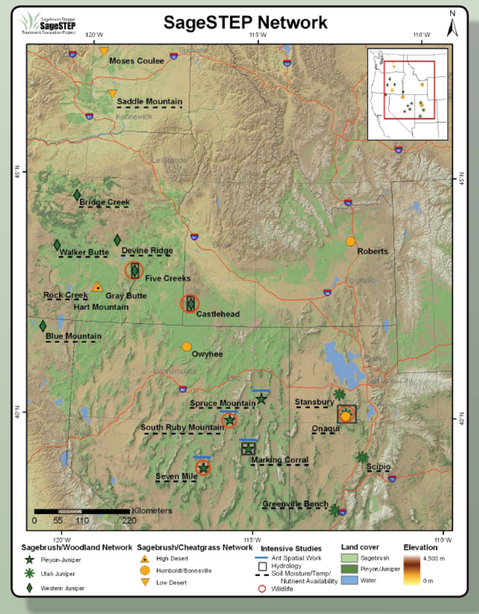
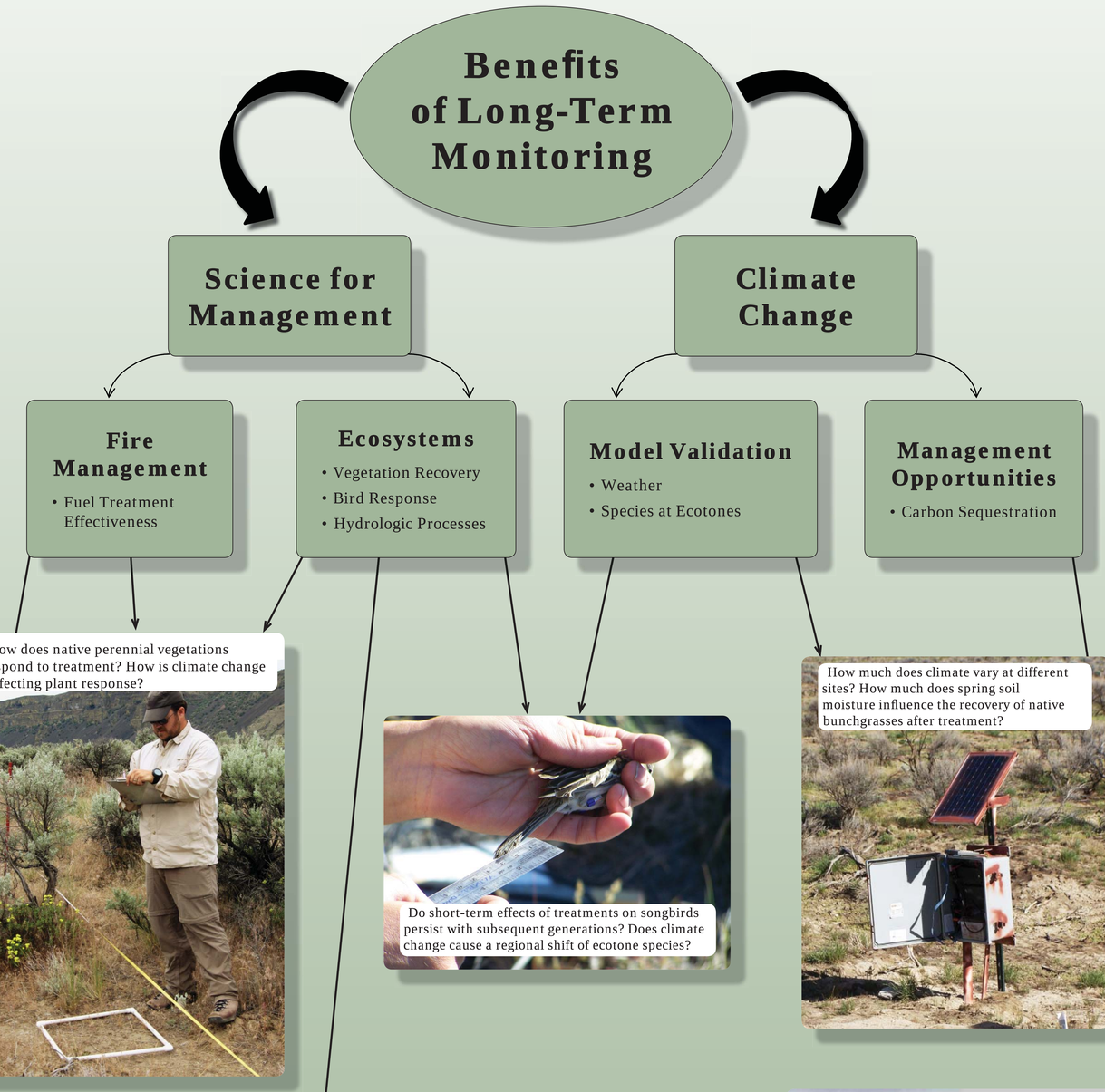
Sagebrush Steppe Treatment Evaluation Project (SageSTEP)
A Long-Term Monitoring and Ecological Network

The SageSTEP Study

SageSTEP is an interdisciplinary, long-term research program evaluating ways to improve the health of sagebrush rangelands across the Great Basin. The purpose of SageSTEP is to conduct research and provide information that will help resource managers make restoration decisions with reduced risk and uncertainty. The project is a collaborative effort among researchers and land managers from five universities, six federal agencies and one non-profit organization in six states in the Great Basin.

Treatment options—including prescribed fire, mechanical thinning of shrubs and trees, and herbicide applications—are being evaluated to learn how to create healthy plant communities that will be more resilient to fire and resistant to weed invasion. Treatments were implemented from 2006 to 2009. Baseline data was collected at all sites prior to treatment, and post-treatment data has been collected each subsequent year. Longer-term monitoring data will help researchers more fully understand treatment impacts.





Features of Monitoring Network

- 21 study sites that provide baseline data relevant to the efficacy of management treatments and future responses associated with climate change
- Wide array of variables measured across key gradients of woodland encroachment and cheatgrass invasion
- Variables interpreted within the context of key remotely-sensed information
- Variables monitored every three years at each site
- Online database for data entry, quality control, downloading, and reports
- Annual reports by the end of December of each measurement year
- Results will be linked to other global change efforts (NEON, etc.)
- Information can be used by land managers to understand fuel treatment responses in the context of short-term climatic variability.

How does native perennial vegetations respond to treatment? How is climate change affecting plant response?

Do short-term effects of treatments on songbirds persist with subsequent generations? Does climate change cause a regional shift of ecotone species?

How much does climate vary at different sites? How much does spring soil moisture influence the recovery of native bunchgrasses after treatment?


How effective are fuels treatments, and how long do these effects last?


How long do treatment effects on hydrologic processes persist?


What are the above- and belowground carbon budgets for sagebrush steppe? How are they affected by treatments? How might they be influenced by climate change?

Key Partners for Monitoring

- Federal land management agencies: BLM, USDA-FS, NPS, USFWS
- NRCS
- USGS, ARS, Forest Service Research, universities (OSU, USU, BYU, UI, UNR)
- The Nature Conservancy
- Various Great Basin Initiatives (GBRI, Great Basin Research and Management Partnerships, Great Basin CESU)
- NSF–NEON and DBI, JFSP, USDA Competitive Grants Program

Joint Fire Science Program

Sagebrush Steppe SageSTEP Treatment Evaluation Project
www.sagestep.org

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