



Fort Boise Wildlife Management Area



Management Plan
2014

Southwest Region



Fort Boise Wildlife Management Area

**2014 – 2023 Management Plan
December 2014**

Idaho Department of Fish and Game
Southwest Region
3101 South Powerline Road
Nampa, Idaho 83686

Prepared By:
Tyler Archibald
Senior Wildlife Technician, Fort Boise District

Table of Contents

TABLE OF CONTENTS.....	3
LIST OF TABLES	4
LIST OF FIGURES	5
EXECUTIVE SUMMARY	6
INTRODUCTION	9
Department Mission.....	9
Department Strategic Goals	9
Statewide WMA Vision.....	10
Fort Boise WMA Mission.....	10
Modification of Plan	10
Other Considerations	10
AREA DESCRIPTION AND CURRENT STATUS	11
MANAGEMENT ISSUES	15
Issues Identified by the Public	15
Habitat Management.....	15
Wildlife Management	17
Public Use Management	19
Issues Identified by the Department	21
FORT BOISE WMA MANAGEMENT PROGRAM.....	24
Summary of Management Priorities	24
Focal Species Assessment.....	25
Selection of Conservation Targets	31
Waterfowl	31
Upland Game Birds.....	31
Wetland and Riparian Habitat.....	32
Viability Assessment of Selected Conservation Targets	32
Spatial Delineation of Conservation Target Landscapes	34
Waterfowl Landscape	34
Upland Game Bird Landscape	36
Wetland and Riparian Landscape	38

Fort Boise WMA Management Program Table.....40

MONITORING.....43

 Compliance Monitoring.....43

 Biological Monitoring.....43

 Public Use Monitoring.....44

 Reporting.....44

REFERENCES46

APPENDICES51

 I. THE COMPASS – THE DEPARTMENT’S STRATEGIC PLAN52

 II. HISTORY.....53

 III. MANAGEMENT REQUIREMENTS AND AUTHORITIES.....54

 IV. PUBLIC INPUT AND VISITOR USE SUMMARY.....55

 V. 2003-2013 ACCOMPLISHMENTS65

 VI. VEGETATION.....67

 VII. WILDLIFE AND FISH SPECIES LIST.....68

 VIII. OTHER MANAGEMENT ACTIVITIES70

 IX. LAND ACQUISITIONS AND AGREEMENTS.....72

 X. INFRASTRUCTURE75

List of Tables

Table 1. Status of flagship and special status species on Fort Boise WMA, including their potential suitability as a focal species for management.....28

Table 2. Analysis of Conservation Target coverage and identification of conservation needs.33

Table 3. Biological monitoring for Fort Boise WMA, 2014-2023.45

List of Figures

Figure 1. Map of Fort Boise Wildlife Management Area.....	13
Figure 2. Map of Roswell Marsh Wildlife Habitat Area.	14
Figure 3. Fort Boise WMA Waterfowl Landscape.....	35
Figure 4. Fort Boise WMA Upland Game Bird Landscape.....	37
Figure 5. Wetland and Riparian Conservation Target Areas near Fort Boise WMA and Roswell Marsh WHA.....	39

Executive Summary

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

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 the wildlife-focused management, WMAs often serve as highly productive core areas of the landscapes in which they exist. Management of these areas involves a combination of restoring and maintaining important natural habitats to contribute to landscape-level habitat function (e.g., sage-steppe, slough wetlands) and creating hyper-productive habitats (e.g., food plots, impounded wetlands) to enhance the carrying capacity for certain wildlife species.

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

The Department's Southwest Region includes six WMAs containing approximately 95,000 acres of land with a primary management focus of maintaining highly functional wildlife habitat, as well as providing wildlife-based recreation. Andrus WMA, at the upper end of Hells Canyon in Washington and Adams counties, is an important wintering area for deer and elk. Boise River WMA, in Ada, Boise, and Elmore counties, provides critical winter range for mule deer and elk near Idaho's largest human population centers. The other four Southwest Region WMAs comprise wetland, riparian, and upland habitats managed with an emphasis on upland game and waterfowl production and hunting. These include Fort Boise WMA at the confluence of the Boise and Snake rivers in Canyon County; Payette River and Montour WMAs along the Payette River in Payette and Gem counties; and C.J. Strike WMA on the Bruneau and Snake rivers near C.J. Strike Reservoir in Owyhee and Elmore counties.

Each WMA is managed as part of a larger habitat district, which may also include other lands owned or operated by the Department for wildlife habitat or public access. Management of lands for wildlife habitat could not succeed without the cooperation and collaboration of many partners, with the Department as either a licensed tenant or a neighbor. Examples include Idaho

Department of Lands, U.S. Army Corps of Engineers, Bureau of Reclamation (BOR), Bureau of Land Management, U.S. Forest Service, Bonneville Power Administration (BPA), Idaho Power Corporation, and other private landowners.

Personnel and operating funds for regional wildlife habitat programs are provided through a combination of hunting licenses and fees, federal aid from excise taxes under the Pittman-Robertson Act, and to some degree by BPA and BOR as mitigation for habitat losses resulting from construction of various dams in the region. Hunters fund a large portion of management costs, and they are rewarded with habitat management areas that sustain many of the region's big game herds and provide consistent waterfowl and upland game bird production and hunting opportunities. Non-hunters, who value the varied resources provided by WMAs, also benefit from the broad ranging conservation values associated with Department lands.

Fort Boise WMA (FBWMA) originated in 1959 with Gold Island in the Snake River, which was deeded to the Department by Idaho Power as partial compensation for habitat lost by the construction of Brownlee Dam. Since the inception of FBWMA, the Department has purchased additional properties and the WMA has grown to 1,548 acres. The management of Roswell Marsh Wildlife Habitat Area (RMWHA), a 185-acre wetland/475-acre upland complex located five miles south of FBWMA, is also included in this plan.

This document provides direction in the form of Priorities, Management Directions, Performance Targets, and Strategies for the management of FBWMA and RMWHA. The Priorities for these areas were determined through a combination of public and staff input and Department statewide priorities identified in *The Compass*.

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

Management priorities for FBWMA and RMWHA include providing high quality production habitat for waterfowl, upland game birds, and nongame wildlife; providing stopover habitat for migratory bird species, as well as providing consumptive and non-consumptive wildlife-based recreational opportunities.

Fort Boise WMA and RMWHA will continue to be managed primarily as waterfowl and upland game bird nesting habitat. Management of and improvements to wetland and riparian areas will benefit waterfowl, as well as a large number of species considered by the Department to be Species of Greatest Conservation Need. Providing consumptive and non-consumptive wildlife-based recreation to an expanding user base will remain a priority. The creation, preservation, and enhancement of wildlife habitat on lands surrounding FBWMA has become increasingly important.

Fort Boise WMA receives a high amount of public use, with an average of 13,791 vehicles visiting per year. In 2013, nearly 19,000 vehicles were recorded. The majority of users engage in hunting activities, followed by birding, wildlife watching, and being outdoors.

Introduction

This management plan is designed to provide broad guidance for the long-term management of Fort Boise Wildlife Management Area (FBWMA). It replaces an earlier management plan written in 2003. This 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.

Fort Boise WMA Mission

Provide quality production habitat for waterfowl, upland game birds, and nongame wildlife. Provide important stopover habitat for migratory bird species. Provide consumptive and non-consumptive wildlife-based recreational opportunities that are compatible with maintaining high quality habitat.

Modification of Plan

This plan provides broad, long-term management direction for FBWMA. 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 FBWMA, 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

Fort Boise WMA is located five miles northwest of Parma in Canyon County, Idaho (Figure 1). The WMA includes 1,209 acres of wetland, riparian, and upland habitat on the north bank of the Boise River at the confluence with the Snake River. A 330-acre island in the Snake River, Gold Island, is also part of the area. All of the property is deeded to the Department. At 2,245 feet elevation, the hot, dry summers and alkaline soil types support black greasewood (*Sarcobatus vermiculatus*), saltgrass (*Distichlis spicata*), and related vegetation on about 15% of the area. Other vegetation types are cattail (*Typha latifolia*) and hardstem bulrush (*Schoenoplectus acutus*) marsh, seeded grasslands, Russian olive (*Elaeagnus angustifolia*) woodland, and forest and scrub-shrub riparian areas dominated by non-native hardwood trees, black cottonwood (*Populus balsamifera* ssp. *trichocarpa*), and willows (*Salix* spp.). Noxious and invasive species are patchy throughout the WMA, but active control efforts occur annually. The condition of some marsh units is impaired by the presence of carp. A more detailed description of the vegetation present can be found in Appendix VI.

Roswell Marsh WHA is a 680-acre wetland, meadow, and black greasewood complex located five miles south of the Boise River at the same elevation (Figure 2). It consists of 185 acres of hardstem bulrush and cattail marsh divided into two wetland units. There is approximately 260 acres of the black greasewood / saltgrass plant association. Much of the remaining habitat is a diverse alkaline wetland supporting saltgrass, Nevada bulrush (*Scirpus nevadensis*), beaked spikerush (*Eleocharis rostellata*), chairmaker's bulrush (*Schoenoplectus americanus*), Baltic rush (*Juncus balticus*), and alkali muhly (*Muhlenbergia asperifolia*). It also has 230 acres in sharecrop irrigated agriculture (generally corn) of which approximately 25% is left standing for wildlife.

Both areas provide nesting and winter habitat for upland birds and waterfowl. Both areas also provide important habitat to migrating birds, such as snow geese, white-fronted geese, and sandhill cranes. Mallards and gadwall are common waterfowl nesting species while ring-necked pheasant and California quail inhabit the uplands. Migratory wading birds and shorebirds are common. Other game species present include mule and white-tailed deer, turkey, cottontail rabbit, mourning dove, and Canada geese. The island-like aspect of the riparian, wetland, and upland habitats, surrounded by agricultural land, provides habitat for numerous game and nongame species. A more detailed description of the wildlife present on FBWMA can be found in Appendix VII.

Fort Boise WMA is contained in the Payette section of the Columbia Plateau Province. The region consists of an upland plain of unconsolidated lacustrine and fluvial materials that is dissected by the Snake and Boise rivers. The flood plain of the Snake and Boise rivers is 1-2 miles wide. Terraces of stream-laid deposits rise in steps above the rivers. The bottomlands of the area adjacent to the rivers consist of a widely varied mixture of soil and deposition types. Gravel, sand, silt, and extremely sodic soils all occur within a very short distance from one another. Because of this patchy and unpredictable substrate, the area was not suitable historically for row-crop farming.

The semi-arid to arid climate of the area is attractive to both people and wildlife. Winters are short and mild. At one time, most of the precipitation (10 inches per year average) fell as winter snow. Increasingly, it comes as rain in the spring and late fall. Fog is common in winter due to industrial emissions and the presence of warm river water. Spring is early and long, grading into hot, dry summers. Temperatures can reach 105°F in summer and -10°F in winter. The growing season averages 150 days and irrigation is required from June through September for successful agricultural production.

The primary water source for the wetlands at FBWMA is Sand Hollow Creek, which is currently listed as an impaired water body by the Idaho Department of Environmental Quality and the Environmental Protection Agency. High silt loads are present in Sand Hollow Creek due to irrigation return flows, and the levels of certain nutrients, such as phosphorus and nitrogen, have also been rising. These elements of low water quality are impacting FBWMA's wetlands through increased siltation and nutrient deposition.

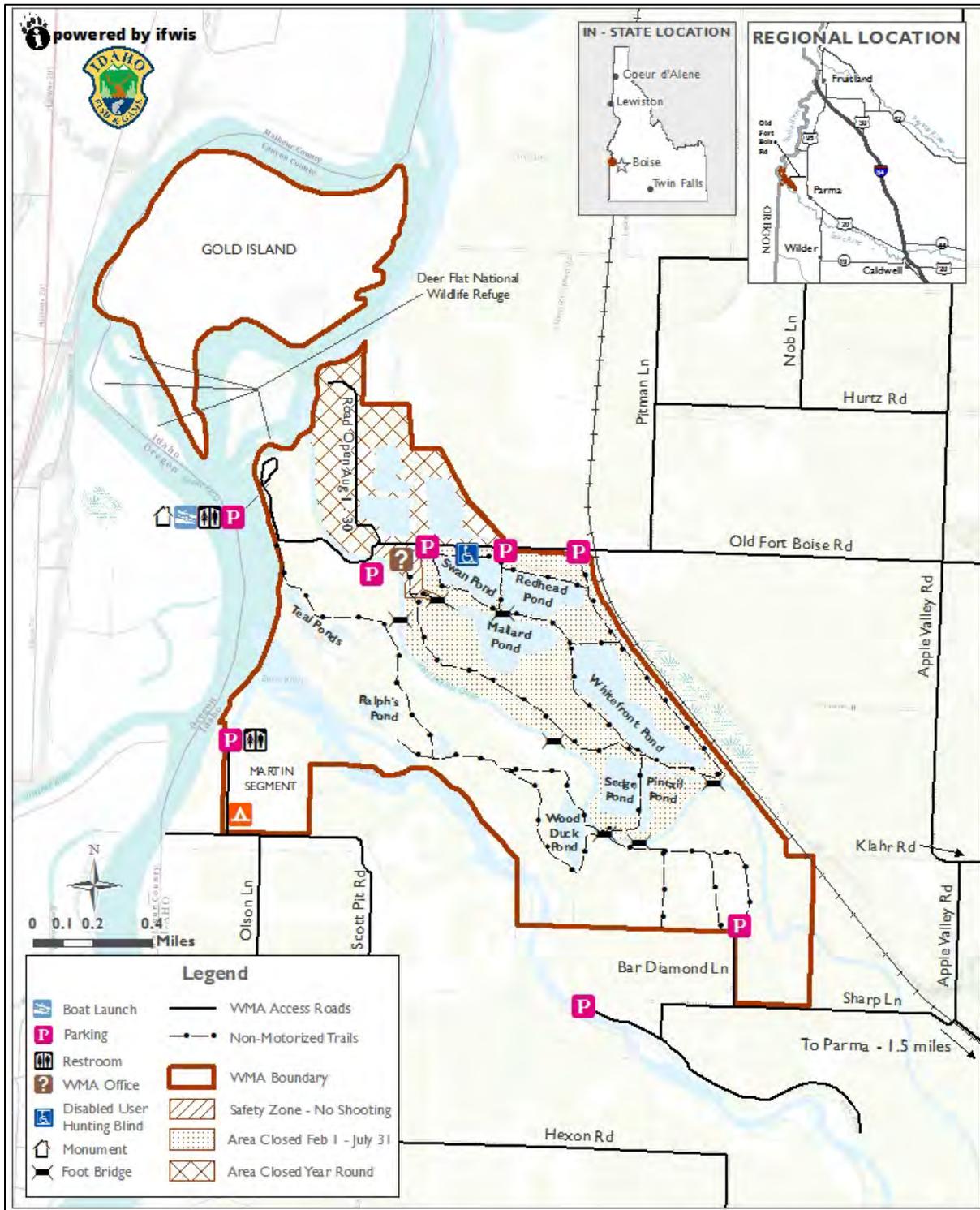


Figure 1. Map of Fort Boise Wildlife Management Area.

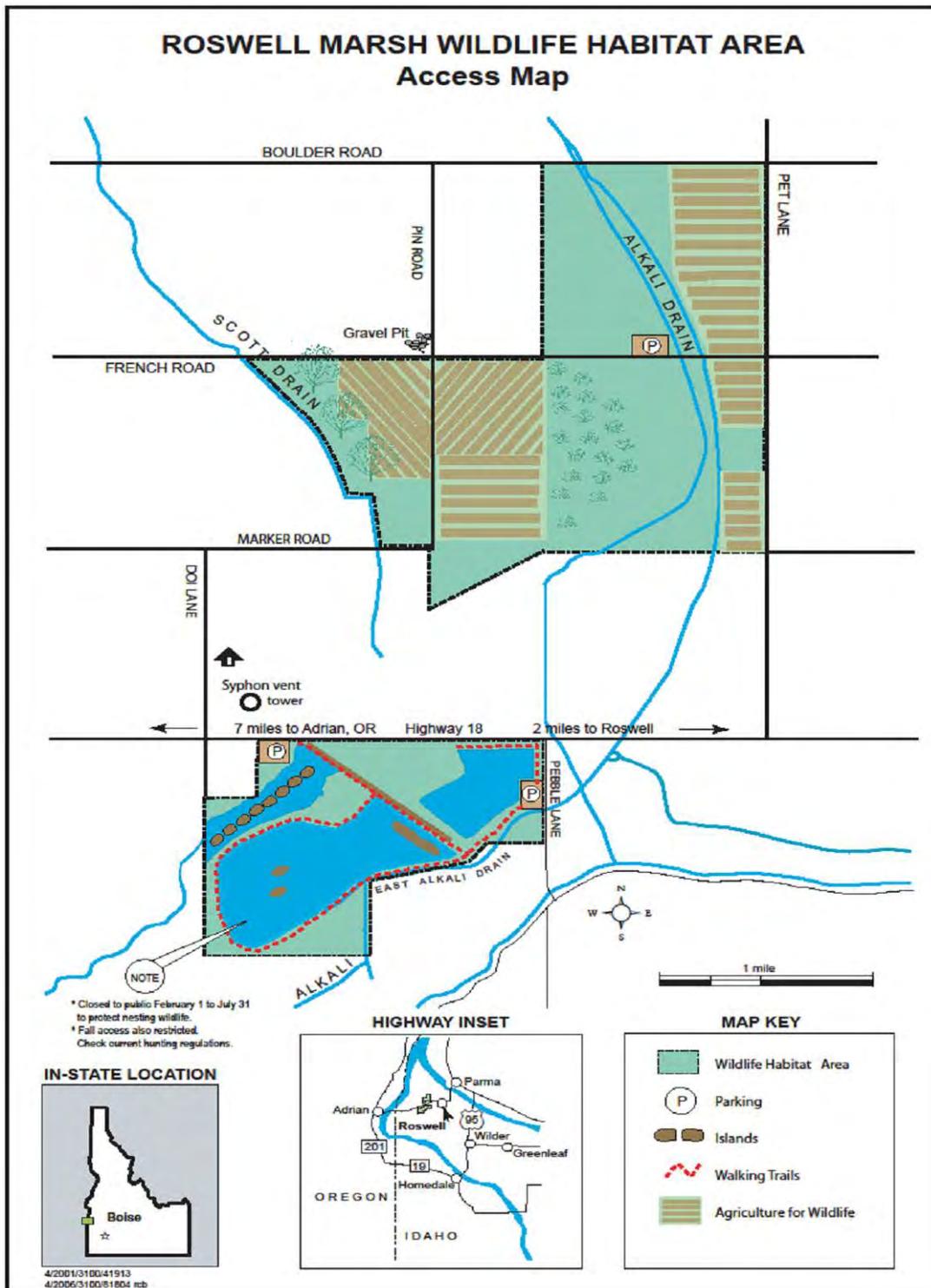


Figure 2. Map of Roswell Marsh Wildlife Habitat Area.

Management Issues

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. In addition to the web-based survey, on-site surveys were conducted from October – December of 2012. The on-site survey included similar questions to the online survey and provided an opportunity for users to suggest ways to improve FBWMA management. Random survey time periods, alternating between early and late in the day and weekdays and weekends, were selected for each week.

A total of 140 online and 11 on-site surveys were gathered from FBWMA users. Of the completed surveys, 113 (~75%) included suggestions for improved management of FBWMA. Additional information gathered from these surveys is available in Appendix IV.

The issues identified by survey respondents were grouped, based on similarity, into three general categories: Habitat Management, Wildlife Management, and Public Use Management. Each issue is summarized and some potential management options discussed.

Issues Identified by the Public

Habitat Management

1. The FBWMA land area is inadequate to achieve habitat management goals and wildlife-based recreational demand.

Discussion: Potential acquisitions are continually evaluated by the Department and the Idaho Fish and Game Commission. In recent years, land values near FBWMA have increased greatly while Department revenues have decreased, making land acquisition difficult. However, as funds become available, the acquisition of additional property may be considered.

2. Vegetation density or overgrowth inhibits some habitat values and controlled burning is suggested as a solution.

Discussion: The controlled or prescribed burning of vegetation can be difficult to implement. In certain areas of FBWMA, fire can be adequately controlled and used as a tool to manage vegetation. In most areas, the risk of a controlled fire becoming an out-of-control wildfire is too great. The FBWMA Habitat Biologist carefully evaluates all uses of prescribed fire in order to prevent unintentional damage to wildlife habitat. Additional methods of reducing the amount of cover may include mowing and the application of herbicides. It should also be noted that some users encountered outside of this survey have requested increased amounts of cover.

3. Hunters suggest developing more shrub and food plots.

Discussion: Food is generally not a limiting factor for wildlife on FBWMA, although food plots do provide an enhanced aesthetic experience for some traditional hunters. The FBWMA Habitat Biologist determines and plans the amount and type of crops to plant for wildlife cover and food in part as a function of budget levels and need. Factors limiting a more widespread development of food and shrub plots include cost of seed and materials, the extent of the existing irrigation system, and soil quality. The soils at FBWMA are patchy, and areas suitable for the growth of food plots are limited. Areas with higher quality soils near the existing irrigation system are likely to be planted on a regular basis.

4. Efforts to control noxious weeds should be increased.

Discussion: Noxious weed control is a significant part of the overall habitat management of FBWMA. Personnel utilize chemical, mechanical, and biological control methods to help limit the impacts of noxious weeds. Much of the recent weed control focus has been on *Phragmites australis* type-M, which is an invasive aquatic species that has taken over a large amount of wetland areas and is spreading into some upland sites. Efforts to control other species, such as poison hemlock and perennial pepperweed, need to be increased.

5. Increase plant diversity.

Discussion: The type and quality of soils on FBWMA is a major limiting factor on the species of vegetation present. Efforts are made to encourage desirable vegetation types while discouraging non-native and invasive species.

6. Resume livestock grazing.

Discussion: Historically, livestock grazing has been used as a vegetation management tool on FBWMA. Current conditions and circumstances do not warrant the use of livestock grazing; however, FBWMA management reserves the right to utilize livestock grazing in the future, if needed.

7. Make improvements to Gold Island.

Discussion: A revised management plan for Gold Island was completed in February 2013. Habitat management on Gold Island is challenging, and much of the infrastructure and equipment is in need of repair. Several options are currently being explored for the future management of Gold Island.

8. Increase habitat for upland mammal species.

Discussion: Food/cover plots and brush piles are two methods used to increase habitat for upland game birds and also upland mammal species.

9. Better manage the complete WMA.

Discussion: Depending on management goals and priorities, certain areas of the WMA may receive a larger amount of focus from one year to the next. Every effort is made to improve the quality of habitat across the entire WMA within funding and workload constraints.

10. Improve the ponds for duck hunters.

Discussion: Areas of high silt accumulation in wetlands and ponds are dredged on an annual basis. Long-term silt accumulation is filling in several of the ponds, and management actions are being evaluated to determine the best method of silt removal. Declines in water quality are also a major concern.

Wildlife Management

1. Increase the number of game farm pheasants stocked on FBWMA.

Discussion: The number of game farm pheasants allotted to FBWMA and other WMAs is determined by the Idaho Fish and Game Commission and Wildlife Bureau budgets. In 2013, the cost per pheasant was \$16.50. Fort Boise WMA staff will stock all allotted birds each year. While more birds may be stocked, a practical limit for greater numbers of pen-reared pheasants may be based on hunter tolerance for increased hunter density and personal safety concerns.

2. Distribute game farm pheasants more widely across FBWMA.

Discussion: Every effort is made to release game farm pheasants throughout the FBWMA in areas of suitable habitat and likely harvest by WMA pheasant permit holders. To keep game farm pheasants from flying off the WMA, birds are not released within 400 meters of the FBWMA boundaries. Due to the small size of the WMA, this restriction does limit areas available for release to some extent.

3. Allow white goose hunting.

Discussion: All hunting on FBWMA occurs under current regulations developed by the Department. In 2013, the hunting of white-fronted geese was permitted from November 11, 2013 – January 31, 2014, and the hunting of light geese (including Blue, Ross's, and snow geese) was allowed from November 26, 2013 – January 31, 2014 (IDFG 2013a). Allowing white-fronted or light geese to be hunted during the later portion of the waterfowl hunting season conflicts with the closure of FBWMA from February 1 –July 31 for waterfowl resting and nesting, and would significantly reduce its value as a roost site to retain light geese within the larger hunt area of southwestern Idaho.

4. Stock chukars.

Discussion: The stocking of additional wildlife beyond game farm pheasants is not being evaluated at this time. Future stocking considerations will be evaluated by the FBWMA manager, the Regional Habitat Manager, and the Regional Wildlife Manager.

5. Change game farm pheasant bag limit to three pheasants/week.

Discussion: Suggestions and/or comments to changes in bag limits or hunting seasons should be addressed to the Regional Wildlife Manager and the Idaho Fish and Game Commission (Commission).

6. Establish a breeding pheasant population.

Discussion: A certain number of ring-necked pheasants do produce broods on FBWMA, but it is unlikely, given the high amount of hunting pressure and limited geographical area, that FBWMA could develop a self-sustaining pheasant population.

7. Release pheasants throughout the day.

Discussion: Pheasants are released at variable times, but releasing pheasants over the course of a day is not a practical use of employee time. Employee safety is also jeopardized when releasing pheasants with hunters in the field.

8. Have a limited white front hunt during snow goose season.

Discussion: In 2013, the seasons for white-fronted geese and light geese (Blue, Ross's, and Snow geese) were separated (IDFG 2013a), allowing for a white-fronted goose hunt during the light/snow goose season. The FBWMA continues to be closed to all waterfowl hunting beginning February 1. Fort Boise WMA users are encouraged to consult the current year's regulations for any updates or changes from previous years. Suggestions and/or comments to changes in bag limits or hunting seasons should be addressed to the Regional Wildlife Manager and the Commission.

9. Allow pheasant hunting south of road to main drain.

Discussion: Pheasant hunting is restricted in the following area at FBWMA: Beginning at the bridge across Sand Hollow Creek on Old Fort Boise Road about 100 yards west of the WMA headquarters, then north along the east bank of Sand Hollow Creek to its confluence with the Snake River, then north and northeast downstream along the east bank of the Snake River to the WMA boundary fence, then south and southeast along the WMA boundary fence to Old Fort Boise Road, then west on Old Fort Boise Road to the point of beginning (IDFG 2012a). The area south of Old Fort Boise Road is open for hunting during pheasant season.

Public Use Management

1. Overcrowding/too many hunters/limit access.

Discussion: As one of the largest public areas with unlimited hunting access near Idaho's main population center, FBWMA experiences high levels of hunter use each year. Private lands open or suitable for pheasant hunting are also shrinking, and as the only alternative for many hunters, crowding is often an issue at FBWMA.

2. Increase IDFG law enforcement presence.

Discussion: While an increase in Department enforcement presence is desirable, current enforcement levels are determined by the funding and workload constraints of Southwest Region officers. The FBWMA will continue to work with Department enforcement staff to maintain a law enforcement presence, particularly during peak use periods (e.g., hunting season). Members of the public are encouraged to help the Department reduce violations by reporting any illegal activity observed to a Department conservation officer or the Citizens Against Poaching hotline.

3. Create viewing platforms to view waterfowl in the closed area.

Discussion: At least one viewing platform is being considered for year-round use adjacent to Old Fort Boise Road which will greatly improve general wildlife viewing opportunities, including the portion of the area closed to entry during nesting season.

4. Add additional bridges.

Discussion: The FBWMA has two large roadway culvert crossings over Sand Hollow Creek and five footbridges spread throughout the area. The adequacy of existing bridges will be evaluated in terms of permitting reasonable movement throughout the WMA while also maximizing the sense of personal space experienced by users on a small area. Additional bridges will be considered where they help achieve these objectives.

5. Cleaner toilets/update outhouses.

Discussion: The outhouse provided at the boat ramp on the Snake River is maintained by the Department Fishing and Boating Access Program. Currently, these facilities are cleaned on a weekly basis. Additional portable toilets are also provided seasonally. Additional public restrooms will be considered for inclusion in future facilities upgrades as funding permits.

6. Improve roadways.

Discussion: The access road to the boat ramp is maintained as a single-lane gravel road with pullouts. In 1999, this entire section of roadbed was replaced with large gravel cobble. Due to the soft underlayment and high water table in this area, the road is prone to potholes.

7. Create blinds to view waterfowl.

Discussion: The use of a blind to view waterfowl is allowed, but it is illegal to “construct blinds, pits, platforms, or tree stands where the soil is disturbed, trees are cut or altered, and artificial fasteners, such as wire, rope, or nails are used. All blinds shall be available to the public on a “first-come, first-served” basis. Portable manufactured blinds and tree stands are allowed but may not be left overnight (IDFG 2010). A blind may not be used to view waterfowl in the year-round closed area or the waterfowl nesting area closure (Feb 1-July 31) to preserve those areas for waterfowl resting and nesting.

8. Increase amount of FBWMA open to public access.

Discussion: Different sections of FBWMA are open at different times of the year. The ‘open year-round’ section consists of land on the south bank of Sand Hollow Creek and also Gold Island in the Snake River. This section amounts to 1,029 acres. The ‘closed zone’ or that portion north of Old Fort Boise Road, consists of 152 acres and is closed to the public year-round to provide a nesting and resting area for waterfowl. The ‘waterfowl nesting closure’ covers the portion of FBWMA contained within the north bank of Sand Hollow Creek up to Old Fort Boise Road. It consists of 358 acres and is closed for waterfowl nesting from February 1 through July 31 each year. A ‘safety zone’ is designated inside the ‘waterfowl nesting closure’ area around the FBWMA Headquarters and amounts to 20 acres. This area is closed to hunting to protect personnel and structures.

9. Allow pheasant hunters into area before 10:00 AM.

Discussion: As stated in the current regulations, it is not illegal to enter the WMA prior to 10:00 AM; it is against the regulations to hunt upland game before 10:00 AM. Hunting is defined as “chasing, driving, flushing, attracting, pursuing, worrying, following or on the trail of, shooting at, stalking, or lying in wait for any wildlife whether or not such wildlife is then subsequently captured, killed, taken or wounded” (IDFG 2013*b*). The restriction of upland game hunting prior to 10:00 AM on FBWMA is an issue of employee safety. The 10:00 AM time restriction allows enough time for employees to release pheasants throughout the area and exit without interfering with the activities of hunters. As an added benefit, waterfowl hunters have gained time to pursue their sport undisturbed by other hunters.

10. Make upland game hunters stay out of area until 10:00 AM.

Discussion: Upland game shall not be taken before 10:00 AM on Fort Boise, C.J. Strike, Montour, and Payette River WMAs, during the pheasant season (IDFG 2012*a*). As the regulation states, shooting can only begin after 10:00 AM. However, as stated in the current regulations, it is not illegal to enter the area prior to 10:00 AM.

Additional responses for Public Use Management are addressed in Appendix IV.

Issues Identified by the Department

1. User Density

Discussion: In the public survey, hunter crowding received the highest number of comments (13) while ‘stock more pheasants’ received eight and the next highest issue only four. This issue has wide implications on FBWMA. It is not only the main concern voiced by upland and waterfowl hunters, but sometimes wildlife watchers, anglers, and campers can also cause traffic/congestion/accommodation issues.

Part of the allure of visiting and recreating at FBWMA is the relative freedom to hunt, view wildlife, and enjoy other forms of recreation when and where the user decides. At what level of public use should a rationed or limited user entry program be considered? While FBWMA receives a large amount of public visitation and use each year, the use levels are currently not so high as to warrant the implementation of a rationed entry system.

2. The Quality of the Outdoor Experience

Discussion: This is a difficult value to quantify but one of major importance. As hunting is perceived by the user, is a pheasant hunter actually “hunting” or having a quality experience if he or she does not see or hear a pheasant the whole day? Many hunters do feel satisfied with a relaxing day in the field given not too many other hunters are present and the landscape is somewhat pristine. However, almost every hunter, and especially youth, feel much more like he or she has been hunting if the quarry is seen, heard, or at least detected in some way. Will hunters accept a smaller pheasant bag limit and possible limited entry to have a quality “hunting” experience?

Similarly, is a day of waterfowl hunting of high quality if the hunter takes a limit of birds but has to do so in a crowded, stressful, competitive environment? Is the duck hunter willing to forgo unrestricted hunting days for more “quality” on limited days? Many duck and goose hunters complain of others’ high shooting/skybusting; yet are they willing to limit the number of shells they are allowed so that all hunters will save scarce ammunition for ducks and geese in-range? Is the hunter coming from a crowded, urban-vicinity, rationed hunting area, and just enjoys the freedom to go out whenever he or she wants at FBWMA, willing to give that up for what others see as a quality or less crowded experience? Will birders be willing to forgo walking when and where they want so that wary birds will have undisturbed nesting and resting areas? Will hunting dog owners give up dog training seasonally on parts of FBWMA so that wild birds can nest undisturbed? These are hard questions at the core of the mission of the Department. The Department strives to satisfy users with widely varying values, and at the same time, protect and perpetuate the resource.

3. Invasive Species

Discussion: Invasive species have been an issue at FBWMA from its inception. In the late 1990s, purple loosestrife (*Lythrum salicaria*) which had infested about 75% of the total

wetland area, was 90% reduced with the bio-control agent, *Gallercella*. Recently, it was discovered the common reed (*Phragmites australis*) becoming noxious on FBWMA and RMWHA was the invasive M genotype from Europe. Steps were taken to map and reduce large patches and off-site seed sources. The program has been very successful, but the recent discovery of a new invasive species, spotted jewelweed (*Impatiens capensis*), underlines the importance of continual monitoring for invasive plants and animals.

4. Camping

Discussion: In the past, camping at FBWMA has been basically unregulated. Overnight camping is allowed and not restricted to specific locations or times. Problems exist with conflicts between campers competing for spaces, people camping in parking lots on the WMA entrance road, off-road camping, fire ring creation, and large amounts of litter and waste. With the opening of the new campground at the Martin's Landing Access, allowing overnight camping at FBWMA will be reexamined.

5. Water Quality

Discussion: The main source of water for 275 wetland acres at FBWMA and also cropland at RMWHA comes from heavily silt-laden irrigation return water. In recent years, a decline or elimination of wetland biota, such as beneficial algae, mayflies, midges, damselflies, and sago pondweed has been noted (C. Kofoed, Idaho Department of Fish and Game, personal communication). It is suspected that phosphates and nitrates coming from urban effluent and agricultural runoff may be a factor.

6. Climate Change

Discussion: Long-term weather data indicate a larger percentage of annual precipitation at FBWMA received as rain instead of snow. Coupled with increases in temperature, the makeup of vegetation may be in the process of shifting from a sage/shrub steppe ecosystem to one dominated by exotic annual grasses (Compagnoni 2013).

7. Increasing Year-round Non-traditional Recreational Use of FBWMA.

Discussion: An increase has been noted in non-traditional users of FBWMA. Among these groups are paintballers, mountain bikers, geocachers, hound hunters, equestrians, gold miners/treasure hunters, and dog walkers. The portion of FBWMA open to year-round access is relatively unmonitored. This area provides a significant wildlife production area for species such as turkey, pheasant, ducks, geese, deer, and quail. The production of these species could be compromised by unrestricted public use of the "open" area.

8. Water Rights

Discussion: New ground water rights were obtained at RMWHA to replace ditch water, which was of low quality and restricted use. The recent adjudication of the lower Boise River

Basin included Sand Hollow Creek. Recent local development interests have expressed the desire to divert Sand Hollow Creek water. Every effort should be made to protect the Department's water rights and thoroughly investigate claims which might be made against them.

9. Old Facilities

Discussion: The office/shop/storage complex is over 50 years old, and lacks restrooms and running water. The 9.5 foot by 14 foot office is inadequate to accommodate staff or hold small meetings. Equipment storage is inadequate and without locking doors to prevent theft or vandalism. Future facility improvements should be considered for staff to be more able to efficiently serve FBWMA.

Fort Boise WMA Management Program

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

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

The following six-step process was used to create the FBWMA management program described in this plan. Each of the 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

Fort Boise WMA was established in 1959 when Idaho Power deeded 330-acre Gold Island in the Snake River to the Department as partial compensation for habitat lost by the construction of Brownlee Dam. Since the WMAs inception, the area has been managed as waterfowl and upland game bird habitat.

Additionally, 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 help to 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 in identifying species at-risk. Therefore, at-risk species identified in the SWAP, both game and nongame, are a management priority for the Department.

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

Taking the biological and funding resources of FBWMA into consideration, in concert with the foundational principles of FBWMA and statewide Department priorities, and after consultation with the FBWMA Habitat Biologist, the Department developed the following list of broad-scale FBWMA Management Priorities.

Fort Boise WMA Management Priorities (listed in order of priority):

1. Waterfowl Habitat
2. Upland Game Bird Habitat
3. Special Status Species Habitat
4. Wildlife-based Recreation and Education

Focal Species Assessment

This section of the FBWMA Plan is an assessment of various fish and wildlife species on FBWMA and portions of the adjacent Snake, Boise, and Owyhee River watersheds in order to identify Conservation Targets 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 or catalysts to motivate conservation awareness, support, and action (Heywood 1995). Flagship species often represent a landscape or ecosystem, 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 and upland game birds are an example of a group that fit the criteria as both focal and flagship species. In addition, they are a culturally and economically important species in Idaho and represent a founding priority for

establishment of the FBWMA. Therefore, waterfowl and upland game birds are important flagship species groups considered in the FBWMA 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, the Department is explicitly considering a wide variety of at-risk species (Groves 2003); yielding a more comprehensive assessment that includes culturally and economically important species along with formally designated conservation priorities. 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 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 Idaho 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 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. To maximize coordination, communication, and partnership opportunity, both the USFS and BLM sensitive species are included in the biodiversity assessment.

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

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

The Intermountain West Joint Venture (IWJV) also maintains a list of priority species. The IWJV has identified 40 priority species from which to base conservation planning.

Information on species status, occurrence, beneficial management/conservation actions and threats were derived through consultation with Department staff, occurrence records in the Department's Idaho Fish and Wildlife Information System database, consultation with various BLM and USFS species lists, and species summaries provided in the Idaho SWAP.

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

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

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

Species	Status Designation(s)	Occurrence Context in Fort Boise WMA Landscape	Threats	Beneficial Management and Conservation Actions	Suitability as a Focal Species for Fort Boise WMA
Waterfowl (ducks, geese)	Flagship	FBWMA's close proximity to three major rivers (Snake, Boise, Owyhee) results in extensive use by a variety of waterfowl.	Habitat modification, loss, and destruction.	Maintenance, protection, and creation of wetlands and riparian areas.	<i>Potentially suitable as a focal species.</i> FBWMA has been managed for waterfowl habitat since acquisition.
Upland game birds (ring-necked pheasant, California quail, wild turkey)	Flagship	FBWMA has resident populations of these three upland game birds.	Habitat loss and destruction.	Preservation and enhancement of nesting cover; increases in insect biodiversity and amount of insects present for chicks.	<i>Potentially suitable as a focal species.</i> FBWMA has been managed for upland bird habitat since acquisition.
White-tailed deer (<i>Odocoileus virginianus</i>)	Big game species	Present on FBWMA in low to moderate numbers.	Destruction and fragmentation of riparian habitats; competition with livestock within the riparian corridor (IDFG 2004).	Protect riparian areas to provide habitat and travel corridors between populations; control noxious weeds; minimize disturbance in wintering areas (IDFG 2004).	<i>Potentially suitable as a focal species.</i>
A Mayfly (<i>Asioplax edmundsi</i>)	SGCN	Species appears to be limited to low-gradient streams and rivers in the Snake River Plain in Idaho (Lester et al. 2002)	Specific threats to Idaho populations have not been identified. In general, mayfly populations are affected by changes to aquatic habitat, such as alteration of flow patterns, streambed substrate, thermal characteristics, and water quality. Alteration and degradation of aquatic habitat is the primary concern for Idaho populations.	Avoid modifying or altering flow patterns, streambed substrate, thermal characteristics, and water quality.	<i>Unsuitable as a focal species.</i> Limited information on distribution in the project area.
American Avocet (<i>Recurvirostra americana</i>)	SGCN	Generally associated with wetlands containing bulrush, cattails, and sedges, although individuals spend most of their time, and place their nests, in more open areas that have no vegetation or very sparse vegetation (Robinson et al. 1997). Nesting on FBWMA observed.	Loss and degradation of wetland habitat is the most prevalent threat to populations.	Wetland protection and/or restoration of degraded sites is beneficial; avoid disturbance of nesting sites and nest destruction.	<i>Potentially suitable as a focal species.</i> Nesting has occurred on FBWMA previously, although frequency has declined recently.
American White Pelican (<i>Pelecanus erythrorhynchos</i>)	BLM Sensitive; SGCN	White pelicans forage on inland marshes, lakes, or rivers. During spring and fall migration, birds stop at aquatic foraging and loafing areas similar to those used during breeding season.	Habitat loss due to either flooding or draining areas can destroy breeding sites and foraging areas (Evans and Knopf 1993).	Protect and maintain wetland habitats and water levels.	<i>Unsuitable as a focal species.</i> Occurs on FBWMA, but area not large enough to provide suitable nesting habitat.
Bald Eagle (<i>Haliaeetus leucocephalus</i>)	USFS Sensitive; BLM Sensitive; SGCN	Associated with aquatic ecosystems, including lakes, rivers, coastlines, marshes and reservoirs. Present year-round on FBWMA.	Shooting, poisoning, electrocution; disturbance during the nesting season.	Minimize disturbance around nest sites.	<i>Potentially suitable as a focal species.</i> A year-long resident and nesting could occur on FBWMA.
Black Tern (<i>Chlidonias niger</i>)	BLM Sensitive; SGCN	Associated with shallow freshwater marshes with emergent vegetation. Has been observed previously on FBWMA.	Loss of marsh habitat due to extraction of ground water (Shuford 1999).	Restoration or creation of suitable marsh habitat in historic nesting areas.	<i>Unsuitable as a focal species.</i> Current emergent nesting habitat and insect density not suitable.
Black-crowned Night Heron (<i>Nycticorax nycticorax</i>)	SGCN	Generally breed in mixed-species colonies on trees, shrubs, islands, and in emergent (e.g., bulrush/cattail marsh; Trost and Gerstell 1994). Occurs on FBWMA year-round.	Disturbance of nesting islands; conflicts with trout hatcheries; presence of pesticides and other contaminants in eggs and chicks.	Maintenance of quality wetland and riparian habitats, including maintaining suitable water levels (Ivey and Herziger 2005).	<i>Potentially suitable as a focal species.</i>
Black-necked Stilt (<i>Himantopus mexicanus</i>)	SGCN	Nesting occurs along edges of shallow inland wetlands, generally in the fresher sections of the wetland that contain emergent vegetation (Robinson et al. 1999). Nesting recorded on FBWMA.	Loss and degradation of wetland habitat is the most prevalent threat to populations.	Wetland protection and/or restoration of degraded sites is beneficial; avoid disturbance of nesting sites and nest destruction.	<i>Potentially suitable as a focal species.</i>

Species	Status Designation(s)	Occurrence Context in Fort Boise WMA Landscape	Threats	Beneficial Management and Conservation Actions	Suitability as a Focal Species for Fort Boise WMA
California Gull (<i>Larus californicus</i>)	SGCN	Breeding occurs on barren or sparsely vegetated islands in natural lakes, reservoirs, or rivers (Winkler 1996). Has been observed previously on FBWMA.	Low water levels, disturbance during nesting.	Maintenance of water levels that separate nesting islands from dry land.	<i>Unsuitable as a focal species.</i> Habitat unsuitable for nesting.
Cattle Egret (<i>Bubulcus ibis</i>)	SGCN	Breeding generally occurs in mixed species colonies in willows or tamarisks along water, on islands, or in bulrush/cattail marshes (Telfair 1994, Trost and Gerstell 1994).	Low water levels limiting nesting locations; agricultural herbicide/pesticide applications.	Restore water to historic breeding areas; survey historic nest sites to determine use.	<i>Unsuitable as a focal species.</i> Limited information on distribution in the project area.
Clark's Grebe (<i>Aechmophorus clarkii</i>)	SGCN	Nesting occurs on freshwater lakes or marshes with extensive open water (Storer and Nuechterlein 1992).	Declines in water quality and fluctuating water levels (Trost and Gerstell 1994).	Monitoring water quality and reducing drastic water level fluctuation during the breeding season (Ivey and Herziger 2005).	<i>Unsuitable as a focal species.</i> Limited information on distribution in the project area.
Common Loon (<i>Gavia immer</i>)	USFS Sensitive; SGCN	Wintering birds are seen on unfrozen major lakes, rivers, and reservoirs in southwestern Idaho.	Effects of heavy metals may increase mortality rates on wintering and breeding grounds; underwater fish traps, gill nets, oil spills, and water level instability (McIntyre and Barr 1997).	Increase public education and awareness.	<i>Unsuitable as a focal species.</i> Migratory/transient species utilizing FBWMA on temporary basis.
Franklin's Gull (<i>Larus pipixcan</i>)	SGCN	Breeding occurs in large areas with fairly open emergent vegetation (particularly bulrush/cattail marshes in Idaho) and deep water (Herziger and Ivey 2003).	Fluctuating water levels; exotic plant species and overgrowth of marsh plants can create habitat too dense for nesting (Burger and Gochfeld 1994); presence of substantial carp populations (Ivey and Herziger 2005).	Maintaining suitable water levels (Burger and Gochfeld 1994); maintaining vegetation open enough for nest construction (Ivey and Herziger 2005).	<i>Unsuitable as a focal species.</i> Migratory/transient species utilizing FBWMA on a temporary basis.
Great Egret (<i>Ardea alba</i>)	SGCN	Breeding occurs in mixed-species colonies in large trees, often at the highest point in the colony, over water, or on islands (IDFG 2005). Observed foraging on FBWMA.	Pesticides and other contaminants; human disturbance of nesting locations.	Monitoring for presence and potential effects of pesticides and contaminants.	<i>Potentially suitable as a focal species.</i>
Lesser Scaup (<i>Aythya affinis</i>)	SGCN	Year-round resident along the Snake River Plain (Stephens and Sturts 1997, Austin et al. 1998).	Loss or degradation of wetlands due to drainage or conversion to agriculture, dredging or filling, modification of water levels, levee construction, changes in salinity, siltation, and introduction of exotic plants (IDFG 2005).	Restoration of wetlands.	<i>Unsuitable as a focal species.</i> Migratory/transient species utilizing FBWMA on a temporary basis.
Long-billed Curlew (<i>Numenius americanus</i>)	BLM Sensitive; SGCN	3000-5000 nesting pairs estimated in southern Idaho. Has been observed at FBWMA previously.	Loss of habitat (Dugger and Dugger 2002); conversion of grasslands to croplands, development of residential communities, and increasing recreational use (Jenni et al. 1981)	Protect habitat areas >42 ha (Redmond et al. 1981); protect nesting areas from detrimental human disturbance (Dechant et al. 2003b).	<i>Unsuitable as a focal species.</i> Habitat unsuitable for nesting.
Longnose Snake (<i>Rhinocheilus lecontei</i>)	BLM Sensitive; SGCN	Populations occur at lower elevations along the Snake River in Canyon, Ada, Elmore, and Owyhee counties.	Conversion of native bunchgrass and shrub habitat to exotic grasslands or agriculture (Beck and Peterson 1995).	Habitat protection and maintenance of corridors between subpopulations (IDFG 2005).	<i>Unsuitable as a focal species.</i> Limited information on distribution in the project area.
Merlin (<i>Falco columbarius</i>)	SGCN	Common migrant and locally abundant winter resident, but a rare breeder (Craig and Craig 1989). Nesting habitat in Idaho has been shrub-steppe dominated by sagebrush. Uncommon at FBWMA.	Habitat modification by humans (Cade 1982); losses of nest sites and prey species due to increase in agricultural lands (Trimble 1975); West Nile virus and avian influenza during the summer months (IDFG 2005).	Monitoring of environmental contaminants (Sodhi et al. 1993).	<i>Unsuitable as a focal species.</i> Limited information on distribution in the project area.
Northern Leopard Frog (<i>Rana pipiens</i>)	BLM Sensitive; SGCN	Populations reported in the Snake River and its tributaries, including the Boise, Payette, and Weiser rivers.	Loss and degradation of wetland and riparian habitat; introduced competitors and predators; disease (IDFG 2005).	Wetland protection and restoration of degraded sites.	<i>Potentially suitable as a focal species.</i> Suitable habitat is present on WMA.

Species	Status Designation(s)	Occurrence Context in Fort Boise WMA Landscape	Threats	Beneficial Management and Conservation Actions	Suitability as a Focal Species for Fort Boise WMA
Peregrine Falcon (<i>Falco peregrinus anatum</i>)	USFS Sensitive; BLM Sensitive; SGCN	Individuals remain near urban nest sites in Nampa and Boise year-round (B. Haak, IDFG)	Loss of habitat (nest sites and wetlands) and human activities (White et al. 2002).	Maintain the integrity of wetlands adjacent to known peregrine eyries.	<i>Potentially suitable as a focal species.</i> Migratory/transient; nesting possible on FBWMA.
Snowy Egret (<i>Egretta thula</i>)	SGCN	Breeding occurs at 9-10 sites in southern half of the state. Observed foraging at FBWMA; nesting could occur.	Presence of pesticides and contaminants in eggs and adults (Parsons and Master 2000).	Monitoring for effects of pesticides (Ivey and Herziger 2005).	<i>Potentially suitable as a focal species.</i>
Swainson's Hawk (<i>Buteo swainsoni</i>)	BLM Sensitive; SGCN	Breeding occurs in the southern half of Idaho. Has previously nested at FBWMA.	Wind farm development (Erickson et al. 2001); conversion of native grasslands to croplands and urban development (England et al. 1997).	Maintaining and/or restoring native grasslands; protection of migration corridors and important stopover habitat (IDFG 2005).	<i>Potentially suitable as a focal species.</i>
Townsend's Pocket Gopher (<i>Thomomys townsendii</i>)	SGCN	Occurs in southern Idaho along the Snake River in Elmore, Owyhee, Ada, Canyon, Payette, and Washington counties.	Habitat loss; activities that reduce plant biomass, such as habitat conversion, livestock grazing, and wildfires (IDFG 2005).	Surveys needed to determine distribution and status of populations, as well as habitat associations, habitat conditions, and local threats (IDFG 2005).	<i>Unsuitable as a focal species.</i> Limited information on distribution in the project area.
Western Burrowing Owl (<i>Athene cucularia hypugaea</i>)	BLM Sensitive; SGCN	Patchily distributed throughout the southern half of Idaho.	Loss of nesting habitat through urbanization and agricultural conversion (Haug et al. 1993, Smith and Belthoff 2001); illegal shooting (Haug et al. 1993).	Protection of American badger populations (to provide pre-existing burrows) and artificial nest structures in appropriate habitat (Haug et al. 1993); monitoring of illegal shooting; monitoring of impact of pesticide spraying (IDFG 2005).	<i>Unsuitable as a focal species.</i> Limited information on distribution in the project area.
Western Grebe (<i>Aechmophorus occidentalis</i>)	SGCN	Breeding occurs along the Snake River drainage in the southern and southeastern parts of Idaho (Trost and Gerstell 1994). Uncommon summer resident on FBWMA.	Water quality and water level fluctuations (Trost and Gerstell 1994); nesting colony disturbance, gill nets, oil spills, and pesticides (Storer and Nuechterlein 1992).	Monitoring water quality and reducing drastic water level fluctuation during breeding season (Ivey and Herziger 2005); closing important breeding areas during the nesting period.	<i>Unsuitable as a focal species.</i> Limited information on distribution in the project area.
White-faced Ibis (<i>Plegadis chihi</i>)	BLM Sensitive; SGCN	Breeding occurs at 5-7 locations in Idaho. Nesting recorded at RMWHA in spring 2012. Observed foraging on FBWMA.	Drought and/or diversion of water away from existing marsh/wetland habitat have resulted in temporary or permanent abandonment of traditional nesting sites (IDFG 2005); pesticide exposure risk (Ivey et al. 2005)	Acquiring water rights for existing wetland sites used by ibis (Ivey and Herziger 2005); providing suitable water levels during the nesting period; minimization of human disturbance (Oakleaf et al. 1996).	<i>Potentially suitable as a focal species.</i>
Wilson's Phalarope (<i>Phalaropus tricolor</i>)	BLM Sensitive; SGCN	Nesting occurs in isolated wetlands throughout Idaho.	Loss of high-quality fresh water habitat; collisions with power transmission lines over wetlands (Malcom 1982); selenium leaching from agricultural fields and pesticides (Dechant et al. 2003a).	Burning and mowing may improve upland nesting habitat (Eldridge 1992; Kantrud 1981); protection of wetland complexes that include seasonal and semi-permanent wetlands (Dechant et al. 2003a).	<i>Unsuitable as a focal species.</i> Limited information on distribution in the project area.
Woodhouse's Toad (<i>Bufo woodhousii</i>)	BLM Sensitive; SGCN	Occurring at a few locations along the western Snake River Plain from Bruneau to Weiser.	Loss and degradation of habitat; pollution from agricultural runoff (IDFG 2005).	Consideration of this species in water development projects and in riparian and wetland habitat preservation and restoration activities (IDFG 2005).	<i>Unsuitable as a focal species.</i> Limited information on distribution in the project area.
Yellow-billed Cuckoo (<i>Coccyzus americanus</i>)	Candidate for ESA listing; USFS Sensitive; BLM Sensitive; SGCN	Historically a rare summer visitor and breeder in the Snake River Valley. Observed infrequently at FBWMA.	Loss and degradation of breeding habitat (Hughes 1999); replacement of native riparian vegetation with invasive non-native plants.	Protection of areas where breeding birds appear to be well established; acquisition and protection of suitable riparian habitat.	<i>Unsuitable as a focal species.</i> Limited information on distribution in the project area.

Selection of Conservation Targets

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

Conservation Targets for the FBWMA Management Plan were selected from species ranked as potentially suitable focal species in Table 1. 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 FBWMA Habitat Biologist and staff. Effective Conservation Targets cannot be selected based solely on species assessments. They must reflect regional threats, priorities, existing conservation partnerships, and the limitations of WMA personnel and funding.

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

1. Waterfowl (Waterfowl Habitat)
2. Upland Game Birds (Upland Game Bird Habitat)
3. Wetland and Riparian Habitat (Special Status Species Habitat)

Waterfowl

Waterfowl, including the species of mallard, gadwall, and wood duck, and geese (Canada, white-fronted, and light species) were selected as a Conservation Target to represent Waterfowl Habitat on FBWMA because:

- Waterfowl are considered flagship species and have been managed for since the inception of FBWMA.
- Efforts to maintain or improve wetland and riparian habitats for waterfowl will benefit a wide range of other species, including shorebirds and other waterbirds.

Upland Game Birds

Upland game birds, including ring-necked pheasant, California quail, and wild turkey, were selected as a Conservation Target to represent Upland Game Bird Habitat on FBWMA because:

- Fort Boise WMA has been managed for upland game bird habitat since its founding.
- Fort Boise WMA has resident populations of ring-necked pheasant, California quail, and wild turkey.
- Actions to maintain or improve upland game bird habitats will benefit a wide range of other species.

Wetland and Riparian Habitat

Wetland and riparian habitat was selected as a Conservation Target to represent Special Status Species Habitat because:

- Eighty-four percent of the species evaluated in Table 1 will benefit from efforts to improve and restore wetland and riparian habitat. This includes a range of wading and shorebirds, including American avocet, black-crowned night heron, black-necked stilt, great egret, snowy egret, and white-faced ibis, as well as amphibians.

Viability Assessment of Selected Conservation Targets

Some analysis of the amount of coverage that a Conservation Target provides toward conservation of other species is essential to determining if the selected targets are viable. In this analysis, each of the Conservation Targets was evaluated to determine what other species would benefit from management actions taken to conserve the target. Table 2 indicates that the group of species and habitats selected as Conservation Targets on FBWMA provides beneficial management and conservation actions and addresses threats for a number of species examined as potential focus species.

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

Species Assessed in Table 1	Conservation Targets ^a			Conservation Need
	Waterfowl	Upland Game Birds	Wetland and Riparian Habitat	
A Mayfly			X (P)	Yes
American Avocet	X		X	
American White Pelican	X		X	
Bald Eagle	X (P)		X (P)	
Black Tern	X		X	
Black-crowned Night Heron	X		X	
Black-necked Stilt	X		X	
California Gull	X		X	
Cattle Egret	X		X	
Clark's Grebe	X		X (P)	
Common Loon	X		X (P)	
Franklin's Gull	X		X (P)	
Great Egret	X		X (P)	
Lesser Scaup	X		X	
Long-billed Curlew	X		X (P)	
Longnose Snake		X (P)		
Merlin		X (P)		
Northern Leopard Frog			X (P)	
Peregrine Falcon	X		X	
Snowy Egret	X		X (P)	
Swainson's Hawk		X		
Townsend's Pocket Gopher				Yes
Upland Game Birds		X	X (P)	
Waterfowl	X		X	
Western Burrowing Owl				Yes
Western Grebe	X (P)		X (P)	
White-faced Ibis	X		X (P)	
White-tailed Deer			X	
Wilson's Phalarope	X (P)		X (P)	
Woodhouse's Toad	X (P)		X (P)	
Yellow-billed Cuckoo	X (P)		X (P)	

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

Spatial Delineation of Conservation Target Landscapes

The focal species selected as Conservation Targets for FBWMA also utilize habitats off of FBWMA to meet their annual needs. It is important that the Department actively participate in habitat conservation efforts within the landscape, beyond the borders of the WMA, to maintain the integrity of the WMA.

This section describes the methods used to define a spatial landscape for each of the FBWMA Conservation Targets. The spatial landscapes are then utilized in the Management Program Table (pages 40-42) to identify Conservation Target-specific Management Directions, Performance Targets, and Strategies for both FBWMA and the landscape.

Waterfowl Landscape

Fort Boise WMA lies at the confluence of the Boise and Snake rivers, and is just downstream of the confluence of the Owyhee and Snake rivers.

The following steps were used to create a landscape of areas likely utilized by waterfowl species that also utilize FBWMA and RMWHA (Figure 3):

- Obtain hydrography data for Idaho and Oregon for the region surrounding FBWMA.
- Create boundary around areas of potential utilization by waterfowl species that also utilize FBWMA and RMWHA within Idaho.
- Identify county boundaries and population centers for reference.

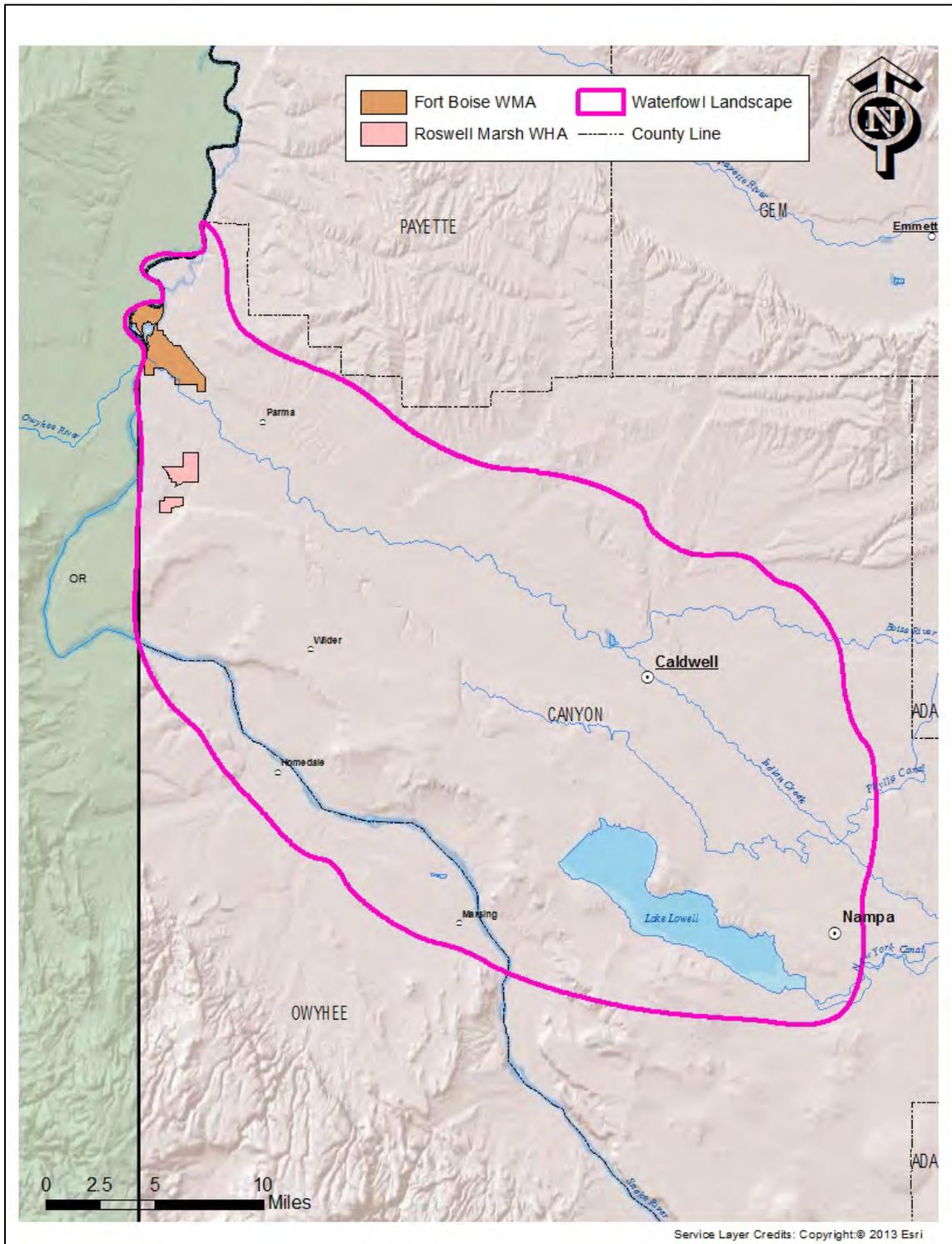


Figure 3. Fort Boise WMA Waterfowl Landscape.

Upland Game Bird Landscape

Both FBWMA and RMWHA are surrounded by privately owned agricultural ground. The Upland Game Bird Landscape (Figure 4) was created in order to prioritize areas of potential habitat improvement projects for upland game birds.

The following steps were used to create a landscape of upland game bird habitat:

- Create a buffer of ~10 miles surrounding FBWMA and RMWHA within Idaho to identify habitat areas and corridors facilitating upland game bird movement.
- Identify land ownership within buffer.
- Identify county boundaries and population centers for reference.

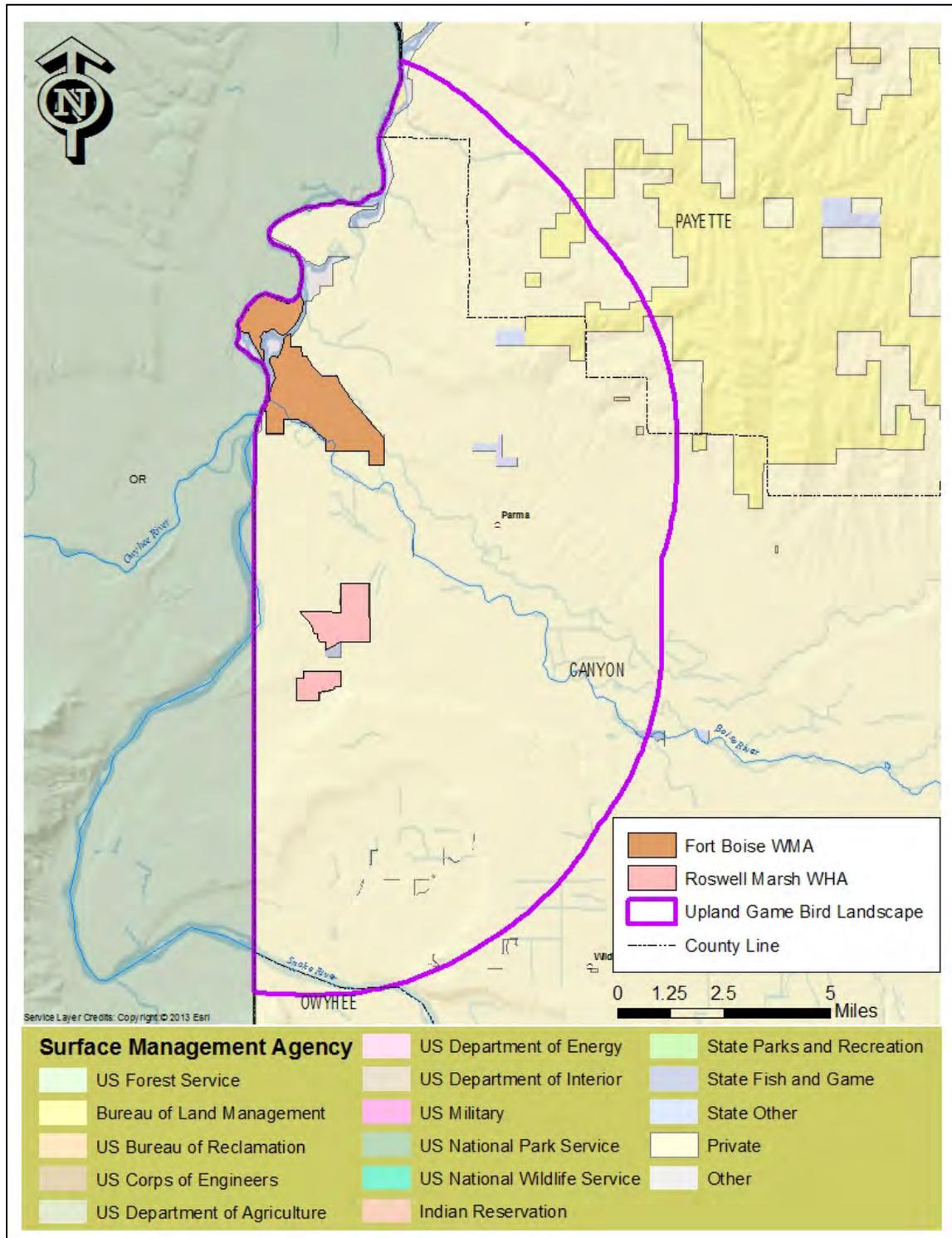


Figure 4. Fort Boise WMA Upland Game Bird Landscape.

Wetland and Riparian Landscape

Fort Boise WMA lies at the confluence of the Boise and Snake rivers, and is just downstream of the confluence of the Owyhee and Snake rivers.

The following steps were used to create a landscape of riparian and wetland areas (Figure 5) within Idaho likely utilized by species that also utilize FBWMA and RMWHA:

- Obtain hydrography data for Idaho and Oregon in the region surrounding FBWMA.
- Identify possible wetland and riparian areas.
- Identify and create boundaries around target areas of riparian and wetland habitat within Idaho that are likely used by species that use FBWMA and RMWHA.
- Identify county boundaries and population centers for reference.

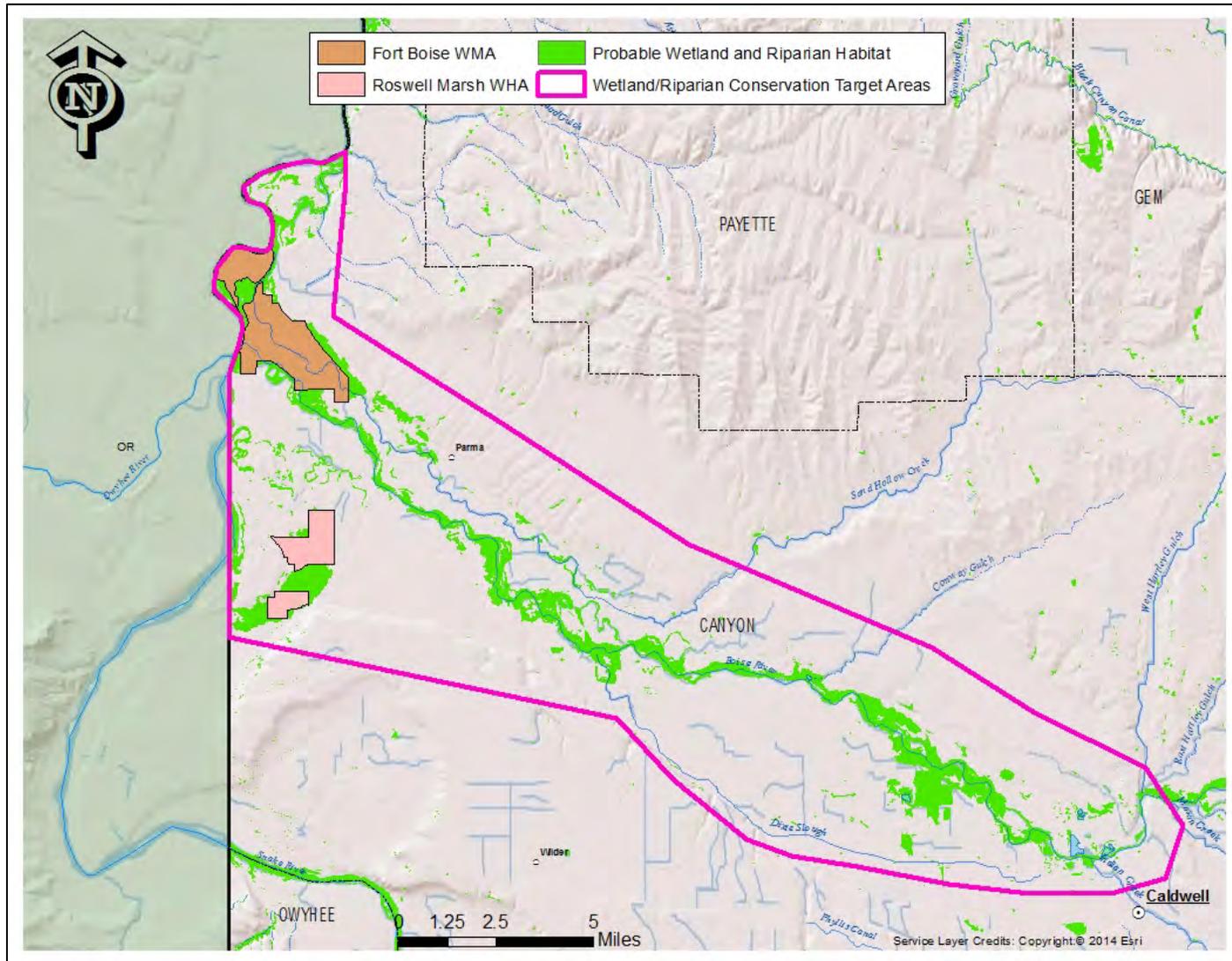


Figure 5. Wetland and Riparian Conservation Target Areas near Fort Boise WMA and Roswell Marsh WHA.

Fort Boise WMA Management Program Table

The following table outlines the Management Directions, Performance Targets, Strategies, and Outcome Metrics FBWMA staff will use to manage for the Conservation Targets selected (page 31) to represent each FBWMA Priority (page 25) at both the FBWMA and Conservation Target-specific landscape scale. The last section of the table outlines strategies that will be used to increase our knowledge of the Conservation Needs identified in the Conservation Target coverage assessment (Table 2). The Compass Objective column links the Management Directions in this table to the objectives of the Department’s strategic plan, *The Compass* (Appendix I).

WMA Priority: Waterfowl Habitat					
Conservation Target: Waterfowl					
Scope	Management Direction	Performance Target	Strategy	Metric	Compass Objective (Appendix I)
FBWMA	Provide secure waterfowl breeding, nesting, and brood rearing habitat in good to excellent ecological condition, while enhancing wetland productivity and diversity	Restore deepwater habitat in at least one silted-in pond by 2019; annually, starting in winter 2014, remove silt from ponds susceptible to excess sedimentation as needed.	Sample deposition layer in all FBWMA ponds in 2014. Assess which ponds are at risk of silting in. Evaluate methods for drainage and removal. Remove silt to maintain flows necessary for quality habitat and wetland function. Develop long-term silt removal program.	Number of ponds restored and/or dredged	A, B, C
		By 2019, treat 50% of unproductive and overgrown tall emergent marsh units to approach an approximate 1:1 ratio of open water to tall marsh vegetation (e.g., cattail-hardstem bulrush) for the benefit of waterfowl breed pairing, brood rearing, and other functions; treat the remaining 50% by 2024.	Use water level manipulation, herbicide applications, mechanical treatments, and/or fire to rejuvenate stands of depauperate, unproductive marsh vegetation and maintain an approximate 50/50 mix of open water and marsh vegetation.	Percentage of tall emergent marsh units treated; ratio of open water to tall emergent marsh vegetation	
		Treat 10 acres of wetland and upland waterfowl nesting habitat annually to improve ecological condition of habitat from poor-fair category to good-excellent category, as measured by floristic quality objectives, including increasing native species richness by 10% and decreasing noxious weed and Russian olive cover by 50%.	Draw-downs will be performed after the peak summer nesting season. Disturbance of core waterfowl nesting habitat will be prohibited. Remove invading Russian olive trees to reduce raptor roosts. Maintain at least 40 wildlife nesting boxes annually. Plant willows and other native tree and shrub species for security cover and to replace non-native vegetation (e.g., Russian olive). Use fire, mowing, and other treatments (e.g., planting native plants of high value to wildlife) after nesting to increase diversity, floristic quality, and structure of mesic meadow and upland grassland communities Use chemical, mechanical, and biological methods to control noxious weeds and limit the spread of noxious weeds in wetland and upland nesting areas.	Acres treated	
Waterfowl Landscape	Provide secure, high quality waterfowl breeding, nesting, and brood rearing habitat while enhancing wetland productivity and diversity for a broad range of wildlife	Restore and/or enhance 100 acres of wetland and/or riparian habitat over a 10-year period for waterfowl breeding, nesting, and brood rearing.	Collaborate with public and private landowners to restore and/or enhance wetland and riparian habitats through implementing improved habitat management techniques (e.g., water fluctuation, protection of nesting cover) and specific treatments (e.g., vegetation manipulation, planting native species). Work with public and private landowners and Canyon County Noxious Weed Control Department to limit the spread of noxious weeds. Install 20 wildlife nesting boxes on private property. Work with landowners to service and maintain boxes. Provide technical support to public and private landowners within the Southwest Region regarding habitat management and vegetation improvement.	Acres improved Technical assistance provided	A, B, C, F, G, I, K

WMA Priority: Upland Game Bird Habitat						
<i>Conservation Target: Upland Game Birds</i>						
Scope	Management Direction	Performance Target	Strategy	Metric	Compass Objective (Appendix I)	
FBWMA	Provide high quality production habitat for upland game birds	Improve the ecological condition and structure of 200 acres of upland nesting habitat by 2024.	Transition from annual food plots to perennial forb and grass plantings to create large blocks of dense nesting and hiding cover.	Acres improved	A, B, C	
			Utilize chemical, mechanical, and biological methods to control noxious weed populations and limit the spread of noxious weeds in upland areas.			
		Interseed 30 acres total between Gold Island and FBWMA annually, with 30% cover of planted species by 2020.	Plant desirable mix of shrubs, forbs, and grasses. Evaluate success of seed mix annually; adjust mix accordingly.	Successful establishment and % cover of planted species		
		By 2016, create and maintain two (2) upland bird brood rearing areas at least 1 acre in size.	Install brood strips in suitable locations. Develop additional brood strips depending on success and location availability.	Brood strips created		
Upland Game Bird Landscape	Provide high quality production habitat for upland game birds	Improve 100 acres of upland habitat by 2024.	Create five brush piles for escape cover annually.	Install brush piles for escape cover in suitable locations; maintain adequate spacing between piles.	Piles created	
			Improve 100 acres of upland habitat by 2024.	Interseed 10 acres on public and private ground to desirable shrub/forb/grass mix to improve nesting cover.	Acres Improved	A, B, C, F, G, I, K
				Plant three shelterbelts on private property.		
Work with public and private landowners to create and improve nesting habitat. Promote Department HIP Program.						
WMA Priority: Special Status Species Habitat						
<i>Conservation Target: Wetland and Riparian Habitat</i>						
Scope	Management Direction	Performance Target	Strategy	Metric	Compass Objective (Appendix I)	
FBWMA	Provide high quality cover and food sources for migrating waterfowl, waterbirds, shorebirds and SGCN wildlife, while maximizing potential water quality and ecosystem support functions	By 2019, identify SGCN that utilize FBWMA and RMWHA habitats.	Create GIS layer of SGCN observations on or near FBWMA and RMWHA.	Projects completed	B, C, D, F, G, H, K	
			Identify most frequent/prevalent SGCN on FBWMA and RMWHA; work with Department Diversity Program to identify habitat needs.			
			Coordinate with the Department Diversity Program to conduct surveys for SGCN.			
		By 2020, assess the potential function and condition of priority wetland management units at FBWMA and RMWHA.	Use Wildlife Bureau staff to assess condition and potential function and condition of wetland management units using Wetland Ecosystem Services Protocol for the United States (WESPUS); include marsh successional stage.	Assessment completed		
			By 2020, implement shallow water short-emergent marsh and wet meadow management (e.g., flooding and periodic drawdowns) at the appropriate times and frequency on >20 acres to improve ecological condition for increased utilization by SGCN.	Use chemical, mechanical, and biological methods to control and limit the spread of noxious weeds and increase the diversity and productivity of wet meadows and shallow marshes.		Acres improved
		Manage water levels to increase duration of saturation and shallow flooding in wet meadows and shallow marshes during spring and maintain groundwater closer to surface for longer duration in early summer to maximize invertebrate production.				
Using input from Department Diversity Program staff, adapt management of suitable wetland and riparian habitats to specific SGCN needs.						

WMA Priority: Special Status Species Habitat						
<i>Conservation Target: Wetland and Riparian Habitat</i>						
Scope	Management Direction	Performance Target	Strategy	Metric	Compass Objective (Appendix I)	
Wetland and Riparian Landscape	Provide high quality cover and food sources for migrating waterfowl, waterbirds, shorebirds and SGCN wildlife, while maximizing potential water quality and ecosystem support functions	Restore and/or enhance at least 20 acres of riparian/wetland habitats on public and private lands for use by SGCN and all wildlife by 2020	Conduct planting projects to establish desirable riparian/wetland vegetation in degraded habitats.	Acres improved	B, C, F, G, H, I, K	
			Work with landowners to implement irrigation practices and water management that maintains saturation of fields for longer periods throughout the summer to increase invertebrate production for the benefit of migratory wading and shorebirds.			
			Work with public and private landowners and the Canyon County Noxious Weed Control Department to treat noxious weeds.			
			Provide technical support to landowners regarding habitat improvements.			
			Contribute to Watershed Advisory Groups and other working groups as needed to improve water quality and other habitat conditions by implementing best management practices for agricultural and urban land uses.			
WMA Priority: Wildlife-based Recreation and Education						
Scope	Management Direction	Performance Target	Strategy	Metric	Compass Objective (Appendix I)	
FBWMA	Provide opportunity for consumptive and non-consumptive wildlife based recreation and education	Provide at least 10,000 recreational hunting, fishing, and trapping user days annually at FBWMA and RMWHA	Increase Department law enforcement presence to curtail illegal activities.	User days	E, F, G, H, K, L, M, N	
			Support Department-sponsored youth hunts.			
			Evaluate hunter congestion issues. Seek input from Commission and Wildlife Bureau on methods to reduce overcrowding.			
			Maintain hunting restriction of three days per week at RMWHA to maintain quality.			
		Provide at least 7,500 non-consumptive wildlife-based recreation and education user days annually at FBWMA and RMWHA	Update and reprint FBWMA bird list and brochure. Make accessible on Department website, at R3 office, and FBWMA Headquarters.			
			Facilitate tours and presentations to school groups and other interested parties.			
			Encourage and facilitate volunteer projects and work days.			
		Maintain facilities, signage, and roadways to facilitate recreation and education	With Diversity Program lead, evaluate feasibility of construction of a permanent wildlife viewing structure.			
			Provide accurate and up to date maps, brochures, and signs.			Signage and roads/trails maintained or improved
			Maintain roadways and trails at FBWMA.			

Monitoring

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

Biological monitoring includes wildlife, vegetation, and habitat monitoring. Current biological monitoring on FBWMA consists of yearly brood counts of waterfowl and upland bird species, as well as assessing the effectiveness of management activities, such as noxious weed control.

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

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

- Distribution and extent of cover types, including mapping of vegetation cover types
- Vegetation structure, composition, and condition
- Presence or abundance of noxious weeds and other invasive plants
- Riparian and wetland condition and function assessment
- Photo points

To date, this program has collected baseline data on five WMAs, including FBWMA and RMWHA in 2013. Surveys of all 32 WMAs are 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.

In 2012 (Feb-Dec), a WMA user survey was available on the Department website. Similar surveys were conducted on the ground from October – December of 2012 to gather additional user feedback (Appendix IV). User surveys were also distributed during the 2013 waterfowl and upland season openers. Wildlife Management Area user satisfaction surveys will continue to be administered to gather information and opinions from various user groups, with a target of 100 surveys completed annually.

At FBWMA, traffic counter data is gathered bi-monthly to assess the amount of overall traffic the WMA receives (Appendix Figure IV-1). This data can then be combined with hunter interview and check station data to get a more precise estimate of the total number of WMA users. Due to equipment breakdown and malfunction, the number of vehicles represented in Appendix Figure IV-1 is a minimum. The number of vehicles visiting FBWMA was lowest in 2007, when just fewer than 8,500 vehicles were counted, to the peak, which occurred in 2013, when nearly 19,000 vehicles were counted. The average number of vehicles counted per year for this time period is 13,791. Traffic counter data at FBWMA will continue to be recorded for the duration of the plan, and will be combined in a database with historic data for reference and to assist in management decision making.

Hunter check stations, typically operated on the opening days of waterfowl and upland bird hunting seasons, monitor the number of hunters, hunter success, and hunter effort expended. The check stations will continue to be operated on an annual basis.

Reporting

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

Table 3. Biological monitoring for Fort Boise WMA, 2014-2023.

Performance Target	Survey Type	Survey Frequency
Restore deepwater habitat in at least one silted-in pond by 2019; annually, remove silt from ponds susceptible to excess sedimentation as needed	Wetland soil deposition survey	One time (initial); then as needed
Treat 10 acres of wetland and upland waterfowl nesting habitat to improve condition from poor-fair to good-excellent	Determination of acres improved	Annual
Restore or enhance 20 acres of riparian/wetland habitats	Department rapid riparian assessment method	Every three years
By 2016, create and maintain two upland bird brood rearing areas at least 1 acre in size	Determination of upland bird brood rearing area size	Annual
Inter-seed 30 acres total between Gold Island and FBWMA annually	Determination of the number of acres inter-seeded	Annual
By 2020, assess the potential function and condition of priority wetland management units at FBWMA and RMWHA	Wetland Ecosystem Services Protocol for the United States (WESPUS)	One time (initial); then as needed
Identify SGCN that utilize FBWMA and RMWHA	Presence/absence; density	As needed by Department Diversity Staff

References

- Austin, J. E., C. M. Custer, and A. D. Afton. 1998. Lesser Scaup (*Aythya affinis*). In *The Birds of North America*, No. 338 (A. Poole and F. Gill, eds.). The Birds of North America, Inc., Philadelphia, Pennsylvania.
- Beck, J. M., and C. R. Peterson. 1995. Movements and habitat selection of the longnose snake (*Rhinocheilus lecontei*) in southwestern Idaho. Idaho State University, Pocatello.
- Burger, J., and M. Gochfeld. 1994. Franklin's Gull (*Larus pipixcan*). In *The Birds of North America*, No. 116 (A. Poole and F. Gill, eds.). Philadelphia. The Academy of Natural Sciences; Washington, D.C.: The American Ornithologists' Union.
- Cade, T. J. 1982. *Falcons of the world*. Comstock/Cornell University Press, Ithaca, New York.
- Compagnoni, A. 2013. Climate change and plant demography in the sagebrush steppe. Dissertation, Utah State University, Logan.
- Craig, E., and T. Craig. 1989. The status and distribution of the merlin in selected areas of Idaho. Nongame Report, Idaho Department of Fish and Game, Boise.
- Dechant, J. A., D. H. Johnson, L. D. Igl, C. M. Goldade, A. L. Zimmerman and B. R. Euliss. 2003a. Effects of management practices on grassland birds: Wilson's Phalarope. Northern Prairie Wildlife Research Center, Jamestown, ND. Northern Prairie Wildlife Research Center Online.
<http://www.npwr.usgs.gov/resource/literatr/grasbird/wiph/wiph.htm> (Version 12DEC2003).
- Dechant, J. A, M. L. Sondreal, D. H. Johnson, L. D. Igl, C. M. Goldade, P. A. Rabie, and B. R. Euliss. 2003b. Effects of management practices on grassland birds: Long-billed Curlew. Northern Prairie Wildlife Research Center, Jamestown, ND. Northern Prairie 15 Wildlife Research Center Online.
<http://www.npwr.usgs.gov/resource/literatr/grasbird/wiph/wiph.htm> (Version 12DEC2003).
- Dugger, B. D., and K. M. Dugger 2002. Long-billed Curlew (*Numenius americanus*). In *The Birds of North America*, No. 628 (A. Poole and F. Gill, eds.). The Birds of North America, Inc., Philadelphia, Pennsylvania.
- Eldridge, J. 1992. Management of habitat for breeding and migrating shorebirds in the Midwest. U.S. Fish and Wildlife Service Leaflet 13.2.14.
- England, A. S., M. J. Bechard, and C. S. Houston. 1997. Swainson's Hawk (*Buteo swainsoni*). In *The Birds of North America*, No. 265 (A. Poole and F. Gill, eds.). The Academy of Natural Sciences, Philadelphia, and the American Ornithologists' Union, Washington, D.C.

- Erickson, W. P., G. D. Johnson, M. D. Strickland, D. P. Young, Jr., K. J. Sernka, and R. E. Good. 2001. Avian collisions with wind turbines: a summary of existing studies and comparisons to other sources of avian collision mortality in the United States. National Wind Coordinating Committee (NWCC) Resource Document, Western EcoSystems Technology, Inc., Cheyenne, Wyoming.
- Evans, M. E., and F. Knoph. 1993. American White Pelican (*Pelicanus erythrorhynchos*). In *The Birds of North American*, No. 57 (A. Poole and F. Gill, Eds.). Philadelphia: The Academy of Natural Sciences; Washington, D.C.: The American Ornithologist's Union.
- Groves, C. 2003. *Drafting a Conservation Blueprint: A Practitioner's Guide to Planning for Biodiversity*. Island Press, Washington, D.C.
- Hart, C. M., S. J. Brueggemann, and C.A. Fien. 2009. A new perspective and methods for pheasant management. *California Fish and Game* 95(1):1-37.
- Haug, E. A., B. A. Millsap, and M. S. Martell. 1993. Burrowing Owl (*Speotyto cunicularia*). In *The Birds of North America*, No. 61 (A. Poole and F. Gill, Eds.). Philadelphia: The Academy of Natural Sciences; Washington, D.C.: The American Ornithologists' Union.
- Herziger, C. P., and G. L. Ivey. 2003. Franklin's Gull. Pages 259–260 in *Birds of Oregon: A General Reference* (D. B. Marshall, M. G. Hunter, and A. C. Contreras, eds.). Oregon State University Press, Corvallis.
- Heywood, V. H. 1995. *Global biodiversity assessment*. Cambridge University Press, Cambridge.
- Hughes, J. M. 1999. Yellow-billed Cuckoo (*Coccyzus americanus*). In *The Birds of North America*, No. 418 (A. Poole and F. Gill, eds.). The Birds of North America, Inc., Philadelphia, Pennsylvania.
- Idaho Department of Fish and Game. 2004. *White-tailed deer management plan 2005 – 2014*. Idaho Department of Fish and Game, Boise.
- 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].
- Idaho Department of Fish and Game. 2010. *Lands and Access Areas Public Use Rules*. Idaho Department of Fish and Game, Boise.
- Idaho Department of Fish and Game. 2012a. *Upland Game, Furbearer & Turkey Seasons and Rules, 2012-2013 & 2013-2014*. Idaho Department of Fish and Game, Boise.
- Idaho Department of Fish and Game, 2012b. *Martin Access road to remain closed*. Southwest Region News Release. 29 October 2012.

- Idaho Department of Fish and Game, 2013a. 2013 Waterfowl Seasons and Rules. Idaho Department of Fish and Game, Boise.
- Idaho Department of Fish and Game, 2013b. 2013 Big Game Seasons and Rules. Idaho Department of Fish and Game, Boise.
- Ivey, G. L., and C. P. Herziger, coordinators. 2005. Intermountain West Waterbird Conservation Plan—A plan associated with the Waterbird Conservation for the Americas initiative. Version 1.0. Published by U.S. Fish and Wildlife Service Pacific Region, Portland, Oregon.
- Ivey, G. L., S. L. Earnst, E. P. Kelchlin, L. Neel, and D. S. Paul. 2005. White-faced Ibis Status Update and Management Guidelines: Great Basin Population. U.S. Fish and Wildlife Service, Portland, Oregon.
- Jenni, D. A., R. L. Redmond, and T. K. Bicak. 1981. Behavioral ecology and habitat relationships of Long-billed Curlew in western Idaho. Department of the Interior, Bureau of Land Management, Boise District, Boise, Idaho.
- Kantrud, H. A. 1981. Grazing intensity effects on the breeding avifauna of North Dakota native grasslands. *Canadian Field-Naturalist* 95:404-417.
- 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.
- Lambeck, R. J. 1997. Focal Species: A Multi-Species Umbrella for Nature Conservation. *Conservation Biology*. Volume 11, Issue 4, pages 849-856, August 1997.
- Lester, G. T., W. P. McCafferty, and M. R. Edmondson. 2002. New mayfly (*Ephemeroptera*) records from Idaho. *Entomological News* 113(2): 131-136.
- Malcom, J. M. 1982. Bird collisions with a power transmission line and their relation to botulism at a Montana wetland. *Wildlife Society Bulletin* 10:297-304.
- McIntyre, J. W., and J. F. Barr. 1997. Common Loon (*Gavia immer*). In *The Birds of North America*, No. 313 (A. Poole and F. Gill, eds). The Academy of Natural Sciences, Philadelphia, PA, and The American Ornithologists' Union, Washington, D.C.
- 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.
- Oakleaf, B., A. O. Cerovski, and B. Luce. 1996. Nongame Bird and Mammal Plan. Wyoming Fish and Game Department, Cheyenne, Wyoming.

- Parsons, K. C., and T. L. Master. 2000. Snowy Egret (*Egretta thula*). In *The Birds of North America*, No. 489 (A. Poole and F. Gill, eds.). The Birds of North America, Inc., Philadelphia, Pennsylvania.
- Redmond, R. L., T. K. Bicak, and D. A. Jenni. 1981. An evaluation of breeding season census techniques for Long-billed Curlews (*Numenius americanus*). *Studies in Avian Biology* 6:197–201.
- Robinson, J. A., L. W. Oring, J. P. Skorupa, and R. Boettcher. 1997. American Avocet (*Recurvirostra americana*). In *The Birds of North America*, No. 275 (A. Poole and F. Gill, eds.). The Academy of Natural Sciences, Philadelphia, PA, and the American Ornithologists' Union, Washington, D.C.
- Robinson, J. A., J. M. Reed, J. P. Skorupa, and L. W. Oring. 1999. Black-necked Stilt (*Himantopus mexicanus*). In *The Birds of North America*, No. 449 (A. Poole and F. Gill, eds.) The Birds of North America, Inc., Philadelphia, Pennsylvania.
- Shuford, W. D. 1999. Status assessment and conservation plan for the black tern (*Chlidonias niger*) in North America. U.S. Department of Interior, Fish and Wildlife Service, Denver, Colorado.
- Simberloff, D. 1998. Flagships, umbrellas, and keystones: Is single-species management passé in the landscape era? *Biological Conservation* 83:247-257.
- Smith, B. W., and J. R. Belthoff. 2001. Effects of nest dimensions on use of artificial burrow systems by burrowing owls. *Journal of Wildlife Management* 65:318–326.
- Sodhi, N. S., L. W. Oliphant, P. C. James, and I. G. Warkentin. 1993. Merlin (*Falco columbarius*). In *The Birds of North America*, No. 44 (A. Poole and F. Gill, eds.). Philadelphia: The Academy of Natural Sciences; Washington, D.C.: The American Ornithologists' Union.
- Stephens, D. A., and S. H. Sturts. 1997. Idaho Bird Distribution, Second Ed. Idaho Museum of Natural History and Nongame and Endangered Wildlife Program, Idaho Department of Fish and Game, Boise.
- Storer, R. W., and G. L. Nuechterlein. 1992. Western Grebe and Clark's Grebe. In *The Birds of North America*, No. 26 (A. Poole, P. Stettenheim, and F. Gill, eds.). Philadelphia: The Academy of Natural Sciences; Washington, D.C.: The American Ornithologists' Union.
- Telfair, R. C. II. 1994. Cattle Egret (*Bubulcus ibis*). In *The Birds of North America*, No. 113 (A. Poole and F. Gill, eds.). Philadelphia. The Academy of Natural Sciences; Washington, D.C.: The American Ornithologists' Union.
- Trimble, S. A. 1975. Habitat Management series for unique or endangered species. Report No. 15. Merlin *Falco columbarius*. USDI–BLM. Technical note series. T–N–271.

- Trost, C. H., and A. Gerstell. 1994. Status and distribution of colonial nesting waterbirds in southern Idaho, 1993. Technical Bulletin No. 94–6, Idaho Bureau of Land Management, Boise.
- 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].
- 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.
- White, C. M., N. J. Clum, T. J. Cade, and W. G. Hunt. 2002. Peregrine Falcon (*Falco peregrinus*). In *The Birds of North America*, No. 660 (A. Poole and F. Gill, eds.) The Birds of North America, Inc., Philadelphia, Pennsylvania.
- Winkler, D. W. 1996. California Gull (*Larus californicus*). In *The Birds of North America*, No.259 (A. Poole and F. Gill, eds.). The Academy of Natural Sciences, Philadelphia, PA, and The American Ornithologists’ Union, Washington, D.C.

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.

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

II. HISTORY

The area now occupied by Fort Boise Wildlife Management Area (FBWMA) is interesting geologically and historically. The WMA is situated at the confluence of the Snake and Boise rivers and is just downstream from the mouth of the Owyhee River. Prior to dam construction, the combined rivers in-flood had a great effect on the landscape. The soils on the WMA are patchy and variable, changing from gravel to sand to silt, all within less than 100 meters; this is typical of alluvial soils formed by the deposition and erosion of rivers. Many soils on the WMA are poorly drained and alkaline with sodic crusts. The plants on the surface reflect the soil profile below. Greasewood and saltgrass predominate in high pH zones, while willow, non-native hardwood trees, and black cottonwood are found in the extensive gravelly riparian areas formed by the Boise River, which delineates 2.35 miles of the southern WMA boundary. Big sagebrush (*Artemisia tridentata*) is found in the limited, more arable upland soils, and small acreage row crops were grown in the mid-20th century. Due to the variable soils, most of what is now FBWMA was used as irrigated pasture or seen as ‘waste ground’ after European settlement.

As rivers do not down cut into gravels significantly, they typically spread out to form many braided channels and islands, and this is the case where the Boise River meets the Snake River. The many wide, gravel-bottomed channels below the Boise River mouth form a natural ford. Native Americans greatly valued the gravelly shallows for the abundant spawning salmon and the ford was a main Snake River crossing on the Oregon Trail. The vicinity of the three rivers was pivotal in the early fur trade and hosted some of the oldest European settlements in the west. A Hudson Bay Company fur post, “Fort Boise”, was located somewhere near the mouth of the Boise River, from the 1830s to the mid-1850s. With the demise of the fur trade, the Fort remained to sell provisions to hundreds of travelers on the Oregon Trail.

The FBWMA was established in 1959 when Idaho Power Company deeded 330-acre Gold Island in the Snake River to the Department as partial habitat loss mitigation for the Hell’s Canyon dams. Starting in 1960, a series of mainland purchases by the Department added small to medium sized parcels to FBWMA (Appendix IX). The last of these purchases, the 95-acre Mann purchase, occurred in 1991 and brought the total FBWMA acres to 1,548.

Roswell Marsh Wildlife Habitat Area (RMWHA) began in 1986 with a 150-acre Department / Ducks Unlimited acquisition. The Department purchased the remainder of the property, the 35-acre Barnard segment (along with shares of Riverside Ditch irrigation water) and the 475-acre Hurtt parcel in 1988. Development of the 185-acre wetlands complex was completed in 1991 when three miles of diking and water structures were installed. In 2003, the Riverside Irrigation District ruled that water from the Riverside ditch, the RMWHA wetland water source, could only be used for ‘agriculture’ and that ‘wildlife’ use, the highest water use under Idaho law, was prohibited. After several years without water, the area was flooded again in 2009 when a permit for a large underground well was secured and water was pumped into the wetland.

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 FBWMA lands. Certain activities are prohibited from funding with Federal Aid funds, and all provisions of Federal Aid funding are followed.

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

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 AND VISITOR USE SUMMARY

Additional Issues Identified by the Public for Public Use Management

11. Prepare a more detailed map.

Discussion: An updated FBWMA map was created in 2013. The new map is available on the Department website at <http://fishandgame.idaho.gov/public/docs/wma/fortBoise.pdf>.

12. Post game farm pheasant release dates.

Discussion: The amount of birds to be released weekly is available on the Department website at <http://fishandgame.idaho.gov/public/hunt/?getPage=275>. The exact day of release is not provided in an attempt to prevent crowding and possible safety issues. Due to changing weather conditions and unforeseen logistical problems, flexibility is needed on exact release dates.

13. Install boat ramp (no specific location given).

Discussion: A boat ramp is currently in place on the Snake River. Numerous other boating access sites are available throughout the Southwest Region. See the Department Fishing Planner website for more details (<http://fishandgame.idaho.gov/ifwis/fishingplanner/>). The launching of small boats into ponds and wetland areas on FBWMA is permitted.

14. Install boat dock at current boat ramp.

Discussion: The boat ramp is maintained by the Department Fish and Boating Access Program. The boat ramp provides boaters with access to the Snake and Boise rivers. Numerous other boating access sites are available in the Southwest Region. Due to the difficulty in maintaining a dock in the Snake River at the current ramp site, there are no plans to install a boat dock.

15. Develop more camping sites.

Discussion: A camping area has been developed at the Martin's Landing Access Area on the south bank of the Boise River. The area includes a new gravel access road, 11 designated RV camping sites and a camp host site, two vault toilets, overhead security lighting, an improved parking area with overflow camping, three primitive tent camping areas near the confluence of the Snake and Boise rivers, and a gravel foot trail leading to the river confluence. The finished project will offer better access to fishing and camping along the Snake and Boise rivers, with the camping area managed cooperatively by Canyon County Parks and Recreation and Idaho Fish and Game (IDFG 2012b).

16. Better wildlife viewing areas.

Discussion: While access to certain portions of FBWMA is limited during different times of the year, many great wildlife viewing opportunities exist year-round. A wildlife viewing platform is being considered for year-round use adjacent to Old Fort Boise Road.

17. Improve signs.

Discussion: New signs for both the main entrance on Old Fort Boise Road and the southeast entrance from Bar Diamond Lane have been installed in 2012 and 2013. Additional signs are replaced as needed.

18. Limit hunting.

Discussion: All hunting on FBWMA occurs under current regulations developed by the Department. Revenues derived from hunting activities have purchased the lands that make up FBWMA and also continue to provide funds for its operation. One of the Department's management goals for WMAs is to provide high quality wildlife-based recreation. Providing public hunting opportunities will continue to be a top priority at FBWMA.

19. Open access road to Gold Island access.

Discussion: Access to Gold Island is provided by the boat ramp on the Snake River. The historic boat launching location near the northwest corner of the area is no longer functional. The access road to the west of the refuge ponds is currently open to vehicles and foot traffic from August 1-31.

20. Open gates for better access.

Discussion: All interior roads on FBWMA are designated as trails and are not open to motorized travel except by Department personnel and persons with disabilities.

21. Allow hunting in closed zone occasionally.

Discussion: The area north of the Headquarters is closed year-round to provide a nesting and resting area for waterfowl.

22. Improved public relations.

Discussion: Every effort is made to return phone calls, messages, and requests for information in a timely fashion. The FBWMA is present to a 'field' office, and personnel are routinely in the field working. Questions or concerns needing immediate attention should be directed to the Southwest Regional Office in Nampa, which can be contacted at (208) 465-8465.

23. More frequent trash pickup.

Discussion: Litter is typically picked up upon encounter, and a thorough inspection of the most frequently littered areas occurs on a weekly basis. The FBWMA provides no trash pickup services, and is operated on a “pack it in, pack it out” basis. Hunters and other WMA users are responsible for picking up after themselves, and should expect others to do so.

24. Make WMA viewable on GPS unit.

Discussion: Information regarding Department WMA boundaries is available for view and download at <https://fishandgame.idaho.gov/ifwis/portal/opendata> (user account may be required).

25. Have designated duck hunting blinds.

Discussion: While overcrowding on FBWMA can be an issue, a system of designated hunting blinds and a limit on the number of hunters is not desirable.

26. Install small garbage cans to reduce the amount of littering.

Discussion: As mentioned above, litter is typically picked up on a weekly basis. The installation of garbage cans could help reduce the amount of littering, but may also cause additional problems. Concentrations of litter or garbage can attract wildlife. Some individuals may view the WMA as a dumping ground for personal trash or items that cannot be disposed of elsewhere. The current system of “pack it in, pack it out” works well when WMA users follow the guidelines.

27. Allow field trials and hunt tests in other months.

Discussion: A permit is required to sponsor/conduct any organized competitive dog trials/tests on private or public lands (excluding licensed shooting preserves) when artificially propagated game birds are used. The permit is required even if live birds are not used or released during the trial on WMA lands. Permit applications are available at Fish and Game regional offices (IDFG 2012a). A designated dog training area exists at C.J. Strike WMA, and more information can be obtained by contacting the IDFG Southwest Regional Office at (208) 465-8465.

28. Controlled draw for trapping each year.

Discussion: The FBWMA is currently (as of 2013) not part of a controlled draw trapping unit. Consult the most current Department Furbearer regulations for available trapping seasons by region. Trappers interested in trapping on FBWMA must contact or register either at the management headquarters or the regional office (IDAPA 13.01.16.600).

29. Eliminate conflicts between duck and pheasant hunters.

Discussion: Fort Boise WMA is very popular with both waterfowl and pheasant hunters, and with large numbers of hunters on the area, it may be difficult to avoid conflicting with someone else's hunt. As addressed in the 'Public Input' section, hunter overcrowding is a concern and if problems persist, measures to limit the number of given hunters in a day may need to be implemented. The 10:00 AM pheasant hunting start time is designed to provide waterfowl hunters with approximately four hours of exclusive time.

30. Post signs when trapping begins.

Discussion: Seasons for the most common animals trapped on FBWMA typically run from November 1 – March 31. WMA users need to be aware that trapping for some species is allowed on a year-round basis. Please consult the most current Department Furbearer regulations for information on trapping seasons.

31. Flood ponds earlier in support of youth waterfowl hunt.

Discussion: Seasonal drawdown and maintenance are the main reasons for the lowering of pond levels at FBWMA. Efforts are made to ensure that maintenance is completed prior to any open hunt to reduce interference with hunters.

32. Post information about the birds in the area.

Discussion: A brochure entitled "Birds of Fort Boise Wildlife Management Area" is available at the FBWMA Headquarters or the Regional Office in Nampa. The brochure contains information on bird species and their occurrence at FBWMA.

33. Check every hunter's license/WMA pheasant permit.

Discussion: It is not feasible to check every hunter's license or WMA pheasant permit on a daily basis, given the funding and workload constraints of FBWMA and Department Enforcement personnel. Department Enforcement personnel patrol FBWMA regularly throughout the year, and increase their presence during hunting season. Fort Boise WMA personnel check licenses and permits when operating check stations and also opportunistically in the field.

34. Provide follow up on calls made to CAP (Citizens Against Poaching) hotline.

Discussion: CAP is a nonprofit corporation with interested hunters and anglers from around the state serving as regional directors and officers. Fish and Game utilizes a 24/7 call service center, All West, which receives and records reports of violations through a toll-free telephone number and routes the information to conservation officers for investigation (<http://fishandgame.idaho.gov/public/enforce/?getPage=202>, accessed 2/2013). Concerns

regarding a call placed to the CAP hotline can be addressed by contacting the Regional Conservation Officer where the incident occurred.

Issues and comments gathered during the online WMA plan review process from 4/21/14 through 6/10/2014.

Of the 10 respondents who submitted comments regarding the FBWMA management plan through the Department website, nine (9) selected that they ‘Agreed’ with the management priorities for FBWMA. The same number (9) selected that they ‘Agreed’ with the management plan as it is currently written. The other respondent selected ‘Strongly agree’ for the response to the same two questions. Specific comments posted to the website are addressed below.

35. Will there be a full-time manager for the Fort Boise area?

Discussion: Shifting personnel assignments and responsibilities have led to Fort Boise WMA being managed by a Habitat Biologist out of the Southwest Regional Office in Nampa since May 2013. While he also has additional responsibilities outside of Fort Boise WMA, the area is still the biologist’s main focus and the area is also staffed with a full-time Wildlife Technician. While dependent on Department budgets and availability of funding, it is likely that Fort Boise WMA will be staffed with a full-time Habitat Biologist in the future.

36. Create volunteer opportunities.

Discussion: Seasonal volunteer opportunities are typically coordinated through the Southwest Regional Volunteer coordinator. Contact information for each Region’s volunteer coordinator can be found at: <http://fishandgame.idaho.gov/public/about/volunteer/>. Many opportunities exist to volunteer at Fort Boise WMA and at many other locations throughout the Southwest Region.

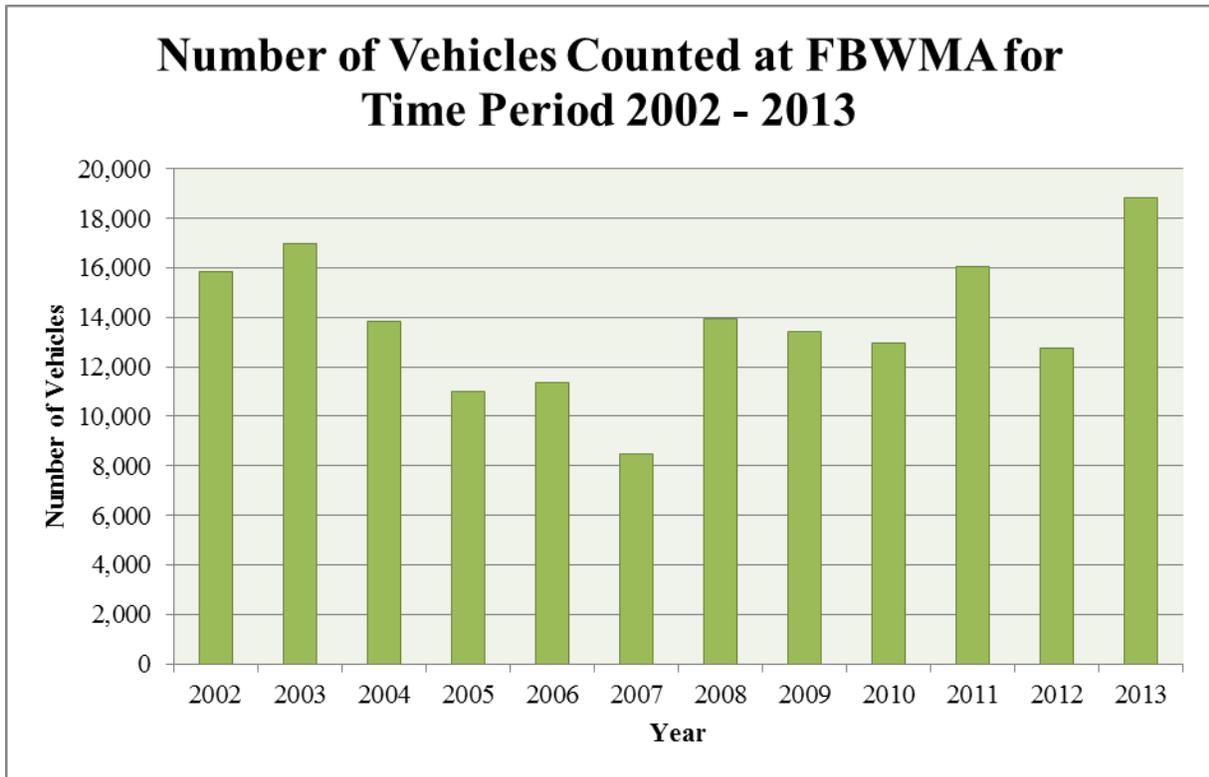
37. Mow strips through fields to improve dove and pheasant hunting.

Discussion: Hunting strips are currently mowed in various areas to improve access and safety in heavy cover, and to provide increased opportunity during hunting season.

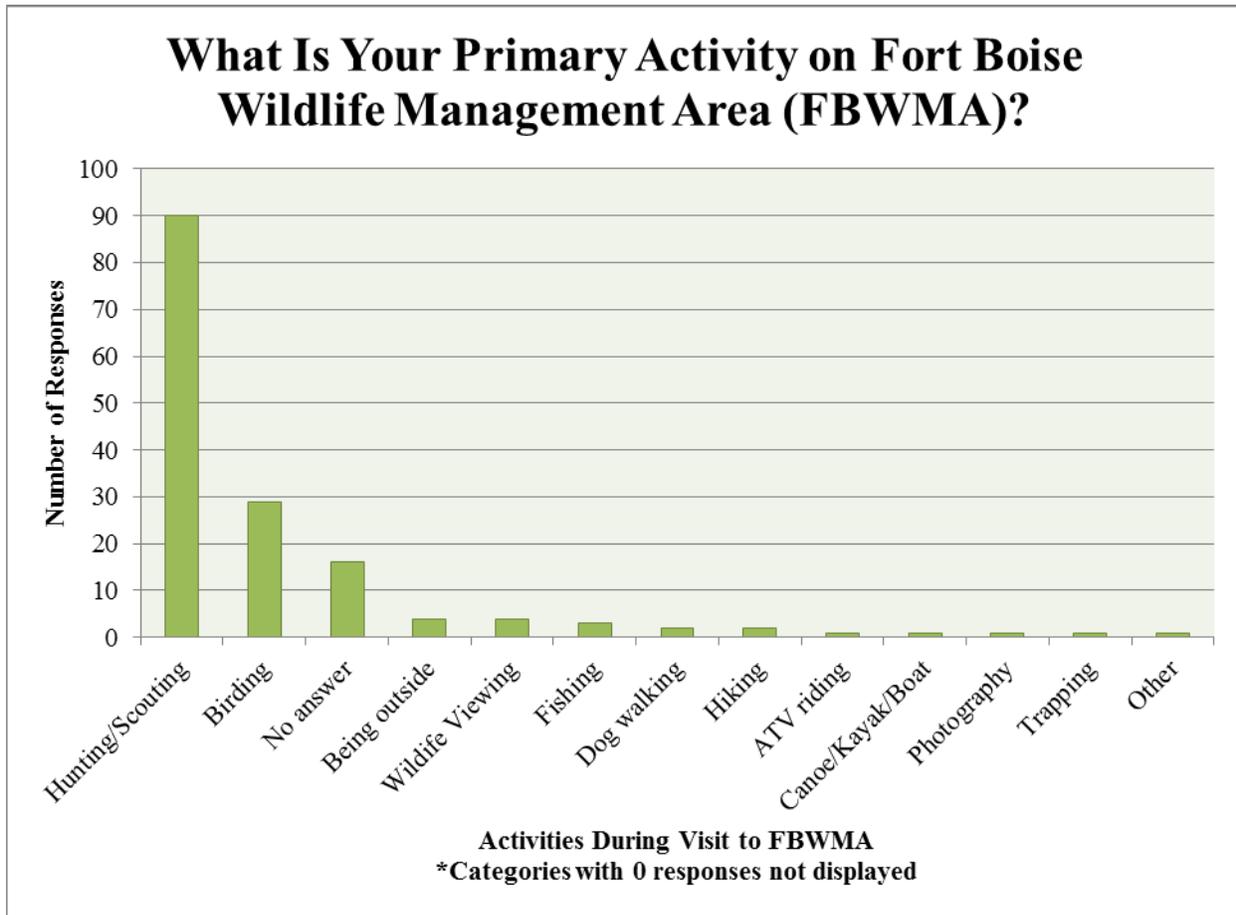
Trends From Visitor Use Surveys

Due in part to the proximity to major population centers in Ada and Canyon counties, FBWMA receives a large amount of public use (Appendix Figure IV-1). For the time period of 2002-2013, an average of 13,791 vehicles visited FBWMA per year. The majority of FBWMA users take part in hunting or scouting activities, followed by birding, wildlife watching, and individuals looking for a place to be outdoors (Appendix Figure IV-2).

The online WMA survey also queried users on the level of satisfaction with their visit to FBWMA, the likelihood of making a return visit, and the level of support for the Department’s WMA management goals (Appendix Figures IV-3 through IV-5).

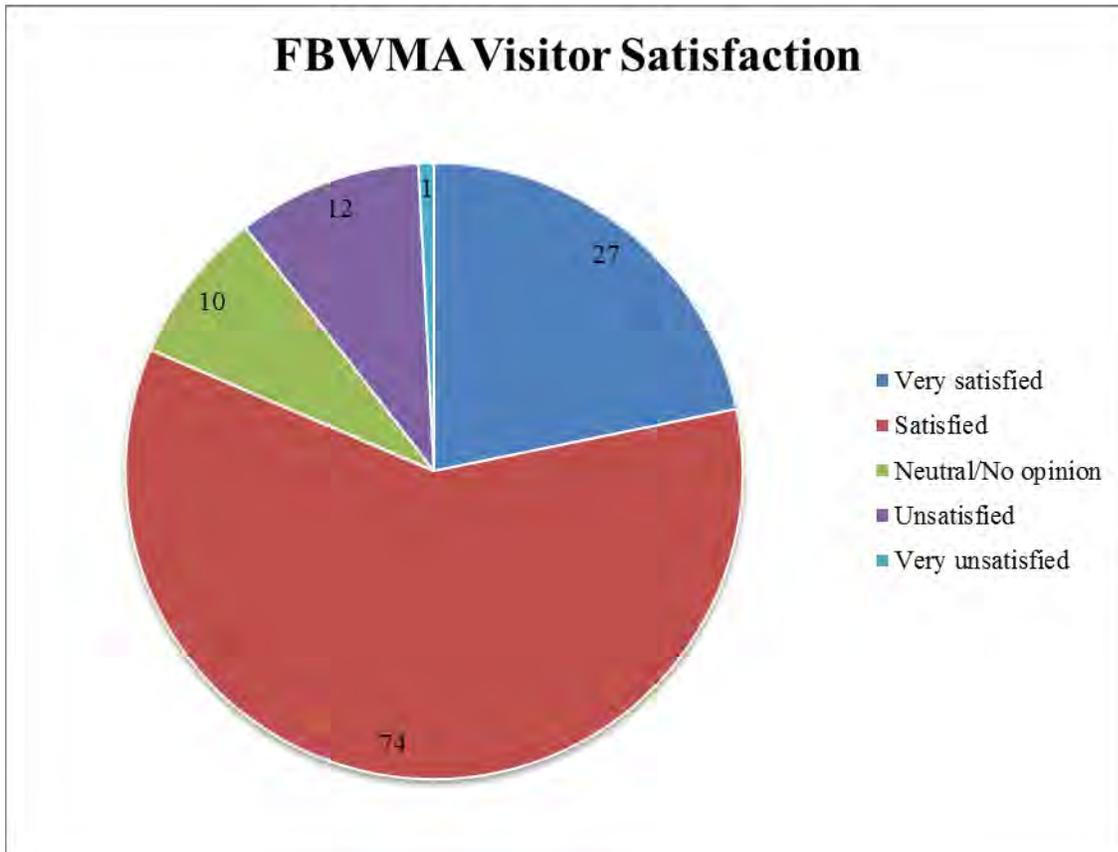


Appendix Figure IV-1. Fort Boise WMA historic traffic counter data.



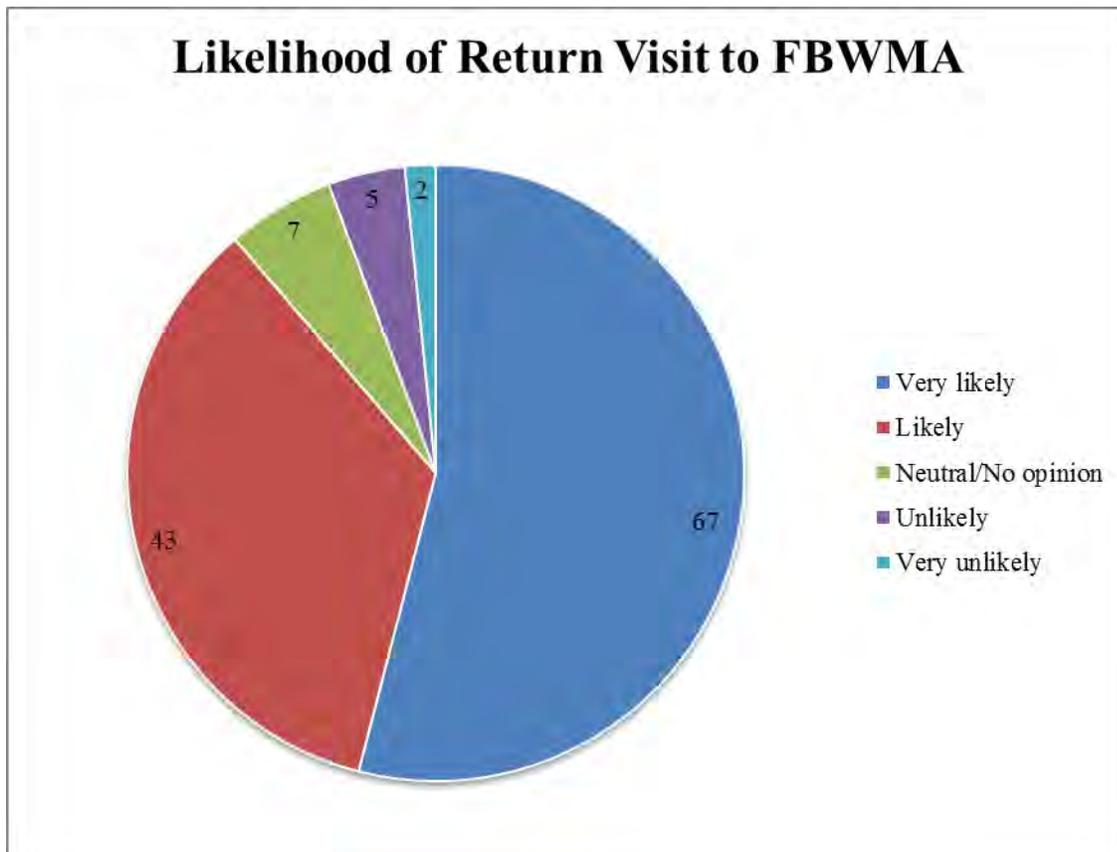
Appendix Figure IV-2. Ranking of primary activities of Fort Boise WMA users.

Appendix Figure IV-3 shows the level of satisfaction obtained by users who visited FBWMA, with 101 out of 124 respondents (81%) reporting to be ‘Satisfied’ to ‘Very Satisfied.’ Thirteen respondents were ‘Unsatisfied’ to ‘Very Unsatisfied’ (10%), while 10 were ‘Neutral’ (8%).



Appendix Figure IV-3. Fort Boise WMA online survey visitor satisfaction rankings.

Appendix Figure IV-4 shows the likelihood of a return visit to FBWMA by survey respondents. One hundred ten (110) out of 124 respondents (88%) reported to be 'Likely' to 'Very Likely' to make a return visit to FBWMA. Seven respondents were 'Unlikely' to 'Very Unlikely' to return (6%), and another seven were 'Neutral' (6%).

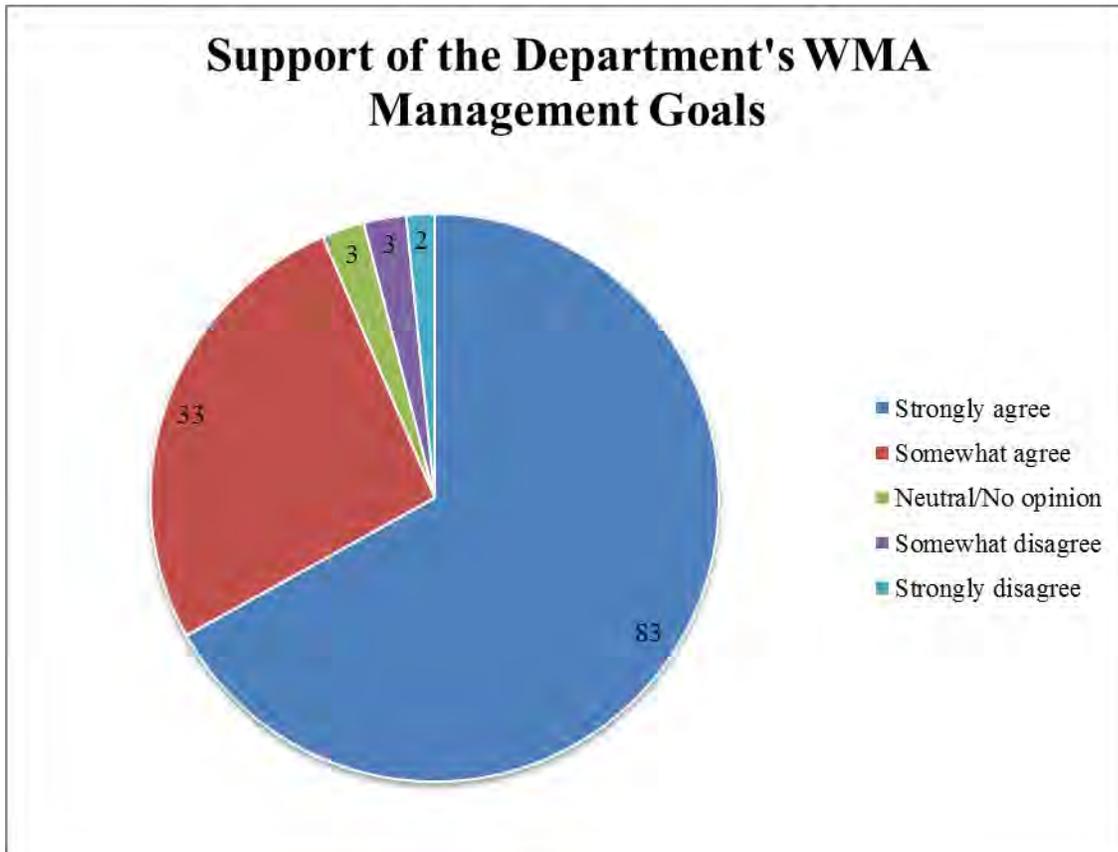


Appendix Figure IV-4. Fort Boise WMA online survey – likelihood of return visit to FBWMA.

The Department’s WMA management goals include:

- Provide high quality wildlife habitat
- Provide high quality wildlife-based public recreation
- Educate users about wildlife and the habitats they use
- Maintain positive working relationships with neighbors

Sixty-seven (67%) percent of respondents ‘Strongly Agree’ with the Department’s WMA management goals, while 26% ‘Somewhat Agree.’ A little more than 2% answered ‘Somewhat Disagree’, while less than 2% ‘Strongly Disagree.’ Another 2% were ‘Neutral’ (Appendix Figure IV-5).



Appendix Figure IV-5. Fort Boise WMA online survey – support of the Department’s WMA management goals.

V. 2003-2013 ACCOMPLISHMENTS

Since the Fort Boise Wildlife Management Area (FBWMA) plan was revised in 2003, these accomplishments have occurred relative to the Goals and Objectives of the 2003 plan.

Goal: Provide quality production habitat for waterfowl, upland game birds, and nongame wildlife.

Objective: Manage 200 acres of upland nesting habitat for waterfowl and upland game birds.

Accomplishments:

- Chemical, mechanical, and/or biological control of noxious weeds has been conducted annually on the WMA.
- Food and cover/nesting plots have been planted and maintained on an annual basis.
- Various predator control measures have been utilized to increase the success of ground-nesting birds.
- Brood surveys have been conducted to monitor nesting success.

Objective: Manage 400 acres of wetland habitat for waterfowl and nongame production.

Accomplishments:

- Pump installed on RMWHA, providing water supply to 185-acre wetland complex.
- Silt removed annually to prevent build up in waterways and wetlands.
- Headquarters North Pond enlarged to increase amount of waterfowl nesting/resting habitat.
- Successfully burned invasive *Phragmites australis*-type M material at RMWHA, providing open water and improved habitat conditions.
- Annual winter draw-down of wetland levels has been used to minimize the influence of carp.
- Activities that disturb core waterfowl nesting habitat have been prohibited.

Goal: Manage access to provide quality opportunities for hunting, trapping, and wildlife appreciation.

Objective: Maintain quality recreational experiences for approximately 15,000 recreation use-days at FBWMA.

Accomplishments:

- Seasonal closure to the core waterfowl production areas has been maintained.
- Traffic counters and user surveys have been used to gauge levels of public use and obtain feedback from hunters and other WMA users.

- Updated map and regulatory signs have been installed.
- New campground and user facilities installed at Martin's Landing Access site.
- Youth waterfowl and pheasant hunts have been supported by FBWMA personnel.
- Handicapped and disabled users have been assisted with access to FBWMA.

Goal: Mark and identify boundaries, easements, and access areas; address concerns and complaints of neighboring property owners.

Objective: Identify all boundaries and maintain signs annually.

Accomplishments:

- Boundaries have been identified; geospatial data regarding FBWMA (including Gold Island) and RMWHA has been created and updated.
- Signs and boundary markers have been identified and GPS locations recorded. Database created to track condition of signs and schedule replacement.
- Boundary fencing has been maintained and repaired/replaced as needed.
- Lure crops and food plots have been planted to help alleviate depredation problems on neighboring properties.

VI. VEGETATION

The vegetation cover type data (estimated from the frequency of sampling) from the initial survey is shown below.

Cover Type	Percent of Area
Mesic Meadow	30.45
Alkaline Meadow	13.49
Annual Grassland	13.43
Mesic Meadow with Seeded Tall Wheatgrass (<i>Thinopyrum ponticum</i>)	7.31
Tall Emergent Marsh	6.54
Short Emergent Marsh/Wet Meadow	5.91
Forested Riparian	4.69
Aquatic Bed/Open Water	4.66
Human Disturbed	4.48
Alkaline Meadow with Greasewood	2.99
Frequently Inundated Minimally Vegetated Floodplain	2.36
Scrub-shrub Riparian	1.70
Russian Olive	1.40
Gravel Road	0.60

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
Birds		Birds (cont.)	
Wood duck	<i>Aix sponsa</i>	Western screech owl	<i>Megascops kennicottii</i>
American widgeon	<i>Anas americana</i>	Wild turkey	<i>Meleagris gallopavo</i>
Northern shoveler	<i>Anas clypeata</i>	Black-crowned night heron	<i>Nycticorax nycticorax</i>
Cinnamon teal	<i>Anas cyanoptera</i>	Double-crested cormorant	<i>Phalacrocorax auritus</i>
Blue-winged teal	<i>Anas discors</i>	Ring-necked pheasant	<i>Phasianus colchicus</i>
Mallard	<i>Anas platyrhynchos</i>	Black-billed magpie	<i>Pica hudsonia</i>
Gadwall	<i>Anas strepera</i>	Downy woodpecker	<i>Picoides pubescens</i>
Great blue heron	<i>Ardea herodias</i>	Pied-billed grebe	<i>Podilymbus podiceps</i>
Canada goose	<i>Branta canadensis</i>	Black-capped chickadee	<i>Poecile atricapillus</i>
Great horned owl	<i>Bubo virginianus</i>	American avocet	<i>Recurvirostra americana</i>
Red-tailed hawk	<i>Buteo jamaicensis</i>	Yellow-rumped warbler	<i>Setophaga coronata</i>
Swainson's hawk	<i>Buteo swainsoni</i>	Yellow warbler	<i>Setophaga petechia</i>
California quail	<i>Callipepla californica</i>	Rough-winged swallow	<i>Stelgidopteryx serripennis</i>
Killdeer	<i>Charadrius vociferous</i>	European starling	<i>Sturnus vulgaris</i>
Snow goose	<i>Chen caerulescens</i>	House wren	<i>Troglodytes aedon</i>
Black tern	<i>Chlidonias niger</i>	Eastern kingbird	<i>Tyrannus tyrannus</i>
Northern harrier	<i>Circus cyaneus</i>	Western kingbird	<i>Tyrannus verticalis</i>
Marsh wren	<i>Cistothorus palustris</i>	Mourning dove	<i>Zenaida macroura</i>
Northern flicker	<i>Colaptes auratus</i>	Mammals	
American crow	<i>Corvus brachyrhynchos</i>	Coyote	<i>Canis latrans</i>
Common raven	<i>Corvus corax</i>	Beaver	<i>Castor canadensis</i>
American kestrel	<i>Falco sparverius</i>	Striped skunk	<i>Mephitis mephitis</i>
American coot	<i>Fulica Americana</i>	Mink	<i>Mustela vison</i>
Black-necked stilt	<i>Himantopus mexicanus</i>	Mule deer	<i>Odocoileus hemionus</i>
Barn swallow	<i>Hirundo rustica</i>	White-tailed deer	<i>Odocoileus virginianus</i>
Ring-billed gull	<i>Larus delawarensis</i>	Eastern fox squirrel	<i>Sciurus niger</i>
Belted kingfisher	<i>Megaceryle alcyon</i>		

Common Name	Scientific Name	Common Name	Scientific Name
<i>Reptiles</i>		<i>Fish</i>	
Western painted turtle	<i>Chrysemys picta belli</i>	Black bullhead	<i>Ameiurus melas</i>
Racer	<i>Coluber constrictor</i>	Bridgelip sucker	<i>Catostomus columbianus</i>
Gopher snake	<i>Pituophis catenifer</i>	Carp	<i>Cyprinus carpio</i>
Common garter snake	<i>Thamnophis sirtalis</i>	Channel catfish	<i>Ictalurus punctatus</i>
<i>Amphibians</i>			
Bullfrog	<i>Rana catesbeiana</i>		
Northern leopard frog	<i>Rana pipiens</i>		

VIII. OTHER MANAGEMENT ACTIVITIES

Travel Program

Because of Fort Boise Wildlife Management Area's (FBWMA) proximity to large population centers and its concentrated public use, travel, camping, and off-road use on the WMA requires special regulations beyond those on other Department-owned lands. There are two main access roads maintained by the county that serve the area and another road that is maintained by the Department. All other interior roadways on the area are designated as trails and are not open to motorized travel except by persons with disabilities.

The road paralleling the Union Pacific tracks on the east boundary of FBWMA is owned by the railroad. Use of this railway access road and hunting along the railroad right-of-way is viewed as trespassing by Union Pacific.

Every attempt has been made in the plan to address current and future issues, but with rapidly changing use patterns, additional modifications to the travel plan may be needed to protect public safety or wildlife resources.

Parking and Motor Vehicle Use

There are a number of designated parking areas within FBWMA. Vehicles are required to park in these areas. Motorized vehicles are otherwise restricted to established roads. Only those vehicles licensed for travel on public roads are allowed on FBWMA. Keys are available from the area manager to persons with disabilities (PWD) to open locked gates for motorized vehicle access to hunting areas. A "Hunt from Vehicle" permit must be displayed and the vehicle must stay on established roadways or designated trails. If this program impacts public safety on the area, alternative PWD access will be considered. A PWD duck blind is also available by appointment with the area manager.

Closed Areas

Certain portions of FBWMA are closed to public entry year-round. Other portions are open year-round, and some areas are closed to public entry part of the year. The area immediately north of the headquarters is closed year-round to provide a nesting and resting area for waterfowl (sanctuary). Most of the FBWMA core wetland area is closed from February 1 –July 31 to provide security for nesting waterfowl. The area on the south side of Sand Hollow Creek is open for year-round public use. Horses and bicycles are permitted in this area, but are confined to established roads. Motorized vehicles are prohibited.

Boat Ramps

A boat ramp and parking area is provided on the Snake River to provide river access for hunting. The boat ramp is not to be used for parking. The access road to the boat ramp and western trailhead will be maintained as a single-lane gravel road with pullouts.

Camping

Overnight camping is presently allowed; however, with the completion of the campground at the Martin's Landing Area of FBWMA, camping at FBWMA near the Snake River may be restricted in the future. Fires are allowed only in established fire pits. During periods of high fire danger, campfires will be prohibited. Use of the camping areas is on a first-come, first-served basis and is restricted to four days in any 30-day period. Garbage service is not provided.

Livestock Grazing/Timber Harvest Programs

Fort Boise WMA presently has no active livestock grazing or timber harvest management activities. Any future interest in or need for livestock grazing and/or timber management will be determined by the FBWMA Habitat Biologist in consultation with the Regional Habitat Manager.

IX. LAND ACQUISITIONS AND AGREEMENTS

<i>Land Acquisitions – Fort Boise WMA</i>				
Year	ACNO	Funds Used	Acres	Acquired From
1959	14-0246	Mitigation-Idaho Power	330.91	Island Ranches Inc.
1960	14-0249	PR	60.23	L.E. Martin
1960	14-0247	PR	74.90	Everett Watkins
1961	14-0258	PR	0.00	OSLRR
1962	14-0248	PR	332.16	H.L. Holland
1963	14-0252	Exchange	3.29	C.C. Mann
1968	14-0250	PR	585.73	Don Weilmunster
1979	14-0251	HB530	42.61	Don Weilmunster
1982	14-0253	HB530	13.96	Herbert L. Reuth
1985	14-0254	Exchange	4.14	Tom Morris
1990	14-0256	HB530	61.00	Mann Farms Inc.
1991	14-0255	HB530, DU	39.49	Mann Farms Inc.
<i>Total</i>			1,548.42	

<i>Land Acquisitions – Roswell Marsh WHA</i>				
Year	ACNO	Funds Used	Acres	Acquired From
1986	14-0269	HB530, DU	150.00	Earl Sanders
1988	14-0271	HB530, DU	35.90	Barnard Farms
1988	14-0272	HB530, WSF	490.00	Roberta Hurtt
<i>Total</i>			675.90	

IRRIGATION/DITCH COMPANY WATER RIGHTS

<i>Fort Boise WMA</i>			
Year	Acquired From	Water Rights	Ditch / Irrigation Co.
1960	L.E. Martin	61 shares	McConnel Island Ditch Company
1968	Don Weilmunster	296 shares	Waters River Flat Ditch Company

<i>Roswell Marsh WHA</i>			
Year	Acquired From	Water Rights	Ditch / Irrigation Co.
1986	Earl Sanders	One (1) share	Riverside Irrigation Company
1988	Barnard Farms	One (1) share	Riverside Irrigation Company
1988	Roberta Hurtt	28.5 shares	Riverside Irrigation Company

WATER RIGHTS

Fort Boise WMA										
Water Right #	Priority Date	Source	Beneficial Use #1	Diversion Rate (cfs)	Volume (AFA)	Beneficial Use #2	Diversion Rate (cfs)	Volume (AFA)	Beneficial Use #3	Diversion Rate (cfs)
63-4717	3/1/1938	Sand Hollow Crk	Irrigation	0.86						
63-4638	11/6/1938	Sand Hollow Crk	Irrigation	0.68		Wildlife	2.36			
63-4261B	4/1/1954	Unnamed drain	Irrigation	0.88						
3-2059	6/5/1955	Snake River	Irrigation	3.40						
63-4639	11/25/1960	Sand Hollow Crk	Irrigation	0.12						
63-4640	4/16/1962	Sand Hollow Crk	Irrigation	0.96		Wildlife	1.04			
63-23299	7/31/1977	Groundwater	Domestic	0.04						
63-9218	3/12/1979	Sand Hollow Crk	Wildlife storage		874	Diversion to storage	5.16			
63-11812	5/4/1992	Unnamed drain	Wildlife	2.00		Wildlife storage		35	Diversion to storage	2.00
63-11813	5/4/1992	Unnamed drain	Wildlife	2.00		Wildlife storage		25	Diversion to storage	2.00

Roswell Marsh WHA										
Water Right #	Priority Date	Source	Beneficial Use #1	Diversion Rate (cfs)	Volume (AFA)	Beneficial Use #2	Diversion Rate (cfs)	Volume (AFA)	Beneficial Use #3	Diversion Rate (cfs)
63-23297	10/1/1955	East Alkali Drain	Stock-water	0.02						
63-32185	3/29/2005	Groundwater	Wildlife	4.80		Wildlife storage		360	Diversion to storage	4.80

X. INFRASTRUCTURE

Fort Boise Wildlife Management Area

Physical improvements on the area consist of approximately five miles of dikes for the 15 wetland units, nearly 7.5 miles of interior roadways, and just over eight miles of exterior fencing. Water control structures, ditches, and a diversion dam on Sand Hollow Creek also serve the artificially constructed wetlands. Two large culvert road crossings and three footbridges have been installed on Sand Hollow Creek. An additional two footbridges provide access across a large drain. There are five pumps to supply wetland and irrigation water. At the Fort Boise headquarters, there is an office/shop building with four parking bays. Several outbuildings are also present for storage. On Gold Island, there is a small equipment storage shed and a single pump to provide irrigation water.

Structure	Location
Office/Shop/Equipment Storage Shed	FBWMA Headquarters
Quonset Storage Shed	FBWMA Headquarters
Butler Granary (2)	FBWMA Headquarters
Equipment Storage Shed	Gold Island

Roswell Marsh Wildlife Habitat Area

Physical improvements on the area consist of approximately 2.5 miles of dikes for the two large wetland units in the marsh section, six miles of exterior fencing, five water control structures, a pump, and a concrete water diversion box with garbage screen. Concrete ditches are present on the sharecropped portion of Roswell Marsh WHA for crop irrigation. No permanent structures are associated with the area.

FORT BOISE
WILDLIFE MANAGEMENT AREA PLAN
Approval

Submitted by:



Tyler Archibald, Senior Wildlife Technician

Reviewed by:



Jerry Deal, Regional Habitat Manager



Scott Reinecker, Regional Supervisor



Chris Murphy, Bureau of Wildlife



Tom Hemker, State Habitat Manager

Approved by:



Virgil Moore, Director