Washington State

Integrated Forest Management Plan

Guidelines & Template

- **Forest Stewardship Plan**
- **Conservation Activity Plan (CAP)**
- **Tree Farm Management Plan**
- **Timber Management Plan (current use property taxation)**

Revised and Updated
March 2017

WASHINGTON STATE
INTEGRATED FOREST MANAGEMENT PLAN GUIDELINES

These guidelines have been cooperatively developed and adopted by the Washington State Department of Natural Resources (DNR), U.S. Department of Agriculture (USDA) Forest Service and Natural Resources Conservation Service (NRCS), the Washington Tree Farm Program, and the Washington Department of Revenue (DOR).

Forest management plans developed using these guidelines are intended to:

- Help landowners better understand current forest conditions and future management needs and opportunities, integrating all of the forests resources.
- Provide a "road map" of management activities to help landowners protect, improve, or restore the health and productivity of forest resources, attain their individual ownership objectives, and provide for long-term sustainable forest management.
- Provide useful information to anyone with a current or future interest in the property, including heirs and subsequent owners.
- Help landowners meet the "written forest management plan" requirements[1,2,3] for the following programs:

Forest Stewardship Program – Administered by Washington State Department of Natural Resources (DNR) in cooperation with USDA Forest Service - State and Private Forestry Programs.

- A DNR-approved **Forest Stewardship Plan** is required to be eligible for "Stewardship Forest" recognition (property sign) and may be a requirement for the Eastern Washington Forest Landowner Cost-Share Program (improvement of forest health and reduction of wildfire and bark beetle risk) administered by DNR.

USDA Farm Bill Conservation Programs – Administered by USDA Natural Resources Conservation Service (NRCS).

- Landowners who participate in NRCS-administered Farm Bill financial assistance programs, such as the Environmental Quality Incentive Program (EQIP), which provide financial incentives to help landowners implement forestry practices, are required to have an NRCS-approved Forest Management Plan. NRCS may be able to provide financial assistance to those who wish to hire a private consulting forester to prepare their plan. Inquire about applying for a **Conservation Activity Plan (CAP 106)** at your local NRCS office. CAP 106 plans must be prepared by an NRCS-certified Technical Service Provider (TSP).

Certified Tree Farm Program – Administered by the Washington Tree Farm Program, affiliated with the American Tree Farm System (ATFS).

- An approved **Tree Farm Management Plan** is one of the requirements for the property to become a Certified Tree Farm/Certified Family Forest.

Current Use Forest Property Tax Programs – Administered by County Assessor's Offices in cooperation with the Washington State Department of Revenue (DOR).

- A **Timber Management Plan**, described in state law (RCW 84.34.041, 84.33.035) and approved by the County Assessor, is a requirement for eligibility for "current use" forest property tax programs. Interested landowners should contact their County Assessor's Office to determine their specific requirements before beginning the plan development process. Some Assessor's Offices have developed their own guidelines and preferred format for submission of the plan, which may vary from what is presented herein. To qualify as Designated Forest Land, "the land must be used primarily for growing and harvesting timber."[4]

NOTES:

[1]Acceptance and approval of the plan will be determined by the agency or organization which administers each program. No assurance is either stated or implied regarding the acceptance or approval of any plan by any specific agency or organization.

[2]All Plans are required to be prepared by, or in close collaboration with, a professional forester or other natural resource professional acceptable to the approving agency or organization.

[3]Plans should be updated as needed to reflect current conditions and circumstances. Forest Stewardship Program guidance calls for review/update as needed at least every five years.

[4] Washington Department of Revenue, Designated Forest Land fact sheet, January 2017.

This publication contains two parts:

- **PLAN CONTENTS (Pages 4-18): Describes the required content of the plan.**
- **APPENDICES (Pages 19-28): Provides additional detail, suggestions, information, and references to assist you in completing the plan.**

PLAN CONTENTS

SUMMARY OF PLAN REQUIREMENTS

Plans prepared using these guidelines should:

1) **Cover the entire forested ownership.**
2) **Include all items listed under "Plan Contents" (Pages 4-18):**
   - **Cover page with owner and property information**
   - **Ownership objectives**
   - **General property description**
   - **All "Resource Categories" identified below**
   - **Map(s) and aerial photo of the property**
   - **A 20-year (or more) estimated implementation timetable of management activities.**
   - **Signatures of landowner(s) and authorized approving official.**

SPECIFIC PLAN REQUIREMENTS:

The following contents (Pages 4-18) are required unless specifically identified as "optional". Refer to APPENDICES (Pages 19-28) for more detailed information, suggestions, and references to help complete each of the plan contents identified below.

I. COVER PAGE

- Landowner Information: Name(s), address, phone number, e-mail address.
- Acreage and Property Location Information:
  a) Indicate number of contiguous forested acres included in the plan.
  b) Indicate county, legal description (subsection, section, township, range) and tax parcel number(s).

  Optional:
  c) Street address and/or driving directions and access information.
  d) USDA Farm Service Agency Farm and Tract number (if applicable).
  e) GPS coordinates (longitude and latitude)
- Plan Preparer: landowner name or name, title, affiliation, address, phone, e-mail address of forester or resource professional.
- Assisted By: If plan was prepared by the landowner (e.g. through participation in a Forest Stewardship Coached Planning Course), name the natural resource professional(s) who provided on-site advice and assisted/advised in plan preparation and indicate their affiliation, address, phone, and e-mail.
- Plan Completion Date

I. TABLE OF CONTENTS (OPTIONAL)

II. LANDOWNERS OBJECTIVES

See Appendix I -- Page 19

- Describe owner's objectives for the property – If objectives vary short term –vs- long term, so indicate.
- Describe owner's guiding principles, management philosophy, and desired future conditions for the property (optional)[1].

NOTE:

[1]For CAP 106, describing "Desired Future Conditions" or what the future stand should look like after completion of the plan - including stocking levels, species composition, stand structure, wildlife habitat and recreation opportunities is a required item. Desired Future Conditions can be described generally here or more specifically later on a stand by stand or Resource Category basis.

III. GENERAL PROPERTY DESCRIPTION & OVERVIEW

- Brief Overview of Land Uses in the Vicinity
  Generally describe the land uses in the vicinity and immediately adjoining the property (forested, farms and ranches, rural residential, developed, etc.)

- Topography
  Describe the "lay of the land". (How much is flat, gently rolling, steep? What direction(s) do slopes face?).

- Access
  Describe how/where property is accessed.

- General Forest and Property Description
  List and very briefly describe forest stand types:
  Indicate tree/shrub species, approximate ages/sizes, stocking density, and acreage for each stand.
  (More detailed stand descriptions to follow under Resource Category 4)
  Describe other features on the property:
  Streams, wetlands, ponds, openings, brush patches, buildings, roads, other interesting or notable natural or man-made features.

- Property Corners and Boundaries
  Describe how property corners and boundaries are marked or can be recognized.

- Land Use/Forest Management/Timber Harvesting History**[1]**
  To the extent known, describe past ownership and land use history, and previous forest management activities and timber harvesting and when they occurred.

- Climate/Weather (optional)
  Describe the weather for your area, including any known historical weather events that may have affected your forest. (For average weather patterns, go to http://www.eachtown.com/Washington/ - select closest city to property; click on "Historical Weather" on left side of page.)

- Additional Information and Comments (optional)
  Describe anything not captured above that helps further describe the property, its current conditions and/or may affect current or future uses and management. Consider discussion of any significant family ownership history.

NOTE:

[1]For CAP 106, these items are a required component. If you do not know what activities have been conducted, state this in these sections.

IV. RESOURCE DESCRIPTIONS AND MANAGEMENT PRACTICES

For each Resource Category below, include the following two elements:

1) Resource Conditions: Describe current resource conditions, needs, and opportunities.

2) Management Practices: Describe any management practices to protect, enhance, or restore these resources.

RESOURCE CATEGORY 1 – Forest Health, Wildfire & Invasive Species

See Appendix II -- Page 20

Forest Health

Resource Conditions

- Describe current or potential damaging forest health issues (insects, diseases, drought, weather events, etc.) and current property conditions that may contribute to forest health problems.

Management Practices

- Describe any management activities to improve or maintain forest health, address current forest health issues, and reduce future forest health risks.

Wildfire[1] –

Resource Conditions

- Describe potential wildfire risk and current property conditions that contribute to that risk.

Management Practices

- Describe any management activities to reduce wildfire risk and improve firefighter access.

NOTE:

[1]The following statement is required when submitting a plan for land use classification change to the county – This *property is subject to forest fire protection assessments pursuant to RCW 76.04.610. The Washington State Department of Natural Resources provides fire protection for forestland associated with this parcel.*

Invasive Species

Resource Conditions

- Describe current or potential invasive plant or animal species issues (if any). If none, so state.

Management Practices

- Describe any practices to prevent, control, or eliminate invasive species.

RESOURCE CATEGORY 2 – Soils

See Appendix II – Page 21

Resource Conditions

- Identify and describe each soil type.
- Discuss soil productivity (site index[1]), the nature of soil(s)[2] and any resource concerns which could potentially affect forest management activities.
- Attach soil map.

Management Practices

- If applicable, describe any actions to maintain soil structure, stability, productivity, or to prevent, correct, or cope with soils-related problems.

NOTES:

[1]The site index is found in the *Washington State Department of Natural Resources State Soil Survey* and is the site class required for the purposes of implementing the WA State Forest Practices Rules (see 'Site Class' under the General Definitions section of the Forest Practices Rules – WAC 222-16-010).

[2] If applying for NRCS EQIP funding, *NRCS Soil Resource Report* is a required component of this plan.

RESOURCE CATEGORY 3 – Water Quality[1], Fish Habitat[2] & Wetlands

See Appendix II – Page 22.

Resource Conditions

- Describe stream, wetland, water quality and fish habitat conditions[3]
- Identify known common fish or other aquatic species that use streams and/or water bodies associated with the property.
- Identify any resource concerns.

Management Practices

- If applicable, describe any management practices to protect, improve or restore riparian areas, fish passage, fish habitat, water quality, or create or restore wetlands.

NOTES:

[1]For NRCS CAP 106 plans, refer to Water Quality and/or Biological Technical Notes in Section I of the NRCS Field Office Technical Guide for resource assessment and analysis requirements – consult with your NRCS representative for help in accessing this information if applicable.

[2]WA DNR Forest Practices determines fish habitat criteria and known wetlands: Go to https://fortress.wa.gov/dnr/protectiongis/fpamt/ to obtain a map showing whether these resources are located on the property.

[3]A map showing the location of these resources, if present, is a required component of this plan.

RESOURCE CATEGORY 4: Forest Inventory/Timber/Wood Products[1]

See Appendix II – Page 23

Resource Conditions

- For each stand[2], describe tree species, age, tree diameter(s) at breast height, stand density, tree quality/vigor, understory vegetation, and site index.
- Attach any information on tree measurements, stand volumes, etc. (optional)
- In Eastern WA, include plant associations (optional)

Management Practices

- Describe management practices to maintain, improve and/or enhance the quantity, quality, or value of future timber or other wood products including any present or future commercial harvest opportunities.
- If applicable, describe reforestation/afforestation plans.

NOTES:

[1]For NRCS CAP 106 plans, refer to Washington Specification Guide for CAP 106 in Section III, and Forestry Technical Notes in Section I, of the NRCS Field Office Technical Guide – consult with your NRCS representative for help in accessing this information if applicable.

[2]A stand map is a required component of this plan.

RESOURCE CATEGORY 5: Property Access, Roads & Skid Trails

See Appendix II – Page 23

Resource Conditions

- Describe current vehicle access onto and throughout the property, including types of existing roads and skid trails (dirt or gravel), whether the road crosses any water and condition of any bridge(s) and/or culvert(s).
- If applicable, describe any easements or road use permits.
- Describe any restrictions to, or need to restrict, access.
- Identify any road or trail maintenance needs or resource concerns
- If applicable, attach Road Maintenance and Abandonment Plan (RMAP) or small forest landowner RMAP checklist (optional)

Management Practices

- Describe any plans for road and skid trail development, maintenance, or abandonment.[1]

NOTE:

[1]For NRCS CAP 106 plans, refer to Washington Specification Guide for CAP 106 in Section III, and Forestry Technical Notes for forest roads in Section I, of the NRCS Field Office Technical Guide. Contact local NRCS office for assistance.

[2]A map showing forest roads is a required component of this plan.

RESOURCE CATEGORY 6: Wildlife[1]

See Appendix II – Page 23

Resource Conditions

- Attach list of wildlife species[2] known or commonly expected to occur in the area (see www.woodlandfishandwildlife.com for publications containing species lists).
- Describe condition of wildlife habitat components (e.g. presence of snags[3], downed wood, high value forage plant species etc.).
- Identify any resource concerns (e.g. lack of snags, downed wood, forage species, etc.)
- Identify any wildlife damage problems that need to be addressed.

Management Practices

- Describe any actions to protect, create, or enhance wildlife habitat.
- Identify any species to attract, enhance, or control and planned activities to achieving this.
- Identify any activities to control wildlife damage problems

NOTES:

[1]For NRCS CAP 106 Plans, refer to Washington Specification Guide for CAP 106 in Section II of NRCS Field Office Technical Guide for guidance on recommended tools. Contact local NRCS office for assistance. NRCS CAP 106 accepts WA DNR mapping tool for stream and wetland typing.
consult with your NRCS representative for help in accessing this information.

[2]The State Department of Natural Resources Forest Practices staff will conduct a formal review when forest activities are being proposed which require a DNR-approved Forest Practices Application, to identify whether any threatened and/or endangered wildlife Species are on or adjacent to the property as well as any potential protection requirements if applicable.

[3]Snags can pose a significant safety hazard and should be located where they will not put people or property at risk. Any snags which pose a hazard should be felled by a qualified individual.

RESOURCE CATEGORY 7: Protection of Special Resources & Biodiversity

See Appendix II – Page 25

Unique, Special and/or Important Sites

Resource Conditions

- Identify any sites unique, important, or special to the landowner or otherwise deserving of recognition and/or specific protection.

Management Practices

- Describe any practices to protect, enhance, or restore these sites.

Threatened, Endangered, Candidate Species of Concern and/or Priority Habitat – animal and/or plant[1, 2, 3]

Resource Conditions

- Identify any known state or federal threatened, endangered, candidate and/or priority wildlife and/or plant species or habitat issues on the property. Indicate how determination was made.

Management Practices

- Describe any practices to protect, enhance, or restore these resources.

NOTES:

[1]Forester preparing, or helping landowner to develop, plan should check Washington Department of Fish & Wildlife (WDFW) Priority Species Database for T&E, candidate or priority species and the WA DNR Natural Heritage website (see Data Products) for any pertinent information.

[2]WDFW'S threatened & endangered data is proprietary; data shared with the landowner must be identified as such and discretion should be used if placing data within the plan – site specific/location data should be shared with landowner on separate documentation marked 'Proprietary – for landowner only'.

[3]**If none is known to exist, include this or a comparable statement in the plan:** ***"There are no known threatened, endangered, candidate or priority species and/or habitat resource protection issues on this property. A formal review, to identify these resources, if any, and their potential protection requirements, will be conducted by the State Department of Natural Resources if and when the landowner proposes to conduct forestry activities which require a DNR-approved Forest Practices Application/Notification".***

Cultural Resources and/or Historical Sites[1, 2, 3]

Resource Conditions

- Identify any known cultural resources or historical sites on the property. Indicate how determination was made.

Management Practices

- Identify any practices to protect these resources or sites.

NOTES:

[1]Forester preparing, or helping landowner to develop, plan should check Washington Department of Archeology & Historic Preservation (DAHP) Office for any pertinent information.

[2]DAHP'S archeological and historical data may be proprietary depending upon its nature; if data is proprietary, it must be identified as such and discretion should be used if placing data within the plan – site specific/location data should be kept on separate documentation marked 'Proprietary – for landowner only'.

[3]**If none is known to exist, include this or a comparable statement in the plan**:
"There are no known archeological and/or historic resource protection issues on this property. A formal review, to identify these resources, if any, and their potential protection requirements, will be conducted by the State Department of Natural Resources if and when the landowner proposes to conduct forestry activities that require a DNR-approved Forest Practices Application/Notification".

Forests of Recognized Importance (FORI) [1, 2, 3]

Resource Conditions

- Identify any National Parks & Monuments, State and County Parks, Natural Area Preserves, Natural Resources Conservation Areas or other similar forested areas of major significance. Indicate how determination was made.

Management Practices

- Identify any actions on this property which contribute to the protection, restoration, or enhancement of the above.

NOTES:

[1] Due to the scale of this type of resource, it is unlikely a FORI will occur on this property, however, there is a possibility for one to occur adjacent.

[2]**If none is known to exist, include this or a comparable statement in the plan: *"There are no known Forests of Recognized Importance on or adjacent to this property."***

[3]If there is a FORI, discuss any specific management actions to take in consideration of the FORI presence under the management practices section; there are no state or federal regulations governing the management of a FORI, any actions taken by the landowner would be voluntary.

Biodiversity

Resource Conditions

- Briefly describe variation in vegetation across the property and in relation to surrounding properties.

Management Practices

- Describe any measures to create, maintain, protect, or enhance biodiversity across the property or in relation to surrounding properties.

RESOURCE CATEGORY 8: Aesthetics & Recreation
See Appendix II – Page 26

Resource Conditions

- Describe any areas that are aesthetically or recreationally important to the landowner or others.
- Describe any current or planned uses of the property for recreational or educational purposes.

Management Practices

- Describe and activities to protect, maintain, or enhance aesthetic, recreational, or educational values or use of the property.

RESOURCE CATEGORY 9: Carbon Sequestration & Resilience To Climate/Weather-Related Influences
See Appendix II – Page 27

Carbon Sequestration

Resource Conditions

- Describe current species and stocking levels and any opportunities to improve carbon sequestration.

Management Practices

- Describe any management practices to maintain and/or improve the ability of trees to remove carbon dioxide from the atmosphere and store carbon. Describe any potential opportunities related to biomass production or ecosystem services (e.g. carbon banking) that will be pursued.

Resilience to Climate /Weather-Related Influences

Resource Conditions

- Describe current species and stocking and their relative resilience to such conditions as drought or potential adverse weather events.

Management Practices

- Describe any management practices to help the forest be better adapted to cope with anticipated future climatic conditions and potential adverse weather events.

RESOURCE CATEGORY 10 (OPTIONAL): Special Forest Products and Agroforestry ***See Appendix II – Page 28***

Resource Conditions

- Describe potential and/or interest in managing forestland for non-timber products and include presence and quality of these on the property.
- Describe potential for agroforestry practices.

Management Practices

- Describe any management practices, which the landowner plans to implement,

related to the above.

V. CONSERVATION BASED ESTATE/LEGACY PLANNING

See Appendix II – Page 28

- Describe any steps that have been taken, or are planned, to help ensure the long-term retention and sustainable management of the forestland

VI. ADDITIONAL INFORMATION & RESOURCES (OPTIONAL) -- Add or delete resources at plan preparer's discretion

- WA State Forest Practices Rules: http://www.dnr.wa.gov/BusinessPermits/Topics/ForestPracticesRules/Pages/fp_rules.aspx
- Washington State University Extension Forestry - http://forestry.wsu.edu/
- WA DNR Small Forest Landowner Office - http://www.dnr.wa.gov/programs-and-services/forest-practices/small-forest-landowner-office
- USDA Natural Resources Conservation Service http://www.nrcs.usda.gov/wps/portal/nrcs/main/national/programs/technical/
- Forestry Contractors (licensed by Dept. of Labor and Industries) http://www.lni.wa.gov/WorkplaceRights/Agriculture/FarmLabor/LicContract/default.asp (Contractors listed as 'farm laborer' – look for 'forestation' under 'license type').
- Consulting Foresters (3 websites):
    - WSU Extension Forester Directory http://ext.nrs.wsu.edu/publications/forestry/consultingdirectory.htm
    - Association of Consulting Foresters - http://www.acf-foresters.org/ACFWeb/Directory/ACFWeb/Find_a_Forester/Directory.aspx
    - Society of American Foresters - http://www.safnet.org/certifiedforester/hirecertifiedforester.cfm

VII. MANAGEMENT PLAN IMPLEMENTATION TIMETABLE

For the next **20 years** (longer at owner's discretion) indicate anticipated management practices/activities and estimated implementation year.

Estimated Implementation Year	Practice/ Activity	Location (Stand ID)	Acres	NRCS Practice Code (if applicable)[1]	Comments	Year Completed

NOTE:

[1] If applying for NRCS-administered Farm Bill financial assistance programs (e.g. EQIP) to implement practices, be sure to indicate NRCS Practice Code here and indicate location of practice on attached map or photo. Consult with your NRCS representative for the practice code, if applicable.

VIII. AERIAL PHOTO(S)/PROPERTY & RESOURCE MAP(S)

Attach copies of aerial photos or maps showing the following:

- Location of the property within the section - optional
- Property boundaries - required
- Forest stand types - required
- Soil types - required
- Site Class - optional
- Location of water bodies, wetlands and streams - required
- Location of roads and skid trails – required
- Location of existing and planned recreational trails - optional
- Topography - optional

For NRCS CAP 106 plans, the specific location of all planned management activities for which financial compensation is anticipated from NRCS-administered programs must be shown on a map or photo. Contact local NRCS office for assistance.

IX. LANDOWNER SIGNATURE(S)

LANDOWNER APPROVAL SIGNATURE (REQUIRED)

I/we approve of the contents of this plan and intend to implement the described management activities to best of my/our ability and to manage the property in a manner consistent with applicable regulatory requirements.

Landowner Signature and Date Signed

Landowner Signature and Date Signed

X. PLAN APPROVAL SIGNATURES

WA DNR FOREST STEWARDSHIP PLAN APPROVAL (IF APPLICABLE)

This plan meets the requirements for a Forest Stewardship Plan.

_____

WA DNR Authorized Representative Signature Date

Print Name:

Title:

Affiliation:

Address:

Phone:

E-mail:

USDA-NRCS CONSERVATION ACTIVITY PLAN APPROVAL (IF APPLICABLE)

This plan meets the requirements for a USDA-NRCS Conservation Activity Plan.

_____

USDA-NRCS Authorized Representative Signature Date

Print name:

Title:

Affiliation:

Address:

Phone:

E-mail:

WTFS MANAGEMENT PLAN APPROVAL (IF APPLICABLE)

This plan meets the requirements for a Washington Tree Farm Program Management Plan.

_____

Washington Tree Farm Program Authorized Representative Signature Date

Print Name:

Title:

Affiliation:

Address:

Phone:

E-mail:

CURRENT USE TIMBER MANAGEMENT PLAN APPROVAL (IF APPLICABLE)

This plan meets the requirements for a Timber Management Plan for current use property tax programs.

_____

County Government Representative Authorized Signature Date

Print Name:

Title:

Affiliation:

Address:

Phone:

E-mail:

APPENDICES

APPENDIX I
LANDOWNER OBJECTIVES

The following are just a few examples of some potential landowner objectives:

General:

- Provide for long-term retention and sustainable management of the forest to produce environmental and economic benefits for the owner and society.
- Achieve and maintain a healthy, productive forest well stocked with vigorous trees, well adapted to the site, resistant to wildfire and forest health threats, with minimal invasive or non-native vegetation.
- Provide high quality fish and wildlife habitat.
- Provide income from timber and/or other forest products and uses (identify).
- Provide quality recreational opportunities (list)
- Encourage biodiversity, carbon sequestration, and resilience to climate change and adverse weather events.
- Manage the property to meet or exceed the standards for forest recognition, certification, and/or current use taxation programs[1] (identify)

NOTE:

[1] Examples: "Stewardship Forest" recognition, American Tree Farm System certification, Forest Stewardship Council certification, Designated Forest Land property tax classification.

More Specific:

- Afforest non-forested areas and convert brush patches and understocked areas to well-stocked forest stands.
- Restore or improve areas with degraded, problematic, less-than-satisfactory conditions (identify conditions needing attention)
- Establish and maintain a high quality road and trail system to provide access for property management, recreation, and fire protection.
- Change tree species composition and reduce stand density to improve forest health and reduce the risk of damage from wildfire and insects.
- Improve habitat for (identify species)
- Develop an estate plan, including a conservation easement, to help ensure long-term retention and sustainable management of the forest land.

APPENDIX II

RESOURCE DESCRIPTIONS AND MANAGEMENT PRACTICES

This appendix is intended to provide additional information and suggestions for plan preparers as they complete their plan. Topics are listed in order as they appear in the plan contents.

FOREST HEALTH

Resource Conditions

Describe presence of insects, diseases, drought, damage from weather (snow/ice, wind, flooding, debris slides, etc.), damage from wild or domestic animals, site-inappropriate species, stressed/overstocked stands, invasive species/noxious weeds, human-caused damage (soil compaction/disturbance), etc.

Management Practices

Thinning, pruning, changes in tree species composition, prevention/control treatments for animal damage, insects, and diseases, sanitation and salvage practices, biological, mechanical, and chemical control of noxious weeds/invasive species, protection of downed wood to enhance soil nutrient/organic matter cycling, minimize soil compaction by fencing sensitive areas to keep livestock out, minimize soil compaction by designating skid and/or forest roads for timber harvest and other management activities.

Additional Information

Animal Damage: A diverse variety of animals live and utilize the forested environment and many of these animals can cause limited to significant damage to trees with the most significant impact occurring to young trees (newly planted to approximately 30-35 years of age). The following are some of the more common impacts to monitor for - browse damage to young seedlings (especially western red cedar but does occur to other tree species), antler rub damage to young pole size trees, porcupine and/or bear damage to tree boles.

WILDFIRE

Resource Conditions

Describe wildfire hazard: overstocked stands, “ladder” fuels, topography, wind patterns, history of wildfire occurrence, potential for ignition from nearby roads, powerlines, legal or illegal land users. Describe access, and any related issues, for fire fighters and vehicles: property accessibility, road and bridge conditions, adequate turn around space for large vehicles. Describe any water sources on or near the property. Easily visible address signage.

Management Practices
Hazardous fuels abatement: thinning, pruning, slash disposal, firebreaks, defensible space around structures, prescribed burning. Improved access for firefighters (roads, bridges, turnarounds). Improved water source access. Add or improve address signage.

Additional Information
By law, the Washington Department of Natural Resources (DNR) uses two closure systems for reducing the risk of wildfires on 12 million acres of private and state forestland that receives fire protection from the department. The DNR, US Forest Service, Bureau of Land Management, and Bureau of Indian Affairs all use the same four-level industrial regulation system. This system, which helps prevent wildfires by regulating work in the woods, is known as the Industrial Fire Precaution Level (IFPL) system.

Fire Shutdown Zone information: https://fortress.wa.gov/dnr/protectiongis/fpamt/
Wildfire preparedness information: www.firewise.com

INVASIVE SPECIES

Resource Conditions
Identify presence and extent of any non-native, invasive weeds or pest species.

Management Practices
Identify any anticipated control and/or monitoring measures (including use of Integrated Pest Management techniques).

Additional Information
- County Weed Boards and local WSU Extension offices can help with weed identification and control recommendations.
- Invasive species information:
  (a) http://www.invasivespecies.wa.gov/priorities.shtml;
  (b) http://www.nwcb.wa.gov;
- Weed control recommendations: The Pacific Northwest Weed Management Handbook (http://pnwhandbooks.org/weed/).
- Practices to help protect pollinators:
  - ✓ Do control work in the morning or in the evening when bees are less active.
  - ✓ Control as many noxious weeds as you can in early spring, fall, or even winter when plants are not in bloom.

SOILS

Resource Conditions
Identify soil names, descriptions, and management implications (productivity/site index, erosion potential, unstable slopes, mass wasting, compaction potential, hard pan layers, high water table, poor drainage, seasonal flooding, droughty soils, suitability for roads and trails, equipment operability issues/restrictions, tree species selection and mortality potential).

- Refer to *Forest Soil Data for Your Forest Stewardship Plan*: http://cru.cahe.wsu.edu/CEPublications/EM064/EM064.pdf.
- To determine site class: https://fortress.wa.gov/dnr/protectiongis/fpamt/
- To develop soil report: http://websoilsurvey.sc.egov.usda.gov/App/HomePage.htm

Describe any past practices that may have caused compaction, erosion, drainage, or other problems. Identify any current soil-related issues. Generally describe presence and distribution of downed wood (logs) across property (important source of soil nutrition and organic matter).

Management Practices

Erosion and mass wasting prevention and control, seeding and planting, equipment choices and seasonal or weather-related operability restrictions to reduce compaction and protect soil, limitations on road and skid trail location and construction, species selection for planting on "problem soils", specific site preparation techniques, changes to drainage, fertilization, moisture conservation measures, retention of "islands" to protect beneficial mychorrhizal fungal populations, retention of downed woody debris.

Additional Information

- Compaction due to heavy equipment or concentrated livestock use has the potential to decrease site productivity.
- Soil disturbance can alter precipitation absorption rates and flow patterns causing soil erosion, which can also lead to a decrease in site productivity.
- Downed wood (such as stumps, logs and limbs) play an important role by replenishing soil nutrients and adding soil organic matter.
- Mycorrhizal fungi are an important component of soil/plant interactions and ecosystem function in a healthy forest. They also provide a food source for a variety of forest dwelling animals. These fungi are sensitive to soil disturbance. Protection of undisturbed areas is recommended.

WATER QUALITY, FISH HABITAT & WETLANDS

Resource Conditions

Water quality impaired waterways (303d listed), unstable or failing stream banks, fish passage barriers or impairments, lack of adequate riparian vegetation, less than desirable conifer component in riparian areas, lack of woody debris or spawning gravels, livestock impacts to riparian areas and waterways, known or potential sources of sediment delivery to waterways, opportunities to create off-channel fish habitat, problematic riparian or aquatic species.

Management Practices

Riparian and wetland planting, increasing conifer component of riparian areas, livestock exclusion fencing, control of invasive riparian or aquatic species, removal of fish passage barriers, in-channel and off-channel fish habitat improvement, creation or expansion of wetlands, control of sediment delivery.

FOREST INVENTORY/TIMBER/WOOD PRODUCTS

Resource Conditions

Site quality, unstocked or understocked stands, overstocked stands, site inappropriate species, tree form and quality, tree damage, insect infested/diseased trees, competing vegetation, age class, species composition, market opportunities.

Management Practices

Afforestation, reforestation, conversion of brush patches or understocked stands to trees, competing vegetation control, animal damage control, release from brush competition, non-commercial thinning, commercial thinning, pruning, fertilization, root disease control, species conversion.

PROPERTY ACCESS, FOREST ROADS AND TRAILS

Resource Conditions

Road and skid trail surface type and condition, erosion or drainage issues, ditch and culvert conditions, need for maintenance, repair, upgrades, abandonment, or new construction; trespass, access, or easement issues; water crossings with sediment delivery issues.

Management Practices

Access/use restrictions, grading, new or additional rock surfacing, ditch and culvert maintenance, install/improve drainage or erosion control devices, install/replace culverts, upgrade undersized culverts, install/repair/replace/remove stream crossing structures, right of way vegetation control, erosion control seeding, removal of hazard trees near roads and trails, installation of gates, fencing, signage or access control devices, boundary marking, routine inspection of roads/trails, prompt inspection of roads/trails following storm events, new road or trail construction, road or trail abandonment. Obtain easement/access agreements, if applicable.

Additional Information

- WADNR Forest Practices Board Manual Section 3 – Guidelines for Forest Roads – go to http://www.dnr.wa.gov/Publications/fp_board_manual_section03.pdf
- Roads on Small Acreage Forests in Washington – go to http://nnrg.org/files/Roads%20on%20Small%20Acreage%20Forests%20in%20WA.pdf

WILDLIFE

Resource Conditions

Food, water, shelter/cover, nesting/rearing habitat, travel corridors, snags, downed woody debris, designated wildlife leave trees or habitat recruitment trees, nesting and roosting structures, food plots/forage seeding areas, tree and shrub plantings, natural or created openings; animal damage problems.

Management Practices

- Protect existing habitat features: Locate and protect important habitats features including wetlands, springs and seeps, aspen stands, riparian and/or wetland areas. Establish or retain buffers. Keep livestock out.
- Retain standing dead trees (snags) in various stages of decay.
- Retain live trees with broken and multiple tops and signs of decay or cavity excavation.
- Cut small diameter live trees for firewood. Retain large diameter snags and wildlife trees.
- Retain and protect all larger down logs, especially those in advanced decay. If in way during logging, move them to a safe place; try not to crush.
- Retain or plant preferred species such as cascara, huckleberry, elderberry, wild rose, etc. that bear fruit for wildlife.
- Create snags during thinning and harvests. (Mechanical harvesters can snip stems off at 8-15. Thinning crews can make short snags out of 4-6" trees. Snags can be created by girdling and/or removing tops).
- Create habitat piles; stack larger branches and stems into crisscross piles with stems/branches at least 4" diameter; use larger material piled at least 4-6 layers deep to form the core; cover with a "roof" of smaller branches 1-2 feet thick.
- Create and/or maintain openings in stands with uniform canopies. (Patch cuts or natural openings approximately 100 to 200 feet across will allow sun to reach the ground and provide low plants for wildlife).
- Plant wildlife friendly seed mixes on disturbed sites such as skid trails and landings to provide wildlife forage and help prevent weeds.
- Install nest boxes for cavity nesting birds and small mammals.

Additional Information

Contact DNR Forest Stewardship Program Wildlife Biologist for more information and recommended specifications and guidance for implementing habitat management practices.

Go to www.woodlandfishandwildlife.com for wildlife habitat publications specifically for small forest owners in the Pacific Northwest.

Hardwood trees and shrubs provide food, shelter, and cover for a wide variety of wildlife species. Almost all native hardwoods and understory shrubs produce fruits, seeds and nuts making them valuable forage components. Species utilizing this component include browsers (leaf and twig eaters) such as deer, elk, rabbits, hares, a large number of birds that eat the seeds and berries. In addition, both large and small wildlife species nest, den, hide or take shelter within and between the shrubs. Ground nesting birds such as grouse require this habitat for their survival.

Snags are home to more than 100 species of wildlife, over 60 of which reside in cavities created by different decaying processes and woodpeckers. These include both birds and mammals; many of which eat vast quantities of injurious insect pests. When considering management of many of these species, forest stand size and age class is not as important as overall snag size, number, distribution, and quality. Each stage of decay and each size class of snag is home to specific wildlife species. Taller, larger diameter snags can accommodate the

most cavity nesters for the longest period of time. However, even the smaller diameter and short snags (including high stumps) are used by some cavity-dependent wildlife. For the highest diversity of snag-dependent wildlife, it's desirable to have 12-16 snags (of all size and decay classes) per acre.

The ultimate wildlife goal is to manage for habitat diversity to provide the best opportunities for a variety of species.

UNIQUE, SPECIAL AND/OR IMPORTANT SITES

Resource Conditions
Is there a unique tree, grove, landscape or other feature, or place on the property that the landowner regards as being "special" and deserving of protection?

Management Practices
Describe any actions to protect and maintain these sites.

THREATENED, ENDANGERED, CANDIDATE, PRIORITY SPECIES AND ARCHEOLOGICAL & HISTORIC SITES

Resource Conditions & Management Practices
Refer to the DNR publication Forest Practices Illustrated (http://www.dnr.wa.gov/forest-practices-illustrated) for examples of threatened, endangered, cultural, and historic resources and further discussion regarding their protection and sources of additional information. Additional helpful information can also be found on websites for the Washington Department of Fish and Wildlife (Priority Habitats and Species http://wdfw.wa.gov/conservation/phs/); Washington Natural Heritage Program (rare/endangered plants http://www.dnr.wa.gov/natural-heritage-program); and Washington Department of Archaeology and Historic Preservation (http://www.dahp.wa.gov/).

FORESTS OF RECOGNIZED IMPORTANCE (FORI)

Resource Conditions
If FORI on or adjacent to property, identify it by name and location relative to this property.

Management Practices
Communication/notification with appropriate FORI staff when conducting management activities; maintaining buffers or altering management activities.

Additional Information
Forests of recognized importance represent globally, regionally and nationally significant large landscape areas of exceptional ecological, social, cultural and/or biological values. These forests are evaluated at the landscape level, rather than the stand level and are recognized for the combination of unique values, rather than a single attribute (e.g. National Parks). FORIs can also include such things as significant natural area preserves and conservation areas managed by government agencies and private conservation groups.

BIODIVERSITY

Resource Conditions

Tree, brush and wildlife species diversity, stand density and age class diversity, topography variations, forest types – conifer dominated vs. hardwood dominated, wetland/riparian vs. dry upland etc.

Management Practices

Plant a diversity of commercial forest tree species, add high value brush species to improve wildlife habitat mix and potential, combine timber harvest types across the property – clearcut, partial harvest, variable density thinning/harvest; manage stand-level habitat features; conserve rare species and communities; protect unique features and sites; develop partnership(s) with natural resource agencies and conservation organizations.

Additional Information

Biodiversity is the diversity of plant and animal species (including genetic diversity) as well as diversity of ecosystems that support these species and the processes/interactions that take place between them. Washington State has 3,100 vascular plant species, 140 mammals, 470 freshwater and marine fishes, 341 birds, 25 amphibians, 21 reptiles, an estimate of thousands of mosses, lichens, liverworts and fungi and an estimated 20,000 invertebrates (including more than 2,000 moths and butterflies)[1]. Greater biodiversity strengthens a forest's resiliency to withstand adverse effects from a variety of sources.

For more information on managing for biological diversity :

- http://www.fs.fed.us/ecosystemservices/biodiversity.shtml
- http://wflccenter.org/
- ttp://www.nrcs.usda.gov/wps/portal/nrcs/main/national/contact/local/http://www.forestfoundation.org/
- http://mylandplan.org/

[1]Data is from *Landscope Washington* http://www.landscope.org/washington/plants-animals/.

AESTHETICS AND RECREATION

Resource Conditions

Panoramic vistas, viewpoints, waterfalls, unique geologic features, cabins, camping and picnicking areas, aesthetic buffers to undesirable views. Access, suitability, and infrastructure for current and proposed recreational activities by the owners or others (e.g. picnicking, hiking, camping, fishing, hunting, bird watching/nature study, horseback riding, mountain biking, skiing, swimming, boating, snowmobiling, ATV's, group recreation or education events, etc.).

Management Practices

Activities to construct, improve, or maintain recreational access and infrastructure (e.g. trails, camping and picnic areas). Thinning, pruning, create/maintain scenic viewpoints. Retain or create aesthetic buffers. Activities to enhance user safety (e.g. signage, fencing, access control, removal of hazard trees). Activities to control, restrict, or direct recreational use. Interpretive, directional, safety, or other signage.

Additional Information

Information on trail design/construction:
http://www.myminnesotawoods.umn.edu/2007/04/know-your-options-recreational-trails/
When determining where to build trails, identify points of interest (e.g. old growth stumps, interesting trees, viewpoints, water features)
Go to http://cru.cahe.wsu.edu/CEPublications/eb1984/EB1984.pdf for the proper pruning technique to enhance view and accessibility.

CARBON SEQUESTRATION

Resource Conditions

Unstocked, understocked, overstocked stands.

Management Practices

Prompt reforestation, afforestation of non-forested areas, conversion of understocked areas to full stocking, avoidance or reduction of silvicultural burning, avoiding conversion of land to non-forest uses.

RESILIANCE TO CLIMATE/WEATHER-RELATED INFLUENCES

Resource Conditions

Presence/absence of tree species susceptible to drought, insects, and fire.

Management Practices

Conversion to species more resistant to drought, insects, and wildfire; competing vegetation control to maintain site moisture; thinning to reduce competition for moisture and improve tree health.

Additional Information

While the climate has always exhibited variability and major climatic shifts have occurred throughout geological history, warming this century is likely to occur 10 times faster than during any climatic shift in the past 65 million years[1]. In the coming century, average annual temperatures in Washington are projected to rise at a rate of 0.1 to 0.6 °C (0.2 and 1.0 °F) per decade. Although there is more uncertainty in projected changes in precipitation, in general, winters are projected to be wetter and summers are projected to be drier[2]. These changes will most likely effect forest growth over time. It is expected there will be changes to the length of growing season, species (plant and animal) composition and distribution, water availability and duration and an increase in drought conditions during the summer/early fall months.

NOTES:

[1]NOAA – U.S. Climate Resilience Toolkit
[2]*Climate Change and the Future of Biodiversity in Washington* – *http://www.rco.wa.gov/documents/biodiversity/WA-Climate-BiodiversityReport.pdf*.

SPECIAL FOREST PRODUCTS AND AGROFORESTRY

Resource Conditions

- Presence and condition of floral greens, boughs, Christmas trees, mushrooms, berries and other edibles, medicinal plants, etc.
- Current condition and functional status of any agroforestry practices such as windbreaks, silvopasture, ally cropping, and forest farming. Current or potential income opportunities from ecosystem services, ecotourism, land leasing, etc.

Management Practices

Planting, thinning, pruning, fertilization, shearing, weed control, seeding, insect and disease control, etc.

Additional Information

Type "*National Agroforestry Center"* into search engine.

CONSERVATION-BASED ESTATE/LEGACY PLANNING

Proper estate/legacy planning is necessary to ensure the long-term retention and continued sustainable management of the forest property. Helpful resources include[1] :

- "Creating a Legacy" publication (Maine): http://swoam.org/Store.aspx#!/Creating-a-Legacy-A-Guide-to-Planning-Your-Lands-Future/p/43784141/category=2796145
- "Estate Planning Options for Family Forests" (webpage with links) – USFS State & Private Northeastern Area" (nationwide): http://www.na.fs.fed.us/stewardship/estate/estate.shtml
- "What will become of your timberland" publication – USFS: http://www.srs.fs.fed.us/pubs/31987
- "Legacy Planning for Forest Landowners" (Virginia): http://www.ext.vt.edu/topics/environment-resources/legacy-planning/index.html
- "Ties to the Land" resources (Oregon): http://tiestotheland.org/
- "Your Land, Your Legacy" publication (Massachusetts): http://masswoods.net/sites/masswoods.net/files/pdf-doc-ppt/YLYL-2-web_0.pdf
- http://www.heirsproperty.org/
- http://www.fs.fed.us/spf/coop/programs/loa/flp.shtml

NOTE: [1]Information from USFS *Forest Stewardship Program Plan Elements*