Washington Forest Stewardship Plan

I. Cover Page

Landowner Information

Name: Jane and John Landowner

Address: 1234 Happy Tree Ln, Treeville, WA 98000

Phone: 555-555-555

Email: landowner@internet.foo

Property Information

Acreage: 10

County: Westside

Legal description: SW 1/4 NE 1/4 00-00N-00E

Parcel number: 123456789

Physical address: 1234 Happy Tree Ln

GPS Coordinates (optional):

Plan Preparer

Name: Jane and John Landowner

Address: 1234 Happy Tree Ln, Treeville, WA 98000

Phone: 555-555-5555

Email: landowner@internet.foo

Note: Forest Stewardship Coached Planning course participant

Assisted By

Name: Forest Err

Title and affiliation: Service Forester, WA DNR

Address: Regional Office

Phone: 000-000-0000

Email: forest_err@internet.foo

Plan Preparation Date

January 2024

II. Landowner Objectives

- A forest with a diversity of native plans that is free of invasive weeds.
- A healthy forest that is resilient to insects, diseases, and climate change.
- Diverse, high-quality habitat that attracts a variety of wildlife.
- An unencumbered view of Puget Sound.
- Healthy, productive soil.
- Minimal use of pesticides.
- A sustainable supply of firewood.
- A beautiful forest to pass on to our heirs at some point in the distant future.

III. General Property Description and Overview

Overview

John and Jane Landowner acquired this 10-acre property in August 2022. It is located on high ground one mile east of Puget Sound and 3 miles WSW of Treeville, WA in Section 22 of Township 00 North, Range 00 East, in Westside County.

Access is via a ¼ mile private gravel road, north of its junction with Happy Tree Ln. The private drive is not named; it runs along a 40’ easement established on two adjoining properties.

The north and east sides of the property are bordered by two 10-acre lots. The north lot has one residence, while the east lot is undeveloped. There is an undeveloped 20-acre lot south of the property and an undeveloped 5-acre lot to the west.

The property is rectangular, measuring 1364’ east/west and 330’ north/south. The property elevation rises from 230’ above sea level at the west border to 400’ ASL at the east border. The average slope of 12.5% provides an attractive view of Puget Sound and the Olympic Mountains from the east side of the property, where a residence will be constructed. There is no open or flowing water on the property.

This area, like many in Westside County, was heavily logged in the 19th and 20th century. The most recent logging on this property was conducted circa 1998; a smaller harvesting of timber also occurred in 2017. Consequently, red alder are predominant throughout the property, accounting for approximately 80% of all trees. The remaining 20% consist of Douglas-fir, western hemlock, and western redcedar. The forest floor is

generally covered by sorrel, moss, mushrooms, ferns, decaying trees, and some invasive species (Himalayan blackberry, English holly).

The climate is temperate. Summer temperatures are generally in the 60's and winter temperatures in the 40's. The warmest month of the year is August with an average maximum temperature of 74 degrees Fahrenheit, while the coldest month of the year is January with an average minimum temperature of 34 degrees Fahrenheit. Temperature variations between night and day during the summer can reach 19 degrees Fahrenheit, while winter has an average difference of 13 degrees Fahrenheit. Rainfall is fairly evenly distributed throughout the year, with an annual average precipitation of 37 Inches. The wettest month of the year is November with an average rainfall of 5.11 Inches.

Forest Stands on the Property

1. 4.5 acres of predominantly young red alder, with a few random Douglas-fir, western hemlock, and western redcedar trees. The red alder filled in following the logging of the property circa 1998. It is likely that Douglas-fir was planted in this stand but was overtaken by the faster growing red alder.
2. Three acres of 20-25 year-old Douglas-fir, planted following the most recent logging of the property. The trees are approximately 10 feet apart; there is very little undergrowth in this stand, due to the limited amount of sunlight that reaches the forest floor.
3. 2.5 acres of mixed red alder, Douglas-fir, and western hemlock.
4. Additionally, one acre is set aside for residence, garden, and beekeeping.

IV. Resource Categories

Resource Category 1: Forest Health/Wildfire/Invasive Species

Resource assessment

Overview

The current condition of the forested property is good, although in November 2023 wind caused considerable windsnap and windthrow. A number of previously damaged trees (with split tops) were snapped, leaving new snags for wildlife. A few trees that were newly exposed to wind following recent clearing operations were uprooted. In addition, a significant number of red alder, including several large and older trees, were uprooted throughout the property. Their loss will minimize the amount of thinning required in the red alder stands. There is no fire damage, and little evidence of disease or insect infestation; however, bark damage due to deer is evident on many young red alder. There are a large number of young red alder that litter the forest floor. These trees appear to have lost the competition for sunlight and water or succumbed after having their bark stripped away by deer. As mentioned above, there are also a number of trees that appear to have had their tops damaged by wind or frost at some point in the past, and as a result have forked crowns.

Insects and diseases

No major forest health problems associated with insects or diseases were observed. One western redcedar showed signs of infestation by carpenter ants. A few Douglas-fir in stand 2 had white streaks of resin, but these appear to be normal and not associated with beetle infestation. No conks were observed on any trees. Trees that were uprooted by the wind in November 2023 showed no signs of root rot.

Environmental Factors

The property is up-sloping, west-facing, and at the top of a ridge line approximately one mile from the shores of Puget Sound. As such, the trees are subject to considerable winds and occasionally sustain damage. There are a number of mature trees with forked tops and sucker limbs throughout the property. This may be a result of high winds or a rapid onset of freezing conditions approximately 25 years ago.

Animal damage control

There is noticeable damage to the bark of young Douglas-fir and red alder trees caused by Blacktail Deer. Several dead trees exhibit complete girdling of the bark.

Invasive species

The most predominant and concerning invasive species is English Holly, which is scattered throughout the property; immediate action will be taken to eliminate these trees and prevent regrowth. Himalayan blackberry is also widespread and will require time and persistency to eradicate. In addition, the recent clearing of a home site may lead to the germination of noxious weeds in stand 6; this area will be closely monitored and appropriate steps taken to control growth of undesired flora.

Fire

There is no fire damage to any stand. The most probable cause of wildfire would be lightning or outdoor burning that escapes control. Neither is likely, though more possible during extremely dry periods that are becoming more common due to climate change. Fire protection is provided by Treeville Fire/EMS, Station 15, located approximately one mile away. Entry for fire control efforts is limited to the single access road on the East side of the property. There is no hydrant system; as such, water for extended fire control efforts must be trucked in or replenished off site.

Management recommendations

By 2025 we will build a trail that will allow us to enjoy walks through our property and observe the health of the forest. In the interim we will continue to monitor the stands to determine the measures needed to meet our objectives.

Our top priority is the removal of holly trees and monitoring attempts by this invasive species to reestablish itself. Small seedlings will be hand-pulled, making sure to remove

all of the roots. Larger plants will be cut, and the cut stems immediately treated with triclopyr and monitored for any regrowth.

Himalayan blackberry will be removed, which will require significant effort and may be done in sections over the course of the next several years. The blackberries will be mowed/cut back in the spring immediately after flowering. Regrowth will be mowed/cut again in mid-summer. Regrowth will then be sprayed with glyphosate at the end of September. The property will be continuously monitored for new plants, which will be hand-pulled when practical.

We will thin Douglas-fir in stand 2 to enhance the health of the trees and encourage growth in the understory. We will also thin red alder in stands 1 and 3 and diversify the tree population in these stands by planting bigleaf maple, black cottonwood, western paper birch, Pacific madrone, and bitter cherry.

Resource Category 2: Soils

Resource assessment

Soil type

Our property has a 12% slope, increasing in elevation from 230 feet to 400 feet; it lies east-west on the western slope of a north-south ridge that is the remnant of a glacial moraine. The soil is composed of 90% Indianola-Uselessbay complex (5%-30% slopes) and 10% Uselessbay-Utsalady complex (0-10% slopes). The overall composition is approximately 88% sand, 10% silt, and less than 1% clay.

Parent material

Glacial outwash.

Drainage

Drainage is predominantly “somewhat excessively drained.” The depth to the water table is greater than 200 inches, which is consistent with our well depth. Flooding is not an issue. A restrictive layer is not an issue.

Erosion hazard

Road/trail erosion hazard is rated moderate. The slope contributes to a slight to moderate off-road/trail erosion hazard, indicating that some erosion is likely and control measures may be needed. The road and trail erosion hazard is rated moderate to severe, indicating that significant erosion may be expected. Roads and trails should be minimized and may require frequent maintenance.

Compaction and rutting hazards

Rutting hazard and compaction resistance is moderate.

Site index

The Douglas-fir 50-year site index ratings are 108 for Indianloa-Uselessbay complex and 111 for Uselessbay-Utsalady complex, which both correspond to Site Class III (moderate productivity).

Planting and seedling mortality

The soil is well-suited for hand planting. Potential for seedling mortality is high with available water being the limiting factor.

Management recommendations

Erosion is our major soil concern, particularly following clearing to establish a home site. Native grasses will be sown to help hold down the soil in those areas designated for the septic system and drain field. We will have our builder keep any excavated topsoil and organic matter piled onsite for the duration of construction rather than being removed, so that we can redistribute it around our home upon completion. Care should be taken to minimize new road or trail construction. Roads and trails should be regularly monitored and well-maintained. Vegetation disturbance should be minimized in unstable areas.

Appropriate measures will be taken to reduce or prevent soil rutting or compaction on the property. During thinning and other stewardship activities, we will operate in the dry season and use low ground pressure equipment to minimize the potential for compaction, rutting, or erosion.

When planting, we will need to plant extra to compensate for expected seedling mortality and favor drought-tolerant species in dry areas.

Resource Category 3: Water Quality/Riparian and Fish Habitat/ Wetlands

Resource assessment

There are no riparian or wetland areas on our property.

Management recommendations

While we may not have water resources on our property, our activities can still impact the watershed. We will exercise sound stewardship by managing runoff, harvesting rainwater for agricultural (gardening) purposes, avoiding the use of any chemical products that could infiltrate the water table, and exercising caution or restraint when operating vehicles on wet terrain.

Resource Category 4: Forest Inventory/Timber/Wood Products

Resource assessment

The forest consists of three stands, as previously described.

1. A 4.5-acre stand predominantly young red alder, with a few random Douglas-fir, western hemlock, and western redcedar trees. The red alder filled in following the logging of the property circa 1998. It is likely that Douglas-fir was planted in this stand but was overtaken by the faster growing red alder. The understory consists primarily of salal, sword fern, holly, mosses, and various berries – salmonberry, red elderberry, blackcap raspberry, red flowering currant, Himalayan blackberry (invasive), trailing blackberry, and snowberry.
2. A three-acre 20-25 year-old Douglas-fir, planted following the most recent logging of the property. The trees are approximately 10 feet apart; there is very little undergrowth in this stand, due to the limited amount of sunlight that reaches the forest floor. Thinning is required.
3. A 2.5-acre stand of mixed red alder, Douglas-fir, and western hemlock. The understory is similar to Stand 1, though not as dense. There are thickets of Himalayan blackberry that are extremely dense and require removal.

Red alder is the predominant species overall on this property, accounting for over 80% of trees. There are a handful of Douglas-fir, western hemlock, and western redcedar that appear to be 50 to 75 years old; most were damaged at some point in the past by winds or a cold snap (which may be why they weren't harvested). There are also a few bigleaf maple, one Pacific madrone, and one bitter cherry tree. Most trees range in DBH from 4 to 20 inches; forest health is good, with varying sizes and established understory.

Table 1: Species Composition

Trees	**% on Land**	**Understory Shrubs**	**% on Land**
Red alder	80%	Huckleberry	30%
Douglas-fir	10%	Salal	30%
Western hemlock	5%	Himalayan Blackberry	15%
Western redcedar	2%	Elderberry	5%
Bigleaf maple	< 1%	Sword Fern	5%
Pacific madrone	< 1%	Holly	3%

Bitter cherry	< 1%	All remaining (mostly berries)	12%

B. Management recommendations

Our objectives do not include growing or harvesting trees for commercial purposes. As such, our focus is primarily on maintaining the health of the forest and enhancing its diversification. To do so will require thinning of selected stands at appropriate times.

Among the first areas to be thinned will be Stand 2, an area of Douglas-fir trees planted 10 x 10 with no understory. These trees are approximately 23 years old, based on the most recent logging and replanting. We will thin Stand 2 to reduce density and allow more sunlight to reach the forest floor, hopefully encouraging understory growth.

Stand 1 comprises almost exclusively red alder that filled in following timber clearing in the late 1990s. It is likely that Douglas-fir was planted in this stand but overcome by the more rapidly-growing red alder. Some of these trees will be removed to establish a view corridor, per our objectives. Other red alder will be felled to reduce density, enhance stand growth, and allow more sunlight to reach the understory. We also intend to replace some red alder in the east and west ends of Stand 1 with other native deciduous trees, including bigleaf maple, black cottonwood, paper birch, Pacific madrone, and bitter cherry. In the future we may tap replanted bigleaf maple trees for sap, to be used for the production of syrup for personal consumption.

Resource Category 5: Property Access/Roads/Skid Trails

Resource assessment

Access is via a ¼ mile private gravel road, north of its junction with Happy Tree Ln. The private drive runs along a 40’ easement established on two adjoining properties. There are currently no roads or trails on our property; however, a driveway will be put in during the construction of our residence. A clear pathway to the septic system will also be installed for future maintenance access.

Management recommendations

In addition to the driveway and pathway mentioned above, we intend to clear a walking trail that will course throughout our property. Benches will be placed at several points along the trail for people to sit and appreciate the forest.

Resource Category 6: Wildlife

Resource assessment

General conditions

Having been logged in the 19th and late 20th centuries, our property exhibits the first three stages of forest development: stand initiation (Stand 1), stem exclusion (Stands 1 and 2), and very early understory re-initiation (Stand, 3).

Snags

There are snags throughout the property, several of which were created during the most recent windstorm.

Coarse woody debris

There are a good number of fallen trees that provide shelter to wildlife.

Understory vegetation

Habitat in the understory re-initiation consists primarily of salal, sword fern, holly, mosses, and various berry bushes, which grow amid

Observed wildlife species

We do not live on our property and so our wildlife observations are limited to that which we observe when on the land. We have seen blacktail deer, squirrels, chipmunks, rabbits, bats, insects (dragonflies), a garter snake, a barred owl, woodpeckers, geese, ravens, crows and numerous smaller bird species. We've also heard frogs and coyotes, but to date have not seen them. There are no fish streams on the property.

Management recommendations

As we fall trees to establish a view corridor, we will take the opportunity to create and incorporate snags. We also intend to leave standing those trees that were windsnapped in November 2023.

Clearing a home site has provided the opportunity to create piles of wood debris for use by wildlife. In addition, we will leave many of the trees that were uprooted by the recent windstorm in place as another source of shelter for wildlife.

Stand 2 is in a state of stem exclusion; we intend to thin the Douglas-firs in this stand to allow more sunlight to reach the forest floor and encourage growth of the understory.

One of our objectives is to increase the variety of deciduous trees on our property by planting bigleaf maple, black cottonwood, paper birch, Pacific madrone, and bitter

cherry trees in Stand 1. A secondary benefit will be to provide new sources of habitat and food to the wildlife population.

Our home site will be cleared of trees. The area below the home that is designated for the septic system and drain field will be sown with native grasses, which will provide cover, nesting material, and a source of food to wildlife.

Lastly, we are strong advocates for bats and will build and install bat boxes on our property. These will hopefully provide shelters to these flying mammals and help to naturally reduce the insect population.

Resource Category 7: Protection of Special Resources and Biodiversity

Resource assessment

An analysis completed by the Washington Department of Natural Resources (DNR) in 2024 determined that no threatened or endangered species or cultural or historical resources are known to exist on the property. This property is not considered a forest of recognized importance (FORI).

Having different forest development stages represented on the landscape is important for biodiversity. Our property has three: stand initiation, stem exclusion, and understory reinitiation. Of these, stem exclusion provides the lowest level of diversity.

Management recommendations

Thinning Stand 2 will open up more sunlight for increased plant diversity which will attract increased wildlife diversity. Our plans to promote more deciduous species will increase bird diversity.

Resource Category 8: Aesthetics and Recreation

Resource assessment

We bought our land specifically to live in a natural setting, among the trees, with a view of Puget Sound and the Olympics. As such we will do all that is possible to maintain the health of the forest and to enjoy all that it brings us – tranquility, wildlife, privacy, and beauty.

Management recommendations

As previously mentioned, we will build a walking trail through the property to appreciate the calm and beauty of the forest. This trail will include benches at several points for rest and contemplation.

We will also preserve the western view of Puget Sound and the Olympics by pruning and harvesting trees on the higher eastern half of the property, where our residence will be located, to create a view corridor. Within this corridor we will plant small-size trees, carefully planning for variety, growth, and projected lifespan of trees to ensure that culling will be regular and modest, thus minimizing any impact on the territorial view, forest, and wildlife.

Our intention is to maintain the forest in a natural state, to include leaving fallen trees and limbs where they lie. At the same time, we will take steps to enhance the biodiversity of the forest and provide a welcome habitat for wildlife. We hope to improve the forest aesthetic by introducing several native varieties of trees, including bigleaf maple, black cottonwood, paper birch, Pacific madrone, and bitter cherry.

Resource Category 9: Carbon Sequestration & Resilience to Climate/Weather-Related Influences

Resource assessment

Climate change is expected to bring warmer and drier summers. Maintaining tree vigor and diversity is the best defense against climate change. It is essential to maintain adequate spacing so that trees are not overly competing for resources. It is also important to appropriately match tree species to the site, such as ensuring that species that have some drought tolerance are planted on dry sites or excessively drained, droughty soils. Maintaining a diversity of tree species provides a “buffer” against different stressors as different species have different levels of drought tolerance, wind resistance, and susceptibility to insects and diseases. In other words, don’t put all your eggs in one basket.

Forests mitigate climate change by reducing the concentration of carbon dioxide, a key “greenhouse gas,” in the atmosphere. As trees grow, they take in carbon dioxide from the atmosphere and store that carbon in their wood and other tissues. This is known as carbon sequestration. Maintaining tree vigor and strong growth will maximize carbon sequestration. Snags, downed logs, and organic matter also provide long-term carbon storage.

Our stands, especially Stand 2, are overstocked and thus losing vigor, which make them vulnerable to climate stressors and reduces the potential for carbon sequestration. Alder is not a long-lived species (60 to 80-year lifespan) and will eventually need to be replaced to provide long-term forest cover and carbon sequestration. The current species mix on the property does not provide a lot of diversity.

Management recommendations

Thinning our stands will increase their vigor, resistance to stress, and capacity for carbon sequestration. Stand 2 is our first thinning priority. Replacing red alder with longer-lived species will be necessary once it begins senescing. That is still several decades away, though, and beyond the scope of this current plan. Our plans to maintain

snags and organic debris will contribute to carbon sequestration. Our plans to plant additional species to increase diversity will add resilience to our forest.

Resource Category 10: Specialized Forest Products (Optional)

Resource assessment

There are numerous berry producing shrubs on the property.

Management recommendations

We do not intend to manage our forest for any commercial purpose. Berries are plentiful, but we will consume those that are harvested. At some point we would like to have a few beehives, but any honey harvested from those hives will also be for personal consumption. Likewise, fruit from any trees we plant that reach maturity will be for our table or donated to the food bank. In the future we may tap replanted bigleaf maple trees for sap, to be used for the production of syrup for personal consumption.

V. Conservation Based Estate/Legacy Planning

Our forest will outlive us. It is important to us that our property be maintained as forest long-term. Planning ahead is crucial to ensure that our property is the legacy that we want it to be. This includes succession planning, such as talking to our children about who is interested in taking on ownership and/or management of the property when we are gone. It also includes estate planning to make legal arrangements for a smooth property transfer and minimal tax liability when we die.

We plan to talk to estate and succession planning experts and look for workshops on this subject. We will also contact the local land trust to find out about conservation easements that would ensure that our property can never be developed. We will also look for other landowners who have gone through some of these processes to ask them about their experiences.

VI. Additional Information and Resources (Optional)

Not applicable.

VII. Management Plan Implementation Timetable

Below are the stewardship management activities that we hope to implement in the next twenty years.

Table 2: Management Plan Implementation Timetable

Year	Management Practice or Activity	Stand
2024	Begin holly eradication	1, 3
2025	Thin and prune Douglas-fir	2
2025	Begin clearing Himalayan blackberry	1, 2, 3
2026	Thin red alder	1, 3
2026	Continue clearing and monitoring holly and blackberries	1, 2, 3
2026	Eradicate noxious weeds in cleared areas	Home site
2026	Plant western redcedar along property lines	1, 3
2027	plant other varieties of deciduous trees	1, 3
2027	Place wildlife nesting structures	1, 2, 3
2027	Place bat boxes	1, 3
2028	Continue clearing and monitoring holly and blackberries	1, 2, 3
2028	Build walking trail	1, 3
Annually	Walk-through inspection and monitoring of property	1, 2, 3
2034	Review and update forest stewardship plan	
2044	Review and update forest stewardship plan	

VIII. Aerial Photo(s)/Property Map(s)

Attached.

IX. Landowner Signature(s)

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 Date

Landowner Signature Date

X. DNR Forest Stewardship plan approval

This plan meets the requirements for a Forest Stewardship Plan.

WA DNR or Authorized Representative Date

Print Name

Title

Address

Phone

E-mail