

**City of Corvallis**  
**Corvallis Forest**  
**2010 State of the Forest Report**



*Diversity thinning in Middle-aged stand*

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# City of Corvallis Corvallis Forest 2010 State of the Forest Report August, 2010

## Introduction

Welcome to second annual State of the Forest Report for the Corvallis Forest. The report describes activities undertaken over the past year to implement the Corvallis Forest Stewardship Plan, actions planned for the 2010-2011 fiscal year and a snap shot of conditions and trends facing the City's 2,400-acre Rock Creek Watershed property. The primary management goal of the City for the watershed property is to provide a reliable source of high quality drinking water that surpasses all state and federal drinking water requirements. The Corvallis Forest property includes the Rock Creek water treatment plant, which produced approximately 35 percent, or about 900 million gallons, of the City's water needs. The long-term vision for the Corvallis Forest is that it is a professionally managed, healthy ecosystem with a diverse forest and productive habitat for all species native to the watershed.



*Rock Creek water plant*

## Stewardship Planning

Management of the forest is directed by the Corvallis Forest Stewardship Plan (CFSP), adopted by the City Council in December 2006. It was developed through a 2-year public input and resource assessment process. The plan describes the property's history and current resources conditions, details the vision and principles that guide management, describes desired future conditions, and outlines guidance policies in such areas as forest reserves, invasive species control, and resource monitoring. Opportunities and recommended actions are offered in each of seven different resource and land use areas. A copy of the plan is available at [www.ci.corvallis.or.us/](http://www.ci.corvallis.or.us/)<sup>1</sup> and at the Corvallis Public Library reference section.

The Watershed Management Advisory Commission (WMAC) advises the City Council on policies and activities on the Corvallis Forest. This seven-member panel of citizen volunteers is appointed by the Mayor and meets monthly. All Commission meetings are open to the public. The WMAC works with city staff and resource specialists and consultants to develop annual action plans, as well as individual project operational plans.

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<sup>1</sup> The direct link to the CFSP page is:  
<http://www.ci.corvallis.or.us/index.php?option=content&task=view&id=1795&Itemid=2067>

## Accomplishments 2009-2010

The following actions were initiated or completed in fiscal year 2009-10<sup>2</sup>:

- Wildlife snag creation – A Federal Stimulus grant is funding tree topping for snag creation and woody debris by topping 600+ trees at various locations across the City ownership. A varied prescription will create live snags, tall snags, bored cavities, bat roosting “flanges”, and spotted owl “feeding sites”, while releasing existing and potential legacy trees. The project is scheduled to be completed fall 2010.
- Wildlife diversity thinning – Thinning dense young plantations to improve wildlife habitat occurred at 5 sites totaling more than 125 acres in Spring 2010. Prescriptions included hardwood and cedar “release”, “gap” and snag creation, identification and release of future legacy trees, and woody debris creation. Siuslaw National Forest staff assisted with project design.
- Meadow restoration – A Federal Stimulus grant funded meadow expansion around the last remnant of a large historic meadow and farmstead along Old Peak Road. Trees removed from meadow margins were placed in an adjacent recently thinned stand as woody debris for wildlife. Meadow edges will be planted fall 2010 with native grasses, forbs, and woody shrubs.
- Fish habitat monitoring – A 3-year in-stream fish survey will determine the numbers and distribution of Cutthroat trout following the 2008 fish passage barrier removal projects. Initial survey information from 2006 will be compared to data collected in 2009, 2010 and 2011. Early findings show that fish quickly passed upstream to high-quality habitat once blocked by undersized culverts and inadequate fish ladders.
- Stream temperature and flow monitoring – Temperature monitoring of Rock Creek and several tributaries will assess the long-term effectiveness of the 2008 large wood placement and upcoming riparian planting projects on summer stream temperatures. This project, conducted in cooperation with the Siuslaw National Forest, will add to baseline data collected prior to the CFSP adoption.
- Marbled Murrelet survey – These small sea birds fly up to 50 miles inland to nest in the tops of large conifers such as those that grow in the oldest parts of the Corvallis Forest. A 2-year survey was conducted during spring and summer months in potential habitat at three separate areas. No murrelets were observed.



*Hardwood release for wildlife enhancement*



*Removing young fir to expand native meadow*

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<sup>2</sup> The City of Corvallis fiscal year begins July 1 and ends June 30.

- Invasive weed inventory and control – A comprehensive roadside and riparian weed control project treated the invasive grass false-brome on more than 8 miles of infested roadsides, pipelines, and riparian areas. The project, grant-funded by the Oregon State Weed Board, will include follow-up monitoring and spot control. In addition, all other project sites were routinely pre-screened for the invasive weeds False-brome, Himalayan blackberry, and Scotch broom, as well as rare plants and animals. Weed control strategies include pre-washing equipment prior to watershed entry, restricting equipment to designated trails, and quickly reseeding disturbed soils with native species.
- Forest Resources Inventory – A comprehensive inventory was initiated in 2009 to map and quantify the forest resources, including forest structure, tree health and quality, invasive species, snags, down wood, and critical wildlife habitat. A draft report was produced in the spring of 2010, with the final report due in Fall 2010.
- Understory vegetation survey – To expand the baseline information on the Corvallis Forest a survey of understory vegetation was conducted during spring 2010 by Trout Mountain Forestry and consulting botanists Carex Working Group of Corvallis. The survey included over 100 plots linked to the Forest Resources Inventory described above. The report includes a plant list (totaling 125 species!), details on invasive species populations, and a plant community map of the Corvallis Forest.
- Forest thinning for diversity – Two middle-aged stands were thinned in early fall 2009 to improve wildlife habitat, increase diversity, and enhance stand structure. Areas included a former pasture abandoned in the 1940s, and 95 year-old trees last thinned in the 1960s or 70s. Thinning improved wildlife habitat by increasing the diversity and amount of shrub and ground cover plants, moving the forest from a mono-culture (trees only) to a multi-culture (trees, shrubs, ground cover) environment. Approximately 500,000 board feet of timber were removed across 38 acres by Steve Bush Logging of Kings Valley. Hemlock and cedar seedlings were planted in gap openings to increase species diversity. Revenue from the sale of harvested trees is put back into management of the watershed and helps fund various habitat improvement projects.



*"Shovel" logging is light on the land*

- Custom cut lumber marketing – A portion of the timber harvested was marketed using an innovative custom milling process, whereby the City contracted with a local sawmill for custom milling services, and the lumber was marketed directly to end users under the Forest Stewardship Council (FSC) Certification "Eco label". High-value end products included large dimension beams, utility pole cross-arms, and kiln-dried dimensional lumber. Purchasers



*Utility pole cross arm lumber from the FSC Custom Cut*

liked the high-quality wood and the “Corvallis Forest story”.

- Road maintenance – Periodic maintenance work replenished surface gravel on about 3.5 miles of roads to provide safe travel surfaces.



### **Accomplishments 2008-2009**

Note: This information is included again in this year’s report to give the reader a comprehensive look at the landscape improvements completed since implementation of the Stewardship Plan.

The following actions were initiated or completed in fiscal year 2008-2009:

- Culvert replacement – To restore fish passage to high quality upstream habitats, undersized and perched culverts were replaced on four creeks: Griffith, Stilson, Middle Fork, and Tributary B.
- Fish ladders – A fish ladder was added to the Griffith Creek water intake, and the existing ladder at the South Fork intake was redesigned, allowing fish passage to eight miles of high-quality habitat.
- Large wood stream placement – Helicopter placement of 83 large logs into Rock Creek improved fish habitat by creating resting pools or spawning beds for cutthroat trout and other species. The 20 structures (log jams) will capture nutrients for feeding, sediments for spawning and provide cover for fish.
- Invasive weed inventory and control – Restoration project sites were pre-screened for presence of invasive weeds, and controlled to prevent their spread. Disturbed soil areas were reseeded with native species.
- Marbled Murrelet survey, Phase 1 – Marbled Murrelet surveys were designed and initiated in accordance with established protocols. No murrelets were sighted.
- Forest thinning for diversity – Thinning to improve diversity and stand structure was conducted late summer 2008 on 33 acres of plantations ranging in age between 35 to 50 year old. An additional 34 acres of 70-90 year-old forest were also thinned. Approximately 650,000 board feet of timber was removed, with the revenue used to fund various habitat improvement projects.
- Forest Resources Inventory – Mapping and plot measurement for the forest resource inventory was completed in the spring 2009.
- Road maintenance – Road ditches were cleared of brush and sediments on 21 miles of roads on both City and Siuslaw National Forest lands by the US Forest Service under a cooperative road use maintenance agreement. Gravel was replenished on City roads for erosion control and safety.

### **Activities Planned for 2010-2011**

The following projects are planned for fiscal year 2010-2011:

- Reed canary grass control – A reservoir dredging spoils area near the Rock Creek entrance gate will be cleared of invasive Reed canary grass, reshaped, and seeded with native plant species.

- Wildlife habitat enhancement – Brush and hardwoods along 3000 feet of Rock Creek will be removed and planted with conifers for improved stream shading and future riparian habitat. The multi-year project will include harvest and site preparation, tree planting, monitoring and protection.
- Invasive weed monitoring – Monitoring will determine if and when the next treatments are needed (expected to be spring, 2012, extent to be determined).
- Forest thinning for diversity – Thinning of 34 acres of 45-year old plantation and 22 acres of 70-90 year-old forests is planned for summer 2010. This thinning is expected to yield approximately 750,000 board feet of timber. Thinning will benefit wildlife by increasing shrub and ground cover vegetation, provide growing space for potential Marbled Murrelet nest trees, and improve general forest health.
- CFSP Revisions – New resource inventory findings from work undertaken over the past 4 years by the Commission, staff, and Trout Mountain Forestry have identified several areas where the CFSP should be revised, including: new forest community designations, new restoration practices for some older stands, reserve area policy adoption, and updating maps with corrected road and stream locations. A public process will be undertaken to bring the proposed changes to the community, with ultimate adoption by the City Council, targeted for spring, 2011.
- Rare Plant Restoration Plan – An interim management plan for Peacock Larkspur was developed and adopted by the Commission in 2008. A more detailed rare plant restoration plan awaits the pending completion of the Benton County Habitat Conservation Plan (HCP) process, expected summer, 2010.
- Harvest Planning – Plantation and middle-aged stand thinning that worked well in 2008 and 2009 will be done again in 2011. Up to 65 acres of 40-55 year-old plantations and 175 acres of 60-75 year-old previously logged stands are in need of diversity thinning. Specific stands, number of acres to be thinned and logging methods will be determined in winter/spring, 2010/2011.

### **Education and public use**

Corvallis Forest access is restricted for the protection of the City's water supply however group education use and organized tours are provided. Recent education offerings included the following:

- **Public tours** – Annual public tours are widely advertised and have proven to be popular. The 2010 tour held on May 26th attracted nearly 80 people, who viewed the 2007 and 2009 thinning harvest areas, tree topping operations, and meadow restoration areas.
- **Educational tours** – School and group tour use included: Oregon State University (silviculture, engineering, undergraduate classes), local public schools, Watershed Management Advisory Commission, Forest Guild, and City staff.
- **Press coverage** – Articles about the Corvallis Forest occurred in the Corvallis Gazette-Times,



*2009 public tour*

The City Newsletter, the Corvallis Public Works Annual Report, and the Marys River Watershed Council website.

### **Economic context**

The current economic crisis has impacted restoration efforts on the Corvallis Forest. Log prices began falling in mid-2008, and accelerated in response to the sub-prime mortgage crisis, fall of the housing market, and the ongoing financial crisis. This resulted in the 2009/2010 log markets being further depressed, with demand lowest for the smaller logs used for framing lumber and pulp. Continued uncertainty is expected for the next 6-12 months.

The availability of grant funds has also lessened over the past year, with fewer funds available and more entities seeking those funds. To succeed in this competitive environment projects must be high quality, involve strong partners, and demonstrate a solid track record-all areas in which Corvallis has excelled.

### **Weather and climate**

Although this past winter was one of the coldest in recent memory, weather events on the Corvallis Forest were generally moderate. Overall mild temperatures, modest winds, and normal precipitation created an “average” year that resulted in no major storm impacts to the forest. Wind damage was minimal in recently harvested areas. Seedlings planted in the early winter in the 2009 harvest area were damaged by an extended period of record cold temperatures, and had to be replaced later that season. The extended cool and wet spring created good growth conditions for planted seedlings and also encouraged lush grass growth, which may bring increased fire danger if late summer weather is warm and dry.

### **Animal damage**

Heavy deer browse in parts of the 2008 plantation thinning site resulted in a near total loss of planted cedar. Heavily damaged areas were replanted to red alder, which are less palatable to deer. Lightly damaged trees were protected with tree guards.

### **Trends for 2010-2011**

There are indications that the recession is “bottoming out”, although many expect the recovery to be slow. Modest rises in lumber sales and prices are predicted later this fall as Federal Stimulus funds lead to new projects and increased employment. Timber prices are expected to rise more slowly. Demand for FSC lumber is projected to remain strong.

There is an emerging market in carbon offset credits, which is forming and expected to more fully develop with anticipated national emissions cap and trade legislation. Low petroleum prices will likely slow the growth of carbon markets. Also tied to petroleum prices is the interest in forest biomass for fuel. After a rapid rise in 2007-2008, development is currently slowed by the economic decline.

## **Staffing**

Responsibility for the Corvallis Forest rests with the City of Corvallis Public Works Department, directed by Steve Rogers. Tom Penpraze, Utilities Division Manager, oversees watershed management and conservation programs for the City. Mike Hinton and Jon Boyd live and work on the watershed and provide the day-to-day on site City presence. Ken McCall served as the part-time watershed program specialist. He assisted with WMAC meetings, project implementation and coordination with project partners and consultants. Ken was instrumental in assisting the Commission and the City in implementing the CFSP.

A variety of contractors are retained to assist staff in implementing the CFSP:

- Trout Mountain Forestry is the lead contractor to the City for forestry services, including resource inventory, project planning, permitting, bid preparation and solicitation, contracting, and supervision of projects. They assist staff at WMAC meetings and public tours, annual plan development, and grant writing. Trout Mountain Forestry retains subcontractors for some projects.
- Carex Working Group of Corvallis assisted with understory plant survey design, data collection and analysis.
- Turnstone Environmental Consultants of Philomath conducted Marbled Murrelet monitoring.
- Bio-Surveys of Alsea monitors fish population trends.

## **Partner Institutions**

The work of implementing the CFSP to date would not be possible without the assistance and expertise of a large number of partner groups and institutions including:

- U.S. Forest Service, Siuslaw National Forest
- Marys Peak Stewardship Group
- Marys River Watershed Council
- Oregon Watershed Enhancement Board
- Oregon Department of Agriculture, Oregon State Weed Board
- Oregon Department of Fish and Wildlife
- US Fish and Wildlife Service
- Institute for Applied Ecology
- Adjacent Landowners

## **Watershed Management Advisory Commission**

The Watershed Management Advisory Commission is the volunteer group that advises the City Council on policies and activities pertaining to the Corvallis Forest. They do this primarily by working closely with staff and the City's consultants to implement the CFSP. The Commission generally meets monthly and all meetings are open to the public.

WMAC members include:

Matt Fehrenbacher, Chair  
Jacque Schreck, Vice-Chair  
Charlie Bruce  
Michael Campana  
Creed Eckert  
Sheryl Stuart  
David Zahler  
Richard Hervey, City Council Liaison

### **Conclusion**

Since the Corvallis Forest Stewardship Plan was adopted in 2006, restoration and habitat enhancement projects have occurred on over 250 acres of forest, and stream improvements have increased fish access and habitat on more than 8 miles of streams. Invasive weed control and road maintenance have occurred throughout the ownership. Funds from thinning harvests have allowed the City to leverage grant and cost-share funds totaling more than \$750,000.

More detailed information on the vision, guiding principles, desired future condition, resource policies and recommended actions can be found in the Corvallis Forest Stewardship Plan.