

Background

The SNC 2006 Strategic Plan identifies the need to develop System Indicators to measure progress in improving the environmental, economic and social well-being of the Sierra Nevada Region. At its meeting in October 2008, the Board adopted a set of nineteen indicators. However, the Board approved some revisions to that original set of indicators at its March 2011 meeting to reflect the types of data that are currently available.

The data and analysis associated with the Sierra Nevada System Indicators have or will be presented to the Board in a series of five reports:

- Demographics and the Economy (approved by the Board in September 2011)
- Land Conserved and Wildlife Habitat
- Air and Water Quality and Climate
- Forest Lands
- Agricultural Lands and Ranches

This report (see Attachment A), which is the second in the series, provides an overview of the acres of lands conserved in the Sierra Nevada and the status of natural areas and changes in wildlife habitat that have occurred in the Region over time.

Land Conserved and Wildlife Habitat Report Highlights

A significant portion of the Sierra Nevada Region is conserved in some way - as public lands, private lands with conservation easements, or private lands acquired in fee title for purposes of conservation. However, there is significant variation among different areas within the Region in terms of the amount of land conserved. While wildlife habitat is heavily influenced by patterns of land conservation in the Region, there are obviously a number of factors that are also important. Here are some of the key findings from this report:

Acres of Land Conserved

16.4 million acres (64% of the total acreage of the Region) are conserved within the Region with nearly 16.2 million acres (63%) in public ownership and primarily managed by three federal agencies: the US Forest Service (64.3% of the public lands within the Region), Bureau of Land Management (19.3%) and the National Park Service (10.6%), the remaining 5.8% is managed by other local, state and federal agencies.

One percent of the area of the Region is conserved in private ownership: 178,246 acres of private lands have conservation easements and 41,872 acres are in private fee title ownership for conservation. While it is understood that much of the private land in the Region is managed in a manner that provides substantial habitat values, this indicator focuses on lands owned by the public or that are required to be managed for conservation purposes.

There is a large variance among Subregions in the percentage of land conserved. The Central Subregion has the lowest overall percentage of conserved land (47.2%), and the East Subregion the highest (98.3%). The North Central Subregion has the highest percent of private lands in conservation at 8.8%, and the South Central Subregion has the lowest percent of private lands conserved (0.5%). Public lands dominate above 3,000 and private lands dominate below. In the elevation band above 3,000 feet, about three-quarters of the land is in public management (74%) whereas about three-quarters (76.5%) of the land is in private ownership below 3,000 feet.

Wildlife Habitat

The California Essential Habitat Connectivity Project's¹ analysis of large and small natural areas as well as the wildlife corridors connecting them was used to determine the location and acreage of the most suitable areas for fish and wildlife habitat. The large natural areas identified by the connectivity report are regions with the least amount of land conversion, residential housing impacts, and road impacts that are considered to provide the greatest amount of intact habitat for wildlife. There are 11.6 million acres (49%) of large, intact natural areas in the Sierra Nevada and the distribution of these large natural areas significantly increases with elevation within the Region.

Although 74% of the land between 3,000 and 6,000 is in public lands management, only 37% is identified as large, intact natural areas due to higher average road density than higher elevations.

The land below 3,000 feet on the west side of the Sierra has experienced the greatest degree of development, habitat conversion and fragmentation. Road density is highest below 3,000 feet and the population is greatest. The lower elevations have the smallest area of land in conservation and the grasslands, oak woodland, and wetland ecosystems here have experienced reductions in size and degradation of habitat quality.

Next Steps

This report establishes a baseline for additional analysis over time. Information relative to each indicator will be available on the SNC Web site and will be updated periodically, providing an opportunity to observe trends over time. We may also identify new sources of data over time, which will provide an opportunity to enhance this original analysis.

¹ Spencer, W.D., P. Beier, K. Penrod, K. Winters, C. Paulman, H. Rustigian-Romsos, J. Strittholt, M. Parisi, and A. Pettler. 2010. California Essential Habitat Connectivity Project: A Strategy for Conserving a Connected California. Prepared for California Department of Transportation, California Department of Fish and Game, and Federal Highways Administration.

In addition to providing information relevant to the administration of the SNC's programs throughout the Sierra Nevada Region, we hope that this information will also be useful to others located in or working in the Region as they develop and implement their own projects and programs. In some instances more detailed data are available beyond what is provided in the report. The SNC will make this more detailed information available to others upon request.

Recommendation

Staff recommends the Board approve this second System Indicators report after making any revisions resulting from its review.