DESCHUTES NATIONAL FOREST

MONITORING REPORT

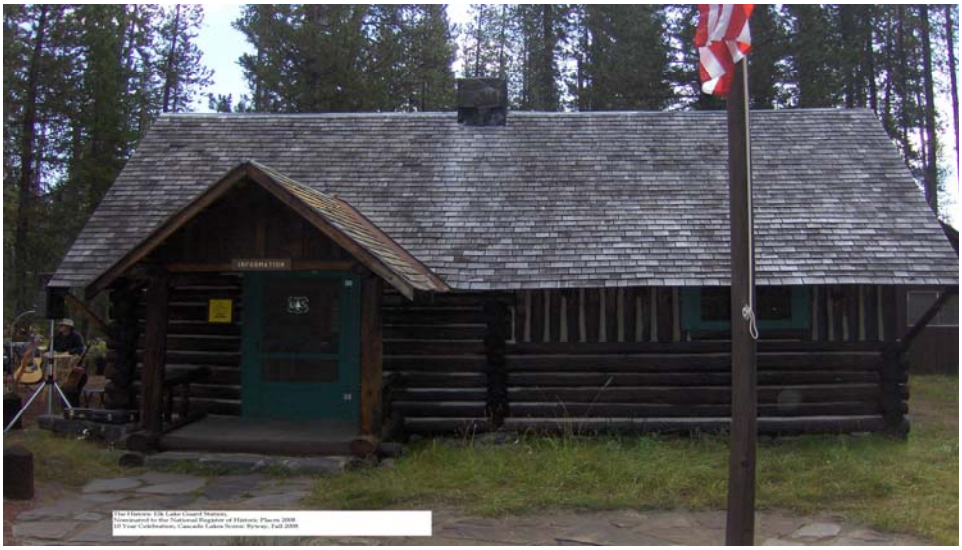
FISCAL YEAR 2008

compiled by:

Mose Harris IV

Heritage Monitoring

This is a summary of the Deschutes National Forest Land and Resource Management Plan (LRMP or Forest Plan) monitoring effort and reflects implementation of management activities for the past eighteen years.



Cultural Resources: Despite the overall reductions in funding for the heritage program in the last decade of the Forest Plan implementation, the Deschutes National Forest has found creative ways of protecting and enhancing cultural resources in 2008.
The Forest continued its fifteen year old partnership with the Archaeological Society of Central Oregon (ASCO) to monitor and steward historic and prehistoric cultural resources.
The Forest continued to work closely with staff and tribal representatives from the Confederated Tribes of the Warm Springs Reservation, The Burns Paiute Tribe and the Klamath Tribes to preserve and protect archaeological sites.

The Bend Fort Rock Ranger District partnered with members of the Fort Rock Community and historical society to continue rehabilitation work on the historic Cabin Lake Guard Station. In addition, they hosted one of the more unique and successful Passport in Time projects (PIT), where volunteers staff the historic Elk Lake Guard Station providing interpretive history and visitor information services along the Cascade Lake Scenic Byway. The Elk Lake GS PIT project made almost 5000 visitor contacts and logged almost 1000 volunteer hours during the summer recreation season.

The Crescent Ranger District partnered with members of the Oakridge community and Historical Museum to enhance and educate the public about area history. The District continues to work with a Central Washington University graduate student doing research on 23 prehistoric sites around Davis Lake. Early results of this research were shared with the professional community at the October 2008 Great Basin Anthropological Conference held in Portland, Oregon. The District accomplished site monitoring on 19 historic and prehistoric archaeological sites between June and December 2008. Monitoring was done in conjunction with on-going or planned projects as well as independent of specific projects. Two historic structures received maintenance/monitoring visits in 2008.

The Sisters Ranger District continued to provide professional liaison support to ASCO assisting their Board in interfacing with public land agencies in Central Oregon. A total of 12 archaeological sites were monitored including a variety of project related monitoring, such as; temporary bridge installation in the Glaze Restoration project, monitoring for toilet replacement excavations, monitoring during project planning for the 1170 road project, and archaeological site updates for the GW fire post-BAER project work. In addition, due to the great number of historical sites the Metolius Recreation Residences is now considered a historic district under permit to the Forest Service.

Contact is Paul Claeyssens, Heritage Stewardship Group, pclaeyssens@fs.fed.us

Wildlife Monitoring

The Deschutes National Forest is involved in a variety of monitoring efforts designed to evaluate the effects of management activities on various environmental factors. Following are a few of the ongoing or planned monitoring efforts designed to evaluate wildlife populations or habitats.

Live Eagle Camera

A live streaming video of a wild eagle nest located at Odell Lake on the **Crescent Ranger District** is part of a cooperative project with the Oregon Zoo, ATT Foundation, The National Fish and Wildlife Foundation, and the Forest Service's NatureWatch Program. The purpose of the project is to bring live video of wild eagles and wild salmon to the Oregon Zoo's Great Northwest Exhibit where the same species are kept in captivity, and to the Internet. The mission of the NatureWatch Program is to provide children and adults the opportunity to safely view, and participate in, activities and programs that raise their level of awareness and understanding of wildlife, fish, and plants, and their connection to ecosystems, landscapes, and people. The nest monitored by the eagle cam captured some interesting behavior. They initiated nesting in the late winter sitting on the egg through a very tough winter. Many days the nest and parent were covered in snow. The camera then captured an intruder eagle at the nest. This eagle seemed to cause disruption and ultimately resulted in a failed nesting attempt. The link below will take you to the site:

http://wwwnotes.fs.fed.us:81/wo/wfrp/find_a_photo.nsf/eaglecam

Bald Eagle Nest Surveys

The **Deschutes National Forest** falls within Recovery Zone 11 (High Cascades) and to a lesser extent Recovery Zone 22 (Klamath Basin) of the Pacific States Recovery Area for the Bald Eagle. The Forest has a goal of producing habitat for 35-45 pairs of bald eagles (LRMP 4-9).

The number of sites occupied by Bald Eagles on the Forest has increased from 31 in 1993 to 39 in 2008 (Table 1). Over the last seventeen years, 556 eaglets have fledged on the Forest, averaging about 31 young per year. Over the last seventeen years, an average of 1.2 young were produced per nesting attempt on the Forest. In 2008, production was on target with the seventeen year average. The recovery goal for productivity per occupied site is 1.00. The Forest's seventeen year average for productivity per occupied site is .88; however in 2008 the average productivity per occupied site was at .56. In 2008, the average nesting success per occupied site was 46% (only nests which produced chicks were considered successful). The recovery goal is a minimum of 65% across all zones.

Table 1. Summary of Bald Eagle Nesting on the Deschutes National Forest (1993-2008)

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
#of sites occupied	31	31	32	33	35	35	31	34	38	39	42	43	41	46	43	39
#of nesting attempts	23	20	24	23	24	25	26	25	31	30	32	37	31	35	30	18
success rate per nesting attempt	82%	70%	87%	69%	87%	84%	85%	80%	77%	83%	81%	89%	79%	76%	70%	46%
% occupied territories with nesting attempts	74%	64%	75%	69%	68%	71%	84%	74%	82%	77%	76%	86%	76%	76%	70%	46%
# of young produced	26	22	30	22	28	31	33	29	41	38	41	39	39	50	33	22
Avg #young per nesting attempt	1.13	1.1	1.25	.96	1.17	1.24	1.27	1.16	1.32	1.27	1.28	1.05	1.25	1.43	1.1	1.22
Avg#young per occupied site	0.84	0.71	0.94	0.67	0.80	0.89	1.06	.85	1.08	.97	.98	.91	.95	1.09	.77	.56

Effective in August 2007, the bald eagle was delisted as a threatened species across it's range because it has recovered from being at risk of extinction. It will continue to be protected under the Bald and Golden Eagle Protection Act and the Migratory Bird Treaty Act. On National Forest system lands, it also will continue to be protected by the National Forest Management Act (NFMA).

The bald eagle has been designated a Regional Forester's Sensitive Species and will be included on this list for at least the 5-year post-delisting ESA monitoring period. In addition, the Fish and Wildlife Service (FWS) issued the National Bald Eagle Management Guidelines that are intended to help people minimize activities that could interfere with eagle's ability to forage, nest, roost, breed, or raise young. Such impacts to bald eagles, where they may constitute "disturbance", are prohibited by the Eagle Act. Because of it's delisting, the Forest Service is no longer required to consult with FWS on activities that could affect the bald eagle.

Northern Spotted Owl Nest Surveys

Managing for spotted owls and their habitat became a focus in the late 1980s and early 1990s. The **Deschutes National Forest** identified spotted owl habitat in 1992, then again in 1998 using improved data sets, photos, and GIS layers not available to biologists in 1992. Although the 1998 version of spotted owl habitat identification was an improvement over the 1992 effort, newer information is now available which allows us to improve upon the 1998 effort. Most notably, a forest-wide photo interpretation (PI) layer which was completed in 2000. The new PI layer shows the impact of the recent budworm epidemic, which caused high mortality on an estimated 50,000 to 60,000 acres of forested habitat on the Deschutes National Forest (Eglitis pers. comm. 2001). The latest PI layer gives us the most accurate depiction of tree size class and canopy cover that has ever been available. Finally, earlier habitat identification efforts focused on specific plant associations, while recent observations

have shown that habitat can be, and is being used by owls regardless of plant association, if the proper forest structure exists. In late 2003 and 2004, additional corrections were made as well as updates taking into account losses due to the 2003 and 2004 wildfires. A brief chronology of mapping efforts and results (including the 2001 effort) is described in the 2006-2009 Programmatic BA. Likewise, the U.S. Fish and Wildlife Service (USFWS) published the *Environmental Baseline Update for the Northern Spotted Owl on the Deschutes National Forest, Oregon* in December of 2001.

In 2002, the Deschutes National Forest began an ongoing investigation of all known active and historic spotted owl nest sites and nest stands on the Forest. Objectives of the investigation include: 1) locate, determine status, and record the location (GPS) of all identified nest sites for the 42 spotted owl pairs on the Deschutes National Forest, 2) at each nest site, collect vegetative and topographic features to describe and analyze nest site characteristics, 3) within each forest stand containing a nest site, compile and/or collect stand examination data to describe and analyze nest stand characteristics, and 4) at each nest stand, collect and examine all regurgitated pellets to describe prey use. A database of all data collected was developed and is being refined. Table 2 is a summary of spotted owl nest surveys conducted through 2008.

Several sites are no longer considered potentially viable due to stand replacement fire occurring within the home ranges. These sites were surveyed after the fires (Davis, Eyerly, Cache Mountain, Link, B&B, Black Crater, Lake George, and GW fires) for 1-2 years to determine if sites were still active. No spotted owls were detected. Sites being removed from further consideration include Davis Mt., Abbot/Cabot, Brush Creek, Key West, Cache Mt. West, Cache Mt. East, Santiam Pass, Bear Valley, Spring Creek, First Creek, Dry Creek, Canyon Creek, and Upper Canyon. Therefore, the total number of spotted owl sites for the Deschutes National Forest has been reduced from 44 to 31 at this time.

Table 2. Spotted Owl Nest Survey Summary

	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002	2003	2004	2005	2006	2007	2008
# of sites surveyed	23	9	33	25	21	27	25	16	29	32	15	30	32	20	10	8
% of known sites surveyed	57%	22%	82%	62%	52%	70%	61%	38%	69%	73%	36%	71%	74%	61%	32%	26%
# of occupied sites	17	9	28	19	11	15	5	5	10	8	9	8	8	6*	7	6
% of surveyed sites occupied	73%	100%	84%	76%	52%	56%	20%	35%	34%	25%	60%	27%	25%	30%	70%	75%
# pairs attempting to nest	5	5	9	10	0	7	1	3	0	3	4	1	2	0	0	1
% of occupied sites, nesting	29%	56%	32%	53%	0%	47%	20%	75%	0	38%	44%	13%	25%	0	0	12%
# of young	2	6	13	12	0	7	2	5	0	5	4+	2	1	0	0	1
# of young/nest	0.4	1.2	1.4	1.2	0	1	2	3	0	1.67	1.0+	2	1	0	0	1

*Barred owl detected at one site – not counted as occupied.

Note: Contact is Lauri Turner, Wildlife Biologist, Deschutes National Forest

Fisheries

Objectives and Methods

Annual spawning surveys are conducted on the Metolius River redband trout population to monitor changes in the adult population. This is part of a continuing monitoring project started in 1995. Partners and contributors to this monitoring effort include Oregon Department of Fish and Wildlife, Central Oregon Flyfishers, Sisters Ranger District, Portland General Electric, and the Confederated Tribes of the Warm Springs Reservation of Oregon. Results presented here are also included in the Native Fish Monitoring Annual Report.

Redband trout spawn in the upper Metolius River over a protracted period, from December through May. During these months, the Upper Metolius River from the headwaters to Spring Creek is walked every two weeks to count redband trout redds. Two to three surveyors walk downstream marking redds with rocks painted white to avoid double counting redds in subsequent surveys. In the first few years of the study several reaches of the Metolius River and tributaries were surveyed to determine where spawning was concentrated. Results from these surveys indicated that a large majority of the spawning took place in the 2.2 km of the Metolius River from the headwaters to Spring Creek. Other major spawning areas were on the lower 0.3 km of Lake Creek, the lower 2.2 km of Abbot Creek, and 4.0 km of the Metolius River from Spring Creek to Gorge Campground.

Past redd counting effort has been focused on the Upper Metolius River, with Lake Creek, Abbot Creek and the Metolius River from Spring Creek to Gorge Campground counted intermittently. Last spawning season (2007-2008) the Metolius River from the headwaters to near Spring Creek and the lower 0.3 km of Lake Creek were counted. The Metolius River above Lake Creek has a very long spawning season which lasts from December to May and with suitable water temperatures for redband spawning that stay around 8 ◦C all winter long. Spawning in Abbott Creek, Lake Creek and the Metolius River Downstream of Lake Creek does not usually start until sometime in March when water temperatures become suitable for spawning. Spawning in these areas lasts until May or early June. The entire river and tributaries mentioned above were broken into survey reaches during the initial study by Houslet and Riehle (1997). Reaches 0-7 are located on the Metolius River from the headwaters to Spring Creek and Reaches 8-14 extend from Spring Creek to Gorge Campground.

Results

Numbers of redband redds counted in the Upper Metolius River have dramatically increased from a low of 141 redds in 1995-1996 when this monitoring project was first initiated by the Forest Service. Peak spawning in 2007-2008 occurred in February and March and this reflects a shift to later spawn timing. Metolius River redband trout redds in Reaches 0-7 peaked during 2002-2003 at 1,197 then declined from 10 to 26 percent each season until the 2006-2007 season when redd numbers increased to 923. Redd numbers in 2007-2008 were almost identical to those found in 2006-2007. Other unknown factors such as disease or predation could have played a role in the overall reduction of redband trout spawners seen from 2003-2004 to 2005-2006 or this may just be part of the natural population cycle.

Lake Creek was surveyed last season and a decrease in spawning activity has been observed. Redd numbers observed in reach 7 of the Metolius River have increased while redd numbers in Lake Creek have decreased. This indicates these may be separate spawning populations or different factors may be effecting the survival of redband trout in Lake Creek. Spawning surveys in Abbott Creek were last conducted in 2004-2005.

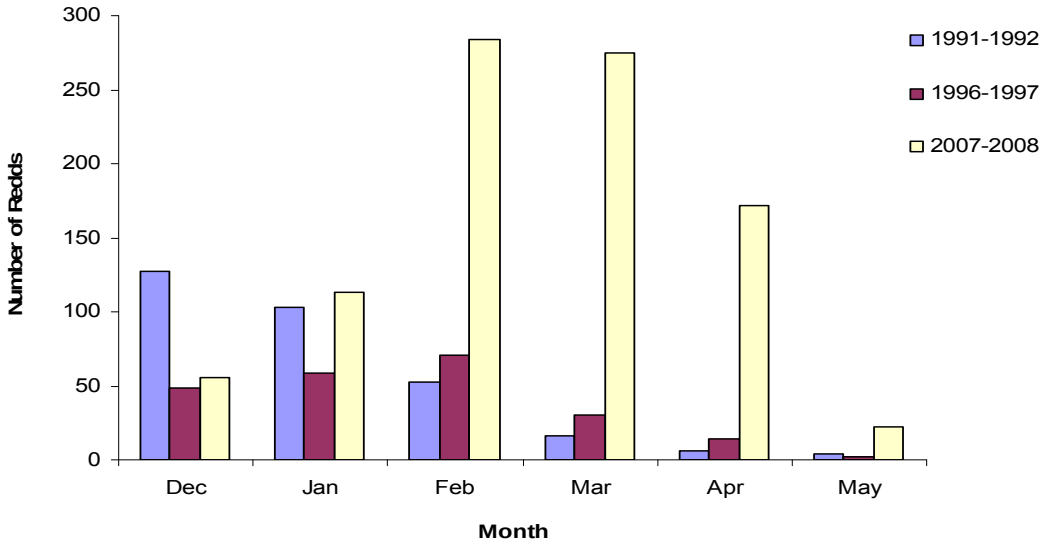
Past redd counts indicate redband spawning has increased in Abbot Creek similar to what has been observed in the Upper Metolius River although the total number of redds observed in Abbot Creek is only a small fraction of the entire Metolius River spawning population.

Recommendations

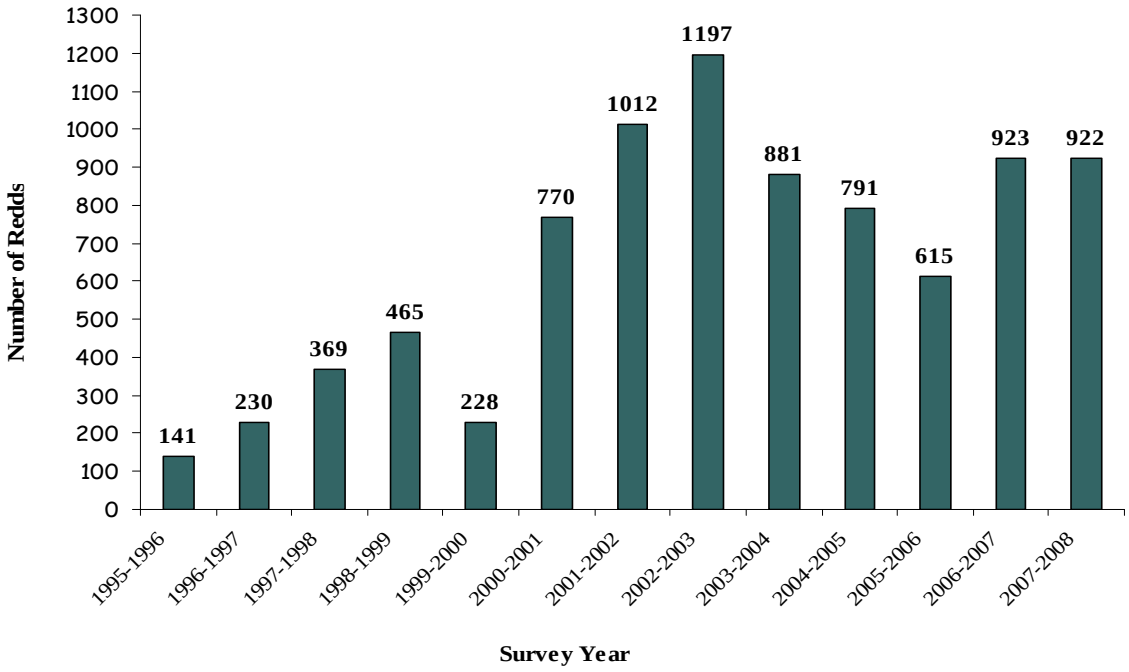
Metolius River:
Continue annual surveys in the Upper Reaches (0-7) and consider surveying on alternate years once it is agreed on by United States Forest Service (USFS), Oregon Department of Fish and Wildlife (ODFW), Portland General Electric (PGE), and the Confederated Tribes of the Warm Springs Reservation of Oregon (CTWSRO) that the population has leveled off and shows a stable trend.

Lake Creek:
Continue surveys on the lower 0.3 km of stream during alternate years to determine if the downward trend for this segment of the population is continuing.

Abbot Creek:
Continue surveys during alternate years on reach 1 only, starting this season (2008-2009). Reach 2 is difficult to survey accurately with the increased vegetation growth and approximately half of the redds during past survey years have been observed in Reach 1. Consider surveying reach 2 every 3-5 years to asses if redd numbers are still proportional in each reach.



Upper Metolius River redd numbers from three spawning seasons showing a shift to later spawn timing. Data from 1991-1992 was taken from Hemmingsen and Buchanan (1993).



Metolius River Redd Counts 1995-2008 from Headwater Springs to near Spring Creek, Reaches 0-7.

Fire

Central Oregon Fire Management Service Fire Effects Monitoring - 2008

Introduction

Central Oregon Fire Ecology Team's monitoring program and protocol was conceived in early 2001 and has been growing, changing, and evolving ever since. There are several laws and regulations that require the monitoring of the effectiveness of the various programs and individual activities. Some of the laws that regulate this are the National Forest Management Act, Federal land Policy and Management Act, Clean Air Act, Clean Water Act, and the Endangered Species Act, just to name a few. These various Acts call for certain strategy objectives to ensure a proper monitoring program. One objective is to provide a systematic, standardized set of protocols for monitoring first order fuel treatment effects that allow data and information sharing between units and agencies. The second objective is to establish core attributes to monitor first order treatment effects and data standards for those attributes. The third objective is to establish minimum requirements for quantitative monitoring. The final objective is to provide guidance and minimum protocols for conducting qualitative monitoring.

Monitoring efforts went from radius plots only installed on Prineville BLM projects to an in-depth protocol that covers the BLM, Deschutes, and Ochoco NFs; multiple vegetation types; and meets the local, regional, and national monitoring requirements. To be consistent with local protocols forests must conduct two fuel treatment projects (Rx burn or mechanical) per division per year for a total of eight fuel treatment projects for the Central Oregon Fire Management Service (COFMS) per year. Each division is required to monitor one large treatment (750 acres or greater) and one small treatment (less than 750 acres). COFMS fire ecologists determine the correct number of plots for each treatment and location of those plots. These plots must be monitored at the time of pre-treatment, during treatment, immediately post-treatment (if possible), one year post-treatment, and five years post-treatment

Since 2001 the concepts, challenges, and results of this monitoring work have been presented locally at Fuels Committee, Forest Leadership Team, COFMS meetings, monitoring trainings, and public meetings. Regionally, the team has presented locally at Hazardous Fuels Reduction meetings and Burn Boss workshops and nationally at International Association of Wildland Fire conferences and the Association for Fire Ecology conferences.

Program Conclusions

In monitoring Juniper Systems, mechanical treatments can remove around 40% of juniper seedlings, but still leave upwards of 200 seedlings/acre (Eagle Rock - BLM); burn treatments may have great variability but reduce juniper seedlings from 50% - 80% (Wagner and Price-Gulovson - BLM). The number of seedlings left per acre may have implications for maintenance cycles and management returns.

In Ponderosa Systems, burning with shrub understory reduces shrub cover and can increase forb and grass cover. These treatments have minimal impacts on mature ponderosa tree densities. Areas of unintentional severity (Hazy Burn – Deschutes NF) do impact overstory mortality at the fine scale, but actually do not significantly affect tree density at the unit/project scale. Tree densities in ponderosa projects are often above historic tree densities when fires burned frequently across the landscape.

When it comes to Mixed Conifer Systems, the COFMS monitoring program has too few project sites in mixed conifer systems to note any items of significant interest. This system would be a good place to continue monitoring work.

Burning in Species of concern or Invasive species shows an increase in abundance of non-native weed species after prescribed fire is introduced to juniper woodlands within the first five years. These units did not contain non-natives prior to treatment (Rattlesnake and Rock Creek -BLM).

Prepared by Wendy Joslin. For more information contact Geoff Babb.