

Appendix I: Compatibility Determinations

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Compatibility Determination

Use: Collection of Edible Wild Plant Foods for Personal Use

Refuge Name: Big Stone National Wildlife Refuge (NWR, Refuge)

Establishing and Acquisition Authorities:

Big Stone NWR was established on May 21, 1975 when the U.S. Corps of Engineers transferred 10,540.43 acres to the U.S. Fish and Wildlife Service (FWS, Service). Legal authorities used for establishment of the Refuge include Fish and Wildlife Coordination Act (16 U.S.C. 661-667e), Refuge Recreation Act (16 U.S.C. 460k-460k-4), Emergency Wetlands Resources Act of 1986 (16 U.S.C. 3901), Fish and Wildlife Act of 1956 (16 U.S.C. 742a-742j), and Migratory Bird Conservation Act (16 U.S.C. 715-715d, 715e, 715f-715r).

Refuge Purposes:

" . . . shall be administered by him [Secretary of the Interior] directly or in accordance with cooperative agreements . . . and in accordance with such rules and regulations for the conservation, maintenance, and management of wildlife, resources thereof, and its habitat thereon, . . . "; 16 U.S.C. § 664 (Fish and Wildlife Coordination Act)

" . . . suitable for— (1) incidental fish and wildlife-oriented recreational development, (2) the protection of natural resources, (3) the conservation of endangered species or threatened species . . . " 16 U.S.C. § 460k-1 " . . . the Secretary . . . may accept and use . . . real . . . property. Such acceptance may be accomplished under the terms and conditions of restrictive covenants imposed by donors . . . "; 16 U.S.C. § 460k-2 (Refuge Recreation Act (16 U.S.C. § 460k-460k-4), as amended)

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

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

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

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

National Wildlife Refuge System Mission:

The mission of the National Wildlife Refuge System (NWRS, Refuge System) is 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:

Allow visitors to collect various plant food products such as wild berries and nuts on Refuge land for personal use.

Is the use a priority public use?

No, this is not a priority public use of the Refuge System.

Where would the use be conducted?

Harvest would occur throughout the Refuge in the uplands and along river and wetland edges. Areas where edible plants are found are a small percentage of the total upland acreage and are often found at abandoned building sites, which have been reclaimed by the Service.

When would the use be conducted?

Collection would occur during daylight hours and be of short duration in the spring for asparagus and mushrooms, and in the late summer and fall for berries, plums, and nuts.

How would the use be conducted?

These foods are hand-harvested by picking the products from the plant or gathering what has fallen to the ground. Mushrooms, asparagus, and wild mint are examples of plants that are collected and consumed or used as tea. These are cut by hand during harvest.

Access to harvest sites is by walking from a designated parking area or public roadway. Collection of these foods is not a wildlife-dependent recreational use and occurs 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.

Why is this use being proposed?

This use has historically been allowed on the Refuge and has become a custom of the local community. The Refuge is open to the public during the time periods that the use is allowed so no additional disturbance is created by allowing this use. Gathering allows the public to build a connection to the Refuge through personal outdoor experiences that engage the senses and foster an appreciation of the outdoors.

There is a paucity of other public lands in west-central Minnesota, which could provide this opportunity for the public. Private lands located in this area are intensively managed for row crop production. Due to farming practices, these areas typically do not contain any edible wild plants.

Availability of Resources:

What resources are needed to properly (considering quality and compatibility) and safely administer use?

Access trails, parking lots, informational 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 public and will be used incidentally by those who are collecting edible wild plant foods. This use will not require any increase in additional maintenance, enforcement staff, or administrative expenditures. There will be no Special Use Permits issued for this use, and the Service will not have to provide any special equipment or services.

Are existing Refuge resources adequate to properly and safely administer the use?

Existing Refuge resources are adequate to ensure this activity is safely administered and carried out according to compatibility requirements.

Anticipated Impacts of the Use:

How does the collection of edible wild plant foods affect Refuge purposes and the NWRS mission?

The Refuge was established to provide for the needs of migratory birds and other wildlife. Gathering does not adversely affect the ability of the Refuge to fulfill this purpose.

How does the collection of edible wild plant foods affect fish, wildlife, plants, and their habitats; and the biological integrity, diversity, and environmental health of the Refuge/NWRS?

Disturbance

Managing Visitor Use and Disturbance of Waterbirds: A Literature Review of Impacts and Mitigations (DeLong, 2002) includes a summary of effects on wildlife from disturbance from various forms of recreation. The author documents that disturbance can alter behavior (e.g., foraging time), population structure, and distribution patterns of wildlife. It is probable that gathering would cause some or all of these effects to some degree on Refuge wildlife, but present and expected future levels are not expected to adversely affect wildlife populations on the Refuge. A number of measures mitigate these effects.

Habitat

No adverse impacts to Refuge habitats are expected from this activity. Presently, the level of this use is estimated at 25 visits annually and is not expected to increase much above present rates in the future. The use occurs for short durations during spring and late summer/fall when nuts, berries, and mushrooms are most likely available. Gathering occurs in the same areas as other public uses, and practiced at prescribed levels is not expected to harm Refuge habitats.

Biological Integrity, Diversity, and Environmental Health

Gathering of nuts, berries, and mushrooms conducted in accordance with Refuge regulations is not expected to adversely affect fish and wildlife populations or the biological integrity, diversity, and environmental health of the Refuge as it is defined in Service policy (FWS, 2001).

Historically, public participation in the collection of nuts, berries, and mushrooms on the Refuge is estimated at about 25 visits per year, and future participation is also expected to be at or slightly above the current level. This is not anticipated to adversely impact the biological integrity, diversity, or environmental health of the Refuge.

Other Uses and Public Safety

Gathering is not expected to adversely affect other Refuge uses or public safety. Experience on many national wildlife refuges has proven that time and space zoning (e.g., establishment of separate use areas, use periods, and restrictions on the number of users) is an effective tool in eliminating conflicts between user groups. Overall, the cumulative impact of gathering on priority wildlife-dependent recreation activities or public safety at Big Stone NWR is expected to be minor.

Public Review and Comment:

This compatibility determination was available for public review as part of the Big Stone NWR Draft Comprehensive Conservation Plan and environmental assessment from May 9, 2012 to June 8, 2012. Comments received and agency responses will be included in the final version of the Big Stone NWR Comprehensive Conservation Plan.

Determination:

Collection of Edible Wild Food Plants for Personal Use

Use is Not Compatible

Use is Compatible with the Following Stipulations

Stipulations Necessary to Ensure Compatibility:

1. Motor vehicle is restricted to designated roads.
2. Camping, overnight use, and fires will be prohibited.
3. Digging, destruction, and/or removal of plants or their roots are prohibited.
4. Collection is for personal use only, and wild food products cannot be sold commercially.

Justification:

In view of the above and with the stipulations previously described, gathering wild edible plant foods will not materially interfere with or detract from the purposes of the Refuge or the mission of the Refuge System. This use also fosters an appreciation of our natural resources by the public and is a means of allowing the Refuge to more effectively connect people to nature as per the Service's "Let's Go Outside-Connecting People With Nature" initiative.

Signature: Refuge Manager /Alice Hanley/ 7/2/12
(Signature and Date)

Concurrence: Regional Chief /Rick Schultz/ 8/27/12
(Signature and Date)

Mandatory 10- or 15-year Re-Evaluation Date: June 2022

DeLong, A. K. 2002. Managing visitor use and disturbance of waterbirds—a literature review of impacts and mitigation measures—prepared for Stillwater National Wildlife Refuge. Appendix L (114 pp.) in Stillwater National Wildlife Refuge Complex final environmental impact statement for the comprehensive conservation plan and boundary revision (Vol. II). Dept. of the Interior, U.S. Fish and Wildlife Service, Region 1, Portland, OR.

Compatibility Determination

Use: Environmental Education

Refuge Name: Big Stone National Wildlife Refuge (NWR, Refuge)

Establishing and Acquisition Authorities:

Big Stone NWR was established on May 21, 1975 when the U.S. Corps of Engineers transferred 10,540.43 acres to the U.S. Fish and Wildlife Service (FWS, Service). Legal authorities used for establishment of the Refuge include Fish and Wildlife Coordination Act (16 U.S.C. 661-667e), Refuge Recreation Act (16 U.S.C. 460k-460k-4), Emergency Wetlands Resources Act of 1986 (16 U.S.C. 3901), Fish and Wildlife Act of 1956 (16 U.S.C. 742a-742j), and Migratory Bird Conservation Act (16 U.S.C. 715-715d, 715e, 715f-715r).

Refuge Purposes:

" . . . shall be administered by him [Secretary of the Interior] directly or in accordance with cooperative agreements . . . and in accordance with such rules and regulations for the conservation, maintenance, and management of wildlife, resources thereof, and its habitat thereon, . . . "; 16 U.S.C. § 664 (Fish and Wildlife Coordination Act)

" . . . suitable for— (1) incidental fish and wildlife-oriented recreational development, (2) the protection of natural resources, (3) the conservation of endangered species or threatened species . . . " 16 U.S.C. § 460k-1 " . . . the Secretary . . . may accept and use . . . real . . . property. Such acceptance may be accomplished under the terms and conditions of restrictive covenants imposed by donors . . . "; 16 U.S.C. § 460k-2 (Refuge Recreation Act (16 U.S.C. § 460k-460k-4), as amended)

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

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

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

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

National Wildlife Refuge System Mission:

The mission of the National Wildlife Refuge System (NWRS, Refuge System) is 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:

Is the use a priority public use?

Environmental education is a priority use of the Refuge System.

Where would the use be conducted?

Environmental education activities occur in various habitats within the Refuge based upon the request.

When would the use be conducted?

Assistance to teachers for environmental education is provided upon request if staff time is available.

How would the use be conducted?

Refuge staff provides assistance to teachers for environmental education upon request. Teacher-led school groups, youth groups, or other organized groups involved in learning activities visit the Refuge and may visit one or more habitats to conduct small studies, make observations, or other activities in support of educational objectives.

Why is this use being proposed?

Environmental education is a priority general public use of the Refuge System. Environmental education programs promote understanding and appreciation of natural and cultural resources and their management on all lands and waters of the Refuge System.

Availability of Resources:

What resources are needed to properly (considering quality and compatibility) and safely administer use?

The present Refuge environmental education program requires minimal Refuge resources. It is provided upon request and as time allows.

Are existing Refuge resources adequate to properly and safely administer the use?

At the present level of use there are adequate Refuge resources to implement the environmental education program.

Anticipated Impacts of the Use:

How does environmental education affect Refuge purposes and the NWRS mission?

No adverse impacts on Refuge resources are expected from implementation of the Refuge environmental education program.

How does environmental education affect fish, wildlife, plants, and their habitats; and the biological integrity, diversity, and environmental health of the Refuge/NWRS?

Wildlife and Wildlife Habitat

Managing Visitor Use and Disturbance of Waterbirds: A Literature Review of Impacts and Mitigations (DeLong, 2002) includes a summary of effects on wildlife from disturbance from various forms of recreation. The author documents that disturbance can alter behavior (e.g., foraging time), population structure, and distribution patterns of wildlife. It is probable that environmental education could cause some or all of these effects to some degree on Refuge wildlife. However, due to the extremely small amount of environmental education activity, this

disturbance would be minimal and the affects would not last much longer than the visit. Much of the Refuge is not affected, because environmental education is concentrated along the Wildlife Drive, roads and trails and at observation facilities. These areas have been established areas of use. Damage to habitat by walking is minimal and temporary. Large groups typically use established foot trails or the local roads with little to no impact on vegetation. There is some temporary disturbance to wildlife due to human activities on trails; however, the disturbance is generally localized and would not adversely impact overall populations. Environmental education use is not expected to increase substantially over time.

The cumulative disturbance caused by environmental education and all other public uses occurring on the Refuge is not expected to adversely affect fish and wildlife populations or their habitats. A number of factors including: suitable site conditions, presence of facilities, access limitations, and seasonal restrictions or other regulations tend to concentrate uses. At any one time, much of the Refuge is unaffected by these uses and is free of disturbance.

Biological Integrity, Diversity, and Environmental Health

Environmental education activities, conducted in accordance with Refuge regulations, are not expected to adversely affect fish and wildlife populations or the biological integrity, diversity, and environmental health of the Refuge as it is defined in Service policy (FWS, 2001).

Other Uses and Public Safety

Environmental education is not expected to adversely affect other Refuge uses or public safety. The Refuge's Visitor Services programs will be adjusted as needed to eliminate or minimize any future problems and provide quality wildlife-dependent recreational opportunities, which include promoting public safety. Experience on many national wildlife refuges has proven that time and space zoning (e.g., establishment of separate use areas, use periods, and restrictions on the number of users) is an effective tool in eliminating conflicts between user groups. Overall, the cumulative impact of environmental education on other wildlife-dependent recreation or public safety at Big Stone NWR is expected to be minor.

Public Review and Comment:

This compatibility determination was available for public review as part of the Big Stone NWR Draft Comprehensive Conservation Plan and environmental assessment from May 9, 2012 to June 8, 2012. Comments received and agency responses will be included in the final version of the Big Stone NWR Comprehensive Conservation Plan.

Determination:

Environmental Education

Use is Not Compatible

Use is Compatible with the Following Stipulations

Stipulations Necessary to Ensure Compatibility:

1. The Refuge Manager will monitor use patterns and densities and make adjustments in timing, location, and duration as needed to limit disturbance.

2. Use will be directed to public use facilities (both existing and in the future), which are not in or near sensitive areas.
3. Use is limited to daylight hours only.

Justification:

In view of the above and with the stipulations previously described, environmental education will not materially interfere with or detract from the Refuge System mission or purposes of the Refuge. Environmental education is a priority public use of the Refuge System and providing this program contributes to achieving one of the Refuge goals. Well-designed environmental education programs can be effective resource management tools that provide an opportunity to influence visitor attitudes about natural resources, refuges, the Refuge System, and the Service and to influence visitor behavior when visiting units of the Refuge System.

Signature: Refuge Manager /Alice Hanley/ 7/2/12
(Signature and Date)

Concurrence: Regional Chief /Rick Schultz/ 8/27/12
(Signature and Date)

Mandatory 10- or 15-year Re-Evaluation Date: June 2027

DeLong, A. K. 2002. Managing visitor use and disturbance of waterbirds—a literature review of impacts and mitigation measures — prepared for Stillwater National Wildlife Refuge. Appendix L (114 pp.) *in* Stillwater National Wildlife Refuge Complex final environmental impact statement for the comprehensive conservation plan and boundary revision (Vol. II). Dept. of the Interior, U.S. Fish and Wildlife Service, Region 1, Portland, OR

U. S. Fish and Wildlife Service. 2001. Biological integrity, diversity, and environmental health. 601 FW 3. National Wildlife Refuge System, Department of Interior. Available URL: <http://policy.fws.gov/601fw3.html>

Compatibility Determination

Use: Farming

Refuge Name: Big Stone National Wildlife Refuge (NWR)

Establishing and Acquisition Authorities:

Big Stone NWR was established on May 21, 1975 when the U.S. Corps of Engineers transferred 10,540.43 acres to the USFWS. Legal authorities used for establishment of the Refuge include Fish and Wildlife Coordination Act (16 U.S.C. 661-667e), Refuge Recreation Act (16 U.S.C. 460k-460k-4), Emergency Wetlands Resources Act of 1986 (16 U.S.C. 3901), Fish and Wildlife Act of 1956 (16 U.S.C. 742a-742j), and Migratory Bird Conservation Act (16 U.S.C. 715-715d, 715e, 715f-715r).

Refuge Purposes:

" . . . shall be administered by him [Secretary of the Interior] directly or in accordance with cooperative agreements . . . and in accordance with such rules and regulations for the conservation, maintenance, and management of wildlife, resources thereof, and its habitat thereon, . . . "; 16 U.S.C. § 664 (Fish and Wildlife Coordination Act)

" . . . suitable for— (1) incidental fish and wildlife-oriented recreational development, (2) the protection of natural resources, (3) the conservation of endangered species or threatened species . . . " 16 U.S.C. § 460k-1 " . . . the Secretary . . . may accept and use . . . real . . . property. Such acceptance may be accomplished under the terms and conditions of restrictive covenants imposed by donors . . . "; 16 U.S.C. § 460k-2 (Refuge Recreation Act (16 U.S.C. § 460k-460k-4), as amended)

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

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

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

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

National Wildlife Refuge System Mission:

The Mission of the National Wildlife Refuge System is 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:

Use Cooperative farming as a habitat management tool to enhance and restore refuge grasslands.

Is the use a priority public use?

Farming is not a priority public use in the National Wildlife Refuge System

Where would the use be conducted?

Farming occurs on approximately 2-4 percent of refuge lands annually.

When would the use be conducted?

Spring planting typically begins in early April and harvest typically concludes by November of each year.

How would the use be conducted?

The Refuge will allow farming by private individuals for the purpose of habitat management. Cooperative farming is the term used for cropping activities (growing agricultural products) conducted by a third party on land that is owned by or managed as part of the Refuge. This activity is implemented to prepare a quality seed bed for the establishment of native prairie species.

Cooperative farming activities will only be performed on previously disturbed areas such as previously farmed land which have unacceptable levels of chemical residue, noxious weeds, or non-native plant species or ecotypes or to honor the land use clauses of a purchase agreement. To ensure that all Service policies are met, all such land use clauses must be approved by the Refuge Manager prior to Service acceptance of the purchase agreement.

Cooperative farming is conducted through a sealed bid process. The highest bidder receives the contract for that area. Cooperative farming is conducted under the terms and conditions of a Cooperative Farming Agreement or Special Use Permit issued by the Refuge Manager. The terms of the Agreement or Permit ensure compliance with Service policy and area-specific stipulations to meet management objectives and safeguard resources.

Contracts are typically written for 3-4 years. The cooperator breaks up the ground the first year and then farms it for the remaining 2-3 years. The last year of the contract requires the cooperator to seed the field to soybeans. Soybean stubble is the preferred substrate for the refuge to seed native grasses and forbs into.

Farming entails the use of mechanical equipment such as tractors, disks, and seeders. Each site is tilled prior to spring planting, once ground conditions permit the use of heavy equipment without damage to the soil. Tilling requires 1-2 days per site. Some sites may also be treated with herbicide prior to planting. Crops such as corn and soybeans are planted. Typically, planting is completed in one day or less on any individual site and planting on all sites usually begins as early as mid April and is completed as late as early June depending on soil conditions and type of crop planted. Cooperators are limited to using only FWS approved herbicides. The use of Genetically Modified Crops (GMO crops), specifically Glyphosate-tolerant corn and soybeans, will be authorized on refuge lands consistent with current Regional Policy.

Beginning in calendar year 2012, the use of genetically-modified, glyphosate-tolerant corn and soybeans will be used only for the purpose of habitat restoration.

Harvest techniques are the same for both no-till and traditional farming practices. Harvest begins in the fall, using a self propelled harvesting implement such as a combine, and usually takes about one day per site and is complete on all sites by late October.

Why is this use being proposed?

Farming is used to prepare seed beds for the Refuge's grassland restoration program.

Availability of Resources:

What resources are needed to properly (considering quality and compatibility) and safely administer use?

Most of the needed work to prepare for this use would be done as part of routine management duties. The decision to use cooperative farming as a management tool would occur as part of strategies developed under specific program or unit habitat management planning. The additional time needed to coordinate issuance and oversight of the needed Special Use Permit or Agreements is relatively minor and within existing Refuge resources.

Are existing refuge resources adequate to properly and safely administer the use?

The needed staff time for development and administration of a cooperative farming program is available. The additional time needed to coordinate issuance and oversight of the needed Special Use Permit or Agreements is relatively minor and within existing Refuge resources.

Anticipated Impacts of the Use:

How does farming affect Refuge purposes and the NWRS mission?

The use of farming provides Refuge staff with a management tool that allows the refuge staff to meet the habitat goals and objectives. Service policy calls for maintaining or restoring refuge habitats to historic conditions if doing so does not conflict with refuge purposes (U. S. Fish and Wildlife Service 2001).

How does farming affect Fish, wildlife, plants, and their habitats; and the biological integrity, diversity, and environmental health of the Refuge/NWRS?

Cooperative farming to prepare suitable seed beds for native prairie plantings will result in short-term disturbances and long-term benefits to both resident and migratory wildlife using Refuge lands. Short-term impacts will include disturbance and displacement typical of any noisy heavy equipment operation. Cropping activities in old fields or abandoned croplands will also result in short-term loss of habitat for any animal or insect species using those areas for nesting, feeding, or resting. Long-term benefits are extremely positive due to establishment of diverse nesting cover utilizing local eco-type Northern Tallgrass Prairie Ecosystem plant species. The resulting habitat will greatly improve conditions for most of the same species affected by the short-term negative impacts. Strict time constraints placed on this use will limit anticipated impacts to these relatively minor areas. Farming and any associated impacts are expected to occur on approximately 2-4 percent of Refuge lands annually.

Public Review and Comment:

This Compatibility Determination was available for public review from February 10, 2011 through March 4, 2011. No comments were received.

Determination:

Farming

Use is Not Compatible

Use is Compatible with the Following Stipulations

Stipulations Necessary to Ensure Compatibility:

1. Farming activity will only take place on previously altered tracts of land within the refuge and must meet specific habitat and related wildlife objectives and contribute to the purposes of the Refuge.
2. Cooperating farmers will be subject to Service policy and regulation regarding use of chemicals. Herbicide and pesticide use is restricted by type and to the minimum necessary amount applied.
3. Special conditions of Cooperative Farming Agreements will address unique local conditions as applicable.
4. Planting and harvest activities are restricted to minimize disturbance of wildlife species.
5. The use of GMO crops is limited to Glyphosate-tolerant corn and soybeans.
6. Beginning in calendar year 2012, the use of genetically-modified, glyphosate-tolerant corn and soybeans will be used only for the purpose of habitat restoration.

Justification: In view of the above and with the stipulations previously described, farming will not materially interfere with or detract from the NWRS mission or purposes of the Refuge. As practiced at Big Stone NWR, farming, both conventional and with the use of Glyphosate-tolerant corn and soybeans, contributes to the achievement of Refuges purposes and the National Wildlife Refuge System mission because it helps enhance and restore grassland habitat for migratory birds and resident wildlife.

Signature: Refuge Manager /Alice Hanley/ 4/14/11
(Signature and Date)

Concurrence: Regional Chief /Rick Schultz/ 4/20/11
(Signature and Date)

Mandatory 10- or 15-year Re-Evaluation Date: March 2021

Compatibility Determination

Use: Firewood Cutting and Timber Removal

Refuge Name: Big Stone National Wildlife Refuge (NWR, Refuge)

Establishing and Acquisition Authorities:

Big Stone NWR was established on May 21, 1975 when the U.S. Corps of Engineers transferred 10,540.43 acres to the U.S. Fish and Wildlife Service (FWS, Service). Legal authorities used for establishment of the Refuge include Fish and Wildlife Coordination Act (16 U.S.C. 661-667e), Refuge Recreation Act (16 U.S.C. 460k-460k-4), Emergency Wetlands Resources Act of 1986 (16 U.S.C. 3901), Fish and Wildlife Act of 1956 (16 U.S.C. 742a-742j), and Migratory Bird Conservation Act (16 U.S.C. 715-715d, 715e, 715f-715r).

Refuge Purposes:

" . . . shall be administered by him [Secretary of the Interior] directly or in accordance with cooperative agreements . . . and in accordance with such rules and regulations for the conservation, maintenance, and management of wildlife, resources thereof, and its habitat thereon, . . . "; 16 U.S.C. § 664 (Fish and Wildlife Coordination Act)

" . . . suitable for— (1) incidental fish and wildlife-oriented recreational development, (2) the protection of natural resources, (3) the conservation of endangered species or threatened species . . . " 16 U.S.C. § 460k-1 " . . . the Secretary . . . may accept and use . . . real . . . property. Such acceptance may be accomplished under the terms and conditions of restrictive covenants imposed by donors . . . "; 16 U.S.C. § 460k-2 (Refuge Recreation Act (16 U.S.C. § 460k-460k-4), as amended)

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

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

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

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

National Wildlife Refuge System Mission:

The mission of the National Wildlife Refuge System (NWRS, Refuge System) is 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:

The removal of standing or fallen trees by private individuals and contractors. This covers all wood removal activities regardless of the ultimate use of the wood (e.g., firewood, pulp, etc.).

Is the use a priority public use?

Wood cutting and timber removal are not priority public uses of the Refuge System.

Where would the use be conducted?

The scope of the activity will be determined by the management objective for the area and by the quantity and quality of available wood. Harvest sites will vary in size from a portion of an acre up to several hundred acres depending on the site and management objectives.

When would the use be conducted?

Wood removal activities may be authorized throughout most of the year. Wood cutting will not be allowed during times when the activity will cause damage to roads and grasslands. The scope of the activity will be determined by the management objective for the area and by the quantity and quality of available wood. Most often, wood removal activities for the purposes of firewood will occur September through December, while commercial harvest activities occur during the winter months when frozen ground will facilitate access and afford protection to underlying soils and vegetation.

How would the use be conducted?

Equipment used for harvest may range from chainsaws and axes to more traditional logging equipment such as feller-bunchers, log skidders, and intensive hydro-ax (grinding-pulverizing). Access may be by car and trailer, pick-up truck, farm tractor, or larger traditional logging equipment. Differences in scope and necessary equipment will occur depending on the amount and type of wood available for removal.

Why is this use being proposed?

This activity will only occur where the Service has determined that a management need exists to remove wood. Wood removal may be done where trees are encroaching on the open marshes, grassland areas, granite outcrops, or degrading earthen water impoundment structures.

Availability of Resources:

What resources are needed to properly (considering quality and compatibility) and safely administer use?

Planning, issuing permits, and monitoring a wood product harvest program would require a minimal commitment of staff hours. In the past, the Refuge has issued approximately 10 Special Use Permits annually to private individuals for this activity and one Purchase Order/Task Order for contracted timber removal. All harvest sites are marked on maps by Refuge staff. By permitting a wood products harvest, the manager has identified a management need and will have secured and prioritized the necessary station resources.

Are existing Refuge resources adequate to properly and safely administer the use?

No additional fiscal resources are needed to conduct this use. The needed staff time is already committed and available. Most of the needed work to prepare for this use would be done as part of routine management duties. The decision to allow firewood cutting or a timber removal contractor will be determined as part of strategies developed under habitat management discussions. The additional time needed to coordinate issuance and oversight of the needed

Special Use Permit for purchase order is within existing Refuge resources. Monitoring timber removal effects will be a part of the existing grassland monitoring program.

Anticipated Impacts of the Use:

How does firewood cutting and timber removal affect Refuge purposes and the NWRS mission?

The use of firewood cutting/timber harvest provides a management tool that allows the Refuge staff to meet the habitat goals and objectives. Service policy calls for maintaining or restoring refuge habitats to historic conditions if doing so does not conflict with refuge purposes (FWS, 2001).

How does firewood cutting and timber removal affect fish, wildlife, plants, and their habitats; and the biological integrity, diversity, and environmental health of the Refuge/NWRS?

In permitting this type of activity, the potential exists to directly impact wildlife by displacement of animals from localized areas due to disturbance, or crushing of nests as a result of access for this activity. These impacts are easily avoided by timing of the activity in accordance with site specific characteristics.

Indirect impacts to waterfowl production and Refuge goals will occur as a result of removing woody vegetation. In nearly every instance, these impacts will be positive. The removal of woody vegetation from historic grassland or wet meadow habitats impacts waterfowl production and the Refuge System mission by increasing the amount of nesting habitat and reducing predator habitat. In some cases, the removal of trees along roads, trails, and dikes is necessary because of the hazard to users from dead trees. For some people, there will be a temporary reduction in aesthetic quality on timber harvesting sites.

Access for the purpose of removing wood may impact habitat by rutting soils, destroying groundcover, creating weed seedbeds, introducing invasive species, and increasing sedimentation due to runoff in nearby wetlands. These impacts can again be avoided by timing of the activity and requiring equipment be cleaned prior to entering the Refuge.

Public Review and Comment:

This compatibility determination was available for public review as part of the Big Stone NWR Draft Comprehensive Conservation Plan and environmental assessment from May 9, 2012 to June 8, 2012. Comments received and agency responses will be included in the final version of the Big Stone NWR Comprehensive Conservation Plan.

Determination:

Firewood Cutting and Timber Removal

Use is Not Compatible

Use is Compatible with the Following Stipulations

Stipulations Necessary to Ensure Compatibility:

1. Work generally will be restricted to areas where soil types indicate that habitat was historically comprised of native prairie vegetation, on granite outcrops and associated habitats, or in existing non-native woodlots associated with abandoned farm sites.
2. If work is in an area where waterfowl nesting is likely, no cutting operations will be permitted from April through July 15.
3. Vehicle access for wood removal will be limited to existing trails or restricted to periods when the ground is frozen or dry to limit rutting and damage to growing vegetation.
4. A Special Use Permit will be issued to private individuals so special conditions can be developed in order to reduce or eliminate site specific impacts and ensure Service management goals are met.
5. Purchase Orders/Task Orders will be issued to commercial operations to ensure site specific impacts and Service management goals are met.

Justification:

In view of the above and with the stipulations previously described, firewood cutting and timber removal will not materially interfere with or detract from the Refuge System mission or purposes of the Refuge. As practiced at Big Stone NWR, tree cutting and removal contributes to the achievement of Refuges purposes and the Refuge System mission. It helps maintain prairie habitat, which is the historic condition within the Refuge and provides habitat for migratory birds.

Signature: Refuge Manager /Alice Hanley/ 7/2/12
(Signature and Date)

Concurrence: Regional Chief /Rick Schultz/ 8/27/12
(Signature and Date)

Mandatory 10- or 15-year Re-Evaluation Date: June 2022

U. S. Fish and Wildlife Service. 2001. Biological integrity, diversity, and environmental health. 601 FW 3. National Wildlife Refuge System, Department of Interior. Available URL: <http://policy.fws.gov/601fw3.html>

Compatibility Determination

Use: Fishing

Refuge Name: Big Stone National Wildlife Refuge (NWR, Refuge)

Establishing and Acquisition Authorities:

Big Stone NWR was established on May 21, 1975 when the U.S. Corps of Engineers transferred 10,540.43 acres to the U.S. Fish and Wildlife Service (FWS, Service). Legal authorities used for establishment of the Refuge include Fish and Wildlife Coordination Act (16 U.S.C. 661-667e), Refuge Recreation Act (16 U.S.C. 460k-460k-4), Emergency Wetlands Resources Act of 1986 (16 U.S.C. 3901), Fish and Wildlife Act of 1956 (16 U.S.C. 742a-742j), and Migratory Bird Conservation Act (16 U.S.C. 715-715d, 715e, 715f-715r).

Refuge Purposes:

" . . . shall be administered by him [Secretary of the Interior] directly or in accordance with cooperative agreements . . . and in accordance with such rules and regulations for the conservation, maintenance, and management of wildlife, resources thereof, and its habitat thereon, . . . "; 16 U.S.C. § 664 (Fish and Wildlife Coordination Act)

" . . . suitable for— (1) incidental fish and wildlife-oriented recreational development, (2) the protection of natural resources, (3) the conservation of endangered species or threatened species . . . " 16 U.S.C. § 460k-1 " . . . the Secretary . . . may accept and use . . . real . . . property. Such acceptance may be accomplished under the terms and conditions of restrictive covenants imposed by donors . . . "; 16 U.S.C. § 460k-2 (Refuge Recreation Act (16 U.S.C. § 460k-460k-4), as amended)

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

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

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

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

National Wildlife Refuge System Mission:

The mission of the National Wildlife Refuge System (NWRS, Refuge System) is 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:

Is the use a priority public use?

Fishing is a priority public use of the Refuge System. The State of Minnesota manages and regulates the taking of game fish species throughout the State, maintaining healthy populations.

Where would the use be conducted?

Fishing is allowed on all waters within Big Stone NWR. Boat fishing is only allowed in the Minnesota River channel with non-motorized boats or boats using electric motors. Bank fishing and ice fishing are allowed throughout the rest of the Refuge; however, due to suitable habitat and access constraints, ice fishing is typically limited to the Minnesota River and the East Pool impoundment.

When would the use be conducted?

Minnesota fishing regulations allow fishing year round for many species, but most fishing activity on the Refuge occurs from May through October. Ice fishing activity increases when the water level in East Pool is high in the winter. Refuge regulations limit all public use activities, including fishing, to daylight hours.

How would the use be conducted?

Fishing on Refuge waters is in accordance with state seasons and regulations as well as Refuge regulations, which in some cases may be more restrictive than State regulations. One example is that state regulations allow night time fishing, where Refuge regulations limit fishing to daylight hours. Several fishing platforms, parking lots, a boat access, and walk in access points allow visitors access to Refuge fishing sites. Ice fishing is allowed; however, access using ATVs/UTVs, snowmobiles, and off road travel is prohibited.

Why is this use being proposed?

Fishing is a priority general public use of the Refuge System. The Service recognizes fishing as a traditional outdoor pastime, deeply rooted in the American heritage (FWS, 2006b). Fishing programs promote understanding and appreciation of natural resources and their management on all lands and waters in the Refuge System.

Availability of Resources:

What resources are needed to properly (considering quality and compatibility) and safely administer use?

The present Refuge fishing program is designed to be administered with minimal Refuge resources. Refuge regulations mirror state regulations in large part, which allows Minnesota Department of Natural Resources (MN DNR) Conservation Officers to assist in law enforcement. Several fishing access areas were recently rehabilitated and are now accessible. There is a small amount of maintenance, mowing, and other upkeep at boat launching facilities that is funded as part of regular Refuge management activities. Approximately \$3,000 annually is required for labor and materials to update and print maps and maintain signs. The Refuge staff does not remove snow on any access points or parking lots.

Are existing Refuge resources adequate to properly and safely administer the use?

At the present level of fishing use there are adequate Refuge resources to implement the fishing program. Law enforcement is the primary tool necessary to ensure proper and safe administration of this use, and although there is no Law Enforcement Officer stationed at the Refuge, law enforcement services are available through the Regional Law Enforcement

Program. Additionally, the local State Conservation Officer and Big Stone County Sheriff's Office provide additional assistance when requested.

Anticipated Impacts of the Use:

How does fishing affect Refuge purposes and the NWR mission?

The fishing program on the Refuge helps fulfill the Refuge System mission and does not detract from the ability to fulfill Refuge purposes. The Refuge was established under several purposes, but primarily to conserve, manage, maintain, and protect wildlife and habitat resources. Fishing will not detract from these purposes. Fishing is a priority public use of the Refuge System and allowing fishing on the Refuge helps fulfill the System mission.

How does fishing affect fish, wildlife, plants, and their habitats; and the biological integrity, diversity, and environmental health of the Refuge/NWR?

Fishing is not expected to adversely affect fish populations and fish habitat within the Refuge. Conserving a diversity of fish and their habitat is included in one of the goals of the Refuge System (FWS, 2006a). But the focus is on maintaining populations not individuals (FWS, 1992). Fishing does cause mortality and wounding of individuals within a fish population, but fishing is regulated so it does not threaten the perpetuation of fish populations. The effects of fishing on fish populations are monitored by the MN DNR and are considered in setting annual limits.

Wildlife and Wildlife Habitat

Managing Visitor Use and Disturbance of Waterbirds: A Literature Review of Impacts and Mitigations (DeLong, 2002) includes a summary of effects on wildlife from disturbance from fishing and other forms of recreation. The author documents that disturbance can alter behavior (e.g., foraging time), population structure, and distribution patterns of wildlife. It is probable that fishing would cause some or all of these effects to some degree on Refuge wildlife. A number of measures mitigate these effects. Although fishing is allowed throughout the Refuge, the majority of the fishing takes place along the Minnesota River, the East Pool impoundment, and where there are facilities to accommodate fishing. Fishing activity is estimated at 1,000 visits annually on the Refuge and is not expected to increase substantially over time.

The cumulative disturbance caused by fishing activity and all other public uses occurring on the Refuge is not expected to adversely affect fish and wildlife populations or their habitats. A number of factors including: suitable site conditions, presence of facilities, access limitations, and seasonal restrictions or other regulations tend to concentrate uses. At any one time, much of the Refuge is unaffected by these uses and is free of disturbance.

Biological Integrity, Diversity, and Environmental Health

Fishing conducted in accordance with state and Refuge regulations is not expected to adversely affect fish and wildlife populations or the biological integrity, diversity, and environmental health of the Refuge as it is defined in Service policy (FWS, 2001).

Other Uses and Public Safety

Fishing is not expected to adversely affect other Refuge uses or public safety. If public use levels on Big Stone NWR expand over time, unanticipated conflicts between user groups may occur. The Refuge's Visitor Services programs would be adjusted as needed to eliminate or minimize each problem and provide a quality wildlife-dependent recreational opportunity, which includes promoting public safety. Experience on many national wildlife refuges has proven that time and space zoning (e.g., establishment of separate use areas, use periods, and restrictions on the number of users) is an effective tool in eliminating conflicts

between user groups. Overall, the cumulative impact of fishing on other wildlife-dependent recreation or public safety at Big Stone NWR is expected to be minor.

Public Review and Comment:

This compatibility determination was available for public review as part of the Big Stone NWR Draft Comprehensive Conservation Plan and environmental assessment from May 9, 2012 to June 8, 2012. Comments received and agency responses will be included in the final version of the Big Stone NWR Comprehensive Conservation Plan.

Determination:

Fishing

Use is Not Compatible

Use is Compatible with the Following Stipulations

Stipulations Necessary to Ensure Compatibility:

1. Fishing must be conducted according to state-, federal- and Refuge-specific regulations.
2. Boat fishing will be restricted to the Minnesota River channel. Only non-motorized boats and boats using electric motors are allowed.
3. Camping, overnight use, and fires are prohibited.
4. The use of snowmobiles and all terrain and utility terrain vehicles (ATV/UTV) are prohibited.
5. Ice fishing structures, devices, and personal property must be removed from the Refuge daily.

Justification:

In view of the above and with the stipulations previously described, fishing will not materially interfere with or detract from the Refuge System mission or purposes of the Refuge. Fishing is a priority public use of the Refuge System and providing a fishing program contributes to achieving one of the Refuge goals. Fishing is not expected to adversely affect the biological integrity, diversity, and environmental health of the Refuge or the Refuge System.

Signature: Refuge Manager /Alice Hanley/ 7/2/12
 (Signature and Date)

Concurrence: Regional Chief /Rick Schultz/ 8/27/12
 (Signature and Date)

Mandatory 10- or 15-year Re-Evaluation Date: June 2027

DeLong, A. K. 2002. Managing visitor use and disturbance of waterbirds—a literature review of impacts and mitigation measures—prepared for Stillwater National Wildlife Refuge. Appendix L (114 pp.) in Stillwater National Wildlife Refuge Complex final environmental impact statement

for the comprehensive conservation plan and boundary revision (Vol. II). Dept. of the Interior, U.S. Fish and Wildlife Service, Region 1, Portland, OR. Available URL:

<http://www.fws.gov/stillwater/litreview.pdf>

U. S. Fish and Wildlife Service. 1992. Population Management at Field Stations: General. 701 FW 1. Department of Interior. Available URL: <http://www.fws.gov/policy/701fw1.html>

U. S. Fish and Wildlife Service. 2001. Biological integrity, diversity, and environmental health. 601 FW 3. National Wildlife Refuge System, Department of Interior. Available URL:

<http://policy.fws.gov/601fw3.html>

U. S. Fish and Wildlife Service. 2006a. National Wildlife Refuge System Mission and Goals and Refuge Purposes. 601 FW 1. National Wildlife Refuge System, Department of Interior. Available URL: <http://www.fws.gov/policy/601fw1.html>

U. S. Fish and Wildlife Service. 2006b. Wildlife-Dependent Recreation: Fishing. 605 FW 3. National Wildlife Refuge System, Department of Interior. Available URL:

<http://www.fws.gov/policy/605fw3.html>

Compatibility Determination

Use: Grazing

Refuge Name: Big Stone National Wildlife Refuge (NWR, Refuge)

Establishing and Acquisition Authorities:

Big Stone NWR was established on May 21, 1975 when the U.S. Corps of Engineers transferred 10,540.43 acres to the U.S. Fish and Wildlife Service (FWS, Service). Legal authorities used for establishment of the Refuge include Fish and Wildlife Coordination Act (16 U.S.C. 661-667e), Refuge Recreation Act (16 U.S.C. 460k-460k-4), Emergency Wetlands Resources Act of 1986 (16 U.S.C. 3901), Fish and Wildlife Act of 1956 (16 U.S.C. 742a-742j), and Migratory Bird Conservation Act (16 U.S.C. 715-715d, 715e, 715f-715r).

Refuge Purposes:

" . . . shall be administered by him [Secretary of the Interior] directly or in accordance with cooperative agreements . . . and in accordance with such rules and regulations for the conservation, maintenance, and management of wildlife, resources thereof, and its habitat thereon, . . . "; 16 U.S.C. § 664 (Fish and Wildlife Coordination Act)

" . . . suitable for— (1) incidental fish and wildlife-oriented recreational development, (2) the protection of natural resources, (3) the conservation of endangered species or threatened species . . . " 16 U.S.C. § 460k-1 " . . . the Secretary . . . may accept and use . . . real . . . property. Such acceptance may be accomplished under the terms and conditions of restrictive covenants imposed by donors . . . "; 16 U.S.C. § 460k-2 (Refuge Recreation Act (16 U.S.C. § 460k-460k-4), as amended)

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

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

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

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

National Wildlife Refuge System Mission:

The mission of the National Wildlife Refuge System (NWRS, Refuge System) is 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:

The Refuge will allow limited grazing by privately owned domestic livestock for the purpose of habitat management. Livestock will be chiefly cattle but may include other domestic livestock.

Is the use a priority public use?

Grazing is not a priority public use of the Refuge System.

Where would the use be conducted?

Grazing will occur on specified areas to improve or maintain grassland and wet meadow habitat. The decision to use grazing as a management tool would occur as part of strategies developed under specific program or unit habitat management planning. For example, grazing may be used to stimulate growth of desirable grass species or reduce woody vegetation or other undesirable invasive plant species.

When would the use be conducted?

Grazing may take place anytime from April through November. Most commonly, we will use short duration grazing periods, lasting four to eight weeks. The time period and frequency of grazing will depend on desired outcome as established in unit grazing management plans.

How would the use be conducted?

Grazing will be conducted using privately owned domestic livestock. Grazing unit fencing and other measures required to manage livestock will be the responsibility of the cooperating private party. Grazing fees will be charged based on annual review of local market rates conducted by the Refuge Manager, in consultation with area U.S. Department of Agriculture (USDA) specialists or reports; or as determined by permittee selection using a best bid basis. Grazing fees will typically be assessed using the Animal Unit Month (AUM) method. Grazing fees may include market rate deductions for special circumstances, such as: atypical fencing or water requirements, required cattle movement, or other factors limiting economic return for permittees. Frequency of grazing on any unit will be based on site-specific evaluation of the grassland unit being managed.

Administration of grazing programs will be conducted in accordance with a Habitat Management Plan. Grazing activities will be subject to the terms and conditions of a Special Use Permit issued by the Refuge Manager. The terms of the permit ensure compliance with Service policy and achieving habitat objectives while safeguarding Refuge resources.

Why is this use being proposed?

Grazing is a needed management tool to maintain and restore Refuge grasslands.

Availability of Resources:

What resources are needed to properly (considering quality and compatibility) and safely administer use?

Most of the needed work to prepare for this use would be done as part of routine management duties. The decision to use grazing as a management tool would occur as part of strategies developed under specific program or unit habitat management planning. The additional time needed to coordinate issuance and oversight of the needed Special Use Permits is relatively minor and within existing Refuge resources. The need to monitor grazing effects will take additional time; however, it will be incorporated into the already existing grassland monitoring program.

Are existing Refuge resources adequate to properly and safely administer the use?

The needed staff time for development and administration of a grazing program is available. The additional time needed to coordinate issuance and oversight of the needed Special Use Permits is relatively minor and within existing Refuge resources. Monitoring of grazing effects will be easily incorporated into the grassland monitoring program. Most grazing costs (fencing, monitoring herd health, etc.) are assumed by the permittee.

Anticipated Impacts of the Use:

How does grazing affect Refuge purposes and the NWRS mission?

The use of grazing provides a management tool that allows the Refuge staff to meet the habitat goals and objectives. Service policy calls for maintaining or restoring refuge habitats to historic conditions if doing so does not conflict with refuge purposes (FWS, 2001).

How does grazing affect fish, wildlife, plants, and their habitats; and the biological integrity, diversity, and environmental health of the Refuge/NWRS?

Grazing by domestic livestock has severe short-term effects on grassland communities. Many of these effects are desirable and are designed to maintain and improve healthy grassland/wet meadow communities. Some of these effects include removing standing vegetation, trampling of other vegetation, and reducing populations of pioneering woody plants. Other effects, such as areas where livestock may frequently concentrate, are more harmful but generally short-lived. Grazing in the spring can cause direct loss of grassland bird nests due to trampling and loss of standing vegetation. Grazing at any time of year creates an aesthetic issue of concern for some people who enjoy using the Refuge; seeing public land being grazed by domestic livestock reduces the appeal of the visit for many people.

Grazing livestock can create minor direct disturbance of wildlife, such as causing nearby birds to take flight. There is a slight potential for conflict between members of the public and livestock or the permittee.

Public Review and Comment:

This compatibility determination was available for public review as part of the Big Stone NWR Draft Comprehensive Conservation Plan and environmental assessment from May 9, 2012 to June 8, 2012. Comments received and agency responses will be included in the final version of the Big Stone NWR Comprehensive Conservation Plan.

Determination:

Grazing

Use is Not Compatible

Use is Compatible with the Following Stipulations

Stipulations Necessary to Ensure Compatibility:

1. Grazing must meet specific habitat and related wildlife objectives and contribute to the purposes of the Refuge.

2. Grazing will not occur more frequently than three out of every five years on any tract without the preparation of a site-specific compatibility determination.
3. Control and maintenance of the livestock will be the responsibility of the permittee.
4. All livestock grazing will be conducted under strict control of a Special Use Permit.
5. All fencing, water supply, and other livestock management costs will be borne by the permittee.
6. No insecticides will be used.
7. No supplemental feeding will be allowed.

Justification:

In view of the above and with the stipulations previously described, grazing will not materially interfere with or detract from the Refuge System mission or purposes of the Refuge. As practiced at Big Stone NWR, grazing contributes to the achievement of Refuges purposes and the Refuge System mission because it is used to maintain native habitat.

Signature: Refuge Manager /Alice Hanley/ 7/2/12
(Signature and Date)

Concurrence: Regional Chief /Rick Schultz/ 8/27/12
(Signature and Date)

Mandatory 10- or 15-year Re-Evaluation Date: June 2022

U. S. Fish and Wildlife Service. 2001. Biological integrity, diversity, and environmental health. 601 FW 3. National Wildlife Refuge System, Department of Interior. Available URL: <http://policy.fws.gov/601fw3.html>

Compatibility Determination

Use: Haying

Refuge Name: Big Stone National Wildlife Refuge (NWR, Refuge)

Establishing and Acquisition Authorities:

Big Stone NWR was established on May 21, 1975 when the U.S. Corps of Engineers transferred 10,540.43 acres to the U.S. Fish and Wildlife Service (FWS, Service). Legal authorities used for establishment of the Refuge include Fish and Wildlife Coordination Act (16 U.S.C. 661-667e), Refuge Recreation Act (16 U.S.C. 460k-460k-4), Emergency Wetlands Resources Act of 1986 (16 U.S.C. 3901), Fish and Wildlife Act of 1956 (16 U.S.C. 742a-742j), and Migratory Bird Conservation Act (16 U.S.C. 715-715d, 715e, 715f-715r).

Refuge Purposes:

" . . . shall be administered by him [Secretary of the Interior] directly or in accordance with cooperative agreements . . . and in accordance with such rules and regulations for the conservation, maintenance, and management of wildlife, resources thereof, and its habitat thereon, . . . "; 16 U.S.C. § 664 (Fish and Wildlife Coordination Act)

" . . . suitable for— (1) incidental fish and wildlife-oriented recreational development, (2) the protection of natural resources, (3) the conservation of endangered species or threatened species . . . " 16 U.S.C. § 460k-1 " . . . the Secretary . . . may accept and use . . . real . . . property. Such acceptance may be accomplished under the terms and conditions of restrictive covenants imposed by donors . . . "; 16 U.S.C. § 460k-2 (Refuge Recreation Act (16 U.S.C. § 460k-460k-4), as amended)

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

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

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

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

National Wildlife Refuge System Mission:

The mission of the National Wildlife Refuge System (NWRS, Refuge System) is 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:

The Refuge will allow haying by private individuals for the purpose of habitat management.

Is the use a priority public use?

Haying is not a priority public use of the Refuge System.

Where would the use be conducted?

The decision to use haying as a management tool on the Refuge would occur as part of strategies developed under specific program or unit habitat management planning. The total area on which haying will be permitted during any one year will likely be less than 500 acres.

When would the use be conducted?

Haying operations typically occur between July 15–August 1 and bales being removed by August 15. In some cases where sweet clover or noxious weeds have invaded an area, earlier haying would be allowed.

How would the use be conducted?

The Refuge will allow haying by private individuals for the purpose of habitat management. Permittee selection will be determined using a best bid basis. Haying is the cutting and processing (typically baling) of grass and forbs, with subsequent removal to an off-Refuge location. Haying of any area is usually conducted as a single event during any one year but may be repeated periodically to: remove undesirable grasses and forbs, remove accumulated plant biomass, remove or reduce woody vegetation, provide a desired vegetative condition (such as short grass browse), reduce vegetation fuel levels where wildfires are a concern, or prepare sites for establishment of desired vegetation, including prairie or wetland communities.

Haying activities will be subject to the terms and conditions of a Special Use Permit issued by the Refuge Manager. The terms of the agreement or permit ensure compatibility through implementation of Service policy and Refuge specific stipulations.

The haying process typically requires 3–4 visits to each site with heavy equipment over a period of 7–10 days. Haying begins in July when standing grasses and forbs are cut and gathered into windrows using a tractor, mower, and rake; or a swather—a self-propelled mowing machine. The hay cures for 3–7 days to reduce moisture content and is usually turned once with a tractor-drawn rake to speed and even drying. Once cured a tractor-drawn baler is used to package the windrows into bales of hay. A tractor-drawn wagon is used to collect the bales and remove them from the site.

Why is this use being proposed?

Haying is a needed management tool to maintain and restore Refuge grasslands.

Availability of Resources:

What resources are needed to properly (considering quality and compatibility) and safely administer use?

Most of the needed work to prepare for this use would be done as part of routine management duties. The decision to use haying as a management tool would occur as part of strategies developed under specific program or unit habitat management planning. The additional time needed to coordinate issuance and oversight of the needed Special Use Permits is relatively minor and within existing Refuge resources. The need to monitor haying effects will take

additional time; however, it will be incorporated into the already existing grassland monitoring program.

Are existing Refuge resources adequate to properly and safely administer the use?

No additional fiscal resources are needed to conduct this use. The needed staff time is already committed and available. Most of the needed work to prepare for this use would be done as part of routine grassland management duties. The decision to use a private operator for haying would only follow as part of strategies developed under grassland management discussions. The additional time needed to coordinate issuance and oversight of the needed Special Use Permit for haying is relatively minor and within existing Refuge resources. Monitoring haying effects will be a part of the existing grassland monitoring program.

Anticipated Impacts of the Use:

How does haying affect Refuge purposes and the NWRS mission?

The use of haying provides a management tool that allows the Refuge staff to meet the habitat goals and objectives. Service policy calls for maintaining or restoring refuge habitats to historic conditions if doing so does not conflict with refuge purposes (FWS, 2001).

How does haying affect fish, wildlife, plants, and their habitats; and the biological integrity, diversity, and environmental health of the Refuge/NWRS?

Haying will result in short-term disturbances and long-term benefits to both resident and migratory wildlife. Short-term impacts will include disturbance and displacement typical of any noisy heavy equipment operation. Cutting and removal of standing grasses will also result in short-term loss of habitat for those species requiring tall grasses for feeding and perching such as obligatory grassland bird species like the bobolink or dickcissel.

Long-term benefits will accrue due to the increased vigor of newly established grasses or the establishment of highly desirable native tallgrass prairie species, which will improve conditions for those same species affected by the short-term negative impacts. Longer-term negative impacts may occur to resident wildlife species such as pheasant that would lose over-wintering habitat in the hayed areas.

This is offset by the close proximity of large unhayed blocks containing suitable winter habitat near any area that will be hayed. Some nest destruction or nesting hen mortality may occur. Strict time constraints such as delaying most haying until after July 15th will limit the potential for these types of negative effects to occur within areas hayed. National wildlife refuges are managed first and foremost for wildlife (FWS, 2001). But the focus is on wildlife populations not individuals (FWS, 1992). Haying is likely to cause mortality of some individual animals, but is not expected to affect the perpetuation of wildlife populations.

Public Review and Comment:

This compatibility determination was available for public review as part of the Big Stone NWR Draft Comprehensive Conservation Plan and environmental assessment from May 9, 2012 to June 8, 2012. Comments received and agency responses will be included in the final version of the Big Stone NWR Comprehensive Conservation Plan.

Determination:

Haying

Use is Not Compatible

Use is Compatible with the Following Stipulations

Stipulations Necessary to Ensure Compatibility:

1. Haying must meet specific habitat and related wildlife objectives and contribute to the purposes of the Refuge.
2. Most haying will begin after July 15 to minimize disturbance to nesting migratory birds. In some years it may be necessary for haying to occur before July 15 to prevent seed dispersal of undesirable plant species.
3. Windrowed grass left lying to dry prior to baling must be raked and moved every two days if left on newly seeded native grass and in no cases should remain on the ground more than six days prior to baling.
4. Bales must be removed from the Refuge within seven days of baling.

Justification:

In view of the above and with the stipulations previously described, haying will not materially interfere with or detract from the Refuge System mission or purposes of the Refuge. As practiced at Big Stone NWR, haying contributes to the achievement of Refuges purposes and the Refuge System mission because it is used to manage native habitat.

Signature: Refuge Manager /Alice Hanley/ 7/2/12
(Signature and Date)

Concurrence: Regional Chief /Rick Schultz/ 8/27/12
(Signature and Date)

Mandatory 10- or 15-year Re-Evaluation Date: June 2022

U. S. Fish and Wildlife Service. 1992. Population Management at Field Stations: General. 701 FW 1. Department of Interior. Available URL: <http://www.fws.gov/policy/701fw1.html>

U. S. Fish and Wildlife Service. 2001. Biological integrity, diversity, and environmental health. 601 FW 3. National Wildlife Refuge System, Department of Interior. Available URL: <http://policy.fws.gov/601fw3.html>

Compatibility Determination

Use: Hunting

Refuge Name: Big Stone National Wildlife Refuge (NWR, Refuge)

Establishing and Acquisition Authorities:

Big Stone NWR was established on May 21, 1975 when the U.S. Corps of Engineers transferred 10,540.43 acres to the U.S. Fish and Wildlife Service (FWS, Service). Legal authorities used for establishment of the Refuge include Fish and Wildlife Coordination Act (16 U.S.C. 661-667e), Refuge Recreation Act (16 U.S.C. 460k-460k-4), Emergency Wetlands Resources Act of 1986 (16 U.S.C. 3901), Fish and Wildlife Act of 1956 (16 U.S.C. 742a-742j), and Migratory Bird Conservation Act (16 U.S.C. 715-715d, 715e, 715f-715r).

Refuge Purposes:

" . . . shall be administered by him [Secretary of the Interior] directly or in accordance with cooperative agreements . . . and in accordance with such rules and regulations for the conservation, maintenance, and management of wildlife, resources thereof, and its habitat thereon, . . . "; 16 U.S.C. § 664 (Fish and Wildlife Coordination Act)

" . . . suitable for— (1) incidental fish and wildlife-oriented recreational development, (2) the protection of natural resources, (3) the conservation of endangered species or threatened species . . . " 16 U.S.C. § 460k-1 " . . . the Secretary . . . may accept and use . . . real . . . property. Such acceptance may be accomplished under the terms and conditions of restrictive covenants imposed by donors . . . "; 16 U.S.C. § 460k-2 (Refuge Recreation Act (16 U.S.C. § 460k-460k-4), as amended)

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

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

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

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

National Wildlife Refuge System Mission:

The mission of the National Wildlife Refuge System (NWRS, Refuge System) is 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:

Is the use a priority public use?

Hunting is a priority public use of the Refuge System. Hunting was originally opened on Big Stone NWR in 1976 and is conducted in accordance with the Refuge Hunting Plan (1992).

Where would the use be conducted?

The hunting of certain species is an existing use that occurs on designated areas of the Refuge. Approximately 8,000 acres are currently open to hunting. Hunting is prohibited on approximately 3,500 acres that surround the Headquarters Complex and the Auto Tour Route.

When would the use be conducted?

Season dates for authorized species are consistent with Minnesota State regulations, except when more restrictive Refuge regulations apply. More restrictive Refuge regulations include, but are not limited to the Refuge being closed to all hunting from March 1 through August 30 and reduced season dates and hours when hunting fox, raccoon, and striped skunk. Specific dates for hunting seasons vary annually. The following table show the dates for the 2010 seasons.

Authorized Species	Refuge Season Dates
Wild turkey - spring	April 14–May 27, 2010
Wild turkey - fall	Oct. 14–24, 2010
Gray partridge	Sept. 19, 2010 – Jan. 2, 2011
Ring-necked pheasant	Oct. 16, 2010 – Jan. 2, 2011
Rabbit (cottontail and jack)	Sept. 18, 2010 – Feb. 28, 2011
Squirrel (fox and gray)	Sept. 18, 2010 – Feb. 28, 2011
Deer	Nov. 6–14, 2010
Deer	Nov. 27 – Dec. 12, 2010
Deer	Sept. 18 – Dec. 31, 2010
Raccoon	Oct. 23, 2010 – Feb. 28, 2011*
Fox (gray and red)	Oct. 23, 2010 – Feb. 28, 2011*
Striped skunk	Sept. 18, 2010 – Feb. 28, 2011*

* season dates differ from Minnesota State season

How would the use be conducted?

Bag limits and harvest methods for authorized species are consistent with Minnesota State regulations, except when more restrictive Refuge regulations apply. Hunting is allowed for the following species: wild turkey, ring-necked pheasant, gray partridge, cottontail rabbit, jack rabbit, gray squirrel, fox squirrel, white-tailed deer, red fox, gray fox, raccoon, and striped skunk. More restrictive Refuge regulations include, but are not limited to prohibiting the use of dogs to hunt furbearers and requiring the use of nontoxic shot for turkey hunting. Migratory bird hunting is not authorized on Refuge-owned lands.

Firearms, muzzleloader, and archery hunting all occur on the Refuge. Hunters make use of boat ramps and parking lots at various locations on the Refuge, and also park along existing roadways. There are no facilities provided specifically for hunters.

Why is this use being proposed?

Hunting is a priority general public use of the Refuge System that is also an important wildlife management tool. The Service recognizes hunting as a healthy, traditional outdoor pastime, deeply rooted in the American heritage (FWS, 2006). Hunting can instill a unique understanding and appreciation of wildlife, their behavior, and their habitat needs. Hunting programs can

promote understanding and appreciation of natural resources and their management on lands and waters in the Refuge System. Public hunting opportunities are also available nearby on Waterfowl Production Areas administered by the Morris Wetland Management District and on the Lac qui Parle Wildlife Management Area administered by the Minnesota Department of Natural Resources (MN DNR).

Availability of Resources:

What resources are needed to properly (considering quality and compatibility) and safely administer use?

The present Refuge hunting program is designed to be administered with minimal Refuge resources. Refuge regulations mirror state regulations in large part, which allows MN DNR Conservation Officers to assist in law enforcement. There is a small amount of road maintenance, mowing, and other upkeep performed that is funded as part of regular Refuge management activities. Approximately \$5,000 annually is required for labor and materials to update and print maps, and maintain signs.

Are existing Refuge resources adequate to properly and safely administer the use?

At the present level of hunting use there are adequate Refuge resources to implement the hunting program. Law enforcement is the primary tool necessary to ensure proper and safe administration of this use, and although there is no Law Enforcement Officer stationed at the Refuge, law enforcement services are available through the Regional Law Enforcement Program. Additionally, the local State Conservation Officer and Big Stone County Sheriff's Office provide additional assistance when requested.

Anticipated Impacts of the Use:

How does hunting affect Refuge purposes and the NWRS mission?

The Refuge was established to conserve, manage, maintain, and protect wildlife resources and their habitat. Hunting does not adversely affect the ability of the Refuge to fulfill this purpose. National wildlife refuges are managed first and foremost for wildlife (FWS, 2001). But the focus is on wildlife populations not individuals (FWS, 1992). Hunting causes mortality and wounding of individual animals, but is regulated so it does not threaten the perpetuation of wildlife populations. The effects of hunting on wildlife populations are monitored within the State and across the nation and are considered in setting annual hunting bag limits. Hunting is a priority public use of the Refuge System, and allowing hunting on the Refuge helps fulfill the Refuge System mission.

How does hunting affect fish, wildlife, plants, and their habitats; and the biological integrity, diversity, and environmental health of the Refuge/NWRS?

Resident Game Species

The MN DNR annually reviews hunting seasons and bag limits and modifies them to avoid any long-term population declines. Hunting is not expected to adversely impact game populations.

Disturbance

Managing Visitor Use and Disturbance of Waterbirds: A Literature Review of Impacts and Mitigations (DeLong, 2002) includes a summary of effects on wildlife from disturbance from hunting and other forms of recreation. The author documents that disturbance can alter behavior (e.g., foraging time), population structure, and distribution patterns of wildlife. It is probable that hunting would cause some or all of these effects to some degree on Refuge

wildlife. A number of measures mitigate these effects. Hunting seasons occur outside the times when most wildlife species are raising offspring and are most sensitive to disturbance. Also, hunting is prohibited year round within the "Closed Area." Motor vehicle use is limited to designated road and parking areas that were designed in a manner that effectively reduces disturbance to wildlife. Hunting activity has averaged approximately 2,500 visits annually since 2005. Although this number may increase slightly over time, it is expected that wildlife disturbance will remain at acceptable levels.

Habitat

Hunting is not expected to adversely affect Refuge habitat.

Biological Integrity, Diversity, and Environmental Health

Hunting conducted in accordance with state and federal regulations is not expected to adversely affect wildlife populations that occur on the Refuge and likely assists in maintaining the biological integrity, diversity, and environmental health of the Refuge. Some species, such as white-tailed deer, today occur at levels well above those thought to occur under historic conditions. Left unchecked high numbers of such species could adversely affect biological integrity, diversity, and environmental health. Hunting is a closely monitored tool that helps regulate wildlife populations.

Other Uses and Public Safety

Hunting is not expected to adversely affect other Refuge uses or public safety. Dogs are permitted for hunting for retrieving and trailing. At present, levels of use dogs used for these purposes are not expected to adversely impact non-target species or conflict with other uses. If public use levels on Big Stone NWR expand across time, unanticipated conflicts between user groups may occur. The Refuge's Visitor Services programs would be adjusted as needed to eliminate or minimize each problem and provide a quality wildlife-dependent recreational opportunity, which includes promoting public safety. Experience on many national wildlife refuges has proven that time and space zoning (e.g., establishment of separate use areas, use periods, and restrictions on the number of users) is an effective tool in eliminating conflicts between user groups. Overall, the cumulative impacts of hunting on other wildlife-dependent recreation or public safety at Big Stone NWR are expected to be minor.

Public Review and Comment:

This compatibility determination was available for public review as part of the Big Stone NWR Draft Comprehensive Conservation Plan and environmental assessment from May 9, 2012 to June 8, 2012. Comments received and agency responses will be included in the final version of the Big Stone NWR Comprehensive Conservation Plan.

Determination:

Hunting

Use is Not Compatible

Use is Compatible with the Following Stipulations

Stipulations Necessary to Ensure Compatibility:

1. Hunting must be conducted according to state-, federal-, and Refuge-specific regulations.
2. Hunting may be more restrictive than State seasons and regulations to ensure compliance with visitor safety and to reduce wildlife disturbance.
3. Hunting is prohibited within identified areas.
4. The retrieval of game is prohibited in areas closed to hunting.
5. All shotgun hunters (including turkey) may only possess approved nontoxic shot while in the field.
6. Dogs may be used only for ring-necked pheasant and gray partridge hunting.
7. Boats will be restricted to the Minnesota River channel. Only non-motorized boats and boats using electric motors are allowed.
8. Motor vehicles access is limited to designated roads and parking areas.
9. The use of snowmobiles and all terrain and utility terrain vehicles (ATV/UTV) are prohibited.
10. The construction or use of permanent binds, stands, or scaffolds is prohibited.
11. All personal property, including but not limited to stands, temporary blinds, platforms, and ladders must be removed at the end of each day's hunt.

Justification:

In view of the above and with the stipulations previously described, hunting will not materially interfere with or detract from the Refuge System mission or purposes of the Refuge. Hunting is a priority public use of the Refuge System, and providing a hunting program contributes to achieving one of the Refuge goals. Disturbance of wildlife will occur, but limitations on hunting mean areas of the Refuge would be free of disturbance. Hunting is not expected to adversely affect the biological integrity, diversity, and environmental health of the Refuge or the Refuge System.

Signature: Refuge Manager /Alice Hanley/ 7/2/12
(Signature and Date)

Concurrence: Regional Chief /Rick Schultz/ 8/27/12
(Signature and Date)

Mandatory 10- or 15-year Re-Evaluation Date: June 2027

Big Stone National Wildlife Refuge Hunting Plan. 1992.

DeLong, A. K. 2002. Managing visitor use and disturbance of waterbirds—a literature review of impacts and mitigation measures — prepared for Stillwater National Wildlife Refuge. Appendix L (114 pp.) in Stillwater National Wildlife Refuge Complex final environmental impact statement for the comprehensive conservation plan and boundary revision (Vol. II). Dept. of the Interior, U.S. Fish and Wildlife Service, Region 1, Portland, OR. Available URL: <http://www.fws.gov/stillwater/litreview.pdf>

U. S. Fish and Wildlife Service. 1992. Population Management at Field Stations: General. 701 FW 1. Department of Interior. Available URL: <http://www.fws.gov/policy/701fw1.html>

U. S. Fish and Wildlife Service. 1995. Migratory Game Bird Hunting: Regulations Development Process. 723 FW 3. Department of Interior. Available URL: <http://www.fws.gov/policy/723fw3.html>

U. S. Fish and Wildlife Service. 2001. Biological integrity, diversity, and environmental health. 601 FW 3. National Wildlife Refuge System, Department of Interior. Available URL: <http://policy.fws.gov/601fw3.html>

U. S. Fish and Wildlife Service. 2006. Wildlife-Dependent Recreation: Hunting. 605 FW 2. National Wildlife Refuge System, Department of Interior. Available URL: <http://www.fws.gov/policy/605fw2.html>

Compatibility Determination

Use: Interpretation

Refuge Name: Big Stone National Wildlife Refuge (NWR, Refuge)

Establishing and Acquisition Authorities:

Big Stone NWR was established on May 21, 1975 when the U.S. Corps of Engineers transferred 10,540.43 acres to the U.S. Fish and Wildlife Service (FWS, Service). Legal authorities used for establishment of the Refuge include Fish and Wildlife Coordination Act (16 U.S.C. 661-667e), Refuge Recreation Act (16 U.S.C. 460k-460k-4), Emergency Wetlands Resources Act of 1986 (16 U.S.C. 3901), Fish and Wildlife Act of 1956 (16 U.S.C. 742a-742j), and Migratory Bird Conservation Act (16 U.S.C. 715-715d, 715e, 715f-715r).

Refuge Purposes:

" . . . shall be administered by him [Secretary of the Interior] directly or in accordance with cooperative agreements . . . and in accordance with such rules and regulations for the conservation, maintenance, and management of wildlife, resources thereof, and its habitat thereon, . . . "; 16 U.S.C. § 664 (Fish and Wildlife Coordination Act)

" . . . suitable for— (1) incidental fish and wildlife-oriented recreational development, (2) the protection of natural resources, (3) the conservation of endangered species or threatened species . . . " 16 U.S.C. § 460k-1 " . . . the Secretary . . . may accept and use . . . real . . . property. Such acceptance may be accomplished under the terms and conditions of restrictive covenants imposed by donors . . . "; 16 U.S.C. § 460k-2 (Refuge Recreation Act (16 U.S.C. § 460k-460k-4), as amended)

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

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

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

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

National Wildlife Refuge System Mission:

The mission of the National Wildlife Refuge System (NWRS, Refuge System) is 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:

Providing interpretive materials and programs to Refuge visitors.

Is the use a priority public use?

Interpretation is a priority public use of the Refuge System.

Where would the use be conducted?

Interpretation is conducted at the Refuge office, the 5-mile Wildlife Drive and its associated facilities, the Riverview and Low Flow Public Access points, and at numerous visitor contact sites throughout the Refuge.

When would the use be conducted?

The Refuge office and most of the public use areas are open throughout the year. The Wildlife Drive is closed during the winter months.

How would the use be conducted?

In addition to interpretive facilities, Refuge staff provide guided tours and programs upon request.

Why is this use being proposed?

Interpretation is a priority general public use of the Refuge System. Interpretative programs promote understanding and appreciation of natural and cultural resources and their management on all lands and waters of the Refuge System.

Availability of Resources:

What resources are needed to properly (considering quality and compatibility) and safely administer use?

Refuge staff is currently updating all interpretive signs for the existing Refuge facilities. When completed, the Refuge interpretation program is designed to be administered with minimal Refuge resources. There will be some maintenance and other upkeep of facilities that are funded as part of regular Refuge management activities.

Are existing Refuge resources adequate to properly and safely administer the use?

At the present level of use there are adequate Refuge resources to implement the interpretation program. Any future increase in programming would be designed to fit within the capacity of existing or projected future staffing as identified in the Draft Comprehensive Conservation Plan (CCP).

Anticipated Impacts of the Use:

How does interpretation affect Refuge purposes and the NWRS mission?

Interpretation does not adversely affect Refuge purposes, and they help fulfill the mission of the Refuge System.

How does interpretation affect fish, wildlife, plants, and their habitats; and the biological integrity, diversity, and environmental health of the Refuge/NWRS?

Wildlife and Wildlife Habitat

Interpretation is expected to have similar impacts to Refuge wildlife and wildlife habitat as those impacts from similar uses, such as wildlife observation and photography. Much of the Refuge is not affected because the majority of the interpreted sites are concentrated along the Wildlife Drive and its trails and observation facilities. These areas have been established areas of use. Damage to habitat by walking is minimal and temporary. Large groups typically use established foot trails or the local roads with little to no impact on vegetation. There is some temporary disturbance to wildlife due to human activities on trails; however, the disturbance is generally localized and would not adversely impact overall populations. Self-guided interpretation would be sporadic use by small groups of people at established trails and kiosks. This may cause short term disturbance as well, but again would have minimal impact.

The cumulative disturbance caused by interpretation and all other public uses occurring on the Refuge is not expected to adversely affect fish and wildlife populations or their habitats. A number of factors including: suitable site conditions, presence of facilities, access limitations, and seasonal restrictions or other regulations tend to concentrate uses. At any one time, much of the Refuge is unaffected by these uses and is free of disturbance. However, the addition of new facilities will have to be examined to determine need and disturbance factors before being approved.

Biological Integrity, Diversity, and Environmental Health

Interpretation conducted in accordance with Refuge regulations is not expected to adversely affect fish and wildlife populations or the biological integrity, diversity, and environmental health of the Refuge as it is defined in Service policy (FWS, 2001).

Other Uses and Public Safety

Interpretation is not expected to adversely affect other Refuge uses or public safety. The Refuge's Visitor Services programs will be adjusted as needed to eliminate or minimize any future problems and provide quality wildlife-dependent recreational opportunities, which include promoting public safety. Experience on many national wildlife refuges has proven that time and space zoning (e.g., establishment of separate use areas, use periods, and restrictions on the number of users) is an effective tool in eliminating conflicts between user groups. Overall, the cumulative impact of wildlife observation and photography on other wildlife-dependent recreation or public safety at Big Stone NWR is expected to be minor.

Public Review and Comment:

This compatibility determination was available for public review as part of the Big Stone NWR Draft Comprehensive Conservation Plan and environmental assessment from May 9, 2012 to June 8, 2012. Comments received and agency responses will be included in the final version of the Big Stone NWR Comprehensive Conservation Plan.

Determination:

Interpretation

Use is Not Compatible

Use is Compatible with the Following Stipulations

Stipulations Necessary to Ensure Compatibility:

1. Use of motorized vehicles is limited to maintained roads and parking areas.
2. Camping, overnight use, and fires are prohibited.
3. Environmental education and interpretation activities not led by Refuge staff would require verbal approval or a Special Use Permit by the Refuge Manager to minimize conflicts with other groups, safeguard students and resources, and to allow tracking of use levels.
4. Interpretive signs will include messages on minimizing disturbance to wildlife.
5. Harassment of wildlife or excessive damage to vegetation are prohibited.

Justification:

In view of the above and with the stipulations previously described, interpretation will not materially interfere with or detract from the Refuge System mission or purposes of the Refuge. Interpretation is a priority public uses of the Refuge System, and providing these programs contributes to achieving one of the Refuge goals. Well-designed interpretation programs can be effective resource management tools that provide an opportunity to influence visitor attitudes about natural resources, refuges, the Refuge System, and the Service and to influence visitor behavior when visiting units of the Refuge System.

Signature: Refuge Manager /Alice Hanley/ 7/2/12
(Signature and Date)

Concurrence: Regional Chief /Rick Schultz/ 8/27/12
(Signature and Date)

Mandatory 10- or 15-year Re-Evaluation Date: June 2027

U. S. Fish and Wildlife Service. 2001. Biological integrity, diversity, and environmental health. 601 FW 3. National Wildlife Refuge System, Department of Interior. Available URL: <http://policy.fws.gov/601fw3.html>

Compatibility Determination

Use: Non-Refuge Sponsored Special Events

Refuge Name: Big Stone National Wildlife Refuge (NWR, Refuge)

Establishing and Acquisition Authorities:

Big Stone NWR was established on May 21, 1975 when the U.S. Corps of Engineers transferred 10,540.43 acres to the U.S. Fish and Wildlife Service (FWS, Service). Legal authorities used for establishment of the Refuge include Fish and Wildlife Coordination Act (16 U.S.C. 661-667e), Refuge Recreation Act (16 U.S.C. 460k-460k-4), Emergency Wetlands Resources Act of 1986 (16 U.S.C. 3901), Fish and Wildlife Act of 1956 (16 U.S.C. 742a-742j), and Migratory Bird Conservation Act (16 U.S.C. 715-715d, 715e, 715f-715r).

Refuge Purposes:

" . . . shall be administered by him [Secretary of the Interior] directly or in accordance with cooperative agreements . . . and in accordance with such rules and regulations for the conservation, maintenance, and management of wildlife, resources thereof, and its habitat thereon, . . . "; 16 U.S.C. § 664 (Fish and Wildlife Coordination Act)

" . . . suitable for— (1) incidental fish and wildlife-oriented recreational development, (2) the protection of natural resources, (3) the conservation of endangered species or threatened species . . . " 16 U.S.C. § 460k-1 " . . . the Secretary . . . may accept and use . . . real . . . property. Such acceptance may be accomplished under the terms and conditions of restrictive covenants imposed by donors . . . "; 16 U.S.C. § 460k-2 (Refuge Recreation Act (16 U.S.C. § 460k-460k-4), as amended)

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

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

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

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

National Wildlife Refuge System Mission:

The mission of the National Wildlife Refuge System (NWRS, Refuge System) is 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:

This use is for special events sponsored by charitable and other non-profit clubs or groups. These events primarily include community-sponsored events including the CornFest 5/10K walk/run but may include other activities such as bicycle rides, runs, photography/art workshops, and scouting events. Other possible events would include river clean-up days and scouting activities. Events are held one to three times annually and would occur at different times throughout the year. Events may have up to 100 participants, although the number is generally less than 50. Participants use established roads, trails, and boat landings that are already open to the public. Clean-up events may include all portions of the Refuge generally accessible by boat.

Is the use a priority public use?

No, non-Refuge sponsored special events are not a priority public use of the Refuge System.

Where would the use be conducted?

Most events will take place along the 5-mile Auto Tour Route, but events could take place at other public use facilities or in the interior portion of the Refuge. Events will only be authorized when the Auto Tour Route or other public use facilities or portions of the Refuge are open to the public.

When would the use be conducted?

These events could possibly take place throughout the year, but most likely will occur during the spring, summer, and fall time periods. Care will be taken so these events do not conflict with priority public uses such as during hunting seasons.

How would the use be conducted?

The events will be conducted as per the sponsors.

Why is this use being proposed?

The Refuge is open to the public during the time periods that the use is allowed so no additional disturbance is created by allowing this use. These special events allow the public to build a connection to the Refuge through personal outdoor experiences that engage the senses and foster an appreciation of the outdoors.

Availability of Resources:

What resources are needed to properly (considering quality and compatibility) and safely administer use?

These events generally involve staff time for meeting with sponsors, explaining Refuge regulations, issuing a Special Use Permit, and providing some level of oversight during portions or the entire event.

Are existing Refuge resources adequate to properly and safely administer the use?

Existing staff are adequate to administer this use depending on number of requests received and the size and scope of the event. Since events are held or based on existing roads, trails, or landings, facilities are deemed adequate. Sponsors are required to furnish any additional facilities needed, such as portable toilets.

Anticipated Impacts of the Use:

How do non-Refuge sponsored special events affect Refuge purposes and the NWRS mission?

These special events do not adversely affect Refuge purposes and help fulfill the mission of the Refuge System by allowing visitors to build a connection to the Refuge through personal outdoor experiences that engage the sense and foster an appreciation of the outdoors.

How do non-Refuge sponsored special events affect fish, wildlife, plants, and their habitats; and the biological integrity, diversity, and environmental health of the Refuge/NWRS?

The short term impact associated with these events is human disturbance to wildlife occupying habitat on the Refuge. Most events occur on established trails or areas that already support a moderate level of human activity. Wildlife that occupy habitat in these areas are accustomed to a higher degree of human disturbance. Any alteration of behavior or bird flight would be temporary and localized with wildlife quickly resuming normal activities.

There will be some short term impact to other visitors engaged in wildlife-dependent recreation during the event. Visitors, not engaged in the event, will be permitted to continue their activity. With an increase of public use during walks or runs, an increase of litter is expected. Event coordinators will be required to clean the area when the event is complete. Clean-up events actually reduce litter and debris and thus have a positive impact on the visual character of the Refuge.

Other than the potential for some increase in future visitation to the Refuge, no long-term impacts associated with these events are anticipated.

Public Review and Comment:

This compatibility determination was available for public review as part of the Big Stone NWR Draft Comprehensive Conservation Plan and environmental assessment from May 9, 2012 to June 8, 2012. Comments received and agency responses will be included in the final version of the Big Stone NWR Comprehensive Conservation Plan.

Determination:

Non-Refuge Sponsored Special Events

Use is Not Compatible

Use is Compatible with the Following Stipulations

Stipulations Necessary to Ensure Compatibility:

1. Events must include an educational message that helps further the understanding of the purposes of the Refuge and the mission of the Refuge System.
2. Event sponsors will furnish complete information on event description, date, time, preferred location, number of participants, and logistics for health and safety, so that the Refuge Manager can make a determination of best area and timing of events when issuing a Special Use Permit. Management reserves the right to deny any proposal that

will cause an undue demand on staff or resources, is not related to a charitable or non-profit organization, or does not promote the goals of the “Healthier US” initiative designed to get Americans outdoors and active on their public lands.

3. Except for clean-ups, events will be scheduled only in areas open to public use and at appropriate times of the year to avoid significant wildlife and visitor disturbance. Events will be scheduled on a first-come, first-served basis, with no more than one event in the same area and time. All activities will be limited to the designated routes on established trails. Collection of money for the fund raising aspect of the event will be conducted offsite.
4. Water or rest stations will be approved by Refuge staff in advance of the event and will be located to avoid any sensitive sites (e.g., areas with high densities of foraging shorebirds, areas where waterbirds, waterfowl, raptors, or passerines are nesting, etc.) and to minimize disturbance to wildlife foraging/perching/loafing in adjacent wetlands and woodlands.
5. Event sponsors will be required to provide all personnel, materials, and supplies necessary to run the event. This requirement applies to any tables, chairs, displays, signs, traffic aids, law enforcement, litter receptacles, portable toilets, etc. that are needed.

Justification:

In view of the above and with the stipulations previously described, non-Refuge sponsored special events will not materially interfere with or detract from the Refuge System mission or purposes of the Refuge.

Signature: Refuge Manager /Alice Hanley/ 7/2/12
(Signature and Date)

Concurrence: Regional Chief /Rick Schultz/ 8/27/12
(Signature and Date)

Mandatory 10- or 15-year Re-Evaluation Date: June 2022

Compatibility Determination

Use: Scientific Studies and Research Projects by Third Parties

Refuge Name: Big Stone National Wildlife Refuge (NWR, Refuge)

Establishing and Acquisition Authorities:

Big Stone NWR was established on May 21, 1975 when the U.S. Corps of Engineers transferred 10,540.43 acres to the U.S. Fish and Wildlife Service (FWS, Service). Legal authorities used for establishment of the Refuge include Fish and Wildlife Coordination Act (16 U.S.C. 661-667e), Refuge Recreation Act (16 U.S.C. 460k-460k-4), Emergency Wetlands Resources Act of 1986 (16 U.S.C. 3901), Fish and Wildlife Act of 1956 (16 U.S.C. 742a-742j), and Migratory Bird Conservation Act (16 U.S.C. 715-715d, 715e, 715f-715r).

Refuge Purposes:

" . . . shall be administered by him [Secretary of the Interior] directly or in accordance with cooperative agreements . . . and in accordance with such rules and regulations for the conservation, maintenance, and management of wildlife, resources thereof, and its habitat thereon, . . . "; 16 U.S.C. § 664 (Fish and Wildlife Coordination Act)

" . . . suitable for— (1) incidental fish and wildlife-oriented recreational development, (2) the protection of natural resources, (3) the conservation of endangered species or threatened species . . . " 16 U.S.C. § 460k-1 " . . . the Secretary . . . may accept and use . . . real . . . property. Such acceptance may be accomplished under the terms and conditions of restrictive covenants imposed by donors . . . "; 16 U.S.C. § 460k-2 (Refuge Recreation Act (16 U.S.C. § 460k-460k-4), as amended)

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

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

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

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

National Wildlife Refuge System Mission:

The mission of the National Wildlife Refuge System (NWRS, Refuge System) is 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:

The Refuge allows research investigations on a variety of biological, physical, archeological, and social components to address Refuge management information needs or other issues not related to Refuge management. Studies are or may be conducted by federal, state, and private entities, including the U.S. Geological Survey, state department of natural resources, state and private universities, and independent researchers and contractors. This is not a wildlife-dependent use.

Is the use a priority public use?

No, this is not a priority public use of the Refuge System.

Where would the use be conducted?

Sites for this use would depend on the particular study being conducted and could occur in a variety of habitat types. Access would be restricted by Special Use Permit to only the study sites needed to meet the objectives of the research.

When would the use be conducted?

The timing of research activities would depend on the individual project, but currently most research occurs during the growing season. The entire Refuge is open for allowed research activities throughout the year in conjunction with the issuance of a Special Use Permit. The timing and number of visits by researchers may be restricted by Special Use Permit.

How would the use be conducted?

Research projects and scientific studies will be conducted via a specific protocol. Any research study sites, sampling locations, and transects can be temporarily marked by highly visible wooden or metal posts and must be removed when research ceases. Access to study sites is by foot, truck, all-terrain vehicle, boat, airboat, canoe, and other watercraft. Vehicle use is allowed on Refuge roads, trails, and parking lots normally open to the public.

Why is this use being proposed?

Most research by third parties is done to address Refuge management information needs or to contribute to a larger knowledge base about resources of concern to the Refuge.

Availability of Resources:

Facilities and staff are currently available to provide access, maintain roads, parking lots, and secondary access roads, as well as to issue Special Use Permits for research projects. Staff resources are deemed adequate to manage this use at anticipated use levels.

Access points and limited logistical support are available on the Refuge. Housing is not available.

Anticipated Impacts of the Use:

How do scientific studies and research projects affect Refuge purposes and the NWRS mission?

Most research by third parties is done to address Refuge management information needs or to contribute to a larger knowledge base about resources of concern to the Refuge.

How do scientific studies and research projects affect fish, wildlife, plants, and their habitats; and the biological integrity, diversity, and environmental health of the Refuge/NWRS?

Short-term impacts:

Research activities may disturb fish and wildlife and their habitats. For example, the presence of researchers can cause waterfowl to flush from resting and feeding areas, cause disruption of birds and turtles on nests or breeding territories, or increase predation on nests and individual animals as predators follow human scent or trails. Efforts to capture animals can cause disturbance, injury, or death to groups of wildlife or to individuals. To wildlife, the energy cost of disturbance may be appreciable in terms of disruption of feeding, displacement from preferred habitat, and the added energy expended to avoid disturbance.

Sampling activities can cause compaction of soils and the trampling of vegetation, the establishment of temporary foot trails and boat trails through vegetation beds, disruption of bottom sediments, and minor tree damage when temporary observation platforms are built or when tree climbers access bird nests.

The removal of vegetation or sediments by core sampling methods can cause increased localized turbidity and disrupt non-target plants and animals. Installation of posts, equipment platforms, collection devices and other research equipment in open water may present a hazard if said items are not adequately marked and/or removed at appropriate times or upon completion of the project.

Long-term impacts:

Long-term effects should generally be beneficial by gaining information valuable to Refuge management. No long-term negative impacts are expected, and the Refuge Manager can control the potential for long-term impacts through Special Use Permits.

Cumulative impacts:

Cumulative impacts would occur if multiple research projects were occurring on the same resources at the same time or the duration of the research is excessive. No cumulative impacts are expected, and the Refuge Manager can control the potential for cumulative impacts through Special Use Permits. Refuge Managers retain the option to prohibit research on the Refuge, which does not contribute to the purposes of the Refuge or the mission of the Refuge System, or causes undo resource disturbance or harm.

Public Review and Comment:

This compatibility determination was available for public review as part of the Big Stone NWR Draft Comprehensive Conservation Plan and environmental assessment from May 9, 2012 to June 8, 2012. Comments received and agency responses will be included in the final version of the Big Stone NWR Comprehensive Conservation Plan.

Determination:

Scientific Studies and Research Projects by Third Parties

Use is Not Compatible

Use is Compatible with the Following Stipulations

Stipulations Necessary to Ensure Compatibility:

1. Prior to conducting investigations, researchers will obtain Special Use Permits from the Refuge that make specific stipulations related to when, where, and how the research will be conducted. Refuge Managers retain the option to prohibit research on the Refuge, which does not contribute to the purposes of the Refuge or the mission of the Refuge System, or causes undo resource disturbance or harm.
2. Researchers must possess all applicable state and federal permits for the capture and possession of protected species, for conducting regulated activities in wetlands, and for other regulated activities. Researchers must demonstrate they have approval from the Animal Care and Use Committee, if such approval is required by their research institution.
3. Archeological researchers must obtain an Archeological Resources Protection Act permit from the Regional Director prior to obtaining a special use permit from the Refuge Manager.
4. Researchers will submit annual status reports and a final report concerning Refuge research to the Refuge Manager.
5. Researchers will submit an electronic copy of all raw data collected on national wildlife refuge lands to the Refuge Manager with the understanding that the researcher will have the opportunity to produce publications based on the data.

Justification:

In view of the above and with the stipulations previously described, research by third parties will not materially interfere with or detract from the Refuge System mission or purposes of the Refuge. Research by third parties may play an integral role in Refuge management by providing information needed to manage the Refuge on a sound scientific basis. Investigations into the biological, physical, archeological, and social components of the Refuge provide a means to analyze management actions, impacts from internal and outside forces, and ongoing natural processes on the Refuge environment.

Signature: Refuge Manager /Alice Hanley/ 7/2/12
(Signature and Date)

Concurrence: Regional Chief /Rick Schultz/ 8/27/12
(Signature and Date)

Mandatory 10- or 15-year Re-Evaluation Date: June 2022

Compatibility Determination

Use: Trapping of Furbearers

Refuge Name: Big Stone National Wildlife Refuge (NWR, Refuge)

Establishing and Acquisition Authorities:

Big Stone NWR was established on May 21, 1975, when the U.S. Corps of Engineers transferred 10,540.43 acres to the USFWS. Legal authorities used for establishment of the Refuge include Fish and Wildlife Coordination Act (16 U.S.C. 661-667e), Refuge Recreation Act (16 U.S.C. 460k-460k-4), Emergency Wetlands Resources Act of 1986 (16 U.S.C. 3901), Fish and Wildlife Act of 1956 (16 U.S.C. 742a-742j), and Migratory Bird Conservation Act (16 U.S.C. 715-715d, 715e, 715f-715r).

Refuge Purposes:

" . . . shall be administered by him [Secretary of the Interior] directly or in accordance with cooperative agreements . . . and in accordance with such rules and regulations for the conservation, maintenance, and management of wildlife, resources thereof, and its habitat thereon, . . . "; 16 U.S.C. § 664 (Fish and Wildlife Coordination Act)

" . . . suitable for— (1) incidental fish and wildlife-oriented recreational development, (2) the protection of natural resources, (3) the conservation of endangered species or threatened species . . . " 16 U.S.C. § 460k-1 " . . . the Secretary . . . may accept and use . . . real . . . property. Such acceptance may be accomplished under the terms and conditions of restrictive covenants imposed by donors . . . "; 16 U.S.C. § 460k-2 (Refuge Recreation Act (16 U.S.C. § 460k-460k-4), as amended)

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

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

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

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

National Wildlife Refuge System Mission:

The mission of the National Wildlife Refuge System (NWRS, Refuge System) is to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of 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:

The Big Stone NWR will maintain a trapping program to:

- a) Allow trapping of selected furbearing mammals following Minnesota State and Refuge regulations;
- b) Minimize furbearer damage to physical facilities including dikes, Refuge water control structures, roads, and other facilities;
- c) Minimize the occurrence of high animal population densities, which have the potential to transmit disease to humans, the larger furbearer population, other wildlife species, or domestic animals.

The species of furbearers that are permitted to be taken by way of trapping on Big Stone NWR are muskrat, mink, badger, raccoon, opossum, and striped skunk. The trapping of beaver, coyote, and river otter is prohibited on Big Stone NWR. Trapping of beaver is conducted only in nuisance situations by contracted trappers.

This compatibility determination does not apply to commercial trapping activities where the Service awards a contract for the removal of a species to facilitate management.

Is the use a priority public use?

Trapping is not a priority wildlife-dependent public use, as defined by the National Wildlife Refuge System Improvement Act of 1997. Trapping has been an authorized use of Big Stone NWR since 1975.

Where would the use be conducted?

Trapping would primarily occur in aquatic habitats and associated grasslands on Big Stone NWR.

When would the use be conducted?

Trapping will occur during the State furbearer trapping season, generally from mid-October through mid-March, each year. However, there may be situations requiring trapping outside of these state seasons when necessary to protect public health and safety or significant Refuge structures. The Refuge will coordinate with the Minnesota Department of Natural Resources (MN DNR) prior to allowing trapping outside of the normal state trapping seasons.

How would the use be conducted?

Big Stone NWR has been divided into six furbearer management units. The Refuge publicly announces (i.e., newspapers, bulletins, and personal contacts) the availability of these units for trapping and accepts applications from interested trappers on an annual basis. Trapping units are awarded through a lottery system. Each trapper that is awarded a unit is allowed one helper to assist them with their trapping activities. Therefore, a maximum of twelve individuals (up to two individuals per trapping unit) will be implementing trapping activities on Big Stone NWR during any given year. All awarded trappers are issued a Special Use Permit, which covers trapping activities for that specific year or trapping season only. Permits will not be issued for multiple trapping seasons or years.

Approved trapping methods, specific certificates, and license requirements are issued under Minnesota State regulation as well as information concerning trap size and types of allowable sets in order to protect non-target species and provide for the safe use of the area by others.

All trappers must submit a Harvest Report at the end of the trapping season. Failure to do so renders the trapper ineligible for a trapping permit on Big Stone NWR the subsequent season. These reports provide data on the number and distribution of animals harvested, distribution of trappers, and rudimentary catch per unit effort (efficiency) estimates on the Refuge.

Factors affecting furbearer harvest on Big Stone NWR include length of the trapping season, fur prices, weather conditions, habitat changes, extent of aquatic vegetation coverage, and trapping effort.

Why is this use being proposed?

Trapping is a management tool to control furbearers on Big Stone NWR. Annually, furbearers cause damage to dikes and water control structures requiring staff and equipment resource commitment. Additionally, furbearers are the predominant predators of waterfowl and other ground and low nesting birds. While this activity is a non-priority public use, it is an activity that is a valued form of recreation for local visitors to Big Stone NWR.

Availability of Resources:

What resources are needed to properly (considering quality and compatibility) and safely administer use?

Administrative costs to implement the trapping program are insignificant. Sufficient staff exists to issue the required permits, collect data (Harvest Reports), and oversee the program. Facilities and staff are currently available to provide access, maintain roads, parking lots, and secondary access roads. The absence of a Refuge law enforcement officer is not vital to the program.

Are existing Refuge resources adequate to properly and safely administer the use?

At the present level of trapping use there are adequate Refuge resources to implement the trapping program. There is no special equipment, facilities, or improvements needed to maintain the trapping program. Some staff time may be devoted to contacting trappers, writing permits, inspecting permits, and monitoring trapping results. It has been the norm, and is expected to continue, that these activities will require significantly less than one-tenth of a work-week for one staff member. Law enforcement is the primary tool necessary to ensure proper and safe administration of this use, and although there is no law enforcement officer stationed at Big Stone NWR, law enforcement services is available through the Regional Law Enforcement Program. Additionally, the local State Conservation Officer can provide additional assistance when requested.

Anticipated Impacts of the Use:

How does trapping affect Refuge purposes and the NWRS mission?

The Refuge was established to conserve, manage, maintain and protect wildlife resources and their habitat. Trapping does not adversely affect the ability of Big Stone NWR to fulfill this purpose. National wildlife refuges are managed first and foremost for wildlife (FWS, 2001). But the focus is on wildlife populations not individuals (FWS, 1992). Trapping causes mortality and wounding of individual animals but is regulated so it does not threaten the perpetuation of wildlife populations.

How does trapping affect Fish, wildlife, plants, and their habitats; and the biological integrity, diversity, and environmental health of the Refuge/NWRS?

Resident Game Species

The MN DNR annually reviews trapping seasons and bag limits and modifies them to avoid any long-term population declines. Trapping is not expected to impact game populations.

Disturbance

Short-term impacts:

Because of the temporal separation of trapping activities and breeding wildlife using the Refuge, direct impacts to these resources by trappers is negligible. Trappers using the Refuge in March, may potentially disturb individual early nesting waterfowl on occasion, and cause temporary displacement from specific and limited areas. Impacts may include displacing migratory birds during the pair bonding/nesting season or destruction of nests by trampling. These impacts are occasional, temporary, and isolated to small geographic areas. Indirect impacts may include catch of target and non-target species that are predators on migratory birds and/or nests, or removal of species that induce habitat change (i.e., beaver). Bald eagles initiate nesting activity on the Refuge as early as February, but there is no evidence that trapping has impacted bald eagle nest success.

Long-term impacts:

Trapping may provide the long-term impact of controlling animals that cause damage to Big Stone NWR infrastructure and impact nesting waterfowl and other birds. There are expected to be no long-term population impacts from trapping on Big Stone NWR. While Minnesota has a regulated beaver trapping season, MN DNR indicates that there are not enough trappers to keep some beaver populations small enough to prevent problems. In Minnesota, mink have been one of the most valued furbearers for two centuries, and while thousands are trapped throughout the State each autumn, mink populations remain at healthy sustained levels.

Habitat

Trapping is not expected to adversely affect Big Stone NWR habitat. There are potential impacts on habitat by trappers walking through vegetation or using willow cuttings to mark their trap locations. It is, however, undetectable and insignificant. The creation of openings in heavy stands of aquatic vegetation can potentially enhance habitat use by fish and wildlife.

The removal of plant-eating species such as beaver and muskrat can have both positive and negative impacts on Refuge resources. Muskrats will dig dens into dikes of water management facilities causing considerable damage and add costs to operations for Big Stone NWR. Beaver will sometimes plug water control structures causing damage, limiting access, and compromising Big Stone NWR habitat and water level management capabilities. Managing beaver and muskrat populations at reasonable levels through a public trapping program can reduce costs to the Big Stone NWR in wildlife management activities.

Biological Integrity, Diversity, and Environmental Health

Trapping conducted in accordance with state and federal regulations is not expected to adversely affect wildlife populations that occur on the Refuge and likely assists in maintaining the biological integrity, diversity, and environmental health of Big Stone NWR.

Indirect impacts to wildlife nesting and breeding success can result from the removal of animals under a trapping program. In many instances, these impacts are positive. Reductions in populations of nest predators such as raccoon, skunk, and mink have a limited positive impact on nesting birds. The degree to which predator management, through a public trapping program, benefits migratory bird production can vary widely depending on the timing of the removal of predators, size of the habitat block, habitat isolation (for example islands), and adjacent land use.

Other Uses and Public Safety

Trapping is not expected to adversely affect other Refuge uses or public safety. If public use levels on Big Stone NWR increase through time, unanticipated conflicts between user groups may occur. If trapping results in conflicts, then the program will be reevaluated and either include more limitations or be eliminated as it is not a priority public use. Similar experiences from many national wildlife refuges have proven that time and space zoning (e.g., establishment of separate use areas, use periods, and restrictions on the number of users) is an effective tool in eliminating conflicts between user groups. Overall, the cumulative impacts of trapping on other wildlife-dependent recreation or public safety at Big Stone NWR are expected to be minor.

Public Review and Comment:

This compatibility determination was available for public review as part of the Big Stone NWR Draft Comprehensive Conservation Plan and environmental assessment from May 9, 2012 to June 8, 2012. Comments received and agency responses will be included in the final version of the Big Stone NWR Comprehensive Conservation Plan.

Determination:

Trapping

Use is Not Compatible

Use is Compatible with the Following Stipulations

Stipulations Necessary to Ensure Compatibility:

1. Trapping must be conducted according to state-, federal-, and Refuge-specific regulations.
2. Trapping may be more restrictive than State seasons and regulations to ensure compliance with visitor safety and to reduce wildlife disturbance.
3. Boats will be restricted to the Minnesota River channel. Only non-motorized boats and boats using electric motors are allowed.
4. Motor vehicles access is limited to designated roads and parking areas.
5. The use of snowmobiles and all terrain and utility terrain vehicles (ATV/UTV) are prohibited.
6. Permittee trappers must submit a Harvest Report at the end of each season.

Justification:

Furbearer trapping on Big Stone NWR is a useful tool in maintaining balance between furbearers and habitat and safeguarding Refuge infrastructure. Trapping raccoon, badger, striped skunk, and mink benefits migratory birds including waterfowl. Trapping benefits Big Stone NWR management programs by providing additional data on furbearer populations. Trapping also benefits management programs by reducing beaver and muskrat populations, which sometimes cause problems with water management activities and damage roads and water management facilities by burrowing associated with flooding.

Trapping supports the purpose of providing incidental fish and wildlife-oriented recreation. Allowing this use furthers the mission of the National Wildlife Refuge System by providing renewable resources for the benefit of the American public while conserving fish, wildlife, and plant resources on the Refuge.

Overall, managed furbearer trapping contributes to the purposes of Big Stone NWR by maintaining vigor and health of furbearer populations and by safeguarding Refuge infrastructure critical to habitat for scores of fish and wildlife species.

Signature: Refuge Manager /Alice Hanley/ 7/2/12
(Signature and Date)

Concurrence: Regional Chief /Rick Schultz/ 8/27/12
(Signature and Date)

Mandatory 10- or 15-year Re-Evaluation Date: June 2022

U. S. Fish and Wildlife Service. 1992. Population Management at Field Stations: General. 701 FW 1. Department of Interior. Available URL: <http://www.fws.gov/policy/701fw1.html>

U. S. Fish and Wildlife Service. 2001. Biological integrity, diversity, and environmental health. 601 FW 3. National Wildlife Refuge System, Department of Interior. Available URL: <http://policy.fws.gov/601fw3.html>

Compatibility Determination

Use: Wildlife Observation and Photography (including the means of access such as automobile driving, hiking, biking, canoeing, kayaking, boating, snowshoeing, and cross country skiing)

Refuge Name: Big Stone National Wildlife Refuge (NWR, Refuge)

Establishing and Acquisition Authorities:

Big Stone NWR was established on May 21, 1975 when the U.S. Corps of Engineers transferred 10,540.43 acres to the USFWS. Legal authorities used for establishment of the Refuge include Fish and Wildlife Coordination Act (16 U.S.C. 661-667e), Refuge Recreation Act (16 U.S.C. 460k-460k-4), Emergency Wetlands Resources Act of 1986 (16 U.S.C. 3901), Fish and Wildlife Act of 1956 (16 U.S.C. 742a-742j), and Migratory Bird Conservation Act (16 U.S.C. 715-715d, 715e, 715f-715r).

Refuge Purposes:

" . . . shall be administered by him [Secretary of the Interior] directly or in accordance with cooperative agreements . . . and in accordance with such rules and regulations for the conservation, maintenance, and management of wildlife, resources thereof, and its habitat thereon, . . . "; 16 U.S.C. § 664 (Fish and Wildlife Coordination Act)

" . . . suitable for— (1) incidental fish and wildlife-oriented recreational development, (2) the protection of natural resources, (3) the conservation of endangered species or threatened species . . . " 16 U.S.C. § 460k-1 " . . . the Secretary . . . may accept and use . . . real . . . property. Such acceptance may be accomplished under the terms and conditions of restrictive covenants imposed by donors . . . "; 16 U.S.C. § 460k-2 (Refuge Recreation Act (16 U.S.C. § 460k-460k-4), as amended)

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

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

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

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

National Wildlife Refuge System Mission:

The mission of the National Wildlife Refuge System (NWRS, Refuge System) is to administer a national network of lands and waters for the conservation, management, and where appropriate, restoration of 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:

Allow Refuge visitors to observe and photograph Refuge wildlife, habitat, and scenery.

Is the use a priority public use?

Wildlife observation and photography are priority public uses of the Refuge System.

Where would the use be conducted?

Although the entire Refuge is open for these activities, wildlife observation and photography occur primarily along the Refuge's 5-mile Wildlife Drive in the northwestern portion of the Refuge. The Wildlife Drive has several observation decks/overlooks, a fishing dock, and three trails that are used for wildlife observation and photography. The 'Riverview Public Access' and 'Low Flow Public Access' areas and the Minnesota River are also used for both activities. Refuge visitors are also encouraged to walk along Refuge service roads and dikes for wildlife observation and photography opportunities.

When would the use be conducted?

Wildlife observation and photography occurs year round. The Refuge limits wildlife observation and photography use to daylight hours only.

How would the use be conducted?

Wildlife observation and photography account for the majority of the Refuge's annual visitation with an average of 15,500 visits annually. Visitors observe and photograph wildlife from vehicles along roads, by hiking, biking, boating, and snowshoeing and cross country skiing into areas throughout the Refuge.

Entry on all or portions of individual areas may be temporarily suspended by posting upon occasions of unusual or critical conditions affecting land, water, vegetation, wildlife populations, or public safety.

Why is this use being proposed?

Wildlife observation and photography are priority public uses of the Refuge System. Wildlife observation and photography programs can promote understanding and appreciation of natural resources and their management on lands and waters in the Refuge System.

Availability of Resources:

What resources are needed to properly (considering quality and compatibility) and safely administer use?

Facilities and staff are currently available to provide access, maintain roads, parking lots, secondary access roads, and signage. Maintaining the public use facilities is part of routine management duties and staff and funding is available. Kiosks and interpretive trail signs may be added to improve visitor information but are not necessary to support the use.

Are existing Refuge resources adequate to properly and safely administer the use?

At the present level of wildlife observation and photography use there are adequate Refuge resources to implement these activities. Several Refuge facilities have been upgraded recently and offer numerous accessible opportunities for visitors to enjoy both wildlife observation and photography.

Anticipated Impacts of the Use:

How does wildlife observation and photography affect Refuge purposes and the NWRS mission?

Wildlife observation and photography do not adversely affect Refuge purposes, and they help fulfill the mission of the Refuge System.

How does wildlife observation and photography affect fish, wildlife, plants, and their habitats; and the biological integrity, diversity, and environmental health of the Refuge/NWRS?

Wildlife and Wildlife Habitat

Managing Visitor Use and Disturbance of Waterbirds: A Literature Review of Impacts and Mitigations (DeLong, 2002) includes a summary of effects on wildlife from disturbance from various forms of recreation. The author documents that disturbance can alter behavior (e.g., foraging time), population structure, and distribution patterns of wildlife. It is probable that wildlife observation and photography would cause some or all of these effects to some degree on Refuge wildlife. Much of the Refuge is not affected, because wildlife observation and photography tend to be concentrated along the Wildlife Drive, roads and trails, and at observation facilities. These areas have been established areas of use. Damage to habitat by walking is minimal and temporary. Large groups typically use established foot trails or the local roads with little to no impact on vegetation. There is some temporary disturbance to wildlife due to boating and human activities on trails; however, the disturbance is generally localized and would not adversely impact overall populations. Wildlife observation and photography use is expected to stay stable over time.

The cumulative disturbance caused by wildlife observation and photography and all other public uses occurring on the Refuge is not expected to adversely affect fish and wildlife populations or their habitats. A number of factors including: suitable site conditions, presence of facilities, access limitations, and seasonal restrictions or other regulations tend to concentrate uses. At any one time, much of the Refuge is unaffected by these uses and is free of disturbance. However, the addition of new facilities will have to be examined to determine need and disturbance factors before being approved.

Biological Integrity, Diversity, and Environmental Health

Wildlife observation and photography conducted in accordance with Refuge regulations is not expected to adversely affect fish and wildlife populations or the biological integrity, diversity, and environmental health of the Refuge as it is defined in Service policy (FWS, 2001).

Other Uses and Public Safety

Wildlife observation and photography is not expected to adversely affect other Refuge uses or public safety. The Refuge's Visitor Services programs will be adjusted as needed to eliminate or minimize any future problems and provide quality wildlife-dependent recreational opportunities, which include promoting public safety. Experience on many national wildlife refuges has proven that time and space zoning (e.g., establishment of separate use areas, use periods, and restrictions on the number of users) is an effective tool in eliminating conflicts between user groups. Overall, the cumulative impact of wildlife observation and photography on other wildlife-dependent recreation or public safety at Big Stone NWR is expected to be minor.

Public Review and Comment:

This compatibility determination was available for public review as part of the Big Stone NWR Draft Comprehensive Conservation Plan and environmental assessment from May 9, 2012 to June 8, 2012. Comments received and agency responses will be included in the final version of the Big Stone NWR Comprehensive Conservation Plan.

Determination:

Wildlife Observation and Photography

Use is Not Compatible

Use is Compatible with the Following Stipulations

Stipulations Necessary to Ensure Compatibility:

1. The Refuge Manager will monitor use patterns and densities and make adjustments in timing, location, and duration as needed to limit disturbance.
2. Use will be directed to public use facilities (both existing and in the future), which are not in or near sensitive areas.
3. Use is limited to daylight hours only.
4. Personal portable photo or viewing blinds must be removed by sunset each day.
5. Interpretive signs will include messages on minimizing disturbance to wildlife.
6. Certain modes of access such as motorized vehicles and bicycles will be limited to designated trails, public roads, and parking lots.
7. Boats will be restricted to the Minnesota River channel. Only non-motorized boats and boats using electric motors are allowed.

Justification:

In view of the above and with the stipulations previously described, wildlife observation and photography will not materially interfere with or detract from the Refuge System mission or purposes of the Refuge. Wildlife observation and photography are priority public uses of the Refuge System, and providing opportunities for these activities contributes to achieving one of the Refuge goals.

Signature: Refuge Manager /Alice Hanley/ 7/2/12
(Signature and Date)

Concurrence: Regional Chief /Rick Schultz/ 8/27/12
(Signature and Date)

Mandatory 10- or 15-year Re-Evaluation Date: June 2027

DeLong, A. K. 2002. Managing visitor use and disturbance of waterbirds—a literature review of impacts and mitigation measures — prepared for Stillwater National Wildlife Refuge. Appendix L

(114 pp.) *in* Stillwater National Wildlife Refuge Complex final environmental impact statement for the comprehensive conservation plan and boundary revision (Vol. II). Dept. of the Interior, U.S. Fish and Wildlife Service, Region 1, Portland, OR. Available URL:
<http://www.fws.gov/stillwater/litreview.pdf>

U. S. Fish and Wildlife Service. 2001. Biological integrity, diversity, and environmental health. 601 FW 3. National Wildlife Refuge System, Department of Interior. Available URL:
<http://policy.fws.gov/601fw3.html>