



Boise River Wildlife Management Area





Boise River Wildlife Management Area

**Management Plan
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**Idaho Department of Fish and Game
Southwest Region
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EXECUTIVE SUMMARY

A management plan is presented to provide broad guidance for long-term management of the Boise River Wildlife Management Area (BRWMA). The plan has an indefinite life span and will be evaluated every 5 years. After evaluations, the plan may be modified to accommodate changing conditions and goals.

The BRWMA is situated east of Boise in the foothills of the Boise Mountains and along Lucky Peak and Arrowrock Reservoirs in Ada, Boise, and Elmore counties. Over 34,000 acres are managed as part of the BRWMA under Idaho Department of Fish and Game (IDFG, Department) ownership and agreements with the U.S. Army Corps of Engineers, U.S.D.A. Forest Service (USFS), U.S.D.I. Bureau of Land Management (BLM), and the Idaho Fish and Wildlife Foundation.

The mission of the BRWMA is to conserve mule deer and elk wintering habitat. The WMA will be managed to provide for hunting, fishing, trapping, and other recreational activities which are compatible with the mission. High-quality wildlife habitat will be maintained, rehabilitated, restored, and developed by managing vegetation and access.

Issues of concern to the public and the Department about management of the BRWMA include wildlife habitat, hunting opportunities, urban encroachment, wildlife-based recreation, human use, invasive species, mining, deer-vehicle collisions, and infrastructure.

Management of the BRWMA supports the following Compass Objectives:

- Maintain or increase game populations to meet the demand for hunting and trapping
- Increase the capacity of habitat to support fish and wildlife
- Sustain fish and wildlife recreation on public lands
- Increase opportunities for wildlife viewing and appreciation
- Increase public knowledge and understanding of Idaho's fish and wildlife
- Provide equipment and facilities for excellent customer service and management effectiveness

Habitat management efforts will be directed at maintaining and improving upland and riparian habitat conditions. Managing human access is key to ensuring habitat on the BRWMA continues to satisfy the needs of wildlife. The Department will use access management to maintain or improve hunting and other wildlife-oriented recreational opportunities while still providing high-quality wintering habitat for mule deer and elk and productive habitat for other wildlife.

How and when people use the BRWMA is going to have an increasingly significant impact on the ability of managers to provide the high-quality habitat necessary to sustain mule deer and elk populations. Public use patterns that are established now will help sustain the integrity of the BRWMA in the future.

INTRODUCTION

This management plan is designed to provide broad guidance for long-term management of the BRWMA (BRWMA). This plan was developed over a period of several years using a series of draft versions, each reviewed by members of the public, stakeholder groups and the Idaho Department of Fish and Game (IDFG, Department). Modifications reflecting public involvement and internal review led to the completed plan. The plan has an indefinite life span and will be evaluated every 5 years to determine if adjustments are warranted. The plan will be modified as necessary to accommodate changing conditions and goals, and to incorporate advancements in management knowledge, tools, and techniques. Detailed annual operational plans and budgets are derived from this plan. They are not included in this plan.

The BRWMA is located east of Boise, Idaho in Ada, Boise and Elmore Counties, situated in the foothills of the Boise Mountains and along Lucky Peak and Arrowrock Reservoirs in the Boise River drainage. The core of what is now the BRWMA began in 1943 when IDFG purchased ranches near the mouth of Mores Creek to provide mule deer winter range and to produce hay for winter-feeding operations along the Middle Fork Boise River. Between 1948 and 1956, several other ranches were purchased in the Middle Fork area. Major purchases were made in the Charcoal Creek and Boise Front segments in the 1960s and 1970s, and additions were made in 1993, 1999, 2004, and 2006, bringing the total IDFG-owned land to about 18,749. Operating funds for the BRWMA come from state hunting and fishing license sales and Federal Aid cost-share funds (Pittman-Robertson or PR funds).

Over 34,000 acres of intermixed-ownership lands are now managed as part of the BRWMA under IDFG ownership and agreements with the U.S. Army Corps of Engineers, USFS, BLM, and private entities to provide winter range for mule deer and elk in Game Management Unit 39. The BRWMA is managed in 4 distinct management segments (see Figures 1 and 2):

- The Boise Front Segment lies in the foothills of the Boise Mountains adjacent to the city of Boise and north of the Boise River and Lucky Peak Reservoir.
- The Spring Shores Segment is 15 miles east of Boise and north of Lucky Peak Reservoir between State Highway 21 and Forest Road 268.
- The Charcoal Creek Segment is south of Lucky Peak Reservoir and north of Blacks Creek Road.
- The South Fork Segment is north of the South Fork arm of Arrowrock Reservoir.

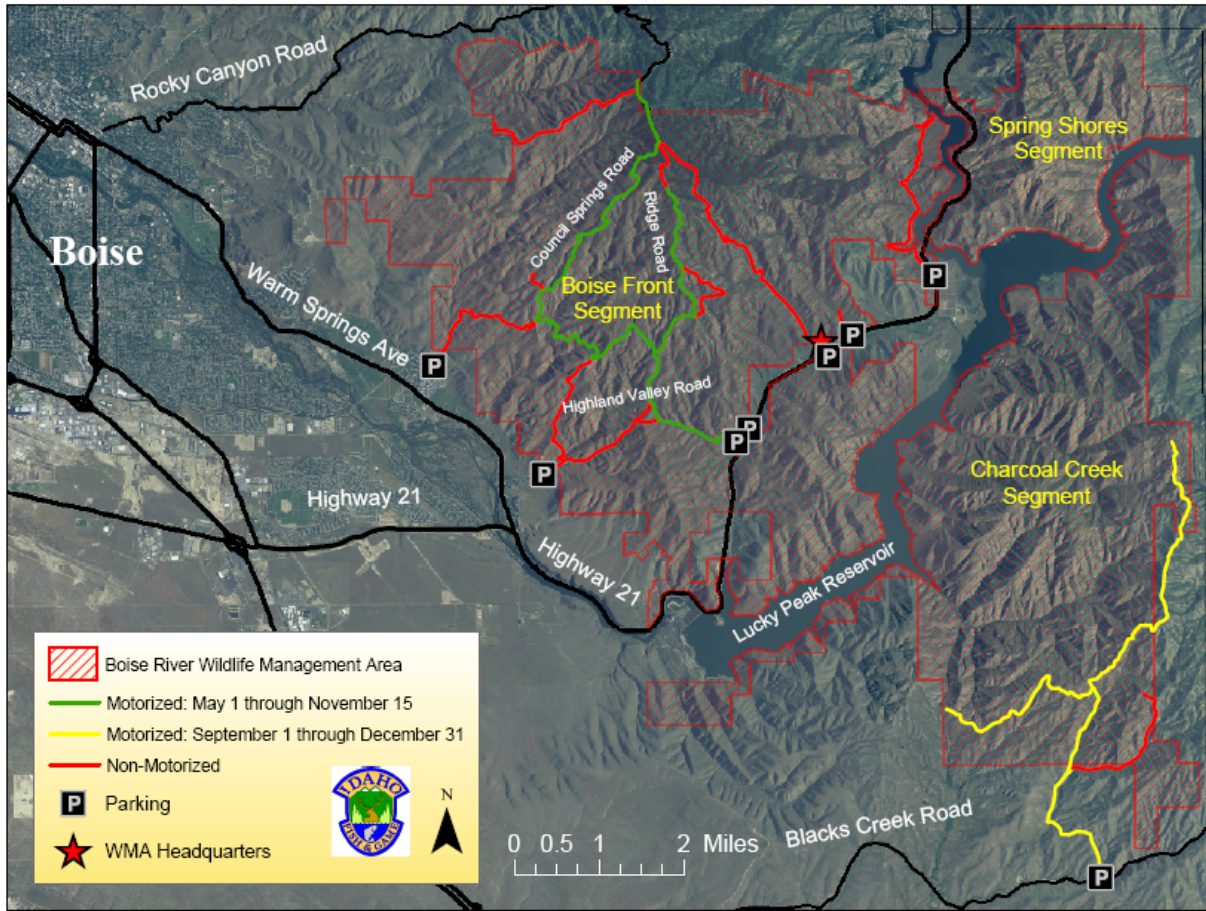


Figure 1. Boise Front, Spring Shores, and Charcoal Creek Segments of Boise River WMA

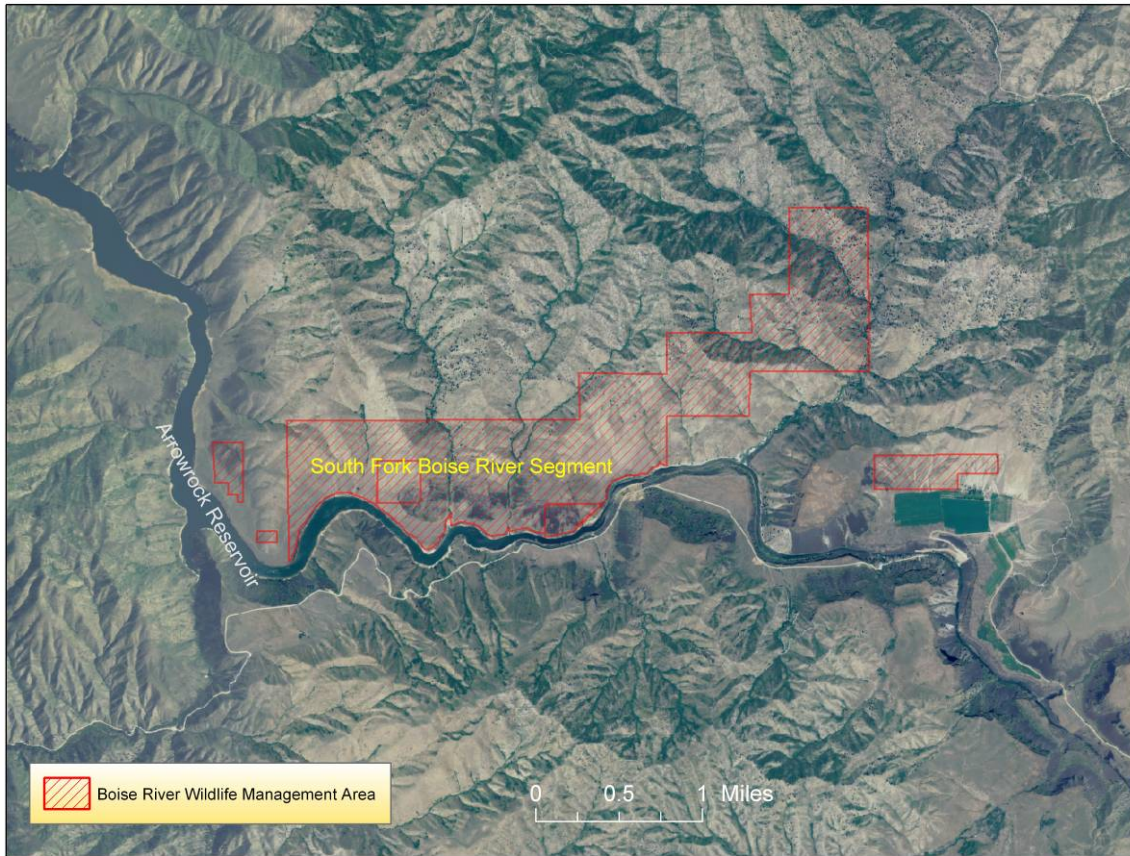


Figure 2. South Fork Boise River Segment of Boise River WMA

VISION

The BRWMA sustains high-quality winter habitat for mule deer and elk and provides habitat for a diversity of other wildlife species. Hunting, fishing, trapping, and other compatible recreational activities continue on the BRWMA. The BRWMA is recognized for the valuable and unique opportunities it provides that enhance the quality of life for citizens of Idaho and the Treasure Valley.

MISSION

The mission of the Idaho Department of Fish and Game is:

“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 only be 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)

Within the larger role of the Department, the mission of the BRWMA is to provide winter range for big game and year-round habitat for upland game birds, to optimize production of game and non-game wildlife, and to provide for public hunting and other wildlife-based recreational activities that are compatible with maintaining high-quality habitat and hunting opportunity.

This mission is consistent with *Idaho Code* 36-104 that authorizes the Idaho Fish and Game Commission to develop, operate, and maintain (acquired) lands, waters, or conservation easements for said purposes, which are hereby declared a public use:

1. For fish hatcheries, nursery ponds, or game animal or game bird farms;
2. For game, bird, fish, or furbearing animal restoration, propagation, or protection;
3. For public hunting, fishing, or trapping areas to provide places where the public may fish, hunt, or trap in accordance with the provisions of law, or the regulation of the Commission;
4. To extend and consolidate by exchange, lands or waters suitable for the above purposes.

DURATION OF THE PLAN

This plan provides broad, long-term management of BRWMA and has an indefinite life span. It will be evaluated every 5 years to determine if adjustments are warranted. The plan will be modified as necessary following periodic 5-year reviews to accommodate changing conditions and goals, and to incorporate available advancements in management knowledge, tools, and techniques.

MANAGEMENT ISSUES

The following issues have been identified as significant to the management of the BRWMA. Extensive public input, strategic planning objectives and Department management experience are addressed.

Habitat for Wildlife

For wildlife to exist, they need habitat - adequate amounts of suitable habitat arranged effectively on the land to provide food, water, cover, and space throughout all of their life stages. When habitats are altered or lost, whether from human activities or natural processes, the distribution and abundance of wildlife, and the associated recreational opportunities they provide, can be significantly impacted.

The primary mission of the BRWMA is to provide a very special kind of habitat: winter range for mule deer and elk. Winter range is a scarce resource and can limit the long-term viability of big game populations. High-quality winter range habitat is also good habitat for upland game and other wildlife and provides excellent watershed protection. Wildlife habitat quality is influenced by many factors including livestock and wildlife grazing, invasive exotic plant species, wildfire, and human disturbance.

Game for hunting

The BRWMA provides opportunity for hunting big game and upland game, and for trapping.

Urban Encroachment

Urban encroachment is affecting wildlife habitat, wildlife populations, hunting, trapping, wildlife viewing, and other recreational opportunities on the BRWMA. Rapid, poorly-planned growth and development near the BRWMA is diminishing wildlife habitat quality and quantity and reducing wildlife populations. Currently, approved planned communities will result in nearly 5,000 new homes being constructed within one-half mile of the BRWMA.

Wildlife-based Recreation

The BRWMA provides non-consumptive opportunities in addition to traditional hunting and trapping. Increased recreational opportunities bring economic benefits to local communities.

Human Use

An increasing number of visitors are using the BRWMA simply to hike, run, bicycle, or exercise their dogs, activities not considered to be wildlife-based recreation. Human activities can adversely impact the ability of the BRWMA to provide high-quality winter range and other wildlife habitat. Many recreational activities or excessive amounts of some recreational activities are not compatible with quality wildlife habitat.

Invasive species

Exotic plant species alter and degrade wildlife habitat. The BRWMA has infestations of several noxious weeds and other invasive exotic plant species.

Mining

There are active mining claims on federal land within the BRWMA. The Department does not own the mineral rights to some of the land it purchased in the Boise Front Segment. A low level of “prospecting” has occurred in the recent past and may still be occurring. Impacts to the BRWMA from these activities are not determined at present.

Deer-Vehicle Collisions

State Highway 21 bisects the BRWMA. Traffic on this highway is increasing as more people make a daily commute to the Treasure Valley. The trend in the number of deer killed by vehicles is increasing. Data from BRWMA records indicate that during the 1970s, an average of 16 deer were killed each year on the portion of Highway 21 (and Warms Springs Avenue) that passes through the BRWMA. The average rose to 26 during the 1980s and to 94 during the 1990s. Between 2001 and 2006, the average number of deer killed in deer-vehicle collisions was 157. In 2002, the highest number yet recorded were killed – 230. These averages represent minimum numbers as not all deer killed are reported or located.

Infrastructure

Facilities must be safe, provide an efficient work environment and support good customer service. Buildings, roads, signs, fences, gates, and water systems require considerable annual maintenance.

MANAGEMENT DIRECTION

Compass Objective	Boise River WMA Management Direction
Maintain or increase game populations to meet the demand for hunting and trapping	<ul style="list-style-type: none"> • Improve mule deer winter survival • Increase the size and distribution of upland game populations
Increase the capacity of habitat to support fish and wildlife	<ul style="list-style-type: none"> • Increase the amount and quality of winter cover and forage to improve mule deer and elk winter survival • Reduce the spread of noxious weeds • Reduce the impact of wildfire on wildlife habitat • Increase the quality and quantity of vegetation in riparian areas • Improve livestock management • Provide information, analysis, and recommendations to improve wildlife habitat and reduce impacts from development on surrounding lands
Sustain fish and wildlife recreation on public lands	<ul style="list-style-type: none"> • Maintain access for hunters and other BRWMA visitors • Assess the amount of recreational use on the BRWMA • Manage public access to increase or maintain wildlife habitat effectiveness • Investigate and monitor the status of mining claims and mineral rights on the BRWMA
Increase opportunities for wildlife viewing and appreciation	<ul style="list-style-type: none"> • Increase public awareness of currently available wildlife viewing and appreciation opportunities • Develop new wildlife viewing opportunities
Increase public knowledge and understanding of Idaho's fish and wildlife	<ul style="list-style-type: none"> • Involve citizens and organizations in management activities on the BRWMA • Inform BRWMA visitors about wildlife and wildlife habitat • Provide teaching and interpretive opportunities on the BRWMA

Compass Objective	Boise River WMA Management Direction
Provide equipment and facilities for excellent customer service and management effectiveness	<ul style="list-style-type: none"> • Improve the utility of the BRWMA headquarters • Maintain safety zones for employee and visitor safety

HABITAT MANAGEMENT

Wildlife populations cannot exist without habitat. Habitat requirements vary, but all species need adequate amounts of quality habitat that is arranged effectively to provide food, water, cover, and space throughout all of their life stages. Alteration, degradation, fragmentation, or loss of habitat can significantly impact the distribution and abundance of wildlife. Reduced wildlife populations will result in loss of the associated recreational opportunities they provide.

Since its inception, the BRWMA has been managed to provide big game winter range and upland game bird habitat to produce sustained and huntable populations of wildlife. Because big game winter range on the BRWMA is used year-round by upland game birds, habitat maintenance and improvements to enhance range conditions in critical winter range will benefit both big game and upland game species. Habitat management efforts will be directed at maintaining and improving upland and riparian habitat conditions, especially in areas of critical big game winter range. Habitat management actions include a variety of direct and indirect activities to influence plant community composition and successional stage, reduce impacts of undesirable species, distribute animal use, and provide security. Actions will focus on enhancing desirable plant species, especially native grass and shrub communities, limiting undesirable plant species, and control and timing of livestock grazing.

Invasive Weeds

Invasive plant species, including noxious weeds, are distributed throughout the BRWMA. The most significant infestations on the BRWMA are whitetop, rush skeletonweed, cheatgrass, and medusahead. Noxious weeds will be managed to comply with legal requirements, to reduce their abundance on the BRWMA, and to improve rangeland health. The BRWMA uses integrated weed management to control invasive and noxious weeds. Management includes prevention, mechanical, cultural, chemical, and biological methods. Control techniques may involve herbicides, biological control agents, livestock grazing, mowing, cutting, tillage, competitive plantings, and controlled burns. All available control methods will be used where appropriate and new methods incorporated where practical. New infestations will be eradicated, and established species will be managed to limit expansion.

Springs

Springs and seeps provide valuable micro-sized water sources for a variety of wildlife species. Many of the natural springs on the BRWMA have been developed over the years for use as livestock water sources. Spring development generally involves fencing and capping the spring source and piping water some distance away to a trough. Some of these developments may no

longer be needed or may become unnecessary in the future. Developed springs will be evaluated for their utility as livestock or big game water sources, and those that are no longer needed will be rehabilitated to allow natural riparian vegetation to reestablish. Some supplemental plantings may need to be done to ensure that desirable species reach those sites.

Monitoring

Monitoring is a key component of any management system, because it helps managers determine if they are reaching goals. Two areas of WMA management that focus on monitoring emphasize the effects of wildlife habitat manipulations and activities of area users.

Adaptive management integrates experimental design with management actions. Using monitoring data, adaptive management produces reliable information concerning ecological processes; allows managers to avoid repeating mistakes; and leads to more informed, justifiable and effective management decisions. In keeping with the widespread emphasis on adaptive management of natural resources, IDFG will make every practical effort to monitor the effectiveness of habitat management by applying tools such as mapping, photography, remote sensing, and measuring the response of vegetation and wildlife populations to habitat manipulations. Data will then be used to evaluate current management strategies and assist in planning future management actions.

In order to respond effectively to public demands for recreation and assess its impact on wildlife habitat, the activities of area users must be periodically monitored and evaluated. The Boise River WMA will use a variety of monitoring methods to help understand user expectations and management needs. Methods may include passive counters, “bus stop” interview surveys, voluntary written questionnaires, and other approaches. These methods may be modified as necessary to incorporate new technologies and achieve comparability with other WMAs. An adaptive management approach to user monitoring will apply results to balance human access and activities with impacts to vegetation and wildlife.

Livestock Grazing

Cattle are grazed on the BRWMA primarily through exchange of use agreements with adjacent private landowners. These private landowners are permitted to graze BRWMA land during spring and/or summer in exchange for wildlife use on their private land during winter. Sheep are trailed across the BRWMA during spring on their way to higher-elevation summer grazing areas.

Wildlife and livestock can compatibly coexist on rangelands, and properly managed livestock grazing can be used to influence plant community composition and successional stage. Livestock grazing can also be used to manage noxious weeds to improve rangeland health. Beginning in 1970, livestock grazing on the BRWMA was managed through the Boise Front Coordinated Resource Management Program involving federal, state and private landowners. The program officially became a Coordinated Resource Management Plan (CRMP) in 1985. The CRMP uses best management practices (BMPs) to protect natural resources and promote ecological and economic sustainability. The BMPs in use on the BRWMA include a well-distributed rest-rotation pasture management system, proper forage utilization levels in upland

and riparian areas, salt blocks to distribute livestock away from sensitive areas, and active range riding to ensure proper distribution of livestock.

Fences

Existing fences will be maintained and new fences built as needed to support management objectives. All fences will comply with BLM standards for wildlife permeability. Unneeded fences will be removed.

ACCESS MANAGEMENT

Managing human access is key to ensuring habitat on the BRWMA continues to satisfy the needs of wildlife. The rapidly expanding human population of the Treasure Valley is putting increased pressure on the BRWMA through demand for hunting opportunity, wildlife-oriented recreation, and other outdoor recreational activities such as hiking, mountain biking, and dog walking. How and when people use the BRWMA is having an increasingly significant impact on the ability of managers to provide the high-quality habitat necessary to sustain mule deer and elk populations into the future. The Department will use access management to maintain or improve hunting and other wildlife-oriented recreational opportunities while still achieving the BRWMA's primary mission of providing high-quality wintering habitat for mule deer and elk and productive habitat for other wildlife. Public use patterns that are established now will help sustain the integrity of the BRWMA in the future.

Many new housing developments and scattered homes have been built in the Boise foothills over the past 10 years. Two planned communities totaling nearly 5,000 new homes are scheduled to be built adjacent to the Boise Front Segment of the BRWMA over the next decade and additional planned communities are being contemplated adjacent to the Charcoal Creek Segment. Other smaller subdivisions are likely to be built near or adjacent to the BRWMA. Building homes in the foothills has reduced, and in the future will further reduce, the amount of space available for mule deer and elk during winter. Habitat value will be further diminished by human and pet disturbance. The land being developed is privately owned and although some of the land may be conserved for wildlife, most will not. This trend can be expected to continue, thus making land within the BRWMA more and more valuable to wildlife in the coming years.

The Department plans to continue allowing access to the BRWMA at currently designated sites. Because different types of human use impact vegetation, soils, and wildlife security in different ways, the impacts of currently designated uses will be assessed and evaluated and management adjusted, if necessary, to reduce negative impacts. No new pedestrian, equestrian, or bicycle trails, or access sites are planned on the BRWMA. All wheeled vehicles will be required to stay on designated routes to prevent damage to vegetation and soils.

Use of BRWMA lands for any commercial purpose is prohibited (IDAPA 13.01.03.102e). Guiding or outfitting of any kind is prohibited on lands owned or controlled by the Department.

The use of motorized vehicles for recreation has increased dramatically over the previous decade and many places close to the BRWMA that formerly served as secure areas for wildlife no longer do so. In addition to damaging vegetation and soils, motorized recreation has the potential to

disturb wildlife over a very large area. No new motorized routes will be developed on the BRWMA and some routes currently open to motorized vehicles may be restricted. Regulating motorized use provides for higher-quality hunting and other recreational experiences, reduces conflicts between users and reduces damage to roads and trails. Roads and trails are shown in Figure 1.

PROGRAMS

BRWMA Management Direction	Objective	Strategies	Metric
Improve mule deer winter survival	<p>Decrease mortality from deer-vehicle collisions by an average of 100 deer per year over 10 years</p> <p>Decrease human disturbance to wintering big game</p>	<ul style="list-style-type: none"> • Continue Highway 21 corridor project using large signs, flags, flashers, and a tally board of deer killed to date • Work with ITD, Ada County and others to improve infrastructure along Highway 21 and Warm Springs Avenue rights of way • Initiate contacts with or respond to media requests for deer-vehicle collision information • Monitor the impacts of recreational use on big game security during winter and restrict access if necessary • On the Boise Front Segment, require dogs to be leashed at all times (except working hunting and herding dogs) 	Average number of deer killed by vehicles declines
Increase the size and distribution of upland game populations	<p>Increase canopy cover and frequency of desirable plant species by 10% in 5 years</p> <p>Increase canopy cover and frequency of desirable vegetation in riparian areas</p> <p>Decrease human disturbance to nesting</p>	<ul style="list-style-type: none"> • Plant desirable native and non-native grass and forb species in degraded sites • Establish vegetation monitoring plots • Limit livestock grazing in riparian areas • Survey current livestock water developments for functional status and determine if needed • Limit off trail recreational use during nesting season 	Monitoring plots show at least 5% increase in frequency and/or canopy coverage of desirable plant species in 5 years

BRWMA Management Direction	Objective	Strategies	Metric
	game birds	<ul style="list-style-type: none"> On the Boise Front Segment, require dogs to be leashed at all times (except working hunting and herding dogs) 	
Increase the amount and quality of winter cover and forage to improve mule deer and elk winter survival	Increase canopy cover and frequency of desirable shrubs by 5% in 5 years	<ul style="list-style-type: none"> Plant 10,000 to 20,000 shrub seedlings on the BRWMA each year (bitterbrush, big sagebrush and silver sage) 	Monitoring plots show at least 5% increase in frequency and/or canopy coverage of desirable shrubs in 5 years
Reduce the spread of noxious weeds	<p>Treat 100% of known infestations of noxious weeds annually</p> <p>Establish a Cooperative Weed Management Area (CWMA) that includes the BRWMA</p>	<ul style="list-style-type: none"> Maintain a GIS database of noxious weed occurrences on the BRWMA including information about treatments and results of control efforts Use integrated weed management (biological, cultural, and chemical methods) to control noxious weeds Survey priority areas each year to detect new weed occurrences BRWMA manager represents the Department on the CWMA 	<p>Acres of noxious weed infestations on the BRWMA declines</p> <p>New noxious weed species do not become established on the BRWMA</p> <p>Additional funds are available to use for noxious weed control because of participation in CWMA</p>
Reduce the impact of wildfire on wildlife habitat	Rehabilitate all areas burned by wildfires	<ul style="list-style-type: none"> Seed burned areas with desirable grass and forb species to help control post-fire soil erosion and suppress weeds Plant shrub seedlings (bitterbrush, big sagebrush, and silver sage) in burned areas to shorten natural shrub recovery time 	<p>Acres of burned areas drill seeded after wildfire</p> <p>Number of burned acres planted with shrubs</p> <p>Number of shrubs planted</p>

BRWMA Management Direction	Objective	Strategies	Metric
	Reduce the acreage of the BRWMA that is susceptible to repeated burning	<ul style="list-style-type: none"> • Design and implement a system of greenstrips to provide defensible areas • Use desirable fire resistant vegetation to help reduce the possibility of an area burning again 	<p>Monitoring plots show at least 5% increase in frequency and/or canopy coverage of desirable shrubs in 5 years</p> <p>Number of acres that have burned more than once in 5 years is reduced</p>
Increase the quality and quantity of vegetation in riparian areas	<p>Increase the amount of woody riparian vegetation on the BRWMA</p> <p>Increase the amount of native herbaceous riparian vegetation on the BRWMA</p> <p>Increase the number of free-flowing springs by 20%</p>	<ul style="list-style-type: none"> • Plant native woody vegetation in riparian areas • Limit livestock grazing in riparian areas • Determine which springs are best suited and necessary for livestock watering and remove unneeded development infrastructure at others 	<p>Average height and density of riparian shrubs increases</p> <p>Ecological condition of riparian plant communities improves</p> <p>Acreage of riparian vegetation increases</p> <p>Flow from more springs is allowed to reestablish and sustain riparian plant communities that are valuable to wildlife</p>
Improve livestock management	Utilize exchange of use agreements to benefit wintering mule deer and	<ul style="list-style-type: none"> • Use rest-rotation grazing system and other best management practices (BMPs) • Limit livestock grazing in riparian areas 	Wintering mule deer and elk have access to private lands

BRWMA Management Direction	Objective	Strategies	Metric
	elk	<ul style="list-style-type: none"> • Require a range rider program active at least 5 days/week • Make all livestock water troughs safe for smaller wildlife (bird ramps) • Use sheep grazing to control noxious weeds 	Targeted grazing helps control noxious weed infestations
Provide information, analysis, and recommendations to improve wildlife habitat and reduce impacts from development	Developers implement IDFG recommendations to reduce impacts of projects on wildlife habitat and wildlife populations	<ul style="list-style-type: none"> • Meet with representatives of developments that directly impact the BRWMA and provide information about the expected impacts from developments • Offer recommendations about how to avoid or mitigate project impacts 	Developers actually implement significant mitigation actions recommended by IDFG

BRWMA Management Direction	Objective	Strategies	Metric
Maintain access for hunters and other BRWMA visitors	<p>Maintain 39.4 miles of roads and trails annually and maintain 8 parking areas annually</p> <p>Maintain signs designating travel routes</p> <p>Inform visitors within 3 working days of recent rule changes or when special restrictions are necessary</p> <p>Secure permanent access to Charcoal Creek Segment in 5 years</p>	<ul style="list-style-type: none"> • Post the travel plan map of the BRWMA on the IDFG website and at access sites • Allow wheeled vehicle travel only on designated routes • Manage 22.1 miles of roads for motorized public access • Allow motorized access on Highland Valley Ridge and Upper Council Springs roads from May 1 – Nov 15 • Allow motorized access on Charcoal Segment road from September 1 – Dec 31 • Manage 17.3 miles of trails for non-motorized access • Check route markers each year before roads are open to the public and replace signs as needed • Post signs at access sites when rule changes or conditions warrant special restrictions • Purchase or exchange land to obtain control of access road to Charcoal Creek Segment 	
Assess the amount of recreational use on the BRWMA	Establish baseline recreational use by 2009	<ul style="list-style-type: none"> • Install pedestrian and vehicle counters on selected roads and trails 	Monthly, weekly, daily, or hourly counts of pedestrian and vehicle use on roads

BRWMA Management Direction	Objective	Strategies	Metric
		<ul style="list-style-type: none"> • Conduct visitor use surveys 	<p>and trails</p> <p>Hunter use/harvest and other visitor use information</p>
<p>Manage public access to increase or maintain wildlife habitat effectiveness</p>		<ul style="list-style-type: none"> • Manage public motorized use of road and trail system to provide larger blocks of secure wildlife habitat • Monitor the impacts of recreational use on big game security during winter • Manage public access if necessary by establishing designated endpoints on trails and/or closing areas to public access • Manage vehicle and foot traffic in critical areas during biologically sensitive time periods • Require dogs on the Boise Front Segment to be leashed at all times (except working hunting and herding dogs) • Work with other managers and landowners to coordinate access dates with nearby and adjacent jurisdictions and ownerships • Prohibit camping and campfires to reduce conflicts and resource damage • Recruit volunteers to monitor compliance 	
<p>Investigate and monitor the status of mining claims and mineral rights on the BRWMA</p>	<p>Monitor 100% of mining claims and mineral rights annually by 2009</p>	<ul style="list-style-type: none"> • Coordinate with BLM geologists about active claims on federal land within the BRWMA • Ascertain status of mineral rights on the Boise Front Segment 	<p>Percentage of mining claims monitored annually</p>

BRWMA Management Direction	Objective	Strategies	Metric
Increase opportunities for wildlife viewing and appreciation	Increase the availability of information about current wildlife viewing opportunities on BRWMA Develop new wildlife viewing opportunities	<ul style="list-style-type: none"> • Update or post new information about wildlife viewing opportunities on the IDFG website twice monthly • Post current BRWMA travel map on IDFG website • Develop the Scholten Springs site into a wildlife viewing area • Improve access and facilities at the Lucky Peak bird monitoring site 	<p>Number of website postings per month</p> <p>Number of website visits per month</p>
Involve citizens and organizations in management activities on the BRWMA	Develop partnerships to engage people in BRWMA activities	<ul style="list-style-type: none"> • Partner with public and private entities and individuals such as schools, conservation organizations, federal and local agencies, and volunteers • Recruit and train citizen-scientist volunteers to conduct habitat and visitor use monitoring on the BRWMA 	Number of groups and individuals engaged
Inform BRWMA visitors about wildlife and wildlife habitat	Install 2 new kiosks at access sites within 4 years	<ul style="list-style-type: none"> • Install new kiosks at Scholten Springs and Lower Highland Valley to provide information about wildlife and habitat • Maintain kiosks twice monthly to ensure posters, signs, and maps are legible 	Number of new kiosks installed
Provide teaching and interpretive opportunities on the BRWMA	Develop outdoor classroom opportunities on the BRWMA Offer outdoor interpretive activities on the BRWMA	<ul style="list-style-type: none"> • Partner with local schools, teachers, and others to provide outdoor classroom experiences on the BRWMA • BRWMA staff will organize at least 1 interpretive hike annually 	<p>Number of students/classes using the BRWMA</p> <p>Number of hikes conducted</p>
Improve BRWMA	Complete installation of	<ul style="list-style-type: none"> • Complete primary office entrance and 	Completion of project

BRWMA Management Direction	Objective	Strategies	Metric
headquarters	modular office at BRWMA headquarters	sidewalks <ul style="list-style-type: none"> • Designate visitor parking • Complete landscaping • Repair domestic water system • Obtain high speed internet access 	
Maintain safety zones for employee and visitor safety	Maintain current safety zone around BRWMA headquarters (Figure 3) Maintain current safety zone on Lucky Peak at bird observatory site (Figure 4)	<ul style="list-style-type: none"> • Post boundaries with appropriate signs • Include safety zones on BRWMA map on website 	Boundary signs are maintained

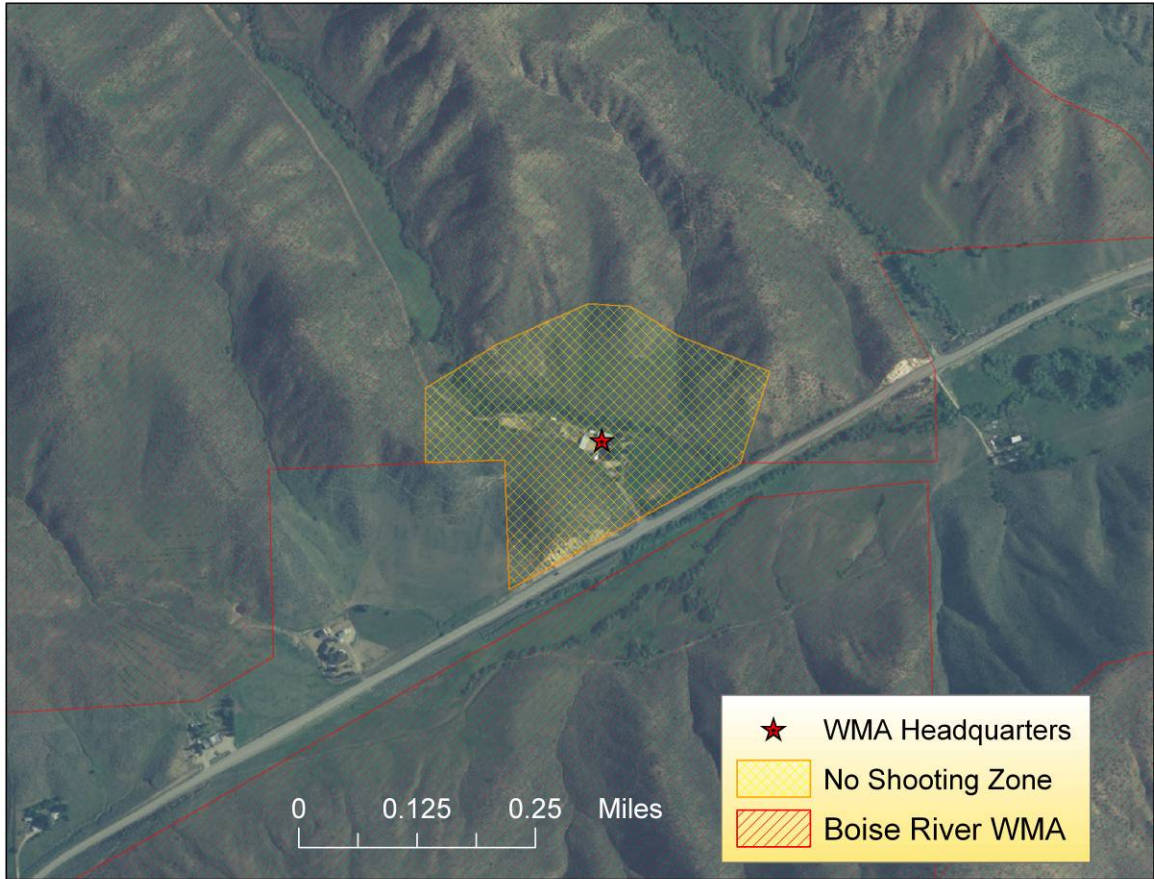


Figure 3. Boise River WMA Headquarters Safety Zone



Figure 4. Boise River WMA Lucky Peak Safety Zone

APPENDICES

APPENDIX I

Physical Description and Infrastructure

The BRWMA is located east of Boise, Idaho in Ada, Boise, and Elmore counties situated in the foothills of the Boise Mountains and along Lucky Peak and Arrowrock Reservoirs in the Boise River drainage. The BRWMA is comprised of publicly-owned lands managed by the Idaho Department of Fish and Game (IDFG, Department) for wildlife habitat and hunting access. The core of what is now the BRWMA began in 1943 when IDFG purchased ranches near the mouth of Mores Creek to provide mule deer winter range and to produce hay for winter feeding operations along the Middle Fork Boise River. Between 1948 and 1956, several more properties were purchased from ranchers Taylor, Rose, Peer, Kirk, and McDonald. Three of these ranches were traded to the Forest Service in 1995. Major purchases were made in Charcoal Creek and Boise Front segments in the 1960s and 1970s. Other additions to the BRWMA were made in 1993, 1999, 2004, and 2006 bringing the total IDFG-owned land to about 18,000 acres. Thirty-four thousand twenty-two acres of intermixed ownership lands are now managed as part of the BRWMA under IDFG ownership and agreements with the U.S. Army Corps of Engineers, USFS, BLM, and private entities to provide winter range for mule deer and elk in Game Management Unit 39. The WMA is managed in 4 distinct management segments:

- The Boise Front segment lies in the foothills of the Boise Mountains adjacent to the city of Boise and north of the Boise River and Lucky Peak Reservoir.
- The Spring Shores segment is 15 miles east of Boise and north of Lucky Peak Reservoir between State Highway 21 and Forest Road 268.
- The Charcoal Creek segment is south of Lucky Peak Reservoir and north of Blacks Creek road.
- The South Fork segment is north of the South Fork arm of Arrowrock Reservoir.

The topography of the BRWMA varies from gentle rolling hills to steep, highly dissected canyons. Elevation ranges from 2,880 feet at Council Springs Creek (formerly Squaw Creek) to 5,904 feet at the top of Lucky Peak. The dominant vegetation in the foothills is sagebrush-steppe with lesser amounts of mountain shrub, grasslands, riparian areas, and coniferous forest. Although most of the streams found on the BRWMA are intermittent, Birch Creek, Whilite Creek, Charcoal Creek, Deer Creek, Highland Creek, Rattlesnake Creek, and Sheep Creek run year-long.

Basalt and granite provide the majority of parent materials for BRWMA soils. At lower elevations, soils are complexes of basalt and granitic-derived soils. As elevation increases, granitic soils from erosion of Cretaceous granitic rock of the Idaho batholith become more dominant. Common soils include gravelly, sandy, silt, and clay loams.

The level to hilly alluvial fans, drainage ways, draws and stream terraces are depositional areas of late Pleistocene- and Holocene-age sediments, mostly derived from weathered granite and reworked Tertiary sediments. Undulating to very steep fan remnants, gulches, hill, and structural benches occur in areas of eroded Pliocene-age lake sediments of sandstone and mudstone

Appendix I. Continued.

overlain in places by cobbly alluvium. There are also steep buttes, hills, and structural benches that occur in areas of eroded Pliocene-age basalt, tuft, and volcanoclastic sediments.

Average annual precipitation changes greatly as elevation increases on the BRWMA and ranges from 11 inches at lower elevations to 24 inches at higher elevations. Most precipitation occurs November through April in the form of rain at the lower elevations and snow at the higher elevations. Summer rains are usually associated with thunderstorms. The snow line is generally between 4,000 and 4,500 feet in elevation. The summers are hot and dry with average July and August temperatures of 90°F and 89°F, respectively. Average daily minimum temperature for December and January are 29°F and 27°F, respectively. Temperature extremes have been recorded between 109°F to -23°F. The area averages 80 to 151 frost-free days per year depending on elevation.

The BRWMA is home to a variety of migratory and resident mammals, birds, reptiles, and amphibians. A complete list of wildlife species present can be found in Appendix V.

Physical improvements on the BRWMA consist of roads and trails, buildings and structures, fences, and water developments. Approximately 45 miles of fire guard, primary, and secondary roads are maintained on the WMA. All roads have some type of restricted use. Buildings and structures on the BRWMA consist of office facilities, machine shop, barn, and 5 sheds. There are approximately 48 water developments and approximately 75 miles of barbed wire fence on the BRWMA. There are 9 pastures in the BRWMA grazing system.

Infrastructure

Structures on the Boise River Wildlife Management Area

Function	Structure Type
Office	Modular office trailer (14X70 ft.)
Storage	Small wood frame equipment storage buildings (2)
Storage	Open-sided petroleum storage and containment shed
Storage	Metal building
Storage	Metal shipping container
Parking	Open-bay shelter
Shop and Parking	Open-bay shed w/ machine shop
Hay barn (South Fork Segment)	Large wood frame building on stone foundation

Appendix I. Continued.

Fences on the BRWMA	
Fence	Miles
Boundary, 4-strand barbed wire, permanent	50
Pasture Division, 4-strand barbed wire, permanent	25

Water Developments on the BRWMA	
Type of Development	Number
Spring development with tank	47
Pond	1

APPENDIX II

History

The BRWMA has been the site of human use and occupation for many thousands of years. Sites of historic human occupation have been discovered on and near the BRWMA. It is speculated that the ancient Great Basin Shoshone peoples used the WMA for hunting some 4,500 years ago. The project area is known to have been used for hunting by the Shoshone and Bannock-Paiute tribes. It is believed that the Squaw Creek drainage was a wintering area for peoples from these tribes. Many artifacts are still being found in this area. The site below Lucky Peak Dam was a historical salmon fishing site for Native Americans.

In 1811, the Astor party came into the Boise area as fur trappers. John Fremont and his party explored the Boise River area in 1843. During the 1830-1850s, the Oregon Trail passed within a short distance of the WMA, and the WMA received livestock use from these travelers. Intensive use of the Boise Front portion of the WMA has been experienced since the City of Boise was laid out in 1863. Year-long livestock grazing intensified on the Boise Front by both cattle and sheep. In 1868, the livestock numbers increased when Fort Boise was established. In the 1890s, the Fort Boise Military Reservation was established near the WMA. Unauthorized and often excessive use of livestock was common on the Front until the Department purchased the property. Control of livestock numbers and mule deer winter range were the reasons the property was purchased.

In 1862, gold was discovered in the Boise River region and the Idaho City Basin. The 1864 toll road, which leads to the Idaho City gold fields, passes near WMA lands. Many mines, such as the Black Hornet, Adelman, Iron Wheel, Queens, Centennial, and several un-named mines were active on the WMA, and some operated until the 1940s. Today, the Alderman is the only mine where yearly mining activities are continuing. Most of the old mine sites have been abandoned with sporadic interest when gold prices go up. Some intermittent interest is still shown in mining the clay soils in Squaw Creek for manufacturing bricks.

To support the mining activities in the Foothills and Idaho City Basin, farming and ranching operations sprang up in and around the WMA. The ranching industry remains a viable industry on the WMA. The present WMA also adjoins the old Barber Lumber Mill city and lumber complex that influenced activities on the WMA. Many old ranching homestead sites can be found on the WMA - Gabaloia, Percy, Pringle, Mace, Smith, White, Palmatier, Seeley, McDonald, and Kirk.

Acquisition of approximately 18,749 acres by IDFG for the BRWMA started in 1943 with the purchase of the Call, Skinner, and Smith ranches near the mouth of Mores Creek. This purchase was for mule deer winter range and forage production for winter feeding operations along the Middle Fork Boise River. The Taylor, Rose, Peer, Kirk, and McDonald ranches were purchased from 1948 to 1956. These ranches were located in the Trail Creek, Jackass Creek, and Corral Creek areas and along the Boise River. The Taylor, Rose, and Peer ranches were traded to the Forest Service in 1995. Major purchases were made in the Charcoal Creek and Boise Front segments in the 1960s and 1970s, and other additions were made through purchase or exchange

Appendix II. Continued.

in 1993, 1999, 2004, and 2006. Approximately 34,022 acres are managed as part of the BRWMA under IDFG ownership, leases, and agreements.

History section written by Jerry Scholten

APPENDIX III

Management Requirements and Authorities

Direction from the Commission and Director

The IDFG has a responsibility to manage lands it controls for the benefit of Idaho wildlife, and where opportunities exist, to provide for wildlife-associated recreational opportunities. The IDFG strives to provide excellent public service and healthy sustainable wildlife populations.

The Commission has established *The Compass*, the strategic plan for the Department which is intended to guide IDFG management philosophy, direction, and decisions “*towards excellence in maintaining our fish and wildlife heritage and providing services to people.*” The goals of *The Compass* as related to the BRWMA are to:

- Maintain or increase the capacity of habitat to support fish and wildlife
- Sustain fish and wildlife recreation on public lands
- Increase opportunities for wildlife viewing and appreciation
- Increase public knowledge and understanding of Idaho’s fish and wildlife
- Provide equipment and facilities for excellent customer service and management effectiveness

Within these goals, *The Compass* cites specific outcomes, objectives, and strategies identified as important for habitat management, providing hunting and fishing opportunities, working with the public, and for meeting IDFG’s mission and vision. These specifics have been used in the development of the BRWMA Management Plan.

Federal and State Law Requirements

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

Other federal and state laws also affect management of the BRWMA. The IDFG 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 BRWMA lands and waters.

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

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 Code 36-114 and through a cooperative agreement with the Idaho Department of Lands, IDFG is required to pay a fee for fire protection on all forest and rangeland

Appendix III. Continued.

acreage it owns. Fees are submitted annually based on the number of qualified acres owned by IDFG.

IDFG is required by Idaho Code 63-602 to pay a fee-in-lieu-of-tax (FILT) payment on lands owned by the IDFG and meeting certain code requirements. These fees are submitted annually to affected counties based on the number of qualifying acres.

APPENDIX IV

Vegetation

The BRWMA historically supported a mosaic of shrub-steppe vegetation in varying seral stages. Mixed conifer timber stands were found at higher elevations and a few ponderosa pines were scattered in the foothills. Riparian vegetation grew along water courses and in association with seeps and springs. Historical disturbance to vegetation included herbivory, drought, flooding, and fire. Disturbance in plant communities generally leads to a change in the relative abundance of the kinds of plants that occupy a site. Some plant species increase in abundance, some decrease, and others may disappear altogether. For example, if grasses and herbaceous plants decline in abundance, they may be replaced by shrubs. Shrubs provide a very different kind of habitat than grasses so the ability of the site to support a given suite of wildlife species may change. Some animals need open grasslands, others need shrubs, and still others prefer forested habitat. Some species need a mix of habitat types at different times throughout the year.

Sometimes several disturbances occur together and it is difficult to know with certainty which factor or factors are responsible for the resulting changes in vegetation structure and composition. From about the 1850s to the 1950s, a major disturbance in the region was domestic livestock grazing. Numbers of livestock almost unimaginable by present day standards were common place. Vast herds of cattle and flocks of sheep grazed the foothills near Boise year-round. In addition, horses were ubiquitous in the nineteenth century, when their muscle power was vital to the economy of the state. They too grazed the foothills, and were especially concentrated near large population centers. Drought and wildfires also occurred during this time period. Exotic annual grass species were introduced and spread quickly. Loss and degradation of vegetative cover led to massive soil erosion problems. Habitat managers today are left to make what they can of the vegetation and soil that remains.

Portions of the BRWMA still support native plant communities today, although the entire area shows the influence of past use. Exotic and weedy native species are common. Some areas, especially at lower elevations, are dominated by exotic annual grasses such as cheatgrass and medusahead. These grasses live for only 1 year, so they do a relatively poor job of stabilizing the soil, leading to increased erosion. They also respond positively to wildfire as their seeds are generally not consumed by the fire and since other species are damaged, the exotic annuals have a competitive advantage. Exotic annual grasses often take over a site completely if wildfires occur repeatedly and frequently because other more desirable species are not able to withstand repeated burning. For example, the shrubs that form a key component of mule deer winter range may not reestablish on a burned site without some intervention from managers because of competition from fire-adapted exotic grasses. Some native perennial bunchgrass species have a similar relationship with exotic annual grasses. These valuable long-lived, soil-binding native grasses often decrease in relative abundance over time on repeatedly burned sites, sometimes to the point that they are essentially eliminated from large areas.

The current vegetation on the Boise River WMA largely reflects historic vegetation, although the relative abundance of plant species has changed over time. About 85% of the area is still considered shrub-steppe in various levels of quality (ecological condition). Characteristic shrub-steppe species include big sagebrush, bitterbrush, and rabbitbrush with understory grasses such

Appendix IV. Continued.

as bluebunch wheatgrass, squirrel-tail, and Idaho fescue. Exotic annual grasses dominate some shrub-steppe sites. About 10% of the WMA supports the mountain shrub cover type dominated by shrubs that require more moisture than the shrub-steppe species. Characteristic mountain shrub species include bittercherry, chokecherry, snowberry, mountain balm, and mountain maple. About 1% of the WMA supports riparian vegetation which occurs along streams and around springs and seeps. The amount and variety of vegetation in riparian sites is generally much greater than that found in the neighboring upland areas. Riparian areas are heavily used by wildlife with more than 90% of the wildlife species that inhabit the BRWMA using them at some time during their life cycle. Some wildlife species cannot survive without riparian areas and the often dense, woody riparian vegetation provides additional shelter for wintering mule deer. The coniferous forest cover type occupies about 2% of the BRWMA and consists primarily of Douglas-fir and ponderosa pine stands located on north-facing slopes at the higher elevations. Other cover types including rock outcrop, cliff, and barren areas are found on the remainder of the area.

APPENDIX V

Wildlife Species List for Boise River Wildlife Management Area

Birds

1.	Common Loon	<i>Gavia immer</i>
2.	Western Grebe	<i>Aechmophorus occidentalis</i>
3.	Red-necked Grebe	<i>Podiceps grisegena</i>
4.	Eared Grebe	<i>Podiceps nigricollis</i>
5.	Pied-billed Grebe	<i>Podilymbus podiceps</i>
6.	White Pelican	<i>Pelecanus erythrorhynchos</i>
7.	Double-crested Cormorant	<i>Phalacrocorax auritus</i>
8.	Great Blue Heron	<i>Ardea herodias</i>
9.	Sand Hill Crane	<i>Grus canadensis</i>
10.	Canada Goose	<i>Branta canadensis</i>
11.	Snow Goose	<i>Chen caerulenscens</i>
12.	Mallard	<i>Anas platyrhynchos</i>
13.	Northern Pintail	<i>Anas acuta</i>
14.	Northern Shoveler	<i>Anas clypeata</i>
15.	American Widgeon	<i>Anas americana</i>
16.	Blue winged Teal	<i>Anas discors</i>
17.	Cinnamon Teal	<i>Anas cyanoptera</i>
18.	Green-winged Teal	<i>Anas crecca</i>
19.	Common Goldeneye	<i>Bucephala clangula</i>
20.	Common Merganser	<i>Mergus merganser</i>
21.	Wood Duck	<i>Aix sponsa</i>
22.	American Coot	<i>Fulica americana</i>
23.	American avocet	<i>Recurvirostra americana</i>
24.	Killdeer	<i>Charadrius vociferus</i>
25.	Long-billed Curlew	<i>Numenius americanus</i>
26.	Black-necked Stilt	<i>Himantopus mexicanus</i>
27.	Spotted Sandpiper	<i>Actitis macularia</i>
28.	Greater Yellowlegs	<i>Tringa melanoleuca</i>
29.	Lesser Yellowlegs	<i>Tringa flavipes</i>
30.	Long-billed Dowitcher	<i>Limnodromus scolopaceus</i>
31.	Western Sandpiper	<i>Calidris mauri</i>
32.	Virginia Rail	<i>Rallus limicola</i>
33.	Common Snipe	<i>Gallinago gallinago</i>
34.	Long-tailed Jaeger	<i>Stercorarius longicaudus</i>
35.	California Gull	<i>Larus californicus</i>
36.	Ring-billed Gull	<i>Larus delawarensis</i>
37.	Franklin's Gull	<i>Larus pipixcan</i>
38.	Herring Gull	<i>Larus argentatus</i>
39.	Caspian Tern	<i>Sterna caspia</i>
40.	Turkey Vulture	<i>Cathartes aura</i>
41.	Osprey	<i>Pandion haliaetus</i>
42.	Bald Eagle	<i>Haliaeetus leucocephalus</i>

Appendix V. Continued

Birds

43.	Golden Eagle	<i>Aquila chrysaetos</i>
44.	Northern Goshawk	<i>Accipiter gentilis</i>
45.	Coopers Hawk	<i>Accipiter cooperii</i>
46.	Sharp-shinned Hawk	<i>Accipiter striatus</i>
47.	Rough-legged Hawk	<i>Buteo lagopus</i>
48.	Ferruginous Hawk	<i>Buteo regalis</i>
49.	Red-tailed Hawk	<i>Buteo jamaicensis</i>
50.	Swainson's Hawk	<i>Buteo swainsoni</i>
51.	Broad-winged Hawk	<i>Buteo platypterus</i>
52.	Red-shouldered Hawk	<i>Buteo lineatus</i>
53.	Northern Harrier	<i>Circus cyaneus</i>
54.	American Kestrel	<i>Falco sparverius</i>
55.	Merlin	<i>Falco columbarius</i>
56.	Peregrine Falcon	<i>Falco peregrinus</i>
57.	Prairie Falcon	<i>Falco mexicanus</i>
58.	Sage Grouse	<i>Centrocercus urophasianus</i>
59.	Turkey	<i>Meleagris gallopavo</i>
60.	Blue Grouse	<i>Dendragapus obscurus</i>
61.	Ruffed Grouse	<i>Bonasa umbellus</i>
62.	California Quail	<i>Callipepla californica</i>
63.	Mountain Quail	<i>Oreortyx pictus</i>
64.	Chukar	<i>Alectoris chukar</i>
65.	Gray Partridge	<i>Perdix perdix</i>
66.	Ring-necked Pheasant	<i>Phasianus colchicus</i>
67.	Band-tailed Pigeon	<i>Columba fasciata</i>
68.	Black-billed Cuckoo	<i>Coccyzus erthrophthalmus</i>
69.	Mourning Dove	<i>Zenaida macroura</i>
70.	White-winged Dove	<i>Zenaida asiatica</i>
71.	Rock Dove	<i>Columba livia</i>
72.	Barn Owl	<i>Tyto alba</i>
73.	Great-horned Owl	<i>Bubo virginianus</i>
74.	Long-eared Owl	<i>Asio otus</i>
75.	Short-eared Owl	<i>Asio flammeus</i>
76.	Northern Pygmy Owl	<i>Glaucidium gnoma</i>
77.	Northern Saw-whet Owl	<i>Aegolius acadicus</i>
78.	Barred Owl	<i>Strix varia</i>
79.	Flammulated Owl	<i>Otus flammeolus</i>
80.	Western Screech Owl	<i>Otus kennicottii</i>
81.	Burrowing Owl	<i>Speotyto cunicularia</i>
82.	Boreal Owl	<i>Aegolius funereus</i>
83.	Common Nighthawk	<i>Chordeiles minor</i>
84.	Common Poorwill	<i>Phalaenoptilus nuttallii</i>
85.	Black Swift	<i>Cypseloides niger</i>
86.	Vaux's Swift	<i>Chaetura vauxi</i>
87.	White-throated Swift	<i>Aeronautes saxatalis</i>

Appendix V. Continued

Birds

88.	Black-chinned Hummingbird	<i>Archilochus alexandri</i>
89.	Broad-tailed Hummingbird	<i>Selasphorus platycercus</i>
90.	Calliope Hummingbird	<i>Stellula calliope</i>
91.	Rufous Hummingbird	<i>Selasphorus rufus</i>
92.	Belted Kingfisher	<i>Ceryle alcyon</i>
93.	Northern Flicker	<i>Colaptes auratus</i>
94.	Lewis' Woodpecker	<i>Melanerpes lewis</i>
95.	Red-naped Sapsucker	<i>Sphyrapicus nuchalis</i>
96.	Yellow-bellied Sapsucker	<i>Sphyrapicus varius</i>
97.	Williamson Sapsucker	<i>Sphyrapicus thyroideus</i>
98.	Hairy Woodpecker	<i>Picoides villosus</i>
99.	Downy Woodpecker	<i>Picoides pubescens</i>
100.	White-headed Woodpecker	<i>Picoides albolarvatus</i>
101.	Pileated Woodpecker	<i>Dryocopus pileatus</i>
102.	Eastern Kingbird	<i>Tyrannus tyrannus</i>
103.	Western Kingbird	<i>Tyrannus verticalis</i>
104.	Say's Phoebe	<i>Sayornis saya</i>
105.	Hammond's Flycatcher	<i>Empidonax hammondii</i>
106.	Dusky Flycatcher	<i>Empidonax oberholseri</i>
107.	Cordilleran Flycatcher	<i>Empidonax occidentalis</i>
108.	Gray Flycatcher	<i>Empidonax wrightii</i>
109.	Western Wood-peewee	<i>Contopus sordidulus</i>
110.	Olive-sided Flycatcher	<i>Contopus borealis</i>
111.	Willow Flycatcher	<i>Empidonax trailii</i>
112.	Least Flycatcher	<i>Empidonax minimus</i>
113.	Horned Lark	<i>Eremophila alpestris</i>
114.	Barn Swallow	<i>Hirundo rustica</i>
115.	Cliff Swallow	<i>Hirundo pyrrhonota</i>
116.	Violet-green Swallow	<i>Tachycineta thalassina</i>
117.	Northern Rough-winged swallow	<i>Stelgidopteryx serripennis</i>
118.	Bank Swallow	<i>Riparia riparia</i>
119.	Tree Swallow	<i>Tachycineta bicolor</i>
120.	Steller's Jay	<i>Cyanocitta stelleri</i>
121.	Blue Jay	<i>Cyanocitta cristata</i>
122.	Pinyon Jay	<i>Gymnorhynchus cyanocephalus</i>
123.	Black-billed Magpie	<i>Pica pica</i>
124.	American Crow	<i>Corvus brachyrhynchos</i>
125.	Common Raven	<i>Corvus corax</i>
126.	Clark's Nutcracker	<i>Nucifraga columbiana</i>
127.	Black-capped Chickadee	<i>Parus atricapillus</i>
128.	Mountain Chickadee	<i>Parus gambeli</i>
129.	Red-breasted Nuthatch	<i>Sitta canadensis</i>
130.	White-breasted Nuthatch	<i>Sitta carolinensis</i>
131.	Brown Creeper	<i>Certhia americana</i>
132.	Bushtit	<i>Psaltriparus minimus</i>

Appendix V. Continued

Birds

133.	House Wren	<i>Troglodytes aedon</i>
134.	Rock Wren	<i>Salpinctes obsoletus</i>
135.	Canyon Wren	<i>Catherpes mexicanus</i>
136.	Marsh Wren	<i>Cistothorus palustris</i>
137.	Winter Wren	<i>Troglodytes troglodytes</i>
138.	Bewick's Wren	<i>Thryomanes bewickii</i>
139.	American Dipper	<i>Cinclus mexicanus</i>
140.	Ruby-crowned Kinglet	<i>Regulus calendula</i>
141.	Golden-crowned Kinglet	<i>Regulus satrapa</i>
142.	American Robin	<i>Turdus migratorius</i>
143.	Hermit Thrush	<i>Catharus guttatus</i>
144.	Blue-gray Gnatcatcher	<i>Polioptila caerulea</i>
145.	Townsend's Solitaire	<i>Myadestes townsendi</i>
146.	Swainson's Thrush	<i>Catharus ustulata</i>
147.	Sage Thrasher	<i>Oreoscoptes montanus</i>
148.	Western Bluebird	<i>Sialia mexicana</i>
149.	Mountain Bluebird	<i>Sialia currucoides</i>
150.	Gray Catbird	<i>Dumetella carolinensis</i>
151.	American Pipit	<i>Anthus rubescens</i>
152.	Varied Thrush	<i>Ixoreus naevius</i>
153.	Veery	<i>Catharus fuscescens</i>
154.	Bohemian Waxwing	<i>Bombycilla garrulus</i>
155.	Cedar Waxwing	<i>Bombycilla cedrorum</i>
156.	Loggerhead Shrike	<i>Lanius lubovicianus</i>
157.	Northern Shrike	<i>Lanius excubitor</i>
158.	Starling	<i>Sturnus vulgaris</i>
159.	Black-throated Blue Warbler	<i>Dendroica caerulescens</i>
160.	Blackpoll Warbler	<i>Dendroica striata</i>
161.	Black and White Warbler	<i>Mniotilta varia</i>
162.	MacGillivray's Warbler	<i>Oporornis tolmiei</i>
163.	Nashville Warbler	<i>Vermivora ruficapilla</i>
164.	Orange-crowned Warbler	<i>Vermivora celata</i>
165.	Townsend's Warbler	<i>Dendroica townsendi</i>
166.	Western Palm Warbler	<i>Dendroica palmarum</i>
167.	Wilson's Warbler	<i>Wilsonia pusilla</i>
168.	Yellow-breasted Chat	<i>Icteria virens</i>
169.	Yellow Warbler	<i>Dendroica petechia</i>
170.	Yellow-rumped Warbler	<i>Dendroica coronata</i>
171.	Common yellowthroat	<i>Geothlypis trichas</i>
172.	Tennessee Warbler	<i>Vermivora peregrina</i>
173.	Magnolia Warbler	<i>Dendroica magnolia</i>
174.	Chestnut-sided Warbler	<i>Dendroica pensylvanica</i>
175.	Bay-breasted Warbler	<i>Dendroica castanea</i>
176.	American Redstart	<i>Setophaga ruticilla</i>
177.	Prothonotary Warbler	<i>Protonotaria citrea</i>

Appendix V. Continued

Birds

178.	Northern Waterthrush	<i>Seiurus noveboracensis</i>
179.	Solitary (Cassin's) Vireo	<i>Vireo solitarius</i>
180.	Red-eyed Vireo	<i>Vireo olivaceus</i>
181.	Warbling Vireo	<i>Vireo gilvus</i>
182.	Western Tanager	<i>Piranga ludoviciana</i>
183.	Black-headed Grosbeak	<i>Pheucticus melanocephalus</i>
184.	Evening Grosbeak	<i>Coccothraustes vespertinus</i>
185.	Pine Grosbeak	<i>Pinicola enucleator</i>
186.	Green-tailed Towhee	<i>Pipilo chlorurus</i>
187.	Spotted Towhee	<i>Pipilo maculatus</i>
188.	Red Crossbill	<i>Loxia curvirostra</i>
189.	House Sparrow	<i>Passer domesticus</i>
190.	Bobolink	<i>Dolichonyx oryzivorus</i>
191.	Brewer's Blackbird	<i>Euphagus cyanocephalus</i>
192.	Brown-headed Cowbird	<i>Molothrus ater</i>
193.	Bullock's Oriole	<i>Icterus bullockii</i>
194.	Common Grackle	<i>Quiscalus quiscula</i>
195.	Red-winged Blackbird	<i>Agelaius phoeniceus</i>
196.	Western Meadowlark	<i>Sturnella neglecta</i>
197.	Yellow-headed Blackbird	<i>Xanthocephalus xanthocephalus</i>
198.	American Goldfinch	<i>Carduelis tristis</i>
199.	Cassin's Finch	<i>Carpodacus cassinii</i>
200.	Common Redpoll	<i>Carduelis flammea</i>
201.	Gray-Crowed Rosy Finch	<i>Leucosticte atrata</i>
202.	House Finch	<i>Carpodacus mexicanus</i>
203.	Lazuli Bunting	<i>Passerina amoena</i>
204.	Pine Siskin	<i>Carduelis pinus</i>
205.	Black Rosy Finch	<i>Leucosticte atrata</i>
206.	Lesser Goldfinch	<i>Carduelis psaltria</i>
207.	Grasshopper Sparrow	<i>Ammodramus savannarum</i>
208.	Brewer's Sparrow	<i>Spizella breweri</i>
209.	Chipping Sparrow	<i>Spizella passerina</i>
210.	Dark-eyed Junco	<i>Junco hyemalis</i>
211.	Fox Sparrow	<i>Passerella iliaca</i>
212.	Golden-crowned Sparrow	<i>Zonotrichia atricapilla</i>
213.	Lark Sparrow	<i>Chondestes grammacus</i>
214.	Lincoln's Sparrow	<i>Melospiza lincolnii</i>
215.	Sage Sparrow	<i>Amphispiza belli</i>
216.	Savannah Sparrow	<i>Passerculus sandwichensis</i>
217.	Song Sparrow	<i>Melospiza melodia</i>
218.	American Tree Sparrow	<i>Spizella arborea</i>
219.	Vesper Sparrow	<i>Pooecetes gramineus</i>
220.	White-crowned Sparrow	<i>Zonotrichia leucophrys</i>
221.	Black-throated Sparrow	<i>Amphispiza billineata</i>
222.	Harris' Sparrow	<i>Zonotrichia querula</i>

Appendix V. Continued

Birds

- 223. Snow Bunting
- 224. Pygmy Nuthatch

Plectrophenax nivalis
Sitta pygmaea

Birds – hypothetical or only one sighting

- American Bittern
- Black-crowned Night Heron
- Brown Pelican
- Greater-white fronted Goose
- Gadwall
- Lesser Scaup
- Anna Hummingbird
- Scarlet Tanager
- Ovenbird
- Great-tailed Grackle
- Swamp Sparrow
- White-throated Sparrow

Mammals

- 1. Masked Shrew
- 2. Vagrant Shrew
- 3. Water Shrew
- 4. Big Brown Bat
- 5. Hoary Bat
- 6. Little Brown Myotis
- 7. Long-eared Myotis
- 8. Small-footed Myotis
- 9. Silver-haired Bat
- 10. Townsend's Big-eared Bat
- 11. Western Pipistrelle
- 12. Yuma Myotis
- 13. Pallid bat
- 14. Black-tailed Jackrabbit
- 15. Mountain Cottontail
- 16. Pygmy Rabbit
- 17. Snowshoe Hare
- 18. White-tailed Jackrabbit
- 19. Columbia Ground Squirrel
- 20. Yellow-bellied Marmot
- 21. Townsend's Ground Squirrel
- 22. Golden-mantled Ground Squirrel
- 23. Least Chipmunk
- 24. Yellow-pine Chipmunk
- 25. Red Squirrel
- 26. Northern Flying Squirrel
- 27. Northern Pocket Gopher

Sorex cinereus
Sorex vagrans
Sorex palustris
Eptesicus fuscus
Lasiurus cinereus
Myotis lucifugus
Myotis evotis
Myotis ciliolabrum
Lasionycteris noctivagans
Corynorhinus townsendii
Pipistrellus hesperus
Myotis yumanensis
Antrozous palidus
Lepus californicus
Sylvilagus nutallii
Brachylagus idahoensis
Lepus americanus
Lepus townsendii
Spermophilus columbianus
Marmota flaviventris
Spermophilus townsendii
Spermophilus lateralis
Tamias minimus
Tamias amoenus
Tamiasciurus hudsonicus
Glaucomys sabrinus
Thomomys talpoides

Appendix V. Continued

Mammals

28.	Great Basin Pocket Mouse	<i>Perognathus parvus</i>
29.	Ord's Kangaroo Rat	<i>Dipodomys ordii</i>
30.	Western Harvest Mouse	<i>Reithrodontomys megalotis</i>
31.	Deer Mouse	<i>Peromyscus maniculatus</i>
32.	House Mouse	<i>Mus musculus</i>
33.	Northern Grasshopper Mouse	<i>Onychomys leucogaster</i>
34.	Western Jumping Mouse	<i>Zapus princeps</i>
35.	Canyon Mouse	<i>Peromyscus crinitus</i>
36.	Sagebrush Vole	<i>Lemmyscus curtatus</i>
37.	Montane Vole	<i>Microtus montanus</i>
38.	Heather Vole	<i>Phenacomys intermedius</i>
39.	Meadow Vole	<i>Microtus pennsylvanicus</i>
40.	Long-tailed Vole	<i>Microtus longicaudus</i>
41.	Water Vole	<i>Microtus richardsoni</i>
42.	Bushy-tailed Wood Rat	<i>Eotoma cinerea</i>
43.	Porcupine	<i>Erethizon dorsatum</i>
44.	Norway Rat	<i>Rattus norvegicus</i>
45.	Beaver	<i>Castor canadensis</i>
46.	Coyote	<i>Canis latrans</i>
47.	Red Fox	<i>Vulpes vulpes</i>
48.	River Otter	<i>Lutra canadensis</i>
49.	Black Bear	<i>Ursus americanus</i>
50.	Raccoon	<i>Procyon lotor</i>
51.	Short-tailed Weasel (ermine)	<i>Mustela erminea</i>
52.	Long-tailed Weasel	<i>Mustela frenata</i>
53.	Mink	<i>Mustela vison</i>
54.	Muskrat	<i>Ondatra zibethicus</i>
55.	Badger	<i>Taxidea taxus</i>
56.	Spotted Skunk	<i>Spilogale gracilis</i>
57.	Stripped Skunk	<i>Mephitis mephitis</i>
58.	Bobcat	<i>Felis rufus</i>
59.	Mountain Lion	<i>Felis concolor</i>
60.	Mule Deer	<i>Odocoileus hemionus</i>
61.	Elk	<i>Cervus elaphus</i>
62.	Pronghorn	<i>Antilocapra americana</i>
63.	Moose	<i>Alces alces</i>
64.	White-tailed Deer	<i>Odocoileus virginianus</i>
65.	Gray Wolf	<i>Canis lupis</i>

Reptiles

1.	Racer	<i>Coluber constrictor</i>
2.	Rubber Boa	<i>Charina bottae</i>
3.	Western Rattlesnake	<i>Crotalus viridis</i>
4.	Gopher Snake	<i>Pituophis melanole</i>
5.	Garter Snake	<i>Thamnophis sirtalis</i>

Appendix V. Continued

Reptiles

- | | | |
|-----|----------------------------------|--------------------------------|
| 6. | Western Terrestrial Garter Snake | <i>Thamnophis elegans</i> |
| 7. | Night Snake | <i>Hypsiglena torquata</i> |
| 8. | Striped Whipsnake | <i>Masticophis taeniatus</i> |
| 9. | Ringneck Snake | <i>Diadophis punctatus</i> |
| 10. | Western Ground Snake | <i>Sonora semiannulata</i> |
| 11. | Western Fence Lizard | <i>Sceloporus occidentalis</i> |
| 12. | Sagebrush Lizard | <i>Sceloporus graciosus</i> |
| 13. | Short-horned Lizard | <i>Phrynosoma douglasi</i> |
| 14. | Western Skink | <i>Eumeces skiltonianus</i> |
| 15. | Side-blotched Lizard | <i>Uta stansburiana</i> |

Amphibians

- | | | |
|----|-----------------------|--------------------------------|
| 1. | Bullfrog | <i>Rana catesbeiana</i> |
| 2. | Northern Leopard Frog | <i>Rana pipiens</i> |
| 3. | Western Toad | <i>Bufo boreas</i> |
| 4. | Spotted Frog | <i>Rana pretiosa</i> |
| 5. | Pacific Treefrog | <i>Pseudacris regilla</i> |
| 6. | Long-toed Salamander | <i>Ambystome macrodactylum</i> |
| 7. | Great Basin Spadefoot | <i>Spea intermontanus</i> |

APPENDIX VI

Livestock Grazing Program

Because of the Boise Front Segment's close location to town, it historically received heavy grazing in the nineteenth century from large numbers of cattle, horses, and sheep associated with the growing city of Boise. The area suffered far worse plant community degradation and soil loss than similar plant communities and soil types located further away. The Boise Front Segment has benefited greatly from grazing system improvements implemented over the last 35 years by WMA managers. Initially, grazing on Department-owned lands within the WMA was essentially "exchanged" for winter use by deer on neighboring privately-owned rangelands. As the Boise Front Segment of the WMA expanded in size, it became large enough that using a rotational grazing system was feasible.

The Boise Front Coordinated Resource Management Plan (CRMP) was implemented in 1980 to improve livestock grazing management. A rest-rotation grazing system using 9 pastures was developed to control cattle use and distribution throughout the Boise Front Segment. The system is designed to function so that each pasture is rested every other year. Individual pastures are managed for moderate utilization by livestock. Range riding at least 5 days per week is used to help distribute cattle and keep them from exceeding desired utilization levels in riparian areas. Springs have been developed to provide livestock water which also helps distribute cattle use throughout a pasture. For the past several years, wildfires have disrupted the rest-rotation system because burned pastures must be taken out of the rotation and given additional rest. Burned pastures are rehabilitated with grass and forb seedings and shrub plantings and are protected from grazing for 2 to 5 years after treatment to allow the new plants to become established. As a result, the remaining unburned pastures are being used more frequently than the CRMP specifies.

Sheep are permitted to graze a portion of the Boise Front Segment each spring and fall for a month. For the past several years, the permittee has chosen to trail a band across the Segment in the spring but has not used the autumn grazing privileges. Sheep grazing may provide some noxious weed control when they are used in the spring.

Cattle are grazed in the Charcoal and South Fork Segments under exchange-of-use agreements with nearby private landowners. These agreements allow limited livestock grazing on WMA lands during summer in exchange for mule deer and elk use on the private lands during winter.

Individual pastures are managed for moderate utilization by livestock. Low-elevation pastures are grazed at the beginning of each spring grazing season, and livestock are moved to higher-elevation pastures as the season progresses. Livestock are actively monitored and managed a minimum of 5 days per week by a range rider.

Appendix VII

Water Rights on the Boise River Wildlife Management Area

Water Right No.	Location of Point(s) of Diversion	
63-11394	SWSWNW	Sec. 2, T3N, R3E
	SWSWNW	Sec. 10, T3N, R3E
	NESENW	Sec. 10, T3N, R3E
	SESENE	Sec.4, T3N, R3E
	NWNWNE	Sec. 10, T3N, R3E
	SESENE	Sec.10, T3N, R3E
		ADA County
63-11395	SENESE	Sec. 22, T3N, R3E
	NWSENE	Sec. 22, T3N, R3E
	Lot 1 SESWSW	Sec. 22, T3N, R3E
	NESESW	Sec. 22, T3N, R3E
	SWNESE	Sec. 22, T3N, R3E
	SESESE	Sec. 22, T3N, R3E
	SWNEN	Sec. 26, T3N, R3E
	NENENE	Sec. 27, T3N, R3E
	NENWSE	Sec. 27, T3N, R3E
	ADA County	
63-11396	SENWSW	Sec. 21, T3N, R3E, ADA County
63-11434	NENESE	Sec. 16, T3N, R3E
	SWNWSE	Sec. 16, T3N, R3E
	NENWNW	Sec. 22, T3N, R3E
	SENWSE	Sec. 21, T3N, R3E
	SENESE	Sec. 21, T3N, R3E
	SWSENE	Sec. 21, T3N, R3E
	SENWSW	Sec. 21, T3N, R3E
	ADA County	
63-11435	SENESE	Sec. 35, T3N, R4E
	SWNENE	Sec. 35, T3N, R4E
		ELMORE County
63-12082	NWNENW	Sec. 15, T2N, R4E, ELMORE County
63-12083	NESWSE	Sec. 13, T3N, R3E, ADA County
63-12086	NWNESE	Sec. 19, T3N, R4E, ADA County

Boise River WMA Plan Review and Approval

Submitted by:

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Edward Bottum, Regional Wildlife Habitat Biologist

June 26, 2008

Date

Reviewed by:

Jerry Deal
Jerry Deal, Regional Wildlife Habitat Manager

June 29, 2008

Date

Jeff Gould
Jeff Gould, State Wildlife Habitat Manager

6/29/08

Date

Approved by:

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Scott Reinecker, Regional Supervisor

10/23/08

Date