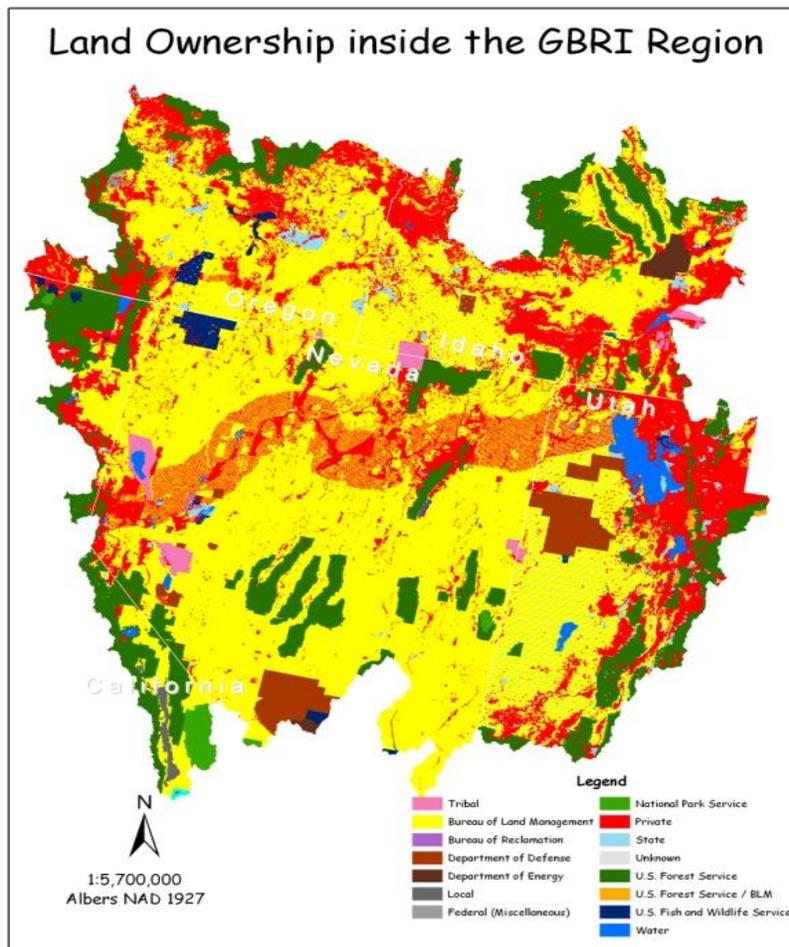


Great Basin Background

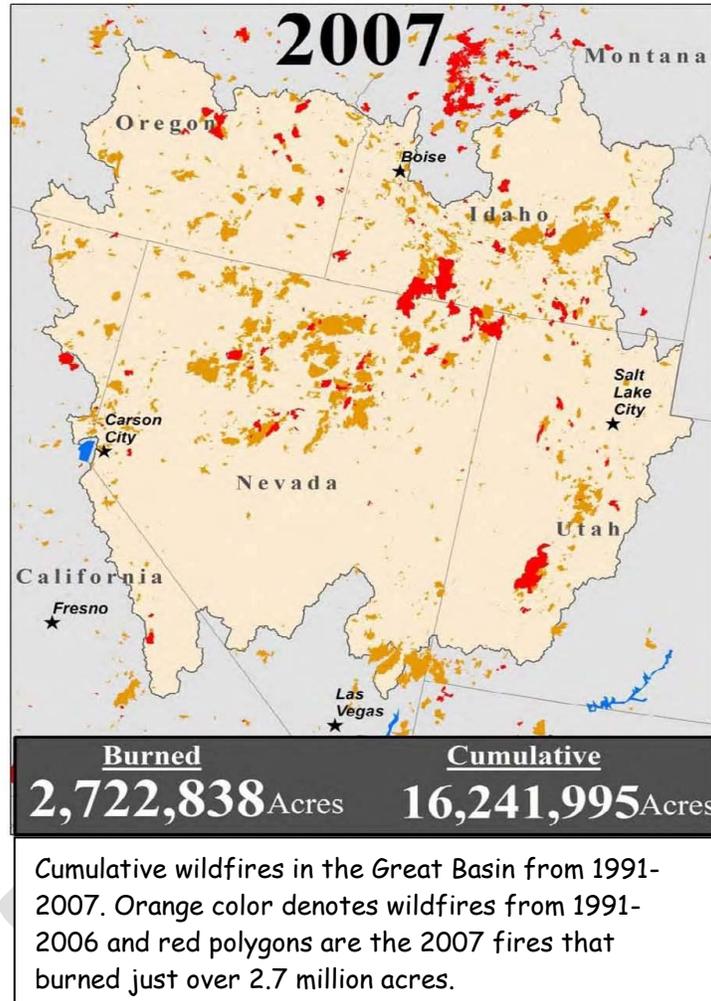
The Great Basin encompasses almost 146 million acres of land in a diverse distribution of ownership patterns. BLM is the largest land manager with nearly 54% of the area under it's jurisdiction. Parts of five states that include 36 BLM Field Offices fall within this boundary.



	Acres	Percentage
Tribal	1,382,365	0.95%
Bureau of Land Management	78,499,886	53.93%
Bureau of Reclamation	38,321	0.03%
Department of Defense	3,570,405	2.45%
Department of Energy	670,169	0.46%
Local	358,390	0.25%
Federal (Miscellaneous)	132,831	0.09%
National Park Service	919,144	0.63%
Private	32,385,413	22.25%
State	3,716,394	2.55%
Unknown	7,296	0.01%
U.S. Forest Service	20,343,170	13.98%
U.S. Forest Service / BLM	191,902	0.13%
U.S. Fish and Wildlife Service	1,319,074	0.91%
Water	2,011,978	1.38%
Total	145,546,736	100.00%

Ecological Issues Addressed by GBRI

Wildfires and invasive species, especially exotic, invasive species that change natural fire return intervals and fire extent (cheatgrass and medusahead wildrye), were and continue to be the main challenge faced by land managers across the Great Basin. In the period 1991-2007 just over 16 million acres burned in the Great Basin with cheatgrass being a major driver of fire spread and acreages consumed (see following graphic).



Some burned areas, especially salt desert shrub and lower elevation sagebrush plant communities, and locations that have burned multiple times, have likely crossed ecological thresholds. Once a threshold is crossed and cheatgrass dominates a site, restoration with native species within management time frames is risky and expensive. As the acres in this condition increase their ecological as well as economical impacts also increase.

Another invasive species issue is the increase in numbers of species and spread of exotic forbs in the Great Basin. Examples of exotic forbs of concern in the Great Basin includes, several knapweed species, yellowstar thistle, leafy spurge, rush skeletonweed, dalmation toadflax, purple loosestrife. These forbs are increasing and in some areas they are crowding out the exotic annual grasses. The full environmental impact of these

species are yet unknown due to their relatively recent introduction into the Great Basin and a changing climate.

Invasive trees are also a concern to managers. An exotic tree that is causing loss of riparian biodiversity is tamarisk. It can dominate riparian corridors upsetting the riparian water budget and native plant and animal survival. Native conifer encroachment into sagebrush steppe plant communities is another major issue for land managers in large areas of the Great Basin. Pinyon pine and several species of juniper, all native to the Great Basin, have expanded in range in part due to a reduction in natural fires, livestock use and possibly climate change. As conifer encroachment progresses to conifer dominance, an ecological threshold is crossed where both plant and soil resources are lost and require expensive restoration treatments to restore some semblance of function to the affected sites.

Another driver of change that is already affecting the balance between native species and invasive species is climate change. Increase temperature and carbon dioxide along with more variable precipitation will increase stress on native plants and in some cases, (cheatgrass) will favor invasive species over native ones. Climate change is a basin-wide stressor and will be addressed by GBRI in this strategy.

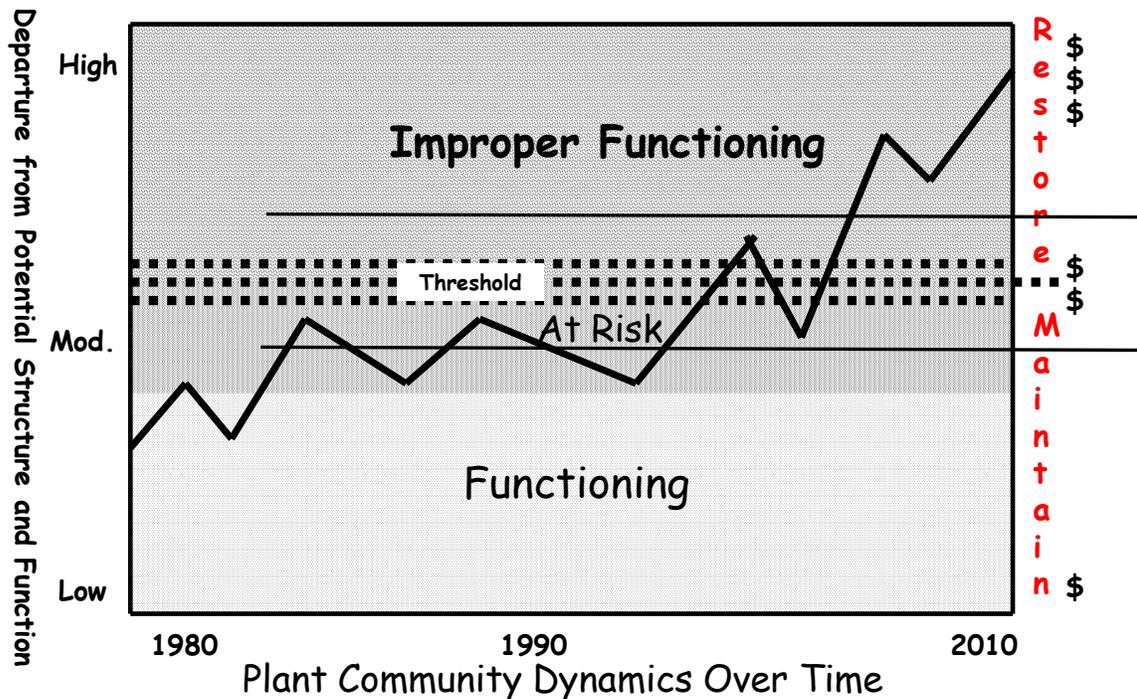
Further information on Great Basin issues can be found in a GBR&MP publication: Chambers, J. C., A. Evenden, and N. Devoe, compilers. 2008. Collaborative management and research in the Great Basin - Examining the issues and developing a framework for moving forward. USDA Forest Service, Rocky Mountain Research Station, Fort Collins, CO. General Technical Report. RMRS-GTR-204 at: http://www.fs.fed.us/rm/pubs/rmrs_gtr204.html

GBRI Strategy

GBRI has developed a strategy emphasizing maintenance of functioning native plant communities as the highest priority followed by strategic restoration to reconnect fragmented landscapes. **Maintenance** is defined as the use of mechanical, chemical, biological, or prescribed fire treatments to reduce threats to ecological integrity (invasive species, wildfires, etc.)

before a threshold is crossed and more expensive restoration is required. **Restoration** is the combined use of competition control treatments and reseedling to move a degraded plant community back to a functioning condition. Use of native species is recommended for restoration projects dependent on cost, availability, and chance for success. This strategy is illustrated in the figure below.

Maintenance & Restoration Model



Costs to implement maintenance treatments increase as the threshold to Improper Functioning is approached. Once the threshold is crossed, restoration costs increase substantially due to the need to control invasives and reseed.