



Great Basin Science Delivery Project – 2011 Annual Accomplishment Report

JFSP project number: # 09-S-04-8

Project title: Learning Together: the Great Basin Science Delivery Project

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I. Overview

In order to address the many challenges faced by Great Basin fire and resource land managers, the Great Basin Science Delivery Project helps field-level land managers and their staff define and access the fire and resource science information they need in order to make the best possible decisions through information sharing and direct contact with researchers. The Project's overall goals are to: 1) provide a forum where Great Basin land managers can identify technical needs with respects to fire, fuels, and post-fire vegetation management; 2) provide/synthesize the necessary information and technical tools to meet these needs; and 3) provide the required information and tools through venues most preferred by land managers and their staff. The Great Basin Science Delivery Project conducted technical information and delivery needs assessments of 111 federal land management agency personnel in four states from November 2009 through January 2010. Using the responses and discussion generated from these needs assessments, we proposed seven activities to meet the project goals: ongoing needs assessments; information syntheses; online training; web-based clearinghouse of information; networks of experts; workshops, webinars, and field days; and progress evaluations. These activities address the top information delivery modes requested by the assessment participants.

For the period from September 2010-September 2011 the focus of the Great Basin Science Delivery Project was outreach to land managers within the four federal agencies responsible for managing the majority of federal land in the Great Basin region of the Western United States: the Bureau of Land Management (BLM), the U.S. Forest Service (USFS), the Fish and Wildlife Service (FWS), and the National Park Service (NPS), and to research scientists from Great Basin Universities and research organizations. Our goals were to establish a list serve, a website, an outreach program, and to begin to develop communication networks and methods to synthesize information.

For this period, we expected the benefits to federal agency field-level land managers to be a place to go and a person to turn to for answers to technical questions, links to direct research contacts, and a forum to communicate technical needs. We expected research scientists to benefit from the first year of this project by gaining new research ideas and by having access to new methods of outreach for their research results.

II. Consortium outreach

The Great Basin Science Delivery Project has a diverse group of partners that help the project meet its goals in various ways:

Steering Committee

The Project Principal Investigators (PIs) form the Steering Committee and are responsible for program planning, implementation, effectiveness monitoring and reporting, and for communication and coordination with target agencies. Also, each PI is responsible for one of the planned activities mentioned in the first paragraph above. The Project PIs are: Mike Pellant, PI, BLM, responsible for overall program administration and lead on restoration cadre network development; Jeanne Chambers, Co-PI, USFS, lead web-based clearinghouse; Steven Bunting, Co-PI, University of Idaho, lead web-based training; Brad Schultz, Co-PI, University of Nevada Cooperative Extension, lead program effectiveness assessments; Beth Leger, Co-PI, University of Nevada, lead syntheses development; and Randy Sharp, USFS, lead field workshops. The project coordinator, Eugénie MontBlanc, is responsible for coordination of the different science delivery activities, communication both within the project and with the end-user communities, budgeting and office administration. She reports to PI Pellant and Co-PI Leger. This team offers diverse perspectives and assistance on program activities to best meet the needs of our Great Basin fire and resource science and management community.

Advisory Committee

The Steering Committee is guided by an Advisory Committee, which consists of senior managers from the agencies and universities, and of respected scientists in subject areas critical to project success. Members include Raul Morales, BLM NV Deputy State Director for Resources; Sue Stewart, FS R4Director of Fire and Aviation; Rick Kearney, FWS Climate Change Coordinator; Sue Phillips, USGS Aridlands Research Manager; Nat Frazer, USU Dean College of Natural Resources; Rick Miller, OSU Fire Ecology; Angela Evenden, National Park Service, Research Coordinator, Great Basin CESU; and Stephen Bunting, University of Idaho, Rangeland Ecology and Management. The Advisory Committee assists the Science Delivery Project with information dissemination within their own organizations and advises the Steering Committee on project direction and activities.

Regional Collaborative Organizations

The Great Basin Science Delivery Project has partnered with regional collaborative organizations that include the Great Basin Cooperative Ecosystem Studies Unit (GBCESU), Great Basin Research and Management Partnership (GBRMP) and Great Basin Restoration Initiative (GBRI) and their member organizations. We are collaborating on this project and share the same geographic boundary (Figure 3). CESUs are consortia of federal agencies and research providers operating under assistance agreements that provide a forum and mechanism for universities to address federal agency research, technical assistance, and educational needs. All the land management and research partners in this program are Great Basin CESU members. They assist with planning and participation in science delivery activities. The GBRMP is inclusive of all organizations working on fire and fuels management issues within the Great Basin including federal and state research labs and management agencies, universities, local agencies, tribal governments and NGOs and both local and regional collaborations. It promotes comprehensive, complementary research and management collaborations to sustain ecosystems, resources and communities in the Great Basin. The GBRMP fosters information-sharing about and participate in science delivery activities through its Science Delivery Working Group and Website. It also supports the web-based clearinghouse of information. The GBRI supports

proactive restoration and management strategies to maintain intact native plant communities and strategically restore degraded public lands. Integrating science into public lands restoration is a major GBRI emphasis. The GBRI is supporting the development of the first agency Restoration Cadre, which focuses on fire and fuels management and restoration. Other regional collaborative organizations like the Great Basin Environmental Program and the Nevada and Utah Partners for Conservation and Development have been invited to participate in science delivery project activities.

Land Management Agencies (BLM, FS, FWS, NPS) set the agenda for this project. They are engaged with project staff in on-going definition of their technical assistance needs and priorities. Agency leaders and practitioners have contributed to the development of the Restoration Cadre, Joint Fire Science Program information synthesis proposals, and Great Basin Science Delivery Project synthesis proposals. They have also helped co-host field workshops and other science delivery activities. For the first two years of implementation of this project we plan to focus our outreach efforts on the four largest federal land management agencies in the Great Basin.

Research Agencies (ARS, RMRS, USGS) and Academia in the Great Basin have numerous experts in fire science and related fields. We have drawn from this pool to provide development of, and speakers for, webinars, workshops, and field tours. Many researchers from these agencies and institutions have also listed their expertise in the expertise database and are willing to be contacted for help with management questions in their field. They also help by providing the coordinator with current publications and events for priority issues. The University of Idaho (U of I) and University of Nevada, Reno (UNR) are working together to develop web-based training on focal fire science issues.

Land-grant Universities (OSU, U of I, UNR, USU) have Cooperative Extension programs with community-based educators who produce and disseminate fire science information. Because they collaborate with research scientists, end users of research products and the public, extension educators provide a bridge between researchers and science users. UNR Cooperative Extension helped develop and coordinate our first workshop and continues to help develop evaluations for the workshops and field tours.

Regional Research Projects, many funded by the JFSP, develop information and provide syntheses, field tours and outreach activities related to fire and fuels management. SageSTEP is an example of a highly effective partnership of researchers and agency employees in which scientist/manager teams have been actively engaged in designing and evaluating fire and fuels management treatments for sagebrush ecosystems. The Great Basin Science Delivery Project and the SageSTEP project have been working closely to share and disseminate information about the latest project results, webinars, workshops, and field tours. The ARS led Ecologically Based Invasive Plant Management (EBIPM) group is another organization we have been working with to share and disseminate information about the latest techniques to combat weeds in the Great Basin. The interagency Great Basin Native Plant Selection and Increase Project is developing native plant materials and equipment/strategies to successfully restore degraded and rehabilitate fire-damaged lands.

III. Participation

Organizations represented	Number of people
USFS	28
NPS	5
BIA	
BLM	57
FWS	14
USGS	5
NOAA/NWS	1
Military	
Tribal Nations	1
State Agencies	6
County/Local Agencies	
Private Landowners	
NGOs	6
Universities/Colleges	42
Foreign Organizations	
Others	6
ARS	5
USDA	1
NASA	1

IV. Collaboration and coordination

Other partnerships that we have recently formed include those with the Nevada Partners for Conservation and Development (NPCD), the new Great Basin Landscape Conservation Cooperative (GB LCC), the National Wildfire Coordinating Group's Fire Behavior Subcommittee (NWCG FBS), and the Association for Fire Ecology (AFE). We partnered with the NPDC to co-host and develop our first workshop that took place in Winnemucca, NV in March 2011. We have also recently discussed plans to partner to further the development of regional information networks, or cadres, which include a wider diversity of members from the private sectors, NGO's, and Tribes. The GB LCC recently hired its first project coordinator, Linda Kelly with the BLM in Reno, and science coordinator, Todd Hopkins with the Fish and Wildlife Service. We met with Linda Kelly this fall about keeping each other engaged in bi-directional information sharing (from ground up to inform science and from results of science to outreach) and outreach activities with the GB LCC. We also recently established a relationship with the NWCG FBS. We agreed to help the NWCG FBS with managers' needs, and they agreed to help us with information sharing. This is another great bi-directional information exchange opportunity to help make information more pertinent and accessible. We also partnered with the Association for Fire Ecology last year and were engaged with program development for the recent Interior West Fire Ecology Conference that was assisted with information from our project needs assessments.

We work closely with the Wildland Fire Lessons Learned Center (WFLLC) and the Joint Fire Science Program (JFSP). The WFLLC allows us access and assistance to the GoTo Webinar account through which we conduct all of our webinars. We also use the WFLLC to share information with the other JFSP knowledge exchange consortia and to network with other fire organizations in that online community. The JFSP has provided extraordinary support, assisting us with logo and masthead design and production, evaluation support, webinar support, and synthesis support, in addition to being a great resource for fire information.

V. Accomplishments

Accomplishments	Date	Participants	Comments/Remarks
Webinars			
Post-fire wind and water erosion in the Great Basin: results and management implications	22 Nov 2010	64	83 visitors to the recording of the webinar
Effects of fire and mechanical treatments on plants and wildlife in western juniper and pinyon-juniper woodlands	24 Jan 2011	108	114 visitors to the recording of the webinar
Changes in fuels across the western juniper/pinyon-juniper woodland successional gradient and implications for effective use of fire treatments	24 Feb 2011	46	73 visitors to the recording of the webinar
Conservation issues related to sage grouse: approaches for prioritizing management	21 Mar 2011	68	50 visitors to the recording of the webinar
Understanding resistance to invasion and resilience to disturbance – importance for restoring and managing Great Basin rangelands	20 Apr 2011	60	37 visitors to the recording of the webinar
Discussion of objective-setting for resumption of grazing post-fire and rehabilitation activities	21 Sep 2011	78	34 visitors to the recording of the webinar
Field Trips Demonstrating Science			
Vegetation resilience, intact sagebrush, and the perennial herbaceous understory	25 May 2011	45	
Orchard experimental restoration site field workshop: two decades of results	28 Jun 2011	40	
Workshops and Conferences			
Co-hosted the Connectivity and climate change workshop	15 Nov 2011	50	

Vegetation resilience, intact sagebrush, and the perennial herbaceous understory	24 May 2011	45	
Consultations – Ask an Expert – Manager/Scientist Cadre			
Interagency-interdisciplinary restoration cadre	Dec 2010	26	
Personal requests to me for information	2010-2011	12	These are requests for answers to specific questions, not the numerous requests for webinar video links, etc.
Blog/online discussion			
Plateau use post-burn	Fall 2010	2	
Interseeding for grass and shrub stand diversification	Spring 2011	8	
Sagebrush seeding post-fire	Fall 2011	4	
Systematic Evidence Reviews			
Syntheses / Guidebooks			
Understanding Resilience to Disturbance and Resistance to invasion	IP Spring 2012		Jeanne Chambers, Richard Miller, Jim Grace and others
Resistance, Resilience, Environmental Gradients, and Vegetation Response to Fire, in the Great Basin	IP Spring 2012		Richard Miller, Jeanne Chambers and David Pyke
Fire Effects on Soils, Biological Crust, and Hydrology in Great Basin Communities: Resilience and Environmental Gradients	IP Spring 2012		Richard Miller and Jeanne Chambers
Newsletters			
Fall 2010			
Winter 2010-11			
Spring 2011			
Summer 2011			
Fact Sheets and Briefs			
Links to these on our website as new information becomes available, but have not produced our own			
Bibliography/ Annotated Bibliography			
Publications database through GBRMP	Since Fall 2010		Over 6,800 citations

VI. Web

The number of unique visitors to the Great Basin Science Delivery Project webpage has almost quadrupled within this first year from 124 unique I.P.'s per month to 451. The features available on the webpage are:

- News You Can Use
- Syntheses
- Online courses
- Upcoming events
- Funding opportunities
- Blog
- Webcasts and workshops
- About us
- Contact us
- Expertise database
- Consortia database
- Publications
- Science locator
- Metadata server
- Links

The features used the most on our website are the *Webcasts and Workshops* page with presentations and videos from our webinars and workshops; the *Events* page for upcoming events, applicable documents, and links; the *Blog* to ask questions and view responses, the *News You Can Use* page, the *About Us* page, and the *Expertise Database* page.

The features used the least by participants are the *Metadata Server*, *Funding Opportunities*, *Links*, and the *Syntheses* (the latter is probably due to the fact that it is not updated very often).

VII. Program effectiveness

Program evaluation typically has two components: formative and summative. Formative evaluations focus on process and are conducted to ensure the program followed its original intent and identify mid-term corrections, if necessary. Summative evaluations focus on program impact: changes in knowledge, individual or organizational behavior, or conditions. The Great Basin Science Delivery Project has been funded for approximately 15 months, which is too short a period to expect substantial changes in behavior, actions or conditions. The focus of this evaluation, therefore, is on the process the Great Basin Science Delivery Project has used to implement its program and how that process aligns with the original proposal submitted in February 2010. Our proposed list of planned activities included: 1) identifying priority issues and addressing technical needs related to these issues; 2) developing syntheses of scientific and agency information; 3) development of web-based training; 4) creation of a web-based clearing house; 5) development of field workshops; and 6) creation of a network of experts.

Priority Issues and Technical Needs: In our initial proposal the Great Basin Science Delivery Project identified 14 broad technical assistance needs from 111 participants in focus groups across the Great Basin (Table 1). We have addressed 12 of these 14 areas through a variety of events and activities, including: webinars, workshops, fieldtrips, written syntheses (currently in

development), and blogs/ online discussions. These are summarized in Table 1. Many events were cross cutting and addressed multiple topics.

Table 1. Priority needs Identified during the needs assessment phase of the Great Basin Science Delivery Project. Topics are listed in decreasing importance, from top to bottom. Events that addressed multiple assistance needs are listed for each need addressed. Direct participants are those who participated in the initial event. For all webinars, a large number of indirect participants have accessed the presentations available on the GBSC website. Specific numbers are presented in the accomplishments section.

Assistance Need	Event Topic	Format and Date	Direct participants
Fuels and Fire Management	Effects of fire and mechanical treatments on plants and wildlife in western juniper and pinyon-juniper woodlands.	Webinar. January 24, 2011.	108
	Changes in fuels across the western juniper/pinyon-juniper woodland successional gradient and implications for effective use of fire treatments.	Webinar. February 24, 2011.	46
Monitoring and Adaptive Management	Discussion of objective setting for resumption of grazing post-fire and rehabilitation activities.	Webinar. September 21, 2011.	78
Resilience and State and Transition Models	Vegetation resilience, intact sagebrush, and the perennial herbaceous understory.	Workshop and field trip, Winnemucca, NV, May 24-25, 2011.	45
	Understanding resistance to invasion and resilience to disturbance – importance for restoring and managing Great Basin rangelands.	Webinar. April 20, 2011.	60
	Effects of fire and mechanical treatments on plants and wildlife in western juniper and pinyon-juniper woodlands.	Webinar. January 24, 2011	108
Species Conservation	Conservation issues related to sage grouse: approaches	Webinar, March 21, 2011	68

	for prioritizing management (webinar).		
Operational/Landscape Scale Research	Great Basin connectivity and climate change workshop (co-hosted with the Great Basin Connectivity Working Group).	Workshop. Reno, NV. November 15, 2010.	50
Site/Species Specific Information	Discussion of objective setting for resumption of grazing post-fire and rehabilitation activities. Effects of fire and mechanical treatments on plants and wildlife in western juniper and pinyon-juniper woodlands.	Webinar. September 21, 2011. Webinar. January 24, 2011.	78 108
Synthesis	Understanding resilience to disturbance and resistance to invasives. Resistance, resilience, environmental gradients and vegetation response to fire in the Great Basin. Rick Miller and Jeanne Chambers. Fire effects on soils, biological crust, and hydrology in Great Basin Communities: resilience and environmental gradients. Rick Miller and Jeanne Chambers.	Manuscript in preparation for submission in the spring of 2012. Manuscript in preparation for submission in the spring of 2012. Manuscript in preparation for submission in the spring of 2012.	NA NA NA
Invasive Species Management	Plateau use post-burn. Sagebrush seeding post-fire	Blog. Fall 2010 Blog. Fall 2011	
Climate Change	Climate change, climate variability, and ecosystem response in the Great Basin	Webinar. October 2011.	19

	Great Basin Connectivity and climate change workshop	Workshop. Reno, NV. November 15, 2010.	50
Restoration Rehabilitation	Discussion of objective setting for resumption of grazing post-fire and rehabilitation activities. Orchard experimental restoration site field workshop: two decades of results.	Webinar. September 21, 2011. Field trip, Boise, ID. June 28, 2011	78 40
Watersheds and Soils	Post-fire wind and water erosion in the Great Basin: results and management implications.	Webinar. November 22, 2010.	64
Grazing Management	Discussion of objective setting for resumption of grazing post-fire and rehabilitation activities.	Webinar. September 21, 2011.	78

Syntheses of scientific and agency information: Our consortia reached agreement with Dr. Rick Miller to develop syntheses collaboration with Dr. Jeanne Chambers, USDA Forest Service, Rocky Mountain Research Station, and are titled:

- Understanding resilience to disturbance and resistance to invasive species
- Resistance, resilience, environmental gradients and vegetation response to fire in the Great Basin.
- Fire effects on soils, biological crust, and hydrology in Great Basin Communities: resilience and environmental gradients.

The first two manuscripts are scheduled for submission for publication in the spring of 2012. These topics revolve around several of the top five topics identified by the focus groups used to identify fire science needs during development of the proposal we submitted in 2010. These specific topics included resistance and resilience of plant communities and state and transition models (plant succession and vegetation change).

Web-based Training has been designed to specifically address Great Basin Fire Needs. Drs. Penny Morgan and Steve Bunting at the University of Idaho have modified a suite of five University of Idaho online courses to increase their content of material specific to the Great Basin. These courses are open to all interested individuals, not just University of Idaho students. These classes may be used to complete an Academic Certification Program or as stand-alone entities for professional development and improvement. To date, these courses have enrolled over 200 students from all 50 states, and several countries. At this time we need to update our

website to reflect all fire and fuels courses available. In addition we have identified additional fire science related courses available through other agencies/organizations and provided links to these sources. All current courses are shown in Table 2.

Table 2. List of web-based education courses related to fire, fuels, and vegetation management.

Course	Host
Wildland Fire Management and Ecology (For 426)	University of Idaho
GIS Applications in Natural Resource Management (NR 402/502)	University of Idaho
Restoration Ecology (Range 440)	University of Idaho
GIS Applications in Fire Ecology and Management (REM 407)	University of Idaho
Fuels Inventory and Management (FOR 451)	University of Idaho
Rangeland Ecology (REM 459)	University of Idaho
Fire Ecology (FOR 526)	University of Idaho
Free online courses for fire, fuels and vegetation management	National interagency Fuels, Fire and Vegetation Management Technology Transfer Team (NIFTT)
Introduction to Wildland Fire Behavior	National Wildfire Coordinating Group

A Web-based Clearing House: Our initial proposal identified a number of web-based services the GBSD project would provide. These are shown in Table 3, with a brief description how this has been accomplished.

Table 3. Web-based services provided by the GBSD project and how each is accomplished.

Service Provided	Method to Accomplish
Directory of experts	Link from GBSD webpage to the Great Basin Research and management Partnership webpage where visitors can access an expertise database. Users can submit information about their expertise and become members of the database or search for individuals with specific expertise.
List of collaborative organizations	
Bibliography	A link from the GBSD webpage accesses the literature database of the GBRMP. This database has access to thousands of research papers (journals, theses and dissertations, government research publications, etc.) and can be searched with multiple approaches. Access occurs at: http://greatbasin.wr.usgs.gov/GBRMP/publications.html
Science and management project locator	A tab on the GBSD homepage provides a link to the GBRMP science locator. This link catalogs research in the western United States.
Metadata server	A tab on the GBSD homepage links to the Great Basin page of the National Biological Information Infrastructure. This

	organization contains over 90,000 records from over 80 data sources, which enhances the potential for collaboration and data/information exchange. This link also provides access to the USGS Core Science Metadata clearinghouse.
Upcoming meetings of interest	The homepage for the GBSD project lists upcoming events. Clicking on this tab provides the complete list and access to past events.
Links	A tab on the GBSD homepage provides links to 15 working groups, educational programs, consortiums, projects, initiatives or programs whose goals and objectives parallel those of the GBSD project.
List server	The GBSD homepage has a tab visitors can click on to add themselves to our mailing list.

In addition to the information provided in Table 3, the GBSD homepage also directs visitors to recent news (project results, research reports, etc.) that are of interest to clientele. Separate sections of the homepage also direct clientele to recently published syntheses and funding opportunities.

The Great Basin Science Delivery Project web page has seen increasing usage since its development (Table 4). This had held true for both total visits and the number of unique visitors. Approximately 14% of all visits are unique visitors. This indicates that a substantial number of visitors are returnees, which suggests that many are finding information that addresses their issues, concerns or problems. The increasing number of unique visitors further suggests the site is receiving expanded use by resource specialists.

Table 4. Total visits and total unique visitors to the GBSD webpage from its inception in September 2010 through September 2011.

Year	Month	Total visits	Unique visitors
2010	September	581	124
2010	October	585	180
2010	November	706	123
2010	December	789	75
2011	January	2,561	200
2011	February	1,237	180
2011	March	3,802	214
2011	April	2,192	240
2011	May	3,000	321
2011	June	1,893	269
2011	July	1,993	280
2011	August	2,064	260
2011	September	4,699	451

The two most popular pages within the GBSD website are the webcasts/workshops, and the homepage (Table 5). All of the webcasts are archived as are expanded abstracts of the workshop in Winnemucca. Each is accessible to visitors for viewing, and has had from 34 to 114 visits since the initial presentation.

Table 5. Top webpages viewed by month.

Year	Month	Webcasts	Home	News	About	Events	Blog
2010	September	NA	183	36	27	14	20
2010	October	NA	138	33	19	11	5
2010	November	9	207	46	16	31	18
2010	December	47	119	17	11	11	19
2011	January	167	158	19	9	34	7
2011	February	181	122	10	15	11	5
2011	March	348	181	17	23	59	25
2011	April	178	162	24	11	45	36
2011	May	224	235	32	30	43	22
2011	June	96	158	14	18	28	34
2011	July	130	158	12	9	65	54
2011	August	182	108	6	14	28	24
2011	September	433	218	6	13	43	19

Field Workshops: To date, two field workshops have occurred. One occurred in Winnemucca, NV and included a full day of topical presentations and a one-day field trip to observe many of the concepts/issues presented during the workshop. At the end of the event, participants responded very favorably about the format and information provided, but largely failed to complete the paper surveys at the event and the follow up email surveys sent after the event. The second workshop was at the Orchard Experimental Restoration Site in southern Idaho, where several presenters discussed results from experimental plantings, cheatgrass die-off, and sagebrush establishment. The organizers received positive feedback from many of the participants of this event as well, and though none completed the paper survey at the event, five of the forty participants provided feedback in an online survey developed in Survey Monkey. Their comments indicated the program was excellent.

Networks of Experts: We have taken two tracks to develop a network of experts. First, our webpage has a tab for an Expertise database that is linked with the Expertise Database created by the Great Basin Research and Management Partnership (<http://greatbasin.wr.usgs.gov/GBRMP/experts.aspx>). This data base allows users to select either pre-determined keywords or type in their own keywords to search for specific subject matter experts. The search provides a list of experts with tags for their specific areas of expertise. A click on any name in the results provides the contact information for the individual. Second, we have created a cadre of restoration experts. This group meets by teleconference monthly from late fall through early spring to discuss and exchange information about emerging or pressing

issues. Approximately 26 individuals have engaged in this activity, although only 10-15 participate in each conference call. These calls have generated numerous ideas to address fire, fuels and restoration activities. These include:

- Importance of stabilization and rehabilitation after fire (November 2011)
 - ✓ What to do about medusahead
 - ✓ Best approaches to using Plateau (Imazapic)
 - ✓ The role of herbicides in restoration
 - ✓ Should we reseed or not reseed
- Post-mowing understory response (March 2011)
 - ✓ How does repeated mowing change the overstory structural attributes and understory composition?
 - ✓ Do multiple passes by a mower increase cheatgrass on the affected strips?
 - ✓ Vegetation response by big sagebrush subspecies (Wyoming, mountain, basin)
- Diversification of crested wheatgrass stands.
 - ✓ Stand characteristics (e.g., different cultivars, landscape position, stand age) that allow for better potential for stand diversification.
- Inter-seeding sagebrush stands with desired grasses and forbs
 - ✓ Seeding interspaces between shrubs
 - ✓ Best methods to thin dense stands of sagebrush to enhance the perennial herbaceous understory

Summative Evaluation – Data from the evaluation of participants in the Great Basin portion of the JFSP Knowledge Exchange

The JFSP conducted a program evaluation in 2011 across all consortia. Data from this evaluation suggest that the GBSD project may be positively affecting individual and/or organizational behavior related to fire, fuels and vegetation management. Caution is urged in interpreting these results because the questions were not phrased with definitive language about the role that the GBSD project has had for improving communication about and the dissemination of fire and fuels information. The data in Table 6 have been extracted verbatim from the Great Basin portion of the all-consortia evaluation and are used to illustrate the potential influence the GBSD project is having for improving the application of research to fire and fuels management.

Table 6. Data extracted from the Great Basin portion of the all-consortia program evaluation that suggest the GBSD project is influencing individual and organizational behavior.

Questions asked to respondents	Percent responding agree/strongly agree	Number of respondents^a
I often draw upon fire science research when making work-related decisions.	79	48
During the past year, I have changed at least one thing in my work based on what I have learned about fire science.	56	48
During the last year, educational activities within my region have helped me to connect with researchers/scientists whose work is of interest to me.	47	47

The Consortium has helped improve the accessibility of fire science information.	65	37
The Consortium has helped improve the use and application of fire science information in my region.	51	37
The Consortium has helped improve communication among fire managers/practitioners and fire researchers/scientists in my region.	50	36
I would recommend Consortium involvement to my co-workers.	73	37
My Consortium's website is user-friendly	62	26
My Consortium's website provides a wide variety of fire science information.	69	26
My Consortium's website provides practical information I can use in my job.	54	26
My Consortium's website provides information that is current and up to date.	62	26
My Consortium's website organizes the information I need in one convenient place.	46	26
My Consortium's website provides a forum where I can share information or ask questions.	50	26

a. Total number of respondents to the question, not the number responding agree/strongly agree.

VIII. Budget

The primary budget expenses were coordinator and technical writer salaries, the website, and online courses. Other expenses were PI and coordinator travel, and operating expenses. We have not seen the interest in “Site Visits by Experts,” that we expected. We do not know whether this is due to a lack of interest or a lack of advertising. This is something we will have to revisit for the next funding cycle. We have found an opportunity with the newly formed Great Basin LCC for funding support for shared web resources such as the Expertise, Consortia, and Publications Databases, and the Science Locator and Metadata Server.

IX. Future Plans

Based on the responses from our Great Basin fire and resource community of managers and researchers we intend to continue our webinar series, expand our restoration cadre (network of experts) by including the more diverse Nevada Partners for Conservation and Development networks, expand our field tours to at least one in each state (ID, UT, NV, OR) of the Great Basin per year since federal travel dollars for managers has recently been limited, and expand our web resources. In addition to expanding our web resources, we are updating our website and moving to a unique URL. This move will improve the speed and access of our website, and will also improve our branding presence/unique identity.

We also intend to shift funds from “Site Visits by Experts” to the publication of needed syntheses of information. Information syntheses on a variety of topics specific to the Great Basin are greatly needed and our needs assessments, in addition to recent preliminary discussions with our community, show great interest in these products. We have three syntheses in progress as described in earlier sections of this report, and are looking into the development of a fourth synthesis on grazing, fire, and invasive plants. Additional funds to publish syntheses may be available from the online evaluation portion of the budget since the JFSP has contracted an all-consortia evaluation team to conduct national online surveys with regional components.

Finally, we intend to expand our community by increasing our outreach efforts to include more managers and scientists within the tribal, state, private, and NGO sectors.