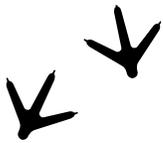
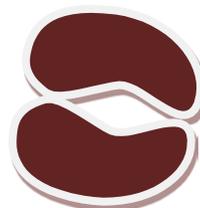
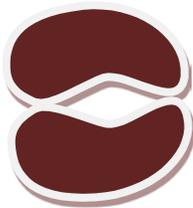


WEST BOX ELDER COUNTY COORDINATED RESOURCE MANAGEMENT PLAN



JANUARY 15, 2013





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1.0 EXECUTIVE SUMMARY

The Coordinated Resource Management Committee (CRMC) represents stakeholders of both private and public lands in West Box Elder County, Utah. Its aim is the responsible use and conservation of natural resources. After surveying prior planning documents and the views of residents and considering long-term needs and the practicality of various strategies, the CRMC is ready to move ahead with the following projects during the next two years:

I. Programmatic Pinyon/Juniper Control

Tasks:

1. Continue On-going Public and Private Pinyon/Juniper Treatments. To maintain momentum, continue on-going treatment efforts, using mechanical means as well as fire to remove encroaching pinyon/juniper and reseeding areas with shrubs, grasses, and forbs, and ensure maintenance of areas treated in the past. Recognize and publicize successful treatments in maps, on websites, and in end-of-season press releases.

2. Pinyon/Juniper Encroachment Assessment. Using existing or new funding programs (e.g., NRCS Sage-grouse Initiative or DWR's Watershed Restoration Initiative), contract for an analysis of the current extent of pinyon/juniper cover throughout the planning area, past treatment areas, and areas where such cover is not desired. Defining encroachment is the first step toward development of successful strategies to address it.

3. Planning for Coordinated and Comprehensive Pinyon/Juniper Treatments. Form a CRMC-led subcommittee to develop an area-wide, multi-year pinyon/juniper management plan incorporating the full range of management objectives (e.g., soil and water conservation, habitat improvement – including creation and protection of sage-grouse habitat – increased forage production, fire management, etc.) as well as agency-specific pinyon/juniper management direction. Contractor support, using the funding sources noted above, may be the most effective way to produce this plan.

4. Monitor Pinyon/Juniper Treatment. Monitor implementation of the area-wide plan and develop specific new pinyon/juniper treatments based on progress, lessons learned, changing management priorities, and funding availability.

II. Reservoir Suitability Analysis

Tasks:

1. Review DWaR Report on West Box Elder County (WBE) Reservoir Sites. Assemble CRMC subcommittee to review report from DWaR on potential reservoir sites in WBE as soon as available.

2. Reservoir Feasibility Study. Complete reservoir feasibility study and submit to Board of Water Resources for approval.

3. Reservoir Design. Complete reservoir design based on results of approved reservoir feasibility study.

4. Funding for Canal Leakage Study. Seek funding for canal leakage study once planning for new storage sites for saved water is underway.

III. Winter Rangeland Improvement

Tasks:

1. Winter Forage Assessment. Assemble CRMC subcommittee to investigate cost-effective methods to assess forage conditions and impediments to improving forage production (e.g., water availability, noxious weed infestations, sub-optimal vegetation, past grazing practices) on an area-wide basis on both private and public winter grazing lands. Contractor support, using the funding sources noted above, may be the most effective way to produce this assessment.
2. Implement Forage Improvements. Based on the results of the forage assessment, seek funding for recommended improvements. Start with projects on private land to avoid extended timeframes associated with NEPA review and other agency procedures. Some improvements may be initiated before the end of 2014; others, particularly those on federal land, will likely be implemented in the next CRMP stage.
3. Grazing Invasive Plants. Where appropriate, initiate and document success of early season grazing of cheatgrass or other annual non-native invasive plants on private lands.
4. Increase Management Flexibility on Public Lands. Work with BLM, USFS, and individual grazing permittees to implement changes in permit terms and conditions necessary to allow efficient use and maintenance of new winter forage resources.
5. Permittee Monitoring Grazing Lands. To provide data required for more flexible management, solicit agencies' help to train willing and committed livestock producers in monitoring range conditions on private and public lands to develop experience with permittee-assisted monitoring.

IV. Coordinated Weed Management

Tasks:

1. Weed Data Coordination with County Weed Department. Appoint a CRMC subcommittee to coordinate information sharing among private and public land managers and the County Weed Department on new and existing weed infestations, recent treatments, and availability of funding and other resources. Rely on County Weed Department for computer mapping expertise and resources.
2. Cooperative Weed Treatment. The CRMC weed subcommittee helps coordinate the weed management efforts in the planning area. County Weed Department makes weed control chemicals and equipment available to local private land managers, and the CRMC weed subcommittee provides local storage of and access to chemicals. The CRMC hosts weed control days at appropriate times throughout the growing season to publicize weed control opportunities and focus control efforts.
3. Weed Management Areas. Establish new Cooperative Weed Management Area programs and new Weed Prevention Areas in WBE to focus control efforts and attract funding.

V. Other "Special-Status Species" Wildlife Protections

Tasks:

1. Public Relations Campaign for Wildlife. Establish a CRMC wildlife subcommittee and use local communication tools (meetings, website, newsletter, etc.) to dispel myths about ramifications of allowing agency monitoring of wildlife, especially sensitive species. Urge local residents to cooperate with research and monitoring programs and personnel.
2. Promote Aquatic Habitat Protection. Preserve aquatic habitats identified by agencies as used or occupied by special status species in their current state by avoiding any action that would remove water from these areas.
3. Aquatic Habitat Projects. Seek funding for private land owners to implement habitat protection and expansion projects through public sector sources.

VI. Community and Economic Development through Increased Visitation

Tasks:

1. Economic Development Coordinator and Website. Designate Economic Development Coordinator (EDC) to work with state and county resources and agricultural agency personnel to set up website and newsletter. EDC solicits content, keeps website up to date, and uses website and newsletter to promote job opportunities (short and long term), real estate offerings, community events (oriented to residents), special recreation events (oriented to nonresidents), hunting and similar opportunities, agriculture programs and innovations, and other matters of interest. Information provided through these mediums is targeted to both outside interests and residents of WBE.

2. Tourism Signage. EDC defines and pursues opportunities for new signage along major access highways to raise awareness of WBE communities and promote WBE events and opportunities.

3. Gas Pump Card Reader. EDC explores subsidies for gasoline pump card readers and changes in pricing policy for local stores. Efforts focus on both Park Valley and Grouse Creek vicinities.

VII. Planning Involvement

Tasks:

1. WBE Planning Representation. Through local elected officials and agency contacts (federal and state), enroll in any lists (email lists, distribution lists, etc.) used to distribute notifications about subjects of interest to WBE businesses or residents. These would include grant programs, planning projects, environmental notification lists, etc. CRMC appoints various individuals, depending on interest and time availability, to represent WBE in relevant planning efforts and report results on a regular basis.

Section 2 of this plan describes the Coordinated Resource Management Plan (CRMP) process in more detail. Section 3 describes the planning area. Section 4 describes the process used to determine the desired future conditions. Section 5 describes the proposed implementation of this plan in terms of the projects and tasks above. Details of the selected tasks as well as tasks that must be deferred due to limited resources or premature timing, and tasks that were discarded for various reasons are detailed in the Appendices.

A Coordinated Resource Management Plan is intended to be flexible. The scope of this plan covers the first two years. As opportunities or new constraints emerge, the CRMC will adapt to maximize benefits to the people of the region.

2.0 INTRODUCTION

2.1 WHAT IS A CRMP?

A Coordinated Resource Management Committee (CRMC) was established in West Box Elder County, Utah, (WBE) in 2011 by the West Box Elder Conservation District (CD) to develop and implement a Coordinated Resource Management Plan (CRMP) modeled after the *CRMP Handbook* (CACRMP date unavailable).

A CRMP organizes and provides the tools to *coordinate* the different resource management activities of agencies and landowners in a defined area, such as a county or watershed. The foundation of the CRMP process is that:

“[C]oordinating resource management strategies [of agencies and landowners] results in improved resource management, minimizes conflicts, and capitalizes on opportunities among land users, landowners, governmental agencies and interest groups...The ultimate goal of CRMP is to protect, improve and maintain natural resources.” (CACRMP)

With respect to natural resources, especially those on public lands, coordinating the several entities that share responsibilities for management can save time and money, prevent frustration, and build the trust necessary for long-term progress. For example, although a parcel may be owned by the federal government and managed by the Bureau of Land Management (BLM), it may be grazed by a privately-owned ranching operation, benefit from weed control programs implemented by the county, and receive fire suppression from federal, state, and local private parties. Coordinating these intersecting interests, each with different official mandates, different sources and timing of funding, and different personnel, is the key to achieving the most effective overall management of a given resource. All entities involved may not have to cooperate directly on the same project at the same time, but they can coordinate their efforts to maximize progress toward the resource objectives.

CRMP “operates on the local level”...“those who live, work and recreate on a given piece of land are the people most interested in and capable of developing and implementing plans for its use.” (CACRMP) Where public lands are involved, there are also other stakeholders—those who want public lands stewarded to achieve the purposes set forth as the plans and missions of the agencies that have responsibility for these lands. The CRMP, then, is a plan by those who are invested in the management of natural resources of their planning area and who have the initiative to be involved in the process.

An important aspect of a CRMP is its iterative nature. It is not necessary that it be either comprehensive or address all issues at once because it should be updated on a regular and frequent basis—perhaps every year or two. Those guiding the CRMP should reach out to the broader community and should seek consensus, but implementation need not wait for consensus on all issues. Implementation can begin as soon as there is general agreement on just a few strategies. Because there usually are not enough resources to implement every good idea, focusing on just a few of the most important implementation strategies generally brings earlier success. In short, an iterative process that builds on early success, revisits the list of concerns and opportunities every year or two, and focuses on the most important issues in each round can be very effective in achieving a comprehensive vision in the long run.

Professional consultants, such as those engaged to assist in preparing this CRMP, may be responsible for research and writing, but at each step stakeholders need to be involved to control the breadth of analysis and determine priorities. Ultimately, the CRMC, representing the full range of stakeholders, is responsible for the plan and its implementation.

2.2 CRMP IN WEST BOX ELDER COUNTY

The WBE CRMC is an organization that expands on the sage-grouse conservation planning efforts first organized in 2003 as the West Box Elder Adaptive Resource Management Local Working Group (BARM). The purpose of the broader perspective of a CRMP is to widen the scope of planning in WBE and promote more successful implementation of recommended strategies by involving a wide range of perspectives and interests from the outset. Appendix A lists the members of the CRMC, representing land owners and residents, public sector agencies, researchers, and other land users and interest groups.

This CRMP document is basically an action charter for the CRMC, serving to help organize and focus the efforts of the CRMC, and providing information and tools that can lead to better resource management. As such, the WBE CRMP process began by helping the CRMC to choose which areas of interest to focus

on first, to articulate goals for those areas of interest, to investigate possible strategies for achieving those goals, and to identify which strategies to pursue first. CRMP priorities emerged through the following planning steps:

- 1) Distilling and articulating desired future conditions (DFCs) from the various concerns, issues, opportunities, and constraints raised by stakeholders or others who live or work in the planning area, or who have developed plans for the area, or who have expressed an interest in public land management in the area;
- 2) Determining which of these DFCs are valid by reviewing published documents and consulting with various agencies and individuals with key knowledge of the resources;
- 3) Identifying possible implementation strategies to resolve problems, take advantage of opportunities, or move a planning element toward a DFC;
- 4) Evaluating the feasibility, importance, and timeliness of possible strategies; and then
- 5) Outlining implementation requirements of each potential strategy, including the roles of those who would implement it, how and when implementation would take place, costs and sources of funding for implementation, elements critical to successful implementation (e.g., cooperation by others), and how implementation might be evaluated for success.

Based on feasibility, priority, and opportunity, some strategies will be pursued in Stage 1 (from early 2013 through 2015), either under direct management by the CRMC or by delegating implementation to others. Other strategies will be deferred to some later stage of planning and implementation.

Section 3 of this CRMP provides a general description of the planning area. Section 4 details and documents all important aspects of the planning process that was undertaken in developing the CRMP. Section 5 presents strategies that could be implemented in the first two years (Stage 1). Note that:

- Successful completion of some strategies may take longer than two years, but the sooner they begin, the sooner they can yield results.
- Some strategies can be implemented directly by the CRMC while other strategies can be delegated to other entities (and some are already underway) but are so important that the CRMC needs to monitor them to ensure they move forward (Appendix B).
- Other strategies may be viable but, due to various constraints, should be deferred to later stages (Appendix C).
- Still others were considered but discarded for various reasons (Appendix D).

3.0 DESCRIPTION OF THE WEST BOX ELDER CRMP AREA

3.1 LOCATION, LAND OWNERSHIP, AND AUTHORITIES

The WBE CRMP planning area occupies the northwest corner of Utah in western Box Elder County (Figure 1), and covers approximately 1,560,000 ac. It is bounded on the north by Idaho, on the west by Nevada, on the east by the Curlew Valley, and on the south by the Great Salt Lake Basin. Within its boundaries, the Raft River Mountains parallel the northern boundary, rising to an elevation of 9,600 ft. on George Peak, and the Grouse Creek Mountains parallel the western boundary, rising to an elevation of 9,000 ft. on Red Butte Peak. The planning area includes valleys descending to elevations of 5,600 ft. along on the north side of the Raft River Mountains. In the west, the planning area includes the north-south valleys formed by the Raft River flowing north and Grouse Creek flowing south, and lands rising

again on the western edge to elevations of over 7,000 ft. along the Nevada border, reaching 8,580 ft. on Twin Peaks. The lowest lands in the planning area are in the southeast where elevations descend to 4,260 ft. in the mud flats and salt playas that border the Great Salt Lake.

West Box Elder County is characterized by hot summers and cold winters. According to Western Region Climate Center records, average temperatures in Grouse Creek range from highs in the 80s F during the summer to lows in the teens during the winter. WBE is a relatively dry region of the state—Park Valley receives an average of only 11.5 in. of annual precipitation. The heaviest monthly precipitation values come either as snow in January or rain during May and June. The growing season is typically 124 days long, beginning May 21 and ending September 22.

Communities within the planning area include Yost and Standrod in the north, Lynn and Grouse Creek in the west, and Dove Creek, Rosette, and Park Valley in the central region along SR 30, which bisects the planning area. Most of the population lives in and around Park Valley and Grouse Creek. None of the communities are incorporated.

Land ownership within the planning area is evenly divided between public and private, with almost 80 percent of the public lands managed by the BLM (Figure 2 and Table 1). The predominant human land use is livestock grazing.

Table 1. Land ownership in the CRMP planning area.			
Owner	Jurisdiction	Area (ac.)	Percent
Private	Private	743,712	48%
Federal	BLM	630,410	40%
Federal	USFS	71,944	5%
Utah	UDNR	2,152	0%
Utah	SITLA	102,232	7%
Other	Other	7,956	1%
Total	-	1,558,406	100%

Box Elder County has regulatory authority over private lands pursuant to the County Land Use, Development, and Management Act (LUDMA) found at Title 17, Chapter 27a of the Utah Code. The County exercises its authority under LUDMA by adopting the *Box Elder County General Plan* and the *Box Elder County Land Use, Development, and Management Code*. Currently, about 40 percent of the county is unzoned (which effectively means it is both unconstrained and unprotected from a land use perspective). The *Box Elder County Land Use, Development, and Management Code* designates much of WBE as within its Agricultural and Rural Residential zoning districts.

Authority for management of federal lands within WBE lies primarily with the BLM or the U.S. Forest Service (USFS). BLM exercises its responsibility under the Federal Land Policy and Management Act (FLPMA) and other federal statutes and rules. The primary management tool relied on by the BLM is the *Box Elder Resource Management Plan*. The USFS manages National Forest System lands in the County under the National Forest Management Act (NFMA) and a number of other federal statutes and rules. The specific USFS management direction for Box Elder County is contained in the *Sawtooth National Forest Land and Resource Management Plan*, under Management Area 18.

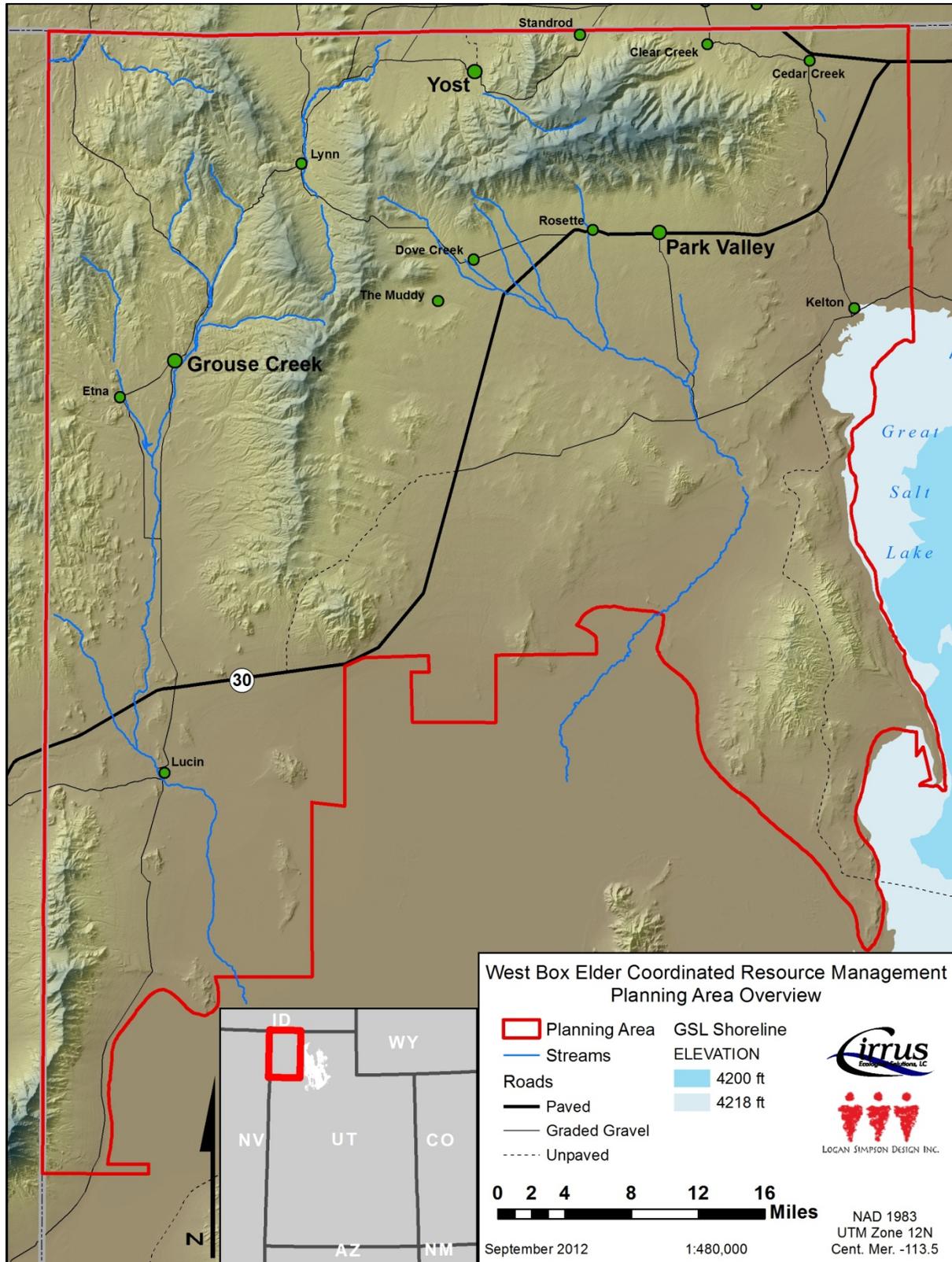


Figure 1. Overview of the West Box Elder Coordinated Resource Management Plan area.

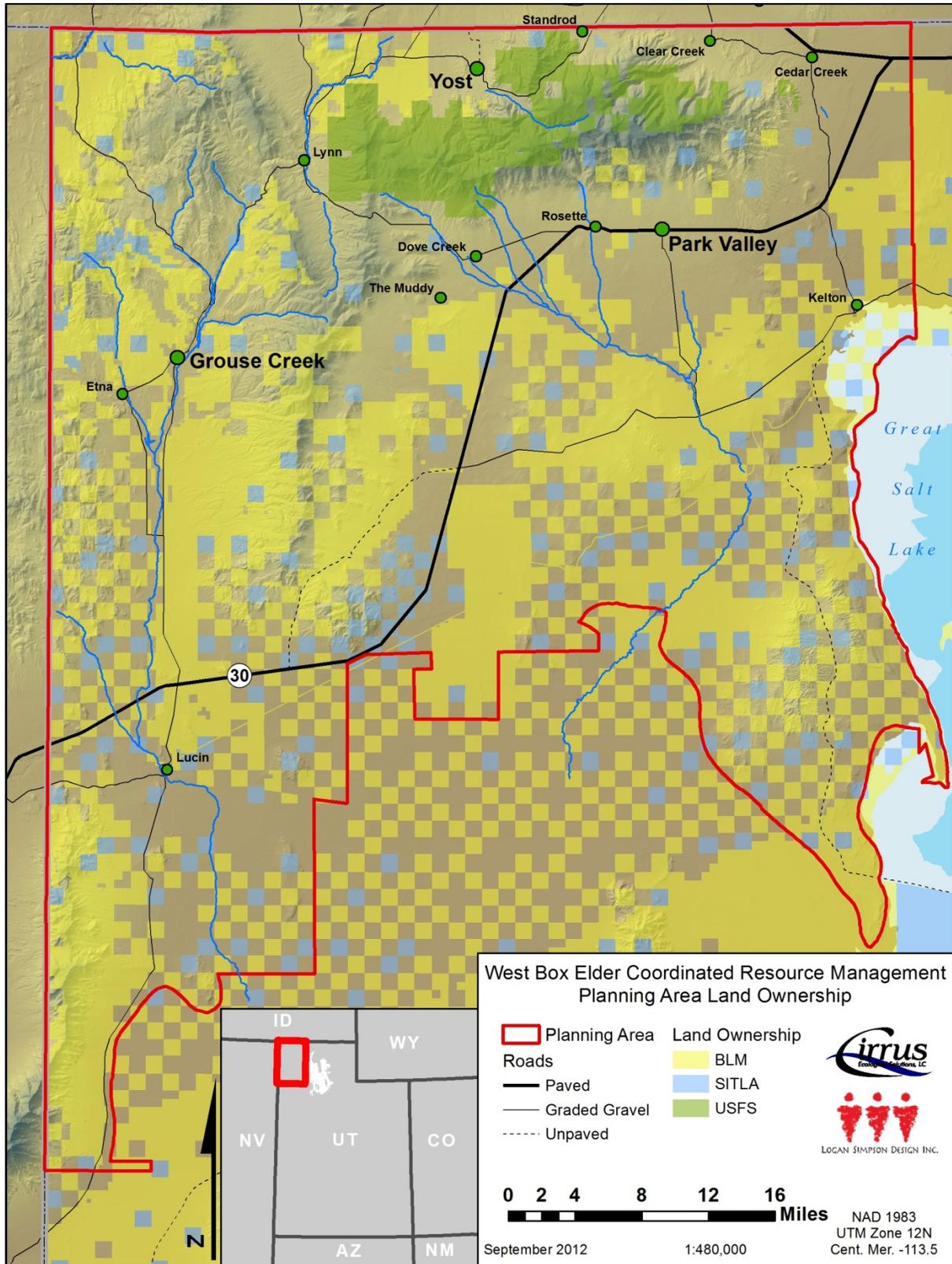


Figure 2. Land ownership in the West Box Elder Coordinated Resource Management Plan area.

3.2 SETTLEMENT AND COMMUNITIES

Settlement patterns were first established by prehistoric hunters and gatherers who roamed the area as early as 12,000 years ago, as did Native American Tribes of later periods (BARM 2007). Danger, Promontory, and Hogup Caves around the perimeter of Great Salt Lake, and Shallow Shelter in the Grouse Creek Mountains are among the important excavated archaeological sites in Box Elder County. As with other northern Utah counties, the first visitors of European descent to the region were fur trappers and explorers. Jim Bridger explored the Bear River in Cache Valley in 1825 and became the first white man to document the Great Salt Lake. The first permanent settlers of European descent did not arrive until 1851 in the form of Mormon pioneers. They planted crops, built homes and churches, and established towns. Construction of the transcontinental railroad from 1865 to 1869 across the southern part of the planning area imported many thousands of Irish and Chinese laborers. The railroad provided shipping for livestock and other resources mined from the area and spawned numerous small communities along the rail line to provide wood and water for the railroad. With improved locomotives and re-routing of the railroad to the south, these railroad communities all disappeared by the mid-1900s.

A number of communities exist in the WBE planning area. Several (including Cedar Creek, Clear Creek, Lucin, and Kelton) have histories, community infrastructure, and buildings, but are effectively abandoned. Others (including Standrod and Yost) continue to function but consist primarily of nuclear or extended families and the ranch hands that support ranching operations.

Among these communities, several have functioned well in the past and sustained significantly larger populations. In 1910, for example, Yost had a population of 251, sustained a schoolhouse and church, and was incorporated as a town in 1935. By 1984 the population had dwindled, services were unsustainable, and the town dis-incorporated. Today none of these smaller communities provide community services such as hospitals, schools, or churches.

The larger communities in the planning area, while still small, provide some services to residents that may include culinary water, schools and churches, a gas station, and small stores or shops. Electricity is provided by the Raft River Rural Cooperative. These communities include Lynn, Grouse Creek, Etna, Rosette, and Park Valley. There are an estimated 400 permanent residents across the 1.5 million ac. of the planning area. Over the past century, every community in WBE has lost significant population and many social opportunities and services. The magnitude of change can be illustrated by the population decrease in Grouse Creek from 342 in 1920 to 68 by 2010, and in Park Valley from 279 in 1900 to 202 in 2010. In Grouse Creek, the loss of population has been continuous; residents indicate that the community has lost half its population in the last 20 years, and registration at the public school declined recently from 17 in 2011 to 7 in 2012. On the other hand, in Park Valley the population has rebounded from historic lows of around 140 in the 1940s and 1950s, and has stabilized around the current population for the past 20 years.

The economy is primarily agricultural and ranch-based, and most traditional economic activity depends upon the vitality of ranching. A key challenge is that the downward pressure on populations is linked to a trend toward fewer and larger ranches—reflecting among other things the narrowing profit margins of range-based ranching. However, larger ranches make the cost of entry higher for newcomers, and young people raised in ranching are often unable to pursue a living locally. Adding to these population pressures, some WBE residents and descendants do not sell properties when they are vacated, choosing instead to keep them for vacation use without living full time within the communities. As a result, there is virtually no inventory of properties available for purchase.

With the decrease in population, many WBE residents have experienced a loss of social opportunity and service. For example, Park Valley and Grouse Creek public schools have too few students to support the last two grades of high school, so students move to larger communities, such as Tremonton or Brigham

City, to complete their primary education. Population declines have also made it impractical for gas stations and stores to be open outside of midday hours, so residents typically purchase goods elsewhere, making local retail operations even less viable and reliable.

Beyond population and service declines, WBE faces specific land-use challenges and constraints. The entire planning area sits within a complex checkerboard of federal, state, and private lands. Coordinated management therefore requires greater involvement of governmental agencies and personnel from outside the area. As a result, communities are less able to maintain local control over their own destiny, and sometimes find it difficult to coordinate and implement activities and ideas that in other places are significantly easier.

Currently few businesses within WBE capitalize on the ranching commodities produced there and only a few non-ranching jobs are available to augment the WBE economy. Furthermore, not all new opportunities result in jobs for residents; sometimes they require specialized expertise that companies bring from elsewhere (e.g., Ruby Pipeline). Ironically, it is precisely those non-ranching jobs that often provide health care and other benefits not otherwise available. WBE's communities have identified the need for more job and economic diversity than ranching can provide.

Finally, the vast and undeveloped nature of WBE offers a number of dispersed recreation amenities, and its communities host several special events that bring people together. However, these amenities and events are not well known or publicized outside of WBE. As a result, outsiders who could potentially support a variety of economic activities and opportunities in the project area have no effective way of knowing what recreation and tourism opportunities are available. There are very few designated places to lodge, camp, or dine, and virtually no information to encourage visitation along these lines.

3.3 RANCHING AND AGRICULTURE

Livestock grazing was introduced to the Intermountain West in the mid to late 1800s. Early settlers to WBE established ranches in the more fertile valleys where water was readily available. Livestock grazing remains the primary contribution to the WBE economy. Most ranches raise cattle; a few near Park Valley raise sheep.

Changes in ranch operations are altering the dynamics of other community aspects. To compete in outside markets ranches are becoming larger, more mechanized, and more efficient, so that only one individual is needed to manage the number of animals and acreage that previously employed two or more individuals. A second change is the increase in out-of-area ranch owners. Some of these new owners lease their grazing land to interested parties while others may decide to shift away from ranching altogether.

The transition toward implementing more multiple-use policies on public lands is moving land-management agency focus from primarily supporting livestock production to also considering how management will affect wildlife, historical and cultural resources, recreation, and water quality. Livestock grazing on public lands is also under increased scrutiny by environmental groups. As a result of the multiple-use emphasis and increased scrutiny, BLM and USFS rangeland improvement projects focus more on wildlife habitat, fuels reductions, and improving ground cover to minimize soil loss. Although livestock production is no longer the overriding focus, it still benefits from most of these improvements.

The mix of land ownership (Figure 2 and Table 1) and topography provides a diversity of winter and summer livestock grazing on both public and private land. The BLM Salt Lake Field Office and the Sawtooth National Forest have established grazing allotments within the planning area (Figure 3). Of the 45 active BLM allotments, 35 are allocated for cattle grazing, eight are allocated for sheep grazing, and two are allocated for common use by both cattle and sheep. Twenty-four of the cattle allotments are

grazed during the spring, summer, or fall, seven are grazed during winter, and four are grazed during winter and fall, or spring (Table 2). The winter grazing allotments are typically below elevations of 6,000 ft., and are predominantly located south of Highway 30. In the near future, the Kilgore winter allotment will switch to a winter/spring allotment. All of the sheep allotments have a winter season of use.

Table 2. Summary of USFS and BLM grazing allotments within the West Box Elder CRMP planning area.				
Administering Agency	Livestock Type	Number of Allotments	Season of Use	Total Acres¹
BLM	Cattle ²	24	Spring, Summer, or Fall	325,850
BLM	Cattle ²	7	Winter	275,542
BLM	Cattle ²	2	Fall and Winter	19,088
BLM	Cattle ²	2	Fall, Winter, and Spring	96,629
BLM	Sheep	8	Winter	220,180
BLM	Cattle and Sheep	1	Fall, Winter, and Spring	12,649
BLM	Cattle and Sheep	1	Year Round	165,864
USFS	Cattle	9	Summer	69,169
USFS	Cattle and Sheep	1	Summer	8,499

¹Note that the total acres reported in this table include areas of privately-owned land within the allotment boundaries. As a result, this number is greater than the acreages reported in Table 1, Land ownership.

²Also includes a small number of horses on some allotments.

There are 10 USFS allotments on the Raft River Mountains, totaling approximately 77,668 ac. (Table 2; note only 71,944 ac. of those allotments are owned by the USFS because there is privately-owned land within the allotment boundaries). Nine of the USFS allotments are allocated for cattle and horse grazing, and one (Clarks Basin in the southwest corner of the Raft River Mountains) is allocated for common use by both sheep and cattle. Because of their high elevation, grazing on all of the USFS allotments is limited to the summer.

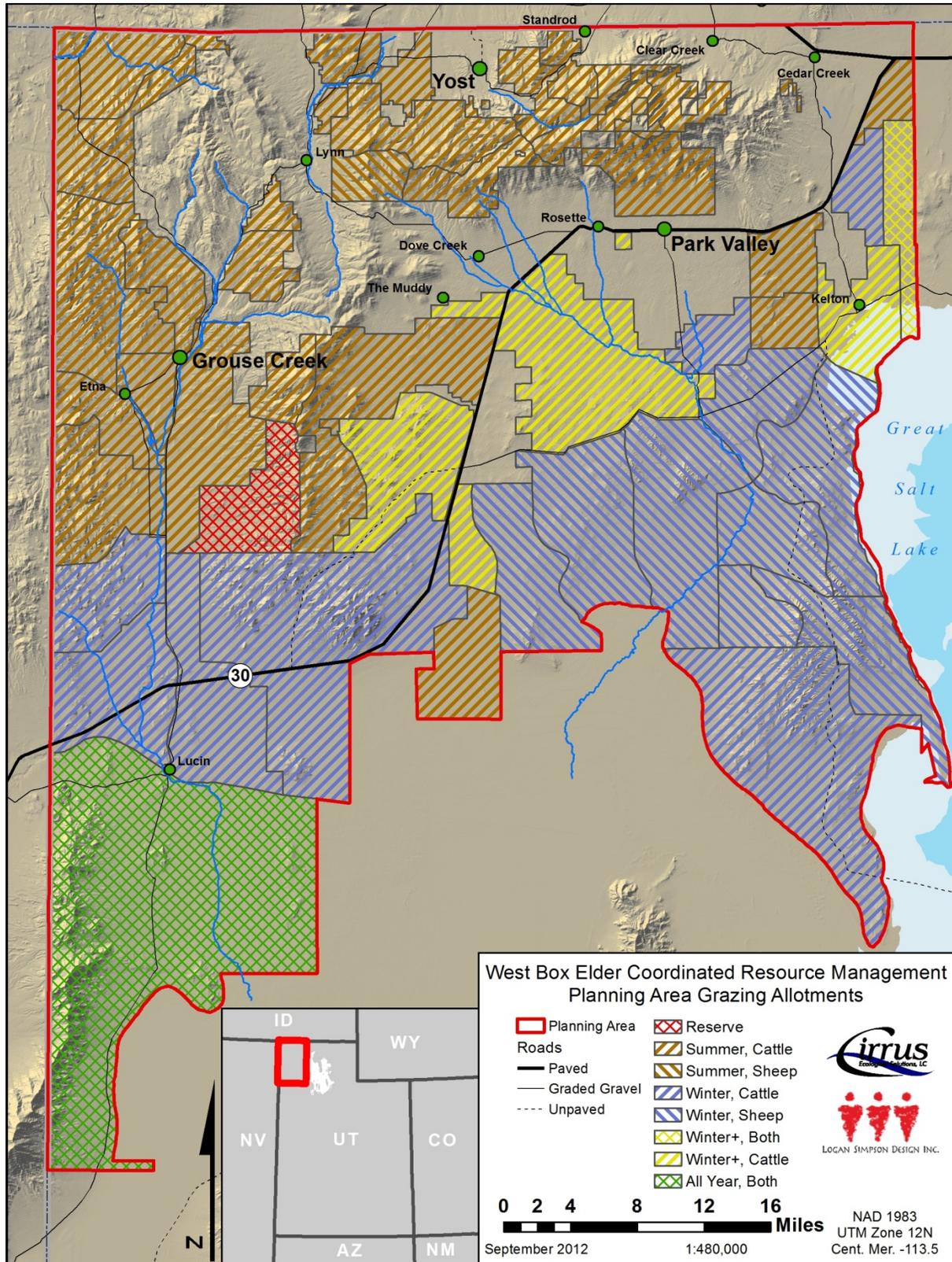


Figure 3. Grazing allotments in the West Box Elder Coordinated Resource Management Plan area.

The management of public grazing allotments located within the planning area, including the types and objectives of improvement projects, is established in the agencies' management plans. For example, as part of the *1986 Box Elder Resource Management Plan*, the BLM grazing allotments were categorized as Maintain, Improve, or Custodial based on resource conditions and the potential for improvement. For allotments in the Improve category, resource and use conflicts are to be resolved through the implementation of rangeland improvement projects or adjustments to management. The 2003 *Sawtooth National Forest Revised Land and Resource Management Plan* (Forest Plan) concluded that past fire exclusion and livestock grazing had placed big sagebrush, perennial grasslands, and pinyon/juniper stands in a functional-at-risk category, but that rangeland conditions had recently improved due to intensified grazing management practices and prescribed wildfire. The Forest Plan also developed area-specific objectives to further improve rangeland conditions, including providing for water sources and improving forage and preventing weed spreading through changes in timing, intensity, duration, or frequency of livestock use, the location of salting areas, and the restoration of watering sites.

Some land owners have entered into agreements with the UDWR to form cooperative wildlife management units (CWMUs) that provide ranchers with additional income opportunities. Hunters can secure hunting opportunities by purchasing hunt vouchers from the CWMU operator or can attempt to draw a tag through the usual hunting permit draw. A portion of the voucher/permit proceeds is then provided to the CWMU operator. There are a total of 12 CWMUs in the planning area, all located north of Highway 30.

Three grazing associations operate within the WBE planning area: Grouse Creek Livestock Association north of Grouse Creek, Park Valley Hereford Association north of Park Valley, and the Bridge Grazing Association northwest of Lynn.

The Grouse Creek Livestock Association was formed in the late 1930s or early 1940s, has 25 memberships (30 head of cattle per membership), and grazes approximately 22,000 ac. of private land and two sections (320 ac.) of SITLA land. Most of the pastures are in Cotton Thomas Basin and extend south into Grouse Creek Valley; not all pastures are contiguous. Most of the Grouse Creek Livestock Association lands are grazed only during summer months. Grouse Creek Livestock Association uses a three-pasture rest-rotation system with one pasture rested each year. 10,000 ac. are enrolled in a 15-year conservation easement with the NRCS Grassland Reserve Program; the remaining 12,000 ac. are in the NRCS Conservation Stewardship Program.

The Park Valley Hereford Association was formed in the 1950s or 1960s, has eight members holding 2,125 shares, and operates on 12,000 ac. of private land. Most shareholders acquired their shares when they purchased ranches that were already part of the Park Valley Hereford Association. Pastures are all contiguous and located from the valley floor to approximately two thirds of the way to the top of the Raft River Mountains. Livestock are on a rest-rotation system and are typically present from March through October.

The Bridge Grazing Association operates northwest of Lynn. The association was formed around 1970 for the purpose of leveraging the strength of a group of ranchers to secure FHA financing to purchase ranch land. Livestock were never run together and, over time, their objectives have been met as individual members have been able to purchase the ground they were managing from the association. From a high of 10,000-12,000 acres, lands under association ownership have shrunk to 300 acres, with these remaining acres expected to be purchased in 2013. The FHA loan has been paid off and ownership transferred to individuals, illustrating the advantages of cooperatives in rural areas.

Membership in the Grouse Creek Livestock Association and the Park Valley Hereford Association are closed, although there is not a large demand for new memberships. Memberships in these associations are concentrated in a few ranches; prospective members would have to buy out an existing member.

Benefits mentioned by members include the sense of community created by group participation that spills over into other aspects of rural life, relatively inexpensive access to grazing land provided by association membership, larger pools of funding for projects, and opportunities for flexibility provided by participating in a larger grazing area. Some think agencies prefer to work with associations because there are fewer voices to involve. Others think agencies find them more difficult, presumably because associations create a layer between agency personnel and the rancher actually managing the animals. Disadvantages of participating in grazing associations include awkward decision-making resulting from the need for majority or consensus, and frustrations of differing levels of participation, sometimes due to age and health problems.

Grazing associations have considered moving to time-controlled grazing systems but face the challenges of establishing pastures with fencing and water developments in each pasture, and having a contiguous land base large enough at any given elevation to provide the requisite rest periods. Switching to this system would be easier if the BLM were able to include their lands in such a program.

Agricultural operations in the planning area began with early settlers, and modern ranchers continue to produce grass in wet meadow areas around Park Valley and sprinkler-irrigated alfalfa fields in Park Valley, Grouse Creek, and the communities north and west of the Raft River Mountains. A majority of the land, however, is in dry pasture or hay production (no irrigation) because of low water availability (Table 3). Occasionally farmers raise grain, but it is typically used as livestock forage and is not sold commercially. Due to slightly warmer conditions and a longer growing season, farmers operating near Kelton are able to produce corn for silage.

Alfalfa typically yields two cuttings, though a third cutting is possible when there is adequate water for irrigation. The alfalfa crop is mostly consumed by livestock in the planning area; however, if prices are high enough or if there is a surplus, alfalfa producers may sell hay to feedlots in southern Idaho and northern Utah. Cattle are often allowed to graze the residual growth in alfalfa fields during winter and early spring. Such grazing provides additional forage and allows for better nutrient cycling.

3.4 WATER RESOURCES

The planning area is partitioned by several mountain ranges that define the planning area watersheds (Figure 4). The sweep of the Raft River Mountains across the north and the high country along the Nevada border along the west create a divide between the Columbia River drainage and the Great Salt Lake Basin. The north side of the Raft River Mountains drains into Idaho, with the west end contributing to Goose Creek and the central and east areas contributing to Raft River, both of which flow north out of the planning area to the Snake River. The Pilot Range is located along the Nevada border in the southwest portion of the planning area. Its east slopes drain to Thousand Springs Creek and lower Grouse Creek; its west slopes drain outside of the planning area to Pilot Creek and the Great Basin. The Baker Hills and other minor topography are located along the east boundary of the planning area and drain directly to Curlew Valley and the Great Salt Lake. The rest of the planning area (roughly 1,660 sq. mi. or 68 percent) drains to the salt playas surrounding the Great Salt Lake, either directly or via watersheds that concentrate flow into stream channels. None of these areas contribute significant surface flow to the Great Salt Lake.

Annual precipitation ranges from 24 to 28 in. along the mountain ranges and 6 to 8 in. in the lower country nearer the Great Salt Lake. Much of the planning area lies in the rain-shadow of the Sierra Nevada Mountains to the west and is considered arid or semi-arid, with the exception of upper mountain

slopes. Precipitation levels are enhanced through cloud seeding, a program that has been successfully used in the planning area since 1989. On average, 43 percent of the project area receives 10 in. of precipitation or less per year, while 51 percent receives 10 to 20 in. per year.

Most precipitation comes in the form of snow, though there can be significant rainfall in May and June. Snow contributes to seasonal runoff and groundwater recharge during the spring season. Snowmelt runoff typically begins in March or April of each year and continues through June, but can begin earlier based on regional weather patterns (Figure 5). The extent and magnitude of runoff are dependent on the amount of winter precipitation and temperature. In some years, snowmelt runoff is generated at a rate that cannot be fully utilized due to a lack of storage capacity or developed land with potential for irrigation. The irrigation season is typically limited to spring and early summer throughout the planning area. Local thunderstorms can produce intense seasonal flow at times, resulting in localized erosion and property damage.

Table 3. Irrigation methods and product type on agricultural land within the West Box Elder CRMP planning area¹.

Irrigation Type	Crop Description	Acres
Dry	Dry Alfalfa	245
	Dry Grain/Seeds	874
	Dry Idle	3,997
	Dry Pasture	6,772
	Idle Irrigated Land	2,317
	Range Pasture	7,332
Total		21,537
Flood	Grain	35
	Pasture	1,786
Total		1,821
Sprinkler	Alfalfa	9,773
	Grain	1,163
	Grass/Hay	2,723
	Pasture	2,643
Total		16,302
Sub-Irrigated	Grass Hay	160
	Pasture	334
Total		494

¹Obtained from Utah Automated Geographic Reference Center (<http://gis.utah.gov/data/planning/water-related-land/>) June 2012. Database managed by the Utah Division of Water Resources.

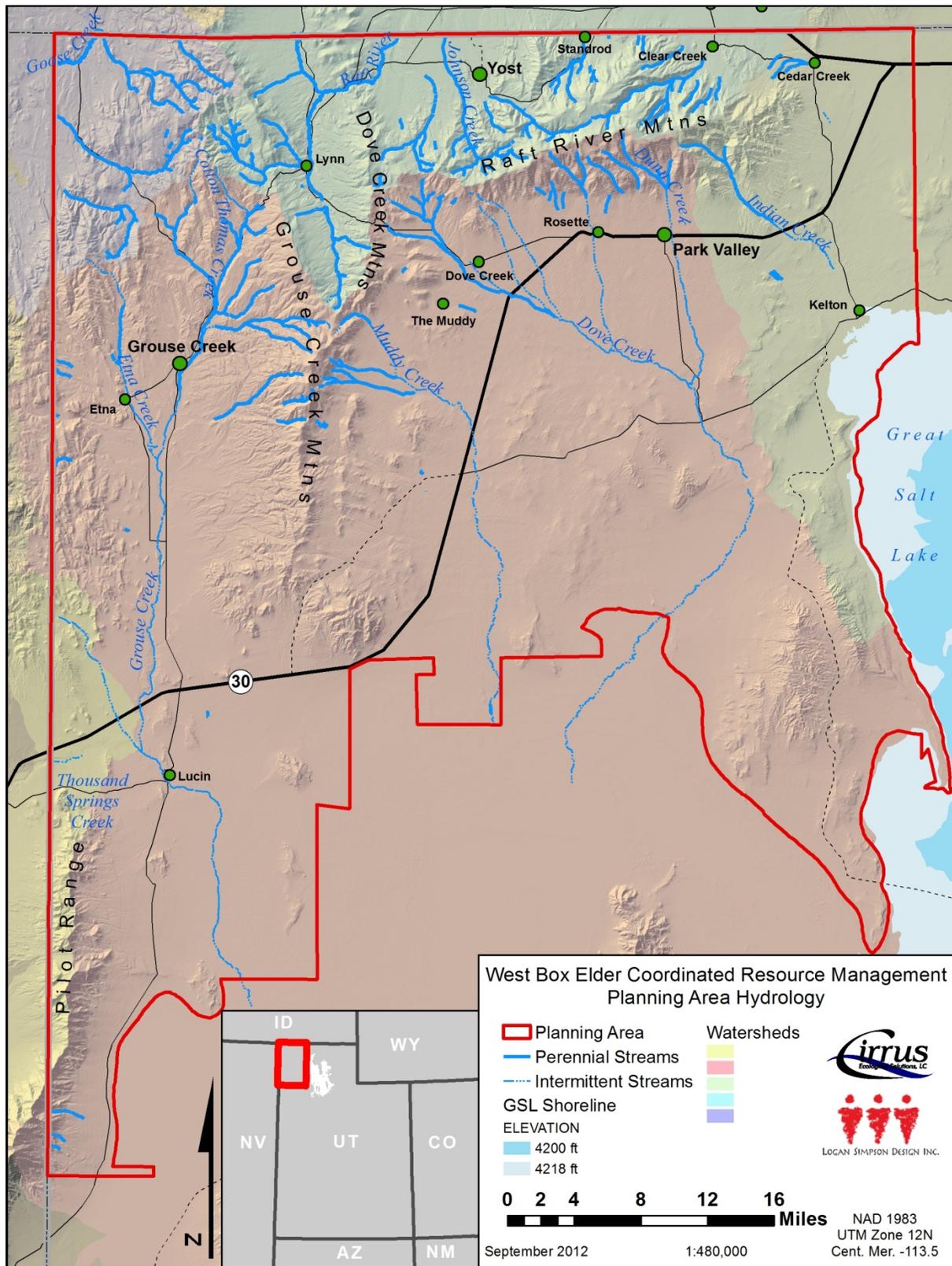


Figure 4. Hydrology and water resources in the West Box Elder Coordinated Resource Management Plan area.

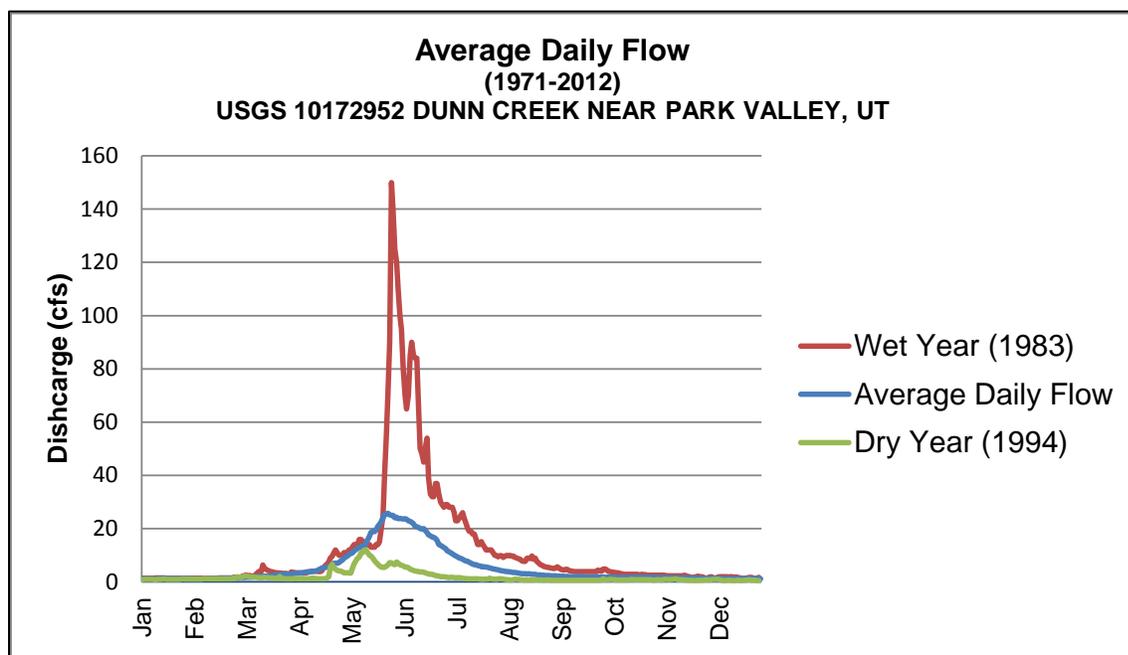


Figure 5. Average daily flow at Dunn Creek (1971-2012).

There are few perennial streams in the planning area (Figure 4). The most current mapping identifies nearly 400 mi. of perennial stream channel, with most streams originating in mountain ranges in the northern planning area, including the Raft River, Grouse Creek, and Dove Creek mountains. Some of the more significant perennial streams used for irrigation include Indian Creek (east of Park Valley), Muddy Creek (near Warm Springs hills), Grouse Creek (perennial segments above Grouse Creek community), Etna Creek (below Etna Reservoir), Cotton Thomas Basin Creek (west of Lynn), Raft River (upper segments south of the Utah/Idaho border), Dove Creek (flowing south from the Raft River Mountains), and Johnson Creek (flowing north from the Raft River Mountains). Daily stream flow measurements are scarce in the planning area and have been collected in the past by the USGS from nine locations (Figure 4). Only one stream gage is currently active and collects flow data from Dunn Creek above Park Valley.

Groundwater is pumped from two aquifer layers in the planning area that are part of the Great Salt Lake watershed. A shallow (less than 300 ft.) layer of alluvial material underlies stream channels and tributary valleys, and a thicker sedimentary layer underlies most of the rest of the area (Bolke and Price 1969, Hood and Price 1970, Hood 1971). Groundwater generally flows from the mountains toward valley centerlines and then down-gradient toward the Great Salt Lake.

Water budgets have been developed for some portions of the planning area that define groundwater discharge and recharge (Thompson and Mann 1973). Estimates for Park Valley show a balanced budget, while there is a net deficit in Grouse Creek and Kelton as more water is being removed by plants, subsurface outflow, and well development than is entering aquifers by recharge. Most groundwater recharge in the planning area is thought to occur on land above 6,000 ft. elevation during the spring snowmelt season (Hood and Price 1970), comprising only five percent of total annual precipitation (Hood and Waddell 1968). Transpiring plants remove 65 to 80 percent of total groundwater discharge in the Park Valley and Grouse Creek areas (Thompson and Mann 1973). Subsurface flow to the Great Salt Lake accounts for 30 percent of total groundwater discharge from the Park Valley area and 15 percent from the Grouse Creek valley. More recent studies indicate these values may be high (Division of Water Resources 2001)

Groundwater is removed via wells and developed springs for culinary use, irrigation, and livestock watering. The upper alluvial formations are very porous and easily yield water but provide a much smaller volume and are more affected by variation in seasonal precipitation than are the deeper sedimentary formations. The deeper aquifers yield water less easily, but their thickness and spatial extent mean they contain most of the groundwater storage. Pumping records from the Grouse Creek area indicate that carefully designed and developed wells in the deep aquifer produce more water on a more consistent basis than shallow wells. Historical monitoring data in the mid-20th century indicated that groundwater levels were declining over time due to irrigation development (Hood and Price 1970). A moratorium on well drilling was placed on the Park Valley area, limiting development to culinary and municipal wells. Although few recent measurements of groundwater levels are available for most of the planning area, the Utah Division of Water Rights believes that ground water levels are now in balance with development in the planning area (personal communication, Will Atkin, Utah Division of Water Rights). Short term drought conditions continue to influence shallow ground water levels. Proposals for new well development in all other parts of the planning area must demonstrate that sufficient water is available prior to well construction.

Available surface water is diverted from streams into approximately 32 mi. of currently mapped canals that deliver water to irrigate roughly 18,000 ac. in the planning area. Although a thorough evaluation of canals has not been completed, anecdotal reports are that nearly all irrigation canals are unlined. Loss of water to leakage from an unlined canal ranges from 30–80 percent (Packer 1967, Wilkowske and Phillips 2004).

Surface water quality is routinely monitored by the Utah Division of Water Quality. None of the water bodies in the planning area are failing to meet assigned water quality standards. High water quality is found in both surface and ground water sources at upper elevations but generally deteriorates with distance from these areas. In general, water quality in areas outside of salt playas is satisfactory for stock use and irrigation of crops that have a moderate to high salt tolerance. Increased salinity in groundwater is due to plant root systems that remove fresh water (evapotranspiration) and leave concentrated minerals behind.

3.5 LANDCOVER, VEGETATION, AND NATURAL RESOURCE DEVELOPMENT

The planning area is comprised of multiple vegetation community classes ranging from mixed conifer forests at the higher elevations of the Raft River Mountains to non-native, annual grass and forb communities at lower elevations adjacent to the Great Salt Lake (Figure 6). The most abundant vegetation community is big sagebrush, which accounts for 681,676 ac. (44 percent) of the planning area (Table 4).

Across the Intermountain West, fire suppression is believed to have allowed sagebrush stands to increase in canopy cover and density with a resulting reduction or loss of herbaceous understory species in many areas. The increased availability of fine fuels has resulted in wildfires that burn larger areas and at greater intensity. The effects of any particular fire event depend on several characteristics of the site including dominant sagebrush species, aridity, soils, topography, and disturbance (Bunting et al. 1987, Miller and Eddleman 2000). Sagebrush species evolved with fire and recolonize an area after a patchwork burn, but cannot tolerate frequent, repetitive burns that eliminate all vegetation.

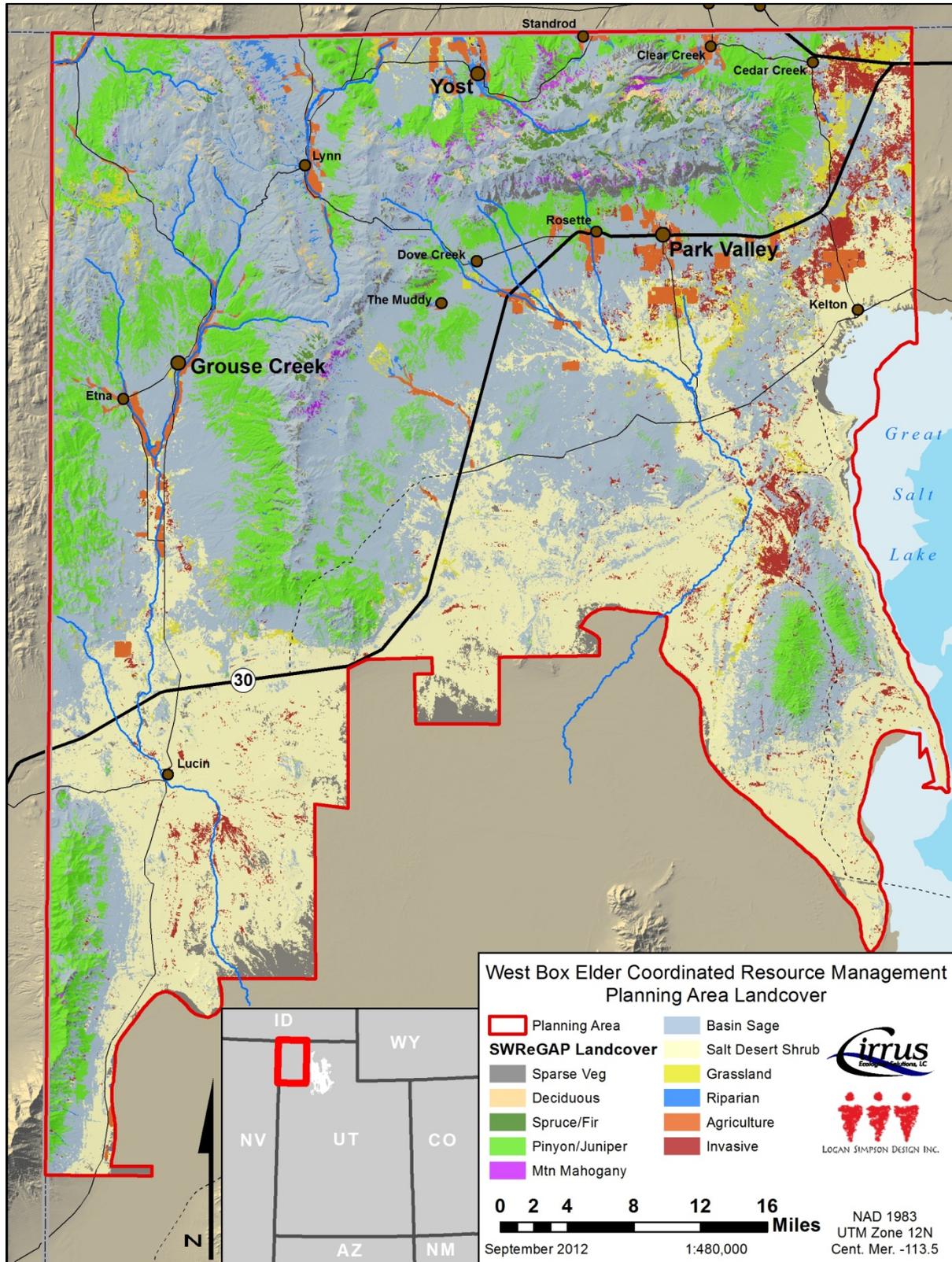


Figure 6. Landcover in the West Box Elder Coordinated Resource Management Plan area.

Landcover Class	Associated Vegetation Communities	Acres	Percent of Planning Area
Sparsely Vegetated	Cliffs, Rocks, and Playas	61,334	4
Deciduous Forest	Aspen Woodlands	8,315	1
Spruce/Fir	Spruce/Fir, Mixed Conifer Woodlands	8,861	1
Pinyon/Juniper	Pinyon/Juniper Woodlands	218,725	14
Mountain Mahogany	Mountain Mahogany Woodlands	6,955	< 1
Big Sagebrush	Basin Big Sagebrush, Mountain Big Sagebrush	681,676	44
Salt Desert Shrub	Salt Desert Shrub (saltbush, sagebrush), Greasewood	447,789	29
Grassland	Mountain and Desert Perennial Grasses	33,903	2
Riparian	Riparian Shrub and Woodlands	10,876	1
Agriculture	Agricultural (cultivated or pasture)	29,903	2
Invasive Plants	Invasive Perennial and Annual Grasses	41,323	3
Total		1,549,660	100

Fire management in the planning area falls under the purview of public land management agencies like the BLM, USFS, and the Utah Division of Forestry, Fire and State Lands, as well as local governments. BLM and the USFS cooperate closely with UDWR, which often recommends a seed mix for post-burn rehabilitation.

Some species are notably expanding and upsetting natural communities. Cheatgrass (*Bromus tectorum*) is present throughout the planning area and abundant in some areas at lower elevations. Pinyon pine (*Pinus monophylla*) and Utah juniper (*Juniperus osteosperma*) encroachment is widespread on the lower slopes of planning area mountain ranges. Halogeton (*Halogeton glomeratus*) is also present in many disturbed areas and pastures.

Vegetation management conducted in the past was a reflection of the priorities of the time, as well as the mandates and policies of the federal government regarding vegetation management on federal land. Because much of the land in the planning area is under federal management, this is an important consideration when evaluating past and current conditions. In the past, vegetation treatments were conducted primarily to increase forage for livestock (e.g., extensive crested wheatgrass seedings). Recently, vegetation management has focused on restoring health to sagebrush rangelands. Management is increasingly proactive. Examples include seeding controlled burns to prevent the establishment of non-indigenous plants, setting back succession in sagebrush stands by mechanically crushing decadent sagebrush to create a mosaic of sagebrush cover classes across the landscape, and adjusting grazing practices to retain tall grasses for nesting cover. Habitat management also involves restorative treatments designed to remove cheatgrass and other invasive or noxious weeds, removal of pinyon/juniper stands, and restoration of native species.

Oil and gas development and exploration in the planning area has been non-existent; no drilling has occurred in Western Box Elder County (Utah Division of Oil, Gas, and Mining 2005). There have been proposals for wind turbine farms at several sites within the planning area, but no developments have been permitted to date. Several rock quarries operate in the planning area as well.

3.6 WILDLIFE AND AQUATIC RESOURCES

Much of the wildlife in WBE is typical of habitats in the Great Basin and adjoining areas. Small mammals in the area include jack rabbits, desert cottontails, various ground squirrels, chipmunks, striped and spotted skunks, American badgers, coyotes, red foxes, and raccoons among many others. Notable big game species include pronghorn in the low elevation areas, and mule deer and elk at higher elevations. Black bear and mountain lion habitat occurs in the higher elevation forested areas in the Raft River Mountains. Many species of birds occur given the broad range of habitats available. There are many small streams, ponds, reservoirs, and other aquatic habitats that are occupied by a variety of fish and amphibians.

In addition to these common species there are some species of conservation concern in WBE. A large portion of WBE is composed of sagebrush landcover types which support greater sage-grouse (hereafter sage-grouse) populations that occupy one of the most expansive areas of any population in the state, as well as pygmy rabbits. Important populations of boreal toads exist along the foot of the mountains. WBE is home to the only native range in the state of Utah of Yellowstone cutthroat trout and an important population of the threatened Lahontan cutthroat trout occurs as well.

In 2010 the U.S. Fish and Wildlife Service (USFWS) determined that listing the sage-grouse under the Endangered Species Act (ESA) was warranted but precluded by higher priority species. The USFWS plans to revisit their decision regarding listing the sage-grouse in 2015. This decision by the USFWS has led to sage-grouse becoming a focus of conservation efforts throughout its occupied range. There is widespread concern in WBE and elsewhere that if sage-grouse are listed under the ESA, regulations regarding human use of sage-grouse habitat could impose management restrictions and severe costs for mitigation of impacts. This would make livestock grazing, which is the most common human use of sagebrush habitats, less profitable and could result in dramatic changes to the livelihoods of the people who engage in this and other natural resource-based activities.

4.0 PLANNING ELEMENTS AND DESIRED FUTURE CONDITIONS

4.1 TERMINOLOGY

Planning is a process of organizing complex information, understanding specific challenges and opportunities, documenting the ideas for achieving a desired result, and designing strategies, projects, and tasks that move the planning area toward that desired result. Important planning terminology used in this CRMP includes:

- **Planning element:** resources or subject-areas of interest. Examples include ranching and agricultural resources, water resources, socioeconomics, wildlife, etc.
- **Desired future conditions (DFC):** a state or condition which the planning effort seeks to achieve for a planning element; similar to the ideas of goals or visions.
- **Conflicts, concerns, and constraints:** the conditions that prevent attaining the DFCs. Perceptions of these are not necessarily universally shared, nor are they typically viewed by everyone with the same severity.
- **Implementation strategy:** an activity that can be undertaken to move current conditions toward a DFC. Strategies directly address specific conflicts, concerns, or constraints.
- **Project:** an organized collection of tasks that can be accomplished within a defined period. Projects have a beginning and an end.

- Task: Similar to strategy, but more specific; an activity that can be defined in detail, includes roles for various participants, costs, outcomes, and can be evaluated for success.

4.2 PLANNING ELEMENTS

The CRMC developed an initial list of planning elements for consideration in this plan:

- Rangeland and Agriculture
- Water Resources
- Vegetation
- Socioeconomics and Economic Development
- Legal, Regulatory, and Land Use
- Wildlife and Biological Resources
- Forestry
- Recreation
- Geology and Soils
- Air Quality and Climate
- Cultural

This list was used as a preliminary filter for the next two steps: the Planning Inventory Analysis (DFCs, concerns, and strategies suggested by other plans addressing the planning area) and a public involvement process conducted in the communities within WBE.

4.3 PLANNING INVENTORY ANALYSIS

Plans and associated documents produced by various agencies and entities with an interest in WBE resources were collected and reviewed to determine how they intended to manage various natural resources. Table 5 is a partial list of planning documents reviewed.

Analysis of these documents yielded many areas of common ground, such as:

- Agriculture as the main industry.
- Remoteness and large size of the planning area.
- Differences among watersheds.
- Key elements of a sustainable system: wildlife, natural vegetation, stable soils, and clean water.
- Threats to a sustainable system, including noxious weeds, pinyon/juniper encroachment, aspen loss, soil erosion, and insufficient water.
- Need for sound, data-based management and decision-making.
- Need for collaboration.

Table 5. Planning Inventory Analysis materials (partial list).
Box Elder County’s General Plan (1998)
West Box Elder Soil Conservation District Long-range Plan (2006)
West Box Elder Greater Sage-grouse Local Conservation Plan (2007)
West Box Elder CRM Noxious Weed Plan (2012)
BLM Box Elder Resource Management Plan (1986) and Amendment for Bear River Resource Area – Acquired Lands (1998)
USFS Sawtooth National Forest LRMP (Chapter III, Management Area 18) (2003)
Utah State Water Plan (May 2001)
Utah State Water Plan – West Desert Basin (April 2001)
UDWR Watershed Restoration Initiative
UDWR Comprehensive Wildlife Conservation Strategy (CWCS) (2005)
U.S. Fish and Wildlife Service (Multiple species-specific plans. Specific planning for each species will be documented a later stage, as required)
UDWR Utah Greater Sage-grouse Management Plan (2009)
UDWR Boreal Toad Conservation Plan (2005)
UDWR Least Chub Conservation Plan (2005)
Utah Partners in Flight Avian Conservation Strategy Version 2.0 (2002)
Intermountain West Joint Venture Coordinated Bird Conservation Plan Version 1.0 (2005) and Coordinated Implementation Plan for Bird Conservation in Utah (2005)

There were also conflicting perspectives, generally resulting from different resource focus, difference in geographical scale, different time horizons, resources assumed to be available to understand or correct problems, age of plans, or whether the planning process involved residents of the WBE.

In addition to simply noting the directions proposed in these various plans, the planning team also began to assess the needs for data and information to better understand the concerns, issues, opportunities, and constraints.

Detailed results of the Planning Inventory Analysis (PIA) were presented at an April 17, 2012, meeting of the CRMC and in a separate document, and will not be reproduced here. The results helped to refine the list of planning elements and were used in the next stage.

4.4 CONCERNS, CONFLICTS, AND OPPORTUNITIES IDENTIFIED BY LOCAL STAKEHOLDERS

The PIA resulted in a shortened list of planning elements and suggested a number of DFCs. Planners sought to understand the DFCs of residents and landowners through both formal and informal means. A day-long site visit on April 4, 2012, was organized by the local CRMP Coordinator and attended by all of the planning team. The team traveled much of the planning area accompanied by several agency resource specialists who had worked in the area for at least several years. Meetings with local people were held in

Standrod, Yost, Grouse Creek, and Park Valley. A detailed summary of the observations and findings of that site visit was prepared and distributed to all team members.

Subsequently, a formal public involvement exercise was conducted on May 15, 2012. Notification was distributed throughout the planning area, and groups of residents convened at three venues, in Lynn, Grouse Creek, and Park Valley. In all, 34 local residents participated, along with five agency representatives. Based on what was learned through initial discussions with the CRMC, the PIA, and interactions with various stakeholders, the planning elements for these sessions were distilled to:

- Rangeland and Agriculture
- Water Resources
- Socioeconomics
- Forestry and Woodlands
- Wildlife and Wildlife Habitat
- Air Quality
- Cultural Resources

At each session, attendees were asked to express: (1) their goals and DFCs, (2) concerns, and (3) opportunities. If not mentioned during the group sessions, the planning team prompted attendees to also consider issues raised by outside planning efforts. Following the meetings, the planning team distilled the input into a series of tables listing DFCs, conflicts (among DFCs) and constraints to moving forward, and any information and data necessary to better understand the concerns. Since many of the comments stemmed from frustration or desire to implement various strategies, and since many of the plans and previous discussions had also articulated possible implementation strategies, the planning team listed some of the strategies considered most relevant to the conflicts and constraints articulated.

As noted above, it is impossible to address all concerns and possible strategies in the first round of planning and implementation. In an effort to provide some focus, planning elements for this first stage were distilled to the following:

- Rangeland and Agriculture
- Water Resources
- Socioeconomics
- Wildlife

Some planning elements (e.g., air quality and cultural resources) were deferred to a later round of planning because there seemed to be little interest, conflict, or opportunity to plan for improvement at this time. Others (e.g., vegetation, forest and woodlands) were subsumed into other planning elements (i.e., rangeland and agriculture) because the strategies addressing the DFCs and concerns would be developed within programs associated with the latter planning elements.

The tables documenting planning priorities were presented at the June 19, 2012, CRMC meeting, and hard copies were distributed to individuals who could communicate with others in their communities for comments. Stakeholders were given a target date for feedback, but planners and the CRMC continued to accept comments as they were received.

5.0 PROJECT IDENTIFICATION AND PLAN IMPLEMENTATION

5.1 DESIRED FUTURE CONDITIONS

Table 6 shows the DFCs that emerged from the PIA and meetings with stakeholders.

Table 6. Desired future conditions in West Box Elder.	
Planning Element	Desired Future Condition
Range and Agriculture	<p>1. WINTER FORAGE BOTTLENECK Winter forage availability is increased and brought into balance with the capacity of allotments and private pastures grazed during the rest of the year, allowing ranchers to maintain optimal herd sizes without incurring the cost of purchasing hay.</p>
	<p>2. LIMITATIONS ON AGENCY MANAGEMENT ACTIONS Proposed management actions on public land are addressed in a timely fashion, allowing more efficient and environmentally sound multiple use of public lands. This DFC also includes water, wildlife, and other issues under federal purview.</p>
	<p>3. INFLEXIBILITY IN GRAZING PERMITTING Flexibility in grazing permitting allows adjustment for changing climatic and biologic conditions.</p>
	<p>4. COLLABORATIVE EFFORTS WITH GRAZING ASSOCIATIONS Grazing associations effectively pool resources to alleviate grazing and resource management concerns.</p>
	<p>5. PINYON/JUNIPER ENCROACHMENT Grazing and agriculture capacity are recovered in areas where pinyon and juniper encroachment is occurring.</p>
	<p>6. NOXIOUS WEEDS Noxious weeds are managed and new infestations contained so that productivity is maintained and desirable vegetation is preserved.</p>
	<p>7. OTHER INVASIVE PLANTS Other invasive plants are managed so that productivity is maintained and desirable vegetation is preserved.</p>
	<p>8. FIRE PLAN A Fire Plan is in place and implemented by public and private land managers to prevent wildfires, respond quickly to those that do occur, and utilize both prescribed fire and advantageous wildfire to further resource objectives for other planning elements.</p>

Table 6. (cont.) Desired future conditions in West Box Elder.	
Water Resources	<p>1. WATER AVAILABILITY</p> <p>Wise water use and development result in a hydrologic balance between water supply and demands from agriculture (livestock and crops), natural vegetation, and wildlife. Groundwater levels are maintained over time and water resources are developed to legally utilize all available flow while meeting ecosystem needs. Cloud seeding programs are optimized and function at a high level of effectiveness for the project area. Vegetation cover is managed to promote infiltration and recharge.</p>
	<p>2. WATER QUALITY</p> <p>Existing and new livestock confinement facilities do not contribute water quality impacts on surface or ground water bodies. All water bodies in the project area fully support their assigned beneficial uses.</p>
Socioeconomics	<p>1. POPULATION AND SERVICES</p> <p>Permanent resident population in the Grouse Creek community is increased, ensuring sufficient population for a local school, church, store, post office, and other important amenities. Increased viability of products and services to ensure availability for passersby and local residents. Ranches are intergenerational enterprises; children can come back, either to take over ranching operations or to make a living providing services that support ranches.</p>
	<p>2. COMPLEX LAND OWNERSHIP AND GOVERNMENT REGULATION</p> <p>The positive effects of regulation on the economics and operations in WBE are maximized and the negative effects of regulation and litigation minimized.</p>
	<p>3. RANCHING AUXILIARY JOBS</p> <p>Commodities that are produced in and exported from WBE are processed, distributed, and supported by businesses based in WBE. Additional opportunities for urban visitors (guest ranches, etc.) are promoted in WBE. A variety of non-ranching employment and business opportunities are available in WBE. Technology, such as availability of fiber optic lines, is leveraged by local businesses. People who desire the "outside life" or solitude (but do not need ranching employment) are attracted to the area.</p>
	<p>4. RECREATION AND EVENTS</p> <p>Sustainable recreation opportunities and special events are developed and promoted in WBE to attract outside visitors without compromising local resources.</p>
Wildlife	<p>1. SAGE-GROUSE LISTING</p> <p>Sage-grouse populations in WBE are studied and major threats are eliminated with minimal impacts on ranching.</p>
	<p>2. PROTECTION OF OTHER SENSITIVE SPECIES.</p> <p>All sensitive species in WBE are protected from further harm and their recovery is facilitated.</p>
	<p>3. PREDATORS</p> <p>Predation on sage-grouse is minimized. Wolves do not establish in WBE.</p>
	<p>4. CWMUs</p> <p>Support of Cooperative Wildlife Management Units continues. Additional CWMUs are established where appropriate to benefit local residents and augment ranch income.</p>

5.2 INITIAL IDENTIFICATION AND PRIORITIZATION OF IMPLEMENTATION STRATEGIES

Tables of DFCs provided to the CRMC and stakeholders in June 2012 also listed possible implementation strategies. Based on stakeholder feedback, the planning team then initiated a more detailed analysis to:

1. Identify any concerns and constraints that were not valid, perhaps because of limited understanding or misperceptions.
2. For valid concerns and constraints, assess the information and data necessary to understand them and identify other implementation strategies.
3. Further develop the list of potential implementation strategies and analyze them with respect to:
 - a. Feasibility
 - i. Economic: Is there a “return on investment” from the strategy? Is there a more cost-effective way to achieve the same results (e.g., it may be more cost-effective to graze on new winter range than grow more forage for winter feeding with only limited irrigation water)?
 - ii. Technical: Are the techniques and methods to implement the strategy known and appropriate for conditions in WBE (e.g., are weed control methods known to be effective, and is there data on where infestations are located and when they can be treated)?
 - iii. Political: Is the strategy consistent with existing law and regulation or does it require new political action (e.g., is new signage on Route 30 to draw tourists to Grouse Creek consistent with UDOT regulation and policy regarding highway signs)?
 - iv. Environmental: Does the strategy improve environmental conditions (e.g., habitat for sage-grouse) or does it generate new issues (e.g., developing springs and piping surface water may reduce water availability for wildlife)?
 - v. Behavioral: Is the strategy consistent with the way things are done now, or does it require abrupt or controversial changes in behavior (e.g., is it realistic to collaborate with previously vocal critics of livestock ranching)?
 - b. Importance: Some strategies are simply more important than others in terms of quantifiable gains or values that cannot be measured, e.g., maintaining a rural lifestyle and keeping people “on the land.”
 - c. Timeliness: Some strategies may be designed and implemented within a few months, while others may take many years to secure funding, complete environmental analyses, proceed with implementation, and realize the benefit. Long time horizons are not necessarily a reason to avoid a strategy if it has enough potential benefit. The sooner it is initiated the sooner benefits will be realized.

These three factors (feasibility, importance, and timeliness) provided a framework for stakeholder prioritization of implementation strategies, setting the stage for defining Stage 1 planning.

At an August 2012 meeting of the CRMC, stakeholders were divided into four groups, one for each of the remaining planning elements, and provided with detailed tables summarizing the feasibility analysis. They were charged with evaluating and validating each strategy. Implementation strategies that were most

feasible, most important to stakeholders, and could be implemented in a timely fashion were given higher priority for implementation. Strategies addressing concerns that still needed validation or more research to discover workable solutions were given lower priority. Similarly, strategies that would be more difficult to implement, were less important to local stakeholders, or would take a long time to implement relative to the benefits achieved were also assigned lower priorities.

It was noted that a lower priority rating does not mean a strategy will not be eventually addressed. Rather, the CRMC recognizes that it cannot work on everything at once and that planning is iterative, so it elects to focus on higher priorities in a “first round” of implementation during Stage 1, leaving lower priorities for subsequent efforts.

The result was that each strategy was put into one of four categories:

- 1) Do (Stage 1): The CRMC should consider implementing it immediately following the adoption of this CRMP.
- 2) Delegate: The CRMC should rely on another entity to implement the strategy but, because the strategy is important, the CRMC should monitor implementation at least once a year to ensure sufficient progress.
- 3) Defer: The CRMC should not abandon the strategy but, because of one or more considerations, should postpone implementation for a later stage.
- 4) Discard: After careful consideration, the CRMC believes the strategy is not viable or would not yield worthwhile benefits.

5.3 INTEGRATING STRATEGIES INTO PROJECTS AND TASKS

The number of possible “Do” and “Delegate” strategies (approximately 45) was still too large to consider as a group, so the past input from stakeholders was used to suggest a short list of seven “projects” that integrated strategies based in large part on the analyses of feasibility and importance.

Table 7 lists the implementation projects with their associated tasks. Most projects cut across more than one DFC. Each project includes a rationale for action, summarized from Planning Inventory Analysis and the concerns and DFCs articulated by stakeholders. Each project also includes one or more tasks that were distilled from the long list of “Do” and “Delegate” strategies that CRMC members found to be palatable and realistic. Each task had to be capable of being accomplished within a period of approximately two years, providing enough time for action, but not so much time that momentum might be lost within the realities of day to day demands on people’s time. Each task is expanded in Appendix B to include a description of implementation details, roles and strategic partners, timeframe, estimated cost and source of funds, critical elements, and evaluation criteria.

Table 7. Implementation Projects and Tasks for Stage 1 of the WBE CRMP.

I. Programmatic Pinyon/Juniper Control

Dense stands of Utah juniper and pinyon pine have encroached widely into areas where they were historically suppressed by wildfire. Pinyon/juniper encroachment: 1) consumes more water through evapotranspiration, 2) results in faster surface water runoff and lower infiltration to ground water, 3) reduces the understory cover of grasses and forbs, 4) provides limited habitat value for wildlife, 5) reduces forage production for livestock, and 6) increases the possibility of more extensive and destructive wildfire that crosses natural fire breaks created by drainages and rocky outcrops. Addressing “unnatural” encroachment of pinyon/juniper through active removal, careful prescribed fire and reduced fire suppression in encroaching areas, and replacement of pinyon/juniper with native or desirable non-native grasses, forbs, and shrubs will result in more suitable vegetation communities for both wildlife and livestock, as well as increased ground and surface water. In an area as large and diverse in ownership as WBE, it is critical that pinyon/juniper control be planned and implemented in a coordinated way that spans wide expanses of landscape and time and includes both public and private partners.

Tasks:

1. Continue On-going Public and Private Pinyon/Juniper Treatments. To maintain momentum, continue on-going treatment efforts, using mechanical means as well as fire to remove encroaching pinyon/juniper and reseeded areas with shrubs, grasses, and forbs, and ensure maintenance of areas treated in the past. Recognize and publicize successful treatments in maps, on websites, and in end-of-season press releases.
2. Pinyon/Juniper Encroachment Assessment. Using existing or new funding programs (e.g., NRCS Sage-grouse Initiative or DWR's Watershed Restoration Initiative), contract for an analysis of the current extent of pinyon/juniper cover throughout the planning area, past treatment areas, and areas where such cover is not desired. Defining encroachment is the first step toward development of successful strategies to address it.
3. Planning for Coordinated and Comprehensive Pinyon/Juniper Treatments. Form a CRMC-led subcommittee to develop an area-wide, multi-year pinyon/juniper management plan incorporating the full range of management objectives (e.g., soil and water conservation, habitat improvement – including creation and protection of sage-grouse habitat – increased forage production, fire management, etc.) as well as agency-specific pinyon/juniper management direction. Contractor support, using the funding sources noted above, may be the most effective way to produce this plan.
4. Monitor Pinyon/Juniper Treatment. Monitor implementation of the area-wide plan and develop specific new pinyon/juniper treatments based on progress, lessons learned, changing management priorities, and funding availability.

II. Reservoir Suitability Analysis

Water is precious and storage is critical in arid regions like WBE. It is impossible for ranchers and farmers to effectively use all of the water that arrives during the short but intense spring runoff so, unless excess water can be stored, crops suffer in late summer. Feeding livestock through the winter without incurring the expense of buying hay is a primary constraint for ranching in WBE. Upgrading reservoirs or constructing new ones to store excess runoff and extend the irrigation season will allow ranchers to produce more hay and alleviate this constraint. The most cost effective surface reservoirs have already been built, but some stream flows may remain underutilized. The Utah Division of Water Resources (DWaR) is expected to release an analysis in late 2012 that identifies potential reservoir locations in WBE, based on estimates of annual runoff and local topography. If suitable sites are found, water users can begin to develop sources of funding for new projects. Even if new sites are not found to be economic, there may be some existing reservoirs that could be reconditioned to improve storage and extend the irrigation season.

Tasks:

1. Review DWaR Report on WBE Reservoir Sites. Assemble CRMC subcommittee to review report from DWaR on potential reservoir sites in WBE as soon as available.

Table 7. (cont.) Implementation Projects and Tasks for Stage 1 of the WBE CRMP.

2. Reservoir Feasibility Study. Complete reservoir feasibility study and submit to Board of Water Resources for approval.

3. Reservoir Design. Complete reservoir design based on results of approved reservoir feasibility study.

4. Funding for Canal Leakage Study. Seek funding for canal leakage study once planning for new storage sites for saved water is underway.

III. Winter Rangeland Improvement

Most ranchers in WBE graze both private and public lands but depend primarily on hay grown on private lands for winter feed. A short irrigation season is one limitation on winter feed (see Project II. Reservoir Feasibility Analysis), but costs can also be lowered by improving forage production on winter rangelands and pastures, reducing the need to feed hay. Maximizing rangeland utilization requires management flexibility, which is sometimes difficult to maintain on public lands. If forage can be increased and management flexibility developed on public lands, ranchers can increase their margins and improve sustainability in their operations, which in turn helps to sustain these communities.

Tasks:

1. Winter Forage Assessment. Assemble CRMC subcommittee to investigate cost-effective methods to assess forage conditions and impediments to improving forage production (e.g., water availability, noxious weed infestations, sub-optimal vegetation, past grazing practices) on an area-wide basis on both private and public winter grazing lands. Contractor support, using the funding sources noted above, may be the most effective way to produce this assessment.

2. Implement Forage Improvements. Based on the results of the forage assessment, seek funding for recommended improvements. Start with projects on private land to avoid extended timeframes associated with NEPA review and other agency procedures. Some improvements may be initiated before the end of 2014; others, particularly those on federal land, will likely be implemented in the next CRMP stage.

3. Grazing Invasive Plants. Where appropriate, initiate and document success of early season grazing of cheatgrass or other annual non-native invasive plants on private lands.

4. Increase Management Flexibility on Public Lands. Work with BLM, USFS, and individual grazing permittees to implement changes in permit terms and conditions necessary to allow efficient use and maintenance of new winter forage resources.

5. Permittee Monitoring Grazing Lands. To provide data required for more flexible management, solicit agencies' help to train willing and committed livestock producers in monitoring range conditions on private and public lands to develop experience with permittee-assisted monitoring.

IV. Coordinated Weed Management

Noxious and invasive weeds constitute a threat to both wildlife and livestock. Weeds spread readily and cross land ownership boundaries, new species appear, infestations vary dramatically depending on changing precipitation patterns, and public agencies' budgets are constrained. This makes cooperative weed management crucial to minimize negative impacts. Several agencies and individuals are active in weed control efforts, but the lack of funding, information, coordination, and planning limits their effectiveness. New techniques that use grazing to control some weeds could conceivably be employed immediately on private lands and, if proven successful, should be extended to public lands.

Tasks:

1. Weed Data Coordination with County Weed Department. Appoint a CRMC subcommittee to coordinate information sharing among private and public land managers and the County Weed Department on new and existing weed infestations, recent treatments, and availability of funding and other resources. Rely on County Weed Department for computer mapping expertise and resources.

Table 7. (cont.) Implementation Projects and Tasks for Stage 1 of the WBE CRMP.

2. Cooperative Weed Treatment. The CRMC weed subcommittee helps coordinate the weed management efforts in the planning area. County Weed Department makes weed control chemicals and equipment available to local private land managers, and the CRMC weed subcommittee provides local storage of and access to chemicals. The CRMC hosts weed control days at appropriate times throughout the growing season to publicize weed control opportunities and focus control efforts.

3. Weed Management Areas. Establish new Cooperative Weed Management Area programs and new Weed Prevention Areas in WBE to focus control efforts and attract funding.

V. Other “Special-Status Species” Wildlife Protections

The potential for listing of the Greater Sage-grouse under the Endangered Species Act is attracting the attention of both public and private land managers in WBE, and most realize that other species are also important. As a result, wildlife considerations are integral to most current range and agriculture programs and projects (e.g., see Project I. Programmatic Pinyon/Juniper Control). However, a few specific efforts outside of conventional range management practices will help secure the future for special-status wildlife species in WBE.

Tasks:

1. Public Relations Campaign for Wildlife. Establish a CRMC wildlife subcommittee and use local communication tools (meetings, website, newsletter, etc.) to dispel myths about ramifications of allowing agency monitoring of wildlife, especially sensitive species. Urge local residents to cooperate with research and monitoring programs and personnel.

2. Promote Aquatic Habitat Protection. Preserve aquatic habitats identified by agencies as used or occupied by special status species in their current state by avoiding any action that would remove water from these areas.

3. Aquatic Habitat Projects. Seek funding for private land owners to implement habitat protection and expansion projects through public sector sources.

VI. Community and Economic Development through Increased Visitation

The WBE economy and communities are fundamentally tied to ranching, but there has been a trend toward fewer and larger ranches. This has resulted in a narrowing base of economic opportunity in ranching and is the root of WBE’s shrinking communities. Broadening the base of economic opportunity is the most fundamental way to stabilize or grow population and ensure important community services can be protected. One of the simplest ways to generate economic activity that is not connected to ranching in the project area is to increase tourism by advertising and promoting the area’s natural, historic, and recreational assets, and to provide key services for travelers. To accomplish this, WBE will undertake a program of branding, advertising, and promotion of tourism.

Tasks:

1. Economic Development Coordinator and Website. Designate Economic Development Coordinator (EDC) to work with state and county resources and agricultural agency personnel to set up website and newsletter. EDC solicits content, keeps website up to date, and uses website and newsletter to promote job opportunities (short and long term), real estate offerings, community events (oriented to residents), special recreation events (oriented to nonresidents), hunting and similar opportunities, agriculture programs and innovations, and other matters of interest. Information provided through these mediums is targeted to both outside interests and residents of WBE.

2. Tourism Signage and Services. EDC defines and pursues opportunities for new signage and services along major access highways to raise awareness of WBE communities and promote WBE events and opportunities.

3. Gas Pump Card Reader. EDC explores subsidies for gasoline pump card readers and changes in pricing policy for local stores. Efforts focus on both Park Valley and Grouse Creek vicinities.

Table 7. (cont.) Implementation Projects and Tasks for Stage 1 of the WBE CRMP.

VII. Planning Involvement

Planning involvement, while not a project per se, is a central strategy for ensuring long-term progress toward meeting several DFCs. For example, while the CRMP is not likely to generate a significant population increase through implemented projects, it can help stabilize communities and generate a greater vibrancy in a few specific areas. Participation in major planning processes will open doors to other opportunities. WBE communities may manage to get “written in” to the planning and project efforts of agencies and become the recipient of assistance through more significant sources of funding and development. The key is to always be involved in planning by “outside” entities and to express interest in the possibility of accommodating a project that might benefit WBE interests.

Tasks:

1. WBE Planning Representation. Through local elected officials and agency contacts (federal and state), enroll in any lists (email lists, distribution lists, etc.) used to distribute notifications about subjects of interest to WBE businesses or residents. These would include grant programs, planning projects, environmental notification lists, etc. CRMC appoints various individuals, depending on interest and time availability, to represent WBE in relevant planning efforts and report results on a regular basis.

5.4 DEFERRED AND DISCARDED STRATEGIES

Strategies that were deemed less important or less relevant for the first two years, or which depended on accomplishing other tasks first, were moved to a “deferred” category. These are compiled in Appendix C, organized by DFC, and include a strategy description, the reason they were deferred, and a suggested timeframe in which they might be reassessed.

Some strategies were discarded altogether because they were found to be impossible to address by a local CRMC, irrelevant for the most important DFCs, or thought to yield inconsequential gains. To facilitate future review these strategies are compiled in Appendix D, and include a strategy description and the reason they were discarded.

5.5 A FINAL NOTE

Planning is a good thing. No one knows what the future will bring, but establishing a flexible plan based on real needs, solid information, and realistic expectations prepares a community to take advantage of opportunities and avoid unnecessary pitfalls. Many opportunities require some forethought or action, but trying to address opportunities on too many fronts can be frustrating and unproductive, and can lead to deterioration in confidence by those who lead and those who are led.

This CRMP attempts to avoid being left on the shelf by “cutting to the chase” in outlining what is most important to WBE stakeholders in the immediate future and then articulating a realistic roadmap to coordinate the various interests and partners who will influence resource management in the longer term. Some of the CRMP’s details may be an appropriate target for constructive criticism, but the plan and the planning process which generated it provide a focus for those who commit personal time and energy to making WBE a better place. May they be successful.

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APPENDIX A. WEST BOX ELDER COORDINATED RESOURCE MANAGEMENT COMMITTEE MEMBERS

Name	Affiliation
Voting Members	
Erik Spencer	Landowner
Jason Tracy	Landowner
Jay Tanner	Landowner
Patti Kimber	Landowner
Spencer Morris	Landowner
LuAnn Adams	Box Elder County Commissioner
Brent Rose	Box Elder County Water Conservation District
Clayton White	Naturalist
Jeff Schick	Natural Resources Conservation Service
Scott Chamberlain	State Institutional Trust Land Administration
Alan Smith	Sportsman
Scott Walker	Utah Division of Wildlife Resources
Troy Forrest	Utah Grazing Improvement Program
Bruce Sillitoe	Bureau of Land Management
Scott Nannenga	U.S. Forest Service
Lyle Holmgren	Utah State University Extension
Todd Black	Utah State University Extension
Ken Spackman	West Box Elder Conservation District
Todd Adams	Utah Division of Water Resources
Non-voting Members	
Anthony VonNiederhausern	Bureau of Land Management
Bill Gilson	Box Elder County Weed Department
Michael Hanson	Utah Department of Natural Resources
Paul Burnett	Utah Partners for Conservation and Development
Travis Mote	Natural Resources Conservation Service
Ashley Hansen	Utah Association of Conservation Districts
Bracken Henderson	Utah Association of Conservation Districts
Clint Hill	Utah Association of Conservation Districts
Lance Westmoreland	West Box Elder Conservation District
Coordinator	
Diane Tanner	Landowner

APPENDIX B. TASK IMPLEMENTATION DETAIL

STAGE 1 – 2013-2014

Project I. Programmatic Pinyon/Juniper Control

Dense stands of Utah juniper and pinyon pine have encroached widely into areas where they were historically suppressed by wildfire. Pinyon/juniper encroachment: 1) consumes more water through evapotranspiration, 2) results in faster surface water runoff and lower infiltration to ground water, 3) reduces the understory cover of grasses and forbs, 4) provides limited habitat value for wildlife, 5) reduces forage production for livestock, and 6) increases the possibility of more extensive and destructive wildfire that crosses natural fire breaks created by drainages and rocky outcrops. Addressing “unnatural” encroachment of pinyon/juniper through active removal, careful prescribed fire and reduced fire suppression in encroaching areas, and replacement of pinyon/juniper with native or desirable non-native grasses, forbs, and shrubs will result in more suitable vegetation communities for both wildlife and livestock, as well as increased ground and surface water. In an area as large and diverse in ownership as WBE, it is critical that pinyon/juniper control be planned and implemented in a coordinated way that spans wide expanses of landscape and time and includes both public and private partners.

Task 1. Continue On-going Public and Private Pinyon/Juniper Treatments

Task Description: To maintain momentum, continue on-going treatment efforts, using mechanical means as well as fire to remove encroaching pinyon/juniper and reseeding areas with shrubs, grasses, and forbs, and ensure maintenance of areas treated in the past. Recognize and publicize successful treatments in maps, on websites, and in end-of-season press releases.

Implementation Details: Changes in land management practices, particularly fire suppression, have allowed pinyon/juniper woodlands to expand onto ecological sites that they previously did not occupy. Most of these ecological sites were dominated by sagebrush and bunchgrass communities before pinyon/juniper woodland encroachment. As these woodlands become established, they decrease the amount of soil moisture and nutrients available for other plants, which in turn reduces understory vegetation and forage production, decreases wildlife habitat quality (e.g., for sage-grouse and other sagebrush-obligate species, mule deer, and various special status aquatic species), and increases soil erosion potential. Treatments designed to return these areas to sagebrush and bunch grass communities have been successful in restoring soil stability, soil moisture, plant diversity, forage production, and wildlife habitat.

Treatments are being implemented on private land (largely by NRCS, UDWR-WRI, UDAF-GIP, and privately funded) and public lands (by BLM, USFS, UDWR-WRI, and UDAF-GIP). Since treated areas may return to a woodland condition without active management, these individuals and agencies have also invested resources in maintaining previously treated areas. The treatment life (years of effectiveness) varies but typically does not extend beyond 30 years.

A number of tools have been used to treat pinyon/juniper woodlands depending on the location, stand dynamics (age, density), scale, topography, and public opinion, including: prescribed fire, mechanical clearing (chaining, bull hogs), manual thinning, and herbicide. The type of treatment often determines the amount of time needed before the stand is retreated. Since there are fewer hurdles to jump when treating private rather than public land, implementing pinyon/juniper treatments on private land is typically faster and cheaper than on public land.

Roles and Strategic Partners: The CRMC coordinates with the agencies listed above to ensure that on-

going pinyon/juniper treatments continue and that coordination among private and public land managers improves. The CRMC collects information on the success of these treatments and publicizes that success on its website and encourages agencies to link to those reports on their websites. The strategic partners are private land owners and those agencies.

Timeframe: Implement this strategy on a continual basis so that progress in addressing this key issue is maintained.

Estimated Cost and Source of Funds: The cost of implementing on-going treatments varies depending on the type of treatment (prescribed fire, mechanical clearing through chaining or bull hogs, manual thinning, and herbicide, etc.), the location, and the scale of the treatment. The NRCS maintains a cost list for conservation practices, including those that could be used to treat pinyon/juniper, in the eFOTG database, which can be accessed at: <http://efotg.sc.egov.usda.gov/treemenuFS.aspx> (See Section 1, Cost Data), and which may be useful in estimating the cost for the given improvement project.

Critical Elements: The availability of funding. At present most agencies, particularly UDAF-GIP, UDWR-WRI, and NRCS-SGI are funding pinyon/juniper treatments.

Evaluation Criteria: Effectiveness of the CRMC to maintain and coordinate on-going pinyon/juniper treatments. Agencies linking to CRMC website reports on success of treatments.

Task 2. Pinyon/Juniper Encroachment Assessment

Task Description: Using existing or new funding programs (e.g., NRCS Sage-grouse Initiative or DWR's Watershed Restoration Initiative), contract for an analysis of the current extent of pinyon/juniper cover throughout the planning area, past treatment areas, and areas where such cover is not desired. Defining encroachment is the first step toward development of successful strategies to address it.

Implementation Details: Past pinyon/juniper treatments were often completed with the primary objective of increasing forage productivity for livestock. More recently, the USFS and BLM have changed their treatment objectives to include fuels management, erosion control and water quality improvement, water availability, and wildlife habitat improvements. Although forage productivity may no longer be the overriding objective, these treatments continue to benefit livestock. As a result of increased attention on sage-grouse and other sagebrush-obligate species, wildlife habitat improvement has become the most common objective and is the source of funding for many current pinyon/juniper treatments. Changes in treatment design now include the creation of mosaics (spatial and temporal) across the landscape. Treatments often focus on maximizing the amount of edge, or transitional, habitat between woodlands and adjacent plant communities.

Associated with these changes in objectives is a change in scale. Treatments were previously undertaken at relatively small scales to achieve localized forage production benefits. The wider objectives currently addressed call for planning at a larger scale to target landscape-level improvements.

Identifying areas of undesirable pinyon/juniper encroachment could be done in two ways. The first method is to use NRCS Ecological Site Descriptions (ESDs) to spatially delineate areas of encroachment. The ESDs describe the vegetation communities that would dominate an area if there were no human influences. Comparing the ESD with existing vegetation communities determined through aerial imagery would enable identification of areas which are wooded primarily as a result of changes in fire regimes or management and which would be candidates for treatments.

The second method is to compare historic and current aerial imagery to identify changes in pinyon/juniper distribution. This analysis could be done for a small area of interest or for larger landscapes. Models can be developed using mapping and spatial analysis software to provide quantitative data on the rate of pinyon/juniper encroachment over larger areas. These models will help plan both the spatial and temporal scale of proposed treatments.

UGIP and NRCS have already contracted with Open Range Consulting (ORC) to begin pinyon/juniper encroachment assessments in several areas within Utah, including WBE, Diamond Mountain, and Tavaputs Plateau.

Roles and Strategic Partners: The CRMC requests a presentation from UGIP and NRCS on the scope and results of the ORC contract. As necessary, the CRMC coordinates with private landowners and agencies including the BLM, USFS, NRCS, SITLA, UDAF-GIP, UDWR-WRI, to seek funding (perhaps through the NRCS Sage-grouse Initiative) to contract a private firm to refine the assessment of the current extent of pinyon/juniper encroachment to meet the objectives of this CRMP. It will be essential to assess the entire WBE project area. Agencies assist in identifying characteristics that would help define unnatural expansion (i.e., "encroachment"). The results of this analysis inform the next phase of planning to reduce encroachment.

Timeframe: Results from the ORC studies are expected in mid-2013. Funding for additional work should be identified before mid-2013. After funding is secured, a request for proposals could be issued within 2-3 months, and a contractor (ORC or other) should be able to refine the analysis within another 6-12 months, depending on the need for field data.

Estimated Cost and Source of Funds: The cost of identifying areas of pinyon/juniper encroachment vary depending on the identification method, but neither method discussed above (i.e., comparing either ESDs or historic aerial photography to current aerial photography) would require extensive effort. Both would involve compiling the necessary hard copy and digital information then working at the computer to analyse and interpret it. Minimal ground truthing in the field could be needed under either approach. Based on other assessments, contractor costs for remote-sensing based analyses could be in the \$5-10,000 range. Funding may be available through the programs mentioned below under the planning task.

Critical Elements: Limitations include: availability of funding, and the availability of contractors with the skills, tools, and experience to conduct the needed analysis, and availability of current remote sensing data.

Evaluation Criteria: Timeliness and accuracy of the deliverable, mapping of pinyon juniper encroachment areas and past treatments.

Task 3. Planning for Coordinated and Comprehensive Pinyon/Juniper Treatments

Task Description: Form a CRMC-led subcommittee to develop an area-wide, multi-year pinyon/juniper management plan incorporating the full range of management objectives (e.g., soil and water conservation, habitat improvement – including creation and protection of sage-grouse habitat – increased forage production, fire management, etc.) as well as agency-specific pinyon/juniper management direction. Contractor support, using the funding sources noted above, may be the most effective way to produce this plan.

Implementation Details: As the completion of the assessment of pinyon/juniper encroachment nears, form a CRMC-led subcommittee to develop an area-wide, multi-year pinyon/juniper management plan focusing on both private and public lands and incorporating the full range of management objectives (e.g., soil and water conservation, habitat improvement - including creation and protection of sage-grouse habitat - increased forage production, fire management, etc.). Focusing on the entire planning area ensures that planning addresses the landscape-scale improvements discussed above. Broad treatment priorities, based on the agreed-upon management priorities, are assigned without consideration of land ownership.

Once these treatment priorities are established, planning shifts to treatment methods and phasing. In these aspects, planning for private and public lands diverges. Private landowners have greater discretion in independently selecting methods. They are not bound by procedures such as NEPA which guide agency planning and decision-making, and funding options are more varied. As a result, implementation may begin on private land once initial, area-wide planning is complete, while initial planning for public land

treatments will shift to agency-specific planning, review, and decision-making processes. These processes will delay implementation on public lands and may result in some revisions to the final, area-wide plan reflecting agency-specific considerations reflecting the interests of the general public.

To reduce the scale of such revisions and maintain the cooperative basis of this project, the BLM and USFS should initiate a single, joint, programmatic NEPA review of the comprehensive plan's provisions for treatments on lands under their jurisdiction. This programmatic review will result in approvals for a first tier of pinyon/juniper treatment efforts and provide the foundation of analysis to which subsequent, project-specific NEPA reviews can be tiered.

If the agencies determine that joint NEPA review was not feasible, simultaneous and parallel, agency-specific programmatic reviews, might capture most of the benefits of a joint process. In either case, programmatic NEPA analysis of the comprehensive, area-wide plan will require an initial expenditure of time and money, but it will reduce costs and time requirements in the long term, alleviating the "NEPA bottleneck" as subsequent phases of the comprehensive plan are implemented. It will also consider the cumulative, planning-area-wide effects of management activities, whereas analysis of individual treatments focuses on a much smaller area.

As planning is completed for private lands and by each agency, seek funding to begin implementation of new projects on private lands and to complete NEPA review and permitting and then implementation of new projects on public lands. Sources of funding might include the NRCS Sage-grouse Initiative, Utah Grazing Improvement Program, DWR Watershed Restoration Initiative, or Utah Partners for Conservation and Development.

Roles and Strategic Partners: CRMC establishes a committee of private and public lands managers to steer efforts. BLM, USFS, and SITLA conduct analyses jointly or only targeting lands within their jurisdictions, depending on which route is faster and more effective. Although state lands are not under the same NEPA requirements, coordinating with SITLA will be beneficial for the resource and will increase the likelihood of management success in the planning area.

Timeframe: The CRMC committee could evolve in late 2013 from the subcommittee that develops and issues the RFP for the pinyon/juniper Encroachment Analysis. As data becomes available from the pinyon/juniper Encroachment Analysis, work can begin on planning for pinyon/juniper control so as to expedite development and review of individual projects, perhaps by early 2014.

Estimated Cost and Source of Funds: Costs are primarily those of developing plans. The cost of implementing this strategy includes the NEPA analysis for the multi-agency, area-wide plan and is estimated at between \$100,000 and \$300,000. The analysis should be completed by the BLM or USFS, likely as joint lead agencies, with a third party supporting the efforts of the two agencies. The main cost for the CRMC is staff time. Contractor assistance may be desirable or necessary, which adds cost to the CRMC, perhaps in the range of \$20,000 to \$100,000, depending on the nature and scope of the programmatic plan. As plans evolve, identification of potential funding sources is a key aspect. The NRCS maintains a cost list for conservation practices, including those that could be used to treat pinyon/juniper, in the eFOTG database, which can be accessed here: <http://efotg.sc.egov.usda.gov/treemenuFS.aspx> (See Section 1, Cost Data), and which may be useful in estimating the cost for the given improvement project. Note that current NRCS funding for such vegetation treatments is being channeled through the NRCS Sage Grouse Initiative.

Critical Elements: High quality data on pinyon/juniper encroachment and expertise on the part of agencies to effect a smooth and defensible planning process. The willingness of CRMC member agencies to cooperate even if it means deviating from their standard practices and procedures. Satisfying potentially conflicting priorities and policies on the part of the different agencies regarding the management of pinyon/juniper (e.g., where to actively manage vs. passively manage, how to manage) and securing funding for the NEPA process.

Evaluation Criteria: Completed plans within 2-3 years with individual projects identified.

Task 4. Monitor Pinyon/Juniper Treatment

Task Description: Monitor implementation of the area-wide plan and develop specific new pinyon/juniper treatments based on progress, lessons learned, changing management priorities, and funding availability.

Implementation Details: As planning is completed and treatments begun, whether on private or public lands, the CRMC monitors and documents the extent to which each particular plan was an outcome of the earlier planning, the attributes of each treatment (size, cost, range and wildlife values pursued, etc.), and the success of each treatment in terms of the specific objectives for that treatment.

Roles and Strategic Partners: The CRMC requests reports from private and public land managers prior to and following treatment. The CRMC compiles the information and makes it available on an area-wide basis, helping subsequent treatment managers to finely tune implementation details.

Timeframe: Monitoring could begin with currently ongoing treatments, but should definitely be in place as planning nears completion and treatments are initiated.

Estimated Cost and Source of Funds: Costs depend on extent of monitoring acceptable to land managers and whether monitoring can be required of individual treatment implementers. Agencies may already include some monitoring in ongoing land management programs.

Critical Elements: Staff time to solicit and compile data.

Evaluation Criteria: Successful implementation of treatments emerging from planning.

Project II. Reservoir Suitability Analysis

Water is precious and storage is critical in arid regions like WBE. It is impossible for ranchers and farmers to effectively use all of the water that arrives during the short but intense spring runoff so, unless excess water can be stored, crops suffer in late summer. Feeding livestock through the winter without incurring the expense of buying hay is a primary constraint for ranching in WBE. Upgrading reservoirs or constructing new ones to store excess runoff and extend the irrigation season will allow ranchers to produce more hay and alleviate this constraint. The most cost effective surface reservoirs have already been built, but some stream flows may remain underutilized. The Utah Division of Water Resources (DWaR) is expected to release an analysis in late 2012 that identifies potential reservoir locations in WBE, based on estimates of annual runoff and local topography. If suitable sites are found, water users can begin to develop sources of funding for new projects. Even if new sites are not found to be economic, there may be some existing reservoirs that could be reconditioned to improve storage and extend the irrigation season.

Task 1. Review DWaR Report on WBE Reservoir Sites

Task Description: Assemble CRMC subcommittee to review report from DWaR on potential reservoir sites in WBE as soon as available.

Implementation Details: The DWaR study is nearing completion, and staff believes there will be developable water resources within WBE. Request presentation from DWaR agency staff to entire CRMC with respect to the details of possibilities for reservoir locations discovered in their recent analysis. Assemble CRMC subcommittee to review details of report and DWaR presentation. If developable water

is identified (even if only in some years) at suitable sites, contact individuals and groups (e.g., irrigation companies) near these locations who would benefit from a reservoir. Based on the level of support, develop a prioritized list of potential reservoir sites to carry into Task 2.

Roles and Strategic Partners: DWaR completes the report on potential WBE reservoir sites. CRMC establishes one subcommittee for each subwatershed or potential site (preferably with at least one member holding water rights to the water to be stored) to review the results with respect to local needs and conditions. DWaR responds to questions and provides additional clarification as needed. Local stakeholders provide input on level of commitment to pursue reservoir development.

Timeframe: Report available end of 2012. CRMC reviews report winter 2013.

Estimated Cost and Source of Funds: Costs of study already budgeted by DWaR. CRMC provides committee time. Local stakeholders provide time for discussion.

Critical Elements: Comprehensiveness of study for WBE area. Uncertainty regarding unallocated flows, in amount and timing. Uncertainty of future water availability due to climate change accommodated in future estimates. Uncertainty of level of commitment from stakeholders.

Evaluation Criteria: Adequacy of coverage of WBE area and of details suitable for next step in planning.

Task 2. Reservoir Feasibility Study

Task Description: Complete reservoir feasibility study and submit to Board of Water Resources for approval.

Implementation Details: Once a prioritized list of potential reservoir sites and a group(s) that supports reservoir development at a potential site have been identified, the CRMC will contact the DWaR representative for WBE area (Blair Francis) who will likely act as a sponsor for this project. CRMC will enter into discussions with DWaR and other agencies to determine the likelihood of future support from the Board of Water Resources. A formal request will be made to DWaR by the CRMC to complete a reservoir feasibility study(s) at the proposed location(s) and to serve as an official sponsor when presenting the report findings to the Board of Water Resources.

If DWaR declines to complete the study, stakeholders will need to contract with a qualified individual to complete the necessary work. If DWaR declines to act as a sponsor, CRMC will work with stakeholders to make requested changes to potential sites and stakeholder groups per recommendations from DWaR to satisfy their concerns.

If needed, use state or NRCS personnel to help develop Request for Proposals to engineering firms and secure funding to complete report. During this task, the CRMC will work with DWaR and other agencies to determine a cost estimate for each potential site and the potential financial commitment from stakeholders. Results of the reservoir feasibility study(s) will need to be presented to the Board of Water Resources, introduced by a sponsor from DWaR. If the results are approved by the Board, work on Task 3 can begin.

Roles and Strategic Partners: CRMC works closely with DWaR representative for WBE area (Blair Francis) to obtain sponsorship for potential reservoir development and identify groups supporting potential reservoir sites (irrigation companies, local ranchers, etc.).

Timeframe: Request support from DWaR in early 2012. If necessary, develop request for proposals for feasibility studies in mid to late 2013; studies begin early 2014.

Estimated Cost and Source of Funds: DWaR may complete feasibility study. If not, stakeholders will need to work with other agencies to obtain funding or technical support. Cost estimates depend on site specifics.

Critical Elements: Sponsorship from DWaR. Funds may be needed to complete feasibility studies of potential sites. Those supporting potential reservoir development (irrigation companies, local ranchers, etc.) will need to be unified over the long term (several years) and financially committed.

Evaluation Criteria: Approval of feasibility study by Board of Water Resources and local support to proceed with design phase of reservoir.

Task 3. Reservoir Design

Task Description: Complete reservoir design based on results of approved reservoir feasibility study.

Implementation Details: Once the reservoir feasibility study(s) receive approval from the Board of Water Resources, the CRMC will work with agencies and stakeholders to secure funding to complete the reservoir design. Stakeholders will contract for the necessary technical help. A refined cost estimate will be provided by the contractor early in this task for discussion purposes.

The Board will typically fund reservoir development projects at 75-85 percent of total cost. Stakeholders will need to secure the remaining 15-25 percent of construction cost. Based on previous discussions with DWaR, the CRMC and stakeholders should have an approximate estimate of the level of financial support they can expect from the state. CRMC will play a supporting role between agencies and stakeholders throughout this task with an emphasis on identifying potential sources of funding for construction. Once the reservoir design is completed, the design will be presented to the Board of Water Resources. If the design is approved, the Board can commit to provide financial support or merely give permission to proceed with construction. Actual construction would not take place until the next phase of the CRMP and is not part of this task.

Roles and Strategic Partners: CRMC establishes a subcommittee (perhaps made up of the private land owners who will benefit the most from new reservoirs) to work closely with DWaR and other agencies to develop and evaluate funding sources. Contractor assistance may be necessary. Technical support from a licensed engineer will be needed to complete the reservoir design.

Timeframe: Begin looking for potential funding sources to complete the necessary studies and reservoir construction as soon as the list of potential sites is prioritized and a group of committed stakeholders is identified. Actual timeframe for this task is based on timing of Task 2.

Estimated Cost and Source of Funds: Depends on complexity of design and amount of outside funding available to offset cost.

Critical Elements: Funding available from federal or state programs to complete the reservoir design. Financial support from the Board of Water Resources will also be critical. At a minimum, stakeholders will need to receive the typical amount of financial support (75-85 percent) provided for projects of this type. Stakeholders must also remain committed to the project over the long term. DWaR must be willing to consider new appropriations.

Evaluation Criteria: Approval of the reservoir design by the Board of Water Resources.

Task 4. Funding for Canal Leakage Study

Task Description: Seek funding for canal leakage study once planning for new storage sites for saved water is underway.

Implementation Details: If the preceding tasks indicate that a reservoir(s) will be developed, assess water loss from existing irrigation canal systems that would be associated with them, and investigate the potential for increasing the amount of stored water actually delivered to irrigated fields. If there is a significant distance from diversion to delivery points, design a study that would determine loss from canal leakage and the potential for reducing canal leakage without significantly reducing water for wildlife and other beneficial uses. Information to complete this study would be obtained from private landowners, irrigation companies, NRCS, and DWaR. (Existing information shows the location of many irrigation systems but does not include design characteristics that could determine the extent of leakage – e.g., lined or unlined canals.) Measurements of water loss are determined through a combination of actual flow measurements, estimates based on patterns of long-term use, and typical leakage values for unlined canals from the DWaR.

Roles and Strategic Partners: Based on existing data, DWaR guides CRMC in evaluating options for future studies and helps to determine if there are realistic possibilities to reduce canal leakage between newly developed sources through canal systems to fields. DWaR and NRCS help CRMC look for funding sources for a study and for future improvements to irrigation systems.

Timeframe: The study would be designed under this task, and recommendations would be implemented during subsequent CRMP phases.

Estimated Cost and Source of Funds: Dependent on the extent of the study and the availability of outside funding to offset costs.

Critical Elements: Reservoir development and canal systems associated with new reservoirs.. Funding sources available from federal or state programs.

Evaluation Criteria: Documented potential for increased irrigation water availability through reduction of canal leakage.

Project III. Winter Rangeland Improvement

Most ranchers in WBE graze both private and public lands but depend primarily on hay grown on private lands for winter feed. A short irrigation season is one limitation on winter feed (see Project II. Reservoir Feasibility Analysis), but costs can also be lowered by improving forage production on winter rangelands and pastures, reducing the need to feed hay. Maximizing rangeland utilization requires management flexibility, which is sometimes difficult to maintain on public lands. If forage can be increased and management flexibility developed on public lands, ranchers can increase their margins and improve sustainability in their operations, which in turn helps to sustain these communities.

Task 1. Winter Forage Assessment

Task Description: Assemble CRMC subcommittee to investigate cost-effective methods to assess forage conditions and impediments to improving forage production (e.g., water availability, noxious weed infestations, sub-optimal vegetation, past grazing practices) on an area-wide basis on both private and public winter grazing lands. Contractor support, using the funding sources noted above, may be the most effective way to produce this assessment.

Implementation Details: CRMC subcommittee solicits presentations by consultants or agency teams about current and emerging remote sensing technologies and techniques to assess current conditions and opportunities to improve forage on winter grazing lands (e.g., water spreading, control of less desirable shrub species, inter-seeding desirable species) and maintain or improve wildlife habitat quality (e.g., for sage-grouse and other sagebrush-obligate species, mule deer, and various special status aquatic species). Based on this information, the subcommittee estimates costs to complete the assessment, releases an RFP, selects a contractor, and initiates work. The deliverable is a report detailing the assessment methods used, assessment results with supporting mapping and digital data, detailed evaluation of treatment options for various sites, and estimated treatment costs on a per-acre basis for recommended improvements.

Roles and Strategic Partners: The CRMC coordinates with private landowners and agencies including the BLM, USFS, NRCS, SITLA, UDAF-GIP, to seek funding to contract a private firm to assess current range conditions on winter pastures and allotments and to identify appropriate improvement methods to increase forage production on an area-wide basis. The contractor uses large-scale techniques, such as remote sensing, backed up by sufficient ground-truthing and other field data collection as necessary, to assess all private and public winter grazing areas in the project area. Agencies assist in identifying assessment methods and appropriate improvements.

Timeframe: Initial RFP could be developed in winter 2013 and released by late spring 2013. Analysis could be completed by the end of 2013, depending on needs for field data and ground truthing.

Estimated Cost and Source of Funds: Costs of this strategy include the time demands on the CRMC, other agency personnel, and the ranchers for the development of the RFP and management of contractors who conduct the analysis. Based on other assessments, contractor costs for remote-sensing based analyses could be in the \$20-50,000 range.

Critical Elements: Availability of funding to complete the assessment, then identification of cost effective opportunities to improve winter forage production on winter pastures.

Evaluation Criteria: The documented potential for increases in forage production relative to the amount of time and money invested. Patterns (including spatial and temporal) may emerge that help inform the decision-making process for future improvement projects.

Task 2. Implement Forage Improvements

Task Description: Based on the results of the forage assessment, seek funding for recommended improvements. Start with projects on private land to avoid extended timeframes associated with NEPA review and other agency procedures. Some improvements may be initiated before the end of 2014; others, particularly those on federal land, will likely be implemented in the next CRMP stage.

Implementation Details: After completion of the Winter Forage Assessment, landowners work with the NRCS to secure technical and funding support for improvements on their privately-owned pastures, and with BLM, USFS, and SITLA on public lands. Starting on private lands avoids permitting delays associated with NEPA review and other agency procedures. However, most of the winter grazing in WBE is on BLM lands south of Highway 30, so substantial increases in winter grazing opportunities must eventually involve these public lands.

Roles and Strategic Partners: Individual ranchers and private land managers work with agricultural agencies to develop, fund, and implement projects on private and public lands.

Timeframe: Projects on private lands could begin in 2014.

Estimated Cost and Source of Funds: Costs of this strategy include the time demands on the CRMC, other agency personnel, and the ranchers for the identification and implementation of potential improvement projects. The cost of the projects themselves vary depending on the type, location, and scale of the project. The NRCS maintains a cost list for conservation practices in the eFOTG database, which can be

accessed here: <http://efotg.sc.egov.usda.gov/treemenuFS.aspx> (See Section 1, Cost Data), and which may be useful in estimating the cost for the given improvement project.

Critical Elements: The ability of projects in WBE to secure and maintain technical support and funding priority with the agencies (NRCS, UDNR, UDAF, BLM, and USFS) and to get any needed environmental approval. Recognize that if project objectives match current agency objectives (e.g., wildlife habitat improvement as opposed to strictly livestock forage production), projects are more likely to be accepted by the public and the agencies. Improvement projects are more difficult to implement on public land than on private land.

Evaluation Criteria: Actual monitored increases in forage productivity on private lands.

Task 3. Grazing Invasive Plants

Task Description: Where appropriate, initiate and document success of early season grazing of cheatgrass or other annual non-native invasive plants on private lands.

Implementation Details: Cheatgrass may germinate in either the fall or early spring, depending on growing conditions. Early germination gives cheatgrass a physiological advantage over native, perennial grasses that do not emerge until later in the season. Cheatgrass is thus able to grow with only limited competition for water and other resources, reducing the availability of these resources later in the growing season. As cheatgrass dries in early summer, it creates a wildland fire hazard just as summer lightning storms are beginning. Early season grazing has the dual benefit of providing a source of forage and reducing the amount of fine fuels that may exacerbate wildfires later in the season.

On BLM, USFS, and SITLA lands, such grazing is not possible unless it is consistent with permit terms and conditions, and revision of permits generally requires NEPA review. Completing the NEPA review in the narrow time between when an abundance of cheatgrass is detected and the end of optimal grazing conditions is not likely. However, if this strategy proves successful on private lands, there may be opportunities to pursue increasing grazing permit flexibility to allow its application on public lands in later stages of the CRMP process (see similar deferred strategy).

Roles and Strategic Partners: The CRMC researches efforts by ranchers within WBE using this technique to control cheatgrass and hosts a workshop on early season cheatgrass grazing covering topics including recognizing when cheatgrass is grazable, the amount of grazing pressure needed to decrease cheatgrass, when grazing should cease to protect and promote desirable range species, when dietary supplements are needed, how to provide water, etc. If the strategy proves effective on private lands over time, the CRMC can also coordinate with the land management agencies to introduce the necessary flexibility into grazing permits so that the same strategy can be implemented on public land. Strategic partners include private landowners, and at a later time, the BLM, USFS, and SITLA.

Timeframe: Implement this strategy on a continual basis. Because livestock grazing has been used effectively to control cheatgrass elsewhere and on a limited basis within WBE, this strategy is an integral part of other forage improvement strategies.

Estimated Cost and Source of Funds: CRMC time is the main cost of implementing this strategy.

Critical Elements: The willingness of private landowners to move cattle onto pastures with cheatgrass earlier in the season. Subsequently, the willingness of agencies to provide the permitting flexibility to allow implementation on public land grazing allotments.

Evaluation Criteria: Reduced extent of cheatgrass in the planning area and the resulting decrease in fire risk.

Task 4. Increase Management Flexibility on Public Lands

Task Description: Work with BLM, USFS, and individual grazing permittees to implement changes in permit terms and conditions necessary to allow efficient use and maintenance of new winter forage resources.

Implementation Details: In order for range improvements on public land winter allotments to effectively offset the need for purchased hay, permittees must be able to use the increased forage. Without the ability to capture this benefit, there is little incentive for ranchers or agencies to pursue these range improvements.

In most cases, capturing this benefit will require the land management agencies to revise the terms of grazing permits to reflect changes in forage availability. At a minimum, the number of permitted AUMs (animal unit months; the unit of measure used to express the amount of forage that can be used under the permit) would be increased in proportion to any increase in forage production. Beyond that, the ideal would be enough flexibility in permit terms to allow changes in the number of AUMs, the season of use, and even the type of livestock in response to dynamic shifts in allotment conditions due to climatic variability, management actions, and other factors. This type of adaptive management is consistent with current BLM and USFS direction for grazing management but has proven difficult to implement.

At any level, flexibility in grazing permit terms requires timely collection and processing of data on forage production, utilization, and other variables. This is a major constraint to widespread adoption of adaptive management. Changes in permit terms may also require NEPA review, whether they reflect a one-time increase in permitted AUMs or a shift to more flexible management. This is another constraint to widespread adoption of adaptive management. The CRMC, in its role of coordinating planning and action among ranchers, land management agencies, and other stakeholders, can play a major role in overcoming these constraints. Beginning with winter allotments is a manageable starting point.

Roles and Strategic Partners: The CRMC initiates ongoing efforts to facilitate discussion and coordinated action among ranchers and land management agencies to facilitate revision of grazing permits to reflect forage increases on winter allotments. Based on success in this process, efforts continue toward increased flexibility in grazing permit terms and eventual adoption of adaptive management in the planning area.

Timeframe: Discussion of permit revisions begins when projects to improve forage production on public winter allotments are in the planning phase. Procedures to increase permitted AUMs should be in place by the time actual increases in forage production occur. Actual changes in permit terms are not likely to be needed during the initial phase of CRMP implementation. A more comprehensive shift toward adaptive grazing management on public allotments will be a long-term process.

Estimated Cost and Source of Funds: Costs of this strategy include ongoing time demands on the CRMC to monitor and facilitate a long-term process. Costs to land management agencies and ranchers will include monitoring data collection, analysis, and interpretation, then the administrative cost of completing NEPA review and the rest of the process necessary to revise permit terms. The cost of initial projects may be higher, as they will be pioneering efforts in a sense. At some point, shifting to a programmatic approach to increased permit flexibility rather than addressing permit changes individually will decrease overall, long-term costs.

Critical Elements: Willingness on the part of the CRMC and its member ranchers and agency representatives to undertake this challenging but important task. In general terms, the ecological and administrative groundwork is in place to support more flexible permitting, but the costs to get it up and running may be substantial.

Evaluation Criteria: Actual permit revisions reflective of increased forage or other changes in conditions on winter grazing allotments.

Task 5. Permittee Monitoring Grazing Lands

Task Description: To provide data required for more flexible management, solicit agencies' help to train willing and committed livestock producers in monitoring range conditions on private and public lands to develop experience with permittee-assisted monitoring.

Implementation Details: As discussed under Task 4, accurate monitoring of range conditions is essential to identify and justify management changes, particularly any shift toward more flexible management. As budgets have been cut and administrative priorities have increased, the capability of land management agencies to complete such monitoring has decreased. Recognizing that grazing permittees have a vested interest in monitoring conditions on their allotments and are out on the ground on those allotments on a regular basis, the BLM, USFS and rancher groups have pursued the potential role of ranchers in range monitoring. Recent Memoranda of Understanding spell out this role for each agency and outline appropriate monitoring procedures. In Wyoming, the Department of Agriculture is implementing a Rangeland Health Assessment Program (RHAP) that provides for cost sharing between permittees and agencies to cover the costs of monitoring by agency personnel, permittees, or contractors. To date, implementation of these protocols in Utah has been spotty and the results of initial efforts to involve permittees in monitoring inconclusive. This CRMP provides an opportunity to try out permittee monitoring in a better managed and controlled setting. Again, addressing conditions on winter allotments provides a manageable starting point.

Since it is imperative that monitoring data be collected according to agency specifications or protocols, permittees must be properly trained in data collection and then adhere to the protocols. The CRMC will work with the BLM and USFS to identify WBE ranchers with the interest and resources to participate in a trial effort and then to specify what data to collect and what protocols to use. If initial results are successful, both type and amount of data collected and the number of participating ranchers may be increased over time so that any permittee-proposed changes in permit terms are supported by data. Establish a CRMC subcommittee to hear and consolidate reports and publicize the successes.

Roles and Strategic Partners: The CRMC helps identify ranchers to participate in the effort, then ensures that the agencies and permittees cooperate in developing a list of broadly applicable data needs and an organized approach to obtaining it in a timely manner. Roles for both agency personnel and permittees are stipulated. The CRMC also facilitates permittee training in agency monitoring protocols as appropriate.

Timeframe: Implementation begins summer 2013.

Estimated Cost and Source of Funds: This strategy has relatively minor costs to the CRMC to identify permittee participants and train them in selected agency monitoring protocols. The cost of gathering data will depend on the amount and type of data to be collected, and that cost will be born by the permittees. On the other hand, the permittees will be the primary recipients of benefits generated by improved management, including increased management flexibility.

Critical Elements: The level of cooperation between the agencies and the permittees, understanding how the data will be used, and attention paid to quality control and quality assurance to avoid possible charges of bias.

Evaluation Criteria: The degree to which permittee involvement in monitoring relieves demands on agency personnel and increases the quality of range management in WBE.

Project IV. Coordinated Weed Management

Noxious and invasive weeds constitute a threat to both wildlife and livestock. Weeds spread readily and cross land ownership boundaries, new species appear, infestations vary dramatically depending on changing precipitation patterns, and public agencies' budgets are constrained. This makes cooperative weed management crucial to minimize negative impacts. Several agencies and individuals are active in weed control efforts, but the lack of funding, information, coordination, and planning limits their effectiveness. New techniques that use grazing to control some weeds could conceivably be employed immediately on private lands and, if proven successful, should be extended to public lands.

Task 1. Weed Data Coordination with County Weed Department

Task Description: Appoint a CRMC subcommittee to coordinate information sharing among private and public land managers and the County Weed Department on new and existing weed infestations, recent treatments, and availability of funding and other resources. Rely on County Weed Department for computer mapping expertise and resources.

Implementation Details: Box Elder County has a successful noxious weed identification and treatment program. The agricultural community has participated in the program and has contributed substantially to the level of success. Their continued contribution is essential since they have the ability to collectively detect noxious weed infestations across the majority of the planning area. The Box Elder County Weed Specialist has recognized that collaboration is needed on all levels so that more people are involved and trained to properly identify and treat noxious weeds, and so that the weed database and weed management resources of landowners and land management agencies can be employed as efficiently as possible in addressing prioritized weed issues across the planning area.

The Box Elder County Weed Specialist has attended past CRMC meetings to give presentations regarding noxious weeds in WBE. These presentations have focused on training of others in weed identification and coordinating treatment efforts.

Roles and Strategic Partners: The CRMC continues to promote noxious weed identification and treatment through workshops and special events offered to community members, particularly with the agricultural community, and the Box Elder County Weed Department. In coordinating with these entities, the CRMC facilitates the transfer of information among community members, agency representatives, and the County. The CRMC continues to invite the Box Elder County Weed Specialist to attend and give presentations at CRMC meetings. Training materials are emailed to community members or posted on the Internet. The CRMC also helps coordinate noxious weed identification on lands administered by the BLM, USFS, and SITLA to maximize the effectiveness of their combined efforts.

The primary strategic partners include the Box Elder County Weed Department, members of the ranching and agricultural community, and the BLM, USFS, and SITLA.

Timeframe: Implement this strategy on a continual basis. The Box Elder County Weed Department should be invited to CRMC meetings to refresh residents' knowledge on weed identification at the beginning of each growing season and as otherwise needed.

Estimated Cost and Source of Funds: The costs of implementing this strategy include time demands on CRMC, Box Elder County Weed Department staff, community members, particularly the agricultural community, and land management agency personnel.

Critical Elements: The critical elements of this strategy include the availability of funding. At present most agencies are funding noxious weed management. The CRMC has already been coordinating with the Box Elder County Weed Department.

Evaluation Criteria: Development of a comprehensive, up-to-date weed data base managed by the County with contributions from the public and the land management agencies.

Task 2. Cooperative Weed Treatment

Task Description: The CRMC weed subcommittee helps coordinate the weed management efforts in the planning area. County Weed Department makes weed control chemicals and equipment available to local private land managers, and the CRMC weed subcommittee provides local storage of and access to chemicals. The CRMC hosts weed control days at appropriate times throughout the growing season to publicize weed control opportunities and focus control efforts.

Implementation Details: The CRMC, and specifically the weed subcommittee, provides the forum for committee members, both individuals and agency representatives, to discuss and coordinate weed management activities. The Box Elder County Weed Department continues to make chemicals available, and seeks opportunities to expand its effectiveness by providing equipment.

Residents of the Park Valley area have been more involved than others with noxious weed treatments and coordinating with Box Elder County. Lack of involvement in other areas may be indicative of fewer noxious weed infestations rather than a lack of interest.

The BLM has supported the Box Elder County Weed Department by coordinating spray days and by providing funding. In addition to coordinating with the County, the BLM hires weed management technicians each summer and contracts with an individual who treats remote areas by horseback.

Roles and Strategic Partners: The CRMC continues to promote coordinated weed management efforts through weed subcommittee meetings, workshops and special events offered to community members, particularly with the agricultural community and the Box Elder County Weed Department. The CRMC provides facilities to store chemicals and equipment to be used by many land managers and it coordinates their use. In interacting with these entities, the CRMC facilitates the transfer of information among community members, the County, and the land management agencies.

The primary strategic partners include the Box Elder County Weed Department and members of the ranching and agricultural community. Other partners include the BLM, USFS, and SITLA.

Timeframe: Implement this strategy on a continual basis. The successful treatment of specific noxious weeds often depends on correct timing (e.g., after flower formation but before seed production, etc.) and treatment efforts should occur accordingly.

Estimated Cost and Source of Funds: The costs of implementing this strategy include time demands on the CRMC weed subcommittee, Box Elder County Weed Department staff, community members, particularly the agricultural community, and land management agency personnel. The cost for chemicals and equipment used to treat noxious weed infestations is also a consideration. The NRCS maintains a cost list for conservation practices, including weed treatments, in the eFOTG database, which can be accessed here: <http://efotg.sc.egov.usda.gov/treemenuFS.aspx> (See Section 1, Cost Data), and which may be useful in estimating the cost for the given improvement project.

Critical Elements: The critical elements of this strategy include the availability of funding. At present most agencies are funding noxious weed management. The CRMC has already been coordinating with the Box Elder County Weed Department.

Evaluation Criteria: Number of infestations identified and treated through coordinated efforts of Box Elder County, planning area residents, and land management agencies.

Task 3. Weed Management Areas

Task Description: Establish new Cooperative Weed Management Area programs and new Weed Prevention Areas in WBE to focus control efforts and attract funding.

Implementation Details: Weeds cross land ownership boundaries. Recreationists and livestock may inadvertently spread noxious weeds either from outside of or within the planning area.

Cooperative Weed Management Areas (CWMAs) delineate geographic areas within which to focus cooperative efforts at weed control. Cooperators include county weed departments, private land owners, land management agencies, and canal companies. Cooperation takes the form of sharing labor as well as costs. WBE lies within the Box Elder Zone of the Utah-Idaho CMWA and several projects have been completed, including weed control and reseeding in Johnson Canyon and helicopter spraying of railroad rights-of-way.

Weed Prevention Areas (WPA) are an effort to shift the emphasis from only treating infestations to preventing them in the first place. Weed Prevention Areas are established by land managers and community members to focus the development and implementation of plans to map areas that are weed-free, at-risk of infestations, or already infested with invasive weeds. The WPA plan then goes on to develop strategies to prevent infestations, educate the public about weeds, and establish an early detection and rapid response program, as well as ongoing programs for lands already infested.

Establishing formal areas in which to focus weed control efforts and educating visitors will maximize the efficiency of weed control resources. Visitors can be educated through the use of brochures, roadside signs, or trailhead kiosks to help them recognize their responsibility to avoid weed-infested areas, identify and report new infestations, and to clean their equipment and vehicles before moving to a new area. Other entities, particularly the Utah Weed Control Association, the Utah Division of State Parks and Recreation, and USU Extension, have created educational brochures and other materials which the CRMC could adopt and distribute; there may be no need for brochures specific to WBE. These brochures are already available at many state, county, and federal land management offices. The CRMC may coordinate with Box Elder County, the BLM, the USFS, and Utah Division of State Parks and Recreation to install signs and kiosks along roadsides and at trailheads.

Representatives from recreational groups (ATV, hunters, CWMU operators, Dedicated Hunters, etc.) could be invited to attend the CRMC meetings when presentations are given by the Box Elder County Weed Department to gain information on the locations of current weed infestations and treatment efforts, and then disseminate that information to their constituents. Representatives from the CRMC could also request to give presentations to recreational groups on how to avoid spreading weeds. Groups in nearby areas of Nevada and Idaho should also be included. Information from the County's presentation should be sent to those groups that do not send a representative. Other means of educating recreational groups about reducing the inadvertent spread of noxious weeds could include inserting information on weed management into established hunter safety and ATV courses.

Roles and Strategic Partners: The CRMC works with county weed departments, and public and private land managers to set up one or more Weed Prevention Area(s) and within that group begins development of a Weed Prevention Area Plan.

The CRMC becomes more proactive in public education oriented to prevention by obtaining and distributing copies of existing brochures and other educational material from USU Extension and Utah Division of State Parks and Recreation and making them available where the public is most likely to encounter them (Grouse Creek store, trailhead kiosks, etc.). A second role is to invite representatives from recreational groups to attend the CRMC meetings when the Box Elder County Weed Department is presenting information on current locations of infestations and treatment efforts within the planning area. If representatives do not attend, the CRMC could mail information from the County's presentation to the

recreational groups. A third role is to ask the UDWR to incorporate information on inadvertent noxious weed spreading into the established hunter safety and ATV education programs.

Strategic partners include USU Extension, Utah Division of State Parks and Recreation, BLM, USFS, Box Elder County Weed Department, and property owners who are willing to distribute educational brochures and materials.

Timeframe: Begin coordinating with USU Extension, Utah Division of State Parks and Recreation, and UDWR immediately so that, if the CRMC is asked to provide funding for new weed control area designations or new programs that depend on those designations, the CRMC can begin to secure that funding. Invite representatives from recreational groups to attend the CRMC/Box Elder County Weed Department presentations as often as they occur. Begin coordinating with other entities to install educational signs and kiosks within one year so that potential funding issues can be addressed.

Estimated Cost and Source of Funds: The cost of establishing special weed control area designations is mainly time for CRMC and agency personnel. The cost of obtaining additional copies of existing educational brochures and materials depends on the number of copies requested and whether the CRMC is asked to pay for those copies. However, obtaining copies of existing materials is considerably less expensive than designing and printing new materials.

There is no cost to invite representatives of recreation groups to attend CRMC meetings. Sending information out to those groups which do not attend is also be minimal.

The cost of installing new signage along roadsides and at trailheads varies depending on the number and design of signs/kiosks. Kiosks can reasonably be constructed for approximately \$1,000 per kiosk (three panels, wood construction, anchored in cement), and simple signs cost even less. There would be an additional cost for kiosk and sign maintenance.

Critical Elements: Most critical is the realization that prevention of new or spreading infestations of invasive weeds is effective. Interest in cooperating with other land managers is essential for a WPA to work. The availability of funding to purchase materials as necessary, and the willingness of recreational groups to alter their behavior are also important.

Evaluation Criteria: Establishment of appropriate weed control area boundaries. Creation and distribution of educational material, the number of recreational groups represented at the CRMC/Box Elder County Weed Department presentations, and the decrease of inadvertent noxious weed spreading by recreational groups.

Project V. Other “Special-Status Species” Wildlife Protections

The potential for listing of the Greater Sage-grouse under the Endangered Species Act is attracting the attention of both public and private land managers in WBE, and most realize that other species are also important. As a result, wildlife considerations are integral to most current range and agriculture programs and projects (e.g., see Project I. Programmatic Pinyon/Juniper Control). However, a few specific efforts outside of conventional range management practices will help secure the future for special-status wildlife species in WBE.

Task 1. Public Relations Campaign for Wildlife

Task Description: Establish a CRMC wildlife subcommittee and use local communication tools (meetings, website, newsletter, etc.) to dispel myths about ramifications of allowing agency monitoring of wildlife, especially sensitive species. Urge local residents to cooperate with research and monitoring programs and personnel.

Implementation Details: CRMC establishes a wildlife subcommittee to work with local landowners to promote wildlife and habitat values, provide information on key wildlife issues, and to encourage open access to agencies and institutions to survey for, conduct research on, and implement habitat improvements for special status species on private land.

Contact USU and identify ongoing and recently concluded sage-grouse related research projects and the researchers involved. Use resources such as students in USU's Hard News Café to write articles aimed at the general public. Projects where camera crews could actually see sage-grouse being trapped or released would be ideal. Contact UDWR, Forest Service, and BLM media relations personnel to stimulate media interest in the previously identified research projects. Develop a series of press releases and follow up with local newspapers, television, and radio stations. Use PR campaign tools (website and newsletter developed in Socioeconomic planning element, or a news story[ies] about sage-grouse research) to educate public and raise awareness about sage-grouse and other species, including management practices to maintain these species in WBE.

Contact DWR personnel about other sensitive species and important habitats for their protection. Identify land owners with critically important habitat on their lands and set up meetings with DWR staff to promote understanding and cooperation.

Roles and Strategic Partners: CRMC provides an ongoing subcommittee focusing on wildlife. This may require a representative of the CRMC to visit specific landowners to encourage their cooperation as needed. USU provides students, faculty, and staff to conduct interviews and write press releases. UDWR and BLM help to get the media involved. With a little help, CRMC members could write their own press release.

Timeframe: Implement this strategy immediately on completion of the CRMP and complete it within the first year. It should be repeated each year for the next five years.

Estimated Cost and Source of Funds: May be minor costs associated with travel to and from meetings with landowners. Costs for the actual surveys, research, and habitat improvements incurred by the agency or institution conducting them. Costs would be substantially higher if a new website were developed and maintained.

Critical Elements: Understanding why local landowners may object to research, then alleviating unfounded fears and addressing valid concerns with agencies and researchers. The media must be interested in running the stories.

Evaluation Criteria: Could be difficult to evaluate. Possible measures include agency and institution reports of incidents of denial of access to private property, number of press releases published by newspapers, increase in Google searches with keywords like "Box Elder sage-grouse," increase in hits for the USU extension website, or number of hits for a new website developed for this strategy.

Task 2. Promote Aquatic Habitat Protection

Task Description: Preserve aquatic habitats identified by agencies as used or occupied by special status species in their current state by avoiding any action that would remove water from these areas.

Implementation Details: Work with DWR to identify most important water sources for terrestrial and aquatic species. Seek specific recommendations from DWR regarding management of these sites. Promote appropriate water resource and habitat management practices among ranchers and other planning area residents. The main implementation strategy is to include this type of information in the the wildlife outreach efforts detailed above under Task 1 and to deal with individual land owners as appropriate to address specific water resources or critical sites.

Roles and Strategic Partners: The CRMC wildlife subcommittee plays an oversight role. Primary responsibility lies with land owners, water-right holders, and UDWR. The subcommittee includes

information on aquatic habitat issues in public outreach efforts and contacts landowners when specific issues arise.

Timeframe: Implement this strategy immediately upon completion of the CRMP.

Estimated Cost and Source of Funds: The primary costs are CRMC subcommittee time and the opportunity costs for landowners to allocate water to this purpose rather than alternative uses.

Critical Elements: If there are unused water rights in these aquatic habitats, it may not be feasible to prevent their use in the future, as that would require state legislative action for UDWR to obtain those water rights.

Evaluation Criteria: Maintenance of water levels in occupied aquatic habitats.

Task 3. Aquatic Habitat Projects

Task Description: Seek funding for private land owners to implement habitat protection and expansion projects through public sector sources.

Implementation Details: CRMC Wildlife Committee learns about important sites for protecting aquatic species from DWR or other sources and about funding opportunities through programs such as the Watershed Restoration Initiative and the NRCS Sage-grouse Initiative, and private nongovernmental organizations, such as Audubon, Sierra Club, Ducks Unlimited, National Fish and Wildlife Foundation, and The Nature Conservancy. Where aquatic sites need improvements, the CRMC works with the appropriate agency and the landowner to determine project details and encourages agency specialists to help landowners estimate costs for projects. CRMC wildlife subcommittee then helps facilitate funding requests by lending the weight of their purview over WBE issues.

Roles and Strategic Partners: CRMC establishes subcommittee. DWR personnel work with private land owners. DWR and other agencies provide staff to help land owners secure funding for projects or to secure necessary water rights.

Timeframe: Implement this strategy as soon as DWR can identify potential project sites and possible funding opportunities.

Estimated Cost and Source of Funds: Aside from subcommittee staff time, costs depend on the extent and nature of habitats found to need improvements. Some sites will have only negligible costs for maintaining the status quo. Others may require extensive alteration or procurement of costly water rights.

Critical Elements: Sites needing improvements or protections. Willingness of land owners to set aside portions of their lands and to help manage projects to protect aquatic species. Sufficient funding available to encourage such willingness.

Evaluation Criteria: Number of projects funded over time.

Project VI. Community and Economic Development through Increased Visitation

The WBE economy and communities are fundamentally tied to ranching, but there has been a trend toward fewer and larger ranches. This has resulted in a narrowing base of economic opportunity in ranching and is the root of WBE's shrinking communities. Broadening the base of economic opportunity is the most fundamental way to stabilize or grow population and ensure important community services can be protected. One of the simplest ways to generate economic activity that is not connected to ranching in the project area is to increase tourism by advertising and promoting the area's natural, historic, and recreational assets, and to provide key services for travelers. To accomplish this, WBE will undertake a program of branding, advertising, and promotion of tourism.

Task 1. Economic Development Coordinator and Website

Task Description: Designate Economic Development Coordinator (EDC) to work with state and county resources and agricultural agency personnel to set up website and newsletter. EDC solicits content, keeps website up to date, and uses website and newsletter to promote job opportunities (short and long term), real estate offerings, community events (oriented to residents), special recreation events (oriented to nonresidents), hunting and similar opportunities, agriculture programs and innovations, and other matters of interest. Information provided through these mediums is targeted to both outside interests and residents of WBE.

Implementation Details:

1. The CRMC designates an Economic Development Coordinator (EDC) from within WBE.
2. The EDC oversees development of a WBE website. Updates to the website are simple and can be managed by the EDC. Wordpress or a similar website program is easy, free, and ideal. The website integrates the following elements:
 - a. Home page with welcome and "what's new" - including CRM successes.
 - b. Map of things to do/see in WBE with linked description pages.
 - c. Activities and special events calendar (bicycle races, Fourth of July rodeo, etc.)
 - d. WBE services and contacts.
 - e. Properties for rent or sale.
 - f. Current lodging/camping locations in WBE; develop more locations if feasible.
 - g. Job and business opportunities.

The EDC solicits and collects information on these information items in monthly CRMC meetings and will update the webpage monthly or as soon as an update opportunity emerges. The key goal of the website is to be the central information repository for WBE, and to be the activity and opportunity coordination center for residents and visitors alike.

3. The EDC develops and sends a monthly newsletter to publicize this same content. Email distribution is the primary method; paper copies of the newsletter should be made available at a commercial site in each WBE community.
4. The EDC coordinates to establish free "hotspots" in the centers of Park Valley and Grouse Creek (other communities if possible). The home page for the hotspot is the WBE website. WBE specifically seeks to

provide this same service at "gateway" cities, such as Snowville and Montello. Partnerships with truckstops, restaurants, or other groups may help minimize costs.

5. Send out press releases for major initiatives and milestones (habitat, ranching, etc.) and projects (water, range improvements, etc.) to increase general awareness within and outside of WBE. (Websites will be particularly important for people outside of WBE; interest in newsletters will be more limited to WBE residents.)

Roles and Strategic Partners: The CRMC designates or hires and supervises an EDC. The EDC has the primary role in developing and updating content and inventory information, and in ensuring coordination with CRMC. The EDC builds partnerships with groups in "gateway" cities to deploy the hotspots.

Timeframe: Implemented during the first year of the CRMP. Implementation can be accomplished early (within 1-2 months) if it is prioritized.

Estimated Cost and Source of Funds: Development of web content will be minimal if done by an EDC volunteer. Development of the website, including domain registration and setup, would cost between \$2,000 and \$5,000 if outsourced. This cost depends on the features integrated. Beyond this, monthly maintenance of the website and hotspots is estimated at approximately \$100-\$200/month. Some cost recovery may be possible through local ad/banner mechanisms. The CRMC may pursue ED planning, training of the EDC, development of website, and hotspot maintenance funds through USDA Rural Development's "Rural Business Opportunity Grant" and/or "Rural Broadband Loan" programs. Grouse Creek Economic Development Foundation (contact Allen Smith or Jay Tanner) also has limited funds and can make loans and very small grants, perhaps to help EDC or fund a website.

Critical Elements: Requires commitment of CRMC and an unpaid or part-time EDC. The effectiveness of this tool will be significant if many or most people in WBE train themselves to use it consistently - perhaps by setting the website as their homepage.

Evaluation Criteria: Website hits, reported in CRMC monthly meetings. Additional success measures developed as the site's primary uses and values become apparent.

Task 2. Tourism Signage and Services

Task Description: EDC defines and pursues opportunities for new signage and services along major access highways to raise awareness of WBE communities and promote WBE events and opportunities.

Implementation Details: Install signage on SR 30 to promote traffic through Grouse Creek. Extend signage program to include tourism-oriented information kiosks at important locations (TBD). UDOT policies prohibit placing alternative distances to the same destination on one sign. The policies further require that "the mileage shown [on a sign] will be the distance to the destination along the most direct route, as measured to the nearest rounded down mile to a central location of the destination." As a result, implementation of this strategy is as follows:

1. The CRMC/EDC develops a specific tourism-oriented sign plan in preparation for the TAP Grant funding cycle. Box Elder County's economic development department indicated this project is an excellent candidate for a Taxpayer Access Point (TAP) Grant in January 2013.

a. The sign plan employs alternatives to UDOT signage where needed (e.g., a billboard that identifies Grouse Creek as the "scenic" route to City of Rocks - and shows a map of other attractions along the way to be placed at the key intersection). Negotiate as necessary to use sites for non-UDOT signs.

b. The sign plan identifies key recreation and tourism attractions that can be advertised (e.g., Transcontinental Railroad grade, Sun Tunnels, Spiral Jetty, Devil's Playground, Crystal Vein, extinct volcanoes, Lake Bonneville dam breach site, etc.).

2. The CRMC/EDC works with UDOT to encourage the installation of a rest area along Highway 30. It is 100 miles between services from Snowville to Montello, NV, but because services in Montello are unreliable, it could be another 54 miles to Wells, NV. UDOT has installed highway rest areas along other important two-lane corridors in Utah and could add one in Park Valley, utilizing land and utilities associated with a highway maintenance facility already in place.

Roles and Strategic Partners: CRMC's designated EDC, Box Elder County's economic development office, and the State of Utah (especially UDOT) begin discussions of needed signage and rest area facilities and incorporate plans for facilities in UDOT's transportation planning.

Timeframe: Begin implementation January 2013 by completing the application work for a TAP grant in coordination with Box Elder County's economic development and tourism office.

Estimated Cost and Source of Funds: Implementation for signage ranges from an estimated \$5K—\$15K, depending on the nature of signs used. Implementation for a new rest area will depend on design and scope. UDOT should already have similar plans and designs from other sites in Utah.

Critical Elements: Identifying tourism/recreation sites, developing a tourism signage plan; winning the TAP grant; UDOT coordinating with Nevada Department of Transportation for traveler services along 154 miles of highway that crosses two states.

Evaluation Criteria: Winning funding and placing signs; UDOT incorporating a rest area into future designs for improvements to Highway 30. At least five major sites of interest should be identified and signed.

Task 3. Gas Pump Card Reader

Task Description: EDC explores subsidies for gasoline pump card readers and changes in pricing policy for local stores. Efforts focus on both Park Valley and Grouse Creek vicinities.

Implementation Details: Obtain card-reading gas pumps in Park Valley or at the store in Grouse Creek. Benefits are for both visitors and local residents who will more likely patronize the area, knowing that fuel will be available. Also consider adding vending machines or other amenities to improve absentee service. Two specific approaches are available for implementation of the strategy: a) negotiate with fuel suppliers to pick up the cost of the upgrade with the prospect of selling additional fuel; b) fund the upgrade through a business loan. Implementation is as follows:

1. Obtain current bid to add pumps at Park Valley or to update the Grouse Creek station with the least expensive approach for card-reading infrastructure.
2. Contact at least three fuel suppliers to determine their interest in leasing or providing the needed equipment.
3. If a business loan is required, undertake the application process. USDA Rural Services has a number of applicable loan programs. Providing vending machines would fall under the business loan programs as well.

Roles and Strategic Partners: The CRMC's EDC works directly with land owners in Park Valley and the store owner in Grouse Creek, fuel suppliers, and USDA RD to implement available strategies.

Timeframe: Implementation begins immediately. The process of obtaining bids and negotiating with suppliers should take less than 3 months. If a loan is needed, the loan process should take an additional 2-3 months.

Estimated Cost and Source of Funds: The cost of implementing the strategy likely ranges from \$20-\$50K. No grants are known to exist for this purpose, although a business loan would be accessible. USDA RD

has several business loans that fall into this category of activity, and has indicated the process for getting one would be "simple."

Critical Elements: Direct contact with suppliers and loan program administrators will be necessary.

Evaluation Criteria: Establishment of a card-reading gas pump in WBE. If it is not economic in Grouse Creek, the EDC is encouraged to consider analyzing the possibility at Park Valley as well.

Project VII. Planning Involvement

Planning involvement, while not a project per se, is a central strategy for ensuring long-term progress toward meeting several DFCs. For example, while the CRMP is not likely to generate a significant population increase through implemented projects, it can help stabilize communities and generate a greater vibrancy in a few specific areas. Participation in major planning processes will open doors to other opportunities. WBE communities may manage to get "written in" to the planning and project efforts of agencies and become the recipient of assistance through more significant sources of funding and development. The key is to always be involved in planning by "outside" entities and to express interest in the possibility of accommodating a project that might benefit WBE interests.

Task 1. WBE Planning Representation

Task Description: Through local elected officials and agency contacts (federal and state), enroll in any lists (email lists, distribution lists, etc.) used to distribute notifications about subjects of interest to WBE businesses or residents. These would include grant programs, planning projects, environmental notification lists, etc. CRMC appoints various individuals, depending on interest and time availability, to represent WBE in relevant planning efforts and report results on a regular basis.

Implementation Details: The CRMC develops and keeps an inventory of planning meetings that are scheduled by USFS, BLM, SITLA, and Box Elder County. When Box Elder County undertakes its next general plan or zoning update, the CRMC engages the County to ensure that land-planning meetings are held in WBE communities, and that appropriate zoning protections are considered for incorporated and unincorporated parts of WBE. Secure representation on other county organizations that may affect WBE, including the Box Elder County Public Lands Committee, Box Elder Economic Development Alliance. These meetings are placed in the activities calendar on the website. The CRMC assigns a specific individual(s) to attend and participate at each of these meetings. Preliminarily, the list of planning meetings includes: BLM and USFS land use planning and project scoping meetings; Box Elder County Public Lands Committee meetings, Box Elder Economic Development Alliance meetings, significant County plan update meetings, and others as identified.

Roles and Strategic Partners: The CRMC, BLM, USFS, SITLA, the County, and all land owners.

Timeframe: Immediate implementation required; building an inventory of planning committees and schedules should be completed within 3 months of CRMP adoption.

Estimated Cost and Source of Funds: No cost involved in implementation.

Critical Elements: Maintaining quarterly contact with all major land-managing entities and placing a properly prepared representative from the CRMC at each actual meeting. Maintaining quarterly contact with Box Elder County's planning department to remind them of WBE's interest in being involved in future planning and the desire for zoning protections, and to ask whether any process to update the general plan has been initiated.

West Box Elder County Coordinated Resource Management Plan

Evaluation Criteria: Successful integration of WBE needs and DFCs into other agencies' planning processes.

APPENDIX C. DEFERRED STRATEGY DETAIL

Planning Element: Range and Agriculture

DFC 1. WINTER FORAGE BOTTLENECK.

Winter forage availability is increased and brought into balance with the capacity of allotments and private pastures grazed during the rest of the year, allowing ranchers to maintain optimal herd sizes without incurring the cost of purchasing hay.

Strategy 1.A. Summer Pasture Improvements

Strategy Description: Identify and implement treatments to increase forage production on privately-owned summer pastures so that there is less demand on privately-owned winter pastures.

Reason Deferred: For the moment, land owners feel they are already maximizing production on private lands.

Timeframe to Reassess: Stage 2

Strategy 1.B. Adjust Permitted AUMs

Strategy Description: Revise or validate permitted AUMs on public lands after reassessing forage productivity on BLM winter allotments.

Reason Deferred: Wait for results of Winter Forage Assessments to see if technique could work for summer forage situations.

Timeframe to Reassess: Stage 2

Strategy 1.C. Grazing Associations

Strategy Description: Promote grazing associations to optimize use of summer and winter forage resources among individual ranches to reduce winter feeding requirements.

Reason Deferred: Lower priority.

Timeframe to Reassess: Stage 2

Strategy 1.D. Forage Crop Production

Strategy Description: Identify and transition to the most productive forage crops for WBE.

Reason Deferred: Producers are already coordinating with USU Extension and NRCS to grow most productive forage species.

Timeframe to Reassess: Annually

Strategy 1.E. Balance Winter/Summer Allotments

Strategy Description: Optimize seasons of use on public and private rangelands to better balance winter and summer forage demand.

Reason Deferred: The BLM has already worked with permittees to ensure that season of use on allotments are appropriately allocated. The BLM mentioned that the season of use for the Kilgore allotment needs to be switched from winter (12/01-02/28) to late fall and spring (11/15-12/25 and 04/10-05/01) because forage isn't available during the winter months. That will result in 290 fewer permitted winter AUMs.

Timeframe to Reassess: Stage 2

DFC 2. LIMITATIONS ON AGENCY MANAGEMENT ACTIONS.

Proposed management actions on public land are addressed in a timely fashion, allowing more efficient and environmentally sound multiple use of public lands. This DFC also includes water, wildlife, and other issues under federal purview.

Strategy 2.A. Permittee Monitoring

Strategy Description: Identify permittees who are best suited to implement the provisions in the MOUs between agencies and the Public Lands Council (signed in 2009 by both BLM and USFS) for permittee involvement in monitoring to reduce demands on agency personnel.

Reason Deferred: Wait for results of permittee monitoring of winter allotments to see if technique could work for summer forage situations.

Timeframe to Reassess: Stage 2

Strategy 2.B. Promotion of Wildlife Benefits

Strategy Description: Promote range improvement projects as a management tool benefitting wildlife and other public values in addition to livestock in order to decrease public resistance to agency management actions.

Reason Deferred: Wait for results of aquatic habitat efforts to see if techniques could work for other species.

Timeframe to Reassess: Stage 2

Strategy 2.C. Third-Party NEPA Support

Strategy Description: Utilize third-party contractors to assist government agencies in completing NEPA review.

Reason Deferred: Individual permittees will consider on their own. May be recommended by outcome of PJ Encroachment Planning efforts.

Timeframe to Reassess: Stage 2

Strategy 2.D. Third Party Data Management

Strategy Description: Permittees, CRM, or a third party collects, maintains, and perhaps analyzes monitoring data to support development and review of project proposals.

Reason Deferred: Postpone until assess what data agencies may allow local sources to collect and maintain.

Timeframe to Reassess: Stage 2

Strategy 2.E. Agency-housed Staff

Strategy Description: House a staff person assigned to WBE within existing office (NRCS or other) as interface with agencies and to facilitate data collection and analysis, project development, review, and approval.

Reason Deferred: Postpone until assess what data agencies may allow local sources to collect and maintain.

Timeframe to Reassess: Stage 2

DFC 3. INFLEXIBILITY IN GRAZING PERMITTING.

Flexibility in grazing permitting allows adjustment for changing climatic and biologic conditions.

Strategy 3.A. Assessing Forage Production

Strategy Description: Re-assess forage production on allotments to validate or revise currently permitted livestock numbers.

Reason Deferred: Wait for results of permittee monitoring of winter allotments to see if technique could work for summer forage situations.

Timeframe to Reassess: Stage 2

Strategy 3.B. Review Allotment Conditions

Strategy Description: Coordinate with agency range conservationists to review allotment conditions and permit terms whenever appropriate, particularly following wildfires or other changes to the vegetation community, drought years, or wet years.

Reason Deferred: Wait for results of permittee monitoring of winter allotments to see if technique could work for summer forage situations.

Timeframe to Reassess: Stage 2

Strategy 3.C. Incorporate Flexibility into Permits

Strategy Description: Rewrite permits to allow for flexible management, including wider range of permit conditions and more specific guidance about establishing limits specific to each year.

Reason Deferred: Wait for results of PJ Encroachment Planning to determine how much flexibility agencies may realistically have.

Timeframe to Reassess: Stage 2

Strategy 3.D. Synchronize Permit Renewal

Strategy Description: Synchronize permit renewal dates (like a programmatic NEPA), especially if monitoring data is gathered regularly and managed locally.

Reason Deferred: At present, the BLM is following a practice of cycling through permit renewals a few at a time. That may change if the Range Conservationist and other staff decide to adopt a system of renewing permits (and completing necessary NEPA) for a complex of allotments.

Timeframe to Reassess: Stage 2

DFC 4. COLLABORATIVE EFFORTS WITH GRAZING ASSOCIATIONS.

Grazing associations effectively pool resources to alleviate grazing and resource management concerns.

Strategy 4.A. Organize Grazing Associations

Strategy Description: Organize grazing associations to increase operational efficiency and to qualify for grants and other support.

Reason Deferred: Lower priority.

Timeframe to Reassess: Stage 2

Strategy 4.B. Time-controlled Grazing System

Strategy Description: Where appropriate, establish time-controlled, rotational grazing systems. While such systems can be employed by individual ranchers, they become more feasible and effective when ranchers pool resources through associations.

Reason Deferred: Lower priority. Results of winter forage assessments may raise priority.

Timeframe to Reassess: Stage 2

DFC 6. NOXIOUS WEEDS.

Noxious weeds are managed and new infestations contained so that productivity is maintained and desirable vegetation is preserved.

Strategy 6.A. Replicate Noxious Weed Program Across Planning Area

Strategy Description: Replicate successful elements of the weed identification and treatment program ongoing in the Park Valley portion of the planning area in Grouse Creek and other portions of the planning area.

Reason Deferred: At present, there are more noxious weed infestations in the Park Valley area, and fewer in other portions of the planning area. Postpone until other portions of the planning area are experiencing a greater degree of noxious weed infestations.

Timeframe to Reassess: Stage 2

DFC 7. OTHER INVASIVE PLANTS.

Other invasive plants are managed so that productivity is maintained and desirable vegetation is preserved.

Strategy 7.A. Identify Infestations of Problem Plants

Strategy Description: Identify current infestations of non-noxious but problematic plants, as well as likely corridors and points where invasive plants may become established and spread.

Reason Deferred: May be natural extension of efforts on noxious weeds.

Timeframe to Reassess: Stage 2

Strategy 7.B. Secure Treatment Funding

Strategy Description: Identify and secure sources of funding to treat invasive plants.

Reason Deferred: May be natural extension of efforts on noxious weeds.

Timeframe to Reassess: Stage 2

Strategy 7.C. Grazing Flexibility To Control Invasives

Strategy Description: Revise grazing permit terms to allow use of grazing to help control invasive species (e.g., heavy, early-season grazing of cheatgrass infestations before perennial grasses emerge). (See DFC 3 INFLEXIBILITY IN GRAZING PERMITTING.)

Reason Deferred: This strategy is deferred until the permitting agencies include flexible terms and conditions in the grazing permits.

Timeframe to Reassess: Stage 2

DFC 8. FIRE PLAN.

A Fire Plan is in place and implemented by public and private land managers to prevent wildfires, respond quickly to those that do occur, and utilize both prescribed fire and advantageous wildfire to further resource objectives for other planning elements

Strategy 8.A. Increased Local Fire Suppression Capability

Strategy Description: Increased local fire suppression authority and capability to maximize the speed of response to wildfire, minimizing fire size and habitat damage and the resulting need for rehabilitation efforts. Ranchers are frequently out on the land, have agricultura

Reason Deferred: Low priority until agencies commit to more broad scale fire planning.

Timeframe to Reassess: Stage 2

Strategy 8.B. Cooperative Pinyon/Juniper Management Program

Strategy Description: Pursue a cooperative, multi-agency, area-wide pinyon/juniper management program.

Reason Deferred: Pursue after PJ Encroachment Planning.

Timeframe to Reassess: Stage 2

Strategy 8.C. Update Existing Fire Plans

Strategy Description: Update existing fire management plans to include the specific needs and concerns of the planning area.

Reason Deferred: Low priority until agencies commit to more broad scale fire planning.

Timeframe to Reassess: Stage 2

Strategy 8.D. Fire Breaks

Strategy Description: Establish fire breaks to protect critical habitats for sage-grouse and other special status species. Consider fire breaks at the periphery of watersheds containing protected aquatic species to prevent damage by falling ash to surface water bodies or subse

Reason Deferred: Pursue after PJ Encroachment Planning.

Timeframe to Reassess: Stage 2

Strategy 8.E. Burned Area Rehabilitation

Strategy Description: Re-vegetate burned areas quickly with species valuable for both livestock and wildlife to prevent invasions by undesirable plants. Use either native or non-native species, as appropriate.

Reason Deferred: Pursue after PJ Encroachment Planning.

Timeframe to Reassess: Reconsider in Stage 2. Increased wildland fire frequency may increase the urgency of this strategy.

Planning Element: Water Resources

DFC 1. WATER AVAILABILITY.

Wise water use and development result in a hydrologic balance between water supply and demands from agriculture (livestock and crops), natural vegetation, and wildlife. Groundwater levels are maintained over time and water resources are developed to legal

Strategy 1.A. Reduce Canal Leakage

Strategy Description: Assess leakage for each canal system, prioritize improvements to existing water conveyances to reduce leakage, and upgrade existing structures where feasible.

Reason Deferred: Follow-on task after Stage 1 work on securing new water supplies and finding funding for projects.

Timeframe to Reassess: Stage 2

Strategy 1.B. Extend the Irrigation Season by Upgrading/Building Reservoirs

Strategy Description: Identify and upgrade or repair previously developed reservoirs or construct new ones at undeveloped sites.

Reason Deferred: Follow-on task after Stage 1 work on securing new water supplies and finding funding for projects.

Timeframe to Reassess: Stage 2

Strategy 1.C. Extend the Irrigation Season by Increasing Groundwater Recharge

Strategy Description: Implement range improvements and management practices to increase infiltration and groundwater recharge in upper portions of watersheds then tap the additional water for irrigation below through stream diversions or wells.

Reason Deferred: Follow-on task after Stage 1 work on securing new water supplies and finding funding for projects.

Timeframe to Reassess: Stage 2

Strategy 1.D. Spring Development

Strategy Description: Develop, restore, and/or maintain springs where feasible to increase utility for livestock in a way that wildlife access to surface water is not compromised.

Reason Deferred: Follow-on task after Stage 1 work on securing new water supplies and finding funding for projects.

Timeframe to Reassess: Stage 2

Strategy 1.E. Develop Irrigation Wells

Strategy Description: Develop irrigation wells outside of the existing moratorium boundary near the Park Valley area. This strategy will define opportunities to develop groundwater and minimize the associated risk by providing all currently available data. Moratorium boundarie

Reason Deferred: Follow-on task after Stage 1 work on securing new water supplies and finding funding for projects.

Timeframe to Reassess: Stage 2

Strategy 1.F. Water Resources Data Repository

Strategy Description: Create a central repository of existing water resources data that could be used to guide water development efforts in WBE.

Reason Deferred: Follow-on task after Stage 1 work on securing new water supplies and finding funding for projects.

Timeframe to Reassess: Stage 2

Strategy 1.G. Optimize Cloud Seeding

Strategy Description: Assess current cloud seeding programs and determine if opportunities exist to increase the number of generators or optimize their location.

Reason Deferred: Follow-on task after Stage 1 work on securing new water supplies and finding funding for projects.

Timeframe to Reassess: Stage 2

DFC 2. WATER QUALITY.

Existing and new livestock confinement facilities do not contribute water quality impacts on surface or ground water bodies. All water bodies in the project area fully support their assigned beneficial uses.

Strategy 2.A. Livestock Confinements

Strategy Description: Upgrade existing corrals and design new facilities according to NRCS conservation practice guidelines. Seek funding assistance for individual projects.

Reason Deferred: Low priority for CRMC as a group.

Timeframe to Reassess: Stage 2

Planning Element: Socioeconomics

DFC 1. POPULATION AND SERVICES.

Increased permanent resident population in the Grouse Creek community, ensuring sufficient population for a local school, church, store, post office, and other important amenities. Increased viability of products and services to ensure availability for pa

Strategy 1.A. Focus on Non-ranching Jobs

Strategy Description: Focus economic development efforts on ranching-auxiliary or non-ranching job opportunities, because sustainable ranching will be more viable if there are also other economic opportunities.

Reason Deferred: Reconsider after success with Economic Development Coordinator.

Timeframe to Reassess: Stage 2

Strategy 1.B. Local labor

Strategy Description: Encourage ranchers to use local labor instead of foreign or outside labor.

Reason Deferred: Low priority; may not make economic sense to employers.

Timeframe to Reassess: Stage 2

Strategy 1.C. Health Insurance Cooperative

Strategy Description: Leverage the WBE marketing co-op to provide health insurance.

Reason Deferred: Even a cooperative may not bring health costs into reasonable range.

Timeframe to Reassess: Stage 2

DFC 3. COMPLEX LAND OWNERSHIP AND GOVERNMENT REGULATION.

Minimize the effects of government regulation and environmental litigation on the economics and operations in WBE.

Strategy 3.A. SITLA/BLM Land Exchange

Strategy Description: Develop conceptual approach for a broad-scale, multi-agency (SITLA/BLM/USFS and possibly private) land exchange that would benefit resources and simplify land management. Focus on In-Lieu-Of exchange between SITLA and BLM first, as a strictly government-t

Reason Deferred: Wait for results of PJ Encroachment Planning to determine likelihood of flexibility within agencies.

Timeframe to Reassess: Stage 2

DFC 4. RANCHING AUXILIARY JOBS.

Commodities that are produced in and exported from WBE are processed, distributed, and supported by businesses based in WBE. Additional opportunities for urban visitors (guest ranches, etc.) are promoted in WBE. A variety of non-ranching employment and bu

Strategy 4.A. Marketing Cooperatives

Strategy Description: Marketing cooperatives provide new opportunities for efficiently processing, selling, and distributing agricultural products.

Reason Deferred: Low priority; may not make economic sense.

Timeframe to Reassess: Stage 3

Strategy 4.B. Collector Businesses

Strategy Description: Promote "collector" businesses close to WBE (Snowville?) that support broad operations throughout WBE and create distribution efficiency.

Reason Deferred: Low priority; may not make economic sense.

Timeframe to Reassess: Stage 3

Strategy 4.C. Develop Quarry and Mining Benefits

Strategy Description: Develop non-agricultural natural resource commodities (rock quarries, wind farms, wildlife etc.). Per CRM Meeting in August, determine what royalties and revenues are being realized by quarrying and gypsum mining, and how they are being used in WBE, or if

Reason Deferred: It is generally agreed that the "easy" or economic NR commodities have been developed or are being extracted. The potential to gain royalties from quarrying or gypsum mining would likely be a difficult legal process, and has the potential to cause new challenges in WBE. No formal process should be undertaken without additional analysis or without exercising political caution.

Timeframe to Reassess: Stage 2

DFC 5. RECREATION AND EVENTS.

Sustainable recreation opportunities and special events are developed and promoted in WBE to attract outside visitors without compromising local resources.

Strategy 5.A. Develop ATV Trail

Strategy Description: Design and develop an ATV destination trail system in WBE.

Reason Deferred: This strategy will require a longer-term assessment of feasibility (economic/political/environmental); is likely to involve multiple ownerships and trigger NEPA; and would be expensive to design, construct, and implement. ATV/OHV trail segments must carefully consider costs/benefits in terms such as spread of weeds and search and rescue. August CRM Participants indicated high interest for this strategy.

Timeframe to Reassess: Stage 2

Strategy 5.B. Restore Etna Fishery

Strategy Description: Analyze feasibility of restoring Etna Reservoir as a fishery.

Reason Deferred: Opposition exists in the community, but lack of a fishery is a known visitation deterrent for WBE. The strategy is deferred because the nature of support/opposition and the WBE-wide cost/benefit are not fully known. Further, the technical process for studying and determining feasibility needs to be outlined with UDWR in coordination with affected parties. This strategy should be re-engaged as specific opportunities emerge.

Timeframe to Reassess: Stage 2

Planning Element: Wildlife

DFC 1. SAGE-GROUSE LISTING.

Sage-grouse populations in WBE are studied and major threats are eliminated with minimal impacts on ranching.

Strategy 1.A. Nesting Habitat

Strategy Description: Maintain sage-grouse nesting habitat according to guidelines from Governor's Task Force, which may allow for some unmitigated habitat loss.

Reason Deferred: Wait for results of aquatic habitat efforts to see if CRMC involvement could work for other species.

Timeframe to Reassess: Stage 2

Strategy 1.B. Brood-rearing Habitat

Strategy Description: Maintain and expand sage-grouse brood rearing habitat according to guidelines from Governor's Task Force, which may allow for some unmitigated habitat loss.

Reason Deferred: Wait for results of aquatic habitat efforts to see if CRMC involvement could work for other species.

Timeframe to Reassess: Stage 2

Strategy 1.C. Winter Habitat

Strategy Description: Maintain sage-grouse winter habitat according to guidelines from Governor Herbert's Task Force, which may allow for some unmitigated habitat loss.

Reason Deferred: Wait for results of aquatic habitat efforts to see if CRMC involvement could work for other species.

Timeframe to Reassess: Stage 2

Strategy 1.D. Predation Threat

Strategy Description: Reduce sage-grouse mortality from predation in all life history stages

Reason Deferred: Wait for results of aquatic habitat efforts to see if CRMC involvement could work for other species.

Timeframe to Reassess: Stage 2

DFC 4. PREDATORS.

Predation on sage-grouse is minimized. Wolves do not establish in WBE.

Strategy 4.A. Sage-grouse Nest Predation Reduction

Strategy Description: Improve sage-grouse nesting habitat quality to reduce predation.

Reason Deferred: Wait for results of aquatic habitat efforts to see if CRMC involvement could work for other species.

Timeframe to Reassess: Stage 2

Strategy 4.B. Raptor Perch Modification

Strategy Description: Modify power line posts and fence posts to remove raptor perches in important sage-grouse areas.

Reason Deferred: Wait for results of aquatic habitat efforts to see if CRMC involvement could work for other species.

Timeframe to Reassess: Stage 2

DFC 5. CWMUs.

Continued support of Cooperative Wildlife Management Units. Additional CWMUs are established where appropriate to benefit local residents and augment ranch income.

Strategy 5.A. New CWMUs

Strategy Description: Work with UDWR and landowners to seek new possibilities for CWMUs that could benefit local residents and the community.

Reason Deferred: This will take some time and other things are more pressing.

Timeframe to Reassess: Stage 2

Strategy 5.B. CWMU Habitat Funding

Strategy Description: Work with agencies to get funding for habitat improvement projects on CWMUs.

Reason Deferred: This will take some time and other things are more pressing.

Timeframe to Reassess: Stage 2

APPENDIX D. DISCARDED STRATEGY DETAIL

Planning Element: Water Resources

DFC 1. WATER AVAILABILITY.

Wise water use and development result in a hydrologic balance between demands from agriculture (livestock and crops), vegetation, wildlife and supply of water. Groundwater levels are maintained over time and water resources are developed to legally utilize all available flow while meeting ecosystem needs. Cloud seeding programs are optimized and function at a high level of effectiveness for the project area. Vegetation cover is managed to promote infiltration and recharge.

Strategy X.4. Combine NRCS Projects

Strategy Description: Combine NRCS projects in WBE to increase competitive advantage over projects located in other parts of Box Elder County.

Reason Deferred: NRCS indicated that simply combining projects yields no competitive advantage.

Strategy X.5. Extend the Irrigation Season by developing new irrigation wells

Strategy Description: Develop irrigation wells outside of the existing moratorium boundary in the Park Valley area.

Reason Deferred: No real role for CRMC; responsibility rests with individual landowners.

Planning Element: Socioeconomics

DFC 1. POPULATION AND SERVICES.

Fully-functioning and self-sustaining ranches in all WBE communities. See Rangeland and Agriculture, Water, and Wildlife for implementation strategies. Increased permanent resident population in the Grouse Creek community, ensuring sufficient population for a local school, church, store, post office, and other important amenities. Increased viability of the Grouse Creek store to ensure availability for passersby and local residents. Ranches are intergenerational enterprises; children can come back, either to take over ranching operations or to make a living providing services that support ranches.

Strategy X.1. Public Positions in WBE

Strategy Description: Collaborate with public entities to establish paid positions in rural WBE.

Reason Deferred: Eliminated by group in August CRM Meeting. Rationale: doesn't seem likely because Agencies will locate staff where it meets agency needs. Potentially high effort with unlikely success.

DFC 2. MAINTIANING RURAL CHARACTER.

Ranching is preserved as the dominant way of life in the area for future generations and rural character is protected.

Strategy X.2. Conservation Easements

Strategy Description: Make modern tools, such as conservation easements, available to help preserve ranch lands.

Reason Deferred: Little dialogue or interest in strategy, and "low" ratings throughout stakeholder interactions. Will probably not yield socioeconomic improvement in the foreseeable future until Utah develops a CE funding program. May be relevant in the far future, but unlikely in the near future. Highly technical and too few opportunities to support ongoing operation. Refer interested parties to established agencies and land trusts.

DFC 5. RECREATION AND EVENTS.

Sustainable recreation opportunities and special events that attract outside visitors without compromising local resources are developed and promoted in WBE.

Strategy X.3. Landscape Art Complex

Strategy Description: Leverage Spiral Jetty and Sun Tunnels events. Explore Landscape Art Complex" in WBE and promote other major art projects.

Reason Deferred: Based on limited use at peak Sun Tunnels event, this is considered not economic, absent a tourism office funding and commitment; Low return on any investment.

Planning Element: Wildlife

DFC 1. SAGE-GROUSE LISTING.

Sage-grouse populations in WBE are studied and major threats are eliminated with minimal impacts on ranching.

Strategy X.6. Fragmentation Threat

Strategy Description: Reduce possibility of future sagebrush fragmentation.

Reason Deferred: Addressed in how projects are designed under rangeland and agriculture strategies.

DFC 3. HABITAT FRAGMENTATION.

Habitat fragmentation and effects on wildlife are minimized.

Strategy X.7. Reduce Habitat Fragmentation

Strategy Description: There are no Stage 1 strategies for this DFC.

Reason Deferred: Addressed in how projects are designed under rangeland and agriculture strategies.