Billingsley Creek Wildlife Management Area

Management Plan 2014

Magic Valley Region

Billingsley Creek Wildlife Management Area

2014 – 2023 Management Plan

December 2014

Idaho Department of Fish and Game
Magic Valley Region
324 South 417 East, Suite #1
Jerome, Idaho 83338

Prepared By:
Mark Fleming
Wildlife Habitat Manager

Table of Contents

List of Tables

List of Figures

Executive Summary

Idaho Department of Fish and Game (Department) manage 32 Wildlife Management Areas (WMAs) in seven different administrative regions throughout the state. 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 eco-logical features" (Karl et al. 2005). Surveys and monitoring work conducted by Department biologists on Magic Valley Region WMAs confirms their value to waterfowl, fish, nongame, and at-risk species identified in Idaho's State Wildlife Action Plan.

Wildlife Management Areas often abut other protected lands such as National Forests, Bureau of Land Management lands, or private lands protected by conservation easement. Due to 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 (such as sagebrush-steppe and marsh wetlands), and creating highly productive habitats (food plots, impounded wetlands) to enhance the carrying capacity for selected wildlife species.

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

The Department's Magic Valley Region manages six WMAs that collectively comprise 11,141 acres of land. Wildlife Management Area management focus is to maintain highly functional wildlife habitat and provide wildlife-based recreation. These WMAs include:

- Niagara Springs WMA, a combination of riparian and cliff habitats along the Snake River in Gooding County
- Hagerman WMA, a spring-fed wetland complex critical for wintering waterfowl in Gooding County
- Billingsley Creek WMA, which provides a mosaic of upland and wetland habitats in Gooding County
- Camas Prairie-Centennial Marsh WMA, a high prairie, seasonally-flooded wetland in Camas County
- Carey Lake WMA, a lake and upland complex in Blaine County
- Big Cottonwood WMA, a canyon landscape in the Big Cottonwood Creek drainage in Cassia County

All WMAs are funded through a combination of hunting license dollars and appropriations via the Wildlife and Sport Fish Restoration Programs. These federal programs collect excise taxes derived from the sale of ammunition, guns, archery equipment, and fishing and boating equipment and supplies, and distribute the revenue generated from the taxes to all of the states in the nation. The federal excise tax money received by the Department pays for a large portion of the management tab on WMAs; hence, many operational activities on WMAs are designed to provide recreational opportunities for hunters and anglers and are considered a priority along with wildlife conservation priorities. Wildlife Management Areas also provide public access to other areas such as the Snake River, and Federal and State lands that border Department-managed lands. Visitors to WMAs who do not hunt or fish also benefit from the varied wildlife resources on WMAs and enjoy non-consumptive activities such as horseback riding, wildlife photography, and bird watching.

The 275-acre Billingsley Creek WMA (BCWMA) is located in Hagerman Valley near the Snake River and approximately 1.5 miles northeast of the town of Hagerman. The area was purchased from the McCarter Cattle Company, Inc., in September 1963, with Federal Aid to Fisheries funds. Ongoing management is funded by revenue from the federal Wildlife Restoration Program and Department license monies. The area is traversed by a 1.25-mile section of Billingsley Creek.

Five different vegetation cover type habitats (IDFG 1985) are found within BCWMA. The cover types found on BCWMA include: Riverine system and lower perennial subsystem; Palustrine persistent emergent wetlands; Forested wetlands; Escarpment shrub-steppe; and Shrub-steppe.

The area supports wildlife habitat for upland game, waterfowl, mule deer, and other species. Waterfowl hunting on BCWMA is best when surrounding slack-waters in the Hagerman Valley freeze. Fishing opportunities on Billingsley Creek are expected to increase with the removal of pipelines that crossed the creek and have been obstacles to watercraft in the past, and with future trout stocking efforts. Other recreational activities on BCWMA include wildlife photography, bird watching, horseback riding, hiking, and floating on Billingsley Creek.

This document provides direction in the form of goals, objectives, and strategies for the management of BCWMA. The management direction for BCWMA was developed after receiving input from the public during a series of public meetings conducted throughout the Magic Valley Region. Issues pertaining to BCWMA were identified by the public and the Department. These issues were developed into goals, objectives, and strategies consistent with the Department Strategic Plan, *The Compass*.

Conservation Targets for the BCWMA Management Plan were selected from species or guilds ranked as potentially suitable focal species. Plants are not included in this assessment due to practical considerations including lack of data and funding. Conservation Targets may also include habitats that effectively represent suites of flagship and special status species, 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 Magic Valley Regional Habitat Manager and regional staff.

This management 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 effectively reach the goals and objectives in this plan. All goals, objectives, and strategies are dependent on adequate funding, personnel, and public support.

Introduction

This management plan is designed to provide broad guidance for the long-term management of Billingsley Creek Wildlife Management Area (BCWMA). 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 tiered off 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)

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.

Billingsley Creek WMA Vision

The primary mission of the BCWMA is to protect and manage all wildlife resources for the benefit of the public and to ensure sufficient high quality and secure habitat to sustain all game and nongame species, with an emphasis on waterfowl and upland game birds. The BCWMA will also provide high quality public hunting and fishing opportunities, as well as non-consumptive, wildlife-based recreation consistent with the primary wildlife and habitat conservation mission.

Modification of Plan

This plan provides broad, long-term management direction for BCWMA. It will be evaluated at least 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 BCWMA, 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

Billingsley Creek WMA is located in Hagerman Valley (southern end of Gooding County) near the Snake River and 1.5 miles northeast of the town of Hagerman (Figure 1). The WMA is traversed by a 1.25-mile section of Billingsley Creek. Billingsley Creek is a spring fed stream which flows northward below the Snake River canyon rim from its origin approximately five miles southeast of BCWMA, to Lower Salmon Falls Reservoir. Elevations range from 2,950 feet on the creek, to 3,200 feet on the canyon rim. Several springs originate along the basaltic rim rock and feed a wetland before entering Billingsley Creek. In 1994, rectangular weirs were placed to measure the water from each spring; the weirs are scheduled to be renovated in 2013 or 2014. One water right is attached to this property. Billingsley Creek remains ice-free during the winter because it is fed by 58°F spring water. The slow flowing creek meanders through BCWMA with an average depth of approximately six feet and a width of approximately 25 feet. This section of Billingsley Creek has increased sediment deposition, a lack of gravel substrate, and decreased water quality.

Billingsley Creek WMA provides a local fishing destination for communities in the Magic Valley area. The Magic Valley consists of all or a portion of eight counties in south-central Idaho, situated in the Snake River Plain. Brown (*Salmo trutta*) and rainbow (*Oncorhynchus mykiss*) trout inhabit Billingsley Creek. Several commercial fish hatcheries are located upstream from BCWMA. Springs on BCWMA provide spawning habitat for naturally reproducing trout. Starting in 2014, the Department will be stocking brown trout in Billingsley Creek annually. Foot access for anglers is difficult due to the inundated marsh areas that are contiguous with the creek channel. As a result, most anglers use a canoe or float tube to traverse the creek. Two pipelines that traverse the creek have been navigation obstacles for visitors using watercraft on Billingsley Creek. One of those pipelines has already been removed; the other is scheduled to be replaced in 2014 with a submerged pipeline that will be placed on the creek bed and not be an obstacle to recreationists.

Access to Billingsley Creek has been improved with the development of two access sites located where the creek enters and exits BCWMA. Removal of the pipelines mentioned above and improved access to Billingsley Creek is expected to result in higher levels of recreational use on Billingsley Creek.

The area supports wildlife habitat for upland game, waterfowl, and mule deer (*Odocoileus hemionus*). Duck hunting is the dominant recreational use on the WMA and when nearby slack waters freeze, an increasing number of waterfowl hunters utilize the open waters of the creek. During these peak periods of waterfowl hunting activity on the WMA, hunter congestion can be a problem, especially along the more popular waterfowl hunting areas on Billingsley Creek.

The benefits of creating open water areas in the dense marsh vegetation have been discussed by regional staff. The Department has a non-consumptive water right associated with Florence Springs that allows wildlife as a beneficial use. These open water areas would provide additional brood-rearing habitat for waterfowl. Open water areas could also provide additional hunting

opportunities. Removal of wetland vegetation such as cattails and bulrush by mechanical or chemical treatment would be the preferred methods to create additional open water areas.

Five different vegetation cover type habitats (IDFG 1985) are found within BCWMA (Appendix VI). The habitat classifications have been modified and updated for upland and wetland vegetated cover types to reflect current classification systems (Cowardin et al. 1979).

Billingsley Creek is a spring-fed riverine system and lower perennial subsystem with an unconsolidated bottom. There is approximately 80 acres of palustrine persistent emergent wetlands bordering the stream. The size of the wetland is influenced by a hydroelectric plant located where Billingsley Creek exits the BCWMA. The wetland is dominated by tall emergent marsh vegetation, primarily broadleaf cattail (*Typha latifolia*) and hardstem bulrush (*Schoenoplectus acutus*). Common reed (*Phragmites australis*) occurs in spring-fed areas. Mesic meadows that transition from marshes to uplands are occupied by Baltic rush (*Juncus balticus*). Forested wetlands also occupy about 80 acres. The forested wetland is dominated by Russian olive (*Elaeagnus angustifolia*), an invasive non-native species. The upland forested habitat is dominated by poplar (*Populus* spp.), with various shrubs and cheatgrass (*Bromus tectorum*) often present.

The escarpment shrub-steppe habitat of the basaltic rim covers nearly 90 acres. Small pockets of windblown soils support big sagebrush (*Artemisia tridentata*) on drier sites, riparian greasewood (*Sarcobatus vermiculatus*) and skunkbush sumac (*Rhus trilobata*) in spring-fed areas, and a variety of perennial and annual grasses and forbs. Sagebrush-steppe habitat continues atop the canyon rim, characterized by big sagebrush, cheatgrass, Sandberg's bluegrass (*Poa secunda*), and sand dropseed (*Sporobolus cryptandrus*).

Noxious weeds are controlled on the WMA to reduce displacement of desirable vegetation and to comply with Idaho state noxious weed law. Control efforts have focused on Canada thistle (*Cirsium arvense*), Russian knapweed (*Acroptilon repens*), and purple loosestrife (*Lythrum salicaria*). The introduction of biological controls has dramatically reduced the amount of loosestrife on BCWMA.

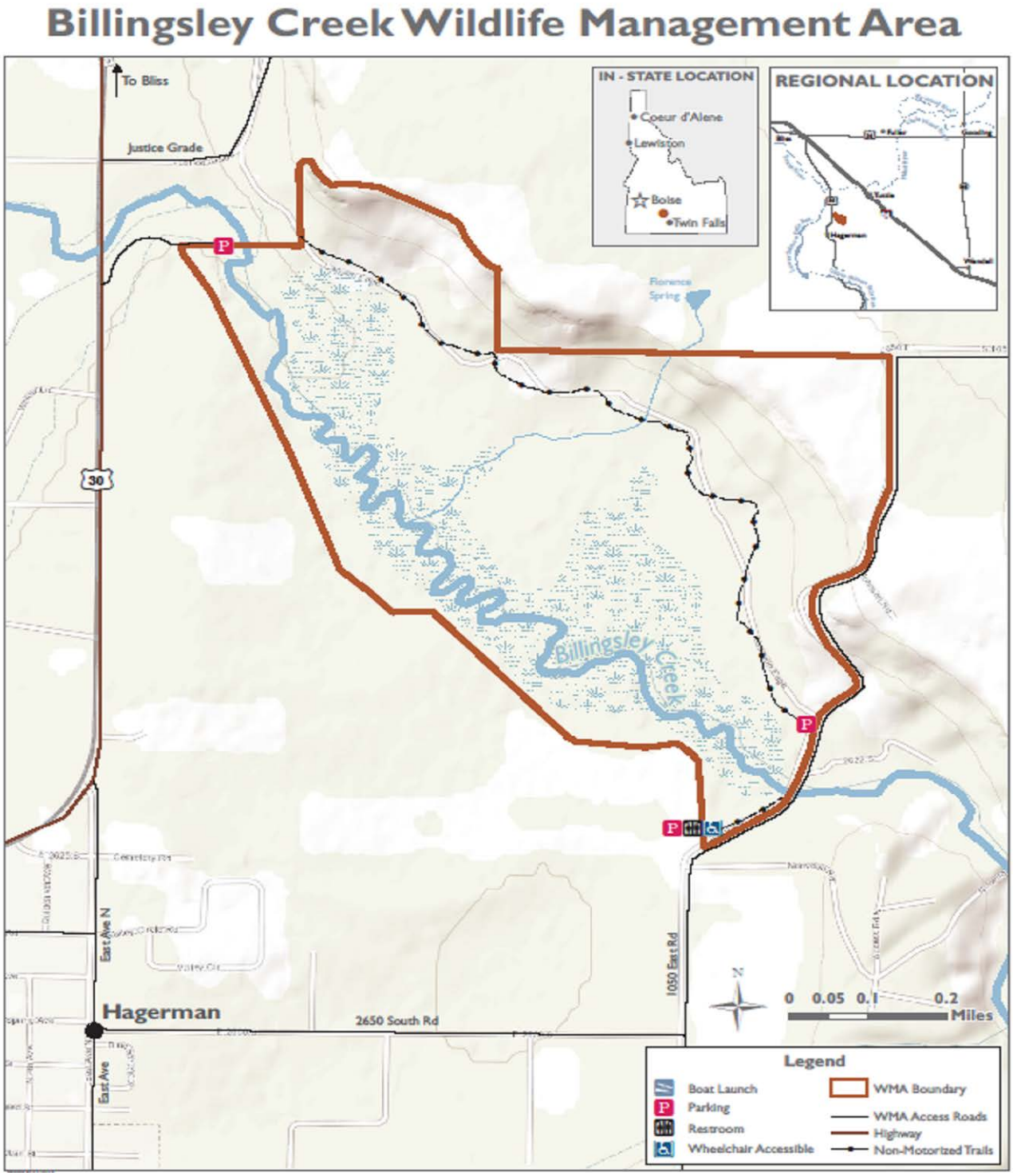


Figure 1. Map of Billingsley Creek Wildlife Management Area.

Management Issues

Regional habitat staff presented information on the WMAs and solicited input from the public at four big game season setting public meetings during March and April of 2012; a total of 120 people attended the four meetings. These meetings were held in Hailey, Burley, Jerome, and Hagerman. Regional habitat staff participated in each meeting and manned displays that highlighted 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 and provided a form at the meetings for those wishing to provide 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. A news release was printed in several newspapers located in the Magic Valley Region inviting the public to take the online survey and to participate in the public meetings mentioned previously.

We received 36 online surveys specific to BCWMA and three written surveys from BCWMA users during 2012; many of the attendees at the public meeting opted to submit their comments via the online survey. Most of the respondents who filled out surveys were either satisfied (73%) or very satisfied (20%) with the current management of BCWMA. Additional information gathered from these surveys on visitor use trends is available in Appendix IV.

A list of issues was developed after public input and a complete list of comments is described in Appendix IV. Department policy direction and WMA staff management experience also helped shape the list of issues discussed below. The issues identified by the public and Department regional staff 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 BCWMA.

Habitat Management

1. **Reduce distribution and density of Russian-olive trees.**

   Discussion: This issue was identified by both the public and the Department. Russian-olive trees are invasive on the BCWMA and throughout the Hagerman Valley. These trees form dense stands that are nearly impossible to walk through and they displace more desirable vegetation. However, in the absence of desired plant communities and habitats, Russian-olive trees can provide a variety of wildlife with surrogate habitats that otherwise may not be present. Both upland game birds and song birds eat the olive-like fruit and use the dense

cover to escape predators. Mule deer also spend a majority of their time on the WMA using Russian-olive stands for bedding and security cover.

The Department has experimented removing Russian-olive trees on BCWMA using a masticating machine. This equipment consists of rotating heads attached to an excavator boom that grinds the trees and scatters the shredded materials on the surrounding ground. The shredded stumps that result from this process do not allow for effective translocation of herbicides down to the roots. Since Russian-olive stumps and roots re-sprout very aggressively, this method has limited future application on the WMA.

Other methods of Russian-olive tree removal have been used successfully on the Niagara Springs WMA and on other WMAs throughout the state. Those methods incorporate cutting, girdling, or mechanical removal of trees including stumps, followed with an application of herbicides. A Russian-olive tree removal plan will be developed for the BCWMA that includes selected removal of Russian-olive trees and restoration of those areas back to desirable plant communities.

2. Improve habitats for fish and wildlife.

Discussion: This issue was identified by both the public and the Department. This issue broadly captures the Department's mission to "preserve, protect, and to perpetuate" the wildlife resources of Idaho. At a finer scale on BCWMA, this issue focuses on Billingsley Creek, the wetland plant communities associated with inundated areas adjacent to Billingsley Creek, riparian habitats associated with the Florence Springs and its outflows, upland plant communities, cliffs, and the species associated with those habitats.

Noxious/invasive plant control, including non-desirable aquatic plant species are an important management concern for the Department. Noxious weeds can replace more desirable vegetation and degrade habitats for fish and wildlife. A variety of noxious/invasive plants have been documented on BCWMA, including Russian-olive trees mentioned above. The Department will continue to survey and treat noxious/invasive plants on BCWMA.

During the past three decades, the segment of Billingsley Creek that flows through the WMA has seen a loss of trout spawning habitat. The sediment-free, gravel substrates used by spawning trout have been degraded, due in large part to decreased flows of the springs feeding Billingsley Creek and subsequent sedimentation in the creek due to reduced water velocities. There are other factors that have influenced the rate of deposition of sediments in Billingsley Creek such as the increase in the height of a hydro-electric dam located on Billingsley Creek at the downstream boundary of the WMA, and the introduction of sediments into Billingsley Creek upstream from the WMA from various sources.

Wetland plant communities encompass a significant portion of habitat on BCWMA. Most of this type of habitat on the WMA is comprised of dense stands of cattail and bulrush. Creating some open water areas within these stands would benefit waterfowl using the WMA by increasing the distribution and availability of brood-rearing habitat; it would also have an

auxiliary benefit to recreationists by increasing waterfowl viewing, photography, and hunting opportunities on the WMA. The Department has a non-consumptive water right to Florence Springs that includes using the water as a beneficial use for wildlife. The Department will evaluate management actions that would result in creating 0.5-1 acre open water areas in the wetland plant communities, focusing this application method in dense stands of cattail and bulrush.

Managing upland habitats on BCWMA presents its own unique set of challenges. The Department does not have consumptive water rights from Florence Springs, so any plantings will have to establish without the use of irrigation water. The Hagerman Valley area receives less than 10 inches of annual precipitation, most of which is received during the winter months. The success of plantings or any vegetation rehabilitation efforts in the uplands are primarily influenced by the amount of precipitation that is received during the months of April-May. Noxious weed control, proper planting techniques, soil augmentation, and using drought-tolerant plant species can help increase the chances of a successful planting project.

Riparian habitat projects on BCWMA allow for more flexibility of management options due to the proximity to water; this permits the use of less drought-tolerant plant species. Noxious weed control within riparian zones is possible, but the risk of adverse impacts to fish and wildlife is inherently higher when working near high water tables or open surface water. Application of herbicides in or near riparian areas will be applied or supervised by Department employees who are certified as Professional Applicators by the Idaho Department of Agriculture. Rehabilitation efforts within riparian habitats could include planting desirable shrubs and trees, removing Russian-olive trees, and creating or enhancing green-line vegetation along the spring outflows.

Wildlife Management

1. **Nest disturbance to upland game birds and waterfowl.**

   Discussion: This topic was identified as a potential issue by the Department. Disturbance of nesting upland game birds and waterfowl can result in nest abandonment, exposure of eggs to avian and mammalian predators, or exposure of developing eggs to harsh environmental conditions such as cold, snow, rain, and wind. At BCWMA, nest disturbance can be caused by a variety of factors such as predators, human activity, and unleashed domestic pets during the nesting season.

   Some of these causes can be mitigated via seasonal access closures or travel restrictions. On BCWMA during the nesting period for waterfowl and upland game birds (Apr-Jun), access management options include keeping pets on leashes and no off-trail or off-road travel.

2. **Declining availability and harvest of trout in Billingsley Creek.**

   Discussion: This issue was identified by both the public and the Department. Due to the degradation of trout spawning habitat on the segment of Billingsley Creek that traverses the

WMA, natural production of trout in that reach has declined. The Department has enhanced fishing opportunities by releasing hatchery raised trout in Billingsley Creek. Department staff plans to release tagged trout in Billingsley Creek to determine capture rates of stocked fish. This information will help regional staff determine future management of the Billingsley Creek fishery on the BCWMA.

Public Use Management

1. **Billingsley Creek WMA needs better informational signs.**

   Discussion: This issue was identified by the public. Visitors to BCWMA have a hard time finding the main access points to the WMA and determining the WMA boundaries. In addition, the Billingsley Creek Unit of the Thousand Springs State Park is adjacent and contiguous with BCWMA; it is managed by Idaho Department of Parks and Recreation (IDPR). Having two state agency-managed properties in the same area presents visitors with a challenge when trying to decipher the boundaries and regulations associated with the WMA or the State Park Unit.

   The recent addition of a new public access site on the BCWMA also needs better signage. The recent publication of a new Department Idaho Fishing and Boating Access Guide and an updated BCWMA map on the Department's website is providing better information to the public, but additional onsite information needs to be available.

   The Department will address the lack of signage at BCWMA and will work with IDPR to provide better onsite information regarding boundaries and regulations pertaining to the two properties.

2. **Hunter overcrowding is a problem on Billingsley Creek WMA.**

   Discussion: This issue was identified by both the public and the Department. Billingsley Creek normally remains open during the winter when many other bodies of water freeze. When these conditions occur, BCWMA has a significant increase in use by waterfowl and waterfowl hunters.

   Overcrowding and competition on BCWMA between waterfowl hunters does occur when the conditions described above exist. This is not unique to BCWMA; other popular waterfowl hunting areas that allow public use experience similar challenges.

   Creating some additional open-water areas on BCWMA may alleviate some of the issues identified above.

3. **Navigability of Billingsley Creek is challenging due to pipeline obstacle.**

   This issue was identified by both the public and the Department. Foot access to Billingsley Creek for anglers is difficult due to the flooded wetland that borders the open water of the

main creek channel. As a result, most anglers use a canoe or float tube to traverse the creek. An irrigation pipeline that delivers water from the springs on the east side of the WMA to the agricultural lands to the west of the WMA is an obstacle to recreationists using watercraft on this segment of Billingsley Creek. This pipeline crosses the creek at approximately the mid-point between the north and south access points and only has a clearance of one to two feet above the surface of the creek. Going over, under, or ferrying watercraft around the pipeline is difficult.

Replacement of this pipeline with a new pipeline that will be located on the bottom of the creek bed is scheduled for the winter of 2013/2014. This should significantly improve the navigability of this segment of Billingsley Creek.

Billingsley Creek WMA Management Program

The Department is responsible for the preservation, protection, perpetuation, and management of all wildlife, fish, and plants in Idaho. Wildlife Management Areas allow the Department to directly affect habitat to maximize suitability for species in key areas. Management activities designed to restore and maintain important natural habitats, and create hyper-productive habitats to enhance carrying capacity for selected wildlife species remains a key strategy on BCWMA. However, some of 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 often come from outside WMA boundaries. Therefore, WMA managers must recognize and create opportunities to participate in collaborative conservation and management programs within an expanded landscape, thus enabling broader influence to maintain the ecological functions that sustain WMA-dependent wildlife.

We propose that an effective way to enable a broader influence over the future of BCWMA is through the use of focal species management. According to Noss et al. (1999), focal species are those species used by planners and 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 associated with BCWMA, a carefully selected suite of focal species can act as a surrogate for the conservation of many species.

Identifying landscape-scale species (Appendix VII) priorities across ownership boundaries helps address wildlife-related issues on the BCWMA more comprehensively, and creates a platform for conservation partnerships in the surrounding landscape. This step is also crucial for increasing the likelihood that WMA functions are resilient to inevitable changes in their associated landscapes.

The following six step process was used to create the BCWMA 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

Billingsley Creek WMA was purchased from the McCarter Cattle Company, Inc. (Appendix II) using federal funds (Appendix III) derived from the Dingell–Johnson Act, also called the Federal Aid in Sport Fish Restoration Act of 1950. These funds are also used to operate and maintain the two fishing access points on Billingsley Creek where it enters and leaves the WMA. Other federal funds derived from the Federal Aid in Wildlife Restoration Act of 1937, most often referred to as the Pittman–Robertson Act, provide funding for WMA operations and staffing. Both of these funding sources include sideboards that define how those funding sources can be used, and what is considered eligible/ineligible expenditures.

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 management priorities 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 BCWMA into consideration, in concert with the foundational priorities of BCWMA and statewide Department priorities and public input, the Department developed the following list of broad-scale BCWMA management priorities.

Billingsley Creek WMA management priorities:

1. Waterfowl Habitat
2. Upland Game Bird Habitat
3. Special Status Species Habitat
4. Public hunting, fishing, and wildlife-based recreation opportunity and education

Focal Species Assessment

This section of the BCWMA Plan is an assessment of various conservation priority wildlife species on the BCWMA and the spring-fed Billingsley Creek drainage system in order to identify focal species/focal guilds 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 (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., spring-fed Billingsley Creek water drainage system or cliff/canyon ecotone), 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). Waterfowl are an example of a guild that fit the criteria as both focal and flagship species. Therefore, waterfowl are an important flagship species group/guild considered in the BCWMA assessment.

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 also considering a variety of at-risk species (Groves 2003); yielding a more comprehensive assessment that includes culturally and economically important species (e.g., waterfowl and upland game birds) along with formally designated conservation priorities (e.g., bald eagle). 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 Bureau of Land Management (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 spring-fed Billingsley Creek water drainage system, including BCWMA, comprises multiple land ownerships; private lands are the dominant ownership, with IDPR and Department-owned and managed lands constituting the remainder. The IDPR, Department, and private landowners are key partners in this landscape as their management actions can directly influence ecological function on BCWMA.

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.

Magic Valley Regional Habitat staff with assistance from regional staff estimated the suitability of assessed species as a focal species based on descriptions in Groves (2003) and 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 Conservation Priority Species on the Billingsley Creek WMA including their potential suitability as focal species for management.

Species	Status Designation(s)	Occurrence Context in Billingsley Creek WMA Landscape	Threats	Beneficial Management and Conservation Actions	Suitability as a Focal Species for Billingsley Creek WMA
Inland Redband Trout (*Oncorhynchus mykiss gairdneri*)	At-risk Species; SGCN; BLM Sensitive	Found in the interior Columbia River Basin from east of the Cascades upstream to geologic barriers such as Shoshone Falls on the Snake River. Current range-wide abundance in Idaho is unknown. This species occupies a range of stream habitats from desert areas in southern Idaho to forested mountain streams in central and northern Idaho. The drainages surrounding Billingsley Creek, Hagerman, and Niagara Springs WMAs are within the predicted range for this species. The most likely location on BCWMA to find Redband trout are in the Florence Springs and their outflows.	Habitat loss, fragmentation of current habitat, isolation of existing populations, and hybridization with Coastal Rainbow Trout and Cutthroat Trout are the principal threats to this species.	• Work with regional fisheries staff to conduct fish surveys of Florence Springs and their outflows. • Develop a conservation status and management plan on BCWMA if surveys document their presence. • Continue a sterile fish planting program in areas where Inland Redband trout and introduced hatchery fish overlap. • Maintain or reestablish connectivity of current Inland Rainbow trout meta-populations. • Continue statewide population distribution and trend monitoring program.	**Potentially suitable as a focal species.** Native trout are important to Idaho biologically because they evolved here and are best adapted to their historical waters; ecologically, because their presence is an indicator of the overall health of Idaho's waters, and socially, because Idaho anglers place a high value on native trout. Many anglers also specifically target native trout for their uniqueness thus adding great value to Idaho's economy. If Redband Trout are found on BCWMA their suitability as a focal species would increase as would the level of beneficial management actions specific to their habitats on BCWMA. Currently the presence of Inland Redband trout on BCWMA is unknown.
Amphibian Guild	At-risk Species; SGCN; BLM Sensitive	Northern Leopard Frog (*Rana pipiens*) was at one time the most commonly encountered amphibian in Twin Falls County. Billingsley Creek WMA is within historic/predicted distribution for this species. The ACD shows a few historic records (1935, 1946) in the vicinity of the WMA. Presence of bullfrogs in surrounding drainages suggests a possible limiting factor and/or threat. The ACD shows a few records for Western Toad (*Anaxyrus boreus*) within two miles of the WMA. The WMA is outside of the range of the Southern Rockies Distinct Population Segment of Western Toad, which has been petitioned for listing under ESA. The WMA is also within the predicted distribution of Woodhouse's Toad (*Bufo woodhousii*) and Great Basin Spadefoot (*Spea intermontana*), though the nearest records are >40 mile downstream and 20 miles northeast, respectively. Suitable breeding habitat exists on the WMA for all four species, conservation status for all four species are currently unknown.	Loss and degradation of wetland and riparian habitat is the most prevalent threat to populations. Introduced competitors and predators (i.e., bullfrogs, sport fishes) can cause amphibian population declines and losses. Disease is also a concern, particularly the chytrid fungus, *Batrachochytrium dendrobatidis*, which is a primary threat to Western Toad populations. This is compounded by habitat alteration around wetlands and human-facilitated expansion of natural and introduced predators. Habitat fragmentation isolates breeding populations, which increases the effects of these widespread threats and the risk associated with other threats, such as local changes in water quality, timber harvest, livestock grazing, fire, and toxic chemicals.	• Wetland protection and/or restoration of degraded sites. • Disease management. • Cataloging and monitoring population status. • Delineating important habitat, and protecting delineated habitat are beneficial to the Northern Leopard Frog, Western Toad, Woodhouse's Toad, and Great Basin Spadefoot, but will also benefit other amphibians (i.e., Boreal Chorus Frog, Sierran Chorus Frog) and wetland-associated fish and wildlife.	**Potentially suitable as a focal guild.** Amphibians are an important indicator of healthy riparian and wetland systems in southern Idaho. Management for this guild could enhance habitat connectivity across an arid landscape and benefit multiple wetland/riparian-dependent species. Highly desirable watchable wildlife species.

Species	Status Designation(s)	Occurrence Context in Billingsley Creek WMA Landscape	Threats	Beneficial Management and Conservation Actions	Suitability as a Focal Species for Billingsley Creek WMA
Waterfowl Guild	Flagship; SGCN (Northern Pintail)	The meandering channel of Billingsley Creek provides quality waterfowl habitat on a year-round basis. Mallards are the most common waterfowl found on the WMA. Nesting species include Canada Geese, Mallards, and Green-winged and Cinnamon Teal. The WMA also provides open water areas for wintering waterfowl, and serves as a spring and fall migration stopover for a wide variety of waterfowl. In late fall and winter, the open water on Billingsley Creek attracts a wide variety of waterfowl when nearby more placid waters freeze.	Drainage of wetlands, agricultural alterations, and the competing demands for human uses of water pose the primary threats to waterfowl. Overhead power-lines can be a major source of mortality for breeding and migratory waterfowl.	• Maintenance and restoration of wetland, spring, and riparian systems through cooperative joint ventures and integration of waterfowl management with agricultural practices. • Site power-lines and infrastructure away from flight paths.	**Highly suitable as a focal guild**. This guild is a good indicator of quality wetland habitat. BCWMA provides important overwintering, migratory, and nesting habitat for waterfowl, and waterfowl hunting opportunity.
Golden Eagle (*Aquila chryasaetos*)	Flagship	The ACD shows several records for nesting Golden Eagles on the Snake River Canyon rim within three miles of the WMA. A 2011 comprehensive survey for Golden Eagles in southern Idaho found 86% of Golden Eagle territories (145 of 168) in the Shoshone and Burley BLM Field Offices, primarily in the Snake River Corridor. Billingsley WMA spans the boundary of these two field offices. Small mammal populations on the WMA provide a foraging resource for these large, wide-ranging raptors.	Renewable energy development, particularly collisions with wind turbines and electrocution. Human disturbance during the nesting season. Secondary poisoning from lead or rodenticides. Loss and fragmentation of shrub-steppe habitat.	• Identify migratory corridors and monitor breeding territories to identify potential energy development impact "hot spots"; develop mitigation strategies, and enable a more proactive approach to review and evaluation of energy development projects. • Minimize human disturbance at nest sites. • Properly site and construct transmission lines and infrastructure to minimize bird strikes and electrocutions. • Apply best management practices for rodent/pest control to avoid secondary poisoning of Golden Eagles from rodenticides, pesticides, or lead bullet fragments. • Maintain integrity of sagebrush-steppe habitats, which support the prey resources preferred by Golden Eagles (i.e., jackrabbit, cottontail, marmot, ground squirrel).	**Potentially suitable as a focal species.** Golden Eagle could serve as a management indicator for canyon, upland, and sagebrush-steppe habitat types on the WMA and surrounding lands. Highly desirable watchable wildlife species.
Cliff and Canyon Bird Guild	Flagship	Geological formations on Billingsley Creek WMA, including rock outcrops, cliffs, talus slopes, and crevices provide nesting sites, foraging locations, retreat sites from predators, and vantage points within territories for many bird species. Cliff-nesting birds include canyon wren, rock wren, Say's phoebe, prairie falcon, golden eagle, American kestrel, red-tailed hawk, western screech owl, great horned owl, white-throated swift, violet-green swallow, cliff swallow, and mountain bluebird. Most of these species are migratory, departing the WMA in fall.	Human disturbance at nest sites; mining-related alteration of cliff substrates; bird strikes resulting from improper placement of wind power turbines and transmission lines.	• Cliff tops directly above nests should remain undeveloped. • Establish nest buffer distances for various human disturbances (i.e., rock climbing, hiking trails, motorized/non-motorized aircraft). • Route power-lines and wind farms away from nest sites and foraging areas. • Avoid applying pesticides around occupied cliff nests during the breeding season.	**Potentially suitable as a focal guild**. The cliff/rock landforms on Billingsley Creek WMA provide a spectacular backdrop to many species of cliff-nesting birds that illustrate a wide range of bird adaptations. This guild is very conspicuous by sight (i.e., Golden Eagle) and song (i.e., Canyon Wren) and is highly valued by birders and wildlife enthusiasts.

Species	Status Designation(s)	Occurrence Context in Billingsley Creek WMA Landscape	Threats	Beneficial Management and Conservation Actions	Suitability as a Focal Species for Billingsley Creek WMA
Riparian Bird Guild	Flagship	Riparian and spring/seep habitats are significant features on Billingsley Creek WMA. In the arid Intermountain West, riparian areas comprise less than 1% of the landscape, but they are the single most productive type of habitat, benefiting the majority of Idaho's wild species. Nearly half of Idaho's 242 species of breeding birds use riparian areas as their primary nesting habitat. Cottonwood forests, in particular, offer complex structural habitat for canopy and cavity-nesting birds and act like a web across the landscape to link patches of critical habitat along migration routes. Riparian associated birds expected to occur on the WMA include Tree Swallow, Common Yellowthroat, Yellow Warbler, Yellow-breasted Chat, Bullock's Oriole, and Song Sparrow.	Drainage of wetlands, water diversions, and the competing demands for human uses of water pose the primary threats to riparian woodland systems. Loss of floodplain function limits recruitment and retention of cottonwood galleries. Improper livestock grazing can eliminate understory herbaceous and shrub layers, decrease the number of cottonwood seedlings and saplings, and degrade stream banks and water quality. Loss of riparian and spring/seep sites due to encroachment of invasive, non-native plant species.	• Maintain multiple vegetation layers in woody riparian habitats. Ensure that cottonwoods, willows, and other woody species are stable or increasing, with all age-classes present. • Manage for a variety of native plant species and eliminate non-natives (i.e., Russian-olive). • Maintain good water quality. • Consider potential disturbance to nesting birds when locating camping sites, picnic areas, and other areas of human activity. • Implement monitoring to assess species diversity, abundance, and trends.	**Potentially suitable as a focal guild.** Rare habitat type within southern Idaho landscape. Supports diverse assemblage of fish and wildlife including, neo-tropical migratory birds, amphibians, bats, fish, small mammals, and mule deer. Favored habitat type for wildlife viewing, bird watching, and hiking.
Bliss Rapids Snail (*Taylorconcha serpenticola*)	Threatened/USFWS	Bliss Rapids snails are typically found on cobble- to boulder-sized substrates, recent surveys have found them on gravel-sized substrates in habitats with good water quality and stable flows. They are most often found in flowing waters of un-impounded reaches of the main stem Snake River and in cold water spring and tributary habitats in the Hagerman Valley. The species does not burrow in sediments and normally avoids surfaces with attached plants. The Department and USFWS personnel conducted surveys during March 2012 of seven springs located along the base of the cliffs in the NE section of BCWMA. These springs, known as the Florence Springs were documented to contain Bliss Rapids snails at four of the seven springs. Since the entire reach of each spring outflow was not surveyed it is possible that additional springs/outflows may contain Bliss Rapids snails.	A loss of clear cobble substrate due to sedimentation, algae growth, and water quality issues is one of the biggest threats to Bliss Rapids snails. Other threats include: Habitat modification, crushing, deteriorating water quality, hydroelectric dam construction, and invasive species such as (New Zealand mudsnail).	• No chemicals (e.g., petroleum, fuel, lubricants, solvents, Hazwaste, or HazMat) will be discharged into snail habitat. • Requirements specified by USACE permitting and USFWS biological opinion, incidental take statement, and conservation measures will be complied with when conducting projects in Bliss Rapids Snail habitats on the BCWMA. • Construction of roads and trails will be designed to avoid impacts to known snail habitats. • Post signs regarding the potential for introducing exotic/invasive flora and fauna species via translocation on watercraft from other infested waters.	**Highly suitable as a focal species.** USFWS listed species known to be present on BCWMA. Ecologically, their presence is an indicator of the overall health of the waters they inhabit. Management of spring habitats/outflows and their associated riparian corridors also benefit other fish and wildlife on the WMA that use those habitats.
Upland Game Bird Guild	Flagship	Ring-necked Pheasant and California quail occur throughout the BCWMA and are the most common upland game bird species that occur on the WMA. California quail are closely associated with riparian shrubs and trees found along the WMA's spring outflows. Pheasants are common year-round on BCWMA and utilize a wide range of habitats. During the fall and winter months their numbers increase on BCWMA once agricultural crops have been harvested and inclement winter weather moves into the Hagerman Valley. Mourning Doves are also common on BCWMA. Gray Partridge are present on the WMA, but are less common and are found	Fragmentation of travel corridors. Loss of habitat due to wildfires, invasive plants, and activities that result in habitat degradation such as off-road vehicle use, improperly applied grazing management in riparian areas, and access management. The management of surrounding public and private lands can substantially influence the number of upland game birds present on the BCWMA. The Department's ability	• Evaluate selective removal of Russian-olive trees, treat stumps to inhibit regrowth and rehab with preferred grasses and shrubs. • Preserve riparian shrub and tree corridors along spring outflows. • Implement fire restrictions during periods when the threat of wildfire is high. • Treat invasive plant species. • Designate travel and access points.	**Highly suitable as a focal guild.** The upland habitats utilized by this guild comprise a significant portion of BCWMA. Upland habitats also benefit a wide variety of nongame bird species such as song birds, reptiles, small mammals, owls, hawks, and mule deer. Pheasant and quail are Flagship species highly sought after by upland bird hunters in the Magic Valley Region.

Species	Status Designation(s)	Occurrence Context in Billingsley Creek WMA Landscape	Threats	Beneficial Management and Conservation Actions	Suitability as a Focal Species for Billingsley Creek WMA
		in open grassy areas.	to collaborate with management of public and private lands that are located in close proximity to BCWMA is challenging and depends on a myriad of factors.		
Myotis Guild	SGCN; BLM Sensitive and Watch List	Little brown myotis, fringed myotis, western small-footed myotis, Pallid bat, Yuma bat and Townsend's Big-eared bat are all potential occupants at BCWMA.	Individuals are long-lived but 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 habitats that face the potential of conversion. 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.	**Potentially suitable as a focal species.** Unknown scope of occurrence and composition of guild on BCWMA would require preliminary work to determine the extent of occurrence. Some commonality with riparian habitat assemblage, considering that management of this habitat would be central to meeting the needs of Myotis spp.

Selection of Conservation Targets

The biodiversity of BCWMA 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, communities, or habitats were selected to represent the biodiversity of BCWMA for management and conservation, while still reflecting the management priorities of BCWMA.

Conservation Targets for the BCWMA Management Plan were selected from species or guilds ranked as potentially suitable focal species in Table 1. Plants are not included in this assessment due to practical considerations including lack of data and funding. Conservation Targets may 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 Magic Valley Regional Habitat Manager and regional 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 BCWMA personnel and funding.

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

1. Waterfowl Guild (Waterfowl Habitat)
2. Upland Game Bird Guild (Upland Game Bird Habitat)
3. Bliss Rapids Snail (Special Status Species Habitat)

Waterfowl Guild

Waterfowl are flagship species that are historic and current management priorities on BCWMA. The mallard is by far the most common waterfowl species on the BCWMA. They meet three of the five guiding criteria for focal species selection recommended by USFWS (2005). Also, given its' dependence on seasonal ranges dispersed across migration landscapes and the high amount of information available on seasonal habitat use, the mallard is likely the most effective and practical focal species for gaining a better understanding of the effective planning landscape surrounding BCWMA. Billingsley Creek WMA and the Hagerman Valley provide important winter refuge habitat for mallard and other waterfowl that utilize the Pacific Flyway. In addition, their broad habitat requirements and distribution make them good surrogates for a wide variety of SGCN and other wildlife. Waterfowl hunting is the most popular activity on BCWMA for sportsmen.

Upland Game Bird Guild

Both ring-necked pheasant and California quail are flagship species and are the most common upland game birds present on BCWMA. They occupy a majority of the diverse habitats on the WMA. California quail are closely associated with the riparian corridors that exist along the

spring outflows, and also use Russian-olive tree stands for cover and food. Adjacent shrub and grass uplands provide nesting habitat for both species. Ring-necked pheasants utilize the dense stands of cattail and bulrush during late fall and winter for thermal and hiding cover. These species meet three of the five potential characteristics of a focal species mentioned in the Focal Species Assessment section.

Springs Habitat (Bliss Rapids Snail)

The Bliss Rapids Snail (BRS) is present on BCWMA in the springs that flow from the cliffs on the east side of the WMA and potential habitat exists in other springs located outside the boundaries of the WMA. The BRS is listed as a threatened species under the Endangered Species Act by the USFWS and requires additional management emphasis to ensure the Department is not doing anything that would be detrimental to this species.

The BRS inhabits springs and spring-influenced river reaches. Occupied sites are in flowing water having coarse, stable substrates and excellent water quality. Water temperatures generally range from 15 to 16°C. This species is typically absent from areas with impoundments and major depth fluctuations, warm-water environments, whitewater, and sites with predominant aquatic macrophytes (Hershler et al. 1994, USFWS 1995). Water quality is an indicator of overall aquatic ecosystem health, and healthy riparian areas help buffer streams from degradation (e.g., excess sediment, high temperatures) while benefiting a wide range of fish and wildlife species.

Coverage Assessment of Selected Conservation Targets

We define an effective Conservation Target as one providing meaningful conservation benefits for multiple species that share similar habitat requirements or life history traits. They are useful for directing limited management resources and maximizing conservation effort. One measure of effectiveness is to assess the number of species that a Conservation Target benefits (or covers) within the management landscape.

Regional Habitat and Diversity staff worked together to complete the coverage assessment table (Table 2). We evaluated each of the Conservation Targets to determine which species from Table 1 would benefit from management activities focused on that target. Evaluations are based on knowledge of species habitat requirements, occurrence within the management landscape, and the scope of current and planned management actions. The assessment considered only those habitat features or needs relevant to the species as it occurs on the management landscape. Our results indicate that the selected Conservation Targets on BCWMA provide substantial but variable habitat benefits for an array of assessed species.

We also evaluated which species or guilds would receive little or no tangible benefit from management actions for specific Conservation Targets; these are designated “conservation needs.” We identified conservation needs for several species or guilds and determined that further data will be useful to inform the next WMA planning process. A prudent management strategy is to consider a landscape where these species may be prioritized for management in the

future. Broad strategies for addressing these management needs are identified in the following Management Program Table (pages 34-36), but typically include collection of additional baseline data.

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

	Conservation Targets[a]			
Species Assessed in Table 1	**Waterfowl Guild**	**Upland Game Bird Guild**	**Bliss Rapids Snail**	**Conservation Need**
Inland Redband Trout	P		X	
Amphibian Guild	X		X	
Waterfowl Guild	X		P	
Golden Eagle	P	P		Yes
Cliff and Canyon Bird Guild		P	P	Yes
Riparian Bird Guild	P		X	
Bliss Rapids Snail	P		X	
Upland Game Bird Guild	P	X	P	
Myotis Guild	P		P	Yes

[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

Each of the focal species selected as Conservation Targets for BCWMA also utilize habitats off of the WMA to meet their annual needs. Therefore, it is crucial that we actively participate in habitat conservation efforts within the landscape, beyond the borders of the WMA, if we are to maximize the potential benefits of management actions on the WMA.

The following sections describe the methods used to define spatial landscapes for each of our BCWMA Conservation Targets. We used the best data available (i.e., professional knowledge from Department biologists and Conservation Officers who were familiar with waterfowl movements on BCWMA, feeding patterns, foraging flight movement data, and other ecological data from peer reviewed scientific literature, and local knowledge) to construct these Conservation Target-specific landscapes. These landscapes are then utilized in the Management Program Table (pages 34-36) to identify Conservation Target-specific Management Directions, Performance Targets, and Strategies for both BCWMA and for the delineated landscape.

Waterfowl Guild Landscape

The boundary for the landscape polygon for waterfowl guild (Figure 2) was developed using the following information:

- The availability of agricultural fields in the area, focusing primarily on corn and small grain fields.
- Regional staff input of known waterfowl flight patterns in the Hagerman Valley and surrounding area.
- Bossenmaier and Marshall (1958) and Reed (1971) reported the maximum distance of flights for ducks from roosting areas to feeding areas (agricultural fields) was 17.6 and 19.2 km, respectively. Jorde et al. (1983) documented foraging flights of mallards increased from 3.2 to 20 km during periods of severe weather.
- A maximum flight distance of 20 km (approximately 8.5 miles) for foraging flights from the WMA was used to develop the landscape polygon.

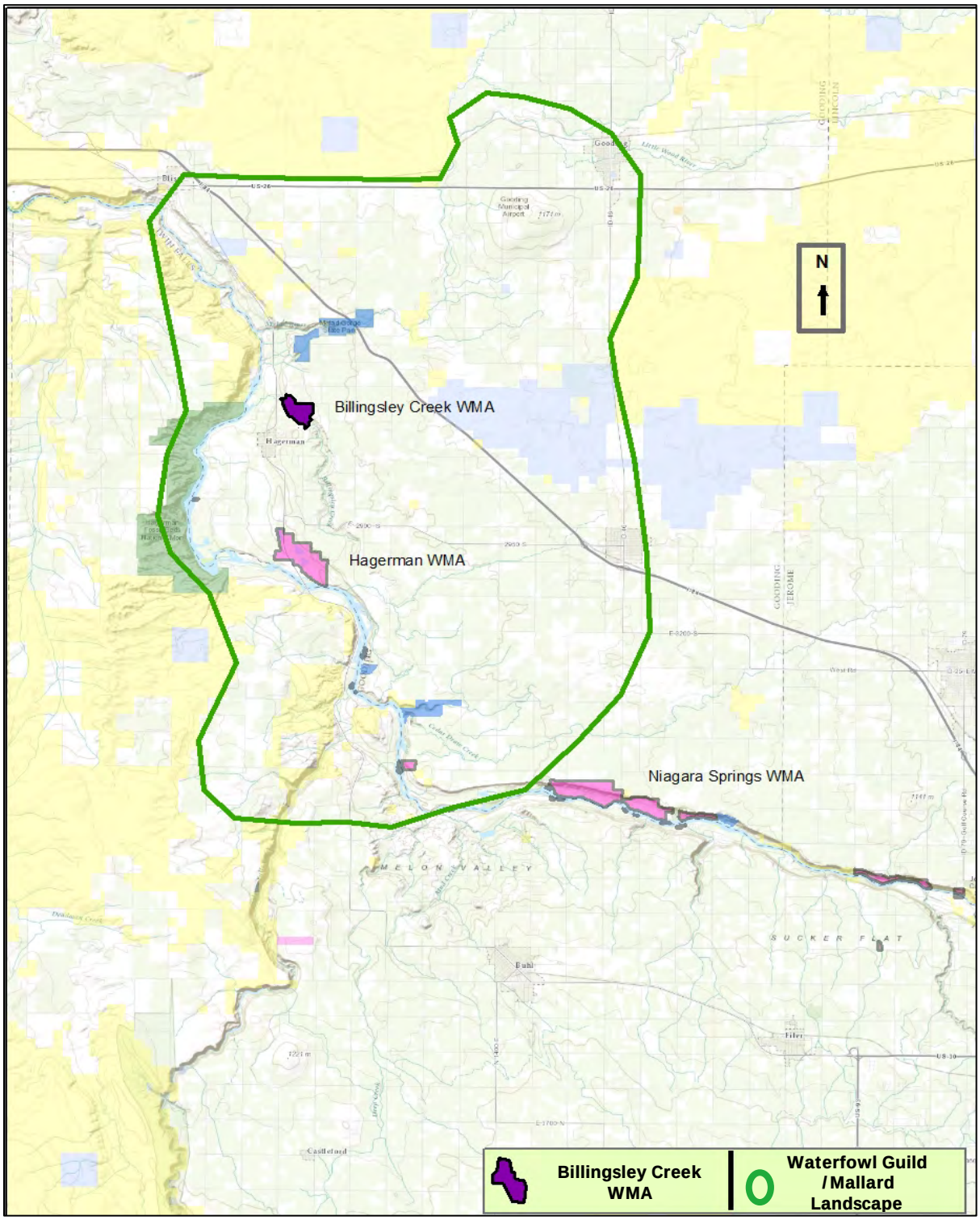


Figure 2. Billingsley Creek WMA Waterfowl Guild landscape map.

Upland Game Bird Guild Landscape

The boundary for the landscape polygon for upland game bird guild (Figure 3) was developed using the following information:

- A study of hen pheasants during their nesting season by Kuck et al. (1970) found the home range of broods ranged from two to11 hectares.
- In a South Dakota study, 73% of radioed male pheasants dispersed an average of 3.2 km in the spring from wintering areas. (Leif 2005).
- Leif (2005) also found home ranges of male pheasants varied from 18.4 hectares to 45.4 hectares.
- Gatti et al. (1989) studied the habitat use and movements of female pheasants during fall and winter and documented average home ranges of 24.2 hectares.
- Emlen (1939) reported on home ranges of California quail during the winter of four coveys in the Central Valley of California. He found that these coveys had home ranges of 7.7, 8.9, 6.9 and 18.2 hectares, respectively.
- Mean home range size of radio-marked female California quail in western Oregon ranged from four to 22 hectares (Kilbride 1991).

Bliss Rapids Snail Landscape

The boundary for the landscape polygon for BRS (Figure 4) was developed using the following information:

- Populations of BRS are known to occur within the borders of Billingsley Creek WMA in the springs on the east side of the WMA, and potential habitat exists outside BCWMA's boundaries in the springs that feed Billingsley Creek (McDonald and Edelmann 2013, USFWS 2009).
- Populations of BRS are limited in their distribution due to their reliance on downstream flows for dispersal and the existence of dams on the Snake River (Liu and Hershler 2009, Kappes and Haase 2011). While some dispersal through dams is possible during periods of high flows, the reservoirs and large bodies of water often occurring behind dams do not provide suitable habitat for BRS (Liu and Hershler 2009). Based on current literature, adult BRS can only actively disperse upstream locally and not at great distances. Passive dispersal of larvae through the moving water column is the primary method for the dispersal of BRS.
- Based on the life history of the species and its dispersal capabilities, the most significant influence management activities at BCWMA would have on BRS is within the Billingsley Creek drainage, with minor impacts on the populations existing in the Snake River downriver to the King Hill area.

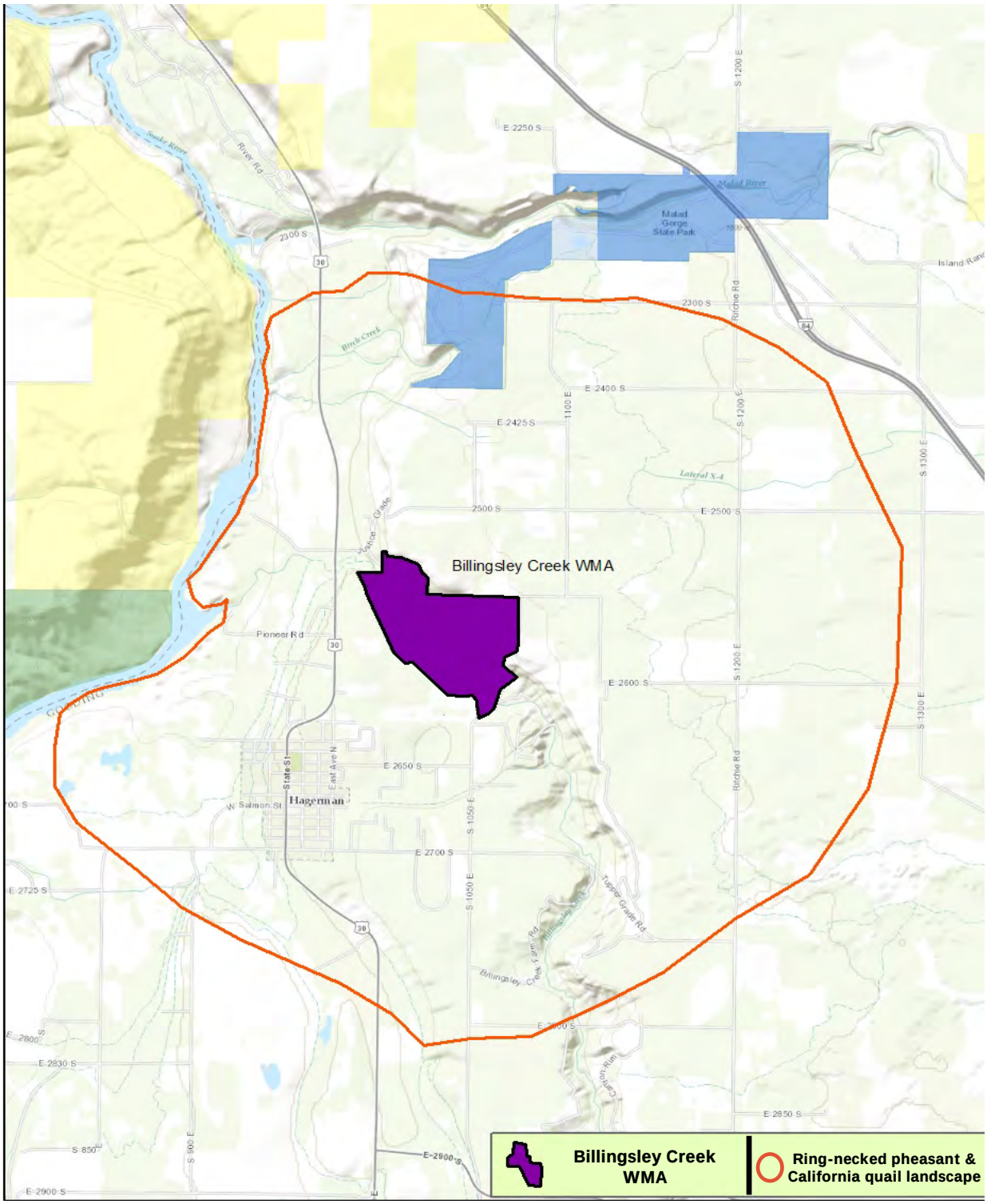


Figure 3. Billingsley Creek WMA ring-necked pheasant and California quail landscape map.

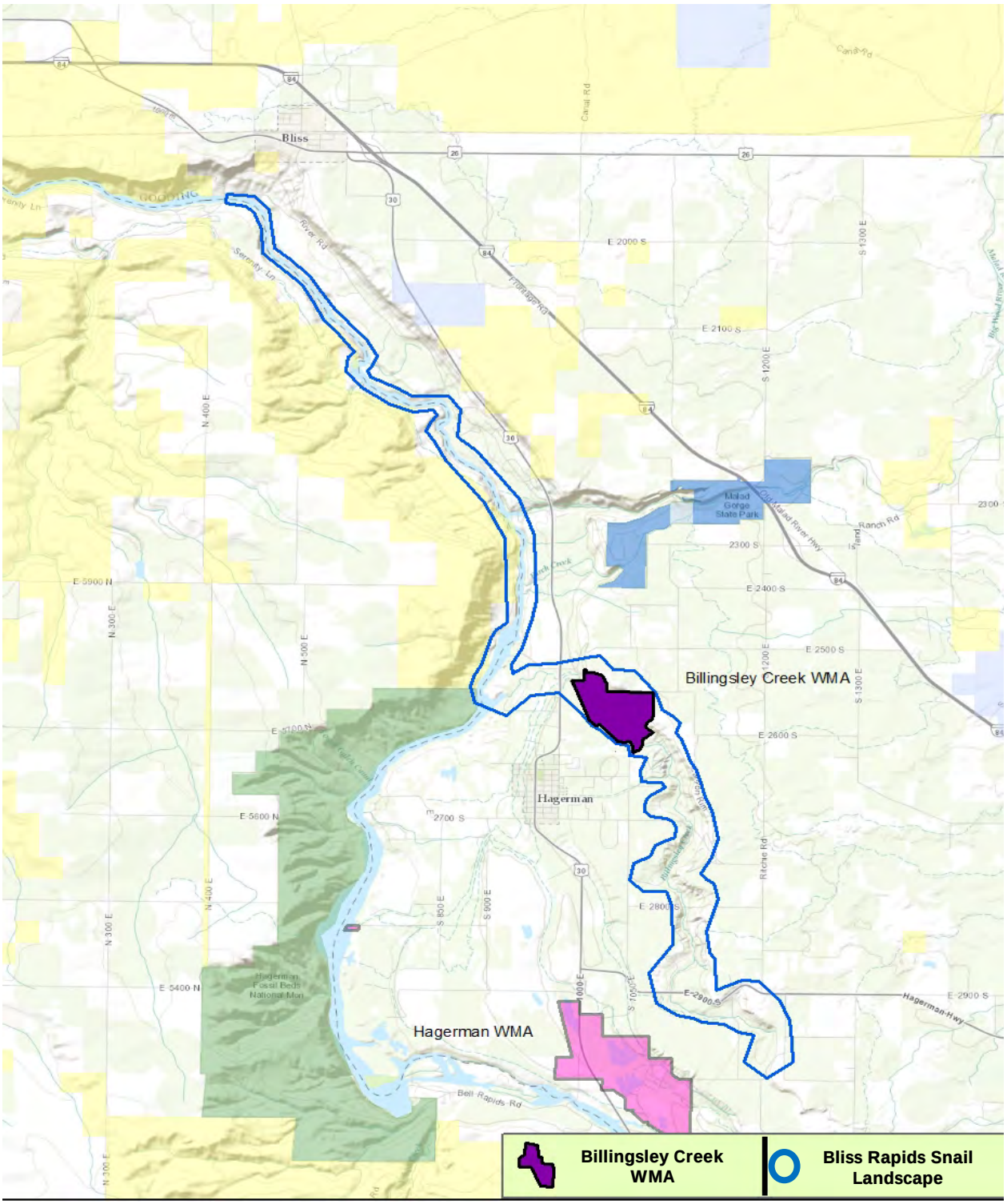


Figure 4. Billingsley Creek WMA Bliss Rapids snail landscape map.

Billingsley Creek WMA Management Program Table

The following table outlines the Management Directions, Performance Targets, Strategies, and Outcome Metrics BCWMA staff will use to manage for the Conservation Targets selected (page 26) to represent each BCWMA Priority (page 19) at both the BCWMA and Conservation Target-specific landscape scale. 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: Waterfowl Habitat					
Conservation Target: Waterfowl Guild					
Scope	**Management Direction**	**Performance Target**	**Strategy**	**Metric**	**Compass Objective (Appendix I)**
BCWMA	Provide high quality, year-round waterfowl habitat.	Provide two additional open water areas for brood rearing in dense wetland vegetation by 2019.	Evaluate best areas on the WMA to create small (0.5-1.5 acre) ponds.	Number of open water areas created with documented waterfowl use.	A, B, C, D, J, K
			Utilize mechanical and chemical methods to remove pockets of dense vegetation of cattails and bulrush in the flooded area of the WMA between Billingsley Creek and uplands.		
		Improve and/or actively manage at least 20 acres of waterfowl habitat annually.	Create GIS layer of the current vegetation types on the WMA.	Acres improved or actively managed	
			Create GIS layer of noxious weed infestations and develop a weed management plan to reduce and control noxious weeds on the WMA.		
			Provide artificial nesting platforms and boxes, and perform annual maintenance as needed.		
			Control off-trail access during waterfowl nesting season (Apr-Jun)		
			Work with user groups to manage group activities on the WMA so they do not impact nesting waterfowl.		
			Convert Russian-olive tree stands that are located along the wetland/upland interface to nesting cover.		
			Work with conservation organizations and volunteers on waterfowl habitat enhancement projects on BCWMA.		
Landscape	Provide high quality, year-round waterfowl habitat.	Improve waterfowl habitat on private lands by working with two private landowners annually.	Provide consultation to landowners regarding what they can do on their lands to improve or develop waterfowl habitat.	Acres improved	
			Use the Habitat Improvement Program (HIP) to cost-share with private landowners to improve or develop waterfowl habitat.		
		Work with County, State and Federal land managers in the landscape area to improve or enhance waterfowl habitat on their lands.	Meet with the Billingsley Creek Unit (IDPR) Manager at least twice annually to discuss issues and topics regarding waterfowl habitat management on Department and IDPR properties and look for opportunities to collaborate on projects.	Acres improved	
			Work with local planning and zoning committees to reduce the impacts of development on waterfowl habitat.		
			Work with local NRCS offices to improve wildlife habitat on private lands via Farm Bill programs.		

WMA Priority: Upland Game Bird Habitat					
Conservation Target: Upland Game Bird Guild					
Scope	**Management Direction**	**Performance Target**	**Strategy**	**Metric**	**Compass Objective (Appendix I)**
BCWMA	Provide high quality, year-round upland game bird habitat.	Rehabilitate three acres of Russian-olive trees annually.	Map and evaluate best areas on the WMA to remove Russian-olive trees.	Acres treated	A, B, C, D, J, K
			Use mechanical and chemical methods to eliminate selected areas of Russian-olive trees.		
			Rehab sites after tree removal with grasses, forbs, riparian trees and shrubs, or perennial grains.		
		Improve or maintain at least 50 acres of upland game bird habitat annually.	Create GIS layer of the current vegetation types on the WMA.	Acres improved or actively managed	
			Create GIS layer of noxious weed infestations and develop a weed management plan to reduce and control noxious weeds on the WMA.		
			Control off-trail access during upland game bird nesting season (Apr-Jun)		
			Work with user groups to manage group activities on the WMA so they do not impact nesting upland game birds.		
			Convert Russian-olive tree stands that are located along the wetland/upland interface to nesting and brood-rearing cover.		
			Work with conservation organizations and volunteers on upland game bird habitat enhancement projects on BCWMA.		
			Plant native species of fruit/seed bearing trees and shrubs.		
			Maintain areas of bulrush and cattails to provide dense wintering habitat.		
Landscape	Provide high quality, year-round upland game bird habitat.	Improve upland game bird habitat on private lands by working with two private landowners annually.	Provide consultation to landowners regarding what they can do on their lands to improve or develop upland game bird habitat.	Number of landowner contacts/projects	
			Use the Habitat Improvement Program (HIP) to cost-share with private landowners to improve or develop upland game bird habitat.		
		Work with County, State and Federal land managers in the landscape area to improve or enhance waterfowl habitat on their lands.	Meet with the Billingsley Creek Unit (IDPR) Manager at least twice annually to discuss issues and topics regarding upland game bird habitat management on Department and IDPR properties and look for opportunities to collaborate on projects.	Acres improved, protected, or actively managed	
			Work with local city and county planning and zoning committees to reduce the impacts of development on upland game bird habitat.		
WMA Priority: Special Status Species Habitat					
Conservation Target: Bliss Rapids Snail					
Scope	**Management Direction**	**Performance Target**	**Strategy**	**Metric**	**Compass Objective (Appendix I)**
BCWMA	Provide high quality, year-round habitat for the Bliss Rapids Snail.	Protect and enhance snail habitat where BRS have been found in 4 of 7 springs on the WMA and where they could potentially occur.	Map BRS habitat on BCWMA.	BRS habitat acres enhanced or maintained	A, B, C, D, J, K
			Mitigate impacts of WMA operational activities on BRS habitat.		
			Monitor for presence of aquatic weeds in BRS habitat.		
			During weed control activities in terrestrial and aquatic environments ensure no adverse impacts to BRS or their habitat.		
			Protect and enhance riparian vegetation along springs and outflows where BRS currently reside.		
			Identify areas in BRS habitat that are being used by visitors as crossings and construct footbridges.		
			Work with user groups to manage group activities on the WMA so they do not impact BRS habitat.		

WMA Priority: Special Status Species Habitat					
Conservation Target: Bliss Rapids Snail					
Scope	**Management Direction**	**Performance Target**	**Strategy**	**Metric**	**Compass Objective (Appendix I)**
BCWMA	Provide high quality, year-round habitat for the Bliss Rapids Snail.	Protect and enhance snail habitat where BRS have been found and could potentially occur on the WMA.	Use informational signs to educate the public and manage access in sensitive areas.	BRS habitat acres enhanced or maintained	A, B, C, D, J, K
			Protect habitat by monitoring population trends to detect potential cause and effect changes in habitat of BRS on BCWMA.		
			Vehicle and equipment travel will use the existing Management Area access road to the extent feasible.		
			To eliminate need for new roads and resulting soil disturbance, overland travel (non-motorized) will be used where weirs cannot be reached by the access road.		
			Contact the Corps and the Service prior to implementing future maintenance in order to ensure that such maintenance and accompanying proposed protective measures are consistent with the proposed action described in Biological Opinion.		
Landscape	Provide high quality, year-round habitat for the Bliss Rapids Snail.	Work with City, County, State and Federal natural resource managers in the landscape area to protect and enhance BRS habitat.	Provide consultation to natural resource managers regarding what they can do to mitigate impacts to BRS habitats.	BRS habitat acres improved or enhanced	
			Work with local city and county planning and zoning committees to reduce the impacts of development to BRS habitat.		
			Meet with the Billingsley Creek Unit (IDPR) Manager at least twice annually to discuss issues and topics regarding BRS habitat management on Department and IDPR properties and look for opportunities to collaborate on projects.		
WMA Priority: Public Hunting, Fishing, and Wildlife-based Recreation Opportunity and Education					
Scope	**Management Direction**	**Performance Target**	**Strategy**	**Metric**	**Compass Objective (Appendix I)**
BCWMA	Provide 1,000 days opportunity for consumptive and non-consumptive wildlife-based recreation and education.	Provide at least 500 of recreational hunting and fishing user days	Improve North access site on Billingsley Creek to facilitate egress from the creek.	Public user days	A, B, C, D, J, K
			Work with irrigation company to modify irrigation pipeline crossing Billingsley Creek in 2014.		
			Provide additional open-water hunting opportunities by creating open areas in bulrush and cattail marsh.		
			Remove areas of Russian-olive trees to improve foot travel throughout the WMA.		
		Provide non-consumptive wildlife-based recreation and education opportunities consistent with the BCWMA mission	Coordinate with local schools to provide nature tours on BCWMA.	Number of tours	
			Publish article/video for local media highlighting wildlife viewing opportunities on BCWMA.	Media produced	
			Install interpretive sign/kiosk of wildlife commonly seen on WMA.	Sign Installed	
		Maintain facilities, signage, and roads/trails to facilitate recreation and education.	Work with IDPR to provide better on-site information regarding boundaries and regulations pertaining to the two properties.	Signage program implemented	
			Maintain walk-in road.		
			Use signs to educate the public and manage access in sensitive areas.	Map of potential trail system	
			Evaluate areas on the WMA to create walking trails.		

Monitoring

Monitoring is a crucial part of any natural resource management program. Billingsley Creek WMA and regional staff will work to design a monitoring program that can be used to determine the effectiveness of habitat projects, access improvements, fish stocking efforts on the BCWMA reach of Billingsley Creek, noxious weeds, and visitor use information.

Monitoring and reporting are critical for tracking accomplishment of performance targets identified in the BCWMA 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 BCWMA 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.

Electro-fishing surveys have been conducted on Billingsley Creek by regional Department staff; the most recent survey was done in 2007. Stocked trout released in 2012 were pit-tagged and additional trout will be pit-tagged in 2014 to determine catch rates. Bliss Rapids snails were surveyed in 2012 on seven spring tributaries on the WMA. Ongoing noxious weed control measures including weed surveys are conducted annually.

In Table 3, future monitoring needs associated with performance targets and strategies identified in the BCWMA 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 the WMA by December 31, 2014.

Table 3. Future Billingsley Creek WMA monitoring needs and strategies.

Performance Target	Survey Type	Survey Frequency
Provide two to three additional open water areas for brood rearing in dense wetland vegetation by 2019.	Conduct waterfowl brood surveys of newly developed open water areas.	Within next five years; repeat every two years.
Improve and/or actively manage at least 20 acres of waterfowl habitat annually.	Establish and read permanent riparian vegetation transects (USFS protocol); include Daubenmire frame, monitoring transects, line intercept, survival, photo-points, and other methods.	Within first two years after project completion; repeat every year for first three years after restoration then at years 5, 7, and 10 after restoration
	Map area occupied by noxious and highly invasive non-native species for effectiveness of control efforts.	Annually
Improve waterfowl habitat on private lands by working with one to three private landowners annually.	Visit project site to document establishment of habitat project.	Within two years of project completion.
Remove three acres of Russian-olive trees annually	Photo-points and other methods.	Initiate following treatment. Repeat annually for first three years.
Improve and/or actively manage at least 10 acres of upland game bird habitat annually.	Establish and read vegetation transects; include Daubenmire frame, monitoring transects, line intercept, survival, photo-points, and other methods.	Within first two years after project completion; repeat every year for first three years after restoration then at years 5, 7, and 10 after restoration.
Improve upland game bird habitat on private lands by working with one to three private landowners annually.	Visit project site to document establishment of habitat project.	Within two years of project completion.
Protect and enhance snail habitat where BRS have been found on the WMA.	Collect water quality information from occupied BRS waters on WMA. Conduct more complete surveys of all seven springs to verify presence/absence of Bliss Rapids snails in springs 2, 3, 6, and to establish as far as is practical Bliss Rapids snail distribution and density post-weir construction in springs 1, 4, 5, and 7.	Complete snail surveys within first three years, repeat water quality monitoring annually.

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.

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 the WMA.

Reporting

Each WMA will produce a five-year report on implementation of this WMA plan in 2019, including a summary of accomplishments and progress towards meeting performance targets. During the five-year review, BCWMA 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.

References

Bossenmaier, E. F., and Marshall, W. H. 1958. Field feeding by waterfowl in South-eastern Manitoba. Wildlife Monograph No. 1. Wildlife Society.

Cowardin, L. M., V. Carter, F. C. Golet, and E. T. LaRoe. 1979. Classification of Deepwater Habitats of the United States. U.S. Department of Interior, Biological Services Program, FWS\OBS-79/31.

Emlen, J. T. 1939. Seasonal movements of a low-density valley quail population. Journal of Wildlife Management. 3:118–30.

Gatti, R. C., R. T. Dumke, and C. M. Pils. 1989. Habitat use and movements of female ring-necked pheasants during fall and winter. Journal of Wildlife Management 53:462-475.

Groves, C. 2003. Drafting a Conservation Blueprint: A Practitioner's Guide to Planning for Biodiversity. Island Press, Washington, D.C.

Hershler, R. A., T. J. Frest, E. J. Johannes, P. A. Bowler, and F. G. Thompson. 1994. Two new genera of Hydrobiid snails (*Prosobranchia: Rissooidea*) from the western United States. The Veliger 37(3):221-243.

Heywood, V. H. 1995. Global biodiversity assessment. Cambridge University Press, Cambridge.

Idaho Department of Fish and Game. 1985. Region 4 1986-1990 Idaho Department of Fish and Game wildlife management area plans. Idaho Dept. of Fish and Game, Jerome.

Idaho Department of Fish and Game. 2005. Idaho Comprehensive Wildlife Conservation Strategy. Idaho Conservation Data Center, Idaho Department of Fish and Game, Boise. https://fishandgame.idaho.gov/public/wildlife/cwcs/ [Accessed March 3, 2014].

Jorde, D. G., G. L. Krapu, and R. D. Crawford. 1983. Feeding ecology of mallards wintering in Nebraska. Journal of Wildlife Management 47:1044-1053.

Kappes, H., and P. Haase. 2011. Slow, but steady: dispersal of freshwater molluscs. Aquatic Sciences 74(1):1-14.

Karl, J. W., J. M. Scott, and E. Strand. 2005. An assessment of Idaho's wildlife management areas for the protection of wildlife. Natural Areas Journal 25:36-45.

Kilbride, K. M. 1991. Applications of radio-telemetry to studies of California quail in western Oregon. M.S. thesis, Oregon State University, Corvallis.

Kuck, T. L., R. B. Dahlgren, and D. R. Progalske. 1970. Movements and behavior of hen pheasants during the nesting season. Journal of Wildlife Management 34:626-630.

Lambeck, R. J. 1997. Focal Species: A Multi-Species Umbrella for Nature Conservation. Conservation Biology. Volume 11, Issue 4, pages 849–856, August 1997.

Leif, A. P. 2005. Spatial ecology and habitat selection of breeding male pheasants. Wildlife Society Bulletin Vol. 33:130-141.

Liu, H. P., and R. Hershler. 2009. Genetic Diversity and population structure of the threatened Bliss Rapids snail (Taylorconcha serpenticola). Freshwater Biology 54:1285-1299.

McDonald, M., and F. Edelmann. 2013. Idaho Department of Fish and Game (IDFG). Biological Assessment: Billingsley Creek Wildlife Management Area Water Right Monitoring Weir Maintenance.

Noss, R. F., E. Dinerstein, B. Gilbert, M. Gilpin, B. J. Miller, J. Terborgh, and S. Trombulak. 1999. Core areas: where nature begins. *In* J. Terborgh and M. Soule, eds., Continental Conservation: Scientific Foundations of Regional Reserve Networks, pp. 92-128. Washington D.C.: Island Press.

Reed, L.W. 1971. Use of western Lake Erie by migratory and wintering waterfowl. M.S. Thesis, Michigan State University, East Lansing.

Simberloff, D. 1998. Flagships, umbrellas, and keystones: Is single-species management passé in the landscape era? Biological Conservation 83:247-257.

U.S. Fish and Wildlife Service. 1995. Snake River aquatic species recovery plan. Snake River Basin Office, Ecological Services, Boise, Idaho.

U.S. Fish and Wildlife Service. 2005. The U.S. Fish and Wildlife Service's Focal Species Strategy for Migratory Birds Measuring success in bird conservation. http://www.fws.gov/migratorybirds/CurrentBirdIssues/Management/FocalSpecies/The%20Focal%20Species%20Fact%20Sheet%20and%20Table.pdf [Accessed December 6, 2012].

U.S. Fish and Wildlife Service (USFWS). 2009. 74 FR 47536 – Endangered and Threatened Wildlife and Plants; 12-Month Finding on a Petition to Remove the Bliss Rapids Snail (*Taylorconcha serpenticola*) from the List of Endangered and Threatened Wildlife. Federal Register Volume 74, Issue 178 (September 2009).

Veríssimo, D., I. Fraser, R. Bristol., J. Groombridge, and D. MacMillan. 2009. Birds as tourism flagship species: A Case Study on Tropical Islands. Animal Conservation 12:549-558.

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

Billingsley Creek WMA (BCWMA) was purchased from the McCarter Cattle Company, Inc., in September 1963, at a total cost of $60,000. Before being purchased by the Department, the property served at different times as a sheep ranch, a dairy, and a muskrat farm. A Civilian Conservation Corp camp was located across the road from the south boundary of BCWMA. A railroad spur from Bliss to Hagerman was planned, but never completed; however, a railroad access grade was constructed and is still visible on the east side of BCWMA.

The public has been provided foot access to BCWMA since it was purchased in 1963. Access is also available by floating Billingsley Creek. One of two irrigation pipelines that crossed Billingsley Creek about midway downstream from where the creek enters BCWMA has been removed. These pipelines have been an obstacle for visitors floating down the creek. The remaining pipeline is scheduled to be modified during the winter of 2013/2014 so that it is no longer an obstacle. An administrative road exists on the east side of the property that provides the Department access for weed control and water measurements. Idaho Power has permission to use this administrative access to maintain power lines. Public vehicle access to the lower end of BCWMA has historically been available through private property. When this property changed ownership, the new owner no longer allowed public access to Billingsley Creek. The Department developed a new access site on the north end of the BCWMA that includes an access road, parking area, and exit point via stairs from the creek.

During 2012 and 2013, a new fishing access site was developed on Billingsley Creek where it enters the south boundary of the BCWMA. This site includes ADA parking and restroom, a boardwalk from the parking area to a floating fishing pier, and an unloading area for tubes, canoes, kayaks, and other floating craft.

III. MANAGEMENT REQUIREMENTS AND AUTHORITIES

Federal funds, including those derived from the Land and Water Conservation Fund and USFWS Federal Aid Program, have been used in part to acquire and manage BCWMA lands. Certain activities are prohibited from funding with Federal Aid funds, and all provisions of Federal Aid funding will be followed.

Other federal and state laws also affect management of BCWMA. 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 BCWMA lands and waters. Under the National Historic Preservation Act, the Department must ensure that historic properties are protected on BCWMA.

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.

IV. PUBLIC INPUT SUMMARY

Magic Valley Region habitat staff presented information on the WMAs in the Magic Valley Region and the preparation of the 2013 WMA plans at four big game season setting public meetings during March and April of 2012; a total of 120 people attended the four meetings. These meetings were held in Hailey, Burley, Jerome, and Hagerman. Regional habitat staff participated in each meeting and manned displays that highlighted 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 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. A news release was printed in several newspapers located in the Magic Valley Region inviting the public to take the online survey and to participate in the public meetings mentioned previously.

The following is a list of all online and written comments submitted by the public at the open house meetings or online. The comments are written exactly as they were submitted; no truncating or other changes were made to the comments. The comments are responses to survey questions #6 (*Suggestions to Improve Visit*) and #7 (*General Suggestions*); each comment has been listed under a general category that has the best association with the comment, and only comments specific to BCWMA have been included:

Habitat Management

- Remove invasive species.
- Habitat for birds and wildlife.
- Remove old garbage.
- Focus on habitat, less on improvements for people.

Wildlife Management

- Limit hunting.
- I would like to see more golden trout and a catch and release and or one fish limit.
- Limit the number of trappers.
- Manage for the health of the land and its inhabitants with an emphasis on low impact activities.

Public Use Management

- Provide toilet facilities, provide for recycling, alter pipe across creek so that it is more accessible to floating via pontoon boat.
- Clearer communication of rules of use.
- I would like to canoe down the stream sometime.
- Maybe move the big water pipe that crosses the creek – would make floating much easier.
- Improve directions for access.
- Improve trails.
- Provide fishing access.
- Better signs.
- During hunting season maybe add a PortaJohn at the parking lots, other than that, it's great.
- Not sure 1st visit.
- Very hard to fish without a boat.
- Duck hunters must pick up litter including shells.

V. 1999-2013 ACCOMPLISHMENTS

Since the BCWMA plan was written in 1999, the following accomplishments have occurred. The specific goals needed to reach the desired future condition are prioritized below.

Goal: Increase waterfowl and upland game bird production.

Objective: Enhance waterfowl and upland game bird habitat.

Accomplishments:

- Maintained the existing Canada goose nesting platforms.
- Maintained 4-8 wood duck nesting boxes.
- Staff continued to manage motorized vehicle access within BCWMA to reduce disturbance of nesting birds.
- Maintained existing boundary fences (approximately 1.25 miles) and constructed additional fence and rock barriers to mark the property boundary, reduce littering, exclude livestock, and motorized vehicles.

Goal: Provide wintering waterfowl habitat.

Objective: Maintain wintering waterfowl habitat.

Accomplishments:

- Prohibited public vehicle access within BCWMA.
- Focused enforcement activities related to illegal shooting of waterfowl during non-shooting hours.

Goal: Enhance waterfowl and upland game bird hunting.

Objective: Provide sportsman access points.

Accomplishment:

- Provided hunter access by maintaining three parking areas, including developing two new access sites at the north and south WMA boundaries along Billingsley Creek.

Goal: Provide fishing opportunities.

Objective: Provide fishing opportunities for rainbow and brown trout in Billingsley Creek.

Accomplishments:

- Maintained walk-in fishing access.
- Removed one pipeline obstacle on Billingsley Creek.
- Stocked rainbow trout in Billingsley Creek.
- Maintained three parking areas, including developing two new access sites at the north and south WMA boundaries along Billingsley Creek.
- Constructed a floating fishing platform on Billingsley Creek.

Goal: Provide wildlife viewing opportunities.

Objective: Provide public access while protecting wildlife resources.

Accomplishments:

- Maintained three parking areas, including developing two new access sites at the north and south WMA boundaries along Billingsley Creek.
- Maintained foot-access-only within BCWMA.
- Developed a new BCWMA map that is available online at the Department webpage.

VI. VEGETATION

Five different vegetation cover type habitats (IDFG 1985) are found within BCWMA. The habitat classifications have been modified and updated for upland and wetland vegetated cover types to reflect current classification systems (Cowardin et al. 1979). Acreages are approximate.

1. Billingsley Creek - Billingsley Creek is a spring-fed riverine system and lower perennial subsystem (Cowardin et al. 1979). The class is unconsolidated bottom. The water is slow in velocity and meandering, therefore is classified as permanently flooded. The slow flowing creek meanders through BCWMA with an average depth of approximately six feet and a width of approximately 25 feet. The portion of Billingsley Creek delineated within the creek channel on the WMA consists of seven acres.

2. There are 81 acres of palustrine persistent emergent wetlands (Cowardin et al. 1979). The size of the wetland is influenced by a hydroelectric plant located at the lower end of Billingsley Creek as it exits the BCWMA. The wetland is dominated by tall emergent marsh vegetation that includes broadleaf cattail (*Typha latifolia*) and bulrush (*Schoenoplectus* spp.). Mesic meadows and seeps that transition from marsh to upland habitats are occupied by Baltic rush (*Juncus balticus*). Common reed (*Phragmites australis*) is present in spring-fed wetlands.

3. The forested wetland (Cowardin et al. 1979) covers 82 acres. There are small areas of forested upland that exist within the outer boundaries of the forested wetland. The forested wetland is dominated by Russian olive (*Elaeagnus angustifolia*). The upland forested habitat is dominated by poplar (*Populus* spp.), greasewood (*Sarcobatus vermiculatus*), big sagebrush (*Artemisia tridentata*), skunkbush sumac (*Rhus trilobata*), cheatgrass (*Bromus tectorum*), and other grasses.

4. The escarpment shrub-steppe habitat of the basaltic rim covers 87 acres. Small pockets of windblown soils support big sagebrush on drier sites, greasewood and skunkbush sumac in spring-fed areas, and a variety of perennial and annual grasses and forbs.

5. The shrub-steppe habitat covers 18 acres. The majority of this habitat is above the canyon walls. The vegetation includes big sagebrush, cheatgrass, Sandberg's bluegrass (*Poa secunda*), and sand dropseed (*Sporobolus cryptandrus*).

Vegetation Type	**Number of Acres**	**Percent of Total**
Riverine (Billingsley Creek)	7	3
Emergent wetlands (cattail, bulrush)	81	29
Forested wetlands (Russian-olive, poplar, greasewood)	82	30
Escarpment shrub-steppe (cliff face and rimrock)	87	32
Shrub-steppe (big sagebrush, cheatgrass, Sandberg's bluegrass, sand dropseed)	18	6

VII. WILDLIFE AND FISH SPECIES LIST

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

Common Name	Scientific Name	Common Name	Scientific Name
Mammals		***Birds***	
Coyote	*Canis latrans*	Cooper's Hawk	*Accipiter cooperii*
Ord's Kangaroo Rat	*Dipodomys ordii*	Northern Goshawk	*Accipiter gentilis*
Porcupine	*Erethizon dorsatum*	Sharp-shinned Hawk	*Accipiter striatus*
Sagebrush Vole	*Lemmiscus curtatus*	Western Grebe	*Aechmophorus occidentalis*
Yellow-bellied Marmot	*Marmota flaviventris*	Red-winged Blackbird	*Agelaius phoeniceus*
Striped Skunk	*Mephitis mephitis*	Northern Pintail	*Anas acuta*
Long-tailed Vole	*Microtus longicaudus*	American Widgeon	*Anas americana*
Short-tailed Weasel	*Mustela erminea*	Green-winged Teal	*Anas carolinensis*
Long-tailed Weasel	*Mustela frenata*	Northern Shoveler	*Anas clypeata*
Mink	*Mustela vison*	Cinnamon Teal	*Anas cyanoptera*
Mule Deer	*Odocoileus hemionus*	Blue-winged Teal	*Anas discors*
Muskrat	*Ondatra zibethicus*	Mallard	*Anas platyrhynchos*
Raccoon	*Procyon lotor*	Gadwall	*Anas strepera*
Fox Squirrel	*Sciurus niger*	Great Blue Heron	*Ardea herodias*
Mountain Cottontail	*Sylvilagus nuttallii*	Short-eared Owl	*Asio flammeus*
American Badger	*Taxidea taxus*	Lesser Scaup	*Aythya affinis*
Red Fox	*Vulpes vulpes*	Redhead	*Aythya americana*
Reptiles and Amphibians		Ring-necked Duck	*Aythya collaris*
Racer	*Coluber constrictor*	Canvasback	*Aythya valisineria*
Western Skink	*Eumeces skiltonianus*	American Bittern	*Botaurus lentiginosus*
Gopher Snake	*Pituophis catenifer*	Canada Goose	*Branta canadensis*
Pacific Tree Frog	*Pseudacris regilla*	Great Horned Owl	*Bubo virginianus*
Bullfrog	*Rana catesbeiana*	Common Goldeneye	*Bucephala clangula*
Western Terrestrial Garter Snake	*Thamnophis elegans*	Bufflehead	*Bucephala albeola*
Fish		Red-tailed Hawk	*Buteo jamaicensis*
Rainbow Trout	*Oncorhynchus mykiss*	Rough-legged Hawk	*Buteo lagopus*
Brown Trout	*Salmo trutta*	California Quail	*Callipepla californica*

Common Name	**Scientific Name**	**Common Name**	**Scientific Name**
***Birds* (*cont.*)**		***Birds* (*cont.*)**	
Turkey Vulture	*Cathartes aura*	Song Sparrow	*Melospiza melodia*
Canyon Wren	*Catherpes mexicanus*	Common Merganser	*Mergus merganser*
Common Nighthawk	*Chordeiles minor*	Ruddy Duck	*Oxyura jamaicensis*
American Dipper	*Cinclus mexicanus*	Osprey	*Pandion haliaetus*
Northern Harrier	*Circus cyaneus*	House Sparrow	*Passer domesticus*
Marsh Wren	*Cistothorus palustris*	Gray Partridge	*Perdix perdix*
Northern Flicker	*Colaptes auratus*	Ring-necked Pheasant	*Phasianus colchicus*
Rock Dove	*Columba livia*	Black-billed Magpie	*Pica hudsonia*
American Crow	*Corvus brachyrhynchos*	Eared Grebe	*Podiceps nigricollis*
Common Raven	*Corvus corax*	Pied-billed Grebe	*Podilymbus podiceps*
Tundra Swan	*Cygnus columbianus*	Savannah Sparrow	*Pooecetes gramineus*
Western Flycatcher	*Empidonax difficilis*	Vesper Sparrow	*Pooecetes gramineus*
Prairie Falcon	*Falco mexicanus*	Sora	*Porzana carolina*
American Kestrel	*Falco sparverius*	Virginia Rail	*Rallus limicola*
American Coot	*Fulica americana*	Ruby-crowned Kinglet	*Regulus calendula*
Bald Eagle	*Haliaeetus leucocephalus*	Golden-crowned Kinglet	*Regulus satrapa*
Barn Swallow	*Hirundo rustica*	Bank Swallow	*Riparia riparia*
Yellow-breasted Chat	*Icteria virens*	Rock Wren	*Salpinctes obsoletus*
Dark-eyed Junco	*Junco hyemalis*	Say's Phoebe	*Sayornis saya*
Northern Shrike	*Lanius excubitor*	European Starling	*Strunus vulgaris*
Loggerhead Shrike	*Lanius ludovicianus*	Western Meadow Lark	*Sturnella neglecta*
Herring Gull	*Larus argentatus*	Violet-green Swallow	*Tachycineta thalassina*
California Gull	*Larus californicus*	American Robin	*Turdus migratorius*
Ring-billed Gull	*Larus delawarensis*	Barn Owl	*Tyto alba*
Hooded Merganser	*Lophodytes cucullatus*	Yellow-headed Blackbird	*Xanthocephalus xanthocephalus*
Belted Kingfisher	*Megaceryle alcyon*	Mourning Dove	*Zenaida macroura*
Western Screech Owl	*Megascops kennicottii*	White-crowned Sparrow	*Zonotrichia leucophrys*

VIII. LAND ACQUISITIONS, AGREEMENTS, AND INFRASTRUCTURE

Land Acquisitions				
Year	**Funds Used**	**Segment**	**Acres**	**Acquired From**
1964	DJ	WMA	275.31	McCarter Cattle Company, Inc.

Water Rights				
Right No.	**Amount**	**Source**	**Priority Date**	**Purpose**
36-8353	8.0 CFS	Florence Springs	4/26/1988	Beneficial Use / Wildlife

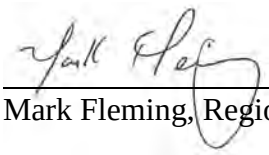
Infrastructure
*Concrete silo that was present on property when it was acquired
*0.5 miles of wire fence line

BILLINGSLEY CREEK

WILDLIFE MANAGEMENT AREA PLAN

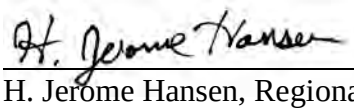
Approval

Submitted by:

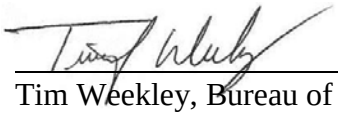


Mark Fleming, Regional Habitat Manager

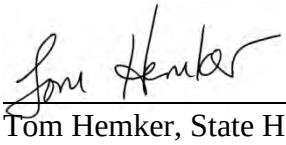
Reviewed by:



H. Jerome Hansen, Regional Supervisor

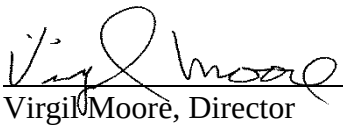


Tim Weekley, Bureau of Wildlife



Tom Hemker, State Habitat Manager

Approved by:



Virgil Moore, Director