

Great Basin Environmental Program

University of Nevada, Reno
College of Agriculture, Biotechnology and Natural Resources (CABNR) and
Nevada Agricultural Experiment Station (NAES)

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Project Summary:

This is an initiative to improve the ecology and the environment of the Great Basin, an ecoregion that constitutes parts of Nevada, Utah, Idaho, Oregon and California. Six major themes are identified. This is a planning phase of the Great Basin Environmental Program (GBEP) to bring NGOs, state agencies and their partners, federal agencies and universities together to develop proposals for initiating environmental improvement in the Great Basin. The project is expected to hold a summit involving all the stakeholders and will develop a brochure outlining critical prioritized program areas for research, training, outreach and on-the-ground projects in the Great Basin.

(1) Objectives

The specific objectives of the proposed effort are:

- (a) to develop a multi-state partnership of NGOs, universities, federal agencies and state agencies for identifying critical Great Basin issues and prioritizing these issues under different thematic areas
- (b) to formulate an integrated organizational structure involving universities, state agencies, federal agencies, NGOs and other existing organizations to implement the Great Basin Environmental Program
- (c) to develop a GBEP brochure outlining a comprehensive approach to research, education and training, management activities and on-the-ground project needs

(2) Procedures

1. Meet with Land Grant Partners to develop an organizational structure and complete an agreement on the scope of the GBEP with a focus on critical issues.
2. Organize meetings with state agencies and NGOs in each state and get input on GBEP issues and prioritization of these issues.
3. Meet with federal agency representatives from all of the Great Basin states and get input on GBEP issues and develop information on on-going

collaborative projects with universities, state agencies and other federal agencies.

4. Meet with Great Basin CESU scientists and develop broad programmatic proposals for each of the six themes identified in the draft GBEP, specifically in the areas of research, education and management and on-the-ground project needs.
5. Engage state agencies and their partner organizations in the Great Basin states and share with them details of the GBEP program and develop procedures for their participation.
6. Convene the “Commission” consisting of representatives from the universities, state agencies, NGOs, federal agencies and other organizations to develop an agreement on organizational structure and implement conference planning meetings.
7. Arrange a conference in 2010 with NGOs, federal agencies, CESU, land grant university partners, GBRMP with a focus on “state agency participation” from the Great Basin states. Program for the meeting will include, but not limited to:
 - a panel on Nevada Arid Rangeland Initiative
 - a panel on GB-CESU Research
 - a panel on GBRMP
 - state agency panels (agriculture, natural resources, wildlife)
 - NGO panel on Research needs
 - NGO panel on projects
 - other panels that might be relevant
 - business meetingThe meeting will include invitations to all the congressional delegations and governors of the Great Basin states, university scientists, state and federal agencies and NGOs.
8. Describe and evaluate procedures for setting up metrics and monitoring.
9. Finalize GBEP Brochure with funding requests for broad programmatic proposals.
10. Disseminate GBEP brochure and synthesized information from conference to all parties.

(3) Project Justification

The proposed Great Basin Environmental Program (GBEP) is a bold and innovative environmental initiative modeled after the Chesapeake Bay Program and approximately 25

other estuarial environmental programs that have been operating in the United States since the approval of the Clean Water Act. This will be the first such program aimed at a terrestrial area, the Great Basin, designated as one of the most imperiled ecosystems in the United States. The proposal will establish partnerships and integrate efforts with federal agencies, state agencies, universities, NGOs and the private sector to address critical ecosystem issues.

Although not an estuarial area, the Great Basin Environmental Program has many similarities to those that have been designated for special environmental action in the United States. At the heart of the ecosystem issues for the Great Basin is invasive species and its interaction with wildfires, which are the cause of many of the major environmental problems in the Great Basin. Factors behind this issue are the rapid increase in the population and climate change and resulting changes in land uses. Six major themes are identified initially to focus on the causes and impacts of invasive species. These include wildfires, water availability and quality, land use, urban/rural interface, biodiversity and culture and communities. If the Great Basin is to continue to be a productive ecosystem and a place of choice for residents and visitors, new and more effective approaches for managing this environment and its special ecosystems will have to be formulated and implemented.

The feature of the Chesapeake Bay Program and other estuarial programs that has made them effective is the broadness of the management approaches, the coordination of groups that have capacities for addressing the issues, and the ability to engage NGOs and private citizens in efforts to better educate and manage the environment. Similar characteristics will be evident in the Great Basin Environmental Program. Federal and state agencies and universities will be more effective through closer collaboration with academic institutions, NGOs will become more involved in addressing issues of greater scope, and the private sector and citizens will be engaged through the annual publication of metrics that show the progress of the environmental initiatives, and a foundation that has as its mission addressing the environmental issues of priority to the Great Basin.

The proposal is for a two stage effort. Over a period of two years, the Great Basin Environmental Program will be operated out of the University of Nevada, Reno which is the host institution for the Great Basin CESU in partnership with Oregon State University, University of Idaho, Utah Partnership for Conservation and Development and the University of California. The funds will be shared among the partners for planning and establishing a collaborative organizational structure to determine priority issues and develop technical program outlines and projects. Other educational institutions, federal and state agencies and NGOs will be involved in this process.

It is envisioned that during the second stage, the Great Basin Environmental Program will be funded through a federal agency or agencies. The program will be implemented by the Governors of the Great Basin states through a Commission which will be assisted by a small staff and a set of technical advisory committees. The budget allocations are 5 percent for administration, communication, mapping, and metrics; 70 percent for joint federal, state, university and NGO for management activities and on-the-ground implementation of

projects, including monitoring and data collection for metrics; and 25 percent for research, education and technology transfer projects.

A key feature of the Great Basin Environmental Program will be the development and management of a monitoring system and/or metric system that shows and assesses the success and impacts of the targeted environmental and ecosystem initiatives. This monitoring system of metrics has proven essential to the Chesapeake Bay and other estuarial environmental programs. The citizens and the governmental agencies and the NGOs can only attract added resources if there is a recognized and credible measurement of the progress that is being made on the key environmental issues.

(4) Literature Review

Since the summer of 1999, when wildfires burned at least 1.7 million acres, the universities, federal and state agencies and NGOs in the Great Basin have been working cooperatively to identify mechanisms to protect and improve the Great Basin ecosystem. Much of the land resources in the western states are managed by the Bureau of Land Management and the Forest Service. There are several other federal agencies also involved in the management of related natural resources. By and large, state agencies have the responsibility for managing and regulating wildlife and other resources affecting federal, state and private lands. In addition, NGOs such as the Eastern Nevada Landscape Coalition, Northern Nevada Stewardship Group, The Nature Conservancy and quasi-government entities like conservation districts and cooperative weed management areas and weed districts have been actively working to ensure that the Great Basin ecosystem is protected and the productivity of our land resources are increased through appropriate management based on scientific knowledge.

The coordinated efforts of federal agencies, universities and other NGOs produced a series of initiatives and publications outlining the critical and serious threats to the Great Basin and identifying efforts to build a healthier ecosystem. Three important publications: *Out of Ashes, An Opportunity* (BLM, 1999); *The Great Basin: Healing the Land* (BLM, 2000); *The Great Basin Restoration Initiative: A Hand to Nature: Progress to Date* (BLM, 2001) came about as a result of these meetings leading to the establishment by the BLM of the Great Basin Restoration Initiative (GBRI) <http://www.nv.blm.gov/GBRI/greatbasin.htm> under the Nevada State Office of the BLM. The Ely District office of Nevada brought the Eastern Nevada Landscape Restoration Project under GBRI and the Eastern Nevada Landscape Coalition was established <http://www.envlc.org/>.

Subsequently, the Great Basin universities and federal agencies established in 2001 the Great Basin Cooperative Ecosystem Studies Unit (GB-CESU), a consortium formed to provide research, education and technical assistance to federal agencies and land managers. GB-CESU now has 14 university and 8 federal partners and is hosted by the University of Nevada, Reno <http://www.ag.unr.edu/gbcesu/>. This became a convenient mechanism for universities to undertake cooperative projects with federal agencies and hundreds of projects worth several million dollars have been initiated.

In 2001, the University of Nevada, Reno initiated a program to systematically address research and educational issues related to the rangeland of Nevada. This program is called the 'Nevada Arid Rangeland initiative' now in its 8th year and is congressionally funded through CSREES to support peer-reviewed research http://www.cabnr.unr.edu/naes/Resources/NARI_2007.pdf.

The University of Nevada, Reno and Utah State University jointly planned a Great Basin Summit in 2003 in Elko where more than 100 scientists and heads of federal and state agencies attended. The summit developed a great deal of information on on-going research and on-the-ground projects throughout the Great Basin.

The next step was to establish an NRCS Plant Material Center in the Great Basin to supply needed plant materials for land restoration. This was accomplished in 2006 with the leadership of the University of Nevada, Reno, BLM Nevada State Office, NRCS, USDA, Nevada Department of Agriculture and many others. The PMC is important in developing native grasses and other plant materials needed to restore burned areas due to wildfires in the Great Basin <http://plant-materials.nrcs.usda.gov/nvpmc/>.

In 2006, the foundation for the Great Basin Environmental Program (GBEP) was laid by the University of Nevada, Reno when it arranged a meeting of Great Basin universities, federal and state agencies and brought in the EPA deputy director of the Chesapeake Environmental Program to help develop the idea. Subsequent to this meeting, a draft GBEP proposal was developed and shared with all the federal agencies <http://www.cabnr.unr.edu/gbep/>.

The Rocky Mountain Research Station (RMRS) of the U.S. Forest Service in cooperation with the University of Nevada, Reno and the Desert Research Institute organized a workshop on Collaborative Management and Research for the Great Basin in November of 2006 attended by about 150 participants. An excellent GTR publication (Chambers, et al, 2008) containing critical Great Basin issues by a number of authors was produced. It led to the establishment of the Research and Management Partnership which is focused on maintaining necessary data and maps and on coordinating federal agency participation in the Great Basin.

The Nevada Agricultural Experiment Station organized a two day forum on Great Basin Wildfires involving a panel of sixteen senior scientists from universities and federal agencies. The forum focused on a discussion of policies and recommendations to deal with increasing threats of wildfires resulting in a publication by Miller and Narayanan (2008) entitled "Great Basin Wildfire Forum: the Search for Solutions."

In 2008, another conference was sponsored by the GBEP to bring non-governmental organizations on board to share and discuss the evolution of the GBEP. This was attended by over 200 scientists, federal and state agencies and NGOs. Key note speakers included Nevada Governor, Jim Gibbons, Sen. Harry Reid, Undersecretary of the USDA, Gale Buchanan, former BLM Director, Kathleen Clarke, and former Deputy Director of the

Chesapeake Bay Environmental Program, Michael Burke. Since this conference, a concerted effort to collectively work on Great Basin issues has resulted in further developing an organizational structure and identifying key priority projects through the planning phase of the GBEP.

(5) Current Work

Several excellent Great Basin programs have endured and are in place for conducting scientific research and management, providing educational programs and facilitating public input in the decision making process. These include, but are not limited to, the Great Basin Ecosystem Studies Unit, Great Basin Restoration Initiative with BLM as the lead agency, Great Basin Collaborative Research and Management Partnership with the Forest Service as lead agency, Great Basin USGS National Biological Information Infrastructure, Eastern Nevada Landscape Coalition, Conservation Districts, Northern Nevada Stewardship Group, the Great Basin Plant Materials Center, Great Basin Institute and the USDA-Agricultural Research Service Rangeland, Pasture, and Forages research programs. In addition, state agencies in all of the Great Basin states are also actively contributing to the management of Great Basin land and related natural resources, such as the Utah Partners for Conservation and Development and the Nevada Partners for Conservation and Development and a four-state agreement by the governors called “War on Cheat Grass.” However, most of these programs need additional funding to improve the Great Basin environment. This proposal requests new funding to develop the Great Basin Environmental Program to help effectively coordinate the efforts of these various programs and to jointly develop priorities to address the critical issues of the Great Basin.

(6) Project Time Table

1. Great Basin Environmental Program organizational structure with operating rules. (July, August, September 2009)
2. An organized NGO group in each of the Great Basin states (NV, CA, UT, OR and ID) to provide input and support for the GBEP. (July-December 2009)
3. A set of programmatic proposals for research, education and on-the-ground management and implementation projects under each of the six thematic areas identified in the GBEP. (October 2009 – March 2010)
4. Identify metrics for evaluating effectiveness of GBEP and develop monitoring procedures.(October 2009 – July 2010)
5. Organize a GBEP Summit in 2010 (Fall 2010)

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