

**U.S. Fish and Wildlife Service**

**Draft**

**Environmental Assessment**

**For the**

**Proposed Hunting Plan**

**Glacial Ridge National Wildlife Refuge**

**Polk County, Minnesota**

**Regional Director**

**Region 3, U. S. Fish and Wildlife Service**

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Abstract: The United States Fish and Wildlife Service proposes to provide compatible hunting opportunities on the Glacial Ridge National Wildlife Refuge in Polk County, Minnesota. This environmental assessment evaluates four possible alternatives for the hunting opportunities. The preferred alternative would provide compatible hunting opportunities while providing the non-hunting visitors with other priority public use opportunities i.e. wildlife observation, wildlife photography, environmental education and interpretation. Hunting opportunities for Persons with Disabilities would be provided through the use of specially located and designed blinds. Parking lots would be provided appropriate access and will help distribute use. The approved acquisition boundary which includes lands owned by the State of Minnesota, The Nature Conservancy, Red Lake Watershed District and private citizens must be considered when developing the hunting opportunities. The Service intends to continue its partnership with the various agencies, universities, and units of government that facilitated the birth of the Glacial Ridge National Wildlife. The general goals of the hunting program are:

- A. Provide the public with safe and enjoyable hunts that are compatible with the Refuge purpose.
- B. Provide quality hunting opportunities that minimize conflict with other public use activities.
- C. Provide the public with opportunities to hunt wildlife species that are consistent with the State of Minnesota, that don't adversely effect localized wildlife population, and are consistent with the 1997 National Wildlife Refuge Improvement Act.
- D. Provide special opportunities for persons with disabilities.

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## **Section 1. Purpose of and Need for Action**

### **1.1 Purpose**

The Purpose of this Environmental Assessment is to evaluate different alternatives for implementing a hunting plan on the Glacial Ridge National Wildlife Refuge.

### **1.2 Need**

As stated in the introduction, the 1997 National Wildlife Refuge Improvement Act identified six priority public uses. The need therefore revolves around hunting as a priority use and the requirement to allow hunting that is compatible for the purpose of the refuge. There is also a need to reserve a portion of the Refuge for non-hunting, while designating no more than the maximum of 40% for migratory bird hunting. This combination balances the needs of hunters who will want as much hunting land as possible with the needs of the non-hunting public. The 40% reserved for migratory bird hunting reflects the requirements of the Migratory Bird Conservation Act. The plan must also reflect a conceptual plan of hunting which reflects the entire 35,750 acres within the acquisition boundary. Other entities or interests affecting the management of hunting opportunities include: private in holdings, State Wildlife Management Areas, Scientific & Research Natural Areas, surface gravel extraction easements, active railroad right-of-way, and rare/endangered plant communities.

### **1.3 Background/Introduction**

This Environmental Assessment covers the hunting chapter which is preceding the overall Visitor Service Plan for the Glacial Ridge National Wildlife Refuge. The Hunting Chapter must address current lands owned by the F&WS while anticipating annual changes as additional lands become part of the Refuge.

Glacial Ridge National Wildlife Refuge (Glacial Ridge) is located in Polk County in northwestern Minnesota, approximately 10 miles east of Crookston along U.S. Highway 2. The approved acquisition boundary of 35,750 acres includes approximately 5,000 acres of non-cultivated native prairie. Future habitat restoration potential includes approximately 18,000 acres of prairie and 12,000 acres of wetland. These habitats are important breeding areas for waterfowl, Sandhill Cranes, shorebirds, Greater Prairie Chicken, many grassland nesting songbirds and a host of mammals.

The catalyst for the development of the Glacial Ridge area and the establishment of the Refuge was the partnership of 30 non-profit organizations, universities, government and other agencies. The landscape and its importance were carved with wind and water over 12,000 years ago from Glacial Lake Agassiz. The formed habitats of prairie grasslands, and a variety of wetlands provided the ingredients for a very diverse continentally important biological community. The Glacial Ridge NWR will be the center point for the restoration of this fragile ecosystem, as less than one percent of native tall-grass

prairie remains in Minnesota.

In January 2001, a draft Environmental Assessment (EA) and an Interim Comprehensive Conservation Plan was developed and approved. The EA addressed future management of the proposed refuge which included visitor services. The remnant native prairie areas combined with restored grasslands and wetlands provides that ideal setting for interpretation of the historical and future importance of this once massive ecosystem. Of the six priority public uses (hunting, fishing, wildlife observation, photography, environmental education and interpretation) identified in the 1997 Refuge Improvement Act only fishing does not present itself as a potential public use.

Past hunting opportunities within the proposed refuge boundary involved mainly the hunting of white-tailed deer, greater prairie chicken, sharp tailed grouse (associated with the Chicken hunt) and waterfowl. Rules and regulations established for these species have been through the State of Minnesota and the U.S. Fish and Wildlife Service.

Major access to the Glacial Ridge NWR includes U.S. Highway 2, which borders the entire north boundary, Minnesota Highway 32 bisecting the refuge in nearly equal halves north to south, and Polk County Road 45 bisecting the refuge in nearly equal halves east to west. Polk County Road 44 and several township roads provide addition access in and around the refuge. Currently over 40 miles of federal, state, county or township roads either border or bisect the proposed refuge acquisition boundary. Nearly 23,000 acres of the proposed refuge will be within ½ mile of a road, representing nearly 65% of the refuge.

Based on wildlife observations made by the Nature Conservancy's biologists from 1995 through 2004 on the Pembina Trail Preserve (TNC property within the proposed Glacial Ridge NWR acquisition boundary) it is expected that 73 bird species, 35 butterfly species, 11 mammal species, five amphibian species, and five reptile species could be seen. As additional acres are acquired an auto drive, hiking trails, interpretative kiosks and elevated observation opportunities will constructed to enhance wildlife viewing and appreciation of these wildlife species.

The National Wildlife Refuge System Improvement Act specifically provided people the opportunity to enjoy, understand and be part of wildlife conservation on refuges. Lands purchased by the Service will be open to limited wildlife-dependent recreational uses. The Refuge System Improvement Act states that compatible, wildlife-dependent recreational uses involving hunting, fishing, wildlife observation, wildlife photography, environmental education, and interpretation are the priority public uses of the refuge system. The Service determines whether these uses are compatible for each individual refuge. A use is determined to be compatible if it does not interfere with the fulfillment of the mission of the refuge system or the purpose of the refuge.

The Glacial Ridge NWR lies in Polk County, rich in historical hunting and outdoor tradition. In 2004, over 25,200 licenses were sold for hunting and fishing related activities in Polk County, generating over \$674,000.

#### **1.4 Decisions that need to be made**

The Service's Regional Director will select one of the alternatives analyzed in detail and will determine, based on the facts and recommendations contained herein, whether this Environmental Assessment (EA) is adequate to support a Finding of No Significant Impact (FONSI) decision, or whether an Environmental Impact Statement (EIS) will need to be prepared

#### **1.5 Alignment with existing conservation plans**

The Glacial Ridge National Wildlife Refuge Environmental Assessment and Interim Comprehensive Conservation Plan signed in April 2001 made the decision that hunting would be allowed on the refuge and provides guidance for the hunting of small game, big game, and waterfowl. Therefore, a no hunting (not to be confused with No Action) alternative will not be considered in this EA. It also reflected on the limitation of waterfowl hunting to 40% of Refuge Lands. It also mentioned the development of special hunting opportunities of persons with disabilities.

The Service developed a strategic plan for implementing the National Wildlife Refuge System Improvement Act called "Fulfilling the Promise" (U.S. Fish and Wildlife Service, 1999). This plan clarifies the vision for the National Wildlife Refuge System and outlines strategies for improving delivery of the System's mission. The proposed hunting plan is compatible with the priorities and strategies outlined in Fulfilling the Promise.

#### **1.6 Scoping**

The concept for the establishment of the Glacial Ridge NWR was formulated from a partnership of 30 non-profits, universities, governments and other agencies. This same partnership met in December 2004 to list opportunities for hunting while evaluating the pros and cons of each issue.

The planning team writing the proposed Glacial Ridge National Wildlife Refuge draft Environmental Assessment and Interim Comprehensive Conservation Plan conducted radio interviews, conducted group discussion, made personal contacts with landowners and transmitted 100s of phone calls. Communications included future hunting opportunities for the proposed refuge. No comments were received about hunting.

#### **1.7 Issues and Concerns**

Key issues noted during the December meetings included:

- Provide good public access.
- Open as much of the Refuge as possible to priority public uses.
- Determine whether the 40% limitation on migratory bird hunting applies.
- Consider impacts to private landowners adjacent to the Refuge.
- Provide waterfowl sanctuaries to maintain a nucleus of birds in the area.
- Buffer areas to Scientific and Natural Areas not necessary.

- Prairie Chicken hunt has been established and should continue on Refuge.
- Be consistent with other National Wildlife Refuges.
- Consider the overall Visitor Service Plan.
- Polk County has a tradition of hunting.
- Hunter pressure will be light; therefore hunting species within limited numbers will not be a concern.

## **1.8 Permits, Licenses, and Other Compliance Required**

As part of the process for establishment of a hunting program on the Glacial Ridge National Wildlife Refuge the following requirements will be completed:

- Development of the Hunting Chapter of the Visitor Service Plan
- Formulate an appropriate decision of documentation
- Completion of Endangered Species Act Section 7 Consultation
- Letter of recommendation from State of Minnesota
- News Releases announcing public review of a draft hunting proposal for the Glacial Ridge NWR which identify refuge specific regulations.
- Development of a Compatibility Determination, including availability of resources.
- Review of Cultural and Historical Concerns.

## **Section 2. Alternatives**

### **2.1 Introduction**

This section explains how alternatives were formulated and eliminated from further study, describes alternatives, and identifies the preferred alternative. While the type and percentage of areas available for hunting will remain fairly consistent, specific areas opened or closed could change annually until a significant land base is acquired.

### **2.2 Formulation of Alternatives**

This environmental assessment is prepared to evaluate the environmental consequences of hunting alternatives on the Refuge. Four alternatives are presented in this document: 1) No Action Alternative – allow areas to be hunted as permitted by prior landowner; 2) Open entire Refuge to deer and upland game hunting while permitting waterfowl hunting on 40% of Refuge Lands as per establishment legislation; 3) Open a portion of the Refuge to deer and upland game hunting, and permitting waterfowl hunting on 40% of Refuge Lands as per establishment legislation while maintaining a non-hunting area (preferred alternative); 4) Open a portion of the Refuge to deer and upland game hunting, and permitting waterfowl hunting on 20% of Refuge Lands while maintaining a non-hunting area. The Regional Director of Region 3 of the Service will decide which alternative provides the best compatible, wildlife-dependent recreational uses on the Glacial Ridge National Wildlife Refuge. Species hunted as outlined in the Hunting

Chapter of the Visitor Service Plan will be based on previous species hunted, populations' trends and prior use of the public to hunt a species.

Factors considered in the development of alternatives were:

1. Compatibility of the purpose of the Refuge and the mission of the National Wildlife Refuge System.
2. Natural resources of the refuge.
3. Demands and expectations of public use, with concerns for safety.
4. Issues identified in the draft Environment Assessment and Interim Comprehensive Conservation Plan and comments from partners.
5. The Migratory Bird Conservation Act and the Emergency Wetland Resources Act of 1986.

### **2.3 Alternatives Eliminated from Detailed Study**

An alternative that would have closed the Refuge to all hunting was not considered for detailed analysis because:

- The decision was made in the Finding of No Significant Impact (FONSI) for the Environmental Assessment accompanying the Interim Comprehensive Conservation Plan that hunting would occur on the Refuge as a future use.
- Conflicts with hunting being considered a compatible use under the 1997 National Wildlife Refuge Act.
- Hunting is a traditional use in Polk County.
- Hunting is a useful management tool for control of wildlife populations.

### **2.4 Description of Alternatives**

#### **2.4.1 Alternative 1- No Action – Allow areas to be hunted as permitted by prior landowner.**

This action would utilize the parameters of hunting established by the prior landowner. Each hunter would be required to obtain a written permission slip from the refuge. There would be no closed areas for hunting. Species hunted would be those allowed by the prior landowner.

No area will be designated specifically for non-hunting recreation. Non-hunter visits are expected to increase from the establishment of the area as a National Wildlife Refuge. Hunters and non-hunters will be occupying the same areas of the Refuge at the same time. Safety concerns would exist with the mixing of hunter and non-hunter use. Wildlife will not have a sanctuary area from which to avoid disturbance.

#### **2.4.2 Alternative 2 - Open entire Refuge to deer and upland game hunting while permitting waterfowl hunting on 40% of Refuge Lands as per establishment legislation.**

Under this alternative the entire refuge would be open to deer and upland game hunting. Migratory bird hunting would be permitted on 40% of refuge land. This alternative assumes that hunting is the primary purpose for the refuge. Land designated for migratory bird hunting would encompass mainly the southern half of the Refuge; south of Polk county highway 45.

No area will be designated specifically for non-hunting recreation, such as wildlife viewing and photography. With expected increased visits from the non-hunting public, hunters and non-hunters will be occupying the same areas of the Refuge simultaneously. Safety concerns would exist with the mixing of hunter and non-hunter use. Although this alternative would limit the hunting of migratory birds to 40% of the refuge, it doesn't limit the movement of deer and upland game hunters into the non-hunting Migratory Bird closed area. Disturbance to all species would still be probable.

Hunting of upland game would include to prairie chicken and sharp-tailed grouse. The hunting of other upland game (rabbits, squirrels, ruffed grouse, raccoon, fox, etc.) would be permitted after Refuge specific surveys justify huntable populations. If these other upland game species justify hunting, an amended environmental assessment would be developed, including a public comment period, prior to opening the refuge to hunting any new species.

#### **2.4.3 Alternative 3 – Preferred Alternative - Open a portion of the Refuge to deer and upland game hunting, and permitting waterfowl hunting on 40% of Refuge Lands as per establishment legislation while maintaining a non-hunting area**

This alternative provides opportunities to hunt deer, upland game and migratory birds as outlined in the Glacial Ridge NWR Interim Comprehensive Conservation Plan. The annual evaluation of species population will determine species to be hunted. Beginning in 2005, deer, greater prairie chicken, sharp-tailed grouse, mourning doves, woodcock, common snipe, rails, geese, ducks, and coots will be hunted. Seasons and limits would correspond to Minnesota state regulations. There would be no limit to the number of hunters permitted in the hunting area, although hunters would be required to register at Refuge headquarters before hunting the refuge lands. Non-hunting areas, approximately encompassing 25% of the refuge, would be established to provide sanctuaries for wildlife, protection of refuge facilities and to provide non-hunting visitors areas to view wildlife. Hunters and non-hunters would be segregated to provide for public safety.

The hunting of other upland game (rabbits, squirrels, ruffed grouse, raccoon, fox, etc.) would be permitted after Refuge specific surveys justify huntable populations. If these other upland game species justify hunting, an amended environmental assessment would be developed, including a public comment period, prior to opening the refuge to hunting any new species.

**2.4.4 Alternative 4 — Open a portion of the Refuge to deer and upland game hunting, and permitting waterfowl hunting on 20% of Refuge Lands while maintaining a non-hunting area.**

This alternative will decrease the area available for migratory bird hunting compared to Alternative 3, increasing the sanctuary area. The area open for deer and upland game hunting would remain the same as Alternative 3. Deer and upland game hunters would still be allowed to hunt in the 20% zone, which is open for migratory birds hunting. Species opened for upland game hunting would be the same as Alternatives 2 & 3.

**2.5 Comparison of Alternatives**

The table below summarizes the actions that are anticipated under each alternative. Detailed discussion of the environmental impacts of each alternative can be found in section 4. Some of the issues are carried into the impact assessment and are described in more detail in section 4.

| Action   | ALTERNATIVE 1<br>(No Action)<br>All Lands Open to Hunting   | ALTERNATIVE 2<br>Open Entire Refuge to Big & Upland Game, 40% to Migratory Birds   | ALTERNATIVE 3<br>(Preferred)<br>Open a portion of Refuge to Big & Upland Game, 40% to Migratory Birds                      | ALTERNATIVE 4<br>Open a portion of Refuge to Big & Upland Game, 20% to Migratory Birds                                 |
|--|---|--|--|--|
| <b>Provides for 60% closed areas for Migratory Birds, as required under MBCA</b> | No, all areas open  | Yes, but deer and upland hunting will occur in closed migratory bird hunting areas   | Yes, and 25% of refuge will be closed to all hunting   | Yes (actual 80% of refuge will be closed to migratory bird hunting). A closed area for all hunting would remain at 25% |
| <b>Species that will be hunted</b>   | All species allowed by prior landowner  | Deer, prairie chicken, sharp-tailed grouse, migratory game birds   | Same species as Alternative 2  | Same species as Alternative 2  |
| <b>Compatible with Refuge Goals and Purpose</b>                                  | Violates Migratory Bird Conservation Act and the Emergency Wetland Resources Act of 1986 by permitting more than 40 % of refuge open to Migratory Bird Hunting. | Provides for priority public use but doesn't consider the need of non-hunting to conserve species for diversity and viability. | Provides for priority public use while providing sanctuaries to improve occurrence of species for diversity and viability. | Similar to Alternative 3.  |
| <b>Provides for Priority Public Uses</b>   | Satisfies the needs of the 1997 National Refuge Improvement Act, but gives priority to hunting.   | Satisfies the needs of the 1997 National Refuge Improvement Act, but combines uses.  | Satisfies the needs of the 1997 National Refuge Improvement Act.   | Same as Alternative 3  |
| <b>Hunting and non-hunting activities segregated</b>                             | No, Doesn't separate uses, conflicts possible.  | Same as Alternative 1  | Yes  | Yes  |
| <b>Meets needs identified by public and partners</b>                             | Maximizes hunting opportunities as identified by most public and partners.  | Maximizes hunting opportunities as identified by most public and partners.   | Provides a compromise between hunting and non-hunting uses.  | Provides a compromise between hunters and non-hunters but reduces opportunities for Migratory Bird Hunting             |

**Section 3. Affected Environment**

**3.1 Landscape of Glacial Ridge National Wildlife Refuge**

Glacial Ridge National Wildlife Refuge (Glacial Ridge) is located in Polk County in

northwestern Minnesota, approximately 10 miles east of Crookston along U.S. Highway 2. The approved acquisition boundary of 35,750 acres includes approximately 5,000 acres of non-cultivated native prairie. Future habitat restoration potential includes approximately 18,000 acres of prairie and 12,000 acres of wetland. These habitats are important breeding areas for waterfowl, Sandhill Cranes, shorebirds, Greater Prairie Chicken, many grassland nesting songbirds and a host of mammals.

The landscape and its global importance were carved with wind and water over 12,000 years ago from Glacial Lake Agassiz. The formed habitats of prairie grasslands, and a variety of wetlands provided the ingredients for a very diverse continentally important biological community. The Glacial Ridge NWR will be the center point for the restoration of this fragile ecosystem, as less than one percent remains in Minnesota.

The Glacial Ridge NWR contributes runoff flows to the Red Lake and Sandhill River subwatersheds of the Red River of the North watershed, a system that flows north into Canada ultimately entering Hudson Bay. The majority of the beach formed wetlands and native prairie grassland habitats were converted to agricultural field. These practices removed most native habitats resulting in reduced wildlife habitats and associated wildlife. These actions also reduced hunting opportunities as species declined or disappeared.

### **3.2 Refuge Lands**

The Glacial Ridge NWR was formally established on October 26, 2004 when The Nature Conservancy donated nearly 2,300 acres to the U.S. Fish and Wildlife Service. As TNC restores habitats or as land is purchased from willing sellers additional acres will be added to the Refuge with a goal of 35,750 acres as approved by Service Director Steve Williams on October 12, 2004. Although annual additions to the refuge are hopeful there is no yearly guarantee. The Hunting Chapter of the Visitor Services plan must contain a general concept for hunting opportunities while allowing flexibility with annual changes to the location of lands added to the refuge.

When all restorations have been completed, the refuge will consist of approximately 12,000 acres of wetlands and 23,000 acres of tallgrass prairie grassland, of which 5,000 are original unplowed prairie. Remaining acres will include a mix of willow and aspen scrubland. The current fen type wetland support western prairie fringed orchid (*Platanthera praeclara*). It's anticipated that as the fen wetlands are restored the western prairie fringed orchid will expand its range within the refuge. There remains less than one percent of original prairie in Minnesota. The restoration of prairie habitat on Glacial Ridge will represent a major accomplishment in restoring prairie habitat to the landscape.

### **3.3 Fish and Wildlife of the Refuge**

Wildlife observations made by biologists and researchers from the University of Minnesota system, USGS and MN-DNR from 1995 through 2004 on the Pembina Trail Preserve include 73 bird species, 35 butterfly species, 11 mammal species, five

amphibian species, and five reptile species. The Pembina Trail Preserve is TNC property within the proposed Glacial Ridge NWR acquisition boundary. It is expected that these same number of wildlife species will be found throughout the refuge as lands are acquired and restored.

### **3.4 Federally Threatened and Endangered Species**

The endangered western prairie fringed orchid (*Platanthera praeclara*) is the only federal threatened or endangered species known plant that occurs of the refuge. Very little conflict is expected as the orchid blooms in the mid-summer and hunting seasons are in the fall.

Two butterflies, the Dakota skipper (*Hesperia dacotae*), a threatened State species and the regal fritillary (*Speyeria idalia*), a State species of Special Concern are known to occur within the proposed boundary of the refuge. As most hunting opportunities will be limited to foot access only, little impact on habitats for either species is anticipated. Any trails that may be used for access to blinds for persons with disabilities will occur on existing trails/ disturbed sites.

### **3.5 Cultural Resources**

European settlement of the Glacial Ridge area was slow and sparse compared to other regions of Minnesota. During the mid-19<sup>th</sup> century the study area was part of the historic Red Rive oxcart trail system. The oxcart trails were used by immigrants traveling between St. Paul and the Selkirk Settlement near present day Winnipeg, Manitoba. The Woods (Pembina) Trail, a segment of the main route, traversed the west end of the study area (Minnesota Historical Society 1979).

Two western culture building sites are located on adjacent Federal Waterfowl Production Areas. There are the only two archeological sites to be considered potential impact of the Glacial Ridge NWR. There is the assumption that undiscovered prehistoric sites are possible on the property mainly form the Woodland culture (500 B.C. to A.D. 1650). The Cheyenne tribe is the earliest historic period tribe in the area, replaced by the Ojibwa.

The implementation of this hunting plan is not anticipated to have any negative impacts on potential historical or archeological resources. Prior to the construction of parking lots or erection of signs specific onsite surveys will be conducted to avoid historical or archeological resources.

### **3.6 Economic Resources**

The Glacial Ridge NWR lies in Polk County, rich in historical hunting and outdoor tradition. In 2004, over 25,200 licenses were sold for hunting and fishing related activities in Polk County generating over \$674,000. The implementation of this hunting plan is not anticipated to have a major impact to the local economy. The refuge will support additional hunting to the general area, but majority of hunters will be local

residents that already purchase hunting licenses and miscellaneous hunting merchandise. Some hunter may come from outside the local region utilizing local motels and eating facilities, but this will be limited.

### **3.7 Recreational Opportunities**

A complete review of future public uses will be addressed in the Visitor Service Plan that will be written within the next couple of years. In general as described in the Interim Comprehensive Conservation Plan public use to be considered will include: a combination of hiking and auto interpretative trails, wildlife viewing and photography areas, environmental education stations, visitor center with exhibits and special season wildlife programs.

Hunting opportunities proposed on the Glacial Ridge NWR already exist on state, federal and other public lands in Polk County. Currently, Polk County has nearly 23,000 acres of State Wildlife Management Areas, and 13,000 acres of Federal Waterfowl Production Areas open for hunting of big game, uplands game and migratory bird hunting.

## **Section 4. Environmental Consequences**

### **4.1 Impacts by Alternatives**

#### **4.1.1 Alternative 1 - No Action Alternative**

This action would continue to allow hunting according to the rules of the prior landowner.

#### Big Game Wildlife

The white-tailed deer population is not expected to change as the result of this alternative. The number of hunters utilizing the refuge should also remain the same. The deer population in the refuge should continue to reflect deer densities within respective State Management Units. Currently, Glacial Ridge NWR represents less than 5% of unit 406 and less than 4% of Unit 405.

#### Upland Game

Hunting of prairie chicken (since recovery) has only occurred in the last two years. The prairie chicken hunt on Glacial Ridge NWR would follow recommendations made by the Minnesota Department of Natural Resources (MNDNR). Currently, the refuge represents about 20% of State Permit Unit 405A. This alternative is not expected to effect the prairie chicken populations in Unit 405A.

Sharp-tailed Grouse hunting is generally not permitted in this part of Minnesota. Hunters that are selected to hunt prairie chicken are also allowed to take sharp-tailed grouse, as it is difficult to distinguished species in flight. Hunting of sharp-

tailed grouse on the Refuge is not expected to effect the population within the State Management Unit.

The hunting of other upland game species would continue with no anticipated change in population trends.

### Migratory Bird

Migratory bird hunting was allowed over the entire area by the previous landowner. The hunting of migratory birds on the entire refuge would place the Refuge out of compliance with the Migratory Bird Conservation Act, and would subject the Refuge and U.S. Fish and Wildlife Service to litigation.

### Habitat

Hunting access would be walk in only, with parking restricted to designated parking lots. Thus impacts on vegetation should be non-detectable. Development of hunting opportunities for persons with disabilities would utilize existing roads or trails.

### Threaten and Endangered Species

The placement of parking lots with walk in hunting only should prevent any detrimental actions on the prairie fringed orchid or fen habitat. This same control will eliminate the potential of detrimental actions of the Dakota skipper and regal fritillary butterflies. The majority of hunting will occur after these butterflies become caterpillars and are in wintering ground level vegetation.

### Historical and Cultural Concerns

There were no historical or cultural resource concerns identified in the draft Environmental Assessment and Interim Comprehensive Conservation Plan. The finding or disturbance of any undiscovered prehistoric sites or cultural concerns is not likely.

### **4.1.2 Alternative 2 - Open entire refuge to deer and upland game hunting and 40% to migratory bird hunting.**

### Big Game

Same as No Action Alternative

### Upland Game

The hunting of prairie chicken and sharp-tailed grouse would continue, with no effect on population trends. Other upland game species would benefit from not being hunted, until huntable populations are justified.

### Migratory bird

Under this alternative only 40% of the refuge would be opened to migratory bird hunting. Although migratory birds will benefit from not being hunted, there remains the potential for disturbance by those hunting deer or upland game. The amount and timing of the disturbance could detract from the benefits. Although, this alternative should not have a negative impact on migratory birds, it may not provide any true positive benefits in bird use days.

### Habitat

Same as No Action Alternative

### Threaten and Endangered Species

Same as No Action Alternative

### Historical and Cultural Concerns

Same as No Action Alternative

## **4.1.3. Alternative 3 – (Preferred Alternative) Open a portion of the Refuge to Big and Upland Game & 40% to Migratory Birds**

### Big Game

This alternative will establish a non-hunting area for deer. This sanctuary should increase deer populations in a portion of the refuge, providing the non-hunting visitor with an increased chance of seeing deer. A sanctuary should allow more deer the potential to grow older, increasing the percent of mature bucks, popular with non-hunting visitors. If this alternative causes higher deer populations which in turn results in increased deer depredation off refuge, the size and/or the specific areas closed may need to be adjusted.

### Upland Game

The same closed area for deer would also apply to all upland game. This should have positive effects on all upland game populations in that portion of the refuge. The portion of the refuge open for hunting of prairie chicken and sharp-tailed

grouse should not effect trend populations of either species. The non-hunting of the other upland game species will have a positive affect on those species' populations. If MNDNR expands hunting of prairie chicken/sharp-tail grouse hunting to other permit zones that incorporate the Refuge, those portions of the refuge closed to all hunting would provide a core area of non-hunted birds.

#### Migratory Birds

The limitation of hunting only 40% of the refuge should have a positive impact on migratory birds. Migratory birds will be able to feed and rest with little to no disturbance. This will benefit both hunted and non-hunted migratory bird species, i.e. sandhill cranes. The non-hunter visitor should be provided with many viewing opportunities of these species. If, non-hunted areas cause the build up of birds that in turn cause depredation on neighboring farm crops, adjustment could be made to alleviate the problem. The overall affect of this alternative on migratory birds should be positive.

#### Habitat

Same as No Action Alternative

#### Threaten and Endangered Species

Same as No Action Alternative

#### Historical and Cultural Concerns

Same as No Action Alternative

### **4.1.4. Alternative 4 – Open a portion of the Refuge to Big and Upland Game & 20% to Migratory Birds**

#### Big Game

Same as Alternative 3

#### Upland Game

Same as Alternative 3

#### Migratory Birds

This alternative would reduce the size of the area open to migratory bird hunting from 40% to 20%. Migratory birds would directly benefit from having a smaller percent of the refuge open to migratory bird hunting. A minimal of disturbance from deer and upland game hunters is anticipated to occur.

Habitat

Same as No Action Alternative

Threaten and Endangered Species

Same as No Action Alternative

Historical and Cultural Concerns

Same as No Action Alternative

**4.2 Comparison on Environmental Impacts by Alternative**

| <b>RESOURCE</b> | <b>ALTERNATIVE 1<br/>(NO ACTION)</b>                | <b>ALTERNATIVE 2<br/>Open Entire Refuge to Big<br/>and Upland Game, 40% to<br/>Migratory Birds</b>                                   | <b>ALTERNATIVE 3<br/>(Preferred)<br/>Open a portion of the Refuge to<br/>Big &amp; Upland Game, 40% to<br/>Migratory Birds</b>   | <b>ALTERNATIVE 4<br/>Open a portion of the refuge<br/>to Big &amp; Upland Game, 20%<br/>to Migratory Birds</b>   |
|-----------------|---|--|--|--|
| Big Game        | No affect on current deer populations               | No affect on deer populations  | Increase deer populations on a portion of the refuge   | Same as Alternative 3  |
| Upland Game     | No affect on current upland populations             | No affect on prairie chicken and sharp-tailed grouse populations. Other upland game populations would benefit from not being hunted. | Non-hunting area would benefit all upland game populations. The current MN prairie chicken hunting zone is in the designated hunting area of the Refuge, no affect on population will result from this Alternative. If MNDNR expands prairie chicken hunting, the non-hunting area would become a sanctuary for a portion of the population, providing a positive affect on prairie chicken and sharp-tailed grouse populations. Other upland game populations would benefit from not being hunted on the entire refuge. | Same as Alternative 3  |
| Migratory Birds | No affect as all areas would be open as in the past | Sanctuaries should increase bird numbers and use days especially during spring and fall migration.                                   | Migratory birds would benefit from both the 40% limitation hunted area and the non-hunted area in total numbers and use days.  | Migratory birds would benefit from both the 20% limitation hunted area and the non-hunted area. Total numbers and use days of Migratory Birds should exceed Alternative 3. |

| <b>RESOURCE</b>                   | <b>ALTERNATIVE 1<br/>(NO ACTION)</b> | <b>ALTERNATIVE 2<br/>Open Entire Refuge to Big<br/>and Upland Game, 40% to<br/>Migratory Birds</b> | <b>ALTERNATIVE 3<br/>(Preferred)<br/>Open a portion of the Refuge to<br/>Big &amp; Upland Game, 40% to<br/>Migratory Birds</b> | <b>ALTERNATIVE 4<br/>Open a portion of the refuge<br/>to Big &amp; Upland Game, 20%<br/>to Migratory Birds</b> |
|-----------------------------------|--------------------------------------|--|--|--|
| Other Concerns - Habitats         | No change expected                   | No affect.   | No affect  | No affect  |
| Threatened and Endangered Species | No affect                            | No affect.   | No affect  | No affect  |
| Historic and Cultural Resources   | No affect                            | No affect.   | No affect  | No affect  |

## **Section 5: List of Preparers**

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 Juancarlos Giese, Refuge Operations Specialists, Rydell National Wildlife Refuge  
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## **Section 6: Consultation with Others**

### **For issues identification and public use ideas:**

Terry Wolfe, Ross Hier, Ruth Ann Franke – Minnesota Department of Natural Resources, Crookston, Minnesota

Keith Mykleseth and Jason Ekstein – The Nature Conservancy – Glacial Ridge Project, Mentor Minnesota

Gerald Jacobson – Polk County Commissioner, Polk County Minnesota

Penny Doty – West Polk Soil and Water Conservation District, Crookston, Minnesota

Gary Lee – East Polk Soil and Water Conservation District, McIntosh, Minnesota

Don Osborne, Aaron Parrish and Scott Kleven – City of Crookston Office, Crookston, Minnesota

Brian Winter and Anton Benson – The Nature Conservancy, Pembina Trail Preserve Scientific and Natural Area, Fertile, Minnesota

Eric Anderson – Ducks Unlimited, Thief River Falls, Minnesota

Greg Bengtson and Melissa Behrens – Natural Resources and Conservation Service, Crookston, Minnesota

Public comments from public review of the draft Environmental Assessment and Interim Comprehensive Conservation Plan for establishment of the Glacial Ridge National Wildlife Refuge.

**For Service policies and guidance regarding public use and NEPA compliance:**  
Donna Stanek, Suzanne Baird, Jeff Gosse - U.S. Fish and Wildlife Service, Ft. Snelling, MN

**Federally listed threatened and endangered species:**

<http://endangered.fws.gov/wildlife.html#Species>

[http://ecos.fws.gov/tess\\_public/TESSWebpageUsaLists?state=MN](http://ecos.fws.gov/tess_public/TESSWebpageUsaLists?state=MN)

<http://www.dnr.state.mn.us/ets/index.html>

<http://www.dnr.state.mn.us/ets/dragonflies.html>

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## **Section 7: Public Comments and Responses**

This Section will be completed after the public comment period.

## **Section 8: References**

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Deer density – Spring 2004, Minnesota Department of Natural Resources, <http://www.dnr.state.mn.us/hunting/deer/index.html>.

Migratory Bird Harvest Information Program (HIP), U.S. Fish and Wildlife Service, <http://hip.fws.gov/>

Minnesota Department of Natural Resources, Ecological Services, Home Page for Endangered, Threatened and Special Concern <http://www.dnr.state.mn.us/ets/index.html>

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<http://endangered.fws.gov/wildlife.html#Species>

U.S. Fish and Wildlife Service Endangered and Threatened Species List - Minnesota  
[http://ecos.fws.gov/tess\\_public/TESSWebpageUsaLists?state=MN](http://ecos.fws.gov/tess_public/TESSWebpageUsaLists?state=MN)

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2004 Minnesota Prairie-Chicken Survey, Minnesota Department of Natural Resources,  
<http://www.dnr.state.mn.us/hunting/prairiechicken/index.html>.

