

Cooperative Efforts Improve Forest Health at Coulee Dam

By Karen Taylor-Goodrich

Just what is "forest health"?

Recognizing that forest types vary considerably depending on which biogeographic province they're in, generally, a healthy forest is resilient to change, is biologically diverse, provides sustained habitat for fish and wildlife, and meets long-term resource management objectives.

A forest can become unhealthy when its natural dynamics are interrupted, challenged, or otherwise subjected to natural and/or human-caused agents that affect "normal" forest evolution. Agents such as fire (or lack of it), insects, diseases, site degradation, weather extremes, "catastrophic" events, air and water pollution, and improper forest management practices, all can contribute to making a forest unhealthy.

Unhealthy forests tend to be even-aged and overstocked stands with little resistance or resilience to pests.

Although forest pest infestations are considered natural processes, forests in developed areas also must be managed with visitor use in mind. At Coulee Dam National Recreation Area (CODA) the forests in our 26 developed visitor use areas pose unique management challenges. Decades of fire suppression, multiple years of drought, threats from poor forest management practices nearby, and other human caused activities have deteriorated the quality of the ponderosa pine (*Pinus ponderosa*) forests in the area.

Given the linear nature of the recreation area (Lake Roosevelt is 150 miles long with a 660-mile shoreline), and its proximity to other federal, state, tribal, and privately managed forests, we recognize the importance of managing forest vegetation in our developed sites in a way that enhances surrounding

resources as well. The sustainability of forests in these areas of high recreational value is in question, and we realize that we may face major forest losses in our campgrounds if we do not act soon.

NPS staff are addressing forest health issues on Lake Roosevelt in cooperation with other resource agencies. We have utilized the expertise of Forest Service entomologists and pathologists in identifying the types and causes of insects and diseases taking over our forests. (This may sound melodramatic; forest pests are common and natural in forest ecosystems, however it's the degree of infestation that is of concern here.)

The Forest Service also has provided silviculturists to train NPS resource management and maintenance staff in the evaluation of local forest conditions. We are in our third year of funding for forest insect and disease management projects through the USFS sponsored Forest Pest Management Program. In addition to Forest Service staff, we have contacted resource professionals from other NPS areas, outside agencies, and universities to discuss the latest developments on managing forest insects and diseases in developed areas.

The first step was to recognize and document the extent of our forest health problems. We knew we had lost hundreds of trees to a major outbreak of western pine beetle in one of our popular campgrounds, but we didn't have enough information to determine the condition of all our developed sites. We decided to address the problem systematically, and we have taken measures to determine the extent of active infestations, the potential for continued insect and disease problems, and what management options for treatment are available to us.

NPS resource management staff conducted an extensive Forest Insect and Disease Risk Assessment Survey of the 26 developed campgrounds at CODA in 1992. Based on basal area measurements (tree spacing), diameter at breast height (DBH), and other tree health indicators, preliminary survey results

indicate the forests along Lake Roosevelt are extremely overstocked, stressed, even-age stands, with minimal regeneration occurring. This weakened condition has resulted in declining resistance and resilience to pest damage.

The survey has provided us with sufficient data to prioritize areas by level of health, allowing us to make more informed management decisions that may involve suppression and/or prevention activities. In order to keep infestations from spreading, and to address public safety concerns, active infestations receive the highest priority for treatment. Prescribed fire, and the removal of overstocked trees to an optimum level for growth will be used as secondary measures to improve overall forest vigor and resistance to pests.

Along with NPS efforts to improve forest health at CODA, most resource managers in the region are working to address the deteriorating condition of forests in the Inland Northwest, including Canada. Major forest insect and disease outbreaks are occurring throughout the area, and managers are working together to educate the public and their agencies on forest health issues. NPS staff at CODA are participating actively in regional forest health education efforts, and serving on task forces and committees to address these issues. Cooperative efforts to develop public information and educational materials involve press releases, posters, a brochure (completed), and a videotape (in the planning stage).

What we have learned will serve as a foundation for the long-term protection and preservation of significant ecological and recreational forest resources. Likewise, recognizing the importance of cooperative efforts to address both park and regionwide concerns can help us meet resource management objectives while developing mutually beneficial partnerships.

Taylor-Goodrich is the Resource Management Specialist at Coulee Dam NRA.

Left: Dean Gettlinger performing height measurements.

Right: Ponderosa pines (*Pinus ponderosa*) in developed area (campground); infested and dying. Bark removed by woodpecker activity.

