turkeys are present throughout the refuge and their population is still increasing due to the maturation of forested areas on the refuge. While no standard survey has been done, the turkey population at Big Oaks NWR is estimated near 1,000. Several flocks of birds numbering in the hundreds are observed during the winter flocking period. Turkey harvests previously at JPG have been approximately 50 toms per 720 hunter use-days (Fig. 1). Harvest has increased to 80 birds per hunter use days in 2002 (Fig. 1). The harvest of tom turkeys could occur at a sustainable level if hunting is conducted in accordance with State seasons and bag limits.

Deer populations at JPG were extremely high in the 1960's and 1970's. Habitat became degraded and a browse line developed before adjustments in harvest brought the population to lower levels (Ken Knouf, Pers. Comm.). Pre-hunt densities were estimated at approximately 30 deer/sq. mi. by the IDFW in the mid-1990's. A past goal stated by IDFW biologists was to stabilize success rates during the gun season to 15 - 20 % (Fig. 2). Although success rate can be influenced by hunter effort (# hunters/area), hunter effort has been steady for the last 3 years. Dressed weights of known-age deer or antler beam diameters of known-age bucks can monitor the nutritional health of the herd; these dressed weights increased in the 1990's, indicating that the quality of the habitat on the refuge has improved since the 1970's (Fig. 2). Harvest ratios of bucks and does should be roughly equivalent, but in recent years, bucks have made up the majority of the harvest (Fig. 3). Biological data from harvested deer should be collected periodically to reconstruct basic information on the deer herd. Presently, the deer herd appears to be increasing slightly, but with continued harvests the population level could be stabilized (Fig. 2). Refuge staff will consult with IDFW biologists to adjust harvest

recommendations for future hunts and sample deer for Chronic Wasting Disease (CWD) and other diseases in conjunction with the state.

Fishery populations present on the Big Oaks NWR are considered healthy enough to support recreational fishing at a higher level than what occurred prior to refuge establishment. The 1997 Fishing Report (Sims and Suprenant 1998) indicated insufficient recruitment of bass and recommended the implementation of a 12 to 15-inch slot limit combined with increased fishing pressure. Upon establishment of Big Oaks NWR, access will be made available to the general public on a limited basis and annual fishing pressure should increase.

- B. Use conflicts: potential public use conflicts will be minimized by seeking a balance between the consumptive (hunting and fishing) and nonconsumptive uses such as wildlife observation, environmental education and interpretation. This could entail the adjustment of hunting/fishing areas and dates and/or the number of public entries (consumptive and nonconsumptive users).
- C. Administrative conflicts: There are no known administrative conflicts associated with the proposed hunting and fishing program. All features of the program are in compliance with the state and Federal objectives for the region. Current staff is adequate to support limited public use.

V. Description of Hunting and Fishing Program

- A. Areas to be opened for recreational hunting and fishing support harvestable populations of resident species.
- B. Areas to be opened for hunting and fishing presently include delineated blocks of varying size in controlled access areas of the refuge (Fig. 4).
- C. Primary species to be taken include:

Big game

White-tailed deer

Woodland and small game

Wild turkey, squirrel

Fish

Bass, bluegill, sunfish, crappie, and catfish.

- D. All hunters and anglers will be required to obtain a Public Access Permit at Big Oaks NWR based on participation in a safety briefing. Hunters will be required to obtain a hunting permit (\$10 fee) or annual permit (15\$). Anglers will be required to obtain an annual (\$15)/daily (3\$) permit. Those visitors wanting to participate in both activities will be required to obtain the annual permit. These permits will serve the purpose of

tracking individuals entering/exiting the refuge. Big Oaks NWR differs from typical refuges because of the past Army mission at JPG. Much of Big Oaks NWR contains unexploded ordnance (UXO), depleted uranium (DU), and other hazards, such as open cisterns. Education and training are recognized as valuable tools in preventing injuries from UXO. Like other potential hazards inherent in natural area recreation such as venomous snakes, rough terrain, and hunting accidents, visitor safety awareness, education, and training can help prevent accidents from occurring. Specific regulations related to UXO and DU (e.g., no ground disturbing activities are allowed on the refuge) will be detailed in this briefing in addition to refuge rules and regulations, road and hunt information, and other pertinent information concerning the refuge. The completion of the safety briefing to obtain the Public Access Permit or Hunting permit and a liability waiver will be required annually. The access fee/permit will cover some of the additional costs, such as safety briefings, gate attendants, and visitor activity monitoring, associated with the hunting and fishing program at Big Oaks NWR.

- E. Consultation will be made with FWS Fishery Office as well as IDFW Fishery and Wildlife Biologists to discuss the merit and success of the refuge's hunting and fishing program, the status of the area's fish and game resources, and to consider recommendations for program modifications. Law enforcement activities will be conducted jointly by Refuge Officers and State Conservation Officers.

VI. Measures Taken to Avoid Conflicts with Other Management Goals

Big Oaks NWR is within the known range of several species of concern. Those species of concern on a national basis include 2-federally threatened or endangered species on the refuge. The protection of endangered or threatened species is carefully reviewed in this planning process and in the promulgation of state hunting and fishing regulations. A summary of this review, by species, follows.

1. **Indiana bat** – Summer maternity roost sites were identified prior to refuge establishment through biological work conducted by FWS staff. No hibernacula are known to exist on the property. Summering bats are not likely to be affected by hunting and fishing activities.
2. **Bald eagle** - Potential nesting habitat does exist on the refuge but nesting has not been documented for the area. The bald eagle does use refuge habitats during migration. Fishing and hunting programs administered by the refuge, consistent with state hunting and fishing regulations, would not be considered detrimental to the species. In the event that eagle nests are found on the refuge, the hunting and fishing plan will be modified to minimize disturbance.

The opening of Big Oaks NWR to hunting and fishing will not conflict with the recovery of these species. The Environmental Assessment that dealt with the establishment of Big Oaks NWR analyzed alternatives that included allowing hunting and fishing on the refuge. In addition, an

Intra-Service Section 7 Consultation (Attachment 2) was conducted for those listed species that may occur or be affected by the establishment, management or public use (including hunting and fishing) of the refuge.

VII. Conduct of the Hunting and Fishing Program

A. Refuge-specific hunting and fishing regulations

Hunting and fishing on Big Oaks NWR will conform to state regulations whenever possible. Any differences between state and refuge regulations will be detailed in leaflets and/or posted. In addition to state regulations, the following hunting regulations are enforced on all National Wildlife Refuges, including Big Oaks NWR:

- The use of nails, wire, screws or bolts to attach a stand to a tree, or hunting from a tree into which a metal object has been driven to support a hunter is prohibited on Big Oaks NWR.

Subsequent modifications in hunting and fishing regulations will be addressed in an amendment process as needed, and the public will be informed through leaflets or postings. Hunter success, observations or measurements of animal health and measurements of habitat conditions may all be used to determine if changes in hunting regulations are necessary. The refuge will continue to cooperate with the IDFW's deer and turkey check station that has historically been operated at JPG. This check station has been instrumental in the monitoring of hunter success and biological data for these harvested populations at JPG. The harvest of small game will also be checked at the refuge to monitor their populations. Periodic monitoring of angler success and fishery sampling will allow the refuge staff to determine the health of the fishery resources of the refuge and assess any needed changes.

B. Anticipated public reaction

The historic minimal use of the facility by the general public has long been perceived negatively by local residents not able to participate. For this reason, it is believed that the general public will view the refuge and subsequent public hunting and fishing program as positive.

C. Hunter application and registration procedures for deer and wild turkey

The refuge will participate in IDFW random draw hunts. Those hunters wishing to be considered for refuge hunts must fill out a hunt registration card found in the Indiana Hunting and Trapping Guide and send it to the appropriate address as outlined in the guide. A hunter's failure to abide by the IDFW registration rules and regulations will result in an application being disqualified from the draw. In addition, opportunities for a daily lottery or drawing to fill no-shows and for dates other than those allotted for IDFW random drawings may be available.

D. Squirrel hunting procedures

Hunters wanting to participate in squirrel hunting on the refuge will check in/out at the Big Oaks NWR office (Building 125) on public use days (Monday, Friday, and the 2nd and 4th Saturday). An allotted number of hunters will be able to hunt in areas designated for small game hunting (see Figure 4). Hunters will follow state regulations unless otherwise noted in refuge literature. Squirrel hunting with dogs will only be allowed in the day-use portion of the refuge. Daily lotteries will take place for squirrel hunts.

E. Description of angler selection process

Anglers will gain access to the public fishing area through a daily lottery. Due to limited parking and safety concerns the numbers of boats and anglers will be regulated (see Table 1).

F. Media selection for announcing and publicizing hunting and fishing opportunities

An announcement of the availability of public hunting and fishing opportunities, the areas which are open, which species may be taken and how to obtain additional information relative to the hunting and fishing program will be made available through the local media and the IDFW.

Table 1. Public use limits for hunting and fishing on Big Oaks NWR ^a.

Activity	Description of where use will occur	Maximum one-time capacity	When allowed
Deer Hunting	See Public Access Map	440	November (6 days archery and 9 days gun)
Turkey Hunting	½ of the number hunters/area given on Public Access Map	220	April to Mid- May (15 Days)
Squirrel Hunting	½ of the number hunters/area given on Public Access Map for areas designated for squirrel hunting	72	Mid-August through November; 5-10 days per month
Fishing	Max. 25 boats on Old Timbers Lake; special event fishing at other locations.	200 ^{bc}	5 - 10 days per month; April through October

^a Based on staff and available funds

^b Based on available parking for special events

^c Special event one-time capacity

G. Description of hunter and angler orientation, including scouting

Hunters and anglers will be given a safety briefing and orientation prior to participating in public use activities. Hunter and angler orientations will utilize hunting regulation leaflets with maps delineating areas open for hunting and fishing. The leaflets will be available at Big Oaks NWR Office. These leaflets will be updated as needed.

H. Hunter and angler requirements

(1) Age:

Visitors under the age of 18 must be accompanied by an responsible adult.

(2) Allowable equipment:

State regulations will govern all equipment used for hunting and fishing on the refuge. No all-terrain-vehicles (ATV) or permanent stands will be allowed on the refuge.

(3) Use of open fires:

No open fires will be allowed at anytime on the refuge.

(4) License and permits:

Hunters will be required to have appropriate valid state hunting and fishing licenses as well as valid refuge access or hunting permit.

(5) Reporting harvest:

Hunters will be required to report their harvest to the refuge staff at the time of check-out.

(6) Hunter training and safety:

Hunters will be required to undergo an unexploded ordnance and depleted uranium safety briefing before being permitted to access the refuge. State regulations will determine which hunters must have valid hunter safety certification.

(7) Hunters are required to have a partner.

Suggested Regulations for the Federal Register for Big Oaks National Wildlife Refuge:**A. Hunting Big Game:**

1. Hunting of white-tailed deer and wild turkey are permitted in designated areas on the refuge in accordance with state hunting regulations subject to the following condition: permit required.

C. Hunting Upland Game:

1. Squirrel hunting is permitted in designated areas on the refuge in accordance with state hunting regulations subject to the following condition: permit required.

D. Sport Fishing:

1. Fishing is permitted on the refuge in accordance with state fishing regulations subject to the following condition: permit required.

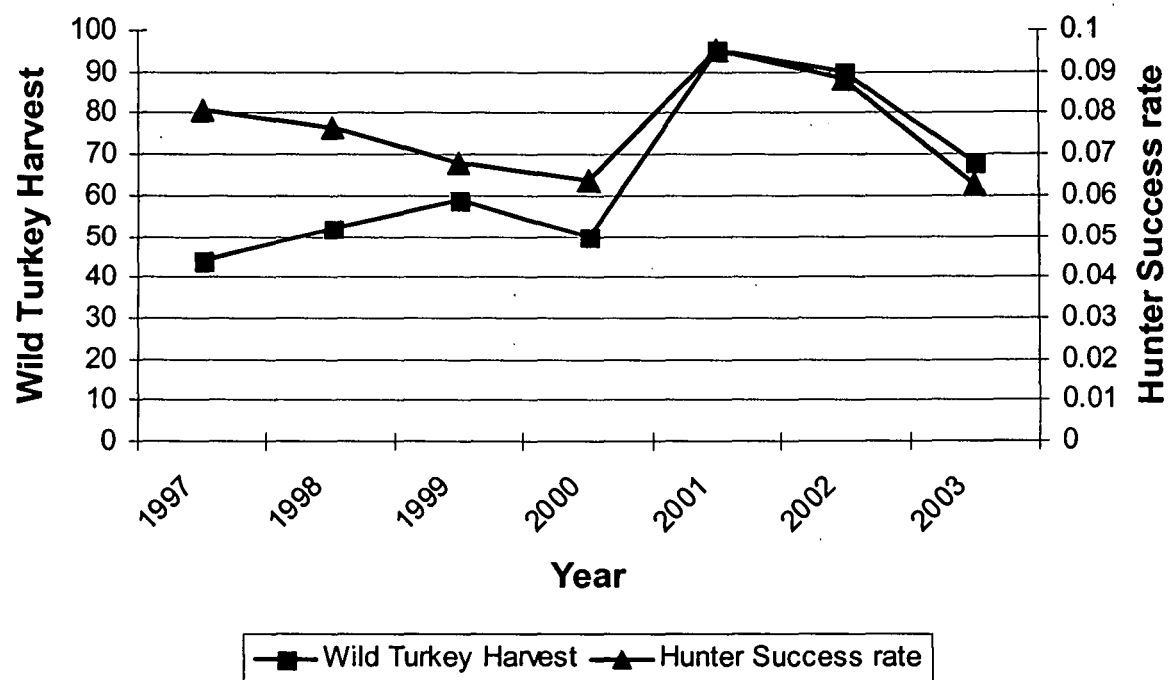


Fig.1 Wild turkey harvests at Big Oaks National Wildlife Refuge (Jefferson Proving Ground), 1997-2003.

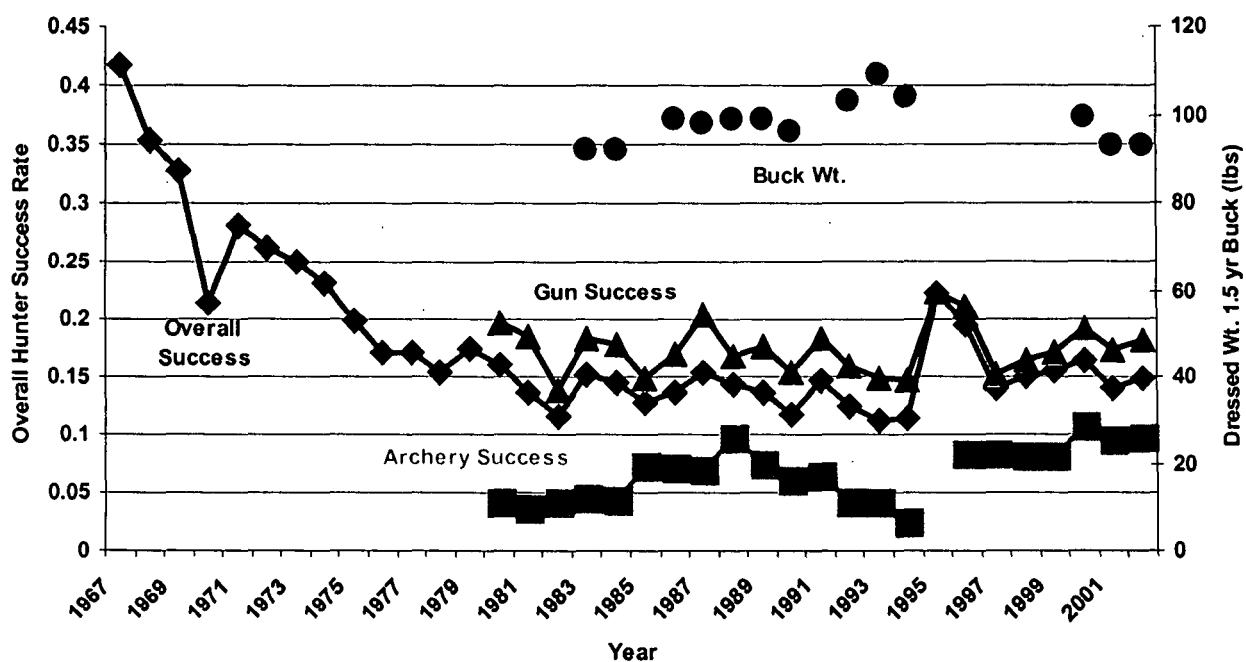


Fig. 2. Hunter success rate for deer hunting and dressed weight of 1.5 year old bucks on Jefferson Proving Ground/Big Oaks National Wildlife Refuge, 1967-2002.

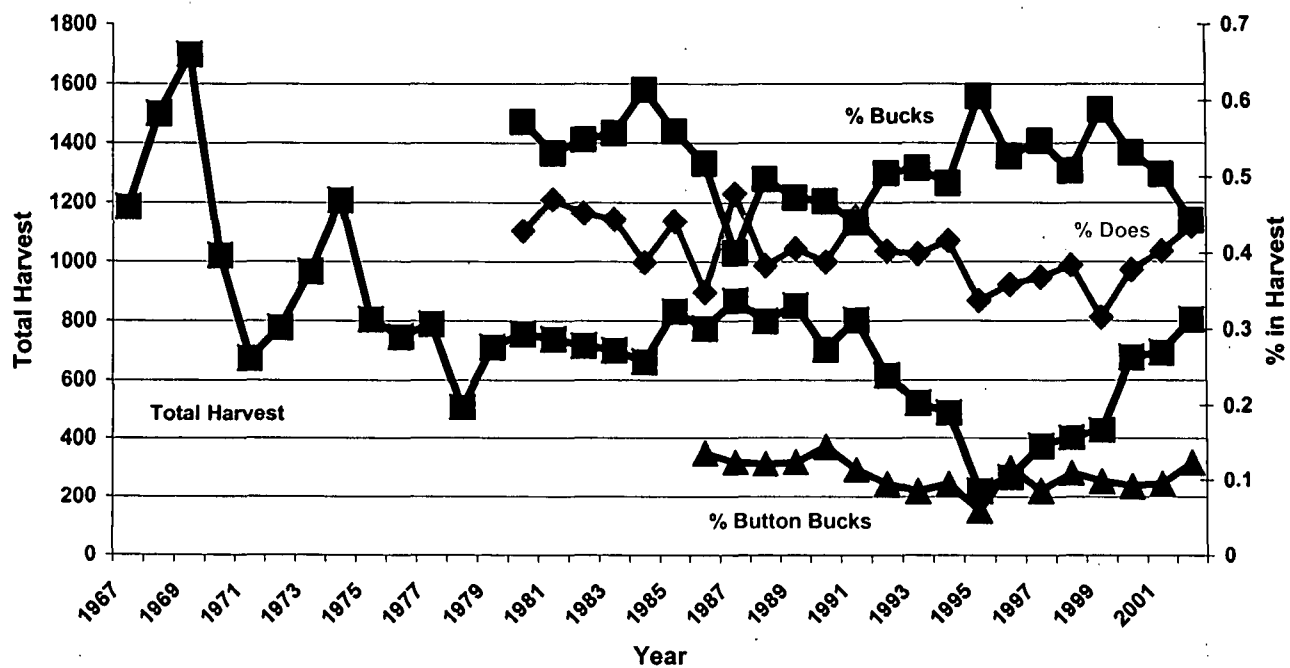


Fig. 3. Total deer harvest (1967-2002) and percentages of antlered bucks, button bucks, and does in the harvest (1980-2002) at Jefferson Proving Ground/Big Oaks National Wildlife Refuge.

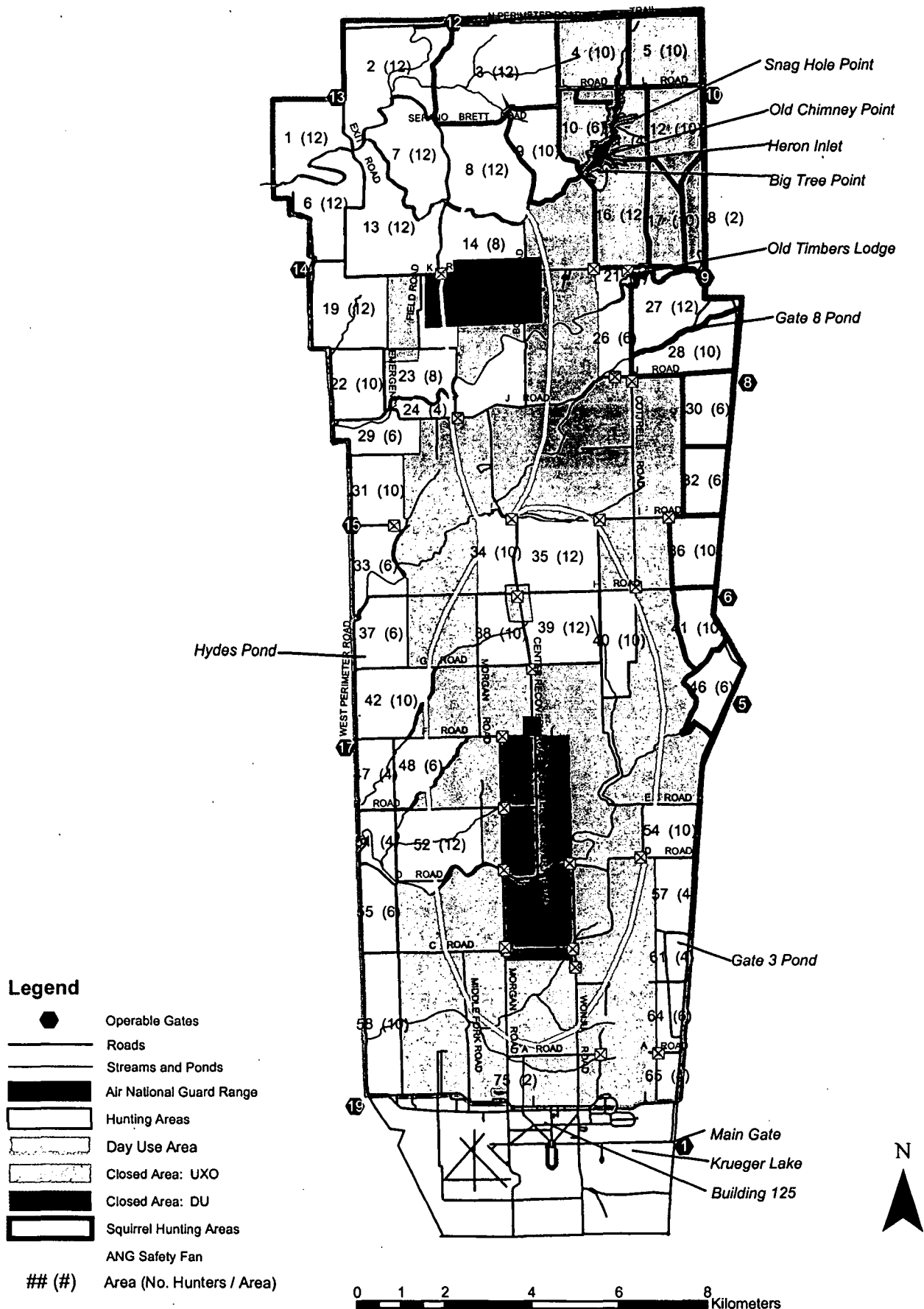


Fig. 4. Big Oaks National Wildlife Refuge Public Access Map

PUBLIC REVIEW AND COMMENT:

The public was notified by newspaper and other media regarding the proposed changes to the Hunting and Fishing Plan and the opportunity to review and make comments on this management document. The comment period lasted from August 15, 2003 to September 30, 2003. The comments are summarized below:

Public Comment	No. of comments
Support squirrel hunting	11
Support expanding to 25 boats	6
Support small game hunting	4
Refuge open more weekends	1
Refuge open year round	1
More areas open for public use	1
Ban hunting	2
Allow mushroom hunting	5
Allow small game and upland bird hunting	1
Support shed antler collecting	2
Support berry picking	2
Wants fishing in ponds and creeks	1
Wants raccoon hunting	2

Division of Fish and Wildlife, Indiana Department of Natural Resources provided comments that suggested that scientifically set seasons and bag limits support sustainable harvest for game species discussed in the plan. We agree with these comments and they were incorporated into the plan. With the comments generated during the public comment period being generally favorable to the proposed changes to the Hunting and Fishing plan and since no new information was obtained to revised the plan, the refuge will implement the Hunting and Fishing Plan as written.