Forest Health and Biodiversity Restoration: Research Informing Management

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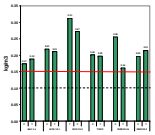
Tahoe Science Consortium
Addressing Science Needs in the Lake Tahoe Basin

FOREST HEALTH

Fuels Reduction Treatments in the Basin

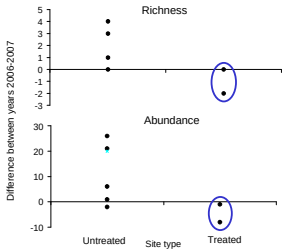



Before


After

Research is underway to evaluate the ability of treatments to reduce the threat of wildfire while improving forest health and retaining native species and ecosystem services.

Dr. Pat Manley, USFS PSW
Dr. Dennis Murphy, UNR
Dr. Bruce Pavlik, Mills College



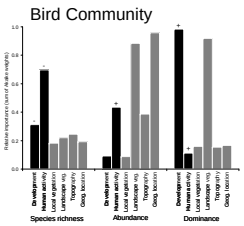
Bird species: old forest associates

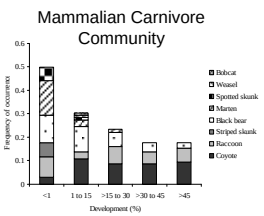
Fire in Riparian Ecosystems

A research project on the historic fire frequency and fuel loads in Tahoe's riparian forests began 2008 – the study examines how fire regimes vary between upland and riparian forests.

Dr. Malcolm North, USFS PSW

Urban Forest Biodiversity





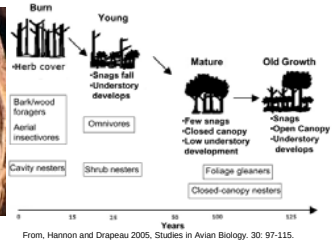
Urban forests serve an important role in supporting biological diversity in the basin. Biodiversity declined above thresholds of 30% development and moderate recreation levels.

Dr. Pat Manley, USFS PSW
Dr. Dennis Murphy, UNR, Dr. Matt Schlesinger, USFS PSW, TNC, &
Dr. Lori Campbell, USFS PSW

FIRE

Angora Wildfire: Forest Recovery and Fuels Treatment Effectiveness

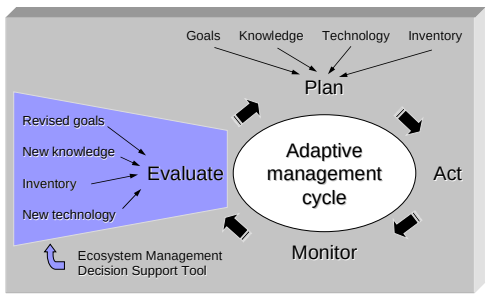
Research is documenting the effects of the Angora fire on the vegetation, fuel load, stand structure, and wildlife within the burn area in relation to different burn severities and pre-fire treatments. This information will inform future pre- and post-fire management. *Dr. Solomon Dobrowski & Chris Carlson, Univ. Montana, Dr. Pat Manley, USFS PSW, Hugh Safford, USFS Region 5*



From, Hannon and Drapeau 2005, Studies in Avian Biology. 30: 97-115.

Angora Wildfire: Forest Restoration

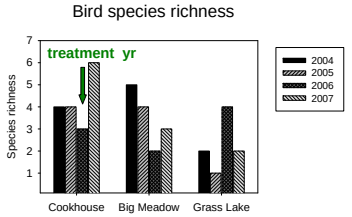
Post fire treatments on state and federal lands included salvage harvesting, mastication, erosion control, seeding and revegetation. Effectiveness of treatments on vegetation, soil, fuels, weed and wildlife is being studied to inform future post-fire restoration efforts. *Dr. Suzie Kocher, UC Davis, Dr. Pat Manley, USFS PSW, Dr. Will Richardson, UNR, California Tahoe Conservancy*



MONITORING & RESTORATION

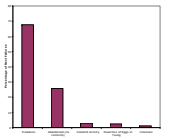
Riparian Restoration

Researchers are monitoring the effect of riparian restoration on wildlife species including, songbirds, small mammals, butterflies, and bats in the Lake Tahoe Basin using a Before-After-Control-Impact design. *Dr. Michael Morrison, Texas A&M & Dr. Kathi Borgmann, Univ. AZ*



Aspen Restoration

In 2008, a study was initiated to determine changes in bird communities following conifer-thinning treatments in aspen stands. The results of this research will be used to inform treatment and monitoring approaches to improve habitat quality for breeding birds. *Dr. Will Richardson & Dr. Dennis Murphy, UNR*



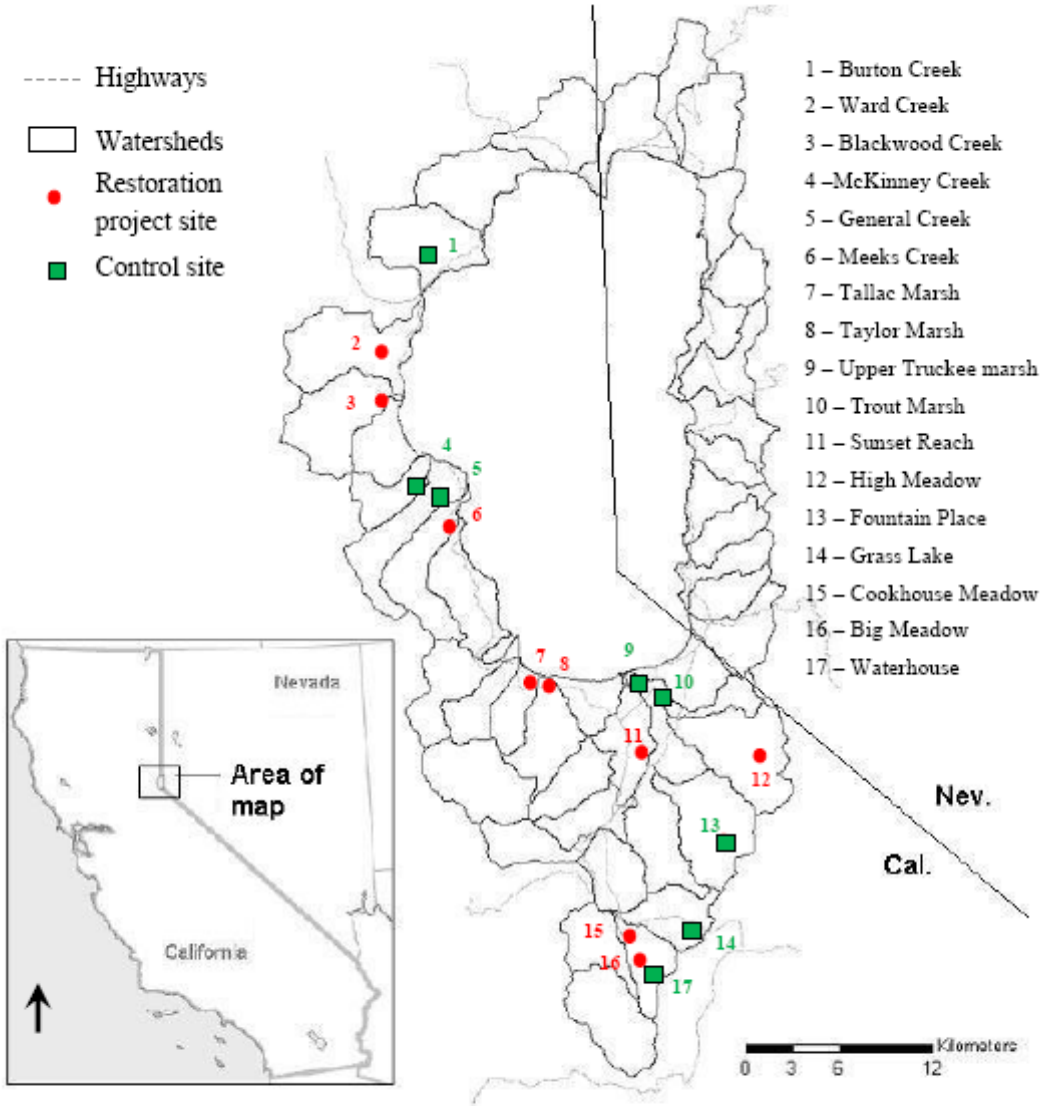
Recreation Impacts on American Marten

Research found that on the west shore, marten density was not affected by off-highway vehicle use in summer or winter. New research is beginning on the effects of ski area management on marten populations. *Dr. Bill Zielinski & Keith Slausen, USFS PSW*

Decision-support Tool Development

Scientists have been advising the Tahoe Regional Planning Agency on the use of the Ecosystem Management Decision Support system as a decision support tool for the Lake Tahoe Regional Status and Trend Monitoring and Evaluation Program.

Dr. Keith Reynolds, USFS PNW


Highways
Watersheds
Restoration project site
Control site
1 – Burton Creek
2 – Ward Creek
3 – Blackwood Creek
4 –McKinney Creek
5 – General Creek
6 – Meeks Creek
7 – Tallac Marsh
8 – Taylor Marsh
9 – Upper Truckee marsh
10 – Trout Marsh
11 – Sunset Reach
12 – High Meadow
13 – Fountain Place
14 – Grass Lake
15 – Cookhouse Meadow
16 – Big Meadow
17 – Waterhouse
Nevada
California
Area of map
Nev.
Cal.
Kilometers
0 3 6 12