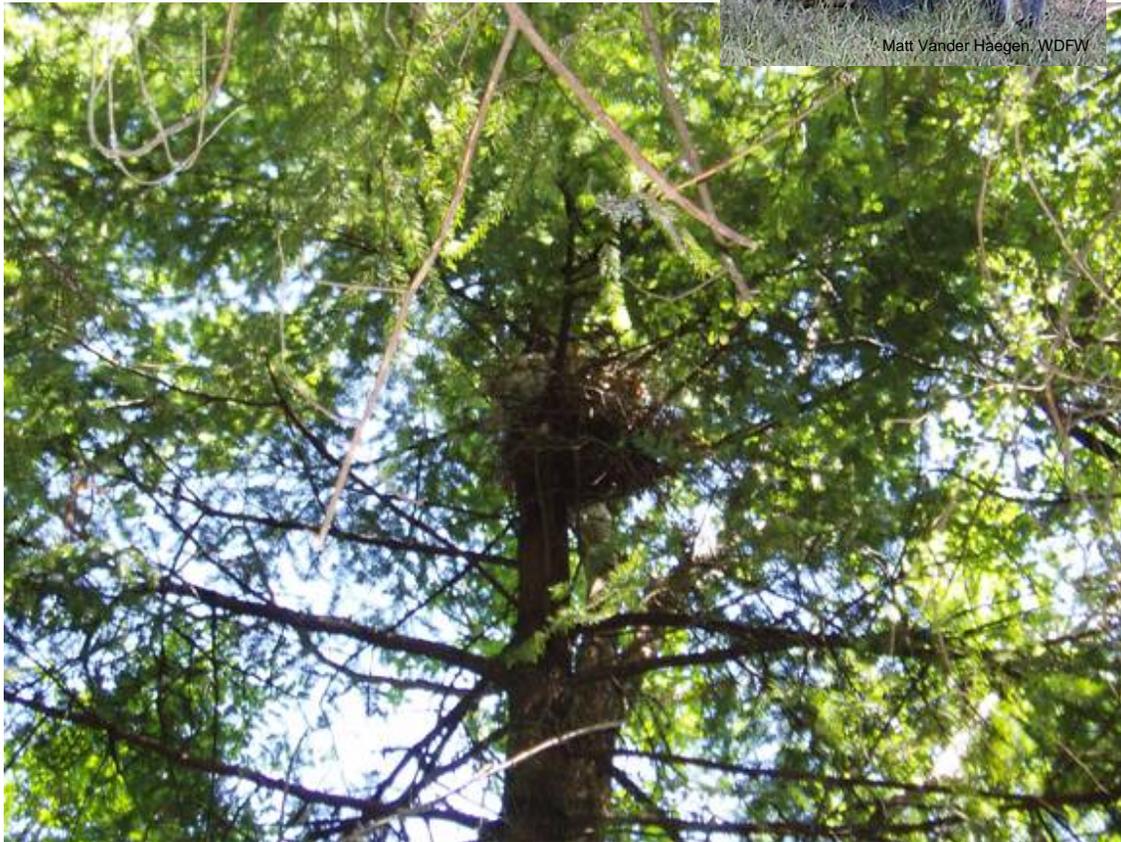


**Western Gray Squirrel 2007 Nest Survey Results
for the
USFS Columbia River Gorge National Scenic Area**



Report by
Chuti Fiedler and Catherine Flick

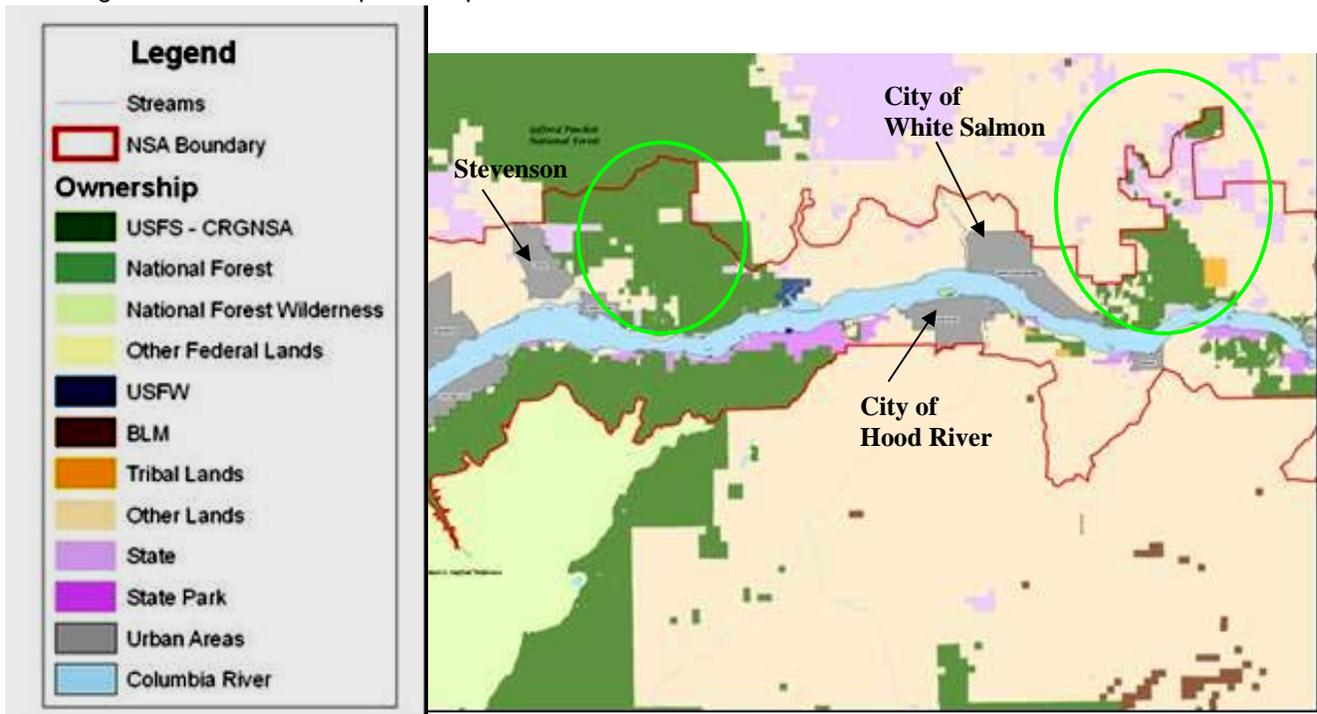
Introduction

Historically, western gray squirrels were widely distributed in forests composed of large, mast-producing Oregon white oak, ponderosa pine, and Douglas-fir. During the 20th century the Washington population has experienced great reductions in both numbers and distribution. The species now occurs as separate populations in the Puget Trough, Klickitat, and Okanogan regions that are estimated to total between 400 and 1400 individuals (Linders and Stinson, 2007). These populations are genetically isolated from one another, and have been isolated from those in Oregon and California for at least 12,000 years. None of the 3 current populations seem to be large enough to avoid a decline in genetic diversity and all may suffer from the negative effects of inbreeding.

The western gray squirrel was listed as a threatened species in Washington in 1993, and its native oak habitat is recognized as a Washington Department of Fish and Wildlife Priority Habitat. The U.S. Fish and Wildlife Service consider the western gray squirrel a “species of concern” in western Washington. Within the Columbia River Gorge National Scenic Area, the U.S. Forest Service protects it as a sensitive species, and places high priority to protect and restore its oak-pine habitat.

WDFW initiated intensive western gray squirrel surveys in Washington in 1994. Intensive field surveys were conducted in Klickitat County from 1994 to 1996 by public agencies, the private sector and the Yakama Nation and subsequent surveys were conducted from 1998–2004. Currently, agency and industry personnel conduct surveys on proposed forest practices sites, potential sites, and historically occupied sites.

This project strongly dovetails into an ongoing effort by WDFW, WA DNR, and the Nature Conservancy within Klickitat County to inventory current squirrel habitat, record trends and restore habitat. Completion of surveys on USFS lands will tie together past surveys on other ownerships due to the mosaic of ownership that encompasses pine/oak/Douglas-Fir habitat within the Columbia Gorge. Survey areas are denoted in bright green in the map below and encompass Collins slide (east of Stevenson) and Catherine/Major Creeks (east of White Salmon). The legend “Other Lands” equates to private lands.



Objectives

There were three objectives for the CRGNSA Western Gray Squirrel survey. In order of priority they are:

- To obtain baseline information on western gray squirrel occupancy within U.S. Forest Lands of the CRGNSA of Washington State. This baseline information was deemed crucial for future trend monitoring,
- To ground-truth mixed hardwood/conifer vegetation types that may contain western gray squirrel habitat and further delineate Washington distribution,
- To identify and prioritize areas for habitat restoration while safe-guarding nest trees.

Methods

Washington Department of Fish and Wildlife western gray squirrel survey protocol and forms were used to allow for consistency with their pre-existing database. Western Gray Squirrel distribution layer from Washington GAP program (<http://wdfw.wa.gov/wlm/gap/dataproduct.htm>) was overlaid with US Forest Service CRGNSA lands, and areas of overlap were tagged to be surveyed. Just prior to field surveys, maps were generated with UTM grids to allow for a systematic walk-through of habitat with a GPS locator. This process also assisted surveyors to not trespass onto private lands. All potential nests and squirrels were noted and GPS points taken. Nests were flagged with pink or lavender flagging and assigned a nest number, along with initials of the surveyor and date (ex. WGS (34), JRB, 8/12/07). General habitat features, such as tree species composition and distribution, were also noted on field forms. Data is entered in NRIS Fauna database and copies of completed forms will also be sent to WDFW.

Surveyors included Chuti Fiedler and Robin Dobson (leads, USDA Forest Service); Catherine Flick, Sarah Prince, Justin Bauer, Susana Valle, Ben Wadman (USDA Forest Service); Debi Budnick (Americorps Intern); Randy Katzenmeyer and Stuart Johnston (Contractors).

Results

The table below displays the acres completed and nests documented as of September 2007. Surveys have continued into the winter of 2007 and 2008. The plan is to be completed by fall of 2008, using 2007 obligated funds or CRGNSA wildlife program funds.

(As of Sept 2007)	Federal acres with potential habitat	Completed acres in 2007	Green (Active) nests	Red or brown (Inactive) nest
Catherine/Major Cr	3493	700	18	155
Collins Slide	360	160	1	11
TOTAL	3853	860	19	166



DISCUSSION

It is unclear why so many inactive (red or brown) nests were noted as compared to active (green) nests. Further discussion with WDFW or other squirrel experts is needed to interpret survey results. Within the survey area, the high number of large, mast-producing, oaks that are declining or dead from overtopping of conifers is disturbing. This condition highlights the urgent need to restore fire or fire-like conditions into the conifer/mixed oak forests to maintain this fire-adapted forest type.

A significant portion of the original acres broadly brushed as potential suitable habitat, using WDFW GAP data, do not seem to provide nest habitat or do not seem to support gray squirrels. This was expected as the Washington GAP data is a coarsely defined area for biodiversity protection and actual species distribution are expected to be refined with field surveys. Once initially identified in the field, such habitat as oak savanna and Douglas-Fir/big-leaf maple forests were deemed low priority, and not further surveyed in 2007. In 2008, these lower priority habitats will be visited and delineated in more detail.

Point observations also need to occur in 2008 to determine actual squirrel species associated with nests found. We suspect that some nests may have been constructed by Eastern gray squirrels that are slowly colonizing previous Western gray squirrel habitat in the Columbia River Gorge. Some of the smaller nests (around 12" in diameter) will also be revisited to verify if they are gray squirrel or Douglas squirrel nests.

And finally, the dense groves of poison oak in the survey areas seriously hampered surveyor productivity. Future surveys in this habitat type should program in extra time for negotiating through this, sometimes very dense, under-story species.

Reference

Linders, M. J., and D. W. Stinson 2007. Washington State Recovery Plan for the Western Gray Squirrel. Washington Department of Fish and Wildlife, Olympia. 128+ viii pp.