



COOPERATIVE ECOSYSTEM STUDIES UNITS  
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# SageSTEP: A Model Collaboration for Land Managers

Public land managers in the Great Basin aim to maintain and restore healthy ecosystems. Climate change, private development pressures, and invasive plants are just a few of the challenges they face. Without regional collaboration, stewardship of public lands can be expensive and ineffective. SageSTEP (Sagebrush Steppe Treatment Evaluation Project) is a model collaborative effort, made possible, in part, by the Cooperative Ecosystems Studies Unit Network that brought together six federal agencies, five universities, and one non-profit organization in six states.



■ **Dynamic landscapes.** Sagebrush communities throughout the Great Basin are among the most threatened landscapes in North America. (*Sagebrush Steppe Treatment Evaluation Project (SageSTEP)*)

Over the past 150 years, human and plant invaders have altered the Great Basin landscape. Half of its sentinel ecosystem, the sagebrush community, has disappeared. Many of the sagebrush communities that remain are in poor health, with old and unproductive sagebrush plants and a barren understory. As a result of these significant alterations, wildlife and wild-fire dynamics have changed. To understand the effectiveness of land management efforts, a group of scientists initiated

the SageSTEP project to “provide resource managers with improved information to make restoration management decisions with reduced risk and uncertainty.” The project focuses on non-native cheatgrass invasion, pinyon and juniper encroachment, and the resulting changes in fire regimes. From 2005 to 2011, the SageSTEP research team established a network of sites and initiated two experiments, one in sagebrush areas being invaded by cheatgrass and one in areas

## Great Basin Cooperative Ecosystem Studies Unit

### Project Partners



University of Idaho



### Project Contacts



Jim McIver  
Project Coordinator  
James.McIver@oregonstate.edu



Summer Olsen  
Outreach Coordinator  
Summer.C.Olsen@usu.edu



### Project Website

www.sagestep.org



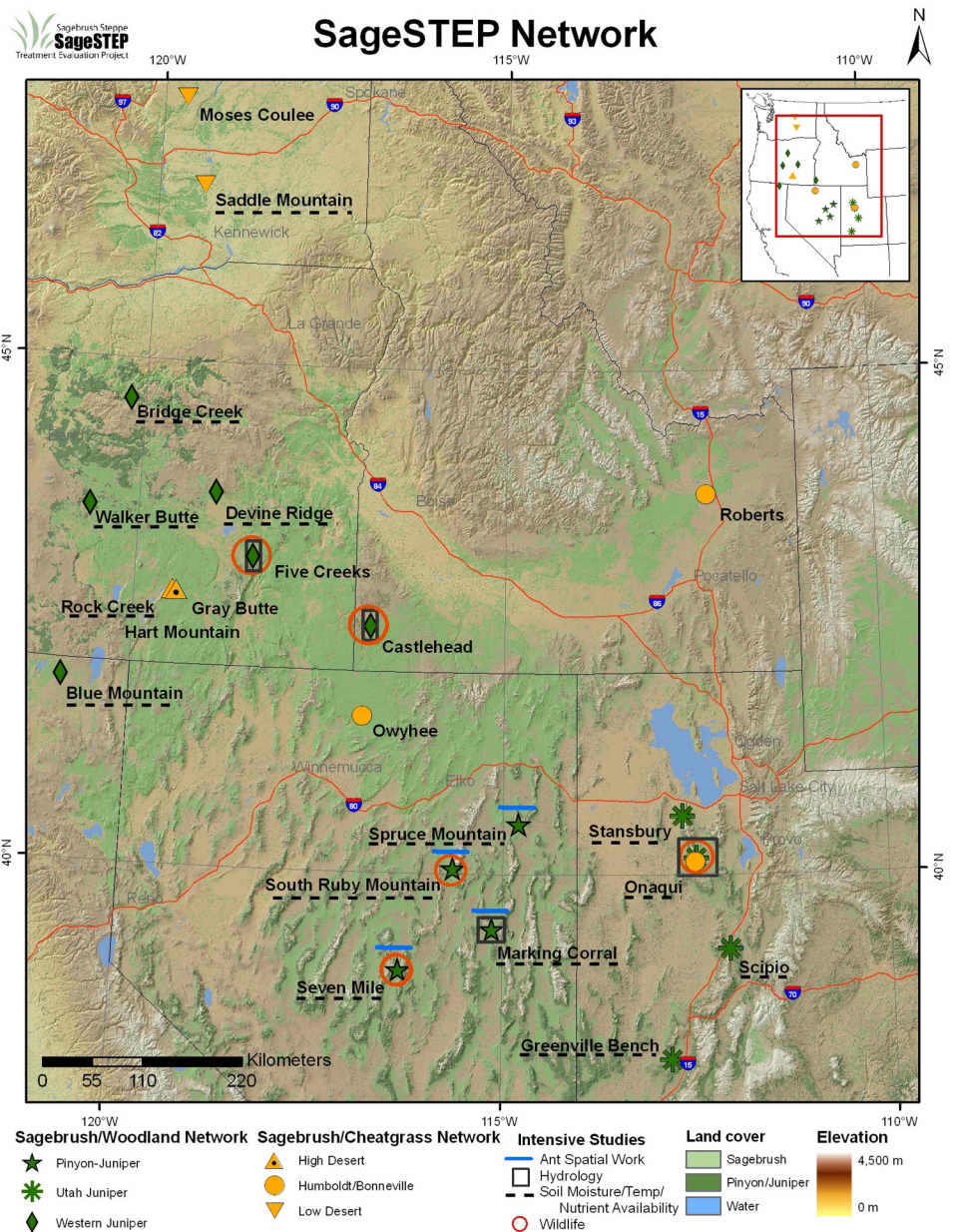
### Project Type

- Research
- Technical Assistance

where juniper and pinyon woodlands are encroaching. At each of the treatment sites, land managers manipulated the landscape with prescribed burns, mechanical treatments (cutting, mowing, or mulching), and herbicides application. They then studied the short-term (2-3 years) effects of fuels treatments on plants, birds, insects, soils, water runoff and erosion, economics and sociopolitical aspects of these systems. Starting in 2011, the scientists moved toward longer term monitoring and the “response to treatments for at least ten years” or until the sites stabilize.

### Communicating Science

From the beginning, the project organizers fostered a collaborative environment through various communication tools targeted at project scientists, land managers, and Great Basin citizens. Via its website, [www.sagestep.org](http://www.sagestep.org), it distributes a newsletter, photographs, field guides, webinars, presentations, and a movie (*Restoring Sagebrush Rangelands in the Great Basin: An Introduction to Alternative Land Management Practices*). The group manages its data carefully via a web database and creates annual reports for distribution. Annual and professional society meetings also bring project partners together to discuss results and research questions. The project has spawned fourteen additional research projects and more than 60 publications on sagebrush topics like wildlife, hydrology, economics, sociopolitical, soils, vegetation and fuels, and geographic information systems.



■ **Far reaching collaborations.** The SageSTEP team established sites in six states to research sagebrush restoration techniques and monitor recovery. (*Sagebrush Steppe Treatment Evaluation Project (SageSTEP)*)



Cheri Yost wrote this project spotlight in November 2011. Cooperative Ecosystem Studies Units provide research, technical assistance, and education to federal land management, environmental, and research agencies and their partners. Their broad scope includes the biological, physical, social, cultural, and engineering disciplines needed to address natural and cultural resource management issues at multiple scales and in an ecosystem context. There are seventeen CESUs, each composed of federal agencies, a host university, and partner institutions, which are linked together in a CESU network. For more information, see [www.cesu.org](http://www.cesu.org) or contact Dr. Thomas E. Fish, CESU National Coordinator, at [tom\\_fish@nps.gov](mailto:tom_fish@nps.gov).