Cartier Slough
Wildlife Management Area

Management Plan
2014

Upper Snake Region

Cartier Slough Wildlife Management Area

2014 – 2023 Management Plan

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Idaho Department of Fish and Game
Upper Snake Region
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Executive Summary

Idaho Department of Fish and Game (Department) manages 32 Wildlife Management Areas (WMAs). Researchers from the University of Idaho and The Nature Conservancy evaluated the value of Idaho's WMAs to wildlife. They found the WMA network, created to support game species, "also conserves the full range of Idaho's wildlife and other ecological features" (Karl et al. 2005). Surveys and monitoring work conducted by Department biologists on Upper Snake Region WMAs confirms their value to big game, nongame, and many at-risk species identified in Idaho's State Wildlife Action Plan. In many cases WMAs provide the principal habitat for at-risk species in the Upper Snake Region.

Wildlife Management Areas often abut other protected lands such as National Forests, Bureau of Land Management (BLM) lands, or private lands protected by conservation easements. Due to the wildlife-focused management, WMAs often serve as highly productive core areas of the landscapes in which they exist. Management of these areas involves a combination of restoring and maintaining important natural habitats to contribute to landscape-level habitat function (e.g., sage-steppe, slough wetlands) and creating highly productive habitats (e.g., food plots, impounded wetlands) to enhance the carrying capacity for certain wildlife species.

Wildlife Management Area management plans strive to direct management that upholds these values. They may also be bounded or guided by legislative and/or funding mandates, Department species plans, the State Wildlife Action Plan, conservation partner objectives, national wildlife conservation strategies and plans (federal and non-government organizations) and especially the Department's own strategic plan, *The Compass*. Priorities, Management Directions, Performance Targets, and Strategies have been developed to be as consistent as possible with all of these documents and to capture the broader conservation values already provided by WMAs and ensure these values are protected and enhanced.

The Department's Upper Snake Region manages seven WMAs that collectively comprise about 85,000 acres of land. Management focus is to maintain highly functional wildlife habitat and provide wildlife-based recreation. These areas include:

- Tex Creek WMA in Bonneville County, a crucial wintering area for the region's deer and elk
- Market Lake and Mud Lake WMAs, two deep marsh units that are vital waterbird migratory stopover and production areas in Jefferson County
- Chilly Slough Wetland Conservation Area (WCA), a protected complex of wet meadow and wetland habitats in Custer County
- Cartier Slough WMA, a natural wetland associated with slough channels of the Henrys Fork River in Madison County
- Deer Parks Complex Wildlife Mitigation Units (WMU), managed cooperatively with the BLM and Shoshone-Bannock Tribes to restore and protect highly functional habitats along the Snake River in Jefferson and Madison counties

- Sand Creek WMA (including the Chester Segment), a mosaic of deep-water and shallow wetlands, wet meadow, marsh, and sagebrush-steppe habitats in Fremont County that provide winter refuge for mule deer, elk, and moose from surrounding high-elevation public lands including Yellowstone National Park

Examples of at-risk species partially dependent on Upper Snake Region WMAs include: Ute ladies' tresses orchid, St. Anthony sand dunes tiger beetle, northern leopard frog, greater sage-grouse, Columbian sharp-tailed grouse, sandhill crane, trumpeter swan, lesser scaup, northern pintail, white-faced ibis, long-billed curlew, and yellow-billed cuckoo.

All regional wildlife areas (WMAs, WMUs, and WCAs) are funded through a combination of hunting license dollars, appropriations from federal excise taxes derived from the sale of firearms and ammunition, and funding provided by the Bonneville Power Administration and Bureau of Reclamation (BOR) to mitigate habitat loss from construction of various dams in the region. Hunters pay a large portion of the management tab and they are rewarded with habitat management areas that sustain many of the region's big game herds and provide consistent waterfowl and upland game bird production and hunting opportunities. Non-hunters, who value the varied benefits provided by the Upper Snake Region's WMAs, also benefit from the broad ranging conservation values associated with Department WMAs.

Cartier Slough Wildlife Management Area (CSWMA) is a 1,028-acre wetland/riparian/grassland complex which was purchased by the U.S. Army Corps of Engineers (COE) and BOR in 1976 and 1977, respectively, as mitigation for wetland/waterfowl losses resulting from construction of Ririe Dam and Teton Dam. The management of the property was transferred to the Department by agreements with the COE and BOR.

Cartier Slough WMA is managed primarily as habitat for waterbirds (waterbirds, shorebirds, and waterfowl). However, it provides habitat for a variety of wildlife species. It is also managed to provide public access for both consumptive and non-consumptive use. Hunting, hiking, and wildlife viewing are some of the more popular uses.

This document provides direction in the form of goals, objectives, and strategies for the management of CSWMA. The direction of CSWMA was determined after a series of public meetings. Issues pertaining to CSWMA were identified by the public and the Department. These issues were developed into goals, objectives, and strategies consistent with the Department's Strategic Plan, *The Compass*. A draft version of these goals and strategies was offered for public inspection and comment in October 2013. No additional comments were received.

This plan will serve as a guide for current and future managers in planning where to direct efforts and resources for maximum wildlife benefit, public enjoyment, and efficient operation. As new information and technology becomes available, and as more property is acquired, strategies may be modified to most effectively reach the goals and objectives in this plan. All goals, objectives, and strategies are dependent on adequate funding, personnel, and public support.

Management Program Table development is based on Conservation Targets chosen to benefit a large number of species using CSWMA and surrounding areas. Conservation targets give direction to management goals and procedures that will restore, maintain, or improve habitats on the CSWMA and surrounding areas. The performance targets and strategies will guide managers on how to accomplish this.

Migratory Waterbird habitat management will involve stop-over habitat that provides foraging areas for birds to acquire that needed energy to complete migrations or to survive harsh winter conditions. These food sources benefit many other species on the CSWMA.

Given the high species value of migratory waterbirds (particularly of priority species such as northern pintail, white-faced ibis, lesser scaup, sandhill crane, trumpeter swan, etc.) wetland restoration and conservation partnerships are very achievable.

River riparian management provides direction for management of cottonwood groves, riparian shrubs, and the vegetation understory essential to many species utilizing CSWMA. Ultimately, restoration of this habitat will enable expansion of sensitive species, such as yellow-billed cuckoo birds.

Cartier Slough WMA's conservation target management practices will provide benefits to a large number of species utilizing CSWMA and surrounding areas. Species that will not benefit have been identified as requiring additional information for management direction.

Introduction

This management plan is designed to provide broad guidance for the long-term management of Cartier Slough Wildlife Management Area (CSWMA). It replaces an earlier management plan written in 1999. This new plan was completed during 2012 and 2013 with extensive public input. This plan is coordinated with other Idaho Department of Fish and Game (Department) plans and policies summarized below:

- State Wildlife Action Plan (2005)
- Statewide management plans for:
    - waterfowl (1991)
    - upland game (1991)
    - mule deer (2010)
    - white-tailed deer (2005)
    - elk (2014)
    - moose (1991)
    - furbearer (1991)
- Statewide big game depredation management plan (1988)
- Conservation Plan for the Greater Sage-grouse in Idaho (2006)
- Policy for Avian and Mammalian Predation Management (2000)

Other plans this document uses, is part of, or references include:

- North American Waterfowl Management Plan (2012)
- Intermountain West Waterbird Conservation Plan (2006)
- U.S. Shorebird Conservation Plan (2001)
- Intermountain West Regional Shorebird Plan (2000)
- Partners in Flight Tri-National Vision for Landbird Conservation
- Idaho Partners in Flight: Idaho Bird Conservation Plan (2000)
- Idaho's Invasive Species Plan (2012)

Department Mission

All wildlife, including all wild animals, wild birds, and fish, within the state of Idaho, is hereby declared to be the property of the state of Idaho. It shall be preserved, protected, perpetuated, and managed. It shall be only captured or taken at such times or places, under such conditions, or by such means, or in such manner, as will preserve, protect, and perpetuate such wildlife, and provide for the citizens of this state and, as by law permitted to others, continued supplies of such wildlife for hunting, fishing and trapping (Idaho Code Section 36-103).

Department Strategic Goals

The Department's 2005 Strategic Plan, *The Compass*, is the primary guiding document for all other Department plans and outlines four goals for the Department:

- Fish, Wildlife and Habitat: Sustain Idaho's fish and wildlife and the habitats upon which they depend.
- Fish and Wildlife Recreation: Meet the demand for fish and wildlife recreation.
- Working With Others: Improve public understanding of and involvement in fish and wildlife management.
- Management Support: Enhance the capacity of the Department to manage fish and wildlife and serve the public.

The 2014 Wildlife Management Area (WMA) plans describe the management direction for each of the 32 WMAs the Department manages to help accomplish these goals. The specific *Compass* goals and objectives relevant to WMA management are included in Appendix I.

Statewide WMA Vision

Our WMAs are managed to provide and showcase important habitat for all wildlife and to offer high quality, wildlife-based public recreation.

Cartier Slough WMA Vision

Provide mitigation for past riparian and wetland losses, to secure and improve habitat for a diversity of waterfowl, waterbirds, threatened, endangered, and sensitive species, as well as other game and nongame wildlife; secondarily, to provide high quality wildlife-related recreational opportunities compatible with CSWMA goals for the benefit of the public.

Duration of Plan

This plan provides broad, long-term management of CSWMA and has a 10-year life span. It will be evaluated every five years to determine if adjustments are needed. The plan will be modified as needed to accommodate changing conditions and goals and to incorporate available advancements in management knowledge and techniques.

Other Considerations

All strategies proposed in this plan are bound by the contractual agreements between cooperating agencies, the mission of CSWMA, and all applicable Department species management plans and policies. Issues and strategies that are inconsistent with the mission were not considered. In addition, the implementation of all strategies will be subject to available funding, personnel, and safety considerations.

Area Description and Current Status

The Department's CSWMA is located along the west side of the Henrys Fork of the Snake River west of Rexburg and south of Highway 33. The entire management area lies within big game management unit 63A (T6N. R38E. Sections 25 & 36; T6N. R39E. Sections 30 & 31). The Teton Segment is managed by the Department on a five-year contract and the Ririe segment has a 99-year contract (renewable in 5-year increments) with the Bureau of Reclamation (BOR).

Most of CSWMA lies on the basalt flood plain of the Henrys Fork. A variety of habitat classes are present. There are 2.8 miles of riverbank and four miles of slough channels. Wet meadows, dominated by sedges (*Carex* spp.) and Baltic rush (*Juncus balticus*), occupy 20 acres, while 25 acres of shallow ponds support aquatic vegetation and emergent marshes with hardstem bulrush (*Schoenoplectus acutus*), cattail (*Typha latifolia*), common spikerush (*Eleocharis palustris*), and water smartweed (*Polygonum amphibium*). There are about 300 acres of scrub-shrub wetlands dominated by coyote willow (*Salix exigua*), greenleaf willow (*Salix lucida* ssp. *caudata*), redosier dogwood (*Cornus sericea*), Woods' rose (*Rosa woodsii*), and black hawthorn (*Crataegus douglasii*). Adjacent to these wetlands lie 379 acres of riparian grasslands. Mixed with these areas are 153 acres of mature black cottonwood (*Populus balsamifera* ssp. *trichocarpa*) groves (with quaking aspen (*Populus tremuloides*) interspersed) with common snowberry (*Symphoricarpos albus*) and Kentucky bluegrass (*Poa pratensis*) in the understory. The west and north edges of the area are composed of about 42 acres of lava rim and big sagebrush (*Artemisia tridentata*). A 35-acre field of perennial grass is located on this rim.
The area is basically a wetland with very little water control. Water levels are dependent on the level of the Henrys Fork of the Snake River. Approximately 90% of the area floods during high water years. The only water that is Department controlled is 134.13 shares (60 inches) of 1895 water rights in the Egin Bench Canals, Inc. system. At the time of purchase, these water rights were held with the Independent Canal Company. This water is used to irrigate the 35 acres of perennial grasses, shrubs, and trees in the northeast corner of the WMA. This water has no effect on wetland water levels. The BOR owns a large well/pump (part of the Teton Project) that can deliver large volumes of water to CSWMA during times of drought.

The climate of the area is typical of the semi-arid high desert. Annual precipitation ranges from eight to 16 inches, with 12 inches average. Most of the precipitation falls as winter snow with accumulations of up to 18 inches. Winter snow depth averages about eight inches. A moderate amount of precipitation falls as spring rain. There is an average of 105 frost-free days per year. Temperatures range between -30^{o}F to 95^{o}F. Average summer highs are around 80^{o}F, and winter lows are around 15^{o}F. Freeze-up normally occurs in mid-November with river and main sloughs open until mid-December. Parts of the river and main slough remain open most of the winter. Ice depths are eight to 14 inches. Ice-out usually occurs in late March and early April, followed by flooding which may cover up to 90% of the area through May and June.

Cartier Slough WMA contains habitat important to a variety of wildlife species. Over 200 species of wildlife use the CSWMA. Canada geese and a diversity of ducks use the area for nesting, brood rearing, and staging during migration. Trumpeter swans use the area in late fall

and winter. Moose, white-tailed deer, and mule deer use the area all year. Upland game found on the area include: ring-necked pheasant, gray partridge, mourning dove, and cottontail rabbit. Beaver and muskrat can be found on CSWMA along with other furbearers such as fox and coyote. A bald eagle nest is located on the southern end of CSWMA. Cartier Slough WMA provides a secure area for foraging and roosting eagles. A diversity of shorebirds, large wading birds, and migratory songbirds use the area for nesting and foraging. Appendix VII summarizes wildlife present on CSWMA.

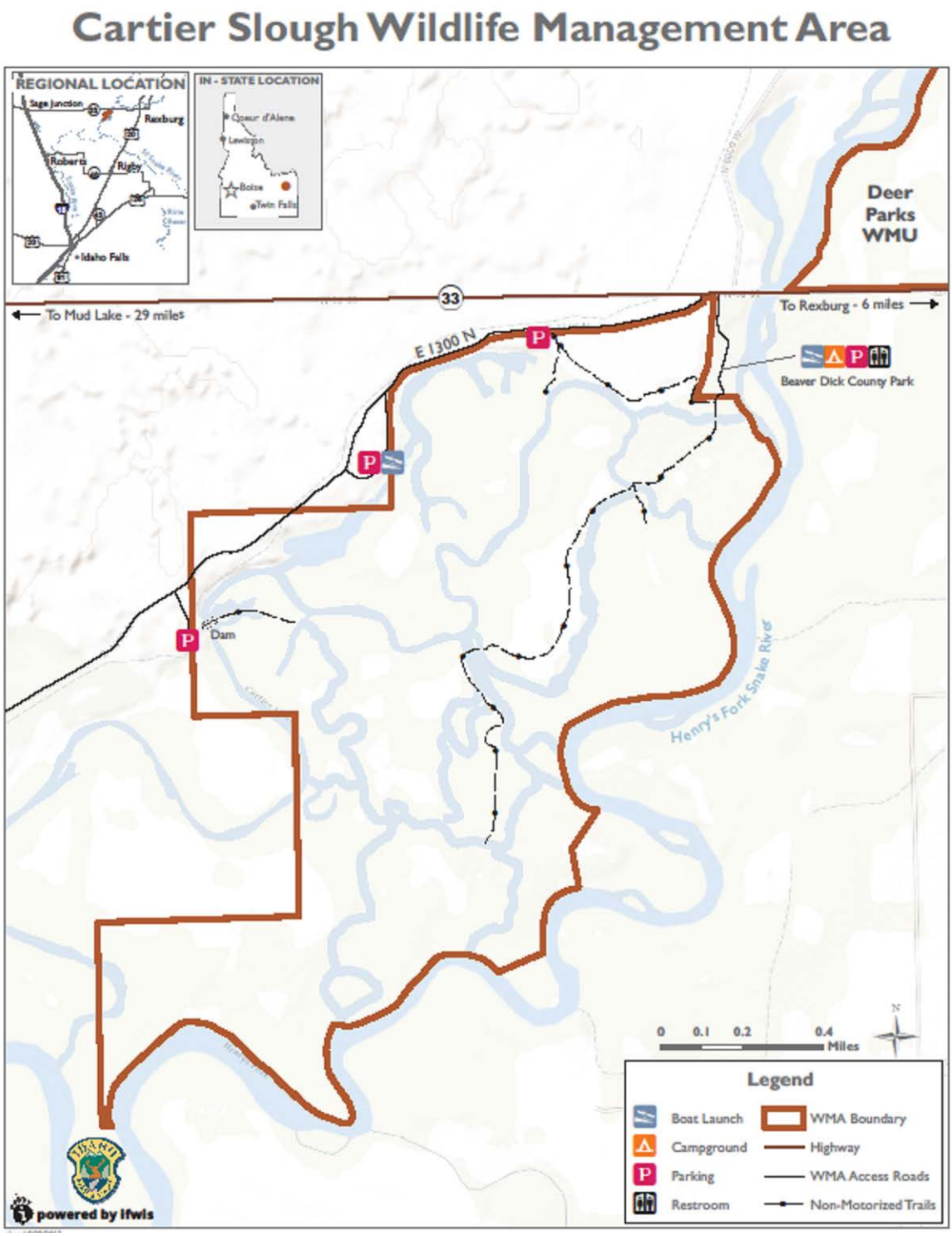

Figure 1. Map of Cartier Slough Wildlife Management Area.

Management Issues

Upper Snake Region habitat staff presented information on the WMAs in the Upper Snake Region and the preparation of the 2014 WMA plans at two big game season setting public meetings in February and March of 2012. These meetings were held in Idaho Falls and Rexburg. We created displays highlighting the WMAs, the planning process, and management issues that we had identified prior to the meetings. We encouraged the attendees to give us written comments regarding management of the WMAs and any issues they felt that we need to address in our future management. We directed attendees to the online survey available on the Department website (described below) and provided a form at the meetings for written comments.

Throughout 2012 (Feb-Dec), an online survey form was available on the Department website. The survey allowed participants to answer questions and provide feedback on WMA management statewide and the management of specific WMAs. Upper Snake Region habitat staff sent >600 emails to neighbors, cooperators, legislators, sportsmen's groups, land management agencies and concerned citizens inviting them to take the online survey. A news release was issued in the Idaho Falls newspaper inviting the public to take the online survey.

We received 49 online surveys specific to CSWMA. Of these completed surveys, 19 (39%) included suggestions for improved management of CSWMA.

In addition to management issues identified by the public during these survey processes, Department staff also identified management issues specific to CSWMA. The following is a list of all CSWMA management issues identified by members of the public or Department staff. The issues identified by the public were grouped, based on similarity, into three general categories: Habitat Management, Wildlife Management, and Public Use Management. Similar comments were then combined to form management issue statements under each category. In the section below, we summarize each management issue and discuss some potential management options on CSWMA.

Issues Identified by the Public

Habitat Management (53% of public comments) (% = # comments/ 19)

1. **Area lacks habitat for good populations of ducks, fish, and upland game birds. Develop larger sections of high quality habitat (1 comment).**

   Discussion: Cartier Slough WMA is located in a high desert precipitation zone, receiving between eight and 14 inches of annual moisture. Most of this comes in the form of snowfall. Without irrigation, establishing new vegetation is difficult. Frequent spring flooding prohibits larger spring time planting operations. Improving wetland habitat for waterbirds is addressed in this plan. These improvements will benefit all species using CSWMA.

2. Plant more food plots on CSWMA (3 comments).

Discussion: This management issue drew two distinct desires for better habitat. Two of the respondents wanted more food plots for doves. The other respondent wanted just more food plots. Cartier Slough is seasonally flooded, making food plots difficult to establish. Most times, it is not possible to get farm equipment into areas where food plots would benefit wildlife. By the time it is dry enough to plant, it is too late for plants to mature and produce seed.

3. Cartier Slough WMA should be expanded through land acquisitions (3 comments).

Discussion: The Department has an active land acquisition program for the entire state. Priority purchases are determined each year. Dependent on funding, acquisitions are acquired in priority order. The properties that comprise the Cartier Slough Complex (Figure 1) were acquired for the purpose of partial mitigation for the loss of wildlife habitat caused by construction of the Teton Dam. Using U.S. Army Corps of Engineers (COE) and BOR funding, the wildlife mitigation units were acquired from willing sellers. U.S. Bureau of Land Management (BLM) land is also included within the CSWMA and all is managed by the Department. Cartier Slough WMA is fortunate in that it has been used as a "keystone" property by the Teton Regional Land Trust (TRLT). Many easements have been established adjacent to CSWMA that will protect open space and provide for wildlife (Appendix VIII). However, we will continue to seek opportunities to add to CSWMA as we recognize that it is not large enough to provide secure habitat for all target wildlife during the varied seasonal extremes in eastern Idaho, particularly in the face of the expansion of Rexburg and its neighboring communities.

4. Improve noxious weed control on CSWMA (1 comment).

Discussion: Noxious weed management is a significant part of the overall habitat management of CSWMA. Two seasonal technicians spend a large portion of their time actively treating noxious weeds with chemical, mechanical, and biological control methods. The CSWMA manager is an active participant in the local Cooperative Weed Management Areas, participating in weed control efforts on neighboring federal lands, and working with neighboring private landowners to prevent the spread of noxious weeds onto CSWMA. Leafy spurge is the most prevalent weed in the area and at the present time we are using goat grazing as the most effective management tool for this weed. Seasonal flooding hampers efforts with biological control, as many of the control insects are lost during high water years. Weed control will continue to be a high priority for CSWMA.

5. Flood more areas for waterfowl hunting (2 comments).

Discussion: This has been a management practice in the past, until the water control structure developed a leak. It was repaired at one time, but has developed another leak. Repairs are scheduled for 2014.

6. Manage CSWMA for native vegetation (1 comment).

Discussion: There are several plant community types on CSWMA, including a mature cottonwood forest, supporting a diversity of wildlife species. The Department would like to continue to manage CSWMA as an important natural area supporting a diversity of wildlife, particularly endangered, threatened, or species of special concern, while emphasizing waterfowl habitat management. Many introduced plant species were present at the time of purchase. It has not been feasible to convert these areas to native species, considering the flooding pattern. Noxious weeds often thwart establishment of native species. Once weeds in an area are under control, we typically plant that area to native grasses.

Wildlife Management (63% of public comments)

1. Increase mule deer, moose, and elk numbers (2 comments).

Discussion: Cartier Slough WMA was purchased as mitigation for waterfowl habitat losses in other areas, therefore the priority for management of the area is for waterfowl habitat and waterfowl hunting opportunities. This will be done in a manner which does not negatively impact other wildlife using the area, particularly endangered, threatened, or species of special concern. Management practices that benefit waterfowl also benefit other waterbirds. Big game utilizing CSWMA are primarily white-tailed deer and moose. Elk occasionally use the area and mule deer are more prone to use the surrounding sagebrush areas. We will continue to strive for quality habitat focusing on CSWMA priorities, which will benefit all species using the WMA.

2. Increase game bird numbers and species for hunting (3 comments).

Discussion: Because much of CSWMA floods in the spring during high water years, there is little opportunity for crop production to enhance winter food supplies critical to upland birds. Upland bird nesting is also limited by periodic flooding. Our best opportunity to influence game bird populations may be to coordinate habitat projects with neighboring landowners. Hopefully, a new farm bill will provide funding for future projects.

3. Reduce predation, particularly wolf predation, on big game (2 comments).

Discussion: Population management designed to influence regional predator-prey dynamics is outside the scope of this specific WMA management plan. However, each big game species, including the apex predatory species (i.e., wolf, black bear, and mountain lion), have species-specific management plans that address predation management. Additionally, the Department has the "Policy for Avian and Mammalian Predation Management" that describes the Department's policy on predation management and the process utilized to develop predation management plans for specific areas. With regard to wolf management specifically, CSWMA is in the Southern Idaho wolf management zone which currently has a liberal harvest season (Aug 30 – Mar 31, two wolf tags per person) and no overall zone harvest limit. That said; there have been no verified bear, wolf, or mountain lion sightings on

CSWMA since its purchase. It is possible these predators travel the Snake River corridor and have or will at some time pass through CSWMA.

4. **Stock more pheasants (4 comments).**

   Discussion: The pheasant release program is directed by the Department state office. The program consistently operates at a deficit, making increasing the program financially problematic. As costs continue to rise, it will be difficult to maintain the current stocking rate, much less expand the program.

5. **Release ½ pheasant month early to make wild, other ½ during season (1 comment).**

   Discussion: Releasing birds does increase hunting opportunity, but the opportunity is short-lived. Research has demonstrated many times that released birds rarely recruit into the wild population. In our opinion, the best strategy for pheasant is to improve natural habitat and expand the wild population.

Public Use Management (68% of public comments)

1. **Allow more/less motorized vehicle access on CSWMA (4 comments).**

   Discussion: The public is allowed and encouraged to use CSWMA for wildlife-related activities. Most of CSWMA is currently closed to vehicular use, other than administrative needs, providing security to a variety of wildlife including big game and nesting waterfowl and to protect the fragile wetland habitats. The Department plans to continue this management, as it yields the highest benefits for recreation and for wildlife. We will continue to maintain the perimeter roads that are open for vehicle use.

2. **Provide better maps at parking areas (1 comment).**

   Discussion: Updated maps are now available at the Regional office or the map box located on the south end of Beaver Dick Park.

3. **CSWMA is too crowded or limit numbers of hunters per day (3 comments).**

   Discussion: Cartier Slough WMA is one of the smaller WMAs and is prone to overcrowding in relation to pheasant releases. We have two pheasant releases per week during pheasant hunting season. As the number of hunters purchasing a pheasant WMA permit increases, crowding increases. We currently do not have additional areas to release birds. We will attempt to decrease pressure by varying pheasant release times and days. The Management Program of this plan addresses some of these issues. All comments have been forwarded to the Wildlife Bureau for consideration.

4. **Charge more for pheasant WMA permits (1 comment).**

   Discussion: Permit and license fees are established by the Idaho Fish and Game Commission and the Idaho Legislature. We encourage our users to contact their Commissioners and legislative representatives to make these changes.

5. **Clean up the mess from target shooting, bonfires, and trash dumping (3 comments).**

   Discussion: With a major collage close by, abuse is difficult to control with the large number of young people looking for a place to party, target practice, and go four-wheeling. Most posted regulation signs are torn down and the abuse continues. This is not a super high priority with law enforcement agencies. We encourage law enforcement personnel (BLM, Department, and county sheriff) to routinely patrol the area to minimize littering, vandalism, and other illegal activities. We also encourage users to contact agency personnel when violations are observed.

6. **Have Conservation Officers patrol CSWMA more for Fish and Game violations (2 comments).**

   Discussion: Enforcement personnel cover very large districts and target areas with large numbers of hunters. Officers attempt to patrol CSWMA during peak hunting activity periods (i.e., pheasant release days, opening days of game seasons). We will continue to encourage law enforcement personnel (BLM, Department, and county sheriff) to patrol the area.

7. **Improve access to interior of the WMA (1 comment).**

   Discussion: Service roads are mowed during late summer for users. We will consider mowing more trails to improve access and include these on our WMA maps.

8. **Repair roads and develop better parking and access for duck hunters (1 comment).**

   Discussion: The main parameter road is maintained every spring. Rutting normally occurs late in the season. This Department-controlled road is kept in a useable, but low maintenance state (i.e., useable by four-wheel drive vehicles during most spring-fall weather conditions). Maintaining smooth dirt road conditions is a difficult and expensive endeavor, and improving road surfaces (i.e., gravel or pavement) would be even more expensive. Funds spent on additional road maintenance and/or improvement would come from funds that would otherwise be spent on CSWMA priorities such as habitat improvements and land acquisitions. At this time, CSWMA does not intend to divert significant funds away from the core priorities to increase road maintenance, but will continue to maintain CSWMA-controlled roads in a useable, low maintenance state. Really problematic sections of roads will be improved as funding and priorities allow. Other side roads are on BLM property and not the Department's responsibility. However, we will work with BLM to maintain roads that help to meet the objectives of CSWMA. Parking areas are available at major water areas. Fence stiles are positioned in various locations along the boundary fences for user access.

Other planned access methods for people and horses are included in the Management Section of this plan.

9. **Install waterfowl hunting blinds along the river (1 comment).**

   Discussion: At this time, the Department does not plan to develop hunting blinds along the river. High water years would destroy any blind within the high water line. If demand increases, the Department will look into constructing permanent blinds around inland water bodies that would not be damaged during flooding. At the present time, anyone can construct or erect a blind on CSWMA. Blinds are to be constructed of natural materials. No artificial fasteners, such as nails, wires, or rope are allowed. Soils cannot be disturbed and trees cannot be cut or altered. These blinds shall be available to the public on a "first-come – first-serve" basis. Portable blinds are welcome, but must be removed each day.

Public Comments on Draft Plans

In April 2014, the draft WMA plans were made available to the public for comment. The comment period closed on June 10, 2014. Cartier Slough WMA received input on the draft plan from a total of two individuals. Both strongly agreed with the way the plan was written.

The Department received one comment from Idaho Conservation League. They were concerned with ensuring that each WMA plan considered the landscape in which it resides and non-consumptive wildlife uses. They had no comments specific to CSWMA. Significant portions of all WMA plans are dedicated to landscape scale planning. In fact, each focal species/habitat selected has an associated landscape. The CSWMA plan also incorporates wildlife viewing as a priority recreational pursuit. We believe that we have addressed these two issues very clearly.

Issues Identified by the Department

1. **The Irrigation ditch between the headgate and Hwy 33 has been widened by cattle watering to the point that water velocity is too low to push water under the highway and to the north 35 acre agriculture field efficiently.**

   Discussion: The channel hits bedrock most of the way. The most efficient method of increasing water delivery would be piping the water. This will alleviate cattle damage, water seepage and evaporation loss.

2. **Many of the channels have silted in over the last 10 years. This causes large areas to dry up quickly during low water years.**

   Discussion: Holding water in larger pools later in the year provides more usable habitat for waterbirds and additional opportunity for waterfowl hunters. The islands created in one of the channels for waterfowl nesting are no longer secure. Deepening channels will enhance wildlife and recreational use and we identify strategies in the Management Section of this plan to address this issue.

3. **Seasonally wet low land areas dry out during the summer.**

   Discussion: Installing water control structures in areas that have hydric soils could maintain wet soil areas and shallow wetlands for waterbirds. The ability to control water levels would enable the production and availability timing of seed producing plants and water bugs. Some areas could be deepened and enlarged, compounding benefits. We identify strategies in the Management Section of this plan to address this issue.

4. **The main water control structure still leaks and cannot hold water until winter.**

   Discussion: Repairs have been attempted in the past by the Department's engineering crew, but have not been successful for long-term solutions. We identify strategies in the Program Management Section of this plan to address this issue.

Cartier Slough WMA Management Programs

The Department is responsible for the conservation, protection, perpetuation, and management of all wildlife, fish, and plants in Idaho. Wildlife Management Areas enable the Department to directly affect habitat to maximize suitability for species in key areas and are an integral component in the Department's approach to fulfill its mandate in Idaho Code. Management to restore and maintain important natural habitats and create hyper-productive habitats that enhance carrying capacity for selected wildlife species remain key strategies on CSWMA. However, the most pervasive threats to WMA ecological integrity, such as noxious weeds, rural residential/commercial development, increased water diversion, and conflicting land uses on public lands, typically come from outside the WMA's boundary. Therefore, WMA managers must recognize and create opportunities to collaborate with adjacent landowners, expanding our collective conservation efforts for WMA-dependent wildlife.

An effective way to enable a broader influence over the future of CSWMA is through the use of Conservation Targets to guide management. Conservation Targets could be either a focal species or a habitat-type that benefits numerous species. According to Noss et al. (1999), focal species are those used by resource managers to determine the appropriate size and configuration of conservation areas. Conservation of species within landscapes used for other enterprises such as forestry, recreation, agriculture, grazing, and commercial development requires managers to determine the composition, quantity, and configuration of landscape elements required to meet the needs of the species present (Lambeck 1997). Since it is impractical to identify key landscape elements for all species dependent on CSWMA, a carefully selected suite of Conservation Targets can help provide for the conservation needs of many species. Additionally, identifying landscape-scale Conservation Targets across ownership boundaries helps address wildlife-related issues on CSWMA and creates a platform for conservation partnerships on the surrounding landscape.

The following six-step process was used to create the CSWMA management program described in this plan. Each of these steps is described in detail on the ensuing pages.

1) Summary of Management Priorities
2) Focal Species Assessment
3) Selection of Conservation Targets
4) Coverage Assessment of Selected Conservation Targets
5) Spatial Delineation of Conservation Target Landscapes
6) Creation of Management Program Table

Summary of Management Priorities

Cartier Slough WMA, like many other WMAs, was created for a specific purpose and therefore has inherent management priorities incorporated in the cooperating agency agreements and land

ownerships that formed the WMA. Cartier Slough WMA is a wetland/riparian/grassland complex purchased by the COE and BOR in 1976 and 1977, respectively, as mitigation for wetland/waterfowl losses resulting from construction of Ririe Dam and Teton Dam. Cartier Slough WMA is managed primarily as habitat for wetland-dependent species. Cartier Slough WMA is also managed to provide public access for wildlife-based recreation.

Legal mandates associated with the 2001 appropriation of federal funding for the State Wildlife Grants program also guide the Department's management priorities. The U.S. Congress appropriated federal funds through the State Wildlife Grants program to help meet the need for conservation of all fish and wildlife. Along with this new funding came the responsibility of each state to develop a State Wildlife Action Plan (SWAP). The Department coordinated this effort in compliance with its legal mandate to protect and manage all of the state's fish and wildlife resources (IDFG 2005). The SWAP does not distinguish between game and nongame species in its assessment of conservation need and is Idaho's seminal document identifying species at-risk. Therefore, at-risk species identified in the SWAP, both game and nongame, are a management priority for the Department.

In addition to the biological goals of preserving, protecting, and perpetuating all fish and wildlife in the state of Idaho, the Department also has a statewide goal of protecting and improving wildlife-based recreation and education. The Department's strategic plan, *The Compass*, outlines multiple strategies designed to maintain or improve both consumptive (e.g., hunting, trapping, fishing) and non-consumptive (e.g., wildlife watching) wildlife-based recreation opportunities across the state.

Taking the biological and funding resources of CSWMA into consideration, in concert with the foundational priorities of CSWMA and statewide Department priorities, the Department developed the following list of broad-scale CSWMA Management Priorities.

Cartier Slough WMA Management Priorities:

1. Waterbird Habitat
2. Wildlife-based Recreation and Education

Focal Species Assessment

This section of the CSWMA Plan is an assessment of various conservation priority fish and wildlife species on CSWMA and adjacent Lower Henrys Fork of the Snake River watershed in order to identify focal species to guide management. Table 1 evaluates taxa that are either flagship species (Groves 2003) and/or at-risk species identified by the Department in the Idaho Comprehensive Wildlife Conservation Strategy/SWAP (IDFG 2005) and key federal agencies.

Flagship species are popular, charismatic species that serve as symbols and catalysts to motivate conservation awareness, support, and action (Heywood 1995). Flagship species often represent a landscape or ecosystem (e.g., Upper Snake River watershed or river bottom ecosystems), a threat (e.g., habitat loss or climate change), organization (e.g., state government or non-government

organization) or geographic region (e.g., protected area, Department Region or state; Veríssimo et al. 2009).

A principal limitation of the flagship species concept is that by focusing limited management resources on culturally and economically important species, more vulnerable species may receive less or no attention (Simberloff 1998). To overcome this limitation, we are explicitly considering a wide variety of at-risk species (Groves 2003); yielding a more comprehensive assessment that includes culturally and economically important species (e.g., mule deer and elk) along with formally designated conservation priorities (e.g., bald eagle and sage-grouse). Categories of at-risk vertebrate species considered in this assessment are: 1) species designated as Idaho Species of Greatest Conservation Need (SGCN); 2) species designated as Sensitive by Region 4 (Intermountain Region) of the U.S. Forest Service (USFS); and 3) species designated as Sensitive by the Idaho State Office of the BLM.

The Idaho SGCN list was developed as part of the Idaho Comprehensive Wildlife Conservation Strategy (IDFG 2005). The Comprehensive Wildlife Conservation Strategy document is now referred to as the SWAP. Idaho's plan serves to coordinate the efforts of all partners working toward conservation of wildlife and wildlife habitats across the state.

Although the Idaho SWAP SGCN includes most of the special status species identified by land management agencies in Idaho, some species not listed as SGCN are considered priorities by other agencies. The Upper Snake River watershed, including CSWMA, is a mosaic of land ownerships including private lands, BLM lands, TRLT easements, and lands managed by the Department. BLM and TRLT are key partners in this landscape as their management actions directly influence ecological function on CSWMA. To maximize coordination, communication, and partnership opportunity, we include both USFS and BLM Sensitive Species in our biodiversity assessment.

United States Forest Service Sensitive Species are animal species identified by the Intermountain Regional Forester for which population viability is a concern, as evidenced by significant current or predicted downward trends in population numbers or significant current or predicted downward trends in habitat capability that would reduce a species' existing distribution. The Forest Service Manual (FSM 2670.22) directs the development of sensitive species lists. This designation applies only on USFS–administered lands.

Bureau of Land Management Sensitive Species are designated by State Directors in cooperation with the State fish and wildlife agency (BLM manual 6840). The Idaho State BLM Office updated these designations in 2003. The sensitive species designation is normally used for species that occur on BLM public lands and for which BLM has the capability to significantly affect the conservation status of the species through management.

Information on species status, occurrence, beneficial management/conservation actions and threats were derived through consultation with Department Regional Habitat, Fisheries, and Wildlife staff; occurrence records in the Department's Idaho Fish and Wildlife Information

System database; consultation with various BLM and USFS species lists, and species summaries provided in the Idaho SWAP.

Suitability of assessed species as a focal species were estimated by Upper Snake Regional Habitat and Diversity staff based on descriptions in Groves (2003) and the USFWS (2005). Potentially suitable focal species may include species with one or more of the following five characteristics:

- *Species with high conservation need*
- *Species or habitats that are representative of a broader group of species sharing the same or similar conservation needs*
- *Species with a high level of current program effort*
- *Species with potential to stimulate partnerships*
- *Species with a high likelihood that factors affecting status can realistically be addressed* (USFWS 2005)

Table 1. Status of flagship and special status species on Cartier Slough WMA, including their potential suitability as a focal species for management.

Species	Status Designation(s)	Occurrence Context in Cartier Slough WMA Landscape	Threats	Beneficial Management and Conservation Actions	Suitability as a Focal Species for Cartier Slough WMA
Mammals					
Idaho Pocket Gopher (*Thomomys idahoensis*)	SGCN,G4, S3	Undocumented on CSWMA. Presence is possible based on available habitat.	Population distribution in Idaho is mostly undocumented. However, loss of shrub steppe and grassland habitats in the range of this species is likely a factor affecting conservation.	The primary recommended actions in Idaho's SWAP are documenting population distribution and initiating efforts to better document habitat associations.	***Unsuitable as a focal species***. Limited information on distribution in the project area. Unknown distribution limits potential management feedback.
Moose (*Alces alces*)	Flagship	Moose are commonly found across Deer Parks WMU, but exact densities are unknown. Movement along the river corridor is frequent and populations cross the river at will.	Development on the River Corridor poses the greatest threat to this population as well as vehicle collisions. Harvest numbers are well managed.	Protection of river corridors as natural areas would benefit this population of moose the most. Agricultural crops offer a large portion of their diet. Retaining the dense willow and dogwood stands greatly enhances winter habitat.	***Potentially suitable as a focal species***. Moose are a relatively abundant animal on CSWMA and are dependent on habitats that are representative of a broader group of species sharing the same or similar conservation needs.
Bat Guild	SGCN; BLM Sensitive and Watch List, Type 5, G4, G5, S2	California Myotis (*Myotis californicus*), Fringed myotis (*Myotis thysanodes*), Long-eared myotis (*Myotis evotis*), Long-legged myotis (*Myotis volans*), Western small-footed myotis (*Myotis cilliolabrum*), Yuma myotis (*Myotis yumanensis*), Townsend's big-eared bat (*Corynorhinus townsendii*). Cartier Slough WMA could provide important foraging habitat and maternity habitat for some of these species.	Individuals are long-lived and exhibit low reproductive potential. Roost sites tend to be colonial, and may be limiting in some areas; aggregations are susceptible to disturbance and intentional persecution. High prey densities are often associated with wetlands and other highly productive habitat. Habitat use rates and, at the population level, survival and recruitment rates likely track aerial insect prey availability. Accessible surface water also likely affects local distribution and abundance. Local populations potentially affected by wind turbine installations situated in flyways or near high-use areas, such as wetlands or roosts.	Minimize broad-spectrum insect control activities that reduce prey base. Where possible, document natural roosting habitat such as cliffs. Create day-and night-roosting habitat through installation of bat boxes. Deploy escapement devices on troughs and water tanks, and develop natural and artificial pooled water sources. Track with ongoing efforts of the East Idaho Bat Working Group to identify opportunities to mitigate bat mortalities from wind energy development.	***Unsuitable as a focal species.*** Unknown scope of occurrence and composition of guild on CSWMA, data gaps would require preliminary work to determine the extent of occurrence.
Birds					
Greater Sage-grouse (*Centrocercus urophasianus*)	BLM Sensitive, SGCN, USFS Sensitive, ESA Candidate	Sage-steppe portions of CSWMA provide suitable habitat for Greater Sage-grouse. No leks have been located on the WMA, but there are active leks north of Hwy 32. CSWMA is identified as "Important" sage-grouse habitat in the Governor's plan and in BLM's Preliminary Priority Habitat (PPH).	Loss, degradation, and fragmentation of sagebrush habitat are the major threats to the greater sage–grouse in Idaho. Habitat degradation factors include alteration of historical fire regimes, conversion of sagebrush habitat, water developments, use of herbicides and pesticides, invasive species, urbanization, energy development, mineral extraction, and recreation.	Identify, protect, and maintain existing sagebrush seasonal habitats particularly breeding and winter habitats. Identify new lek/breeding habitats in the CSWMA vicinity. Where possible, restore damaged and lost sage-steppe habitat. Manage projects to significantly reduce fragmentation of existing sagebrush habitats and to reduce human disturbance. Continue to monitor the leks near CSWMA.	***Unsuitable as a focal species.*** Sage-grouse have a high conservation need and are representative of a group of species sharing similar conservation needs. They have a high level of current Department program effort and are a species with potential to stimulate partnerships. However, sage-rouse numbers on and around CSWMA are suppressed, making management changes difficult to measure.

Species	Status Designation(s)	Occurrence Context in Cartier Slough WMA Landscape	Threats	Beneficial Management and Conservation Actions	Suitability as a Focal Species for Cartier Slough WMA
Loggerhead Shrike (*Lanius ludovicianus*)	BLM type 3,	Loggerhead shrikes are seen occasionally on CSWMA.	Loss of grassland habitat, degradation and loss of nesting trees/shrubs within grasslands, degradation of foraging habitat due to overgrazing, low reproductive success due to reductions in prey base (grasshoppers and beetles) due to pesticides.	Protect or restore grassland habitat with scattered trees or shrubs. Avoid overgrazing by livestock and minimize use of pesticides to control grasshoppers (Wiggins 2005)	***Unsuitable as a focal species***. Limited information on distribution in the project area. Unknown distribution limits potential management feedback.
Long-billed Curlew (*Numenius americanus*)	BLM Type 5, SGCN, IWJV, G5, S2B	Long-billed curlews are uncommon on CSWMA. No nesting has been documented.	The greatest threat to long-billed curlew in Idaho is loss of habitat. Conversion of grasslands to croplands, residential development, and increasing recreational use have all resulted in losses of suitable habitat in Idaho.	Identify curlew nesting and brood-rearing areas on CSWMA and vicinity. Protect nesting areas from fragmentation and human disturbance from approximately mid-April to mid-June.	***Unsuitable as a focal species***. Limited information on distribution in the project area. Unknown distribution limits potential management feedback.
Merlin (*Falco columbarius*)	G5, S2B, S2N	Merlins are rare on CSWMA.	Loss of nesting sites. Competition with other raptors.	Provide nesting boxes. Cottonwood trees provide cavities for nesting	***Unsuitable as a focal species***. Limited information on distribution in the project area.
Migratory and Foraging Waterbird Guild	SGCN; IWJV	Cartier is an important component to the larger Mud Lake WMA/Market Lake WMA waterbird breeding complex. Cartier has some waterbird breeding (mostly waterfowl), but its primary importance in the larger landscape may be as foraging and transitional habitat. Cartier Slough WMA provides transitional habitat for many Idaho Waterbird, SGCNs including: common loon, northern pintail, lesser scaup, Barrow's goldeneye, hooded merganser, Clark's grebe, red-necked grebe, American white pelican, great egret, snowy egret, cattle egret, black–crowned night heron, American avocet, Wilson's phalarope, Franklin's gull, California gull, Caspian tern, Forster's tern, black tern, black-necked stilt, spotted sandpiper	Cartier is important to foraging white-faced ibis and foraging habitat may be a limiting factor for the persistence of this species. Cartier also provides state protected shallow wetland habitat which provides good natural spring migration foraging habitat that complements managed food plots at Deer Parks WMU.	Better characterize the importance of CSWMA to the transitional waterbird and foraging guild by quantifying occurrence/use during ice free periods on inland sloughs and the Henrys Fork of the Snake River. Explore opportunities for improving foraging habitat with plantings and water control structures. Evaluate the impacts of early spring boating recreation on the transitional waterbird guild.	***Potentially Suitable as a focal species***. Cartier supports foraging habitat for a variety of SGCN waterbird species.
Peregrine Falcon (*Falco peregrinus anatum*)	BLM Type 3, SGCN, USFS R4 Sensitive, G4T4, S2B	Peregrine falcons are rare on CSWMA.	Loss of habitat, particularly at cliff nest sites or adjacent wetlands, is a key threat to peregrine falcons. Disturbance at nest sites during breeding is also a threat to this species.	Cartier Slough WMA and the surrounding area have very limited natural nesting habitat for peregrines. The WMA and surrounding habitats provide an abundant prey base for peregrines. WMA and area use by peregrines is poorly understood.	***Unsuitable as a focal species.*** Limited information on use of CSWMA by peregrines limits the potential value of management feedback.
Prairie Falcon (*Falco mexicanus*)	BLM Sensitive	There are no documented active prairie falcon nests on CSWMA.	Habitat loss from rural-residential development and large-scale agricultural development adversely impacts prairie falcons particularly in areas where ground squirrels are important forage species. Human disturbance is a frequent cause of nest failure.	Management that minimizes disturbance near cliff nesting areas will benefit breeding prairie falcons and other raptors. Enhancement/maintenance of steppe and grassland habitats (and activities that benefit ground squirrels, rodents and small upland birds) will benefit foraging prairie falcons.	***Unsuitable as a focal species.*** Breeding prairie falcons can be a valuable indicator of human disturbance, particularly from recreation and management activities. The lack of a breeding pair on CSWMA would make management feedback difficult

Species	Status Designation(s)	Occurrence Context in Cartier Slough WMA Landscape	Threats	Beneficial Management and Conservation Actions	Suitability as a Focal Species for Cartier Slough WMA
Sandhill Crane (*Grus canadensis*)	SGCN, IWJV, G5, S3B	Cartier Slough WMA provides breeding and migrational stop over habitat for the sandhill cranes in the Rocky Mountain Population (RMP).	Greatest threat to RMP cranes is loss of migration-staging habitat. However, loss and degradation of wetland/riparian breeding habitat is also an issue.	Protect and restore wetland/riparian habitat for breeding sandhill cranes. Document breeding locations on the WMA, including nesting brooding locations.	***Potentially suitable as a focal species***. Occurrence context on Cartier Slough WMA does not reflect main threats to the population. Lack of knowledge limits potential management feedback.
Short-eared Owl (*Asio flammeus*)	BLM Type 5, SGCN,G5, S4	Suitable breeding and foraging habitat is present on CSWMA and immediate vicinity. Short-eared owls are common breeders in this landscape. Species is known to be nomadic; therefore additional suitable habitat may be unoccupied in some years.	As ground-nesters (often in loose colonies), the short-eared owl is particularly vulnerable to habitat loss and degradation, and human disturbance. Residential, commercial, transportation, utility, and agricultural development of suitable nesting habitats are key factors in local short-eared owl population declines. Timing of agricultural activities such as tilling, mowing, burning, etc. can adversely affect short-eared owls breeding in agricultural areas. Because of their low-flying hunting technique and colonial tendencies, populations of short-eared owls in proximity to roads are potentially subject to high mortality due to vehicle collisions.	This species benefits from any actions or projects that protect, enhance, or restore potentially suitable foraging and breeding habitats. Projects designed to benefit other grassland and shrub-steppe species (e.g., greater sage-grouse, mule deer) also will benefit short-eared owls. Monitoring for use of agricultural lands prior to ground disturbing actions also would benefit the short-eared owl.	***Unsuitable as a focal species***. Nomadic ecology makes population monitoring difficult. Limited information on distribution in the project area. Unknown distribution limits potential management feedback
Swainson's Hawk (*Buteo swainsoni*)	BLM Type 5, SGCN, IWJV, G5, S3B	CSWMA is important nesting habitat for Swainson's hawks.	Main threats are vulnerability of this species as it congregates in large numbers during migration and on the wintering grounds (e.g., Argentina). On breeding grounds, conversion of native grasslands to crops can degrade or eliminate nesting habitat. Development of wind farms may cause direct mortality if migrating hawks collide with turbines during spring and fall migration.	Maintain and/or restore native grasslands in order to retain adequate foraging and nesting habitats. Avoid disturbance to nest trees during breeding. Migration corridors should be identified and important stopover habitat protected. Better data on mortality rates of migrating Swainson's hawks (and other raptors) as a result of wind farm development are needed.	***Unsuitable as a focal species***. Occurrence context on Cartier Slough WMA does not reflect the main threats to Swainson's hawk (e.g., vulnerability on migration and wintering grounds). Limited and unquantified seasonal occurrence on CSWMA limits potential management feedback at the focal species scale.
Trumpeter Swan (*Cygnus buccinator*)	Flagship SGCN BLM Type 3, USFS R4 Sensitive, USFWS State Imperiled Species Type 3, IWJV, G4,S1B, S2N	Populations have expanded throughout the Rocky Mountain region. CSWMA has become an important winter stop over. No nesting has occurred on the CSWMA although suitable habitat may exist	Maintain winter feed sources and protection from human disturbances during critical winter periods.	Current distribution is expanding. Wintering food sources decrease as this population increases. Too many swans on small wintering areas have depleted food sources increasing winter mortality. Increased dependence on waste potatoes in local fields could lead to heavy winter morality if unavailable due to extreme winter conditions.	***Potentially Suitable as a focal species.*** Trumpeter swans will require increased secure nesting and winter habitat if the population is to increase and expand.
Western Burrowing Owl (*Athene cunicularia hypugaea*)	BLM Type 5, SGCNG4T4,S3S4	Are rare on CSWMA.	Burrowing owls breed in open, well-drained grasslands, prairies, farmlands, steppes, and may have some association with irrigated agriculture. In Idaho, burrowing owls typically use burrows excavated by badgers. Loss of nesting habitat through urbanization and agricultural conversion is a serious threat throughout Idaho. Pesticides are a potentially significant threat to this species as it often nests close to agricultural fields.	Many of the recommended conservation actions in Idaho's SWAP relate to statewide population assessments or monitoring to better understand threats. However, management that identifies nesting areas, limits human disturbance in known nesting areas and reduces exposure to pesticides will benefit nesting burrowing owls on CSWMA.	***Unsuitable as a focal species***. Occurrence context on CSWMA does not reflect main threats to the population. Also, limited information on occurrence and us of CSWMA limits potential management feedback.

Species	Status Designation(s)	Occurrence Context in Cartier Slough WMA Landscape	Threats	Beneficial Management and Conservation Actions	Suitability as a Focal Species for Cartier Slough WMA
White-faced Ibis (*Plegadis chihi*)	BLM Type 4, SGCN, IWJV, G5, S2B	Cartier Slough WMA provides some foraging opportunities on flooded areas, but does not currently have any active nesting.	Loss of foraging resources as the amount of flood irrigated lands decreases in the region.	Maintain mud flats and other foraging areas through water control methods	***Potentially Suitable as a focal species.*** Ibis require flooded areas for foraging, which CSWMA provides in limited quantities. Future projects could increase this.
Reptiles and Amphibians					
Common Garter Snake (*Thamnophis sirtalis*)	BLM Sensitive Type 3	Occurs on CSWMA but context of occurrence is poorly documented.	Threats to common garter snakes are most likely related to loss and degradation of riparian and wetland habitats and hibernacula.	Management that protects, restores or improves riparian and other wet habitats and enhances prey species availability (i.e., earthworms, insects, amphibians, and small mammals) will benefit common garter snake. Identifying and protecting hibernacula will also benefit common garter snake.	***Unsuitable as a focal species.*** Limited information on utilization of CSWMA habitats limits the potential value of management feedback.
Northern Leopard Frog (*Rana pipiens*)	BLM Sensitive; SGCN, G5,S2	Several documented occurrences on CSWMA and vicinity. Current population status is unknown.	Wetland protection and/or restoration of degraded sites are beneficial; a comprehensive understanding of population status is needed; amphibian survey (including disease monitoring) is scheduled in the Upper Snake Region for 2013. This investigation may identify future regional conservation recommendations.	Loss and degradation of wetland and riparian habitat is the most prevalent threat to populations. Introduced competitors and predators can cause amphibian population declines and losses. Disease is also a concern, particularly the chytrid fungus, *Batrachochytrium dendrobatidis*.	**Potentially suitable as a focal species.** Species is important indicator of riparian and wetland systems in southeast Idaho, the stronghold for this species in Idaho. Continued persistence in the drainage would help guide priorities for riparian and wetland conservation. If this species is found to have been extirpated from the drainage, it would be an appropriate lynchpin for riparian restoration and indicator of success in longer term.
Fish					
Yellowstone Cutthroat Trout (*Oncorhynchus clarkii bouvieri*)	USFS Sensitive; BLM Sensitive; SGCN, Type 2	Occurs in the South Fork of the Snake River bordering Cartier Slough WMA	Reduction in historically occupied range, habitat loss or degradation, fragmentation of current habitat, and isolation of existing populations, and hybridization with rainbow trout (IDFG 2005)	Maintain YCT population distribution and trend monitoring program	***Unsuitable as a focal species.*** Yellowstone cutthroat trout require well–oxygenated water; clean, well–sorted gravels, with minimal fine sediments for successful spawning; and a complexity of instream and riparian habitat.
Invertebrates					
Desert Valvata (*Valvata utahensis*)	G5, S1B, S2N, Type 1	During recent surveys, colonies were documented at sites as far upstream as the lower Henry's Fork (Fields 2005). Population densities in occupied habitat have ranged from eight to 536 individuals per m2 (Fields 2005, Frest and Johannes 1992, U. S. BOR 2002).	Habitat loss is a prevalent threat to populations. Eutrophication of the Snake River has resulted from agricultural effluence, freshwater aquaculture inputs, and residential and Industrial developments. Dams have altered the temperature and flow characteristics of the river. Introductions of exotic mollusks are also a threat. Alteration of the aquatic habitat has favored introduced mollusk competitors, notably the New Zealand mudsnail.	protection of the remaining free-flowing mainstem and cold-water spring habitats in occupied reaches of the Snake River, stabilization of water levels, improvement of water quality, augmentation of flows above Milner Dam, and control of exotic species (USFWS 1995).	***Unsuitable as a focal species.*** Limited information on utilization of CSWMA habitats limits the potential value of management feedback.

Species	Status Designation(s)	Occurrence Context in Cartier Slough WMA Landscape	Threats	Beneficial Management and Conservation Actions	Suitability as a Focal Species for Cartier Slough WMA
Columbia Pebblesnail (*Fluminicola fuscus*)	SNR, G3,Type 3 **Prepared by**: Nancy Duncan, April 2008 Edited by: Rob Huff, February 2009	Locations of watersheds documented by National Heritage Database: Upper Snake-Rock (17040212), Payette (17050122), Lower Snake-Asotin (17060103), Lower Salmon (17060209), Middle Columbia-Hood (17070105), Lower Deschutes (17070306), Lower Willamette (17090012). See also Figure 11 distribution map in Hershler and Frest, 1996. Other similar specimens from the Great Basin of Utah, including the middle and upper Snake River above the River of No Return, are better assigned to one or more undescribed species.	Impoundments created by dams and other structures which create oxygen-poor conditions can create unsuitable habitat for this species. Waste-water or agricultural run-off into rivers can also create nutrient-rich conditions which are unfavorable to this species. Pollutants from pulp mill effluents or metal smelting discharges harmful.	Limit waste water outflow and agricultural runoff into rivers which may add nutrients and other pollutants to water. Avoid new construction of dams or other structures which slow water flow and cause reduced oxygenation. Found in larger tributaries and rivers, on upper surfaces of stable rocks, boulders and bedrock outcrops in fast current, in relatively shallow water. Species requires cold water with high oxygen content	***Unsuitable as a focal species*.** Limited information on utilization of CSWMA habitats limits the potential value of management feedback.

Selection of Conservation Targets

The biodiversity of CSWMA is represented by numerous vertebrates, invertebrates, plants, and ecological communities. It is impractical to evaluate and plan for the conservation of all these elements. Therefore, Conservation Targets, a sub-set of species and communities, were selected to represent the biodiversity of CSWMA for management and conservation; while still reflecting the management priorities of CSWMA.

Conservation Targets for the CSWMA Management Plan were selected from species ranked as potentially suitable focal species in Table 1. Invertebrates and plants are not included in this assessment due to practical considerations including lack of data and funding. Conservation Targets could also include habitats that effectively represent suites of the flagship and special status species evaluated in Table 1, regardless of their potential suitability as a focal species. A final consideration in the selection of Conservation Targets was the best professional judgment of the Upper Snake Regional Habitat Manager and CSWMA staff. Effective Conservation Targets cannot be selected based solely on species assessments. They must reflect regional threats, priorities, existing conservation partnerships, and the limitations of WMA personnel and funding.

The Conservation Targets selected to guide management on CSWMA (corresponding CSWMA Priority in parentheses) are:

1. Migratory Waterbirds (northern pintail, lesser scaup, barrow's goldeneye, hooded merganser, Clark's grebe, red-necked grebe, American white pelican, American avocet, Wilson's phalarope, black-necked stilt, trumpeter swan, spotted sandpiper, white-face ibis)
2. Henrys Fork River Riparian Habitat (yellow-billed cuckoo, bald eagles, yellow warbler, and black-capped chickadee)

Migratory Waterbirds

Migratory Waterbirds were selected as a Conservation Target on CSWMA because:

- Sixty-three percent of the species evaluated in Table 2 will benefit from efforts to enhance wetlands for migratory waterbirds.
- Migratory waterbirds can be counted and monitored on CSWMU and the adjacent landscape.
- Wetland habitat restoration and conservation for migratory waterbirds can be spatially monitored by Department staff.
- Waterbirds – (specially-breeding waterfowl: mallard, northern pintail, and Canada geese) are flagship species and are the primary foundational priority for the creation of CSWMA.
- Given the high species value of migratory waterbirds (particularly of priority species such as northern pintail, white-faced ibis, mallard, sandhill crane, trumpeter swan, etc.), wetland restoration and conservation partnerships are very achievable.

Our vision for migratory waterbird wetlands is a healthy and functioning habitat that provides linkage and habitat continuity throughout the watershed. Improving or maintaining highly functional marshes and meadows has the potential to directly benefit many species including moose, white-tailed deer, northern leopard frog, and other species not identified in the focal species assessment table. Thus, selecting wetlands for migratory waterbirds as a focal habitat serves as an umbrella for conservation and has a high probability of improving habitat for a large number of species.

Henrys Fork River Riparian Habitat

Henrys Fork River riparian habitat was selected as a Conservation Target on CSWMA because:

- Eighty-one percent of the species evaluated on Table1 will benefit from efforts to protect and/or restore river riparian habitats.
- River riparian habitat can be mapped and monitored on CSWMA and the adjacent landscape.
- River riparian habitat restoration and conservation can be spatially monitored by Department staff.
- Given the high species value of river riparian habitats—particularly of priority species such as bald eagles, yellow-billed cuckoos, yellow warbler, etc.,—river riparian restoration and conservation partnerships are very achievable.
- The yellow-billed cuckoo is an important indicator species used to monitor environmental health of surrounding habitats.

Our vision for river riparian areas is healthy and functioning habitats that provide linkage and habitat continuity throughout the watershed. Improving or maintaining highly functional river riparian areas has the potential to directly benefit many species including white-tailed deer, northern leopard frog, and other species not identified in the focal species assessment table. Thus, selecting river riparian as a focal habitat serves as an umbrella for conservation and has a high probability of improving habitat for a large number of species.

Coverage Assessment of Selected Conservation Targets

Analysis of the amount of coverage that a Conservation Target provides toward conservation of other species is essential to determining if the selected targets are likely to be effective. For this analysis, Conservation Targets were carefully evaluated to determine what other species would benefit from management actions taken to conserve the target. Table 2 indicates that the suite of species and habitats selected for Conservation Targets on CSWMA satisfy beneficial management and conservation actions and address threats for a number of species examined as potential focal species.

We also determined that the songbird guild is underrepresented in the conservation target assessment. Yet CSWMA plays an important international role as songbird migration stopover habitat. We have added this guild to our Management Program.

Table 2. Analysis of Conservation Target coverage and identification of conservation needs.

	Conservation Targets[a]		
Species Assessed in Table 1	**Migratory Waterbirds**	**River Riparian**	**Conservation Need**
Idaho Pocket Gopher		P	Yes
Moose	X	X	
Myotis and Bat Guild	P	X	Yes
Bald Eagle	P	X	Yes
Breeding Waterfowl Guild	P	P	
Brewer's Blackbird	X	X	
Brewer's Sparrow			Yes
Greater Sage-grouse	P	P	Yes
Loggerhead Shrike	P	X	
Long-billed Curlew	P	P	
Merlin	P	X	
Migratory & Foraging Waterbird Guild	P	P	
Prairie Falcon	P	P	Yes
Peregrine Falcon	P	P	Yes
Sandhill Crane	X	X	
Short-Eared Owl	P	P	
Swainson's Hawk	P	P	
Trumpeter Swan	P	P	Yes
White-face Ibis	P	P	Yes
Western Burrowing Owl			Yes
Common Garter Snake	X	X	
Northern Leopard Frog	X	X	
Yellowstone Cutthroat Trout		P	
Desert Valvata		P	
Columbia Pebblesnail		P	

[a] Entries marked with "X" indicate that the majority or all habitat needs for an assessed species within the management landscape are being met by management actions benefitting the Conservation Target. Entries marked with "P" indicate only a portion of the species habitat needs are being met by management actions for the Conservation Target. Conservation needs exist where target-specific management actions provide little or no tangible habitat benefit for an assessed species. Blank cells under conservation targets may indicate a conservation need or where dissimilar habitat needs preclude conservation benefits.

Spatial Delineation of Conservation Target Landscapes

Focal species selected as Conservation Targets for CSWMA also utilize habitats off of CSWMA to meet their annual needs. In the case of the migratory animals, the species that will benefit from improved wetland habitats also range off of CSWMA. Therefore, it is crucial that we actively participate in habitat conservation efforts within the landscape, beyond the borders of CSWMA, if we are to maintain the integrity of the WMA itself. Examples would be: Trumpeter swan that utilizes CSWMA's open water as winter roosting, but forage on farm crops at nearby Deer Parks WMU and surrounding potato fields; or the white-faced ibis that forage in early spring and late fall on CSWMA mud flats. These birds nest on Market Lake and Mud Lake WMAs, forage primarily on surrounding agricultural lands, but rely on those short windows of high energy wetland aquatic life for spring and fall migrations. Both could be negatively impacted by loss of flood irrigation, or other agricultural changes; we could do little within the boundaries of CSWMA to sustain numbers in the long term.

This concept allows the focal species/habitats to define the landscape of interest surrounding WMAs. We believe this approach acknowledges both the importance of the WMA within the landscape and the effect of the landscape on the function and purpose of the WMA.

This section describes the methods used to define spatial landscapes for CSWMA Conservation Targets. We used the best data available (i.e., seasonal movement data, species ecology data from the scientific literature, and local knowledge) to construct these Conservation Target-specific landscapes. These landscapes are then utilized in the Management Program Table (pages 36-39) to identify Conservation Target-specific Management Directions, Performance Targets, and Strategies for both CSWMA and the landscape.

Cartier Slough WMA River Riparian and Migratory Waterbird Landscapes

- Constructed a polygon by snapping a line averaging distances between the meandering of the Henrys Fork, Middle Fork, and South Fork of the Snake River.
- Once this line was created, a buffer of one and a half miles for River Riparian and two miles for Waterbirds was created.
- Outer boundary of resulting polygon defined as our River Riparian and Migratory Waterbird landscapes (Figures 2 and 3).
- Estimated landscape boundary and seasonal ranges derived from the above-described processes inform actions in Management Program Table.

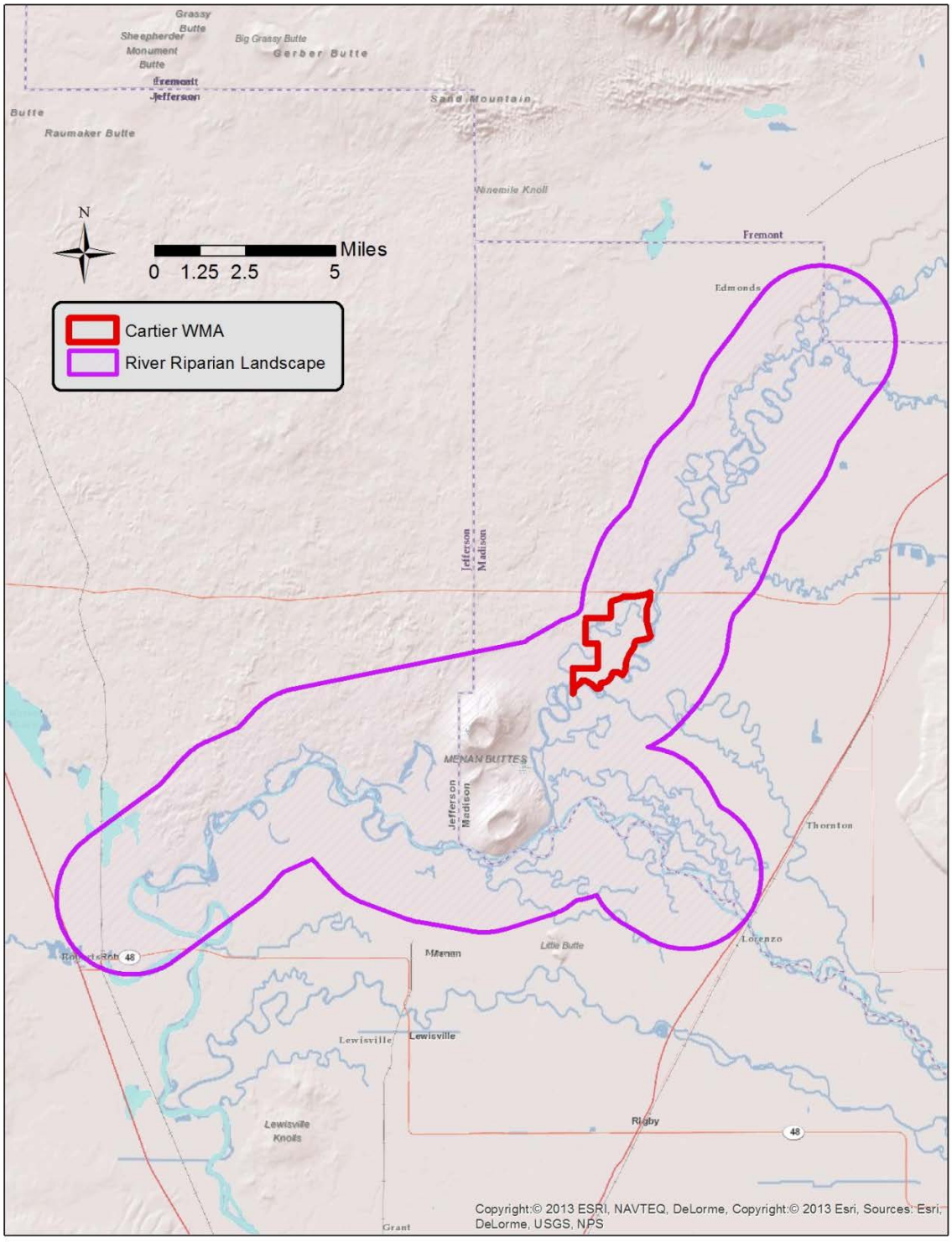

Figure 2. Cartier Slough WMA River Riparian landscape.

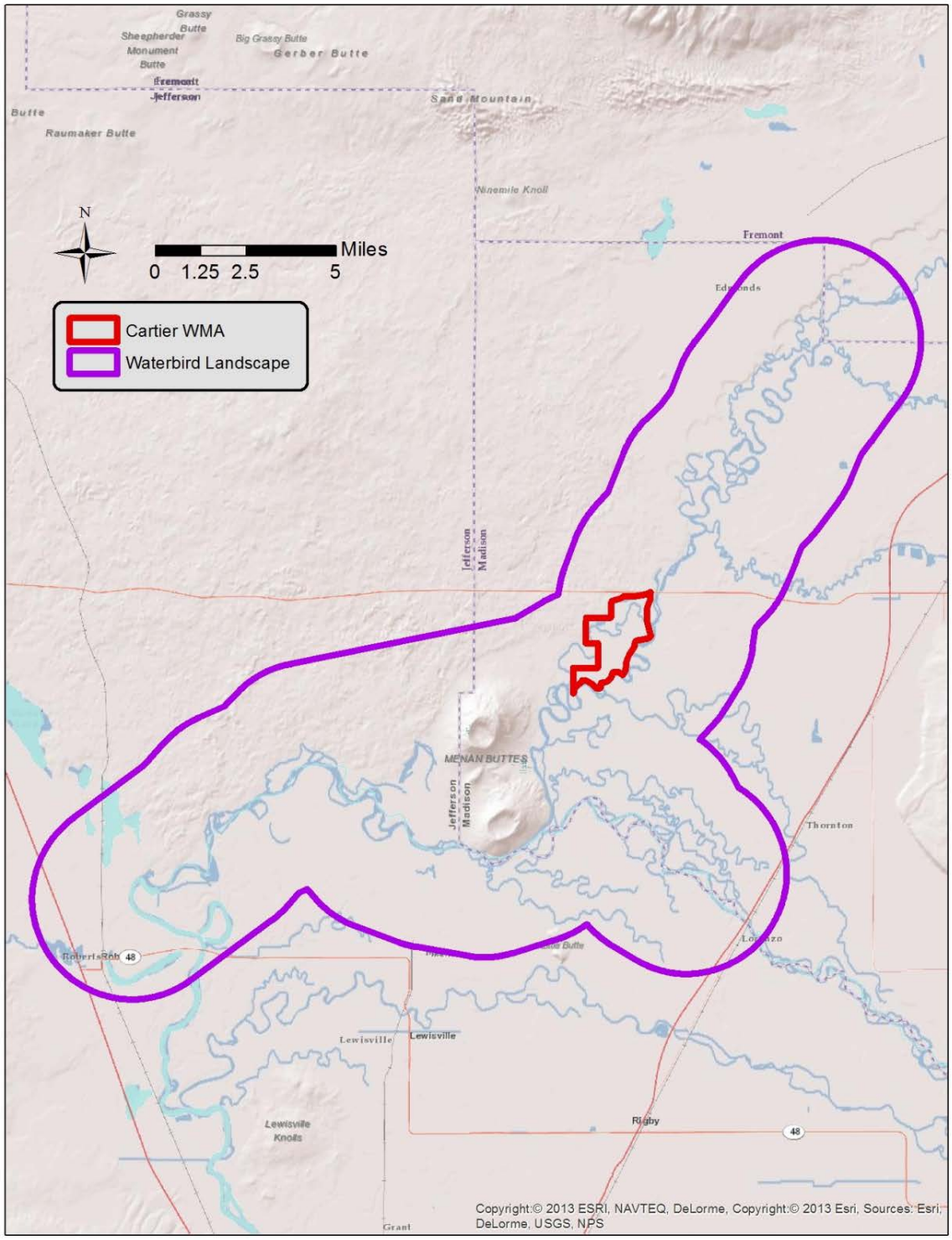

Figure 3. Cartier Slough WMA Migratory Waterbird Landscapes.

Cartier Slough WMA Management Program Table

The following table outlines the Management Directions, Performance Targets, Strategies, and Outcome Metrics CSWMA staff will use to manage for the Conservation Targets selected (page 30) to represent each CSWMA Priority (page 22) at both the CSWMA and Conservation Target-specific landscape scale. The last section of the table outlines strategies that will be used to increase our knowledge of the needs identified in the Conservation Target coverage assessment (Table 2). The Compass Objective column links the Management Directions in this table to the objectives of the Department's strategic plan, *The Compass* (Appendix I).

WMA Priority: Waterbird Habitat					
Conservation Target: Migratory Waterbirds					
Scope	**Management Direction**	**Performance Target**	**Strategy**	**Metric**	**Compass Objective (Appendix I)**
CSWMA	Provide high quality cover and food sources for migrating waterfowl, waterbirds, shorebirds and other wildlife.	Create habitat map and condition database by 2019.	Create GIS spatial database of wetland habitats for CSWMA by 2019. Conduct baseline vegetation data inventory for condition assessment.	Spatial database developed; vegetation inventory completed	A, B, C, E, F, G, H, N
		Monitor waterbird use; develop schedule and logistics by June 2015.	Monitor use of wetland habitats by wetland bird species. This monitoring is very important in documenting habitat needs of wetland birds in the Cartier Slough area.	Waterbird use monitoring conducted.	
		By 2019, create at least one large (50+ ac) shallowly flooded emergent marsh unit with seasonal water control (e.g., flooding and periodic drawdowns) at the appropriate times and frequency. Manage water levels to provide optimal foraging and loafing areas for waterbirds during spring and fall migration.	Assess which lowland areas could be developed with water control to create shallow emergent marsh areas. Water control structures and excavation would be required to create shallow waters with emergent vegetation and mudflats. Develop plan and obtain necessary permits. Avoid impacts to existing, functional wetlands by targeting highly degraded sites.	Site assessment, wetland restoration/creation plan, and implementation strategy	
		Annually, optimize security for waterbird species during nesting and migration in all areas susceptible to human impacts.	Maintain non-motorized vehicle closure on CSWMA to maintain security.	Violations detected	A, B, C, E, H, K
			Maintain non-motorized travel signs, gates and fences and coordinate habitat security goals with local conservation officer.		
		Annually treat 70% of CSWMA with goat grazing.	Continue use of goats for leafy spurge control to improve native vegetation composition. Meet annually with BOR to ensure continuation of program.	Number of acres grazed.	B, C, G
		Annually release a minimum of 10 biological control releases	Continue biological weed control methods concentrating on rhizomatous weeds.	Number and species released	
		Monitor and control noxious weeds and undesirable invasive non-native plant species in wetland habitats. Inventory a minimum of 100 acres/year.	Conduct Early Detection, Rapid Response (EDRR) efforts on new weed infestations.	Acres treated or inventoried	
		Treat five acres of meadow and upland waterfowl nesting habitat to improve nesting success.	Develop a standard seed mix (preferably native plants) to use on disturbed areas to decrease new weed infestations.	Acres of meadow and upland nesting habitat treated and seeded annually	
			Utilize herbicides, fire, and/or mechanical disturbance to improve or maintain quality waterfowl breeding and nesting habitats.		
		Re-establish irrigation for the 30 acres located on the north side of CSWMA to improve wildlife habitat	Change open ditch to PVC pipe from the main canal head gate to Hwy 33 to retain more irrigation water.	Acres converted to productive habitat	
			Convert field from crested wheatgrass to grains, alfalfa or permanent cover		

WMA Priority: Waterbird Habitat					
Conservation Target: Migratory Waterbirds					
Scope	**Management Direction**	**Performance Target**	**Strategy**	**Metric**	**Compass Objective (Appendix I)**
CSWMA Waterbird Habitat Landscape (Figure 3)	Provide high quality cover and food sources for migrating waterfowl, waterbirds, shorebirds and other wildlife.	Work with conservation partners, government agencies, politicians, and private landowners to identify programs or policies that expand or maintain flood irrigation practices on 200 acres across the landscape by 2019	Identify properties still managed under flood irrigation within the Cartier Landscape and work with landowners and NRCS programs to maintain flood irrigation.	Number of landowners on list	A, B, C, E, F, G, H, I, J, K, N
			Contact landowners to educate them on wildlife benefits of retaining flood irrigation.	Number of contacts made	
			Work with the Department Farm bill Coordinator to implement programs and policies such as HIP, WHIP or other cost share options to maintain or increase the amount flood irrigation across the landscape.	Number of additional acres flooded	
		Provide migration stopover forage on adjacent lands Develop list of potential landowners by June 2015 and annually provide 100 acres of standing grain	Purchase standing crops from willing landowners.	Acres left standing	
			Test 5 acres of water tolerant wildlife food crops that survive or thrive during periodical flooding. Look at such as millet and/or other water tolerant plants.	Acres tested	
		Annually, stay abreast of changing policies, programs, agreements, easements, or other efforts that could have both negative and positive effects on wetland habitats in the CSWMA landscape.	Provide technical assistance on practices that could have negative effects on wetland habitat. Work with or become a member of organizations that have expertise, influence, or interests in management of wetland habitats.	Number of comment letters written, organizations cooperated with or joined, technical assistance provided.	B, K
		Work with other agencies, NGOs, conservation partners, and other parties, to develop plans for protecting wetland habitat values in perpetuity. Prioritize potential sites by June 2016. Develop a funding and conservation plan by 2019.	Develop a prioritized list of lands for acquisition or conservation easement to benefit wetland habitats.	Plan completed	A, B, C, E, F, G, H, I, J, K, N
			Work with partners to develop funding sources for acquisitions or easements. Acquire funding for 1 project by 2020.	Number of projects funded	

WMA Priority: Waterbird Habitat					
Conservation Target: Henrys Fork River Riparian					
Scope	**Management Direction**	**Performance Target**	**Strategy**	**Metric**	**Compass Objective (Appendix I)**
CSWMA	Provide high quality habitat for species dependent on non-fragmented, river riparian areas	Establish 15 photo points and river bank monitoring sites (using steel fence posts) to establish rate of river bank losses during high water events by June 2015.	Install fence posts in strategic locations to enable measurements of bank erosion. Establish photopoints that will clearly capture river bank movement.	Photo points monitored	B, N
		Develop a monitoring protocol by 2016 for assessing bird species	Conduct neo-tropical birds surveys every five years to determine bird densities and management practice impacts on populations.	Surveys completed	K, N
	Provide high quality habitat for species dependent on non-fragmented, river riparian areas	Maintain 155 acres of cottonwood stands/understories as quality wildlife habitat.	Continue non-motorized vehicle restrictions and mowed trail system. Annually maintain signs, gates, and fences.	Violations detected	A, B, C, H, J
			Control trespass grazing and maintain grazing restriction in these areas. Conduct bi-annual fence inspections or as needed.		
			Continue camping, fireworks and fire restrictions. Annually maintain signs.		
			Maintain cottonwood tree numbers by planting a minimum of 500 cottonwood saplings annually.	Number of cottonwood saplings planted.	

WMA Priority: Waterbird Habitat					
Conservation Target: Henrys Fork River Riparian					
Scope	**Management Direction**	**Performance Target**	**Strategy**	**Metric**	**Compass Objective (Appendix I)**
CSWMA River Riparian Landscape (Figure 2)	Provide high quality River Riparian habitat to benefit a wide range of wildlife species	Comment on 100% of BLM grazing allotment assessments.	Continue to work with federal agencies to monitor and control livestock grazing in River Riparian habitats to maintain or enhance cottonwood understories. Meet annually with agencies.	Number of grazing allotments commented on.	A, B, C, H, J, K, N
		Annually, Improve or maintain 50 acres of river riparian habitats throughout the River Riparian Landscape.	Work with at least one landowner annually to improve River Riparian habitat through grazing plans, fencing, travel restrictions, etc. Develop potential landowner list by June 2105.	Number of projects identified and evaluated.	
		Develop a list of at least two potential Conservation Easements or acquisitions that would improve existing River Riparian habitats or expand River Riparian habitats within the CSWMA landscape by 2019. Work with the TRLT.	Coordinate with TRLT to develop a priority list of lands to focus efforts on.		
WMA Priority: Wildlife-based Recreation and Education					
Scope	**Management Direction**	**Performance Target**	**Strategy**	**Metric**	**Compass Objective (Appendix I)**
CSWMA	Provide hunting, fishing and trapping opportunities on the WMA	Provide pheasant hunters 350 hunter user-days with farm raised pheasant release program.	Develop a youth pheasant hunt by June 2015.	Number of youths utilizing hunt	E, F, G
			Designate a youth pheasant hunt area by Sept 2016,		
			Manipulate release times and locations to improve equitability for permit holders. Start in 2014.	Hunter comments	
		Provide high quality hunting opportunities.	Repair main water control structure to hold water on NW end for waterfowl hunting by the fall of 2014	Hunter use numbers through traffic counters and sign in boxes, public comments	
			Repair gate and cleaning out access ramp by fall 2014.		
			Utilize signs and informational kiosks to inform users of hunting activities to avoid conflicts between hunters and non-hunters. Maintain annually.		
			Maintain non-motorized travel to enhance hunter experience. Maintain signs, gates and fences annually.		
			Irrigate and plant into a plant mix that will offer quality nesting and foraging habitat for upland game birds and big game.	Acres converted to quality wildlife habitat	
	Provide for public access and recreational use compatible with wildlife and habitat management objectives	Provide 1000 non-consumptive wildlife-based recreation and education user-day opportunities consistent with the CSWMA mission.	Evaluate the costs and benefits of a permanent photography/wildlife viewing blind(s), Have evaluation completed by 2016.	Days of non-consumptive use	F, G, H, K
			Annually maintain CSWMA-managed roads in a useable but low maintenance state.	Percent increase in trails, signs and public usage.	
			Develop more mowed public use trails to encourage non-consumptive use on a larger portion of the WMA by 2016.		
			Improve signage and maintenance of designated trails by Sept 2014.		
		Create conditions that offer safe and quality hunting experiences.	Maintain non-motorized vehicle closure on CSWMA. Support short range weapon restrictions. Annually post restrictions and safety warnings accordingly.	Number of hunter accidents, and public comments	E, F, G

WMA Priority: Wildlife-based Recreation and Education					
Scope	**Management Direction**	**Performance Target**	**Strategy**	**Metric**	**Compass Objective (Appendix I)**
CSWMA Wildlife-based Recreation Landscape	Provide for public access and recreational use on private lands	Maintain quality big game and moose habitat on private grounds.	Assist landowners with big game habitat development and utilize farm bill programs to maintain riparian/shrub habitat on private lands. Develop list of potential landowners by 2016.	Acres maintained or improved	A, B, C, E, F, G, H, I, J, K, N
		Maintain hunting access. Over 10 years improve access on 100 acres	Work with landowners to maintain sportsman access through Department programs (ACCESS YES). Develop list of potential landowners by 2016.	Acres of access secured	
			Work with NGOs to improve sportsman's access on conservation easements. Meet with agencies and TRLT annually.		
Needs Identified in Conservation Target Coverage Assessment (Table 2)					
Scope	**Management Direction**	**Gap Identified**	**Strategy**	**Metric**	**Compass Objective (Appendix I)**
CSWMA	Develop strategies to address gaps identified in the viability assessment	Waterbird Guild	With Diversity staff's lead, develop a monitoring protocol to address waterbird use on CSWMA.	Plan Completed	E, F, G, H, J, K, M
			Recruit volunteers to conduct monitoring of waterbird use according to protocols developed.		
		Bat guild	With Diversity staff's lead, develop a plan to ensure that management considers bat habitat requirements	Plan Completed	
			With Diversity staff's lead, recruit volunteers to monitor bat populations and to develop a species list		
			With Diversity staff's lead, identify areas of high concentrations of bats and identify habitat use.		
		Riparian habitat for neo-tropical migrants/Yellow billed cuckoo	Maintain extent and complexity of riparian areas. These areas should have native species comprising mid-story canopy levels to maximize habitat for foraging and cover.	Percent loss or gain of riparian habitat with mid-story canopy	
			Maintain buffers between riparian habitat and disturbance within the Riparian Landscape		
			Control noxious and invasive weeds in riparian areas on CSWMA.	Acres treated	
	Develop strategies to address gaps identified in the viability assessment	Raptor guild	With Diversity staff's lead, develop a raptor monitoring protocol and organize volunteers to conduct raptor monitoring	Plan Completed	

Monitoring

Monitoring and reporting are critical for tracking accomplishment of performance targets identified in the CSWMA Management Program Table. Monitoring can be separated into three categories: compliance monitoring, biological monitoring, and public use monitoring.

Compliance Monitoring

Compliance monitoring documents the completion of regular management tasks that are essential to WMA operations. These include but are not limited to:

- Maintaining WMA facilities and access sites
- Maintaining infrastructure at ponds and wetlands
- Providing technical assistance to local agency staff and private landowners
- Maintaining public access sites

Compliance monitoring will be reported annually at work plan meetings between regional and headquarters staff.

Biological Monitoring

Wildlife Management Areas across the state have a range of established biological monitoring programs and needs. Additional monitoring needs may have been identified during development of the CSWMA Management Program Table. Biological monitoring includes wildlife, vegetation and habitat monitoring. It may also include assessing the effectiveness of management and restoration activities. Monitoring may occur at multiple spatial and temporal scales, depending on objectives.

In Table 3, future monitoring needs associated with performance targets and strategies identified in the Management Program Table are summarized. The goal is to measure success or effectiveness of strategies that are implemented to reach performance targets. A detailed monitoring plan including specific techniques will be completed for CSWMA by December 31, 2014.

In 2010, the Department initiated a statewide, long-term habitat monitoring program for all WMAs. The goal of the program is to collect quantitative and comparable baseline data to monitor habitat change on all WMAs due to management actions or other causes. The baseline data collected will be specific to each WMA, based on the habitat types present and its unique management issues. Baseline data typically includes:

- Distribution and extent of cover types, including mapping of vegetation cover types
- Vegetation structure, composition, and condition
- Presence or abundance of noxious weeds and other invasive plants

- Riparian and wetland condition and function assessment
- Photo points

To date, this program has collected baseline data on five WMAs, with surveys of all 32 WMAs expected to be completed by 2019. This is a long-term program and will be repeated starting in 2020.

Table 3. Biological monitoring for Cartier Slough WMA, 2014-2023.

Performance Target	**Survey Type**	**Survey Frequency**
Monitor use of wetland habitats by wetland bird species. This monitoring is very important in documenting habitat needs of wetland birds in the Cartier Slough area. Develop schedule and manpower needs by June 2105.	Pair, species, brood counts	Every two years
Continue use of goats for leafy spurge control to improve native vegetation composition. Meet annually with BOR to ensure continuation of program.	Photo points, line-point intercept transects	Every three years, before and after grazing
Continue biological weed control methods concentrating on rhizomatous weeds. Release a minimum of 10 releases/year	Net sweeps	Every three years or after a major flood occurrence.
Utilize herbicide treatment, and/or mechanical disturbance to improve or maintain quality waterfowl breeding and nesting habitats. Treat a minimum of five acres/year.	Photo points, line-point intercept transects	Before treatment and every two years post-treatment
Conduct Neo-tropical birds surveys every five years to determine bird densities and management practices impacts on populations.	Contracted professional survey. Either private or Department personnel.	Every five years

Public Use Monitoring

Wildlife Management Areas use public surveys and monitoring tools (e.g., traffic counters) to evaluate public satisfaction and use patterns as well as identify issues of concern. In some areas, hunter check stations monitor hunter success and satisfaction. These survey data help managers determine whether they are meeting the goals for CSWMA.

Reporting

Cartier Slough WMA will produce a five-year report on implementation of this plan in 2019, including a summary of accomplishments and progress towards meeting performance targets. During the five-year review, CSWMA staff will determine whether modifications to the plan are needed to meet performance targets, to accommodate changing conditions and priorities, or to incorporate advancements in management knowledge and techniques.

Current Monitoring Efforts

Weed Monitoring/Mapping

Leafy spurge control on CSWMA has been a priority since the mid-1990s. Weed control exclosures have been established throughout the area and are inventoried before and after goat grazing. Other noxious weed chemical control efforts are mapped and revisited the following year to measure effectiveness. The weed mapping efforts have an abundance, species, and percent cover component. Four photo plots are spread across CSWMA. These plots are inventoried every other year and re-photographed to show results of goat grazing effects on leafy spurge. These photos are compared over time to give managers a gross metric of habitat change. Photos from 2000 to 2007 show a dramatic change in plant species composition. Dense stands of spurge are gradually converted to grass stands.

User Surveys

User survey forms were developed to establish public use trends. Area personnel interview users as they are encountered. These user surveys inform managers as to what activities CSWMA is being used for by the public. Recent online WMA surveys were used to establish public use and future direction for CSWMA.

Wildlife Population Surveys

Harvest surveys are conducted annually by the Populations section of the Wildlife Bureau. These surveys assist in determining wildlife population trends. Amphibian surveys will be initiated when a new protocol has been established.

Waterfowl Nest Structure Use

Annual inventories are conducted to document artificial nest structure (goose platforms and wood duck boxes) use. This information aids in future structure placement decisions.

Winter Waterfowl Use

Mid-winter waterfowl aerial surveys were conducted annually to document use of CSWMA and adjacent areas by wintering waterfowl. These surveys were terminated in 2010 due to personnel safety concerns.

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Appendices

I. THE COMPASS – THE DEPARTMENT'S STRATEGIC PLAN

In 2006, the Department completed a strategic plan—*The Compass*—based on public input and legislative mandates. It continues to guide the Department in 2014 and is the primary guiding document for all other Department plans developed since 2006. The following table presents the goals, objectives, and strategies from *The Compass* that are most relevant to WMA management. *Compass* objectives are lettered on the left side for reference in the Management Program Table.

The Compass
GOAL—Fish, Wildlife, and Habitat
A. Objective – Maintain or improve game populations to meet the demand for hunting, fishing, and trapping.
B. Objective – Ensure the long-term survival of native fish, wildlife, and plants.
C. Objective – Increase the capacity of habitat to support fish and wildlife.
D. Objective – Eliminate the impacts of fish and wildlife diseases on fish and wildlife populations, livestock, and humans.
GOAL—Fish and Wildlife Recreation
E. Objective – Maintain a diversity of fishing, hunting, and trapping opportunities.
F. Objective – Sustain fish and wildlife recreation on public lands.
G. Objective – Maintain broad public support for fish and wildlife recreation and management.
H. Objective – Increase opportunities for wildlife viewing and appreciation.
I. Objective – Increase the variety and distribution of access to private land for fish and wildlife recreation.
GOAL—Working With Others
J. Objective – Improve citizen involvement in the decision-making process.
K. Objective – Increase public knowledge and understanding of Idaho's fish and wildlife.
GOAL—Management Support
L. Objective – Attract and retain a diverse and professional workforce.
M. Objective – Provide equipment and facilities for excellent customer service and management effectiveness.
N. Objective – Improve funding to meet legal mandates and public expectations.

II. HISTORY

The area around and including the CSWMA was a popular wintering area for Shoshone and Bannock Indians. The first written history of the area indicated that a party of trappers led by William Sublette, and including Joe Meek, used the area as a winter headquarters around 1832. In 1835, Osborne Russell spent part of a winter with Bannock Indians on or very near the area.

Richard "Beaver Dick" Leigh settled near the area shortly after the Civil War and lived there until his first family died of smallpox in 1876. He guided the Hayden Party on their exploration of the Tetons from his home near the WMA.

Sometime prior to 1883, the Carter family homesteaded the area as a cattle ranch. They also cut wild hay and sold it to travelers, freighters and the then-new settlement of Rexburg. Efforts began in 1929-1930 to drain the sloughs, clear brush, and farm more to the surrounding land.

On June 5, 1976, the Teton Dam, located upstream of the WMA on the Teton River, failed. The Teton River and the Henrys Fork River were changed significantly when sediment carried by the flood water were deposited for many miles downstream of the dam. Cartier Slough WMA and the Henrys Fork River upstream and downstream of the WMA were impacted by this event.

Cartier Slough WMA was Idaho's first waterfowl mitigation project. The properties had changed ownership several times before the COE and BOR bought the properties from Arden Hughes and Art Keller to form CSWMA for waterfowl mitigation.

It was purchased in two separate pieces. The COE purchased 400 acres from Hughes in 1976 (Ririe Mitigation), and the BOR purchased 560 acres from Keller in 1977 (Teton Mitigation). Another 68 acres were later purchased for Teton Mitigation. The BOR is now the primary management funding source for CSWMA.

In 1978, a series of construction projects were completed to manipulate water movements on CSWMA. A large water control structure was added to the main slough to hold water longer into the fall. An old flood channel off of the river was re-opened to create an approximately 4,100 foot long, 15-20 foot wide channel. Five islands were constructed in this channel high enough to be safe from flooding. A 1,000 foot channel from the river was reopened to provide more water to the main slough. An oxbow island was created by constructing a 400 foot channel from the river.

Historically, Cartier Slough the Henrys Fork of the Snake River floods CSWMA an average of once every three years, inundating most of the area for weeks at a time. 2008 and 2011 were the most recent flood years.

III. MANAGEMENT REQUIREMENTS AND AUTHORITIES

Federal funds were used to acquire and manage CSWMA lands. Certain activities are prohibited from funding with Federal Aid funds; other federal and state laws also affect management of CSWMA. The Department has responsibility under provisions of the Endangered Species Act to ensure that management actions protect threatened and endangered species, and responsibility under the Clean Water Act to ensure that water quality standards and guidelines are in place on CSWMA lands and waters.

Under the National Historic Preservation Act, the Department must ensure that historic properties are protected on the CSWMA.

The Idaho Noxious Weed Law under Idaho Code 22-2405 requires all landowners to eradicate noxious weeds on their lands, except in special management zones. The counties are required to enforce the law and the State of Idaho is required to ensure the counties do so.

Consistent with Idaho Codes 38-101 and 38-111, and through a cooperative agreement with the Idaho Department of Lands, the Department is required to pay a fee for fire protection on all forest and some rangeland acreage it owns, and for residences in forest areas. Fees are submitted annually based on the number of qualified acres and residences owned by the Department.

The Department is required by Idaho Code 63-602A to pay a fee-in-lieu of taxes (FILT) for lands that are owned by the Department and meet certain code requirements. These fees are submitted annually to affected counties based on the number of qualifying acres and agricultural tax rates.

Cartier Slough WMA is managed by the Department through agreements with the COE and BOR. The objective of the agreements is to manage both parcels as wildlife habitat to mitigate for waterfowl habitat losses.

The agreement for the Ririe Segment of CSWMA is between the Department, the BOR, and COE. This agreement is effective from August 18, 1976 through August 18, 2076 (100 years). The agreement is titled: Cooperative Agreement Concerning the Use of Lands and Waters For Fish and Wildlife Conservation and Management. Ririe Lake Project, Willow Creek, Idaho. Contract No. DACW68-75-C-0091; 14-06-100-9160.

The agreement for the Teton Segment of CSWMA is between the Department and the BOR. This agreement is effective from March, 2013 through March 1, 2018 (5 years). The agreement is titled: Operation and maintenance of the Teton Mitigation Areas. Upper Snake River Field Office, Idaho. Contract No. R13PC10004.

VI. OTHER PROGRAMS

Travel Program

Cartier Slough WMA is open to public use with the following stipulations:

- Access is limited to non-motorized vehicles, hiking, skiing, snowshoeing, and horseback riding.
- Group functions requiring motorized travel must acquire a Special Use permit.

Parking is provided in two main areas along the border of the WMA for visitor convenience. Many visitors park along the lightly traveled main road.

Goat Grazing Program

Goats have been used to control Leafy spurge since 2000. Average time spent on the area was 51 days. After heavy flooding or a wet summer season, the goats may be moved back over areas that have enough ground moisture for second surges in plant growth. Numbers of goats range from 300 to 1,550. The goats acquire a taste (almost addiction) for leafy spurge and eat seed heads first, then strip most of the leaves. They graze some of the grasses and willows, but prefer spurge. A herder stays with the flock and continually moves them throughout each of the six grazing pastures. The goats graze as they walk and must be herded through heavily infested areas a number of times.

CARTIER SLOUGH WMA GRAZING HISTORY

Year	*Average number of goats*	*Days on WMA*	*Weeks WMA flooded*	*Annual cost*
2000	300	45	6	$35,000
2001	405	57	0	$32,000
2002	382	59	3	$34,000
2003	450	67	1	$33,000
2004	240	61	1	$30,000
2005	305	33	6	$25,000
2006	420	38	8	$22,000
2007	902	45	0	$23,000
2008	400	60	6	$18,000
2009	750	45	3	$18,000
2010	1550	35	2	$18,000
2011	1500	57	8	$18,000
2012	1530	45	1	$18,000

Goats grazing on Cartier Slough WMA 2007

Bridge Monitoring Photo Point 2001

Bridge Monitoring Photo Point 2007

V. 1999-2013 ACCOMPLISHMENTS

Since the Cartier Slough WMA plan was revised in 1999, these accomplishments have occurred relative to the Goals and Objectives of the 1999 plan.

Goal: Manage CSWMA for waterfowl production, for migrating waterfowl, and to provide waterfowl hunting.

Objective: Document waterfowl use on CSWMA.

Accomplishments:

- Monitored goose nest structures and wood duck nest box use on the area.
- Mid-winter waterfowl surveys for the Cartier Slough vicinity from 2007-2010 averaged 1,457 Canada geese. The last survey in 2010 counted 1,810 ducks. Mid-winter waterfowl counts have been discontinued due to safety concerns.

Objective: Maintain or improve waterfowl nesting success. Maintain a 30% nesting success in accordance with the Department's Waterfowl Management Plan 1991-1995.

Accomplishments:

- Three islands were created by deepening a channel. These islands are located in the center of the deepened channel offering nesting security.
- Maintained 31 goose nest structures and 23 wood duck boxes.
- Monitored nest structure use, repaired and/or relocated nest structures/boxes as needed (average use by geese 23.5%, wood ducks 28.5%)
- Managed habitat through noxious weed control and monitoring/controlling trespass grazing.
- Maintained secure nesting habitat by restricting motorized vehicle access.

Objective: Provide habitat for migrating waterfowl, particularly in the fall to improve hunting opportunities.

Accomplishments:

- Dike repairs were completed in 2000 to retain open water until winter on approximately 50 acres on the north end of the slough.
- Maintained water control structure to hold water in conjunction with above dike.

Goal: Manage CSWMA to maintain a diversity of healthy plant communities and a diversity of native and desirable non-native wildlife species.

Objective: Maintain native plant communities.

Accomplishments:

- Controlled noxious weeds. Weed control expenditure for herbicide, equipment, and personnel time averaged $3,612 for each of the last six years.
- Grants were obtained to fund goat grazing for control of leafy spurge. The average annual cost of this project over that last 12 years was $22,500.
- Restricted motorized vehicle use which can spread noxious weed seed.
- Reseeded approximately 20 acres with native grass seed mix after recovery from dense noxious weed infestation.
- Maintained four miles exterior fences to control trespass livestock grazing.

Objective: Maintain the diversity of native and desirable non-native wildlife species on CSWMA.

Accomplishments:

- Controlled noxious weeds with biological, mechanical, and chemical controls.
- Irrigated 30 acre shrub/grass plot on the northeast corner for forage and nesting cover. Junipers and berry producing shrubs were planted in 10 rows adjacent to Beaver Dick Park.
- Restricted motorized vehicle use to maintain nesting, fawning, and calving security.
- Maintained channels, five culverts, and the main water control structure for water flow and impoundment.
- Controlled trespass grazing by inspecting fences and notifying cattle owner if cattle broke through fences.

Objective: Provide suitable habitat for endangered, threatened, species of special concern, and other plants and wildlife with special designation which occur on the area.

Accomplishments:

- Controlled noxious weeds.
- Controlled activities which could be harmful to special habitats (no removal of wood or soils, no fires/fireworks [during dry conditions], no motorize vehicles)
- Controlled trespass grazing.

Objective: Assess impacts of management activities and natural events on the area's plants and animals

Accomplishments:

- Established photo points to monitor weed control (goat grazing) efforts on leafy spurge. These points are 13 years old and show dramatic positive vegetative changes from the

goat grazing. Photos show gradual changes from solid spurge stands to grass with little spurge over the first seven years.
- Aerial photos of periodic flooding were taken to document extent of areas inundated. Flooding occurs on the average every three years.
- Periodic site inspections throughout each year were conducted to assess management impacts and future needs.

Goal: Increase the public's understanding and appreciation of CSWMA and the associated habitat types and wildlife species.

Objective: Assess the public use and interest in CSWMA.

Accomplishments:

- A 2002 user survey estimated 2,870 annual user days for CSWMA (62% non-consumptive users and 38% consumptive). Indicated uses were: walking, bird watching, wildlife viewing, dog walking, horseback riding, mountain bike riding, jogging, cross-country skiing, canoeing, ice skating, snowshoeing, school field trips, fishing, trapping, and hunting.
- The 2012 user survey indicated visitors were composed of 78% non-consumptive and 22% consumptive users. Enlarging the local college has increased use of the area.

Objective: Provide for a variety of wildlife-related recreational and educational activities which do not lead to habitat degradation or impacts to wildlife populations nor conflict with CSWMA mission statement.

Accomplishments:

- Mowed main roads for easy walking, biking, and jogging.
- Maintained informational signs to inform public of CSWMA's uses and restrictions.
- The annual youth skills day at Beaver Dick Park includes using parts of CSWMA.
- A local archery club uses CSWMA for an annual three-day shooting tournament.
- Local high schools and colleges use CSWMA for educational class trips.
- Releasing of farmed raised pheasants has dramatically increased hunting on the area.
- Fishing primarily takes place on the river banks.
- Cartier Slough WMA has remained open 365 days a year for wildlife enjoyment.

Objective: Provide information to the public about CSWMA.

Accomplishments:

- Maintained informational signs and information kiosk.
- Attended local sportsman's events to answer any questions about CSWMA.
- Maps and species lists were made available to the public.

- Our WMAs were highlighted at the 2012 Wildlife Summit.

Objective: Maintain a positive working relationship with neighboring landowners, other management agencies, local officials, and wildlife conservation groups.

Accomplishments:

- Worked with adjacent college on a grazing project.
- Worked with adjacent landowner on irrigation and trespass grazing issues.
- Worked with adjacent park on access and irrigation issues.
- Member of the local Cooperative Weed Management area.
- Worked closely with county weed control personnel.
- Worked with local federal agency personnel on miscellaneous issues.
- Worked with local sportsman's groups with special events.
- Worked on local scouting projects. Boy Scouts conducted cleanup days and installed nesting boxes and bat boxes.
- Worked with Madison County planning and zoning director, County Weed Supervisor, Mosquito Abetment Supervisor, and Parks Supervisor.

Goal: Maintain big game habitat and big game hunting on CSWMA.

Objective: Assess big game use of the CSWMA.

Accomplishments:

- Random observations of big game are noted, but no big game surveys have been conducted.
- Big game harvest reports provide numbers of big game harvested on CSWMA.

Objective: Maintain habitat for big game.

Accomplishments:

- Controlled noxious weeds.
- Controlled trespass grazing.
- Maintained non-motorized vehicle restrictions.

Objective: Provide quality public hunting opportunities.

Accomplishments:

- Controlled noxious weeds.
- Controlled trespass grazing.

- Roads, informational signs, and access were maintained to provide as much hunter opportunity as possible.
- Maps and species lists were provided.
- Pen-raised pheasants were released for hunting.

Goal: Maintain huntable populations of upland game on CSWMA.

Objective: Manage and develop habitat for upland game where potential exists.

Accomplishments:

- A small section of the north end was planted into shrubs for nesting cover and berry production. This is the only acreage that has irrigation. A new headgate was installed at the main irrigation canal to facilitate better water delivery to this site.
- Controlled noxious weeds.
- Controlled trespass grazing.
- Maintained willow and other shrub thickets.
- Conducted passive predator control through the removal of wood piles and other artificial denning structures.

VI. VEGETATION

The following habitat types and acres occur on Cartier Slough WMA:

Habitat Type	Number of Acres	Percent of Total
Emergent Wetland	429	42%
Scrub-shrub Wetland	330	32%
Forested Wetland	155	15%
Sagebrush-steppe	42	4%
Irrigated perennial grass and shrubs	35	3%
Ponds and sloughs (open water)	37	4%

Wetland Trees
Rocky Mountain juniper (*Juniperus scopulorum*)
Black Cottonwood (*Populus balsamifera* ssp. *trichocarpa*)
Quaking aspen (*Populus tremuloides*)

Wetland Shrubs
Redosier dogwood (*Cornus sericea*)
Black hawthorn (*Crataegus douglasii*)
Golden currant (*Ribes aureum*)
Woods' rose (*Rosa woodsii*)
Coyote willow (*Salix exigua*)
Shining willow (*Salix lucida* ssp. *caudata*)
Black greasewood (*Sarcobatus vermiculatus*)
Common Snowberry (*Symphoricarpos albus*)

Wetland Graminoids
Analogue sedge (*Carex simulata*)
Saltgrass (*Distichlis spicata*)
Common spike-rush (*Eleocharis palustris*)
Baltic rush (*Juncus balticus*)
Alkali scratchgrass (*Muhlenbergia asperifolia*)
Kentucky bluegrass (*Poa pratensis*)
Hardstem bulrush (*Schoenoplectus acutus*)
Cattail (*Typha latifolia*)

Wetland Forbs
Dogbane (*Apocynum* spp.)
Silverweed cinquefoil (*Argentina anserina*)
Water hemlock (*Cicuta douglasii*)
Willow-weed (*Epilobium* spp.)

Wetland Forbs (cont.)
Wild licorice (*Glycyrrhiza lepidota*)
Rocky Mountain iris (*Iris missouriensis*)
Marshhelder (*Iva xanthifolia*)
Water smartweed (*Polygonum amphibium*)
Spotted ladysthumb (*Polygonum persicaria*)
Curly dock (*Rumex crispus*)
Canada goldenrod (*Solidago canadensis*)
Dandelion (*Taraxacum officinale*)
Stinging nettle (*Urtica dioica*)

Sagebrush-Steppe Shrubs
Big sagebrush (*Artemisia tridentata*)
Rabbitbrush (*Ericameria* spp.)

Upland Grasses
Crested wheatgrass (*Agropyron cristatum*)
Squirreltail (*Elymus elymoides*)
Thickspike wheatgrass (*Elymus lanceolatus*)
Sheep fescue (*Festuca ovina*)
Basin wildrye (*Leymus cinereus*)
Big bluegrass (*Poa ampla*)
Intermediate wheatgrass (*Thinopyrum intermedium*)
Tall wheatgrass (*Thinopyrum ponticum*)

Upland Forbs
Common milkweed (*Asclepias speciosa*)
Mustards (*Brassicaceae* spp.)
Hoary aster (*Machaeranthera canescens*)
Field pennycress (*Thlaspi arvense*)
Common mullein (*Verbascum thapsus*)

Noxious Weeds and Unwanted Invasive Non-native Weeds
Kochia (*Bassia scoparia*)
Cheatgrass (*Bromus tectorum*)
Musk thistle (*Carduus* spp.)
Knapweed (*Centaurea* spp.)
Canada thistle (*Cirsium arvense*)
Poison hemlock (*Conium maculatum*)
Field bindweed (*Convolvulus arvensis*)
Russian olive (*Elaeagnus angustifolia*)
Leafy spurge (*Euphorbia esula*)
Babysbreath (*Gypsophila paniculata*)
Black henbane (*Hyoscyamus niger*)
Reed canarygrass (*Phalaris arundinacea*)

Noxious Weeds and Unwanted Invasive Non-native Weeds
Russian thistle (*Salsola tragus*)
Climbing nightshade (*Solanum dulcamara*)
Nightshades (*Solanum* spp.)
Puncture vine (*Tribulus terrestris*)
Common cockleburr (*Xanthium strumarium*)

SOIL TYPES

Soil types found on CSWMA with approximate acres of each type.

Soil Type	Acres
Haplaquolls, channeled	883
Mathon-Rock outcrop – Modkin complex, 0 to 12% slopes	42
Grassy Butte loamy sand, 4 to 20% slopes	35

Soil Descriptions are from: Soil Survey of Madison County Area, Idaho. 1981. USDA, Soil Conservation Service in Cooperation with University of Idaho, College of Agriculture and Idaho Soil Conservation Commission.

Haplaquolls, channeled

These soils are deep, very poorly drained or poorly drained and found on flood plains near the Teton and Snake rivers. They are formed in alluvium and have slopes of 0 to 1%. The texture varies from fine to medium. Depth ranges from 20 to as much as 60 inches. The surface has ponds and channels measuring about two feet deep and 15 feet wide. The hazard of erosion is slight. Native vegetation includes cottonwood, aspen, grasses, and sedges.

Mathon-Rock outcrop-Modkin complex, 0 to 12% slopes

This soil complex is found laid over basalt plains. The soil formed in sandy windlaid material. Depth to bed rock ranges from 20 to 40 inches. Rock outcrops are common and make up about 30% of the complex. Permeability is moderately rapid, surface runoff is slow, and the hazard of erosion is moderate. The hazard of soil blowing is moderate as well. Native vegetation consists mainly of bluebunch wheatgrass (*Pseudoroegneria spicata*) and big sagebrush (*Artemisia tridentata*).

Grassy Butte loamy sand, 4 to 20% slopes

This deep, somewhat excessively drained soil is found laid on basalt plains. The soil formed in sandy windlaid material derived from a variety of sources. Permeability is rapid and available water capacity is low. The hazard of water erosion is slight to moderate because the surface run off is slow or medium. The hazard of wind erosion is high. The potential native vegetation includes bluebunch wheatgrass, Indian ricegrass (*Achnatherum hymenoides*), needle-and-thread (*Hesperostipa comata*), sand dropseed (*Sporobolus cryptandrus*), antelope bitterbrush (*Purshia tridentata*), and big sagebrush.

VII. WILDLIFE AND FISH SPECIES LIST

(*Selected Common Species; additional information available at www.idfg.idaho.gov*).

Mammals	***Birds (cont.)***	***Birds (cont.)***
American badger	Bald eagle	Common nighthawk
Bat species	Bank swallow	Common raven
Beaver	Barn swallow	Common redpoll
Black-tailed jackrabbit	Barrows goldeneye	Common snipe
Bobcat	Belted kingfisher	Common tern
Chipmunk species	Black tern	Cooper's hawk
Cottontail rabbit	Black-bellied plover	Dark-eyed junco
Coyote	Black-billed magpie	Double-crested cormorant
Elk	Black-capped chickadee	Downy woodpecker
Mink	Black-chinned hummingbird	Dunlin
Moose	Black-crowned night heron	Dusky flycatcher
Mountain lion	Black-headed grosbeak	Eared grebe
Mouse, rat, & vole species	Black-necked stilt	Eastern kingbird
Mule deer	Blue-gray gnatcatcher	European starling
Porcupine	Blue-winged teal	Evening grosbeak
Raccoon	Bobolink	Ferruginous hawk
Red fox	Bohemian waxwing	Forster's tern
Red squirrel	Brewer's blackbird	Franklin's gull
River otter	Brewer's sparrow	Gadwall
Shrew species	Broad-tailed hummingbird	Golden eagle
Striped skunk	Brown creeper	Gray partridge
Weasel	Brown-headed cowbird	Gray-crowned rosy finch
White-tailed deer	Bufflehead	Great blue heron
White-tailed jackrabbit	California gull	Great egret
Yellow-bellied marmot	Calliope hummingbird	Great horned owl
Birds	Canada goose	Greater white-fronted goose
American avocet	Canvasback	Greater yellowlegs
American bittern	Catbird	Green-tailed towhee
American coot	Cattle egret	Green-winged teal
American crow	Cedar waxwing	Hairy woodpecker
American goldfinch	Chipping sparrow	Harris's sparrow
American kestrel	Cinnamon teal	Hermit thrush
American robin	Clark's grebe	Herring gull
American tree sparrow	Clay-colored sparrow	Hooded merganser
American white pelican	Cliff swallow	Horned grebe
American widgeon	Common goldeneye	Horned lark
Baird's sandpiper	Common loon	House sparrow
Baird's sparrow	Common merganser	House wren

Birds (cont.)	***Birds (cont.)***	***Birds (cont.)***
Killdeer	Red-necked phalarope	Turkey vulture
Lapland longspur	Red-tailed hawk	Vesper sparrow
Lark bunting	Red-winged blackbird	Violet-green swallow
Lark sparrow	Ring-billed gull	Virginia rail
Lazuli bunting	Ring-necked duck	Warbling vireo
Least sandpiper	Ring-necked pheasant	Water pipit
Lesser scaup	Rock dove	Western burrowing owl
Lesser yellowlegs	Rough-legged hawk	Western flycatcher
Lewis's woodpecker	Rough-winged swallow	Western grebe
Loggerhead shrike	Ruby-crowned kinglet	Western kingbird
Long-billed curlew	Ruddy duck	Western meadowlark
Long-billed dowitcher	Rufous hummingbird	Western sandpiper
Long-billed marsh wren	Sage sparrow	Western screech owl
Long-eared owl	Sage thrasher	Western tanager
MacGillivray's warbler	Sage-grouse	Western wood peewee
Mallard	Sanderling	White-breasted nuthatch
Marbled godwit	Sandhill crane	White-crowned sparrow
Merlin	Savannah sparrow	White-faces ibis
Mockingbird	Saw-whet owl	White-throated sparrow
Mountain bluebird	Say's phoebe	Willet
Mourning dove	Semipalmated plover	Willow flycatcher
Northern flicker	Semipalmated sandpiper	Wilson's Phalarope
Northern goshawk	Sharp-shinned hawk	Wilson's warbler
Northern harrier	Sharp-tailed grouse	Wood duck
Northern oriole	Short-billed dowitcher	Yellow warbler
Northern pintail	Short-eared owl	Yellow-headed blackbird
Northern shoveler	Snow bunting	Yellow-rumped warbler
Northern shrike	Snow goose	Yellowthroat
Olive-sided flycatcher	Snowy egret	***Reptiles & Amphibians***
Orange-crowned warbler	Solitary sandpiper	Gopher snake
Osprey	Solitary vireo	Northern leopard frog
Pectoral sandpiper	Song sparrow	Pacific tree frog
Peregrine falcon	Sora	Painted turtle
Pied-billed grebe	Spotted sandpiper	Western terrestrial garter snake
Pine siskin	Steller's jay	***Fish***
Poorwill	Swainson's hawk	Cutthroat trout
Prairie falcon	Townsend's solitaire	Mountain whitefish
Red-breasted merganser	Townsend's warbler	Rainbow trout
Red-breasted nuthatch	Tree swallow	Sucker
Redhead	Trumpeter swan	Utah chub
Red-naped sapsucker	Tundra swan	

Goose Nesting Structure and Wood Duck Nest Box Monitoring

Thirty-six goose nesting structures and 35 wood duck nest boxes were installed on CSWMA in 1977. The total number of platforms and boxes on the WMA has varied over the years. Platforms are filled with bark and cleaned during the winter then checked for use in the early summer of each year. Eggs, egg shell fragments, and/or feathers indicate use.

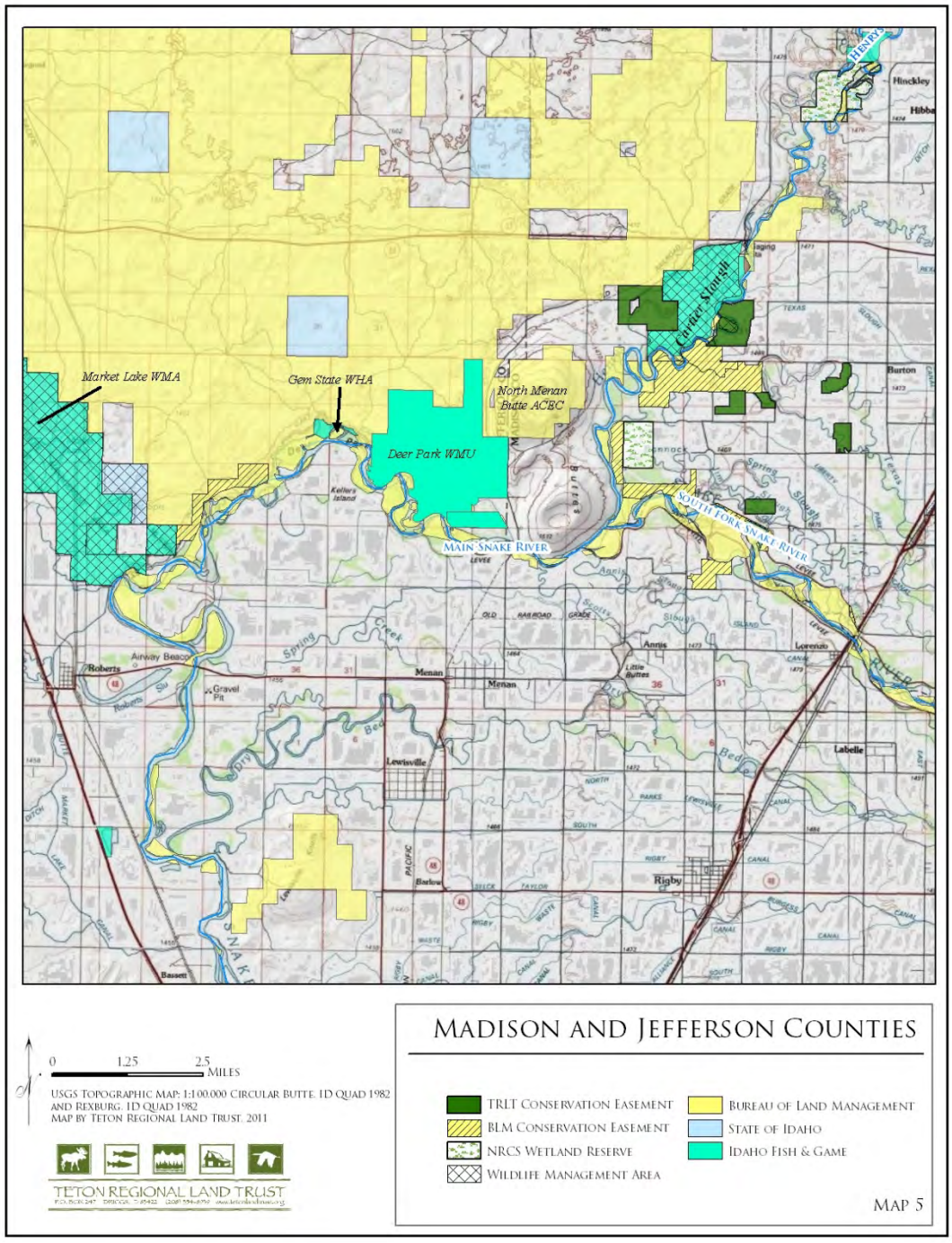
CSWMA Goose Nest Structure Use

Year	No. of Platforms	Percent Used
2003	28	39
2004	No data	
2005	No data	
2006	34	74
2007	No data	
2008	No data	
2009	30	37
2010	33	24
2011	33	
2012	No data	

CSWMA Wood Duck Nest Box Use

Year	No. of Boxes	Percent Used
2003	18	39
2004	No data	
2005	No data	
2006	21	33
2007	No data	
2008	No data	
2009	18	28
2010	22	27
2011	22	No data
2012	No data	

VIII. TETON REGIONAL LAND TRUST AND BLM EASEMENTS



IX. LAND ACQUISITIONS AND AGREEMENTS

Land Acquisitions				
Year	**Funds Used**	**Acquired From**	**Acres**	**Ownership**
1976	COE	Ririe Mitigation	400	U.S. Corps of Engineers
1977	BOR	Teton Mitigation	560	U.S. Bureau of Reclamation

Water Rights			
Source	**Shares**	**Amount**	**Priority Date**
Egin Bench Canals, Inc.	134.13067	60 inches	1895

X. INFRASTRUCTURE

Building/structures
0

Informational Kiosks
2 kiosks

Gates
One 16'steel gate.

Fence crossings
4 fences styles

Earth structures
½ mile of dirt dike

Water control
1 large water control structure
One 24" screw type head gate at the main Egin Bench Canal.
3.95 miles of slough channels
4 large (32" – 48") culverts used for vehicle crossings and water movement.

Roads and trails
1 parking lot
1.5 miles of trail
1.5 miles of improved roads
.5 miles of unimproved roads

Fences
4.5 miles of permanent fence

CARTIER SLOUGH

WILDLIFE MANAGEMENT AREA PLAN

Approval

Submitted by:

Paul J. Faulkner, Habitat Biologist

Reviewed by:

Terry Thomas, Regional Habitat Manager

Steve Schmidt, Regional Supervisor

Sal Palazzolo, Bureau of Wildlife

Tom Hemker, State Habitat Manager

Approved by:

Virgil Moore, Director