CHAPTER 3— Alternatives

USFWS

Expansive grasslands characterize the districts.

Alternatives are different approaches to the management of the districts designed to resolve issues; achieve the district's purpose, vision, and goals as identified in the CCP; and help fulfill the System's mission and comply with current laws, regulations, and policies. NEPA requires an equal and full analysis of all alternatives considered for implementation.

This chapter describes three management alternatives for the districts: alternative A, Current Management (no action); alternative B, Increased Efficiency (Proposed Action); and alternative C, Increased Efficiency with Expanded Resources.

This CCP and EA have been developed at the programmatic level rather than as a management plan for each district. This was the most logical approach given the following circumstances:

- Three wetland management districts addressed in the CCP.
- All three districts involve a mixture of fee and easement authorities.
- There is a similar purpose, vision, and goal for each district.
- All three districts are located in central and eastern South Dakota.

3.1 Alternatives Development

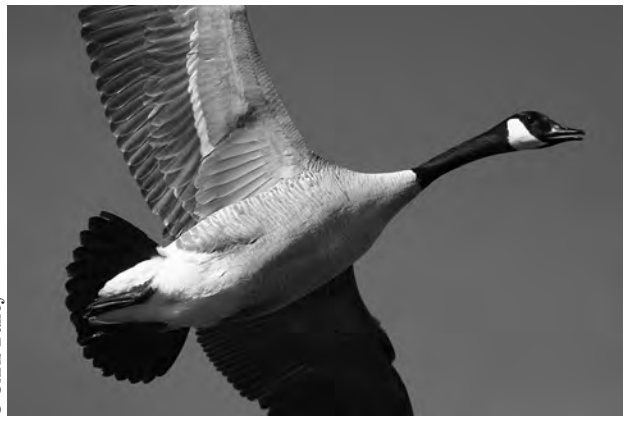
Alternatives are formulated to address the significant issues identified by the Service, the public, and the governmental partners during the internal and public scoping process and throughout the development of the draft plan.

This chapter contains the following sections:

- Elements Common to All Alternatives
- Description of Alternatives
- Comparison of Alternatives (table 3)

This chapter describes three management alternatives that represent different approaches to enhancing the protection and restoration of fish, wildlife, plants, habitats, and other resources. Alternative A, Current Management, describes ongoing district management. The no-action alternative is a basis for comparison with alternatives B and C. Alternative B is the Service's proposed action and basis for the draft CCP (chapter 6).

The planning team assessed biological conditions and external relationships affecting the districts. This information contributed to the development of alternatives, each of which presents a distinct approach for addressing long-term goals. Each alternative was evaluated on the basis of its expected success in



A Canada goose wings overhead.

meeting the vision and goals of the districts and how it would address core wildlife and habitat issues and threats. Where data are available, trends in habitat and wildlife are evaluated, and the environmental consequences of each alternative are projected.

3.2 Elements Common to All Alternatives

A number of elements are common to all three alternatives. The need to maintain suitable habitat for a wide range of migratory bird species, especially those species of management concern, is an overriding concern regardless of the alternative selected.

Management of upland habitats includes the potential use of an array of practices (fire, grazing, chemicals, and biological control) under all alternatives. Similarly, management of disturbed uplands (specifically, lands that have been or are currently being cropped, farmed, broken, or seeded to a native or tamegrass mixture) focuses on improved habitat quality for migratory birds.

Public use and education, such as workshops and enhanced outreach, will be provided to area schools and the general public to the fullest extent possible. Maintaining support for hunting, fishing, wildlife observation and photography, and environmental education and interpretation are common to all three alternatives.

All three alternatives promote, at a minimum, the opportunistic identification, documentation, and protection of the district's cultural resources. All district activities are coordinated through Service Cultural Resources Specialists.

The research and monitoring efforts under all alternatives would focus on improving the Service's knowledge of how best to control invasive nonnative flora, and would increase the intensity and extent of upland and wetland vegetation monitoring.

3.3 Description of Alternatives

Management actions to advance the System's mission and the purpose and vision of the three districts under each of the alternatives are summarized below. The alternatives reflect options to address significant threats, problems, and issues raised by public agencies, private citizens, and interested organizations.

Each alternative differs in its ability to achieve long-term wildlife and habitat goals. However, each is similar in its approach to managing the districts. Each alternative would:

- pursue the goals outlined in chapter 2
- protect and enhance a diverse assemblage of habitats
- be consistent with the purpose of the districts and with the System mission and goals

The focus and actions for each of alternatives A–C are described below.

ALTERNATIVE A—CURRENT MANAGEMENT (NO ACTION)

Summary

Under alternative A, management activities currently conducted by the Service throughout all three districts would not change. The no-action alternative provides the baseline against which to compare other alternatives. It is also a requirement of NEPA that a no-action alternative be addressed in the planning process. The Service would not develop any new management, restoration, education, or visitor services programs for the districts. Staff would not expand or change current habitat and wildlife management practices conducted for the benefit of waterfowl, State- and federally listed species, migratory birds, and other native wildlife. Staff would conduct monitoring, inventory, and research activities at their current level (that is, limited, issue-driven research and limited avian and vegetative monitoring and inventory). Funding and staff levels would not change, and programs would follow the same direction, emphasis, and intensity as they do at present.

Habitat and Wildlife

The current management of wildlife habitat and associated species on district WPAs are prioritized (according to similar but distinct methodologies between districts) into high, medium, and low areas. In general, only high-priority WPAs currently receive consistent management.

All conservation easements are monitored by Service personnel; however, only the high-priority easement violations are consistently enforced.

Acquisition efforts by the Division of Realty are focused on high-priority tracts; most of these efforts entail securing easements from willing private landowners.

A concerted effort is made to control plant species that are recognized by the State and county as invasive. Habitat management on high-priority WPAs is directed to address invasive species of serious ecological concern.

Active burning, grazing, farming, and invasive species control programs are used to maintain and/or improve native prairie and planted grassland units.

District staff would continue to monitor energy development and evaluate road and pad development on a case-by-case basis. Staff would continue to monitor for contaminant spills and will direct cleanup by power companies.

Under this alternative, district staff would continue to monitor and document the presence and use of district lands by federally listed species, such as piping plover and whooping crane. District staff would continue to impose area closures to public use to protect federally listed species using district lands, especially during nesting season.

Monitoring and Research

The current wildlife and habitat monitoring efforts on the lands managed by all three districts would continue. These efforts include annual surveys of various bird groups (such as breeding waterfowl and migrant shorebirds) on certain Service lands, and periodic monitoring of waterfowl and colonial waterbird nesting efforts and success on certain Service lands. Monitoring and inventory of projects related to the flora of district lands (for example, belt transect monitoring of management effects) would continue. Periodic monitoring of line transects would continue on a limited number of units to track trends in progress toward improving native prairie habitat. Four-square-mile waterfowl pair counts would be completed as scheduled. Various cooperative research efforts with other agencies and organizations would continue. Staff would continue to use available information and sound science to make informed management decisions. District staff would complete Service-mandated surveys on wildlife and habitat within specified timeframes, and some baseline monitoring would continue on high-priority tracts.

Visitor Services

Currently, events and workshops with such groups as school districts, youth groups, and conservation groups are conducted upon request. District informational brochures and publications are updated periodically. Displays and exhibits, including signs and brochures, would continue to be maintained at the districts' headquarters, as well as at other public use facilities throughout the lands managed by the districts. The districts implement occasional media outreach efforts through newspaper articles and radio announcements.

WPAs are open to all types of hunting (waterfowl, small game, furbearer) consistent with State regulations. Hunting and fishing programs would continue, with seasons paralleling the regular statewide seasons. Access is limited to foot traffic on all Service lands, with the exception of identified motorized vehicle trails in specific WPAs.

Public trapping is currently regulated by special use permits on all district lands and targets predator management objectives. Recreational trapping programs on the districts are administered by each district. Recreational trapping on WPAs has been approved by legislation.

Partnerships

Staff would work to preserve existing partnerships that strive to address resource information needs; protect and enhance habitat (both public and private); and promote public use, education, and outreach. Current partners include local private landowners for management, grassland and wetland easement acquisition, weed initiatives, and outreach. The districts also partner with government agencies, such as SDGFP, and NGOs, such as Ducks Unlimited, for assistance with biological projects, acquisition, and public outreach.

Operations

The funding and staffing resources for the districts would remain at current levels to provide the necessary legal and obligated mandates and to provide management for high-priority WPAs.

Operations and maintenance would continue to consist of maintaining buildings, vehicles, and other equipment in good working condition to achieve management goals. Maintenance staff would operate with available funding and resources. Law enforcement personnel and activities would be provided at current levels for visitor safety and protection of facilities and wildlife.

The Service would act in compliance with the NHPA (National Historic Preservation Act) and other pertinent cultural resource laws.

Alternative B—Increased Efficiency (Proposed Action)

Summary

Under alternative B, management of the three districts would emphasize developing and implementing an improved, science-based priority system to restore native prairie habitats for the benefit of waterfowl, State- and federally listed species, migratory birds, and other native wildlife. District staff would focus on high-priority tracts and, when possible, on medium-priority tracts. The focus of this alternative would be to restore ecological processes and native grassland species to the greatest extent possible within the parameters of available resources and existing constraints. Under this alternative, district staff would seek to maintain the existing levels and types of public use programs, ensuring that programs offered to the public are of consistently high quality.

Habitat and Wildlife

Under this alternative, the amount, periodicity, and type of management of native prairie habitats would follow an improved, science-based prioritization system driven by present habitat needs and conditions and the probability of successful native vegetation enhancement. District staff would pursue these targets through enhanced management using existing habitat management tools.

Old croplands would be reseeded utilizing native species in an ongoing process to convert unsuitable nesting habitat (for example, cropland, degraded DNC [Dense Nesting Cover], monotypic cool-season stands of tamegrass) to a diverse native plant community. Species included in the plant mix would be based on historic vegetation composition, soil structure, and requirements of the target species. Established native grass stands and the remainder of the disturbed uplands would be periodically managed to rejuvenate grass, reduce litter accumulations, and control undesirable noxious weeds through haying, grazing, burning, and chemical or biological treatments.

Planted and exotic woody vegetation would be managed to provide the greatest overall benefit to a selected group of target species. This alternative would allow for the removal of trees and shrubs if it is decided that such is the appropriate management direction for the benefit of migratory birds and other native wildlife.

Under this alternative, the Service's Division of Realty would focus acquisition efforts on high-priority easements and some of the highest priority fee tracts (such as roundouts; roundouts are parcels either adjacent or internal to WPAs, the addition of which would enhance the management or ecological value of the WPA) from willing sellers.

Control of invasive species would be the same as under alternative A, but it would be implemented in accordance with a prioritization system.

Monitoring and Research

Under alternative B, monitoring and research would continue current efforts described for alternative A. District staff would complete some baseline monitoring currently underway on high- and medium-priority tracts. Staff would participate in landscape-level analysis to guide acquisition; promote management-level research to improve habitat management practices; promote further efforts to monitor for improved success of transitioning seeded areas to native grasses (in both composition and structure); and monitor control efforts for nonnative grasses (such as Kentucky bluegrass and smooth brome) and other invasive plant species.

Visitor Services

Under this alternative, staff would increase the quality of environmental education and interpretation opportunities and facilities to meet the needs of a wide array of target audiences. Hunting, fishing, wildlife observation, and photography uses would be similar to those under alternative A. Workshops with school groups and teachers would emphasize waterfowl and migratory bird identification.

Media outreach to local newspapers and radio stations would be conducted as often as staff time allows. District brochures and publications would be reviewed annually and updates completed as needed.

All public use facilities would be reviewed to ensure they meet Service standards and, if necessary, upgraded. The Service proposes, at a future date, to construct a new administration/visitor center for the Huron WMD at the Maga-Ta-Hohpi WPA near Huron to meet the demands of public and school group visitation.

Partnerships

Under this alternative, existing partnerships would be expanded to address habitat and wildlife management in accordance with the new prioritization system. This alternative would encourage ongoing work with local, State, and Federal agencies to explore new avenues to implement the goals of this alternative. Neighboring private landowners would be targeted for new partnerships. This alternative would also promote developing and fostering partnerships with local communities, such as Friends organizations, to inform the public of district programs and special events.

Operations

This alternative would not necessitate an increase but rather a redistribution of resources and staffing. These changes would follow the prioritization system in district operations to address program needs, pursuing an "increased efficiency" strategy.

Operations and maintenance would be redistributed and managed to support management of priority resources. A minimum threshold of staffing needs, equipment, and funding would be identified to support management. It is believed that no increase in funding for staffing, equipment, or supplies would be necessary to achieve the goals and objectives of this alternative. However, an increase in both funding and staffing would afford the districts the possibility of improving the management of lower priority tracts.

As under alternative A, law enforcement would be provided for visitor safety and protection of facilities and wildlife.

The Service would act in compliance with the NHPA and other pertinent cultural resource laws.

Alternative C—Increased Efficiency with Expanded Resources

Summary

Under alternative C, management would follow the same prioritization system for restoration and management as under alternative B, but it would be based on

projected staffing and funding increases. The management focus, like that of alternative B, would follow an improved prioritization system, but would also widen into additional WPAs. With increased funding and staffing, acquisition of new WPAs in fee title would increase. Similarly, increased funding and staffing would enable commensurate increases in the number and scope of partnerships. The districts would continue to provide the same types of public uses but would expand the scope and quality of these opportunities.

Under alternative C, management targeting native prairie/wetland complexes would be more intensive and widespread. District staff would seek out projects for restoring high-quality native prairie in both high- and low-priority tracts. This alternative would have the potential to provide additional management options to address habitat requirements and wildlife needs. The staff would seek to develop new environmental education and public use programs as well as to reach out to new users. As under alternative B, the Service proposes, at a future date, a new administration /visitor center for the Huron WMD at the Maga-Ta-Hohpi WPA near Huron.

Habitat and Wildlife

Under alternative C, all WPAs in all three districts would receive consistent management based on the prioritization system.

District staff would intensively manage native prairie/wetland complexes that would focus on the most intact systems, which are more likely to support a wide range of migratory bird species, especially those of management concern. Restoring grasslands to high-quality native prairie would be a priority. Emphasis would be placed on the restoration of healthy areas of native mixed- and tallgrass prairies to benefit ground-nesting species of migratory birds.

Management of disturbed upland habitats would be driven by the resource needs of waterfowl and shorebirds. Under this alternative, old cropland sites and badly degraded native prairies would be the lowest priority, but they would be managed to attract high densities of waterfowl species that use DNC; efforts to increase nest and brood survival would focus on these tracts.

District staff would expand the pursuit of easement acquisition and enforcement through proactive mapping and strong enforcement actions. Acquisition efforts would be directed at high-priority easements, fee-title WPAs, and roundouts. Under alternative C, acquisition of WPA easements would focus on high-priority native prairie and wetlands.

Because native prairie habitat has more long-term value for supporting ducks and other grassland birds than those areas invaded by introduced grasses and forbs, all nonnative invasive species would be managed on priority WPAs, allowing for management actions that provide the greatest benefit to migratory birds and resident wildlife. This alternative would allow for the removal of existing nonnative trees and shrubs for the benefit of native wildlife, such as grassland-dependent passerines, upland-nesting shorebirds, and waterfowl.

Management of invasive species under alternative C would be the same as under alternative B, but would address a greater extent of lands because of the increased levels of funding and staffing.

Monitoring and Research

Monitoring and research activities would parallel those described for alternative B, with the addition of addressing specific management questions. Research funds would be available for graduate student work and self-directed research projects.

Visitor Services

The current level and quality of environmental education and interpretation opportunities and facilities would be expanded to meet the needs of a wide array of target audiences. District staff would seek to develop programs that enhance public use, outdoor classroom activities, and interpretive exhibits and displays.

Public use events such as teacher and waterfowl identification workshops presented by district staff would be expanded over current levels and possibly conducted annually. Brochures and publications would most likely be reviewed and renewed annually. New publications and educational materials would likely be developed to aid in the interpretation of sights and sounds on WPAs.

Outreach would include the media and partner groups such as wildlife clubs and conservation nonprofit groups. Presentations to area schools and communities would be a priority.

Under alternative C, as under alternative B, the Service proposes, at a future date, to construct a new administration/visitor center for the Huron WMD at the Maga-Ta-Hohpi WPA near Huron to meet the demands of public and school group visitation.

Partnerships

Partnership development and management would parallel the direction outlined for alternative B. Additionally, under alternative C, existing partnerships with the local public and SDGFP would be expanded. New partnerships—through development of Friends organizations—would be pursued with community members who have an appreciation and interest in the welfare of area districts.

Operations

Operations under alternative C would be the same as alternative B, but with the likely expansion of easement monitoring and enforcement on all conservation easements as a result of increased levels of funding and staffing.

The Service would act in compliance with the NHPA and other pertinent cultural resource laws. District staff would develop an educational program and interpretive opportunities for the public pertaining to cultural resources.

3.4 Comparison of Alternatives

Table 3 provides a comparison of alternatives.

Table 3. Comparison of alternatives.

	Alternative A (no action)	*Alternative B (increased efficiency)*	*Alternative C (increased efficiency with expanded resources)*
Native Prairie			
Conserve, restore, and improve the biological integrity and ecological function of the native prairies to support healthy populations of native plants and wildlife and promote the natural role of fire and grazing in shaping and managing these landscapes.			
Native upland habitats	Continue to use prescribed fire, grazing, and invasive plant control to maintain and improve grassland health. Suppress nonnative introduced grasses and invasive species. Manage to enhance the competitive ability of native plants.	Manage lands according to a priority system. Maintain selected native habitats in as natural or native condition as possible. Continue to use same tools as A.	Same as B, but increase/expand the number of treated units. Restoration would occur on more lands under this alternative.
Invasive Species			
Nonnative trees and shrubs	Continue to remove trees (e.g., shelterbelts, volunteers) according to budgetary constraints and biological justification. Remove trees on a site-specific basis.	Same as A, but prioritize removal of trees on high-priority tracts.	Same as B, but increase/expand the number of treated units. Restoration (removal of trees/shrubs) would occur on more lands under this alternative.
Nonnative introduced grasses	Continue to suppress invasive plants (e.g., smooth brome, Kentucky bluegrass, crested wheatgrass) and promote the competitive abilities of native species to restore grassland health. Continue to use prescribed fire and grazing at current levels as management tools. Continued limitations in management efforts due to current staffing and funding levels.	Same as A, but prioritize management of non-native introduced grasses on high-priority tracts.	Same as B, but increase/expand the number of treated units. Restoration would occur on more lands under this alternative.
Noxious weeds	Maintain current noxious weed management programs. Use IPM (integrated pest management). Control of noxious weeds is limited. Currently, higher use of spot treatments than blanket treatments. Continue to use target-specific herbicides that exert the least impacts on native forbs and grasses.	Same as A, plus establish and maintain an inventory of the degree and density of infestation. Prioritize treatment.	Same as B, but increase monitoring to determine effectiveness of treatment.
Management tools (e.g., fire, grazing, clipping)	Continue to use a range of management tools. Currently, grazing is primary management tool. Continue limited use of prescribed fire. Current use of fire is concentrated on native prairie tracts.	Prioritize and focus management on WPAs with the most restoration potential. Determine which WPAs benefit most from a particular management tool. Continue to use a range of management tools.	Increase use of all tools; drastic increase of prescribed fire. Under this alternative, more WPAs would be managed. Greater use of tools in combination.

Table 3. Comparison of alternatives.

	Alternative A (no action)	*Alternative B (increased efficiency)*	*Alternative C (increased efficiency with expanded resources)*
Planted Grasslands			
Manage planted grasslands to contribute to the production and growth of continental waterfowl populations, other migratory birds, threatened and endangered species, and other wildlife.			
Tamegrass (DNC [dense nesting cover], brome, Kentucky bluegrass)	Continue to manage as tamegrass; when possible, restore to planted native vegetation. Continue working systematically toward restoration of tamegrass areas to planted native vegetation. Continue to maintain healthy productive stands of tamegrass as an interim step.	Develop formal prioritization system. Focus conversion to planted natives on high-priority WPAs.	Restore more lands and diversify species. This alternative would reflect a finer scale of restoration (e.g., focus more on local ecotype plant material, increased diversity).
Planted native grasslands	Continue managing planted native grasslands to suppress nonnative introduced grasses and invasive species. Use prescribed fire, grazing, and invasive plant control to maintain and improve grassland health. Manage for competitive ability of native plants.	Use same tools as under alternative A. Prioritize and manage lands through a priority system and apply treatments as needed. Maintain planted native grassland habitats in as natural or native condition as possible.	Same as B, but increase/expand the number of treated units and the maintenance/management thereof. "Partial" restoration would occur on more lands under this alternative.
Management tools (fire, grazing, herbicides, cropped land, other)	Cropped land: seedbed preparation for grassland restorations. Continue to use grazing and limited fire and clipping. Continue use of herbicide for preparing cropland and controlling noxious weeds. Continue limited use of cropping/seeding and herbicide in combination (e.g., applying herbicide for restoration then inner-seeding).	Continue use of the same tools as under alternative A. Determine which WPAs show best restoration potential and focus use of available management tools on those.	Continue use of the same tools as under alternative A but increase their rate of use, with dramatic increase in the use of prescribed fire. Under this alternative, more tracts would be managed by one tool or another. Implement greater use of management tools in combination (e.g., use grazing and fire together).
Invasive Species			
Nonnative trees and shrubs	Continue to remove trees (e.g., shelterbelts, volunteers) according to budgetary constraints and biological justification. Remove trees on site-specific basis.	Same as A, but prioritize removal of trees on high-priority tracts.	Same as B, but increase/expand the number of treated units. Restoration (removal of trees and shrubs) would occur on more lands under this alternative.
Nonnative introduced grasses	Continue to use grazing and prescribed fire as tools. Continue to suppress invasives (e.g., smooth brome, Kentucky bluegrass, crested wheatgrass) in restored grasslands and promote the competitive abilities of native species to restore grassland health. Management efforts are limited by staffing and funding levels.	Same as A, but prioritize.	Same as B but increase/expand the number of treated units. Restoration would occur on more lands under this alternative.

Table 3. Comparison of alternatives.

	Alternative A (no action)	*Alternative B (increased efficiency)*	*Alternative C (increased efficiency with expanded resources)*
Noxious weeds	Maintain current noxious weed management programs (these vary from district to district and from more structured to reactionary). Use IPM. Control of noxious weeds is limited. Continue to conduct more blanket spaying in areas of grass as opposed to areas of grass-forb mix (i.e., more spot treatments in areas of grass-forb mix). Use target-specific herbicides to minimize impacts on native forbs and grass.	Use IPM. Establish and maintain an inventory of the degree and density of infestation. Prioritize treatment.	Increase monitoring to determine effectiveness of treatment. Use IPM.
Wetlands			
Protect, restore, and enhance prairie pothole wetlands to support diverse plant communities and provide habitat to waterfowl, shorebirds, wading birds, and associated wetland-dependent wildlife.			
Wetlands without water control structures	Protect existing wetlands from drainage or other manipulation (e.g., tilling). Restore and maintain natural hydrology if possible. Wetland management is dependent on management of surrounding uplands (i.e., they are not managed separately from uplands). Management efforts in wetlands are dependent on available staff and funding.	Management of wetlands based both on the prioritization and management of surrounding uplands, as well as some targeted management of wetlands, where appropriate (based on specific prioritization tools developed under this alternative). Prioritization based on the degree of wetland degradation and also the management potential of the area. Identify and actively manage degraded wetlands where possible. Winter burn of cattails, herbicide treatments, etc.	Pursue active management of wetlands. Identify areas of wetland degradation and actively manage them where possible. More wetlands would be managed than under alternative B.
Wetlands with water control structures	Same as for wetlands without water control structures, except staff can manipulate water levels. Structures do not provide complete control.	Same as A, plus assess the potential for increased management of water levels.	Same as B, plus take an active role in managing water levels.
Water resources (artificial drainage affecting hydrology)	Currently, staff is uncertain of legal rights regarding acceptance of drainage.	Request and secure a comprehensive water rights and hydrology compendium from USFWS Region 6 Water Resources Division.	Same as B.
Management tools (fire, grazing, mowing, herbicides, other)	Continue to use a variety of tools. Because wetland management would continue to reflect management of surrounding uplands, continue primary dependence on grazing and limited use of prescribed fire.	Prioritize and focus management on wetlands that have the greatest need. Determine which tool is most appropriate to use in those wetlands that will benefit most (based on degree of degradation).	Same as B, except more units would be treated by appropriate management tools.
Invasive Species			
Nonnative trees and shrubs (e.g., salt cedar)	Continue to use a reactive rather than a proactive management approach. Continue to monitor known sites and actively treat them. Goal is eradication at early infestation, but this is difficult to achieve.	Same as A.	Utilize proactive approach to treatment and monitoring. Develop partnerships with groups to assist in monitoring and removal.

Table 3. Comparison of alternatives.

	Alternative A (no action)	*Alternative B (increased efficiency)*	*Alternative C (increased efficiency with expanded resources)*
Nonnative introduced grasses	Currently engaged in research (adaptive management project on reed canary grass). Continue treating reed canary grass as part of management of surrounding uplands.	Same as A.	Same as A, but more inventory with the purpose of understanding levels of reed canary grass infestation. More actively fight reed canary grass using the adaptive management study.
Noxious weeds	Maintain current noxious weed management programs (these vary from district to district and from more structured to reactionary). Use IPM. Control of noxious weeds is limited. Continue to use required herbicides.	Continue to use IPM. Establish and maintain an inventory of the degree and density of infestation. Prioritize treatment.	Increase treatment of noxious weeds using IPM. Increase monitoring to determine effectiveness of treatment.
Research and Monitoring			
Provide a learning platform that uses science, monitoring, applied research, and adaptive management to advance understanding of the Prairie Pothole Region and management of these areas.			
Research	Continue to accommodate requests for use of lands for research on a case-by-case basis. Allow and participate in research as feasible and practical. Currently, there is extensive research conducted on WMD lands. Research involves a wide variety of topics relevant to the Prairie Pothole Region. Currently staff is exploring adaptive management model (Northern Prairie).	Same as A, plus participate in the development/implementation of adaptive management models to benefit WMD management.	Proactively pursue research. Shift toward more Service-directed research. Identify research needs ahead of time and work with partners to achieve. More staff and increased partnerships will lead to more research.
Inventory and monitoring	Currently, staff applies principles of adaptive management, but not in a formalized, structured way. Currently pursuing baseline data (varies from district to district). Currently in the initial phase of monitoring management actions and addressing specific management questions. Continue mandated surveys (e.g., four-square mile). Ongoing refinement of inventory.	Same as A, but monitoring would become more strategic. Focus adaptive management on high-priority tracts or issues.	Complete baseline inventory and refine ongoing inventory. Expand monitoring to all tracts. More monitoring would enable increased effectiveness of management. Expand partnerships for monitoring.
Consumptive Uses			
Provide visitors with quality opportunities to enjoy hunting, fishing, and trapping in waterfowl production areas and expand their knowledge and appreciation of the prairie landscape and the National Wildlife Refuge System.			
Hunting	All WPAs are open to hunting (unless there is a specific decision to close). There are no special regulations regarding hunting. All WPAs are open to hunting of species allowed by State: (e.g., big game, waterfowl). Over time, continue to provide more hunting opportunities through limited acquisition of additional fee lands.	Same as A.	Same as A, but provide more hunting opportunities through acquisition of additional fee lands.

Table 3. Comparison of alternatives.

	Alternative A (no action)	*Alternative B (increased efficiency)*	*Alternative C (increased efficiency with expanded resources)*
Fishing	Continue to allow public access to WPAs that sustain fisheries. In cooperation with SDGFP, certain WPAs are closed to fishing to enable rearing of brood stock/fingerlings. The Service maintains access to certain WPAs that sustain fisheries and are open to public. Some are adjacent to meanders; public can access these from WPAs. Access points are provided (trail to the water); these are not enhanced. Limited stocking (one site, stocked by SDGFP).	Same as A.	Provide additional fishing opportunities through acquisition of more fee lands.
Trapping	Continue to allow recreational trapping on WPAs per State regulations.	Same as A.	Provide more trapping opportunities through acquisition of additional fee lands.
Other (e.g., fruit harvesting)	Harvesting wild fruits (including mushrooms) is currently allowed for personal use.	Same as A.	Provide more opportunities for harvesting wild fruits through acquisition of additional fee lands.
Nonconsumptive Uses			
Provide visitors with quality opportunities to enjoy, observe, photograph and appreciate the prairie ecosystem while expanding their knowledge of and support for the National Wildlife Refuge System.			
Photography and wildlife observation	Photography and wildlife observation are allowed and encouraged. There are an abundance of opportunities, but use is currently loosely monitored. Some facilities for wildlife observation/photography (i.e., a few blinds and observation platforms) are provided where there are good opportunities and the use is compatible. Existing facilities are used by small, dedicated community of photographers. Additional facilities are provided as opportunities present themselves (opportunistic approach). Currently, staff wishes to increase number of blinds and platforms/ towers, but this depends on funding. Improvements to the Auto Tour at the Madison WMD with interpretive panels and other facilities are currently underway. Some instructional programs on photography are currently offered (e.g., at the annual Prairie Fest, groups are taken to WPAs). Currently, the Service partners with the State to promote opportunities for wildlife observation/photography. For example, all three WMDs are highlighted in a brochure as part of a statewide birding trail.	Assess the quality of the existing program to determine if there are any needs that should be addressed. Increase accessibility by providing an accessible blind. Increase number of blinds and platforms/towers for observation. Proactively identify suitable locations and opportunities for facilities. Enlist help of photographers and others in this effort. Focus new facilities in places already developed for public use (e.g., Maga-Ta-Hohpi, Madison WPAs). Proactively promote the opportunities for observation/ photography. Update species list for Sand Lake WMD.	Same as B, plus provide more opportunities through acquisition of more fee lands. Build new facilities (e.g., observation towers, blinds). Consider building new facilities in new locations (i.e., not just areas where efforts are currently focused). Actively pursue partnerships to provide more facilities. Explore opportunities to increase partnerships with photographers (e.g., promotional purposes). Outdoor recreation planner would likely coordinate partnerships and work with groups to provide more opportunities. Update species list for Sand Lake WMD by developing a partnership.

Table 3. Comparison of alternatives.

	Alternative A (no action)	*Alternative B (increased efficiency)*	*Alternative C (increased efficiency with expanded resources)*
Other uses (e.g., geo-caching, virtual geo-caching, pod-casting)	The Service is currently developing policy with regard to geo-caching (virtual geo-caching is already deemed compatible). Geo-caching is on the rise nationally and has been identified in Region 6 as an opportunity for attracting new users. This activity is likely already occurring on Service lands. Currently working with the City of Madison to build a hiking and biking trail at the Payne WPA, which will eventually connect with the Auto Tour route at the Madison WPA.	Influence policy decision regarding geo-caching.	If geo-caching is determined to be compatible, pursue opportunities on district lands. Explore opportunities presented by new media and technology.
Environmental Education and Interpretation			
Provide quality educational opportunities for persons of all abilities to learn about, understand, and appreciate prairie landscapes and the role of the National Wildlife Refuge System.			
Programs	Sustain environmental education and interpretation programs at existing levels. Accommodate requests for programs when contacted by schools or other groups. Currently, there is no outdoor recreation planner position. All staff contributes to environmental education/interpretive programs such as those offered at SD Outdoor Expo or Huron Prairie Fest. Huron Friends Group goal is to offer programs quarterly.	Evaluate effectiveness of existing environmental education/interpretive programs. Improve quality of existing programs. Evaluate community interest for potential new programs.	Evaluate community interest for new programs and implement them. Take advantage of new staffing (such as dedicated outdoor recreation planner position) to greatly improve outreach to communities ("Take it to the communities"). Increase outreach to children and educate public on the purposes of the WMDs and their role in the System. Outdoor classroom idea: turn key WPAs (e.g., those close to a community) into outdoor classrooms by partnering with schools and other groups. Explore opportunities presented by new technology and other interpretive media.
Facilities (contact stations, displays, kiosks, signs)	Continue to maintain a limited number of displays and exhibits at the contact stations, along with brochures, signs, and public use facilities in various areas. Existing interpretive signs tend to be outdated. Currently staff is working to improve and update interpretive panels on all WMDs. There is a proposal to construct a new district headquarters office and visitor center for the Huron WMD at the Maga-Ta-Hohpi WPA. There is a proposal for office expansion for Madison WMD.	Same as A.	Explore opportunities presented by new technology and media. Create satellite office/contact station for the Sand Lake WMD. Expand existing facilities to accommodate new staff. New high-quality displays and signs for existing and future headquarters-contact stations (i.e., treat any new facilities/signs as an opportunity for increasing quality).

Table 3. Comparison of alternatives.

	Alternative A (no action)	*Alternative B (increased efficiency)*	*Alternative C (increased efficiency with expanded resources)*
Operations and Administration			
Through effective communication and innovative partnerships, secure and efficiently utilize funding, staffing, and volunteer programs for the benefit of all natural resources in the districts.			
Land protection (e.g., purchases, easements, exchanges, residential development, wind power)	Maintain current practice of easement acquisition based on funding levels. Continue limited fee title acquisition. Acquisition tends to occur when landowners approach the Service. Stay engaged in developing policies related to development requests.	Evaluate current land acquisition program. Explore new methods of prioritizing lands for acquisition. Prioritize acquisitions in core areas that need protection. Continue evaluating lands for efficiency/ effectiveness, but use a finer level of precision than under A.	With increased staff and funding, place greater emphasis on expanding fee title lands. Eliminate current backlog. Expand more partnerships for land acquisition. Strengthen public education regarding the importance of the Duck Stamp to acquisition.
Funding	Funding for all key programs would remain inadequate.	Same as A.	Increased funding.
Staffing (including volunteers)	Staffing would remain inadequate. Volunteers are not actively pursued unless funding is available. Currently staff is working to develop a long-term volunteer program.	Same as A.	Increase personnel. Staff current organization chart. Increase recruitment of volunteers.
Infrastructure (e.g., roads, buildings)	Maintain infrastructure at current levels. Current funding is inadequate to maintain infrastructure. Roads are maintained. Certain management trails are in poor shape. It is difficult to access lands using these trails. Fences are in various stages of disrepair. Currently in the process of installing updated boundary signs.	Same as A.	Complete inventory of infrastructure. Address deficiencies and increase maintenance of infrastructure.
Equipment (e.g., vehicles, machinery, tools)	Maintain existing equipment at current levels. Continue to explore new equipment/ technology that may increase efficiency.	Same as A.	Fund high-priority equipment that will increase management effectiveness and efficiency. Increased staff means that more vehicles would be needed.
Law enforcement (e.g., trespassing, illegal uses)	Maintain existing levels of law enforcement. Violations on both easement and fee-title lands appear to be on the rise. More violations are occurring (e.g., trespassing, guided hunts). Currently staffing is inadequate to address these issues.	Same as A.	Additional staff could address law enforcement deficiencies. Increase and improve outreach to neighbors to promote "eyes on the land." Notify landowners of their easement obligations. Increase outreach to other agencies.
Cultural resources	Continue mandated protection of cultural resources and continue inventory procedures as needed.	Same as A.	Same as A, and review all known cultural resources for interpretive and educational values.

Table 3. Comparison of alternatives.

	Alternative A (no action)	*Alternative B (increased efficiency)*	*Alternative C (increased efficiency with expanded resources)*
Partnerships			
Promote and develop partnerships with landowners, public and private organizations, and other interested individuals to maintain, restore, and enhance a diverse and productive landscape in the Prairie Pothole Region.			
Volunteer programs	In many ways, volunteers help fulfill the Service's mission. Volunteers are not actively pursued unless funding is available. Currently, working to develop a long-term volunteer program.	Same as A.	Prioritization would guide volunteer efforts. Aggressively pursue volunteers with the desired skills to achieve specific tasks. Outdoor recreation planner or volunteer coordinator added to staff to coordinate new partnership efforts.
Friends Groups	Currently Huron is the only district with a Friends Group. They assist Huron in a variety of capacities (outreach, education, advocacy, fundraising).	Huron would grow Friends Group membership.	Pursue Friends Group for other districts.
Other (State, landowners and NGOs, public)	Maintain existing partnerships. Depending on project needs, work with network of partners to accomplish mission.	Same as A.	More staff would lead to increased partnerships. Explore opportunities to partner with new groups.