

## 4. Policies

*This chapter documents how the watershed will be managed. The Vision Statement and Guiding Principles were developed in 2005 as part of a public visioning process. Policies for each resource area guide stewardship activities. Standards and Guidelines detail how management actions are implemented. For more information on Monitoring and Public Outreach policies see Chapter 6 and Chapter 7.*

### Vision Statement

***The City-owned portion of the Rock Creek Municipal Watershed is a professionally managed, healthy ecosystem with a diverse forest and productive habitat for all species native to the watershed.***

### Guiding Principles

- Conservation-based management practices demonstrate that water quality, stream health, wildlife habitat enhancement, and tree harvest can go hand in hand;
- Protecting the health and diversity of the forest and its ecosystems are top priorities;
- We are a “good neighbor” and integrated into the larger landscape, recognizing our connections to the greater watershed;
- Corvallis Forest is managed for a variety of different ages and types of forest to provide diversity of terrestrial and aquatic habitats;
- Corvallis Forest is resilient to fire, invasive species, insects and disease;
- Access is controlled to minimize risk of fire, water contamination, and invasive species introduction;
- Corvallis Forest is available for limited educational, recreational, and research opportunities;
- Corvallis Forest supports high quality water production for the City of Corvallis;
- Corvallis Forest is a generator of revenue that will primarily be used to offset the cost of forest management, and secondarily to help fund the City of Corvallis water utility system.

### Desired Future Condition

The desired future forest on the watershed property will include:

- Reserve areas to protect water quality and other sensitive resources

- Plant communities dominated by native species that are vigorous and resilient to disturbance and climate change
- Forest stands representing a variety of different ages and types, to provide a diversity of wildlife habitats
- Healthy streams with high quality water and good aquatic habitat for native fish and other stream dwellers
- Old forest structural features, including large trees, multi-aged stands, and biological legacies, including snags, large cavity trees, coarse woody debris, hardwoods, and shrubby openings
- Special features and unique communities, including savanna/woodland, meadow habitats, riparian forests, and minor species
- An arrangement of forest stands and plant communities across the property that provides connectivity of wildlife habitats, and integrates with that of the surrounding landscape

## Resource Policies

### *Forest Age & Structure*

Manage the Corvallis Forest to protect older forest stands and old forest legacies within younger stands, while providing a variety of different ages and types of forest and habitat conditions.

### *Reserve Areas*

Maintain Reserve Areas on the Corvallis Forest to protect streams and water quality, wildlife and other areas of unique habitat or ecological values.

### *Aquatic Habitat*

Maintain and restore high quality aquatic and riparian habitat.

### *Wildlife Habitat*

Protect unique habitats on the Corvallis Forest, and, where possible, to diversify wildlife habitats, promote connectivity between habitats, and increase biological diversity on the ownership.

### *Water Quality*

Protect and where possible enhance the quality of water and the health of the aquatic environment within its ownership. Corvallis seeks to minimize the adverse effects of necessary water withdrawals on stream health.

***Native Vegetation & Invasive Species***

Promote native plant communities and actively monitor, control, and reduce invasive plant populations.

***Roads***

Reduce road impacts on water quality within the Corvallis Forest, and to minimize new road construction.

***Forest Chemicals***

Minimize the use of chemical herbicides, pesticides, and fertilizer in the Corvallis Forest.

***Public Access***

Prohibit general access to the Corvallis Forest, but implement access controls to allow educational, research, special permitted usage.

***Neighbors & Allied Organizations***

Cooperate with neighboring landowners and aligned organizations to ensure quality water for the citizens of Corvallis, protect wildlife and stream habitats, and to achieve joint objectives and projects.

***Fire***

Protect the Corvallis Forest from wildfire and to manage forest stands to reduce fire risk.

***Planning, Monitoring & Public Outreach***

Implement the Corvallis Forest Stewardship Plan, monitor management to minimize adverse impacts and meet Plan goals and objectives, and to ensure transparency of management by effectively communicating activity goals and objectives with Corvallis citizens and leaders.

## Standards & Guidelines

### *Forest Age & Structure*

1. Vegetation types are designated and mapped.
  - a. Vegetation types are defined in the Forest Resources Inventory report.
  - b. New vegetation types are designated in future inventories as forest conditions change and currently undefined types develop.
2. State-of-the-art silviculture is used on the City Forest
  - a. Silvicultural systems are designed and employed to encourage development of a variety of forest ages and habitat conditions, and to meet goals for diversity, resilience, and forest health. Silvicultural prescriptions on the Corvallis Forest may vary widely, depending on age, stocking, species composition, and operability of the site. Site-specific management is designed to meet the broader goals of the CFSP.
  - b. Silvicultural methods used include:
    - i. *Pre-commercial Thinning (PCT)*: PCT thins non-merchantable trees to reduce stocking and modify species composition by slashing and leaving the tree on site rather than removing it for a commercial product.
    - ii. *Variable Density Thinning (VDT)*: VDT varies thinning intensity across small scales to create a complex forest structure. Wider spacing may accommodate natural or planted regeneration of shade tolerant species, thus allowing recruitment of additional age classes and development of understory plants.
    - iii. *Conventional Thinning*: Methods such as “thinning from below” and “thinning from above” are used in conjunction with variable-density thinning. The objective of these methods is generally to remove suppressed, damaged and defective trees, and allocate growth to dominant, healthy trees.
    - iv. *Group Selection*: Group selection typically removes small groups of trees within a stand. This is generally applied in conjunction with a thinning operation to provide opportunities for crown development at the edge of the group opening, and establishment of an additional age class within the opening. Whether or not a group selection is planted or left to regenerate naturally depends on presence of seed sources for shade-tolerant plants and size of the opening.
    - v. *Individual Tree Selection (ITS)*: Individual trees from a range of canopy classes are selected for harvest to favor trees in similar or other canopy classes. ITS is used for favoring growth and establishment of advanced regeneration to promote multi-storied stands.
    - vi. *Patch Cut*: Small openings created by removing all or nearly all dominant trees are classified as patch cuts. This harvest method provides larger openings for tree regeneration and/or early seral

conditions. Patch cutting are often integrated with thinning operations to introduce new age classes into the forest.

- vii. *Variable Retention (VR)*: Variable retention harvests retain significant portions of the original stand, and establish a new age cohort. The retained portion of the stand can be grouped or dispersed throughout the harvest area. VR is used when stand conditions indicate thinning is not effective in promoting desired structural or compositional conditions, when forest pathogens severely impact the viability of a stand, or when operational limits prohibit thinning.
- c. Live trees, snags, and woody debris are retained in harvest openings at levels and for periods sufficient to provide desired structural benefits. Retention includes legacies of the older forest, minor tree species and advance regeneration.
3. Harvest levels are sustainable.
  - a. Property harvest level calculations consider only areas available for harvesting. Reserve areas are excluded from harvest level calculations.
  - b. Total harvest volume does not exceed total growth during any rolling ten-year period.
4. Timber harvesting activities use “best-practices” aimed at protecting the ownership.
  - a. Legacy trees, residual trees, snags, large woody debris, and advance regeneration are protected from damage during felling, skidding, and road building. All legacies of the older forest receive high levels of protection.
  - b. Logging is conducted in ways that ensure public safety and minimize user conflicts.
  - c. Logging equipment is specified to minimize site disturbance and road-building costs. Equipment that does a satisfactory job at a reasonable cost is utilized.
  - d. Ground-based logging is limited to slopes averaging less than 35 percent, with operations restricted to dry-season conditions.
  - e. Log landings and equipment access routes are kept to the absolute minimum size and number necessary for logging safety and efficiency.
  - f. Logging is avoided during early spring to limit bark damage.
  - g. Loggers fall trees and process logs to minimize waste and maximize timber yields.
5. Reforestation is assured in forest habitats; natural and planted regeneration can be used.
  - a. Natural regeneration is favored where it exists or can be encouraged.
  - b. When planting, a variety of native, site-adapted tree species are used. Seedlings from appropriate seed zones are used.
  - c. Planted seedlings and natural regeneration are kept vigorous and free to grow by judicious and economical vegetation control. Shrub development is allowed to provide habitat and diversity.
  - d. Logging slash is typically left in place. Piling is restricted to landings and regeneration areas where volumes impede plantability or access.

6. Salvage harvest can be considered.
  - a. Impacts from wind, fire, insects or disease that kill groups of trees are considered part of the natural disturbances process of a healthy forest. Any salvage harvest plan considers the value of leaving dead trees undisturbed in the forest. Factors such as location, quantity of diseased or dead trees, wildlife habitat value, and economic value are considered when evaluating timber salvage options.
  - b. Salvage harvesting is evaluated on a case-by-case basis, and is consistent with polices protecting water quality, forest ecosystem function, and wildlife habitat.
  - c. Timber salvage is conducted in a manner that minimizes impacts on resources. Salvage operations that unnecessarily add to forest disturbance, such as new road construction or soil disturbance on steep slopes are avoided.

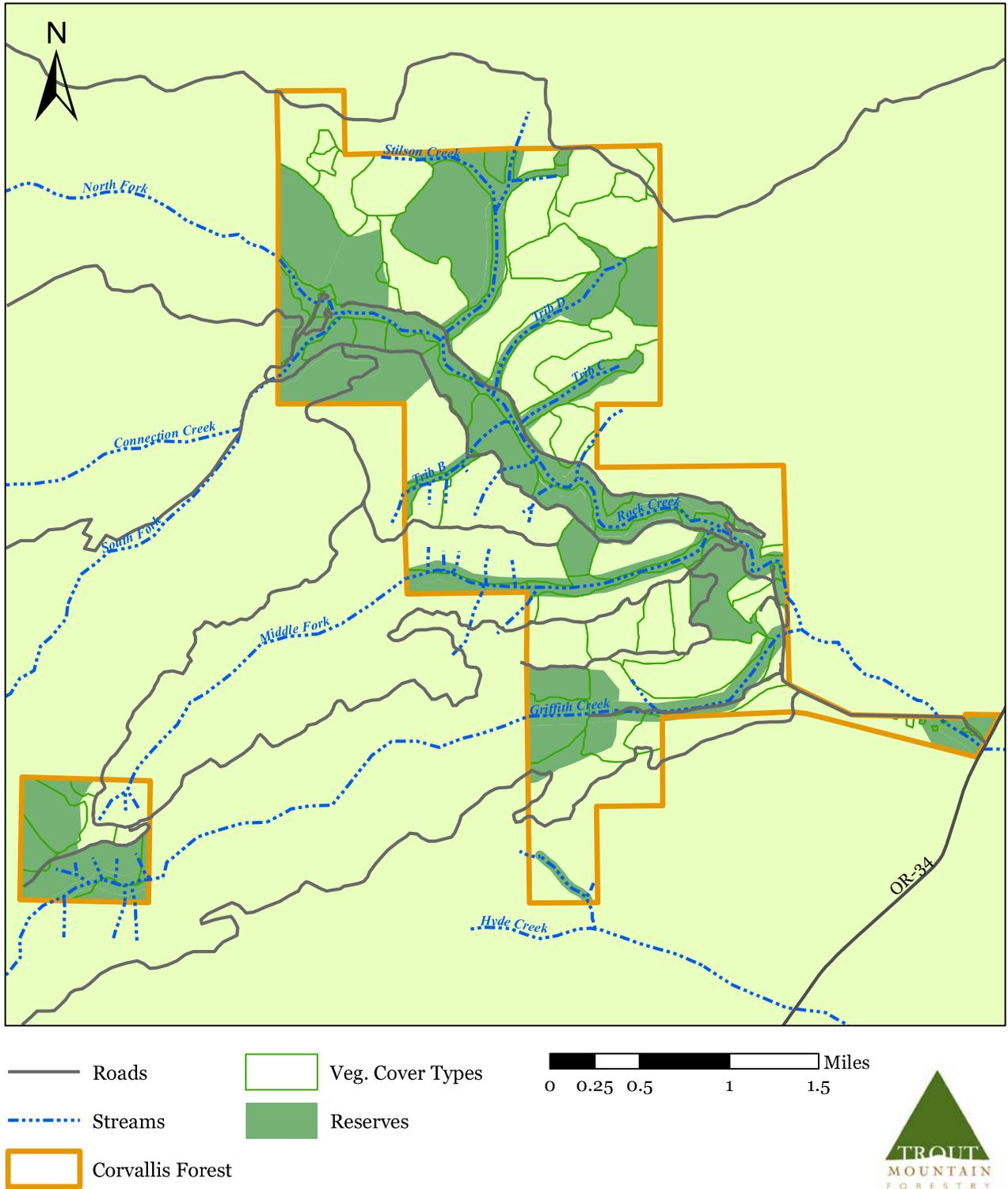
### ***Reserve Areas***

1. Certain areas are designated as Reserve Areas (see Figure 6, page 41), with additional allowances for landscape setting, sensitive resources, and terrain, including:
  - a. Riparian areas on all streams as mapped by Oregon Department of Forestry (ODF). Minimum reserve distances shall be 200 feet slope distance on each side of Medium and Large streams, and 100 feet for Small fish-bearing streams, as classified by ODF
  - b. Other sensitive stream and riparian areas not included on ODF maps, as deemed necessary
  - c. Areas within the Rock Creek water system catchment area
  - d. Late-seral structurally diverse forests
  - e. Landslide prone areas near streams
2. Reserve Areas are identified on a map contained in the CFSP.
3. Reserve areas are reviewed and updated as part of periodic plan update processes.
4. The following silvicultural practices are prohibited within Reserve Areas:
  - a. Commercial timber harvesting, except to enhance stand structure and habitat or speed development of desired future conditions
  - b. New permanent road construction
  - c. Salvage harvesting, unless down or dead trees pose a verifiable risk to forest ecosystem function or public safety

### ***Aquatic Habitat***

1. Management planning includes evaluation of aquatic habitat, aquatic resources, and population dynamics, and considers opportunities for fish habitat enhancement.
  - a. Restoration projects are prioritized by their potential to create high-quality habitats.

Figure 6. Reserve Areas



- b. Management efforts are designed to maintain the full suite of native aquatic organisms.
2. Riparian areas are managed following Reserve Area Standards and Guidelines.

### ***Wildlife Habitat***

1. Priority is given to forest management actions that positively impact habitat needs for State and Federal ESA-listed species, promote connectivity between wildlife habitats, and for areas of highest habitat improvement need.
2. Forest management efforts are designed to maintain viable populations of all species native to the site.
3. Wildlife habitat efforts are coordinated with those of neighbors where habitats span ownership boundaries.
4. Active management consider habitat diversity; where possible, unique features will be positively impacted, including but not limited to:
  - a. *Legacy trees*
    - i. Trees that are unique for their size, age, species, and/or location are protected. Target numbers are specified in management plans based on best current science and desired future conditions.
    - ii. Trees older than 200 years in managed stands are identified and retained as legacy trees.
    - iii. Legacy trees are reserved from harvest until target numbers are exceeded. Any future harvest of legacy trees ensure target numbers are maintained.
  - b. *Wildlife trees*
    - i. Trees that are unique for their wildlife value are protected.
    - ii. In areas without any, wildlife trees are created to provide critical habitat (den cavities, nests, perch sites) or mast (acorns, seeds, or fruit).
    - iii. Wildlife trees are retained during management activities for the purpose of continued wildlife values and as future snags and large woody debris.
  - c. *Standing dead trees (snags)*
    - i. In areas lacking snag habitat, snags and coarse woody debris are actively created using scientifically valid criteria for snag selection and management. Target numbers are specified in operational plans based on best current science and desired future conditions.
    - ii. Where suitable snag candidates are lacking, they can be added over multiple cutting cycles
    - iii. Existing snags are retained and allowed to naturally deteriorate, except where posing a safety hazard (e.g. near roads, trails or structures), or deemed suitable for salvage (see Salvage Policy).
  - d. *Down logs (coarse woody debris)*
    - i. Slash and cull log sections are left in the woods at time of management activity.
    - ii. Tradeoffs between woody debris augmentation and fire, invasive

- weed, and other operational risks are considered.
- iii. Large down logs are protected during management activity from damage and disturbance.
- iv. Where absent, coarse woody debris levels are promoted to enhance soil productivity, and additional recruitment will be encouraged. Target numbers are specified in management plans based on best current science and desired future conditions.
- e. *Uncommon vegetation types*
  - i. Occurrences of uncommon and sensitive vegetation types associated with springs and seeps, rock outcrops, grasslands, oak woodland, oak savanna, lichen communities, etc., are identified and protected
  - ii. Inclusions of uncommon vegetation types are encouraged and perpetuated (e.g. hardwood pockets within conifers stands, openings within closed canopy stands, etc.)

### ***Water Quality***

1. Management of the Corvallis Forest is designed to meet State and Federally mandated water quality standards, and provide the highest possible quality of water at low cost.
2. Areas of City-owned land above the water intakes are designated as Reserve Areas (see Reserve Area Policy).
3. Forest management operations are planned and conducted using best-practices to minimize erosion and water quality impacts (see Forest Age and Structure Policy).

### ***Native Vegetation & Invasive Species***

1. Native plant communities are actively managed for protection from invasive plant species
  - a. State and Federal rules to protect listed plant species are met or exceeded. Threatened and Endangered species are given the highest levels of protection.
  - b. Plant surveys are conducted prior to all management activities to look for plant Species of Concern (e.g. *Cimicifuga elata* – tall bugbane patches). If Species of Concern are found, management activities are initiated to protect their habitats.
  - c. Degraded Species of Concern plant communities are actively managed to enhance ecosystem structure and function.
  - d. Collection of Listed or Species of Concern plants or mushrooms is not allowed.
2. Invasive species are actively managed to suppress their spread or eliminated from the ownership.
  - a. Invasive species surveys are conducted on areas considered for management activities.

- b. Invasive species such as false brome and exotic blackberries are controlled, with an emphasis on early detection and control of new populations before they become firmly established.
  - c. Neighboring landowners are encouraged to institute their own invasive species controls near common boundaries.
  - d. Integrated Vegetation and Pest Management strategies, as described in the Corvallis Integrated Vegetation and Pest Management (IVPM) Program, CP 95-7.12 are instituted as a part of routine operations, for example:
    - i. Logging equipment is washed before arrival on the site.
    - ii. Infestations are pretreated before management operations.
    - iii. Disturbed soil areas are seeded with native or fast-growing non-invasive species.
    - iv. Follow-up monitoring and control is conducted.
3. Restoration activities will be pursued for Listed or Species of Concern plants.
- a. Uncommon and sensitive plant populations, such as peacock larkspur (*Delphinium pavonaceum*), are protected (see Reserves) and actively managed to maintain and, if possible increase size and vigor.
  - b. Restoration activities minimize ground disturbance, unless it is specified an appropriate management technique.
  - c. Restoration activities are initiated first on a small scale and on low risk sites. Large-scale efforts are applied only when proven effective on each site.
  - d. Local seed sources are used for restoration and revegetation as practical.

### **Roads**

1. A road network is maintained to provide access for water system operations, forest management and monitoring, fire prevention and protection, and public outreach activities.
2. Main roads are maintained as all-season roads. Timing of wet-season use is limited to minimize erosion and road damage.
3. Best practices for road maintenance, as described in the Oregon Department of Forestry Forest Road Management Guidebook, are followed.
  - a. Roadbeds and cleared right-of-ways are kept to the smallest size necessary for management operations.
  - b. Roads and skid trails are designed to follow slope contours, and use dips, water bars where practical, and seeding as needed to control erosion. Out-sloped roads are preferred.
  - c. Haul road grades generally do exceed 20%
  - d. Stream crossings are avoided.
  - e. Culverts on fish bearing streams are upgraded to allow fish passage.
4. Temporary roads are closed and revegetated upon completion of logging operations. Seeding is used to control erosion and reduce spread of invasive species.

### ***Forest Chemicals***

1. Integrated Vegetation and Pest Management strategies, as described in the Corvallis Integrated Vegetation and Pest Management (IVPM) Program, CP 95-7.12, are instituted as a part of routine operations, such as:
  - a. Chemical herbicides are used only when other methods are ineffective or prohibitively expensive
  - b. The least persistent and lowest toxicity chemical offering effective control are used.
2. Targeted application (e.g. backpack sprayer or single stem injection) is the preferred method.
3. No aerial chemical application is allowed.

### ***Public Access***

1. The property is posted to prohibit trespass; gates block all access roads, and keys are strictly controlled.
2. Water system staff patrols the property to help prevent trespass.
3. Public access is allowed for organized educational use, research, and city-sponsored public outreach, managed through the Public Works Department, and approved on a case-by-case basis.
4. When issuing public access permits, impacts on water quality, risk of fire, invasive species, and neighbors are considered.
5. Access to Old Peak Road for non-motorized Corvallis-to-the-Sea Trail use is allowed.

### ***Neighbors & Allied Organizations***

1. Siuslaw National Forest and other abutting owners are conferred with when restoration activities are planned, and notified of planned operations.
2. A member of the Public Works staff is designated as a liaison to the Marys Peak Stewardship Group, and participates in regular meetings
3. Cooperative road use and maintenance agreements are developed with Siuslaw National Forest and other neighbors.
4. Development and implementation of monitoring and restoration plans is coordinated with Marys River Watershed Council and other organizations.
5. Neighbors and interested groups are invited on an annual public tour of the Corvallis Forest.

### ***Fire***

1. All wildfires occurring on the forest are controlled as soon as possible. There are no “let-burn” areas on the forest.
2. In the unlikely event that controlled burns are deemed necessary, they are managed by or planned with the assistance of the Oregon Department of Forestry.
3. No accumulations of slash remain within 60 feet of roads or landings, except in the case of piles created for wildlife habitat.

4. Stands with high fuel loads or high fire risk are treated to reduce hazards.
5. Areas within 100 feet of structures are treated in conjunction with fire-safe guidelines of Oregon Department of Forestry and US Forest Service (Oregon Forestland-Urban Interface Fire Protection Act, 2006).

### ***Planning, Monitoring & Public Outreach***

1. The Corvallis Forest Stewardship Plan incorporates statistically relevant resource inventories and assessments of forest values and functions. The CFSP defines ownership objectives, assesses resource values in the context of the surrounding landscape, and sets policy and guidance for long-term property management direction.
  - a. Future stewardship plans and updates are written by a professional forester with direction of the WMAC and staff, and adopted by the City Council
  - b. The planning process includes opportunities for public involvement and comment
  - c. The plan and resource inventories are updated approximately every 10 years
2. Action plans are prepared at least once every three years to schedule and implement Stewardship Plan activities and periodic harvests. Plans are prepared by a professional forester at the direction of staff, with input from and approval of the WMAC.
3. Operational Plans are prepared to plan and detail harvests and other major management actions prescribed in Action Plans. The focus area is typically be a particular stand or set of stands.
  - a. Operational Plans are prepared by a consultant professional forester at the direction of staff, with input from and approval of the WMAC.
  - b. Plans are consistent with CFSP goals for forest function and resource protection.
  - c. Input from wildlife, fishery, and botany professionals are solicited and incorporated into plans as needed.
  - d. Plans include detailed maps and operational details. Maps include stand delineations, reserve areas, sensitive resources, and locations of any landings and skid trails. Operational notes include unit prescriptions, project specifications, intended outcomes, timber harvest volume and value estimates, and implementation details.
4. In cooperation with staff, a professional forest manager supervises all aspects of forestry operations, including:
  - a. Resource inventories
  - b. Long-term stewardship plans
  - c. Design and implementation of silvicultural activities
  - d. Accounting and administration
  - e. Compliance, contract, and environmental monitoring
  - f. Any other activity related to management of the forest
5. Monitoring is conducted to help determine if forest management activities are compliant with CFSP Vision, Guiding Principles, and Policies and Guidelines

- (see Chapter 6, Monitoring)
6. Outreach efforts are conducted to increase awareness of and encourage engagement of the Corvallis community and neighbors in the resources and ecology of the Corvallis Forest, management actions, and the CFSP (see Chapter 7, Public Involvement)