

# Hardware Ranch Wildlife Management Area Management Plan



Publication Number 12-12



UTAH DIVISION OF

**Wildlife Resources**

DRAFT  
March 20, 2012

*Prepared by The Hardware Ranch Stewardship Team  
and Logan Simpson Design, Inc.*

# Hardware Ranch Wildlife Management Area Management Plan

---



DRAFT  
March 20, 2012

*Prepared by The Hardware Ranch Stewardship Team  
and Logan Simpson Design, Inc.*

State of Utah  
Department of Natural Resources  
Division of Wildlife Resources

# Hardware Ranch Wildlife Management Area Management Plan

---

Approved: \_\_\_\_\_ Date \_\_\_\_\_  
James Karpowitz, Director

## Hardware Ranch WMA Stewardship Team

Dan Christensen, WMA Manager  
Marni Lee, Assistant WMA Manager  
Phil Douglass, Northern Region Outreach Manager  
Ron Greer, Habitat Biologist  
Scott Walker, Northern Region Habitat Manager  
Darren DeBloois, Wildlife Biologist  
Paul Burnett, Aquatics Biologist  
Craig Schaugaard, Northern Region Aquatics Manager  
Randy Wood, Regional Wildlife Program Manager  
Matt Burgess, Conservation Officer  
Scott Davis, Northern Region Law Enforcement Lieutenant  
Ron Hodson, Northern Region Supervisor

## Technical Advisory Committee

Curtis Webb (Utah Legislator)  
John White (Cache County Council Chairman)  
Josh Runhaar (Cache County Planner)  
Nancy Mesner (Associate Dean, Utah State University College of Natural Resources)  
Mike Laughter (Mule Deer Foundation)  
Richard Droesbeke (Manager of Bear Lake State Park)  
Fred Provenza (Utah State University Professor of Range Science)



## Statement of Purpose

---

The Hardware Ranch Wildlife Management Area (HRWMA) is located in Cache County in northern Utah approximately 15 miles east of Hyrum in the Blacksmith Fork River drainage, and encompasses approximately 14,278 acres. Elevations in HRWMA range from 5200 to 7600 feet. The topography varies from rolling hills to steep canyons, with vegetation types including sagebrush, conifers, aspen and riparian corridors. Features of HRWMA include:

**Big Game Wintering Habitat** - Much of the HRWMA functions as deer and elk wintering habitat and is considered critical for over- winter survival of many of the deer in the area. Brush communities in the area have diminished. This, combined with heavy winters, has reduced deer populations in the area. The main challenge to reverse this trend will be to reestablish and/or reinvigorate brush communities. This can be accomplished by controlling invasive weeds, managing grazing and recreational access and undertaking habitat restoration projects with big game species in mind.

**Elk Feeding Station** - A winter elk feeding program at HRWMA has operated since the winter of 1947. The purpose of the feeding program is to draw elk away from agricultural areas in Cache Valley. The acquisition of the property was ideal because it is located away from the populated valley and agricultural fields. It also has 120 acres of grass hay that is harvested annually to provide feed in the winter. One of the challenges in raising hay to sustain the feeding program is updating head gates and eroded canals. Updated head gates will require less maintenance and be more productive.

**Wildlife Conservation Outreach** - The initiation of the elk feeding program also coincided with a growing education element in the 1950's within the "Fish and Game Department," as it was then called. To capture education opportunities at HRWMA, personnel began offering free rides on the "feed" wagon to see wintering elk. In 1971, the Utah legislature passed a bill to create a Visitor's Center to expand outreach opportunities. In 1988, the Utah Legislature cut funding support for the sleigh rides. The following year, a fee structure was approved and the outreach rides resumed. Funding is the main challenge in conducting outreach programs at HRWMA.

**Recreation** - The HRWMA offers the backdrop for dispersed fish and wildlife- based activities including hunting, fishing, trapping and OHV use. Unchecked vehicle access use in some areas has resulted in aesthetic and habitat degradation. OHV use has grown sharply in the past ten years. Summer-long recreational camping is a growing problem. Camping areas have been "claimed" for weeks at a time by campers in some areas of the HRWMA.

### **Important management objectives at HRWMA include:**

- » Maintain and enhance habitat for big game (deer, elk and moose) and sensitive wildlife species;
- » Maintain, protect and enhance aquatic and riparian habitat and wildlife species;
- » Maintain and enhance outreach programs;
- » Maximize annual hay production (minimum production of 320 tons of grass hay); and
- » Develop and Implement access management practices.

Management at HRWMA is unique among the big game oriented wildlife management areas operated by the Utah Division of Wildlife Resources because of its outreach and education program, the elk feeding program and on-site habitat management. The challenges include growing recreation demands, the presence of many invasive plant species and habitat loss. This plan resulted from many hours of work by the HRWMA Stewardship Team to identify needs, goals and objectives that address them. These planning efforts also sought to involve and inform the various publics who use and care about HRWMA. This comprehensive management plan will remain in effect for an indeterminate period, but will be revisited in five years and revised if necessary. An updated Operations Manual will be developed as a result of this planning effort.



## Table of Contents

<b>1.0 Introduction</b>	<b>1</b>
1.1 The Utah Division of Wildlife Resources	1
1.2 Purposes and Structure of the Management Plan	1
1.3 Public Involvement and the Plan Adoption Process	1
<b>2.0 Desired Future Conditions (Goals, Objectives &amp; Strategies)</b>	<b>2</b>
2.1 Wildlife and Habitat Management Goals, Objectives and Strategies	2
2.3 Outreach Goals, Objectives and Strategies	4
2.2 Facility Management Goals, Objectives and Strategies	5
<b>3.0 Inventory of Existing Conditions</b>	<b>7</b>
3.1 Hardware Ranch Wildlife Management Area	7
3.1.1 <i>Property location and description</i>	7
3.1.2 <i>Title Encumbrances</i>	7
3.1.3 <i>Water rights</i>	7
3.2 Historic Uses and Acquisition of HRWMA	7
3.2.1 <i>Historic Uses of HRWMA Lands</i>	7
3.2.2 <i>Mechanism of purchase</i>	8
3.2.3 <i>Livestock grazing</i>	9
3.2.4 <i>Compatibility with Local Government Plans, Zoning and Land Use Ordinances</i>	9
<b>4.0 Current Management Trends</b>	<b>10</b>
4.1 Wildlife and Habitat Management	10
4.1.1 <i>Management Context</i>	10
4.1.2 <i>Management Philosophy</i>	10
4.1.3 <i>Habitat Types</i>	11
4.1.4 <i>Habitat Limitations</i>	12
4.1.5 <i>Riparian and Aquatic Resources</i>	12
4.1.6 <i>Wildlife Resources</i>	13
4.1.7 <i>Vegetation</i>	14
4.1.8 <i>Invasive weeds</i>	14
4.1.9 <i>Sensitive Species</i>	15
4.1.10 <i>Habitat Trends</i>	15
4.1.11 <i>Human use-related problems</i>	15
4.1.12 <i>Fire Management</i>	15
4.2 Outreach	15
4.2.1 <i>Management Context</i>	15
4.2.2 <i>Management Philosophy</i>	16
4.2.3 <i>Conservation Outreach Program Conceptual Framework</i>	17
4.2.4 <i>Conservation Outreach Definitions</i>	17
4.2.5 <i>Comprehensive Outreach Plan Development</i>	18
4.2.6 <i>Background/History</i>	18
4.2.7 <i>Current Outreach Programs and Resources</i>	19
4.2.8 <i>Staffing</i>	19
4.2.9 <i>Trends and Data</i>	20



# Hardware Ranch Wildlife Management Area Management Plan

4.3	Programs and Activities	20
4.3.1	<i>Elk Disease Testing</i>	21
4.3.2	<i>Winter Elk Feeding</i>	21
4.3.3	<i>Access Management</i>	21
4.3.4	<i>Safety</i>	22
4.3.5	<i>Volunteer Programs</i>	22
4.3.6	<i>Academic Studies</i>	22
4.3.7	<i>Adjacent property owners</i>	22
4.4	Property and Facilities Management	23
4.4.1	<i>Roads</i>	23
4.4.2	<i>Fences</i>	23
4.4.3	<i>Facilities and Equipment</i>	26
4.4.4	<i>Hay Meadows</i>	26
4.4.5	<i>Water Developments</i>	26
4.4.6	<i>Wood products</i>	26
4.4.7	<i>Cultural Resources</i>	26
4.5	Current Conditions and Trends Summary	27
4.5.1	<i>Wildlife and Habitat Management</i>	27
4.5.2	<i>Outreach</i>	27
4.5.3	<i>Recreation</i>	27
<b>5.0</b>	<b>Budgets And Funding</b>	<b>28</b>
<b>6.0</b>	<b>Plan Implementation</b>	<b>29</b>
<b>Appendix A</b>	<b>– HRWMA Maps</b>	<b>A-1</b>
<b>Appendix B</b>	<b>– Planning Participants and Public Involvement</b>	<b>B-1</b>
<b>Appendix C</b>	<b>– Grazing</b>	<b>C-1</b>
<b>Appendix D</b>	<b>– Communications Plan</b>	<b>D-1</b>
<b>Appendix E</b>	<b>– Resources and Information</b>	<b>E-1</b>
<b>Appendix F</b>	<b>– Outreach Plan Outline</b>	<b>F-1</b>
<b>Appendix G</b>	<b>– Sensitive Species &amp; Utah Heritage Data</b>	<b>G-1</b>
<b>Appendix H</b>	<b>– Sport Fishery Stream Classifications</b>	<b>H-1</b>
<b>Appendix I</b>	<b>– Outreach Programs</b>	<b>I-1</b>
<b>Appendix J</b>	<b>– Camping/Access Management</b>	<b>J-1</b>



## 1.0 Introduction

---

### 1.1 The Utah Division of Wildlife Resources

The mission of the Utah Division of Wildlife Resources (Division) is to serve the people of Utah as trustee and guardian of the state's wildlife, and to ensure its future and values through management, protection, conservation and education.

The Division believes that maintaining sustainable and diverse wildlife populations is valuable to all citizens of Utah, and has long recognized the important role habitat plays in maintaining sustainable fish and wildlife resources. It has established over 100 Wildlife Management Areas (WMAs) in Utah, including Hardware Ranch Wildlife Management Area (HRWMA).

### 1.2 Purposes and Structure of the Management Plan

This Management Plan was prepared by the Division as guidance for the management of HRWMA. It identifies goals and objectives for HRWMA management. In accordance with statutory direction, the substantive provisions of this Management Plan include:

- » A mission statement for HRWMA that describes the primary purposes of management at HRWMA.
- » A statement of goals and objectives to achieve the desired future conditions of habitats, wildlife, outreach and facilities at HRWMA.
- » Identification of strategies to achieve the Management Plan goals and objectives, and
- » A description of HRWMA resources and current management conditions that identifies current uses, limitations and opportunities at HRWMA.

The hierarchy of this Management Plan begins with the mission statement, followed by goals, objectives, and implementation tasks. Most technical data and other background information are summarized in tables and appendices.

A mission statement for HRWMA has been developed as a framework for identifying management goals and objectives as follows:

***“The mission of the Hardware Ranch Wildlife Management Area is to provide healthy habitats that support sustainable wildlife populations, and to increase public awareness and stewardship of Utah’s wildlife.”***

The mission of HRWMA is unique among Utah wildlife management areas because of staffing and the on-site approach to elk feeding, habitat management and public outreach. It is also the only WMA managed by the Conservation Outreach section of the Division.

This Plan addresses HRWMA property and operations management as well as a variety of activities that have historically occurred on the WMA including; winter elk feeding, hunting, fishing, camping, livestock grazing, OHV use, and facilities and infrastructure development. These activities were critically reviewed to determine their compatibility with the HRWMA mission, as well as their impacts to natural resources.

### 1.3 Public Involvement and the Plan Adoption Process

Although the development of this Management Plan is primarily an agency activity, the Division recognized the importance of effective public participation in the planning process. Public involvement activities to solicit and consider input included forming a Technical Advisory Committee (TAC); maintaining a web page on the Division's website to gather public comments during the planning process; conducting a public open house; and presentation to the Regional Advisory Committee at a public meeting. A description of the Management Plan adoption process is at Appendix B. This Plan was developed according to the public notification and local government involvement requirements outlined in the Utah Wildlife Code 23-21-2.1; 2.2; 2.3.



## 2.0 Management Goals, Objectives & Strategies

The focus of this Management Plan is the HRWMA management goals and objectives identified during the planning process, and the tasks required to implement them. Implementing the mission, goals, and objectives will lead to the desired future condition of HRWMA. Implementation tasks identify the specific actions required to achieve the Management Plan goals and objectives, and require the commitment of time and resources for completion. Some of the management and property goals are not currently funded, but are listed here to indicate that they remain important to the implementation of this Management Plan, and achieving the mission of HRWMA.

### 2.1 Wildlife and Habitat Management Goals, Objectives and Strategies

Objectives which are time-bound and measurable are in the following tables. An annual report will be prepared that will track Plan implementation progress, as well as help to develop formal Habitat Council projects and funding requests.

#### Wildlife and Habitat Management Goals, Objectives and Strategies

	<p><b>Objective 1</b> – Maintain wintering elk feeding program to minimize impacts to landowners in Cache Valley during the life of the plan.</p>	<p><b>Strategy 1.1</b> Raise hay to feed 550 to 650 elk 8-10 pounds per day for 120 days (annual production range from 320 tons to 400 tons for elk and 50 tons for draft horses).</p> <ul style="list-style-type: none"> <li>a) Prevent livestock use of meadows.</li> <li>b) Harrow as early as possible based on soil dryness.</li> <li>c) Fertilize meadows to maximize hay production based on plant readiness.</li> <li>d) Provide adequate irrigation.</li> <li>e) Harvest when seed heads are nearing maturity.</li> <li>f) Gather and stack by ten days after bailing.</li> </ul>
		<p><b>Strategy 1.2</b> Initiate, adjust and terminate elk feeding according to the Standard Operating Procedure in consultation with the district biologist.</p>
		<p><b>Strategy 1.3</b> Wildlife Section will bait, trap, and hold elk in current facility to test for diseases.</p>
<p><b>Goal</b> - Ensure that wildlife and the habitat they depend on are protected with consideration for wildlife-oriented recreation activities.</p>		<p><b>Strategy 2.1</b> Identify the baseline condition of big game winter range habitat using UDWR range trend data (Wildlife/Habitat Sections Unified Range Assessment) and conducting photo transects by August 1, 2012.</p>
		<p><b>Strategy 2.2</b> Conduct a biannual assessment of current habitat conditions and needs by using the Wildlife/Habitat Sections Unified Range Assessment and conducting photo transects by May 1 and August 1.</p>
	<p><b>Objective 2</b> – Increase the quality of winter range plant communities for big game species in the Desired Component Index (DCI) rating by one step (poor to fair, fair to good, good to excellent) throughout the life of the plan.</p>	<p><b>Strategy 2.3</b> Annually, by November 1, develop big game winter range habitat improvement projects in areas that need habitat enhancement considering impacts to other wildlife species. WMA manager will submit project proposals in consultation with habitat and wildlife biologists.</p>
		<p><b>Strategy 2.4</b> Establish grazing prescriptions that enhance wildlife habitat. Contractors will provide their own portable facilities to handle livestock and will not use the elk pens, hay meadows or stream watering areas. Select watering areas may be approved by the WMA manager. Grazing projects will be initiated according to the DWR Lands Use Rule R657-28.</p>
		<p><b>Strategy 2.5</b> Annually, WMA manager will document data collected in strategies 2.1, 2.2, and 2.3, plus document infrastructure improvements from the grazing program, where grazing occurs and approved livestock watering points in GIS layers.</p>



**Wildlife and Habitat Management Goals, Objectives and Strategies**

**Objective 3** – Reduce wildlife and habitat problems from camping and other public access by 90 percent during the life of the plan.

**Strategy 3.1**

Implement acceptable recreation practices within Hardware Ranch Boundaries as identified in Appendix J starting in the spring of 2012.

**Strategy 3.2**

Work towards developing an Interagency MOU (USFS and State Parks) for recreational planning, development, and management purposes by January 2013.

**Strategy 3.3**

Identify and create structural improvements at three campsites annually that enhance and define camping areas. These improvements include: signage along with rock or log structures and campfire rings that define camping areas and direct users to those areas.

**Strategy 3.4**

Prevent unauthorized recreational activities and access through daily, documented contacts with recreationists.

**Strategy 3.5**

Identify in the hunting guidebooks and on the ground through signage areas that are closed or restricted seasonally by 2013.

**Strategy 3.6**

Enforce Division Land Management Rules after every effort has been made to communicate the rules to users. This may require a concerted law enforcement effort.

**Strategy 3.7**

Annually reconvene a small camping committee to review camping rules and progress in implementing camping plans.

*Continued...*

**Goal** - Ensure that wildlife and the habitat they depend on are protected with consideration for wildlife-oriented recreation activities.

**Objective 4** – Reduce noxious weeds and control their spread during the life of the plan.

**Strategy 4.1**

Develop and implement policies to avoid importation of invasive species to HRWMA.

- a) Mandate imported hay be weed free on Hardware Ranch WMA.

**Strategy 4.2**

Inventory invasive species in GIS layers by waypoints and polygons during herbicide applications. Document species being treated and who applied the treatment. Compare with species listed at: [http://www.utah-idahocwma.org/maps\\_cache.htm](http://www.utah-idahocwma.org/maps_cache.htm).

**Strategy 4.3**

Perform efforts to effectively: 1) Identify the perimeter of weed plant communities; 2) Contain and prevent spreading; 3) Eradicate satellite populations.

**Strategy 4.4**

Conduct rehabilitation of areas where control efforts through reseeding and re-plantings of desirable communities are conducted.

**Strategy 4.5**

Annually update the methods and priorities for weed and invasive species control.

**Objective 5** – Maintain existing riparian and aquatic habitat and explore opportunities to enhance these habitats during the life of the plan.

**Strategy 5.1**

Compile and maintain riparian and aquatic habitat data in GIS layers.

**Strategy 5.2**

Identify riparian areas that require habitat enhancement, submit proposals in November annually and complete approved projects.

**Strategy 5.3**

Maintain riparian fencing enclosures annually.

**Strategy 5.4**

Identify the need for beaver population adjustments in 2014 for the next furbearer guidebook cycle.

**Strategy 5.5**

Install fencing enclosures on the Blacksmith Fork River by July 1, 2012 and Rock Creek by 2017.



**Wildlife and Habitat Management Goals, Objectives and Strategies**

**Objective 6** – Maintain the current diversity of sensitive species on Hardware Ranch WMA throughout the life of the plan.

**Strategy 6.1**

Coordinate all projects to avoid negative effects on sensitive species identified in Appendix G.

**Strategy 6.2**

Livestock will not be grazed during the strutting season near occupied leks.

**Facilities Goal, Objectives and Strategies**

**Objective 1** - Maintain facilities and infrastructure according to the Standard Operating Procedures Manual.

**Strategy 1.1**

Perform maintenance activities outlined in the updated Standard Operating Procedures manual for HRWMA.

**Strategy 1.2**

Develop a budget for Wildlife Inventory Maintenance (WIMs) and track maintenance with the WIMs program.

**Strategy 1.3**

Review existing capital improvements, make necessary repairs to insure they are wildlife friendly and ensure new projects are also wildlife friendly.

**Goal** - Provide for safe, functional, clean and orderly appearance of all facilities and associated lands.

**Objective 2** - Maintain and improve elk management facility to monitor for appropriate diseases throughout the life of the plan.

**Strategy 2.1**

Conduct repairs to the existing facility annually during the summer and early fall.

**Strategy 2.2**

Bait, trap, and hold elk in current facility to test for diseases (livestock will not be handled in the facility to minimize the possibility of disease transmission).

**Strategy 2.3**

Look for opportunities to upgrade facility to allow for safe handling of elk for disease testing purposes.

**Objective 3** - Achieve a food/visitor service concession at the visitor center by December 1, 2013.

**Strategy 3.1**

Establish a new culinary water system for the residences, visitor facilities and restrooms.

**Strategy 3.2**

Conduct a Request for Proposals search to explore food service concession options within one year of the culinary water system becoming operational.

**Strategy 3.3**

Maintain visitor center, kitchen and seating area facilities to accommodate visitors during the open season.



**Outreach Goal, Objectives and Strategies**

**Objective 1** - Increase visitation (especially families) to HRWMA by 25% during the life of the plan.

**Strategy 1.1**

Conduct sleigh rides each winter that emphasize awareness and enjoyment of wildlife recreation as a family activity.  
• If visitation exceeds 25,000 visitors during the sleigh ride season, additional hours and staffing will be needed to accommodate the increase.

**Strategy 1.2**

Work with stakeholder groups to create winter access at Camp Wapiti.

**Strategy 1.3**

Study opportunities to develop “Community Hardware Day” events on low visitation days and times.

**Strategy 2.1**

Identify the baseline condition of knowledge and understanding of key topics for HRWMA visitors’ by March 30, 2013 using the Communications Plan and the Outreach Project Template in Appendix D.

**Strategy 2.2**

Create an inventory of all signs by August 1, 2012 to: 1) Follow DWR branding standards in 2013 and 2) Include key messages identified in Appendix D, Communications plan and 3) Replace and create signs as needed.

**Strategy 2.3**

Conduct annual training of drivers to deliver messages that focus on key species and sensitive species management for use in sleigh ride interpretation.

**Strategy 2.4**

Provide four displays funded by partners that encourage learning about wildlife and what DWR and partners are doing for them.

**Strategy 2.5**

Provide materials and information that inspire visitors to explore and participate in other wildlife oriented recreation and document these using the Outreach Project Template.

**Strategy 2.6**

Provide five brochures by 2017 that encourage participation in hunting, fishing and wildlife watching.

**Strategy 2.7**

Utilize big screen monitor with loop of select you tube videos in the visitor center that feature key messages.

**Strategy 2.8**

Create Utah Watch Our Wildlife (WOW!) Display in the Visitor Center to emphasize exploring other watchable wildlife opportunities.

**Strategy 2.9**

Establish an annual evaluation program for all interpretive programs in 2013.

**Strategy 2.10**

Establish an interpretive committee to refine interpretive plans in 2013.

**Strategy 2.11**

Create and distribute a visitor use survey annually.

**Strategy 2.12**

Provide school field trips that emphasize exploring wildlife through traditional wildlife recreation activities.

**Strategy 2.13**

Conduct a final evaluation of visitor knowledge and understanding of key topics to determine effectiveness of the Communication Plan in 2017.

**Goal** – Provide opportunities for awareness, exploration and inspire stewardship of wildlife resources through education, interpretation, volunteer opportunities and partnerships.

**Objective 2** – Improve the effective exchange of information rating between HRWMA and its constituents by one step (poor to fair, fair to good, good to excellent) by 2017.



**Outreach Goal, Objectives and Strategies**

**Objective 3** - Increase volunteer opportunities to support new public awareness and stewardship programs during the life of the plan.

**Strategy 3.1**

Recruit volunteers for sign development and maintenance that feature responsible camping rules, Tread Lightly Camping principles and wildlife recreation opportunities.

---

**Strategy 3.2**

Organize at least 15 volunteer projects annually for campsite improvements identified in Appendix J (Camping and Access Management).

---

**Strategy 3.3**

Develop a camp host program similar to the Forest Service to monitor camping activities and compliance with established rules.

---

**Strategy 3.4**

Establish a volunteer and partnership appreciation event to be held annually in connection with the Elk Festival.

---



## 3.0 Background Information

### 3.1 Hardware Ranch Wildlife Management Area

The HRWMA was established during a “procurement period of time” in the mid 1900s when the federal Wildlife Restoration Act enabled states to obtain properties to protect wildlife habitats and provide access for sportsmen.

#### 3.1.1 Property location and description

The HRWMA is located in Cache County in northern Utah approximately 15 miles east of Hyrum. The HRWMA lies in parts of townships T10N and T11N; R2E, R3E, and R4E in the Blacksmith Fork River drainage, and encompasses approximately 14,278 acres. HRWMA is bordered by USDA Forest Service-managed lands, and private lands. Elevations in HRWMA range from 5,200 to 7,600 feet. The topography varies from rolling hills to steep canyons, with vegetation types including sagebrush, mountain brush, conifer, aspen and riparian corridors. Figure 1 shows the location and boundaries of HRWMA. An ortho-photo map of HRWMA and the surrounding terrain, showing the boundaries, roads and major features of HRWMA is located in Appendix A. Legal descriptions of the HRWMA lands owned by the Division are contained in a summary document referred to in Appendix E, Resources and Information.

#### 3.1.2 Title Encumbrances

The primary property title encumbrance at HRWMA is the set of conditions prescribed by the original grant from the U.S. Fish and Wildlife Service under the Wildlife Restoration Act. Should the purpose of management of HRWMA be substantially changed from the purposes stated in the original grant, the Division may be responsible to reimburse the federal government for the purchase according to Federal Aid guidelines.

There are no current minerals or timber leases on HRWMA. Standard rights of way and easements for roads are in place with UDOT and Cache County. There is also a right-of-way for a telecommunications line.

#### 3.1.3 Water rights

The Division of Wildlife Resources owns five primary water rights intended for domestic use, hay production, visitor center operations, residences and stock watering. Some diversions from Curtis Creek are approved for irrigation, stock watering and culinary use. Water rights include:

- 1.) 25-4263 is for water diverted from a spring for domestic.
- 2.) 25-4261, 4262, 4252 are for irrigation of 155 acres of hay production and for lawns
- 3.) 25-9761 is for domestic use at the Visitors Center.

### 3.2 Historic Uses and Acquisition of HRWMA

#### 3.2.1 Historic Uses of HRWMA Lands

The land parcels that now comprise HRWMA were once privately owned. Historical land uses include ranching, cultivated fields, open range grazing, timber harvest, hunting, fishing, and other recreational pursuits. Beginning with the first land purchases in 1945, uses on the HRWMA have consistently included:

- » Winter elk feeding to reduce crop depredation in Cache Valley;
- » Providing and improving habitat for big game and other wildlife species; and
- » Accommodating public access for hunting, fishing and other wildlife related recreational uses.

The Town of Hyrum located downstream near the mouth of Blacksmith Fork Canyon was settled in 1860 by 23 pioneer families. By 1870, farming was well established in the southern areas of Cache Valley, and in 1873 construction of a road from Hyrum up the canyon to ranching, mining, timber harvest and other ventures was initiated. The canyon had always been a main route accessing good hunting and fishing, and the road then connected at the top to the historic Ant Flat Trail to the south.

By 1900 unrestricted hunting by early settlers had eliminated most of the elk from their natural ranges in northern, central and south central Utah. Although a hunting season was established in 1898, the only remnant Utah elk herd remaining was in the Uinta Mountains. Interstate transplants brought 200 elk into Utah from Idaho, Montana and Wyoming between 1912 and 1925 and elk from Yellowstone National Park were released into Logan Canyon,



and near Brigham City. Sportsmen from Smithfield also moved 5 elk from Montana into Smithfield Canyon during the same period. Elk populations began to increase, and by 1929 small numbers of elk were being moved within Utah in an attempt to redistribute them into areas that would aid and balance the recovery.

By the 1940's, the elk population in the mountains above Cache Valley had increased dramatically and numbered in the hundreds. A few hundred wintered along the benches causing depredation by eating haystacks and crops and interfering with the increasing dairy and agricultural activities. Mule deer were also thriving and contributing to crop depredation.

In July 1940 the Utah Department of Fish and Game proposed to purchase lands on the Millville Face and the mouth of Blacksmith Fork Canyon in order to reduce crop depredation by big game in Cache Valley. *The Preliminary Project Statement* indicated:

"This area has, since colonization of the valley, been heavily grazed by livestock. After creation of the National Forests and control of grazing seasons thereon was initiated, these lands received added abuse as they were subjected to over-stocking during fall, winter, and spring months... Grazing by livestock should be prohibited if game animals are to be perpetuated in this locality... Although the State has done a great deal of supplemental feeding here for a number of years, the game herd has reached its peak and has definitely started down-hill with a heavy loss from poverty showing in the spring of 1939... With proper administration of these lands, game can again be increased without damaging results to the range... Some 2500 to 3000 deer and 400 to 500 elk are involved."

Subsequent acquisitions added lands to the Millville Face Winter Range. In 1945, the Utah Department of Fish and Game proposed to purchase ground further up Blacksmith Fork Canyon which was known as Hardware Ranch. The proposal stated:

"The Hardware Ranch, located on the Blacksmith Fork River, between North and South Cottonwood Canyons and Curtis Creek, has long been a troublesome area from the standpoint of damage complaints, principally from elk in haystacks in winter, and deer on cultivated and growing crops in spring... [The Ranch] produces from 150 to 300 tons of hay annually, dependent on the water supply... Since elk summered on and near the ranch, they soon became accustomed to feeding in the open stacks in winter and caused a great deal of loss to the owner... A few years ago, the State Department of Fish and Game constructed elk-tight stack yards to eliminate these losses. This resulted in a shift of practically the entire elk herd down the canyon and onto the face of the mountain between Hyrum and Providence where they came into competition with deer... and immediately adjacent to horticultural operations... Harvesting the crops [on Hardware Ranch] for use by game is an attempt to reestablish their wintering habits to this section and away from the foothill farm lands where numbers of game must be determined by the tolerance of the landowners."

The Division has conducted a winter elk feeding program at HRWMA since the winter of 1947, and it has grown into a major public winter attraction in northern Utah.

Research on elk at HRWMA started in the 1950's focusing on elk twinning, immobilization drugs, calving dates, winter weight loss, pregnancy rates, migration routes, disease monitoring, and elk herd age structure. In the past, this program has involved trapping elk to obtain information on weights, calf sex ratios, age structure, pregnancy rates, disease testing, and tagging. As part of monitoring the "spike-only" hunting area, pregnant cows were sometimes kept during the spring and summer to record data on calving dates, calf weights and sex ratios. Current elk management activities focus on disease testing and monitoring the condition of the elk.

### **3.2.2 Mechanism of purchase**

HRWMA was created on private lands purchased with a series of grants from the U.S. Fish and Wildlife Service between 1940 and 1964. The source of funding was a Federal Assistance Grant W-12-L under the Federal Aid in Wildlife Restoration Act of 1937 (Wildlife Restoration Act). The initial land acquisition for HRWMA began with the purchase of 2,336 acres in 1945. Additional purchases of 160 acres in 1946, 5198 acres in 1948, 2,275 acres in 1966, 2228 acres in 1976, 800 acres in 1985, 644 acres in 1989, and some donations of small parcels brought HRWMA to approximately 14,400 acres. A land exchange between the Division and Coldwater Ranch, finalized with a U.S. Fish and Wildlife Service Environmental Assessment in 2005, eliminated some in-holdings on HRWMA and resulted in the sale of approximately 122 acres to Coldwater Ranch. HRWMA is currently about 14,278 acres.



### **3.2.3 Livestock grazing**

Livestock grazing was historically conducted on the properties that became Hardware Ranch, and has been adapted as habitat conditions and wildlife needs have changed over time. Utah Administrative Rule R657-28 allows grazing on Division lands to improve wildlife habitat, and prescriptive grazing continues at HRWMA as one of many tools to improve wildlife habitat.

A Grazing Advisory Board periodically reviews habitat objectives and grazing practices and treatments. A description of the livestock grazing program at HRWMA is included at Appendix C.

### **3.2.4 Compatibility with Local Government Plans, Zoning and Land Use Ordinances**

HRWMA is located in the Forest Recreation Zone District (FR40) of Cache County. Public and Institutional Facilities are a conditional use in the FR40 Zone. However, Section 17.01.030 of the Cache County Code provides, "To the extent provided by law, properties owned and operated by the State of Utah or the federal government shall be exempt from the provisions of this title. [Title 17, Cache County Zoning Regulations]. DWR Strives to invoice and inform local regarding management activities.



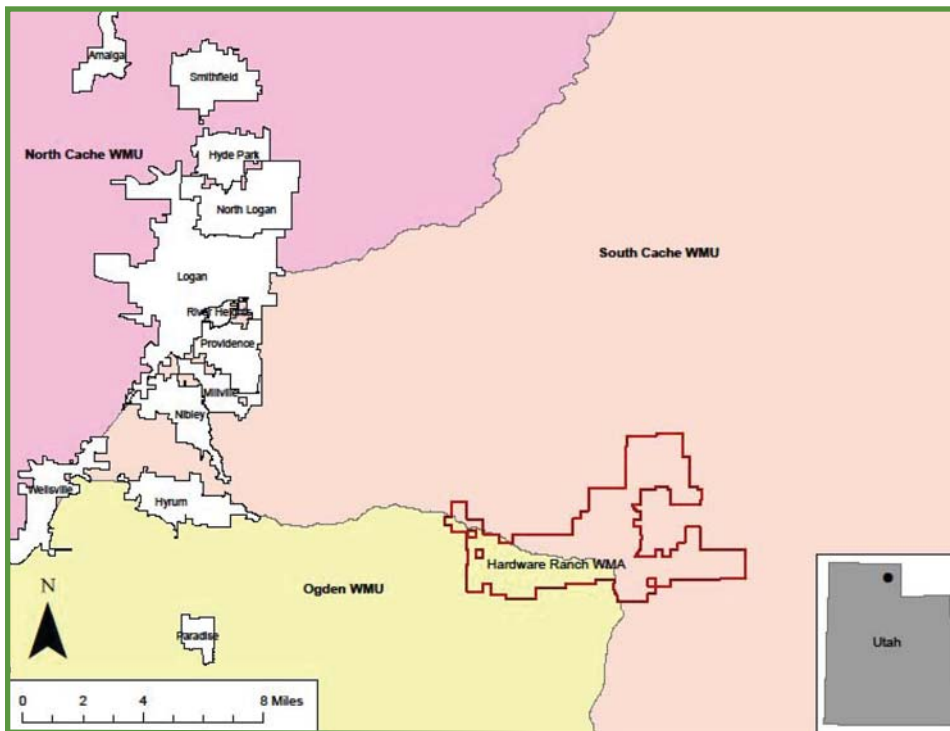
## 4.0 Current Management Conditions And Trends

Management activities at HRWMA focus on four primary areas: wildlife and habitat management; outreach; administrative programs; and property and facilities management.

### 4.1 Wildlife and Habitat Management

#### 4.1.1 Management Context

Management of the wildlife and resources of HRWMA takes place within the larger context of State-and region-wide goals and objectives. The Division has established five regions to coordinate wildlife management in Utah and HRWMA is in the Northern Region. Eight Wildlife Management Units (WMUs) are identified in the Northern Region to provide site-specific wildlife and habitat management, and HRWMA contributes to some of those WMU objectives. HRWMA is located in both the Cache and the Ogden WMUs, which together encompass hundreds of square miles in Northern Utah (see Figure 1, HRWMA Wildlife Management Units).



**Figure 1. HRWMA Wildlife Management Units**

Various state-wide wildlife management plans for species have an influence on management activities. These plans include: mule deer management plan, elk management plan, moose management plan, beaver management plan, predator management plan, watershed management plan and the wildlife action plan. There are also several species conservation agreements in which the UDWR and other signatories have agreed to reduce threats to species conservation. Examples include the Bonneville Cutthroat Trout Conservation Agreement, the Boreal Toad Conservation Plan and the Sage Grouse Conservation Agreement. See Appendix E, Resources and Information.

#### 4.1.2 Management Philosophy

Resource management at HRWMA is based on biological inventory, identification of sites that require protection, management of landscapes, and monitoring and assessment of the effects of management practices. Programs are implemented, evaluated and adjusted based on results. This process is often referred to as adaptive management, and key assumptions include:

- » That the long-term objective is to achieve the Division’s management goals
- » Recognizing that some changes will occur with or without management
- » That it is necessary to think long-term because most processes occur slowly and actions must be taken



now to influence change in the future.

- » Monitoring data needs to be periodically collected and analyzed, and management may be adjusted to reflect the new information.

Resource management at HRWMA follows landscape approach by considering all associated organisms within plant and animal communities. A number of management zones have been designated at HRWMA, and each is managed to meet specific objectives that are developed in cooperation with the habitat, wildlife and aquatics sections. Figure 2 shows the management zones within HRWMA.

Upland management strongly influences the in-stream habitat conditions, riparian succession and quality and wetland function. The streams, wetlands and riparian zones are indicators of ecosystem function, thus the management of land and water resources at HRWMA must be integrated. Habitat and biological evaluations are critical in ensuring management benefits both land and water resources.

### 4.1.3 Habitat Types

The south and west portion of HRWMA at Blacksmith Fork Canyon is defined by steep, rocky slopes. Ridgeline elevations range from 7,400 to 6,700 feet. The north facing slope of this canyon has classic moist soils dominated with conifer cover. This area has good big game summer range with vegetation that consists of Douglas fir (*Pseudotsuga menziesii*); mules ear, (*Wyethia mollis*); arrow leaf balsamroot (*Balsamorhiza sagittata*); western yarrow (*Achillea millefolium* L); silver lupine (*Lupinus albifrons Benth*) and aster (*Lupinus albifrons Benth*).

The rocky, drier south facing slope of Blacksmith Fork Canyon has coarse soils and associated brush communities that provide critical winter range for mule deer (*Odocoileus hemionus*). Ridgeline elevations range from 6,700 to 7,400 feet. Native vegetation ranges from mountain big sagebrush, (*Artemisia tridentata*), to Utah Juniper (*Juniperus osteosperma*). Grasses include Sandberg bluegrass, (*Poa secunda*); and bluebunch wheatgrass, (*Pseudoroegneria spicata*). The Blacksmith Fork River and riparian area define the canyon bottom with an average elevation of 5,550 feet.

At the east end of Blacksmith Fork Canyon, the slope decreases to form the meadow areas of HRWMA. The centrally-located hay meadow portion of the WMA is at 5,700 feet in elevation and is irrigated to produce hay to feed elk in the winter. The hay is predominantly timothy grass. Curtis Creek and Rock Creek form confluences with the Blacksmith Fork River in the meadow areas. Riparian vegetation is abundant in these river corridors. Wet meadows also exist with vegetative cover including sedges (*Carex sp*), willows (*Salix sp*) and spikerush (*Eleocharis R. Br*),

At the southeast end of the meadow area, slopes rise to the south to form the Hardware Plateau. This dryer transitional/winter range is at approximately 6,300 feet, and is defined by predominately brush and grass plant communities interspersed with junipers. Native shrubs include antelope bitterbrush, and big sagebrush, with a mixing of Utah Juniper. Grasses include sandberg bluegrass and bluebunch wheatgrass.

The southeast portion of HRWMA is defined by the Curtis Plateau. This section of the WMA has a high point of 7,050 feet in elevation, and is covered with a mosaic of aspen (*Populus tremuloides*), mountain brush, forb and grass communities. The eastern portion of this area contains a smaller area of summer range with aspen and forbs including mules ear, arrow leaf balsamroot, western yarrow, silver lupine, and aster. The remainder of this area of HRWMA is transitional range. North facing slopes have vegetative cover of Utah Juniper, curl leaf mountain mahogany (*Cercocarpus ledifolius* Nutt.), pinyon pine (*Pinus edulis*), big sagebrush, antelope bitterbrush, big tooth maple (*Acer grandidentatum*), Serviceberry (*Amelanchier* Medik.), snowberry (*Symphoricarpos* Gray), Oregon grape (*Berberis repens*), and rabbitbrush (*Chrysothamnus* Nutt). Curtis Creek flows at the base of the plateau and has classic cottonwood (*Populus deltoides*) and willow communities.

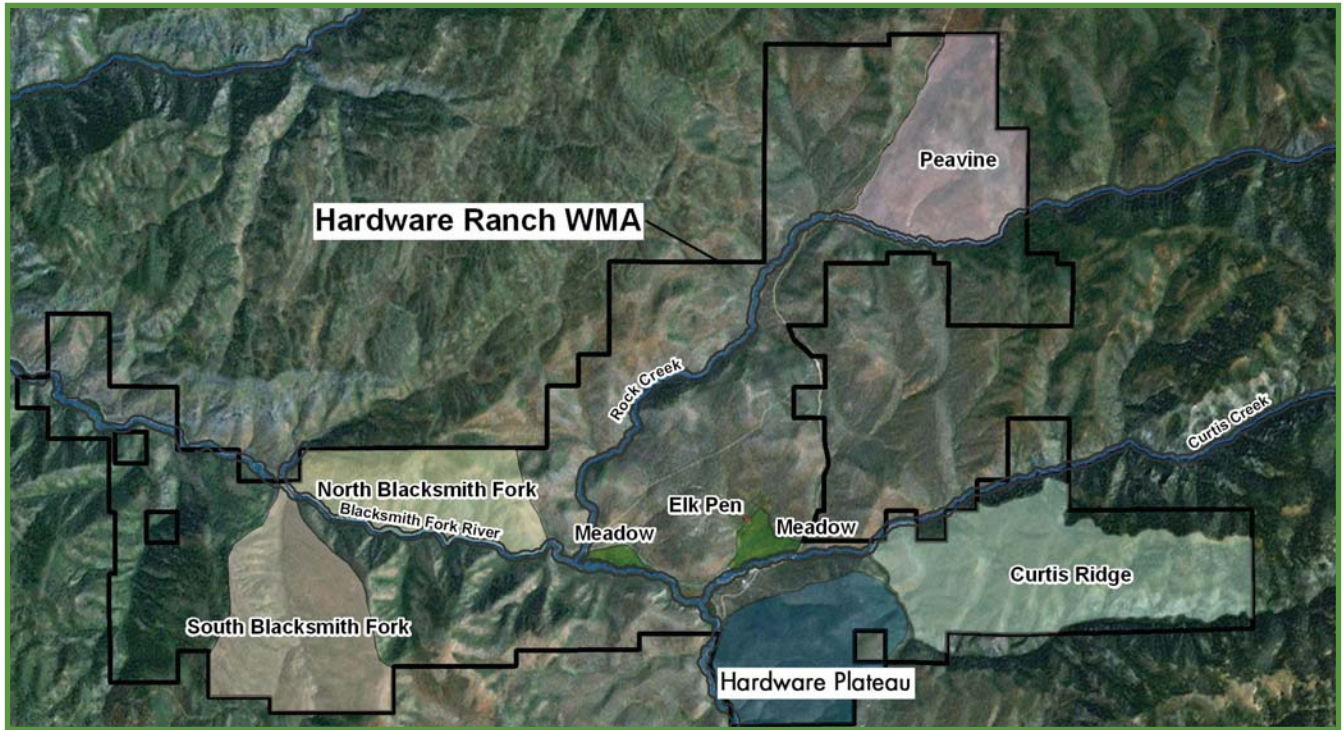
The Rock Creek Drainage is the northernmost portion of the WMA. The elevation of Rock Creek is 5,640 feet at its confluence with the Blacksmith Fork River. At the northeast end where it enters the WMA, Rock Creek is at 6,600 feet in elevation. This portion of the WMA is primarily winter and transitional range. There is a smaller piece of summer range referred to as Peavine. Vegetation in the Rock Creek Drainage of the WMA includes: Aspen, Utah Juniper, curl leaf mountain mahogany, Pinyon pine, willow, mountain big sagebrush, Antelope Bitterbrush, Big tooth Maple, Serviceberry, Snowberry, Oregon grape, rabbitbrush, mule's ear, arrow leaf, balsamroot, Western yarrow, silver lupine, and aster.



**4.1.4 Habitat Limitations**

Water availability and distribution, precipitation cycles and steep rocky terrain are the top natural limiting factors for HRWMA for terrestrial habitats. (See Precipitation and terrain maps, Appendix A)

In-stream habitat along the Blacksmith Fork River is generally suitable to support strong salmonid populations. The riparian area adjacent to the Blacksmith Fork River has been heavily disturbed by vehicle and recreational access. Rock and Curtis Creeks have areas of good habitat within riparian exclosures. Unprotected reaches have been subjected to extensive grazing and vehicular disturbance. Beaver populations have been allowed to expand and have begun to alter habitat along upper Rock Creek and Lower Curtis Creek.



**Figure 2. HRWMA Management Zones**

All areas require continuous monitoring and improvement. Biological evaluation is based on a WMU landscape scale, except for specific projects or programs, and this level of evaluation has been adequate for routine assessments and decisions.

**4.1.5 Riparian and Aquatic Resources**

The HRWMA contains approximately 15 miles of streams and rivers, including segments of Curtis Creek, Rock Creek and the Blacksmith Fork River. The Division has developed a system to classify rivers, streams, and other water bodies according to criteria based on aesthetics, natural character, productivity, biological function, and public accessibility. Class 1 is the highest level; Class 6 is the lowest quality classification.

Curtis Creek originates approximately 6 miles southeast of the headquarters compound on U.S. Forest Service lands, and approximately 3 miles of the stream runs through HRWMA. It is a Class 3 fishery containing rainbow trout (*Oncorhynchus mykiss*), brown trout (*Salmo trutta*), Bonneville cutthroat trout and sculpin (*Cottus bairdii*). Extensive habitat impacts and manipulations have occurred on Curtis Creek over time including habitat degradation due to livestock and wildlife grazing, the construction of weirs to reduce erosion in the 1990's and channel reconstruction in 2001. The objective of the 2001 restoration project was to improve water quality by reducing erosion and organic matter entering the stream.

Rock Creek originates on Forest Service land approximately 8 miles northeast of the headquarters compound and approximately 5 miles of the stream flows through the HRWMA. It is a class 3 fishery and contains brown, cutthroat, and brook trout; and sculpin.



The confluence with Blacksmith Fork River originates approximately 4 miles southeast of the headquarters compound and 6 miles of the river flows through HRWMA. The river is classified as a Class 1 fishery and is considered a Blue Ribbon Fishery from First Dam to Rock Creek. The Blacksmith Fork River on HRWMA supports a very dense population of brown trout (approximately 725 fish/km). Mountain whitefish (*Prosopium Williamsoni*) occur at much lower densities (~200 fish/km) with the upper extent of the mountain whitefish population occurring near Camp Wapiti (Burnett 2006). Rainbow trout only occur in 2<sup>nd</sup> Dam Reservoir. Bonneville cutthroat trout are rarely observed in the Blacksmith Fork River mainstream. Nongame species occurring in the Blacksmith fork include sculpin and mountain sucker.

Bonneville Cutthroat Trout (BCT) are identified as a priority species in the Utah Comprehensive Wildlife Conservation strategy. BCT are also covered under a rangewide and statewide Conservation Agreement and Strategy, in which over fishing, habitat degradation and fragmentation have been identified as key risks to the long term conservation of the subspecies. Management actions consistent with the Conservation Agreement and Strategy will benefit the fragmented BCT populations that occur on the HRWMA property. BCT population surveys take place every five to seven years to monitor population stability.

The aquatic resources on the HRWMA, such as springs, wetlands and streams also provide potential habitat for northern leopard frog. Potential breeding areas for amphibians also exist in these areas. Tiger salamanders live in some of the water catchments on the WMA.

#### 4.1.6 Wildlife Resources

##### **Big Game**

Elk are typically found on the HRWMA in fall and winter. Animals begin to arrive in October, and winter on feed rows on and around the upper meadow complex. These elk are the primary reason that the Division owns and maintains the HRWMA. Numbers of wintering elk range from about 450 to 650 individuals depending on winter severity.

Deer can be found on the ranch all year long, primarily in the higher elevation and mountain brush areas in summer, and on south facing brushy slopes in winter. Wintering areas on HRWMA are important to the overall management objectives for the Cache and Ogden management units. Numbers of wintering deer range from 500 to 1,000. Moose (*Alces alces*) are found on the HRWMA year, round and are usually located at higher elevations in river corridors in the summer and fall, and in stands of Curl-leaf mountain mahogany in the winter.

Groups of pronghorn (*Antilocapra americana*) are found within five miles of HWRMA, and they may become common in the area as well. The pronghorn population core generally occurs in Rich County, but small numbers of individuals will occasionally use habitat on the HRWMA. For example, HRWMA supported a small number of pronghorn over the summer in 2010.

##### **Upland Game**

Mountain cottontail rabbits (*Sylvilagus nuttalli*), sage grouse (*Centrocercus urophasianus*), chukar partridge (*Alectoris chukar*), mourning doves (*Zenaidura macroura*), wild turkey (*Meleagris gallopavo intermedia*), dusky grouse (*Dendragapus obscurus*) and ruffed grouse (*Bonasa umbellus*), and sandhill cranes (*Grus canadensis*) are found on the Ranch. There are two known sage grouse leks located on the HRWMA, both of which are monitored annually.

##### **Waterfowl**

Some waterfowl are found on the WMA seasonally. Common species observed are mallard (*Anas platyrhynchos*), common golden eye (*Bucephala clangula*), and green-winged teal (*Anas crecca*).

##### **Other Wildlife**

Cougar (*Felis concolor*), bear (*Ursus americanus*), bobcat (*Lynx rufus*), badger (*Taxidea taxus*), weasel (*Mustela nivalis*), skunk (*Mephitis mephitis*), and red fox (*Vulpes Vulpes*) are infrequently found on HRWMA. Beaver (*Castor Canadensis*) are commonly found on HRWMA and have expanded their range under access management changes, especially on upper Rock Creek.

##### **Non-Game Birds**

Numerous species of non-game birds are present on the WMA.

##### **Non-Game Mammals**

Numerous species of non-game mammals are found on the WMA.



**Amphibians and reptiles**

The mountain northwest of the headquarter complex is called “Rattlesnake” because of its historical and present rattlesnake (*Crotalus oreganus*) populations. The riparian areas of the ranch provide amphibian habitat. Growth of beaver dam complexes in recent years has created potential amphibian breeding areas.

**4.1.7 Vegetation**

Nine different vegetation, or land cover, types (USGS 2004) occur on HRWMA. These types include mixed conifer, aspen, mountain shrub, mountain riparian, grassland, lowland riparian, pinyon-juniper, shrub-steppe, and wet meadow. Common vegetation species are shown below:

**Common Vegetation Species on HRWMA**

Category	Species
Trees	Mountain Fir
	Aspen
	Cottonwood
	Juniper
	Curl Leaf Mountain Mahogany
	Pinion Pine
Shrubs	Mountain big sagebrush
	Bitterbrush
	Big tooth Maple
	Serviceberry
	Snowberry
	Oregon grape
	Rabbitbrush
Forbs	Mules ear
	Arrow leaf Balsamroot
	Western yarrow
	Silver lupine
	Aster
	Germanium
Grass	Bluebunch wheatgrass
	Slender wheatgrass
	Mountain brome
	Smooth brome
	Kentucky bluegrass
	Mutton bluegrass
	Prairie junegrass
	Sandberg bluegrass
Squirreltail	
	Timothy grass
Riparian	Willow
	Woods rose
	Spikerush

**4.1.8 Invasive weeds**

Cheatgrass (*Bromus tectorum*) is an invasive non-native species from Eurasia, which can dramatically increase fire frequencies and often competes with native grasses. It offers minimal forage value to wildlife for only a brief period in the spring. Invasive weeds other than cheatgrass that are present on HRWMA include Canada thistle (*Cirsium arvense*), Scotch thistle (*Onopordum acanthium*), leafy spurge (*Euphorbia esula*), spotted knapweed (*Centaurea maculos*), dyer’s woad (*Isatis tinctoria*), medusa head rye (*Taeniatherum caput-medusae*), and Nevski bulbous bluegrass (*Poa bulbosa*). Herbicide is sometimes applied to portions of HRWMA to suppress these weeds.



#### 4.1.9 Sensitive Species

The Division's current Wildlife Action Plan is entitled the Comprehensive Wildlife Conservation Strategy (CWCS), and has identified the species and habitat of greatest conservation need and provides guidance regarding long term conservation needs (UDWR 2005a). CWCS species present at HRWMA include boreal toad (*Bufo boreas*), osprey (*Pandion halieetus*), paiute sculpin (*Cottus beldingi*), northern leopard frog (*Rana pipiens*), sage grouse, rubber boa and Bonneville cutthroat trout (*Oncorhynchus clarkii utah*). Historical records indicate that northern flying squirrel (*Glaucomys sabrinus*) may have occurred on or near the HRWMA.

See Appendix G for a complete list, of sensitive species.

#### 4.1.10 Habitat Trends

Habitat trends on HRWMA include:

- 1.) Continuing disturbance and degradation of streams and wet areas due to high levels of unauthorized motor vehicle traffic and un-managed livestock grazing;
- 2.) Spreading and generally increasing invasive weed presence due to vehicle and livestock activities;
- 3.) Recovery of streams and wet areas protected from livestock and vehicles;
- 4.) Prescriptive grazing used to enhance brush communities and reduce wildfire fuels; and
- 5.) Prescriptive burns used to enhance big game habitat.
- 6.) Range trend data shows shrubs in the Pole Hollow are most likely out competing grasses (2006). The trend for key browse, mountain big, sagebrush, and bitterbrush is slightly down. The trend for key browse at Hardware Plateau is stable.

#### 4.1.11 Human use-related problems

Visitation to HRWMA is primarily recreational. Impacts include:

- » Riparian margins and aquatic areas adversely affected by livestock grazing;
- » Unauthorized OHV use in several areas disturbs wildlife and damages infrastructure;
- » Campfires in areas that may create fire hazards;
- » Incremental encroachment of public camping areas, leading to habitat degradation and infrastructure damage.

In addition, the proximity of SR 101 to the Blacksmith Fork River means that wildlife is often exposed to heavy motor vehicle traffic.

#### 4.1.12 Fire Management

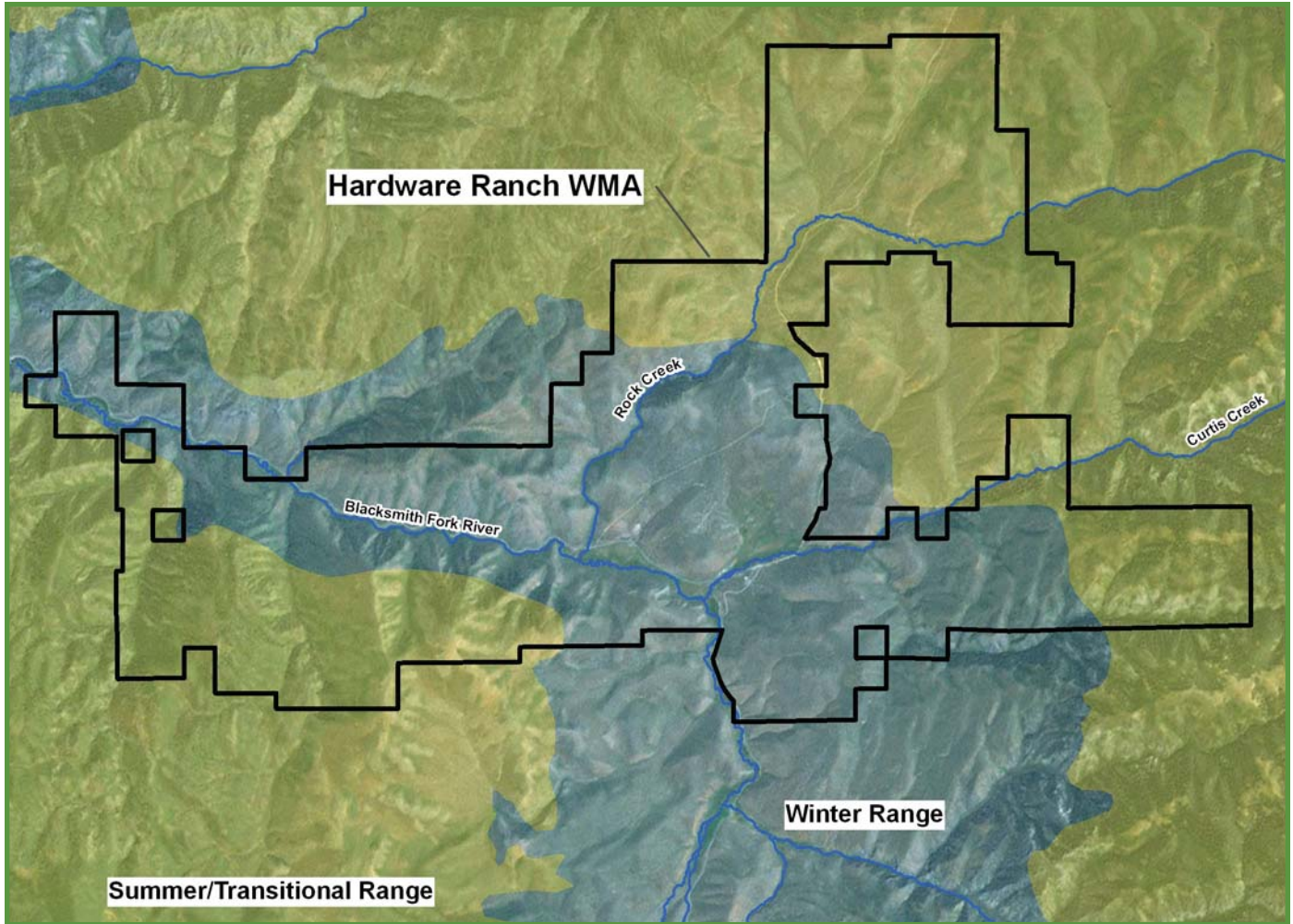
Fire is used, as conditions warrant, to improve habitat and remove decadent vegetation growth. Planned burns are coordinated through the Utah Division of Fire, Forestry and State Lands in order to follow strict weather, safety and control measures.

Wild fire prevention is accomplished by removing fuels, primarily grasses, through grazing practices. Dispersed camping in many areas, especially around roads, has resulted in numerous campfire rings, most of which do not follow fire ring construction and placement away from trees and vegetation to reduce wildfire risks. The Utah Division of Forestry, Fire and State Lands has established guidelines for fire ring construction and placement. Utah Administrative Rule 65A-8 210 places some responsibility on state agencies such as DWR to recognize the need for wildland fire protection and cost-sharing.

## 4.2 Outreach

### 4.2.1 Management Context

Similar to wildlife and habitat management, conservation outreach management at HRWMA takes place within the larger context of state and region-wide goals. The Division has identified three goals for the agency, including a constituency goal that relates directly to outreach; "to achieve broad-based support for Division programs and budgets by demonstrating the value of wildlife to all citizens of Utah." The Division mission and this goal provided the structure for the development of HRWMA outreach goals and objectives found in this plan. In the future, the needs and expectations of HRWMA visitors will be integrated. This allows managers to focus conservation outreach efforts and provide meaningful opportunities for the agency and the public.



**Figure 3. HRWMA Range Types**



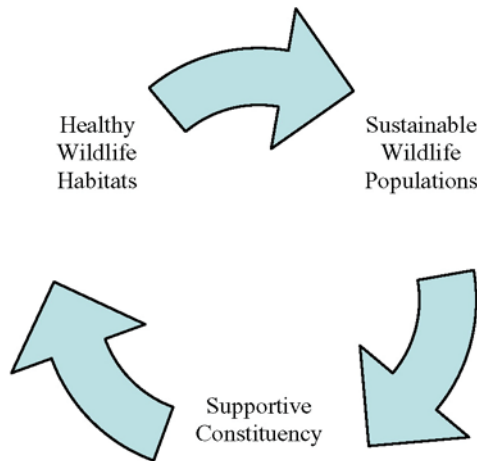
**Conservation Outreach is a PROCESS that LEADS participants:  
From awareness and knowledge---to exploration---to personal involvement and stewardship**

**4.2.2 Management Philosophy**

The HRWMA defines conservation outreach as a process that leads participants from awareness to exploration and ultimately to active personal involvement in wildlife conservation.

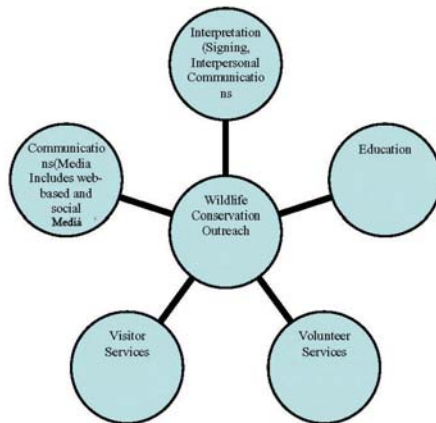
Conservation outreach provides opportunities for the public to participate in this process with the expectation that by doing so, many of the participants will become hunters, anglers and wildlife watchers and outdoor enthusiasts. Families, will in turn, spend more time outdoors increasing their personal involvement, consequently valuing wildlife and their habitats, becoming stewards of the resource, and supporting the Division.

Personal involvement in wildlife conservation can be quantified by purchasing hunting and fishing licenses, watching wildlife, attending Division events, making personal choices that benefit wildlife, by supporting Division management decisions and contributing financially to the agency.



**4.2.3 Conservation Outreach Program Conceptual Framework**

Conservation outreach can be divided into: education, interpretation, visitor services, volunteer management and communication, and social networking. Each component can function independently, but when integrated thematically, these parts work together to support a meaningful conservation outreach program. For Utah, the main theme is “wildlife is valuable and contributes to the quality of living in Utah”.



**4.2.4 Conservation Outreach Definitions**

Conservation Outreach is the “...process that leads participants from awareness to exploration and ultimately to active personal involvement in wildlife conservation.” (Phil Douglass, DNR Outreach Manager) Each component defined below is a tool to achieve the overall goals of conservation outreach.

**4.2.4.1 Education**

At HRWMA, education is split into three groups: school programs, group programs and events. School programs target teachers and students in the public school system, are smaller in size, and are tied to core curriculum standards for specific grades. Group programs refer to formal education programs that are requested by organized groups. These programs are tied to the themes of the WMA, and include groups such as scouts, senior citizens, church groups, etc. Events target multiple, large groups and ages combined in one setting, such as expos and fairs. Education programs require reservations, have a formal structure and a set of lesson plans, and are tied to the needs of the visitor as well as WMA themes. All education programs are structured to increase awareness and knowledge through exploration and hands-on activities.



#### **4.2.4.2 Interpretation**

Interpretation at HRWMA includes outreach opportunities for the general public. They are less structured than education and target a larger, non-captive and more diverse audience. Interpretation is "...a communication process designed to reveal meanings and relationships of our natural and cultural heritage through firsthand sensory experiences" (Tilden, 1957). It is "pleasurable, relevant, organized and thematic (Ham, 1992). The Rocky Mountain Region Center for Design expands these definitions for the purposes of an agency. "A service provided to enhance visitors' experiences and to provoke and motivate additional learning and discovery. It is also a management tool that can be used to increase visitors' appreciation for, and sensitivity to, the natural and cultural resources of the area". The emphasis at HRWMA is interactive, rather than passive interpretation.

#### **4.2.4.3 Communications**

Communication efforts at HRWMA focus on informing the general public about current and future management actions, soliciting input on management actions, and then responding to that input. HRWMA managers encourage two way communication and exchange of information between the public and the Division. The purpose is to provide multiple forums and opportunities to interact with management and the decision making process, or to inform of decisions/actions and the process that led to that decision. Communication at HRWMA also includes administrative site signage and all media efforts that support both management and the conservation outreach program. Mass media and social networking are evolving rapidly and will play an important role in the future. Communication serves the entire conservation outreach process.

#### **4.2.4.4 Visitor Services**

Visitor Services at HRWMA refer to those services offered to the public that improve the quality of their experience. Services include restrooms, water, picnic facilities, front desk reception, way finding, ticket sales, telephone reception and information desk. These services provide visitors a level of comfort and security in which to explore Utah's wildlife and the programs we offer. Visitor services provide the basic necessities for a visitor to take the first exploration step, getting them outdoors and experiencing wildlife and wild lands in a welcoming local setting.

#### **4.2.4.5 Volunteer Programs**

Volunteer programs at HRWMA can be split into two categories, dedicated hunter volunteers and general volunteers. Dedicated hunters are part of a Division wide program that focuses on habitat related volunteer projects, including education. In return for service, these hunters get hunting benefits. General volunteers refer to all other volunteers not participating in the dedicated hunters program. It is believed that volunteering creates stewardship - the ultimate step in the conservation outreach process. It provides participants an opportunity to do something for wildlife, and people often feel that they must build something to contribute to the future of wildlife. Volunteers are often used to build awareness, as well as infrastructure and habitat enhancements.

### **4.2.5 Comprehensive Outreach Plan Development**

The original scope of this Management Plan proposed inclusion of an interpretive plan. The planning group and outreach specialists recognized that interpretation is only one of several components of conservation outreach. Additionally, it was determined that an outreach plan integrating education, interpretation, volunteer and plan the outreach section will be limited and efforts focused on the development of goals and objectives. A proposed outline for a comprehensive Outreach Plan can be found in Appendix F.

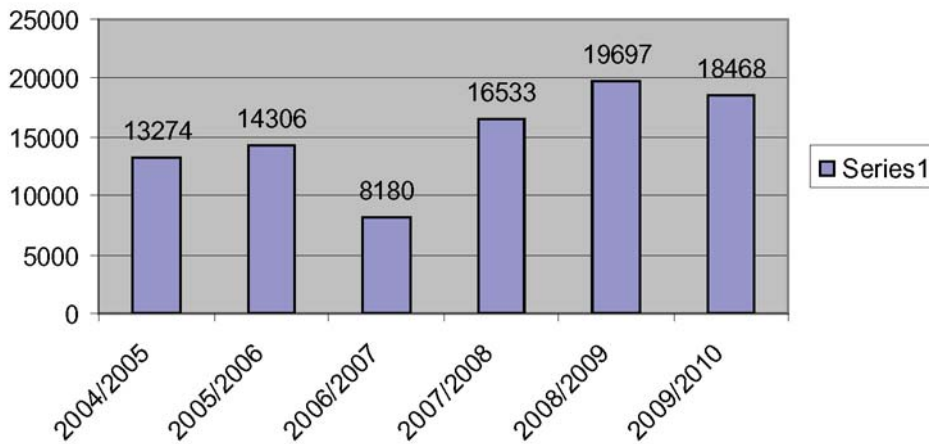
Winter outreach has been identified as one of the top three priorities at HRWMA and will continue during the development of the Outreach Plan. Each task will align with the outreach goals and objectives outlined in this document, and will also be integrated into future outreach planning efforts.

### **4.2.6 Background/History**

Outreach has been taking place at HRWMA since the first sleigh ride in 1957 with numbers of visitors nearing 50,000 each winter. Interviews with former personnel (Personal communication, Steve Kearl) indicated that free rides and multiple visits each year contributed to this large number. A focal point in the outreach programs at HRWMA came in 1987 when the visitor operations were eliminated as a cost savings measure by the Utah Legislature.



**Total Rides 2004-2010**



**Figure 4. Historic Public Sleigh Ride Participation**

Because of the strong tradition instilled by the sleigh rides and visitor center, the Division and the Legislature sought to reopen the visitor programs by contracting the sleigh rides to private providers. Two such contracts were offered from 1989 until 2003. These contracts included sleigh rides to see the elk, food service, snowmobile services, and lodging. A report to the Natural Resources Committee of the Utah State Legislature in 1996 identified conflicting missions between the contractors and the Division, and concluded

that concessionaires tend to be more compatible with “State park” management. It was also determined that changing the nature of HRWMA to be more like a State park would conflict with the original charter, and may not be permissible under the conditions of the original grant .

Food services provided by the contractor were popular with the public, but treated by the contractor as “filler” and were not considered to be profitable. Subsequent efforts to provide food services have been unsuccessful, but options to find a suitable level of food service for visitors are considered.

When the last contractor opted not to renew the contract in 2003, the Division purchased the sleighs and restaurant equipment, concessionaire services for the horse program and retained a concessionaire for food service for three seasons, 2003-2005. This effort was unsuccessful in generating profit for the concessionaire and was discontinued. The move away from concessionaires was also an effort to provide programs that are more consistent and compatible with wildlife management and conservation outreach operations.

In the 1990s, the HRWMA was moved from the Wildlife Section to the Outreach Section of the Division. This move placed greater importance on outreach as a management component of the WMA. In 2003, an assistant manager was hired with a job description tied more closely to outreach, and was charged to increase outreach programming; especially education programming correlated to state school science standards.

Days of operation for sleigh rides and the Visitor Center were reduced in 2007 to Friday, Saturday, Sunday, and Monday as part of the Governor’s four-day work initiative. These hours of operation are supported by data that shows these are the most highly visited days by the public (See Figures 5 & 6). The HRWMA actually functions 7 days a week during the winter in order to feed elk and horses, clear snow, and maintain equipment, facilities, and programs.

**4.2.7 Current Outreach Programs and Resources**

Since the first sleigh ride was offered at Hardware Ranch WMA, outreach efforts have expanded and evolved. Currently HRWMA offers a variety of outreach opportunities, from the traditional sleigh ride and school programs, to events. A complete list of outreach programs can be found in Appendix I.

The current strength of the outreach program at HRWMA is the personal messages delivered by the drivers during the sleigh rides, and the naturalist-led education field trips for schools. Media programs also serve the WMA by maintaining public interest in the wildlife traditions at HRWMA.

**4.2.8 Staffing**

Currently, the Assistant Manager position at Hardware Ranch WMA is approximately 90% dedicated to outreach management, and takes the lead on outreach development, implementation and reporting. Responsibilities include all components of the education and interpretive programs and assisting the Ranch Manager in volunteer



efforts. The remaining 10 % is dedicated to general WMA management.

The Ranch Manager position focuses on all WMA operations. Outreach responsibilities include; supervising the Assistant Manager, managing winter sleigh rides, developing and implementing media and administrative signage, and identifying volunteer opportunities.

Both managers share in efforts to recruit, train and supervise additional outreach staff and maintenance facilities and grounds.

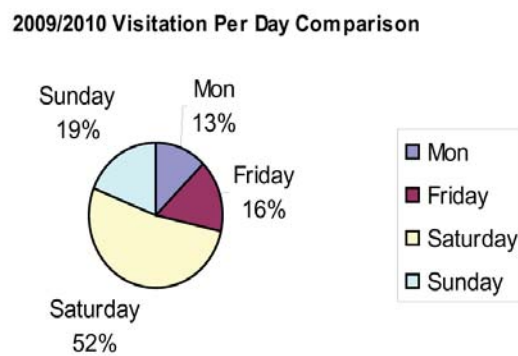
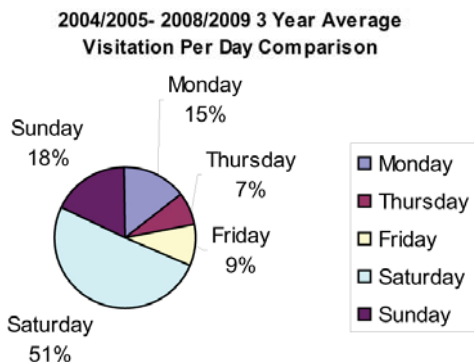
**4.2.9 Trends and Data**

There is little outreach data or research compiled and synthesized into usable formats before 2003. Available data is represented in Figure 3. This is due in part to limited staffing resources to conduct research and collect data generally associated with outreach programs. It is felt this data is sufficient to show current trends since reorganization of the HRWMA into the Outreach Section of the division.

Prior to the 2004 winter season, HRWMA was open during the winter season 7 days a week. Due to personnel shortages and low visitation during the week, HRWMA was closed Tuesdays and Wednesdays starting in 2004. Days of operation for sleigh rides and the Visitor Center were reduced again in 2009 to Friday, Saturday, Sunday and Monday as part of the Governor’s four-day work initiative. However, the WMA functions 7 days a week during the winter in order to feed elk and horses, clear snow, and maintain equipment, facilities and programs.

The charts in Figure 5 & 6 show visitation by day of the week. The numbers are derived from sleigh ride sales, with the assumption that most of our visitors purchase tickets and take the ride.

Outreach numbers, other than the winter sleigh rides, are recorded at each individual program and synthesized into yearly outreach reports. Some outreach programs have occurred yearly since 2003 while others are intermittent.



**Figures 5 & 6. HRWMA Visitation by day of the week.**

**4.3 Programs and Activities**

The three main priorities at HRWMA are:

- 1.) Winter feeding of elk/ disease testing
- 2.) Fostering healthy habitat and,
- 3.) Conducting an effective winter outreach program connected to the winter elk feeding program.
- 4.) Habitat protection/ access management

These priorities were developed in connection with the Division’s mission and goals, as well as the purposes stated in the grant from the U.S. Fish and Wildlife Service. The staff at HRWMA have direct and sole responsibility for carrying out these priorities. The activities and programs listed below may involve direct participation from HRWMA staff, but also may involve other agencies and management sections within the Division and are done in coordination with the HRWMA staff.



### **4.3.1 Elk Disease Testing**

Because of the impact brucellosis can have on the livestock industry and wildlife populations of the State of Utah, the Division traps a portion of the elk wintering at HRWMA and tests them for the disease. At present, no elk have ever tested positive for brucellosis at HRWMA. Strategies for addressing any brucellosis outbreak are in the Statewide Brucellosis Plan.

### **4.3.2 Winter Elk Feeding**

Portions of the WMA are heavily used by elk during fall and winter, especially the range immediately next to the feeding area on the upper meadow. From late September through December, approximately 200 to 300 elk use the area. From early December to mid-March, the numbers typically increase to a range of 450-600 elk, depending on the weather and snow conditions.

### **4.3.3 Access Management**

The HRWMA is open to the public year-round, and a variety of recreational activities have been allowed on the WMA. Although the Division does not sponsor nor actively manage non-wildlife recreational uses, thousands of people come to the HRWMA property to hunt, fish, camp, hike, view wildlife or enjoy other recreational activities each year. The relatively small size of the property and the diversity of public uses presents serious habitat management concerns. Some restrictions are required in order to meet wildlife and habitat objectives. Seasonal and temporary limits are established when necessary to avoid damage to habitat and wildlife, facilitate HRWMA programs, or to promote safety. Permanent changes are made based on the need to protect wildlife and habitat.

Access management is complicated by inadequate informational signage and maps at HRWMA. Improved signage is an infrastructure priority because of the volume of visitors, the diversity of uses, and the need to better manage potential user conflicts. Maps and materials developed in this planning effort may be used to address this problem.

#### **4.3.3.1 Camping Access**

The Division does not typically allocate agency resources for campsite improvements at wildlife management areas because camping activities are generally short duration, during hunting seasons. Although there currently are no designated sites at HRWMA, public camping is allowed in some areas for 14 days at a time. After 14 days, the camp/trailer must be removed from the WMA for at least 1 full day.

Camping is one of the activities reviewed for compatibility with the mission and goals of the WMA. It was identified as a traditional use, but increasing encroachment and the resulting impacts to habitat and wildlife have been repeatedly identified as a problem over the past 20 years. The majority of the camping on HRWMA is via trailer and truck-mounted campers, many of which are accompanied by auxiliary vehicles such as OHVs or motorcycles. Illegal and improper use of OHVs exacerbates the damage caused by the primary vehicles.

Camping generally begins in the early spring and continues through the late-fall hunting seasons. The most heavily used campsites are adjacent to waterways including riparian areas, and the location, intensity, and duration of camping activity has damaged important riparian habitats by vegetation removal and soil compaction. Water quality may be degraded by increased erosion and fine sediment inputs from unvegetated areas. Vehicular camping is particularly intense along the Blacksmith Fork River.

All campsites at HRWMA were identified and evaluated as part of this planning process. As a result, some areas will be closed to camping, others will be modified, and several campsites will be converted to day use areas, which precludes all camping and limits use to single day use. Camping access will be designated with signs, and notices will be published in key publications such as the Utah Hunting and Fishing Guides. Maps that show camping and access areas are found in Appendix J.

#### **4.3.3.2 OHV Access**

According to a 2008 study conducted by the Institute for Outdoor Recreation and Tourism:

“The use of Off-Highway Vehicles (OHVs) for recreation and other outdoor activities has exploded in popularity over the past several decades. The number of registered OHVs in Utah has more than tripled ... up from 51,686 in 1998, to 172,231 in 2006, a 233% increase. This increase has brought the issue of OHV use and management to the forefront for land management agencies in Utah.”

The HRWMA serves as one of 3 local trailheads on the federally-designated Shoshone trail, and is open year round



for motorized vehicle use.

The only authorized OHV routes on HRWMA are the Ant Flat Road, USFS Road 54; and the Pole Hollow Road (USFS Road 150), which is closed from September 15 thru May 15. Use of OHVs and snowmobiles in unauthorized areas is a major concern on the HRWMA because it damages wildlife, habitat and infrastructure. Utah law generally prohibits snowmobiles and other OHVs from operating on paved roadways; however it is common to find OHVs driving on SR 101 as campers move up and down Blacksmith Fork Canyon. The problem is particularly acute on holiday weekends and big game hunting season openings.

The Utah Division of Parks and Recreation maintains a trail snow-grooming machine at HRWMA and grooms part of over 180 miles of trail during the winter. They also maintain a 1-acre parking lot and two chemical toilets adjacent to the sleigh line and paved parking lots.

Parking at HRWMA is limited, and there is sometimes competition for parking spaces among snowmobilers and horse-drawn sleigh riding visitors during the peak of the winter season. Patrolling and enforcement is required to ensure that OHV and snowmobile users stay on designated trails, particularly in the winter when large herds of elk are present. Camping-associated OHV use is also contributing to habitat degradation and safety and traffic concerns.

#### **4.3.3.3 Hunting and Fishing Access**

Hunting, fishing and wildlife viewing activities are core recreational activities on HRWMA, and trace back to the original WMA charter. They are subject to the general Division hunting and fishing guidebooks and seasons. Elk, moose, and deer can be hunted on all but about 1,000 acres of HRWMA. The Blacksmith Fork River and Curtis and Rock Creeks are open year round to fishing. Based on the 2005 Statewide Angler Survey, approximately 25,000 angler days were spent fishing on the Blacksmith Fork River (Liliehalm et al. 2006). Upland game hunting includes forest grouse (both ruffed and dusky), chukar partridge and turkeys.

#### **4.3.4 Safety**

Safety is the foremost operational concern at HRWMA. The thousands of visitors, coupled with aging facilities and the necessity to operate with the public during extreme cold and snow, all impose significant safety considerations. The horse-drawn sleighs and a very active OHV trail also present public safety challenges.

#### **4.3.5 Volunteer Programs**

The volunteer effort at HRWMA is primarily based in the Division's dedicated hunter program, which offers participants enhanced hunting opportunities in exchange for work on wildlife conservation projects and other maintenance. The program has actively promoted trades people to provide volunteer services at HRWMA, and has resulted in significant facilities improvements with minimal direct funding. When volunteer projects require funding, the current expense budget is used.

#### **4.3.6 Academic Studies**

HRWMA has a history of cooperating with Utah State University (USU) to provide a venue for research and study on the facility.

#### **4.3.7 Adjacent property owners**

HRWMA is bordered by several private properties and USDA Forest Service (USFS) managed lands. See Appendix A for HRWMA maps. HRWMA is located in a historic crossroad where major routes meet at the top of Blacksmith Fork Canyon. Most of the southern boundary of HRWMA abuts private land, where seasonal livestock grazing is conducted. The northeast boundary of HRWMA (Pea Vines) is abutted by several smaller property owners, and is in mostly private recreational use with very limited public access. Most of the north and west boundary abut USFS lands, with the exception of a few sections of private property. There are three private in-holdings in HRWMA, each of which is approximately 40 acres and is used primarily for recreation. Portions of State Road 101 and, USFS road 054, and the Shoshone year-round OHV trail run through HRWMA.

Impacts to adjacent properties have included accidental trespass by livestock used by grazing permit holders operating on HRWMA, trespass by recreational users on HRWMA as they hunt, fish, camp, and ride near the property boundary; and damage to roads and trails by uncontrolled vehicular access during 'wet' months. Most impacts are minor and relationships with the neighbors of HRWMA are generally good.



## **4.4 Property and Facilities Management**

A number of basic operational activities are required to support HRWMA. They include managing property, operating facilities and heavy equipment, and maintaining a management staff. The capital improvements at HRWMA are summarized in Table 1, below.

### **4.4.1 Roads**

State Route 101 runs through the center of HRWMA to the headquarters area. The highway turns to gravel as it continues through HRWMA and becomes USFS road 054. Although the road is a State Route, it is maintained by Cache County. A spur road originates in the area of Rock Creek and runs east toward Baxter's Sawmill. These roads provide vehicle access through parts of HRWMA. The Ant Flat road runs south from the ranch headquarters to SR-39 and approximately 2 miles of it are within HRWMA. An access road has been cut off the Ant Flat road up the hill to the east, to allow snowmobiles and OHVs to continue on the Shoshone Trail without illegally riding on SR101. Pole Hollow Road, Forest Route (FR) 150, is a US Forest Service road that is also open to OHV traffic between mid-May and mid-September. An administrative access road to the elk trap and irrigation canal behind the barnyard is approximately 0.5 miles long (See Figure 5).

### **4.4.2 Fences**

There are over 33 miles of fence on HRWMA. About 20 miles are 4-wire boundary fence and the 13 miles of interior fence is 2 rail pole, barb wire, or 8-foot tall enclosure fence. Due to livestock grazing, big game traffic, and aging fences, repair and maintenance is a major ongoing responsibility. Many of the fences have been built and maintained with grazing assessment fees. Each season, tasks associated with grazing include repairing existing fence, removing abandoned fencing, and building new fences to protect sensitive resources and control livestock. The approximately 8 miles of pole fence averages between 10 and 20 years old and requires considerable maintenance. Much of the pole fence is degraded due to rotting posts and rails.

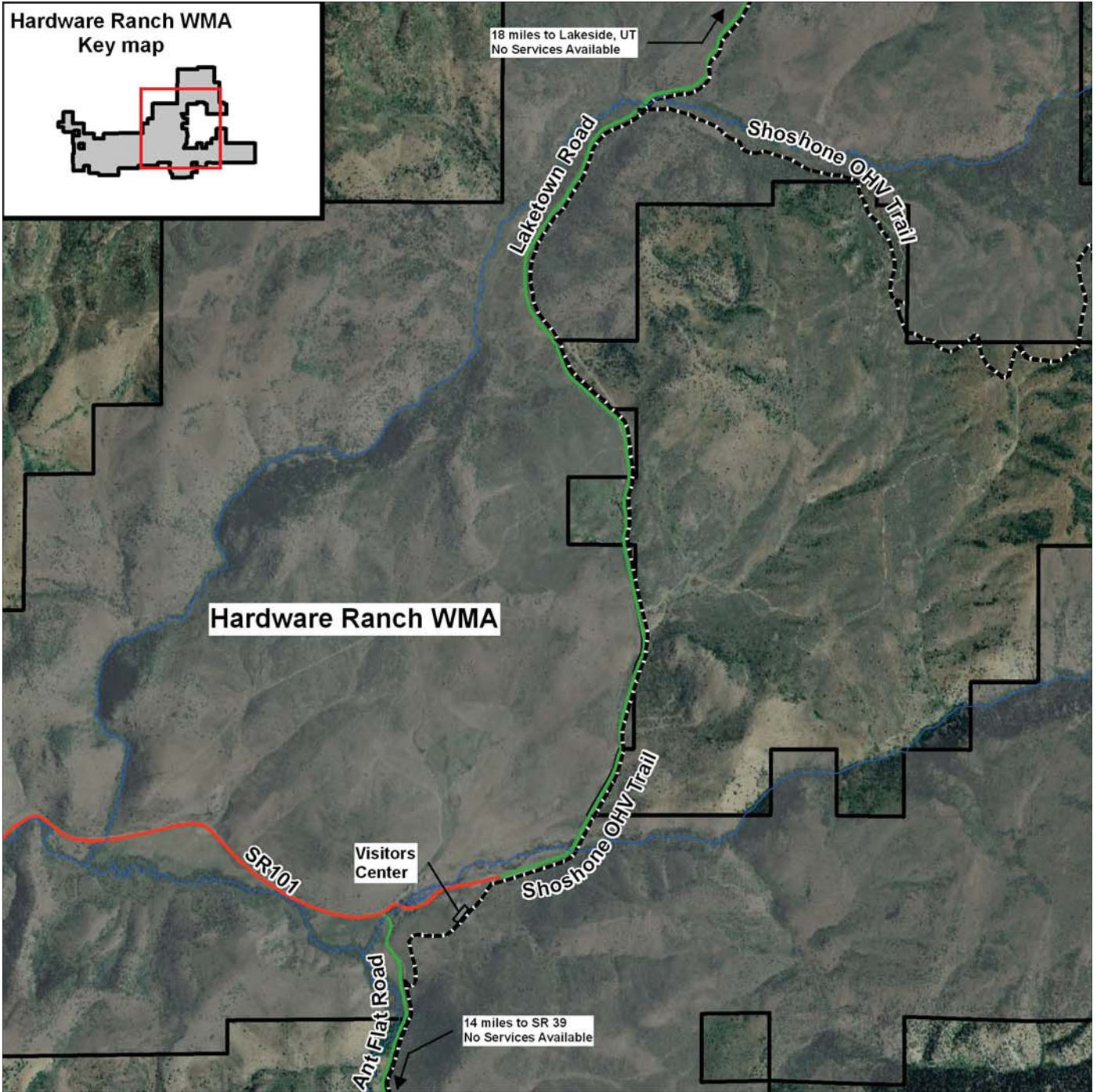
The 2 major big game enclosure fences are on lower Curtis Creek from the sleigh shack to the bunkhouse (0.5 mile), and the old elk pen pasture fence (1.5 miles). The elk pen pasture fence is in extremely poor condition, and requires frequent repair. Its major use is now summer pasture for the ranch draft horses. The enclosure fence along Curtis Creek is in excellent condition.

In spring of 2009, five linear miles of fence was built along Rock Creek, east of the Back Country Horsemen's corrals to protect the creek from livestock grazing and vehicle damage. This completed work prescribed in a 1998 planning document, and leaves only about 1 mile of Rock Creek on the WMA left to fence to protect from livestock damage.

### **4.4.3 Facilities and Equipment**

HRWMA encompasses approximately 14,278 acres of land, major facilities including 13 buildings, 150,000 square feet of paved parking lots and sidewalk, 33 miles of fence, 2 miles of waterlines, 8 miles of commercial electric transmission lines, and many miles of roads and trails. Some of the buildings, fences and electric lines are now 50 years old. The buildings are in generally good condition but are showing age and require increasing repair.

The visitor center, built in 1972 has recently undergone structural repair. Electric power for the visitor's center, residences, and ranch out-buildings is provided by Rocky Mountain Power to the edge of the HRWMA boundary. Maintenance of the distribution system from that point is the responsibility of HRWMA, and includes over 8 miles of transmission lines. Telephone and internet services to HRWMA come via radio transmitter and are distributed over land lines and wireless systems. The communications system on the WMA has been significantly improved since 2005 since the old microwave relay was replaced with a radio relay and improved digital systems.



Source: Utah State Geographic Information Database, ESRI, 2009.

**Key**

-  Hardware Ranch WMA
-  Highway 101
-  Shoshone OHV Trail
-  Dirt Roads



**Figure 7. HRWMA Roads and OHV Trails**



Capital Improvements and infrastructure on the WMA are summarized in the table below.

<b>Table 1. Capital Improvements at HRWMA.</b>			
<b>Item</b>	<b>As of 2010</b>	<b>Item</b>	<b>As of 2010</b>
Fence	33 miles	Horse Ties	3
Cattle guards	6	Regularity Signs	5
Residences	3	Interpretive Signs	3
Gate Openings	43	Corrals	2
Bunkhouse	1	Water tanks	2
Water Control Structures	15	Irrigation Line	1
Roads	18 miles		
Sidewalk	1,200 feet		
Entrance Signs	5		
Canal	2 miles		
Visitor's Center	1		
Barns	2		
Sheds	2		
Shops	1		
Pump station	1		
Electrical transmission lines	8 miles		
Telecommunications	Radio relay to analog to digital systems		
Classroom building	1		
Hay pastures	120 acres		
Animal Handling Facilities	Elk pens/ corrals		
Culinary water line	2 miles		

The buildings on the WMA are subject to the Wildlife Inventory Management system (WIMs) and are detailed in the table below.

<b>WMA Facilities</b>				
<b>Building</b>	<b>Description</b>	<b>Condition</b>	<b>Current utilization</b>	<b>Comments</b>
Care taker residence	2,600 sf brick rambler	Excellent	Residence/office	Supports management sleigh rides/ habitat/ outreach
Seasonal volunteer residence	1,850 sf	Very good	Residence	Supports sleigh rides/outreach programs
Cottage	960 sf	Good	Residence for seasonal	Supports outreach programs
Seasonal volunteer bunkhouse	Unit 1- 350 sf, 1 bdrm	Fair	Residence	
	Unit 2 -700 sf ,2 bdrm	Fair	Drivers overnight in winter Seasonal day use DWR personnel	Supports sleigh rides
Visitor center	5,600 sf	Good	Winter outreach & other education programs	Supports sleigh rides/outreach programs
Auxiliary building	1,600 sf	Fair -	Office/ Classroom	Supports outreach programs
Tack shed	800 sf	Excellent	Harness	Supports sleigh rides
Tractor shed	800 sf	Excellent	Tractor	Supports hay & elk feeding
Breezeway	1,800 sf	Excellent	Work area/ storage	Supports maintenance
Shop	850 sf	Good	Tools/welding	Supports maintenance
Barn	5,000 sf	Good	Storage	Supports maintenance program
Storage	2,500 sf	Good	Hay	Supports hay & elk feeding
Sleigh shack	240 sf	Fair	Drivers day ops (winter)	Supports sleigh rides
Hay shed	5,400	Excellent	Hay	Supports hay & elk feeding



**4.4.4 Hay Meadows**

There are 2 meadow complexes at HRWMA, together comprising approximately 120 acres. About 110 acres are harvested as the primary feed for the winter elk feeding program. The upper meadow is 73 acres, the middle meadow is 13.5 acres and the lower meadow is 33.5 acres. A smaller parcel of 6.5 acres exists between the middle meadow and Ant Flat Road. An additional 7.5 acre parcel exists on the west side of the upper meadow that is unharvestable due to construction of dikes to divert runoff from the barn yards. Hay production requires fertilizing in the spring as well as paying to have the hay harvested. In the past, the meadow hay had been adequate to sustain the wintering elk. Since 2005 it has been necessary to purchase additional hay for the elk, as well as to support the feeding of draft horses required for the winter outreach program. Hay production is a primary objective and discussions to improve production are continuing.

Hay Production on HRWMA 2005-2010			
Year	Tonnage	Fertilization	Irrigation
2000	414.75	100 units ammonium Nitrate & 30 units ammonium phosphate & 25 units Ammonium sulfate	
2001	334.80	Same	May-June
2002	318	Same	May-June
2003	273.5	Same	May-June
2004	280.7	Same	May-June
2005	143.91		May-June
2006	89.63	45 units urea	May-June
2007	120.38	60 units urea per acre	May-June
2008	239.02	Same	May-June
2009	193.29	Same	May-June
2010	209	70 units urea & 30 units pot ash per acre	May-June

Notes:

Harvest is on approximately 110 acres of meadow  
 Fertilizer is applied the 2<sup>nd</sup> week in May  
 Irrigation begins as soon as the meadow is worked in the spring and lasts about 60 days.  
 Irrigation ends 6 days prior to harvest to allow the ground to dry for equipment  
 Harvest date is the second week in July  
 Water following harvest is intermittent based on availability.

The irrigation canal was cleaned and improved in 2008 and new headgates were added. The water distribution system below the canal is still being improved as 'washed out' ditches are being filled and replaced.  
 In 2007 about 15 acres of the upper meadow complex damaged by winter sleigh rides was inter-seeded with forbs and legumes and restored production to that area. A rotation system to move sleigh rides to other areas of the meadow has helped limit damage to the meadow. The sleigh rides now run from mid-December through 28 February.

**4.4.5 Water Developments**

Water developments and improvements on HRWMA include springs and ponds, and a recent irrigation improvement project that repaired or replaced approximately 1 mile of canal along the 2 large meadow complexes. Annual maintenance of irrigation ditches and diversions is an ongoing task to ensure maximum hay production. The irrigation system includes 2 diversion points on Curtis Creek, which are tied to 3 original 'priority' water rights on the Blacksmith Fork River dating from May 1870. Old distribution system ditches are being filled and new ditches are being cut to improve irrigation on the meadow. The feasibility of using herbicide to kill grass in the canal is being investigated. There are 15 ponds on HRWMA, including 5 installed to divert spring runoff away from the barnyard. Ten of the ponds also enhance both wildlife watering opportunities and water availability for the WMA livestock grazing program. Since 2006, five springs have been developed to improve dispersed water locations on Hardware Plateau, Curtis Ridge, and Pole Hollow. There are no water wells in use on HRWMA.

**4.4.6 Wood products**

No wood products are harvested on HRWMA

**4.4.7 Cultural Resources**

All development projects on HRWMA are required to comply with the requirements of the State Historic Preservation Officer (SHPO). Fencing and other major infrastructure projects on HRWMA have adhered to Division protocols and policies including site-surveys and document and literature reviews. Some surveys have shown historic use by Native Americans in the area; however no specific sites have been identified on HRWMA.



## **4.5 Current Conditions and Trends Summary**

### **4.5.1 Wildlife and Habitat Management**

Winter feeding of elk and the original conditions of Wildlife Restoration Act grant dollars continue to be the primary function of HRWMA. Prescriptive grazing, dispersed water development, controlled burning, access management, infrastructure development and maintenance are among the primary practices used to improve habitat and benefit wildlife.

### **4.5.2 Outreach**

Outreach efforts continue to focus on the winter sleigh rides and getting families outdoors to enjoy wildlife. The date of the annual Elk Festival has been moved from October to December to provide a better elk viewing experience.

### **4.5.3 Recreation**

Hunting, fishing, and camping have always been popular activities at HRWMA, and fit within the intended purposes of the initial federal aid grant. Proximity to Cache Valley and public demand for recreation has resulted in high levels of recreational use and new activities. The nationally designated Shoshone Trail on the WMA is very active year round, and is one of the primary avenues to recreational access of public lands in Cache and Rich Counties. Heavy recreational use at HRWMA is creating adverse impacts to habitat resources and wildlife in several areas.



## 5.0 Budgets And Funding

There are two Operations and Maintenance (O&M) budgets for the HRWMA. The primary budget, *Current Expense* is allocated annually and has remained relatively consistent over the last 7 years. O&M funding from the Division Habitat Council is also allocated annually and includes funding about .50 FTE for a wildlife technician position. The tech time is used to work and irrigate the hay meadows, and to maintain habitat infrastructure.

Current O&M requirements already exceed current O&M budgets, and implementation of this Plan may require realigning and prioritizing current activities and programs. Beyond that, any addition to programs or management activities will require its own funding. Funding within the Division is allocated by work plans for sections and employees. Thus, work plans establish the scope of work for sections, programs, WMAs and other activities. Increasing operations or projects at the HRWMA must include specific allocation of effort in the work plans. Additional equipment/service needs are financed by requesting enhancement funding each year. This source has provided significant equipment for safety and operational needs on HRWMA over the last several years.

As of 2011, HRWMA is staffed by two full-time employees and 1.56 FTE of seasonal (temporary) employees, including information technicians, to assist in operating the Visitor's Center and in driving horse-drawn sleighs during the 3-month winter program.

The HRWMA operations are funded from 2 primary internal accounts. The first is General Fund account which includes all current expense, personnel, and facility operation and maintenance costs. Utilities, vehicles and other routine operating expenses can account for about 85% of the expenditures in current expense. Emergencies and other variables can influence these expenditures by as much as 35% of the total budget. Safety needs are funded first, other operational considerations follow. Current expense also funds ranch work, maintenance of the draft horses, visitor amenities, and some other components of the outreach program.

The second source of Division budget support is UDWR Habitat Council funds. The Habitat Council has funded another 0.50 FTE of a seasonal wildlife technician and some recurrent maintenance that is classified as wildlife management area operations and maintenance expenses. Other Habitat Council funding is project-specific: and has provided augmentation to do riparian fencing, water development, re-vegetation, and other habitat projects on the WMA.

Funding from outside the Division budget has been intermittent and generally tied to project proposals submitted to wildlife conservation organizations. Within the last several years the Mule Deer Foundation, the Rocky Mountain Elk Foundation, the National Wild Turkey Federation, and Trout Unlimited have funded either habitat enhancement or outreach projects at HRWMA.

Three primary factors most influencing current budgets are:

- 1.) Increased hay production costs due to a more expensive fertilization regimen required to maximize production;
- 2.) Increased infrastructure to support habitat and outreach projects and programs, particularly fencing, roads and visitor amenities;
- 3.) Change of personnel (FTE) status for the winter program due to increased safety precautions and loss of Parks & Recreation winter seasonal info tech position.

An internal audit conducted by the department of natural resources in 2011-12 recommended that the budget resources for HRWMA be divided into three account categories to meet the goals and objectives identified in this plan.



## 6.0 Plan Implementation

---

This Management Plan identifies and integrates the HRWMA mission and goals and objectives for the next five years. Implementation is based on available resources that are allocated at least one year in advance; therefore the proposed implementation of this plan is phased. Strategies are listed to track completion for each goal.