

FOREST STEWARDSHIP PLAN

Landowner Name: Stillaguamish Country Club

Address: 34827 State Route 530 N.E.
Arlington, Washington 98223

Phone Number: (360) 436-1667

Acreage: Approximately 95 acres straddling French Creek
at its confluence with the North Fork of the Stillaguamish
River about 8 miles west of Darrington.

Legal Description: Section 10, Twp. 32N. Rge 8E, W.M.C. (Full
description on file.)

Plan Preparers: Forest Stewardship Committee
Stillaguamish Country Club
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Stillaguamish Country Club
Forest Stewardship Plan

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I. INTRODUCTION

A. A Brief History of the Forest Stewardship Committee

The Forest Stewardship Committee, an *ad hoc* committee of the Board of Trustees, has spent several months reviewing and updating the Forest Stewardship Plan that was originally sent to the membership in August 1998. This is a living document that requires review and updating given the ever-changing forest. This initial plan was developed after several years of study, participation by committee members in a DNR-sponsored 10 week class on forest stewardship and the creation of a report to the Board in August 26, 1996.

The charge to the Study Committee on Forest Resources/Open Space Management that was established by the President of the Board of Trustees in the summer of 1995 was to:

- generate as much information as possible on forest management options and consequences, ranging from total nonintervention/benign neglect to clear-cut harvest
- focus on short- and long-range consequences of each option, including habitat, recreational use, costs, income, aesthetics, management efforts and other points
- define different areas of the property that could be managed in different ways
- provide specific consequences of the recent proposal to remove and sell dead and dying trees on a regular basis.

The membership was presented with the report and was asked to vote on preferences for management options of the forest on Club community property. The majority voted to manage the forest with minimal intervention. This was summarized as leaving “the wooded lands to nature. Trees blown down in winter storms would be left to rot, replenishing the soil and forest floor; snags would be left to provide habitat. Limbs and other foliage would be left where they fell. Paths would be cleared in the most noninvasive way to protect and preserve the natural integrity of the forest.” (page 3 of the 1996 report to the Board).

With the acceptance of the report, the Forest Management Committee was appointed and tasked with creating a Forest Stewardship Plan to be submitted to DNR for their approval with designation of our community property as a Stewardship Forest. The initial plan was developed after several members (Tom Dial, Shelly Fields, Chuck Maurer and Barbara Schnabel) completed a 10-week course sponsored the DNR and the Washington State University Extension. The plan was submitted to and accepted by DNR and we were designated as a Stewardship Forest.

Since that time the committee, now more appropriately named the Forest Stewardship Committee, has advised the Board and the membership on a number of issues that have impacted the forest. The FSC has worked closely with the Grounds Committee on a variety of projects including how to deal with fallen and hazardous trees, log jams on French Creek, and with our neighbor on the development of the Blue Pond project.

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August 15, 2010 we adopted the following mission statement:

B. Forest Stewardship Committee Mission Statement

The Forest Stewardship Committee is an advisory committee reporting to the Board of Trustees of the Stillaguamish Country Club. The responsibilities of the FSC are to:

Develop and recommend policies and procedures to the Board regarding management of the forested community property of the Club

Develop, administer, and revise, as needed, the Forest Stewardship Plan for the Club

Consult with the Board of Trustees and the Grounds Committee regarding specific incidents and conditions that involve the forest and waterways

Provide a link between the Club and outside agencies (e.g. Departments of Natural Resources and Fisheries and Wildlife)

Provide educational opportunities for Club members regarding forest life

C. Description of Landowner's Objectives

The Articles of Incorporation state that "the objectives and purposes for which the Corporation is formed are as follows: "To take, hold, maintain, conserve, protect and improve for the use and benefit of the members of the Corporation the tract of real property owned by the Corporation....". Further it is stated that the Corporation is not organized for profit but for the maintenance of a "quiet retreat for rest and recreation." Assignment of a lot depends entirely upon membership in the Corporation and is in no sense an individual ownership of land by the member.

1. To take, hold, maintain, conserve, protect and improve the real property of the Club. (Articles of Incorporation)
2. To provide a retreat for rest and recreation (By Laws)
3. To maintain the community property as a natural forest with minimal intervention (by direction of the membership, October 1996.)

D. General Property Description

Watershed or drainage location: French Creek and North Fork of the Stillaguamish watershed, by Blue Pond, with French Creek flowing generally north and westerly into the Stillaguamish River.

Background information: The ninety-five acres of recreational property lie between S.R. 530 and the North Fork of the Stillaguamish River eight miles west of Darrington. Forty acres are divided into sixty-three lots, each with a dwelling and some with outbuildings. Some are basic cabins

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with no running water and others are residential properties. The forty-five acres of Open Space are not contiguous and contain timber stands of thirty, nine, and six acres.

The property was bisected by a Burlington Northern single-track spur to transfer timber from Darrington to other areas. That line has been purchased by Snohomish County as a trail corridor for the eventual hard-packed Rails-to-Trails project.

The area was clear-cut in 1908. In the early 1920's, the property was purchased and on May 17, 1924, was incorporated as the Stillaguamish Country Club, a non-profit corporation. The open space areas were allowed to re-seed naturally and have not been actively managed for timber. The result is mixed deciduous-conifer woodland with 180 - 200 foot firs, western red cedar and hemlock, stands of moss-laden alder, and wetlands with cottonwood and maple.

Access: The property is accessed from State Route 530, with a number of gravel roads designed to connect assigned lots, and unimproved dirt roads and trails throughout the undeveloped area of the Club. There are additional access points from 355th Avenue N.E. (the former Chatham Acres road) to the east and the easement road to the west.

Adjacent land use: On the north flows the North Fork of the Stillaguamish and across the river is forest and pasture land. To the east is 355th Avenue N.E., an easement over private property, and forest, residential lots, ranch land and county-owned parkland (formerly Chatham Acres). To the south is SR 530 and across it is forest, some of which has been clear-cut, with some high-tension electrical lines, and a residential development. To the west are forest, a residential development and a farm with pasture land.

Topography: The topography is generally flat with several elevation gains of approximately 15 - 30 feet from the Stillaguamish River to SR 530. There is a more significant elevation gain south of Blue Pond to what is known as the Big Forest (sections 1 and 2 of our open space community property). The elevation is between 320 feet and 410 feet above sea level.

Weather: Precipitation averages 83.07 inches per year, with a 10 year range of between 70 to 90 inches per year. There are 160 - 210 frost free days per year.

II. Resource Descriptions/Recommendations

A. Resource Category I: Forest Health

A-1. Existing Resource Conditions

Initially, the experts who visited the Club to conduct member walks through the property or who consulted with the Forest Stewardship Committee indicated that our woods were special and healthy. However, in the thirteen years since the Stewardship Plan was written, the identified root rot has spread, particularly in the Big Woods. In 2010 the Club consulted with Paul Wagner of Atterbury Consultants, Inc. As a result, several infected trees that endangered cabins or trails were removed. Also, there are several non-native invasive species of concern (Herb Robert,

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yellow archangel, English ivy, laurel, and English holly for example) growing in locations throughout the property.

Like humans, all forests have a variety of diseases to varying degrees. It is impossible to have a forest without some health concerns and ours is no exception. Our forest has some laminated root rot in the Western hemlock, some hemlock mistletoe (witches broom), and some red belt fungus on dead trees. Some Douglas firs may have isolated infestations of bark beetles. If this condition worsens, the encouragement of warblers, wood thrush, tanagers, chickadees and woodpeckers will aid in eliminating the bark beetles and other insects.

There have been no recent incidents of fire and the Club has strict ground rules governing the use of fire and the prohibition of fireworks on all Club property. Means should continue to be taken to preserve soil moisture and increase fire safety.

The forest is susceptible to damage from snow, ice, and wind. Severe windstorms in 2009-10 caused many trees to fall across roads and trails that required removal for safety and access. The Club has standing rules governing the removal of hazardous, leaning, and fallen trees. There is little damage to trees from wildlife.

A-2. Resource Protection Measures

General forest condition: The Forest Stewardship Committee and the Grounds Committee periodically walk the forest and look for indications of cankers and cambium damage, branch and terminal discoloration or defoliation, condition of seeds and cones, and other biological and mechanical damage.

Invasive non-native species: *Native plants* are indigenous species originating naturally in the habitat and adapted specifically to it. *Non-native plants* are introduced; they may thrive but they are not native and can be harmful to the ecology of the habitat.

Invasive plants are harmful or troublesome plants that enter the environment to overrun or take possession of the habitat. They may be native or non-native.

Noxious plants are harmful or injurious to health or well-being.

The property has five primary non-native and potentially invasive plant species: herb Robert, yellow archangel, English ivy, English holly and laurel. All crowd out the native species and alter the natural ecology of the forest.

Ivy is the most pervasive and destructive of the above, growing both on the ground and up trees, choking the tree and creating a weight load that can fell the tree unexpectedly, presenting a serious safety hazard as well.

Herb Robert competes with the smallest plants of the understory, altering the ecology. The only native North American holly is specific to the Eastern United States and does not survive and thrive in western soils and shade forest. There is no native holly species in the Western USA. The holly growing in our forest is not native and thrives best in more light than shade. It has been seeded primarily by birds from existing plants in local holly farms, gardens

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and on member's lots. Although slow growing, it will invade and crowd out other species given the opportunity. It should be controlled and not allowed to become established. Both holly and ivy have been shown to be noxious to some people.

Yellow archangel is not native but grows well and rapidly in any soil in sun or shade and will quickly crowd out anything in its path. It has long been sold locally as a ground cover. It is not widespread in our forest at this time but does exist in limited areas, spreading from assigned lots. Eventually it will overtake all native ground vegetation. We have the opportunity now to remove it and prevent its takeover. We should discourage members from cultivating it on their lots.

There is a limited amount of laurel growing in our forests, primarily along the edges. Members have planted laurel hedges which bloom and go to seed. The birds eat the berries and spread the seeds. Once established, these plants grow quickly to a large size and are very difficult to control, remove or destroy. They outcompete the native vegetation. We recommend this laurel not be encouraged in the forest.

Non-native blackberry species are also present in sunny perimeter areas but do not present a major invasive problem unless the forest is cleared.

We are periodically removing these plants from community property areas and composting them. Members are encouraged to remove them from their lots, particularly ivy that is climbing trees, and archangel.

Forest pathogens: These should be monitored and if specific areas become distressed, the problem would be reduced by thinning the forest (of the most mature Douglas fir and Western hemlock) and replanting with Western red cedar and native hardwoods, species more resistant to fungal infection. Atterbury Consultants, Inc. suggested using larger nursery stock for replanting or dug trees to speed the re-growth of thinned areas.

Insects: As above, we periodically inspect trees for the presence of insect infestation. If signs of heavy infestation are present, that timber should be felled for sale or firewood. Birds such as warblers, thrushes, tanagers, chickadees and woodpeckers should be encouraged to nest and consume these and other insects. At this time there is no need for further intervention.

Fire protection: Each member is given several pamphlets on home fire safety. The Darrington Fire Department periodically visits the Club and we have made significant road improvements so that the local fire equipment can operate safely and efficiently on Club property. Various foresters have informed us that, given that our woods have a very high moisture content, there is a low risk of a forest fire.

A-3. Resource Management/Enhancement Recommendations

The Forest Stewardship Committee shall develop an annual schedule for review of forest health that includes a checklist with notes of the observations of the above protection measures. This should include a review of the general forest condition, hazardous trees, invasive non-native

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species, forest pathogens, insects, and fire hazard. A report will be made to the membership at the Annual Meeting.

Invasive non-native plant species should be monitored and removed annually.

Forest pathogens should be monitored and managed for safety, particularly along roads and paths.

Insects should continue to be monitored for infestation.

The Club should incorporate fire protection measures into any long range strategic planning for growth management of the Club in general.

B. Resource Category II: Timber and Wood Products

B-1. Existing resource conditions

Timber on the Club property is approximately eighty to one hundred years old. Forty-five of the 96 acres have been designated as Open Space per Motion 94-354, Open Space Application Number 1967, and approved by the Snohomish County Council in November 1994. For the purposes of this plan, four areas of open space community property have been defined.

Area 1: West Plateau: South and West of Blue Pond, North of Highway 530, and on both sides of the easement.

Fifteen acres in size, this is a ninety-year-old deciduous-conifer stand approximately 90% alder and 10% mixed conifer (hemlock and cedar). Most of the evergreens are located along the highway or adjacent to the easement road with salmonberry and elderberry dominating the PUD easement. The alders are between 6 and 18 inches in diameter. Ground cover includes sword fern, Oregon grape, salal, deer fern, lady fern, red huckleberry, false lily of the valley, bleeding heart and trillium. Invasive species (herb Robert, English ivy, and English holly) are present in this unmaintained area. Before this stand declines some trees will provide firewood and logs to local markets. Existing conifers will remain as shelter trees for new conifer seedlings (western red cedar and Douglas fir).

Area 2: Evergreen Forest: (Also known as the Big Woods): West of the Caretaker's cabin and south and east of Blue Pond, South of the County trail right of way. This area, like the entire valley, was clear-cut in 1908 and has not been actively managed for timber or health. It has grown as a thick stand of primarily western hemlock with many trees competing for light. This added height has resulted in tall, small-diameter trees with green crowns small for their height. This also led to small root mass for these trees.

The area really has four stands with different concentrations of conifers. In the north the predominant tree is hemlock (80%) with some maple and cedar (20%). By the Old Fireplace is a mix of hemlock (70%) with some cedar and Sitka spruce (20%) and less alder and maple (10%). West of the Caretaker's cabin is another stand of hemlock (80%) and fir (20%). The last stand is

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fir (60%) and hemlock (40%) due east of Blue Pond. Vine maple is present and stunted under the forest canopy unless in open areas. Maples and alders dominate the riparian area surrounding Blue Pond. Ground cover includes sword fern, Oregon grape, salal, deer fern, lady fern, licorice fern, red huckleberry, false lily of the valley, bleeding heart, blue huckleberries, wild ginger, foamflower, baneberry, queen's cup and trillium. Brushy growth, mostly salmonberry, elderberry, and thimbleberry, are present on the forest edge or in open canopy areas. Invasive species (herb Robert, English ivy and nonnative holly) are present.

This area of our property is probably the most accessible to foot traffic and most frequented by Club members. It is currently used for recreation and is crossed with trails and roads of varying quality. It is a primary access point to Blue Pond and the west side of French Creek, particularly now that the railway trestle over French Creek is in disrepair.

Area 3: The Rain Forest: West of the County road, 355th Ave. NE (the Chatham Acres road), south of the river and adjacent to cabin lots along Club roads Maple, Alder and Pine.

This is a nine-acre mixed deciduous stand (70% alder and maple) with some conifers (30% fir, hemlock, cedar). The conifer density diminishes from west to east. Ground cover includes Oregon grape, deer fern, lady fern, licorice fern, red huckleberry, false lily of the valley, bleeding heart, trillium, and woodruff. Invasive species (herb Robert, English ivy and holly) are present.

This area is currently used for recreation and is crossed with trails.

Area 4: The Southeast Corner: Behind lots 35, 36, and 37 and bordered by S.R. 530 and 355th Avenue N.E.

These six acres are comprised of two stands of mixed deciduous-conifer forest. In the western two-thirds of the area there is approximately 80% alder and a few maple, 15% cedar, and 5% hemlock and fir. The remaining third in the eastern portion of this area is 30% hemlock, 30% fir, 30% alder, and 10% maple. Ground cover includes Oregon grape, deer fern, lady fern, red huckleberry, false lily of the valley, bleeding heart and trillium. Invasive species (herb Robert, English ivy and holly) are present.

B-2. Resource Protection Measures

Areas 1 through 4

The Club has passed a motion 1996 that the common property will be maintained as a natural forest with minimal intervention.

The Club has developed, through the Grounds Committee and the Forest Stewardship Committee, guidelines for the identification of trees that are fallen, leaning, hazardous or diseased; the consistent marking of trees that are to be removed for either firewood or for sale; and the process of obtaining bids for the removal and sale of timber. These guidelines define minimally invasive harvesting methods, access from roads and trails, and skidding, landing, and loading methods.

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Area 2 Evergreen Forest: In 2010, in response to member concerns regarding hazardous trees close to lot improvements, the Board contracted with Atterbury Consultants, Inc. to assess several root rot pockets in this area of the Club. Three separate root fungi were identified that rot both roots and the lower stem of the trees. The primary fungus is *Heterobasidiaon annosum* (Annosus root disease). Also noted was *Armillaria ostoyae* (Armillaria root disease) and *Phellinus Weirii* (laminated root rot). *Phellinus pini* (red ring rot) was noted in some of the boles of western hemlock. Annosus root disease and Armillaria root disease infect all conifers and laminated root rot infects Douglas fir. All of these fungi are slow acting and weaken roots and trees before killing them. Weakened root support leads to infected trees being blown down, particularly in this area because of exposure to winds from the west blowing up the valley. Our forest is not resilient given that it is a single cohort (age) stand of small diameter trees with small root mass and is therefore more susceptible to change events (windstorm, heavy snow and disease).

Following this assessment, Paul Wagner of Atterbury Consultants returned and marked diseased and dead trees in a two acre area behind lots 111 – 114. Diseased, dead and dangerous trees were marked and eventually 19 trees were removed by local logger Doug Bradley in November 2010. This area will be replanted with native hardwood trees (red alder, big leaf maple, cherry, birch and cascara) which are not susceptible to root rot and some Western red cedar, Sitka spruce and lodge pole pine.

B-3. Resource Management/Enhancement Recommendations

Area 1: West Plateau

Given the exposure to high winds, the area on the bluff above Blue Pond is particularly susceptible to wind damage. Trees that fall or seem likely to fall on trails or the road should be removed if they are accessible and continue to be used for firewood or sold.

Area 2¹: Evergreen Forest/Big Woods

It is recommended that there be an annual assessment of tree health in this area of the Club. Trees that threaten lot improvements or pedestrian traffic on trails or roads should be removed. At present, fallen and leaning marketable trees that are accessible to roads may be considered for removal for sale.

Members should not be allowed to use this area for disposal of yard waste or woody debris of any kind, nor should the area be designated for collection of woody debris for disposal on Work Day without the specific direction of the Board of Trustees on a year to year basis.

¹ Material used for this section include a Background Statement on Forest Health Issues, prepared for the membership by former President Melinda Bronsdon and two reports prepared by Atterbury Consultants, Inc. “Stillaguamish Country Club Tree Assessment (May, 2010) and Assessment and Marking of a Root Rot Hazard Area on the Stillaguamish Country Club Property (June, 2010).

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Consideration could be made to deal with the remaining root rot pockets described in the Atterbury tree assessment with replanting if trees are removed.

While not part of the forest, discussion has centered on removing the stairs to Blue Pond and creating alternate routes to Blue Pond. Repair and enhancement of the existing trail is recommended.

Area 3: The Rain Forest

It is recommended that this forest be maintained with minimal intervention by beginning to plant cedar, Douglas fir and white pine in selected areas, retaining fallen branches for seedling protection from deer and other wildlife. If the forest were managed this way, the alder would eventually fall in stages, the lower branches falling first and then the crown. Maple would die but would not fall as rapidly. The understory would remain pretty much the same. The conifers would grow well given that the soil in this area is excellent. The nature of the Rain Forest would gradually change and over time the deciduous nature would give way to a darker evergreen type forest like the Big Woods.

Remove invasive species, especially ivy.

Area 4: Southeast Corner

This area is not maintained and the hardwoods are reaching senility. Some fallen and leaning timber has been used for firewood. Existing conifers remain as shelter trees for new conifer seedlings (western red cedar and Douglas fir).

C. Resource Category III: Soils

C-1. Existing Resource Conditions

The soil at the Stillaguamish Country Club has its origins in volcanic ash produced during eruptions of Glacier Peak thousands of years ago. Combined with it are sand and gravel resulting from the force of flowing water or alluvium.

Most of the soils in the Club are rich in nutrients provided by rotting vegetation fallen from the trees and are well oxygenated by the root systems penetrating the upper soil layers. Water comes in the form of rain or snow. Where the upper canopy of branches is heavy, some or much of the water may evaporate. However, moss and lichen growing on the trees are capable of retaining moisture for long periods of time. This can be beneficial to the forest in general since a steady supply of moisture is slowly released back into the atmosphere. Where the soil beneath trees is compacted, the water that reaches the ground will run off, carrying with it some of the soil's nutrients. An intact forest floor absorbs the water and tree roots will take it in. After the water rises through the trunks to the twigs and leaves, it will then be given back to the atmosphere through transpiration.

The soils of the Club fall into four classifications:

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1. A type known as Sulsavar Gravelly Loam (a mixture of clay, sand, and organic material) is found along the Club's south border, extending both to the east and west along S.R. 530 and several hundred feet into the Club. Rich and deeply drained, this soil is typically covered with a heavy mat (or duff) of twigs, leaves, fir and hemlock needles, twigs from cedar trees, and mosses. The surface layer of soil beneath the duff is generally stratified gravelly sandy loam, silt loam, and gravelly loam to a depth of about 30 inches below which a substrate of about five feet or more occurs consisting of various loams ranging from sandy to gravelly. The water table in this type of soil is at a depth of 25 to 40 feet. The cutting of timber should be limited to the dry season, since heavy equipment will invariably leave ruts, damage the roots of remaining trees, and compact the soil.
2. The soil on the east side of Blue Pond below the Big Woods lies in a flood plain formed by the adjacent North Fork of the Stillaguamish River and is mainly alluvium. Called Sultan Variant Silt Loam, the surface layer is a grayish-brown silt loam approximately 12 inches thick. The available water capacity is high and the rooting depth of this soil is up to sixty inches. Since water runoff in this area is slow, there is little or no danger of erosion. Conifers do not thrive in this type of soil, which is best suited for crop cultivation, or a small woodland of alder and other deciduous trees.
3. On the slope above Blue Pond is soil comprised mainly of alluvium and glacial till. The latter is soil churned by the movement of glaciers millennia ago so that some hardpan may occur at depths of 20 to 40 inches. Called Tokul-Winston Gravelly Loam, the alluvium and till are combined with volcanic ash and are found on 25% to 60% grades. This area and the more level adjacent area on the ridge, rich with the litter of decomposing organic material, is well suited to a forest of firs, cedars and hemlocks. In both Tokul and Winston Gravelly Loams, the water runoff can be rapid and the possibility of erosion high. Again, logging operations should be confined to the dry season to eliminate disturbing the soil.
4. Found throughout the part of the Club where cabins have been built is a type of soil known as Winston Gravelly Loam comprised of glacial till intermingled with clay, sand, and volcanic ash. The permeability of this soil is moderate until the substrate is reached at a depth of about 3 inches where rapid permeability begins and continues for a depth of 9 to 60 inches. The only major drainage area occurs along French Creek, so that the subsoil here may be a very gravelly sandy loam. The danger of erosion is minimal in Winston Gravelly Loam except for those banks bordering both sides of French Creek. From near the Club entrance to just south of the old railroad trestle, rip rap and log cribbing along the east and west banks have helped minimize erosion for the past couple of decades. Recently, more complex cribwork has been placed along the eastern bank of French Creek near and at its confluence with the North Fork of the Stillaguamish River. This area bears watching since the western bank of French Creek at this point has experienced severe slides with the resultant loss of trees to erosion, several more to the creation of the new cribbing. Its proximity to the ridge area comprised of Tokul-Winston Gravelly Loams subjects it to the hazards of rapid run-off, giving it the potential of sliding even more. The area of the Club called the Rain Forest lies within the Winston Gravelly Loam area. The northern part appears to have been part of a flood plain and the soil there exhibits an ability to support a woodland comprised of alders, vine maples, big leaf maples, and other deciduous trees.

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C-2. Resource Protection Measures

Roads: Throughout the Club named roads should be graveled and maintained to prevent runoff and damage from heavy equipment. The Club is currently grading the named roads on a regular basis. When necessary to go off road the least invasive methods are recommended. In 2009/2010, erosion on the east side of the bridge on Alder led to buttressing of that area with boulders and gravel, and French drains were installed. Additional repair work was done in 2011. Glacial slope on the west side of French Creek across from Lots 55 and 61: Over the years we have manipulated French Creek for good reason, particularly to preserve member lots. We planted cottonwood whips on the slope in 1999. Slides from the cliff removed the plantings and they never rooted. Riprap, natural cribbing and installed cribbing, and other interventions have occurred. Nature will do what it wants and we must adjust our expectations to the reality that it presents. This is highlighted by consequences of the actions that we have taken on French Creek over many years. Despite our efforts French Creek will continue to erode the slope. We have learned over the last 15 years that trees slough off the slope, fall to the base and either float on down the Stillaguamish River or are part of a logjam. Over time the slope may be buttressed by root balls and a natural cribbing established, slowing down the erosion of the slope. Should that occur we can consider additional cribbing at the upstream end of the slope and at the downstream end. In any event, the point at the north end of the slope closest to the river eventually will be washed out. To maintain some stability of the slope, no trees should be cut on and around the slope.

Consideration should be made to plant alders, cottonwoods and willows along the banks of French Creek to minimize creek side erosion and bank instability. The planting of native trees and plants will enhance riparian habitat diversity as well. Woody debris should be retained in French Creek and Blue Pond for salmon and amphibian habitat unless it endangers cabins by blocking or redirecting the water flow.

C-3. Resource Management/Enhancement Recommendations

Consideration should be given to creating a separate long-term plan for French Creek. We found consultations with expert in geomorphology, hydromorphography, hydrology and fishery habitat to be helpful in understanding this central aspect of our property. Given the dynamic nature of French Creek and the fact that it is fed by steep upstream snowpack, we need to broaden our vision and design a plan that will consider effects of any intervention on the whole stream. Our efforts have been only partially successful in controlling damage to the stream banks and adjacent lots. It is recommended as well that the Club consult with a streamside steward from Snohomish County Surface Water Management to develop a plan for managing French Creek as it flows through the Club.

D. Resource Category IV: Water Quality, Riparian and Wetland Areas

D-1. Existing Resource Conditions

Blue Pond and French Creek (Type F water), which flows through the cabin area of the property from south to north and then into the North Fork of the Stillaguamish River (Type S water).

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Trees shade French Creek at various stretches along its course, particularly where cabins are not located. There is little streamside erosion until French Creek passes under the Alder Road bridge. Erosion occurs at various bends in the creek, with most recent erosion to the east and west sides of French Creek adjacent to Lots 55 and 61, and 65. During the winter and spring of 1997, there was significant erosion to the high bank on the west side with several trees falling into French Creek. Sedimentation potential is minimal given the placement of rock and timber buffers and solid grass vegetation, although increased sedimentation does occur with upstream logging operations and during spring snowmelt. Little use of insecticides or herbicides on Club property avoids significant contamination of surface water. Salmon and steelhead fingerlings migrate up French Creek where shaded pools enhance their viability. Algae appear to grow when water temperature is high and water flow is slow.

The North Fork of the Stillaguamish River is Type S water and adds to the esthetic and recreational value of the Club. It is a perennial river forming the north boundary of the Club, well shaded on both sides.

Blue Pond, an oxbow of the North Fork of the Stillaguamish River created by the construction of the Burlington Northern Railway bed, runs approximately east to west with the bow curving in an easterly direction. The Club owns half of Blue Pond sharing it with the owner of the farm that is bordered by Blue Pond and the Snohomish County right-of-way. Blue Pond is spring fed and receives both direct and subsurface flow from the Stillaguamish River. Its water quality is sufficient to sustain salmon and rainbow trout. The wetland area around Blue Pond attracts a variety of wildlife, particularly birds and dragonflies. The Club side of Blue Pond is heavily shaded and a trail parallels the (south) shoreline. Fallen alder trees lie at various sections along the south side. Little evidence of hillside erosion exists at this time, given the thick vegetation along the Club side. Our neighbor's side is pastureland with little shade.

In 2004, the Club entered into an agreement with our westerly neighbor who owns the land inside the Blue Pond oxbow, to clear Blue Pond and restore water flow sufficient to reestablish the traditional native salmon migration into the pond. The pond has been cleared of debris, lowered to the original gravel stream bed, and reconnected to the Stillaguamish River via culverts at the upper and lower ends of the pond. Appropriate logs, trees and brush providing shade were planted in and around the pond. In November 2010, native salmon entered the pond from the river and spawned.

The domestic water source is from several drilled wells. The water is of good quality, is clear and is of pleasant taste. The contamination potential is from sedimentation from adjacent logging operations, flood and from stream erosion.

The Club has a series of gravel roads designed to connect lots. There are a series of less developed dirt roads through riparian and wetland areas, mostly in the Big Woods section of the Club. There are also trails that interweave this area as well as through the Rain Forest. These trails are maintained during the year, particularly during the spring Work Day. Accumulated brush is removed or distributed in the forest adjacent to the trail. There are no culverts or other water drainage devices.

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D-2. Resource Protection Measures

Some consideration could be made to planting alders, cottonwoods, and willows along the banks of French Creek to minimize creek side erosion and bank instability as well as planting trees and plants to enhance riparian habitat diversity. State regulations require that woody debris should be retained in French Creek and Blue Pond unless it creates dams interfering with stream flow. Removal of debris will be approved by the Board and then cleared with the Department of Fisheries and Wildlife. It is necessary to keep buildings and septic systems far from water and in good repair.

The Club should discourage the use of pesticides and herbicides, and prohibit the disposal of toxic substances on Club property.

D-3. Resource Management/Enhancement Recommendations

Our neighbor to the west currently manages the Blue Pond restoration. The Club is kept informed of all actions taken and has cooperated in developing ideas for trails and modest recreation areas for members.

It is recommended that roads continue to be maintained as unimproved dirt roads.

E. Resource Category V: Fish and Wildlife Habitat

E-1. Existing Resource Conditions

In general, the forest provides habitat for many species, and there are many thickets that give protection and warmth to ground creatures and birds. French Creek and Blue Pond provide water and native plants provide a food source for wildlife. Please refer to the ongoing inventory of species identified by Club members. (Appendix) Most of the listed species are threatened by conversion of the forest to other uses from which they cannot recover or to which they cannot return.

The Audubon Washington, <http://wa.audubon.org>, maintains a Watch List of species that should be monitored. For example, the Rufous hummingbird (*Selasphorus rufus*) and the Band-tailed Pigeon (*Columba fasciata*), both seasonal visitors, are on the list due to diminishing habitats. It is important to preserve habitats to discourage the impact of brown-headed cowbirds and non-native species such as the starling and house sparrow.

Most of the amphibians and reptiles are along French Creek and Blue Pond.

Chinook salmon, which are now threatened, and other salmon species migrate up the Stillaguamish River and into Blue Pond and French Creek when conditions permit.

The Club is part of a vital wildlife corridor linking water sources including French Creek and the Boulder River with the Stillaguamish River and undeveloped land in the valley. The Club should

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remain aware of its responsibilities as a landowner to help preserve this corridor for wildlife, especially mammals.

E-2. Resource Protection Measures

Given the objectives of the Club, it is clear that we are committed to the enhancement and protection of mammal, bird, and amphibian and reptile habitats. To that end we have large habitat areas with forest cover and we retain most dead trees and snags. At this point, only those marketable logs that are easily accessible are considered for removal. The Club has no plans for additional road or trail construction and we have minimal fencing. During work days we create brush piles in the forest away from view along trails and roads and remove or chip larger limbs near trails and roads. Brush and woody debris piles will not be made between Work Days. When we plant new seedlings, it is our plan to do so with minimal destruction of surrounding trees and vegetation.

Some nest boxes have been placed at various locations around the Club.

We continue to work with our neighbor with whom we share Blue Pond, in his efforts to restore and maintain Blue Pond to a salmon-breeding pond.

E-3. Resource Management/Enhancement Recommendations

Fish habitat should be a central aspect of the long-range strategic plan for French Creek.

We should continue to collaborate with our neighbor with whom we share Blue Pond, in the efforts to restore and maintain Blue Pond as a natural fishery.

The Club should use only native species when planting in community property to encourage wildlife.

The Club should periodically review and maintain the list of wildlife known to use the property, making note of species that occur or disappear.

Nest boxes for bats and birds should be replaced when in disrepair. We could provide more nesting environments on community property, particularly around the shoreline of Blue Pond. Persons interested in placing bird or bat boxes should consult with the Forest Stewardship Committee regarding design and placement.

It would help if we created rock piles near water sources to facilitate more reptiles and amphibian habitat.

Dogs should be restrained from chasing wildlife, especially during salmon migration.

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F. Resource Category VI: Threatened and Endangered Species and Cultural Resources

F-1. Existing Resource Conditions

Chinook salmon, which are now threatened, and other salmon species migrate up the Stillaguamish River and French Creek when conditions permit. Salmon migrate into Blue Pond and up French Creek to spawn annually. Trout are also present.

Seventy-seven species of birds have been identified on Club property, seasonally or year around. The Club provides nesting habitat for several species of migratory birds. Bald eagles are seen on Club property and in the trees along the Stillaguamish River. Birds on the Audubon Watch List are known to use this habitat.

Deer, cougar, bobcat, raccoon, native Douglas squirrel, mice, rat, mole, rabbit, river otter, beaver, and the occasional black bear have been seen on Club grounds.

A giant log from the early twentieth century logging operation around Blue Pond was removed from the pond during restoration. Currently it rests on the ground on Club property at the West end of the pond.

An unusual and very large yew tree grows along Birch road and should be preserved. A giant fir tree has been recognized in the rain forest area. A number of stumps around the grounds show the notches from the early logging operations in the 1890s. These remnants of an earlier time should be preserved and protected if possible.

Several heritage items from the original settlement of the area in the 1890s remain on community property. There is an old stone fireplace that was added to the original farm barn when it was used as a clubhouse and for dormitory-style housing by the original Club members until cabins could be built. There are several old pieces of farm and road equipment used by generations of children as play opportunities.

From time to time, swings or other play equipment have been installed near the old fireplace. A picnic area for general use is located next to the bridge over French Creek. Also located there is a playhouse, constructed by a former member and donated by his son.

F-2. Resource Protection Measures

Threatened or endangered species, other than the Chinook salmon, are not present.

The Club has several policies and events that protect habitat. The Bylaws and Standing Rules include rules governing tree cutting and fires and prohibit fireworks.

State and County law restricts disturbance or development of stream and pond shorelines to protect salmon. Our Open Space status prohibits development of those designated areas within the Club on community property. Roads and trails are maintained annually on Work Day and allow access to undeveloped areas without disturbing the natural and cultural resources. The

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picnic area and access to Blue Pond are mowed and maintained by the caretaker and members to facilitate use and enjoyment by members and guests.

F-3. Resource Management/Enhancement Recommendations

The Club should continue to monitor species and habitat and maintain our inventory of species on an annual basis. Regular removal of invasive species will help to maintain a healthy and balanced natural environment.

We should continue to mow common areas and maintain existing structures.

G. Resource Category VII: Aesthetics and Recreation

G-1. Existing Resource Conditions

It has been re-affirmed by the membership of the Club that its main purpose for our forested lands is for rest and recreation. Aesthetics and recreation are a primary value of Club membership. Mountain and forest views are appreciated. The membership has adopted an approach of minimal intervention for our undeveloped community property.

In recent years, part of the forest land has suffered from a destructive root rot disease and many trees have died and fallen or succumbed to wind damage, necessitating removal for safety of walkers or structures.

G-2. Resource Protection Measures

The Forest Stewardship Planning Workbook (page 40) states that "Management for aesthetic and recreation often is a passive activity." Resources to attract or enhance wildlife may be developed, or existing trails and roads may provide access for walking, wildlife viewing, and recreation. However, minimal intervention will be its characteristic. When it is necessary to remove trees, practices will be employed to protect existing trees, minimize soil damage, and reduce water run-off. In addition, following the guidelines published in the bulletin "Managing Your Timber Sale" by W. E. Schlosser (University of Idaho) ought to be followed when trees need to be removed to protect the aesthetics of our forest. Some of these practices include using existing roads and designated skid trails, as well as the retention and/or creation of snags.

Due to wind or disease damage, some trees have been removed to clear roads and trails, and to protect people and structures. An attempt has been made to replant with native species less susceptible to disease to maintain the atmosphere of the forest environment. Members are also attempting to remove invasive species.

G-3. Resource Management/Enhancement Recommendations

The Club should continue to maintain trails and dirt roads on community property as they currently exist.

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Maintain snags that do not threaten improvements, trails, or public gathering spaces for the benefit of wildlife.

Remove non-native invasive species, especially ivy growing on trees. Cut ivy at tree base to stop growth. Practice containment of ivy in existing infected areas to prevent its spread, using roads and trails as barriers, until it can be eradicated. Remove yellow archangel and holly to prevent spread and loss of native species.

Consider placement of benches, picnic tables or other simple improvements at either end of Blue Pond. Preserve unobstructed access to mountain, field and forest views.

Construct a new trail around and access to Blue Pond.

Construct a viewing platform near the spawning area at Blue Pond.

Consider preservation measures for the large “heritage log” removed from Blue Pond .

III. GENERAL RECOMMENDATIONS

1. Create a Forest Activity Record that contains a record of significant storm damage, fires, logging operations, seedling planting, tree planting, and major forest cleanup. This includes keeping a photographic record of events as well as periodic photographs of the general state of the forest. Included in the activity plan would be all records associated with contacts with outside resources, such as a consulting forester or logging operator.

2. It is recommended that the current policies regarding cutting trees for firewood remain in effect; however, it is also recommended that the Club periodically review these policies.

3. Encourage birds such as warblers, thrushes, tanagers, chickadees and woodpeckers to nest and consume bark beetles and other insects. Some species are encouraged by discreetly placed debris piles.

4. Add more bird and bat boxes to the forested areas of the Club. Some nest boxes have been placed at various locations around the Club and we could provide more nesting environments on community property, particularly around the shoreline of Blue Pond for increasing the wood duck population. Persons interested in placing bird and/or bat boxes should consult with the Forest Stewardship Committee regarding design and placement, given that different species require different kinds of boxes, different box placements within the forest, and different sites in trees

5. Encourage planting of native fruit (wild cherry, plum) and nut (hazelnut) trees.

6. Create some rock piles to facilitate more reptile and amphibian habitat.

7. Define a plan for planting in small Club community areas.

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8. Encourage all members to remove and refrain from planting listed non-native invasive plants on assigned lots.
9. Schedule regular work day removal of ivy, archangel, holly trees and other non-native plants on community property.
10. Develop a policy on how far from roads we will remove debris. The Forest Stewardship Committee suggests that the boundary not be determined by feet but by the capability of equipment to remove timber from the road/trail without dragging or otherwise disturbing the forest habitat.
11. Contact Surface Water Management, a division of the Snohomish County Public Works, for a consultation by a Watershed Steward in developing a plan for the French Creek Corridor.
12. Incorporate fire protection measures into long range strategic planning for growth of the Club.
13. Continue to maintain roads on undeveloped community property as unimproved dirt roads.

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Glossary

Alluvium: a deposit of sand, mud, *etc.* formed by flowing water

Biodiversity: the variation of living things along genetic, species and ecological lines

Cambium: a layer of delicate tissue between the inner bark and the wood which produces new layers providing the base for growth and forming the annual rings of wood.

Community: an interacting assemblage of species (human, animal, plant, water, *etc.*) living in the same area

Canopy: the upper level of forest vegetation which intercepts most sunlight, rain, and snow. There can be both upper story and lower story canopies

Conifer: a tree or shrub whose seeds are borne in woody cones

Deciduous: a tree or shrub whose leaves last a year or less and are dropped and replaced over periods sufficiently distinct that they are leafless for some portion of each year. Eg. red alder, bigleaf maple, and western larch.

Defoliation: a widespread loss of leaves

Deforestation: long-term or permanent destruction of the forest

Duff: (the forest floor): an organic layer atop the mineral soil consisting of fallen leaves, wood, fungi, bacteria, and animals in all stages of decay and decomposition.

Ecosystem: an integrated and codependent community of organisms and its physical setting that includes resident organisms, non-living components such as soil nutrients, inputs such as rainfall, and outputs such as organisms that disperse to other ecosystems

Evergreens: trees and shrubs whose leaves last more than one year and which drop and replace their leaves gradually rather than in sudden pulses, *e.g.* Douglas fir, Pacific yew, madrone

Forest management: subjecting forest to human manipulation such as planting, thinning, or fire suppression; can include objectives such as storing carbon, diminishing the risk of flooding, increasing populations of rare species, maintaining a place for reflection, as well as providing timber for logging

Glacial till: unsorted glacial sediment

Habitat: a place where an individual, population, or species live. The boundaries of a habitat and ecosystem are not necessarily the same.

Invasive: entering the environment to overrun or take possession

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Minimally invasive management: the use of methods that 1) preserve the forest in as natural a state as possible while allowing for the protection of people and improvements, (including roads, paths and trails,) and 2) the use of harvesting methods that protect and minimize damage to roads, trails, and surrounding vegetation, (including access from roads and trails, and skidding, landing and loading methods)

Native plants: indigenous species originating naturally in the habitat and adapted specifically to it.

Natural forest: forest whose structure, composition and processes have not been substantially affected by human activities.

Non-native plants: introduced species not originating in the habitat or ecology. They may thrive but may alter or be harmful to the ecology.

Noxious plants: harmful or injurious to health or well-being.

Pathogen: an organism that causes disease in other organisms

Riparian zone: the visible and underground region surrounding lakes, ponds, streams, and rivers

Shade-tolerant trees: those that can grow, survive, and reproduce in the shade of another tree or trees

Snag: a standing dead tree

Transpiration: the passage of water through a plant from the roots through its vascular system to the atmosphere.

Watershed: the area drained by a particular river or stream

Water types: water categories as defined by the State of Washington

Type "S": Shoreline waters, formerly called Type 1

Type "F": Fish waters, formerly called Type 2

Windfall trees: trees that are partially or fully fallen in a wind storm

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Native Plant List for Stillaguamish Country Club

Compiled by Melinda Bronsdon for the Forest Stewardship Plan Revised 2011 with reference to area plant lists posted by the Washington Native Plant Society, Plants of the Pacific Northwest Coast by Pojar and MacKinnon and Wildflowers of the Pacific Northwest by Turner and Gustafson.

*Introduced species

<u>COMMON NAME</u>	<u>SCIENTIFIC NAME</u>
Alumroot, small-flowered	Heuchera micrantha
American brooklime	Veronica Americana
Avens, large-leafed	Geum macrophyllum
Baldhip rose	Rosa gymnocarpa
Baneberry	Actea rubra
Beaked hazelnut	Corylus cornuta var. californica
Bedstraw, fragrant	Galium triflorum
Big-leaf maple	Acer macrophyllum
Bittercherry	Prunus emarginata
Black cottonwood	Populus trichocarpa
Bleeding heart	Dicentra formosa
Bracken	Pteridium aquilinum
Buttercup	Ranunculus repens
Candyflower	Montia siberica
Cascade mountain-ash	Sorbus scopulina
Cascara	Rhamnus purshiana
Clasping twisted-stalk	Streptopus amplexifolius
Cooley's hedge-nettle	Stachys cooleyae
Creeping Charlie*	Glechoma hederacea
Deer Fern	Blechnum spicant
Douglas fir	Pseudotsuga menziesii
Dwarf bramble	Rubus lasiococcus

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Enchanter's nightshade	<i>Circaea alpine</i>
Evergreen huckleberry	<i>Vaccinium ovatum</i>
Evergreen violet	<i>Viola sempervirens</i>
Evergreen violet	<i>Viola sempervirens</i>
False lily-of-the-valley	<i>Maianthemum dilatatum</i>
False Solomon's seal	<i>Smilacena racemosa</i>
Fescue	<i>Festuca sp.</i>
Fireweed	<i>Epilobium angustifolium</i>
Foam flower	<i>Tiarella trifoliata</i>
Foamflower	<i>Tiarella trifoliata</i>
Foxglove*	<i>Digitalis purpurea</i>
Fringecup	<i>Tellima grandiflora</i>
Ginger, wild	<i>Asarum caudatum</i>
Goatsbeard	<i>Aruncus Sylvester</i>
Hawksbeard, smooth	<i>Crepis capillaries</i>
Hawkweed, white-flowered	<i>Hieracium albiflorum</i>
Herb-Robert*	<i>Geranium robertianum</i>
Hooker Fairy-bell	<i>Disporum hookeri</i>
Horsetail, common	<i>Equisetum arvense</i>
Indian pipe	<i>Monotropa uniflora</i>
Indian plum	<i>Oemlaria cerasiformus</i>
Lady fern	<i>Athyrium filix-femina</i>
Licorice fern	<i>Polypodium glycyrrhiza</i>
Maidenhair fern	<i>Adiantum pedatum</i>
Meadow-rue	<i>Thalictrum occidentale</i>
Mountain box	<i>Pachistima myrsinites</i>
Mountain huckleberry	<i>Vaccinium membranaceum</i>

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Nipplewort	<i>Lapsana communis</i>
Oak fern	<i>Gymnocarpium dryopteris</i>
Oregongrape, cascade	<i>Berberis nervosa</i>
Oval-leaved huckleberry	<i>Vaccinium ovalifolium</i>
Ox-eye daisy*	<i>Chrysanthemum leucanthemum</i>
Pacific silver fir	<i>Abies amabilis</i>
Pacific waterleaf	<i>Hydrophyllum tenuipes</i>
Pathfinder	<i>Adenocaulon bicolor</i>
Pearly everlasting	<i>Anaphalis margaritacea</i>
Plantain, common*	<i>Plantago major</i>
Queen's cup	<i>Clintonia uniflora</i>
Queen's cup, Bead lily	<i>Clintonia uniflora</i>
Rattlesnake plantain	<i>Goodyera oblongifolia</i>
Red alder	<i>Alnus rubra</i>
Red elderberry	<i>Sambucus racemosa</i>
Red huckleberry	<i>Vaccinium parviflorum</i>
Red-flowered currant	<i>Ribes sanguinium</i>
Redwood Sorrel	<i>Oxalis oregano</i>
Salal	<i>Gaultheria shallon</i>
Salmonberry	<i>Rubus spectabilis</i>
Self-heal	<i>Prunella vulgaris</i>
Sitka spruce	<i>Picea sitchensis</i>
Snowberry	<i>Symphoricarpos albus</i>
Speedwell	<i>Veronica sp.</i>
Star-flowered Solomon's seal	<i>Smilacena stellata</i>
Stinging nettle	<i>Urtica dioica</i>
Strawberry bramble	<i>Rubus pedatus</i>

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Sweet Cecily, mountain	<i>Osmorhiza chilensis</i>
Sword fern	<i>Polystichum munitum</i>
Thimbleberry	<i>Rubus parviflorus.</i>
Trillium	<i>Trillium ovatum</i>
Vine maple	<i>Acer circinatum</i>
Wall lettuce*	<i>Lactuca muralis</i>
Western dogwood	<i>Cornus nuttallii</i>
Western hemlock	<i>Tsuga heterophylla</i>
Western red cedar	<i>Thuja plicata</i>
Western Starflower	<i>Trientalis latifolia</i>
Western yew	<i>Taxus brevifolia</i>
Wild Blackberry	<i>Rubus ursinus</i>
Wild strawberry	<i>Fragaria vesca</i>
Willow	<i>Salix sp.</i>
Willow-herb	<i>Epilobium ciliatum</i>
Wood-fern, spreading	<i>Dryopteris austriaca</i>
Youth-on-age	<i>Tolmiea menziesii</i>

Numerous mosses and lichens

Grasses

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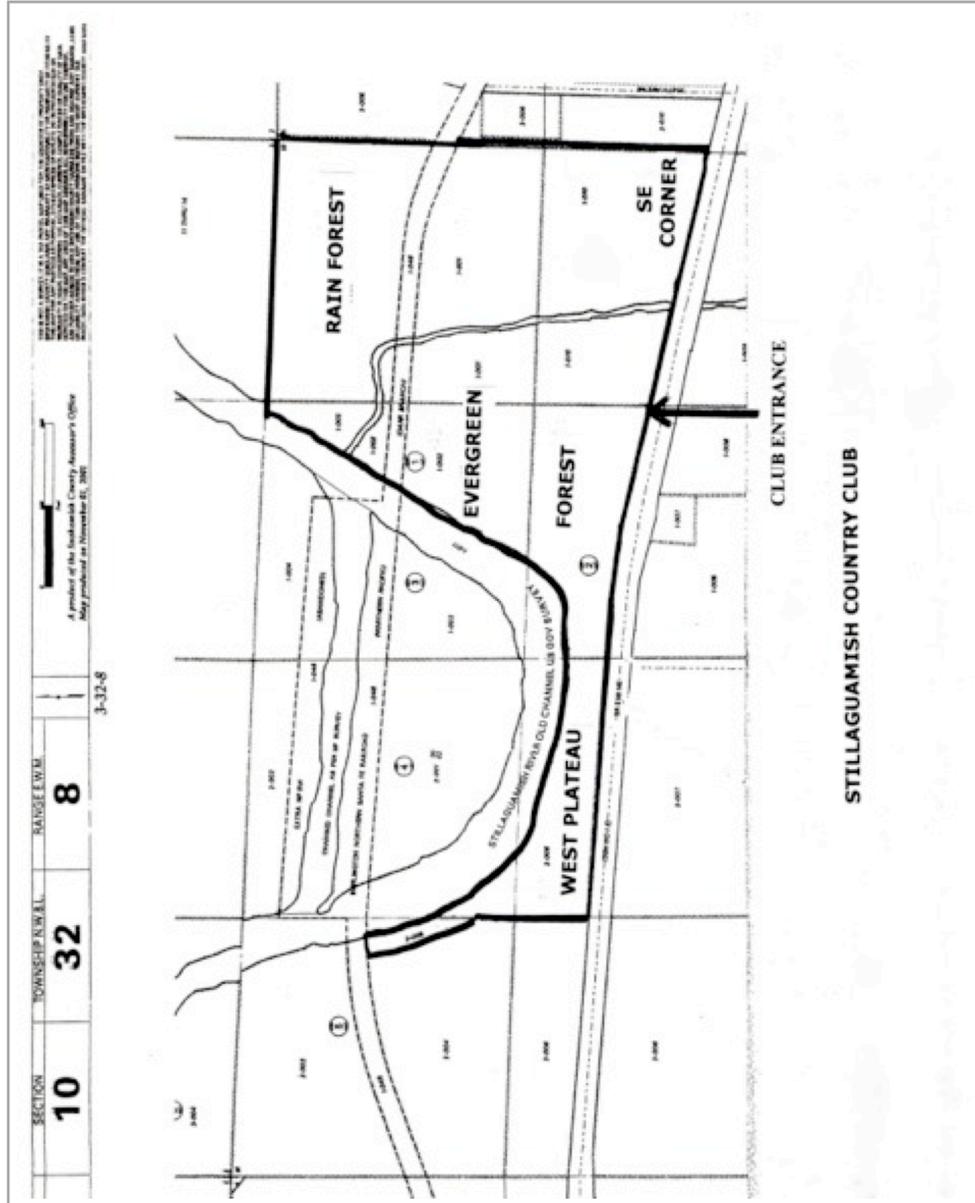
Birds Seen at Stillaguamish Country Club

Original list compiled by Barbara Schnabel and Idie Ulsh (Seattle Audubon), 1995.

Updated by Melinda Bronsdon and Hugh Jennings (Eastside Audubon), 2003.

Pied-billed Grebe	Black-capped Chickadee
Great Blue Heron	Mountain Chickadee
Green Heron	Bushtit
Harlequin Duck	Red-breasted Nuthatch
Mallard Duck	Brown Creeper
American Wigeon	Bewick's Wren
Common Merganser	Winter Wren
Hooded Merganser	Marsh Wren
Turkey Vulture	American Dipper
Bald Eagle	Golden-crowned Kinglet
Sharp-shinned Hawk	Ruby-crowned Kinglet
Red-tailed Hawk	Swainson's Thrush
Cooper's Hawk	American Robin
Ruffed Grouse	Varied Thrush
Ring-necked Pheasant	Spotted Towhee
Glaucous-winged Gull	Cedar Waxwing
Greater Yellowlegs	Solitary Vireo
Band-tailed Pigeon	Hutton's Vireo
Rock Dove	Warbling Vireo
Western Screech Owl	Red-eyed Vireo
Great Horned Owl	Orange-crowned Warbler
Northern Pigmy Owl	Yellow Warbler
Vaux's Swift	Yellow-rumped Warbler
Anna's Hummingbird	Black-throated Gray Warbler
Rufous Hummingbird	MacGillivray's Warbler
Belted Kingfisher	Wilson's Warbler
Red-breasted Sapsucker	Western tanager
Downy Woodpecker	Black-headed Grosbeak
Hairy Woodpecker	Rufous-sided Towhee
Pileated Woodpecker	Fox Sparrow
Northern Flicker	Song Sparrow
Olive-sided Flycatcher	Golden-crowned Sparrow
Western Wood-Pewee	White-crowned Sparrow
Willow Flycatcher	Dark-eyed Junco
Hammond's Flycatcher	Red-winged Blackbird
Pacific-Slope Flycatcher	Northern Oriole
Tree Swallow	Purple Finch
Violet-green Swallow	Red Crossbill
Cliff Swallow	Pind Siskin
Barn Swallow	American Goldfinch
Stellar's Jay	Evening Grosbeak
American crow	Brown-headed Cowbird
Common Raven	European Starling

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Forest Stewardship Annual Checklist

Forest area being reviewed:

Date of review:

Persons conducting the review:

Invasive, non-native species

_____ Ivy

_____ Location

_____ Holly

_____ Location

_____ Yellow archangel

_____ Location

_____ Herb robert

_____ Location

_____ Other

Native plants observed

Animal species seen or heard

Trees threatening improvements, paths, or roads

Location of the tree

Condition of the tree (see Assessing Tree Health)

Forest pathogens such as disease or insect infestation

Location of the pathogen

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Description of the situation

Fire hazards

Location of hazard

Description

Description of the general health of the forest in this area including recommendations for the coming year:

Forest Stewardship Annual Activity Record

Area of forest being reviewed:

Date of review:

Persons conducting the review:

Description of storm damage that occurred in the past year:

Actions, if any, taken in response to the storm damage:

Logging operations

Reason for the logging operation:

Logger:

Number of downed trees removed:

Income from sale of logs

Plantings

Species planted:

Date(s) of plantings:

Consultations (e.g. Department of Natural Resources, Water Management)

Purpose of consultation:

Date of consultation:

Name of consultant:

Information gathered from consultation:

Other:

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Forest Stewardship Annual Assessment of Tree Health*

Location of and type/species of tree being assessed

Date of tree assessment

Is more than one tree in the area affected?

What time of year was the problem first noticed?

Did the symptoms develop all at once or over a long period of time?

What symptoms appear in the upper canopy?

e.g. Are there abundant yet undersized cones present?

e.g. Has the leader growth shortened over recent years creating a rounded, rather than pointed top?

What color is the affected foliage?

What pattern of foliage decline is apparent? Are there random patches or a uniform fade?

What pattern of foliage decline can be seen at the branch level? Are the current year's needles affected or the ones closer to the trunk?

Are the needles bent or swollen?

Are there tiny black spots on the undersides of the foliage or light colored pustules?

Is there sticky honeydew present or are insects or insect eggs present?

What symptoms do you observe on the stem? Is there wood or bark dust? Are there conks?

Is pitch flowing from the stem?

Is there any evidence of mechanical injury or disturbance to the soil around the tree?

Has there been any digging, grading, or construction near the tree within the last 6-10 years?

* This checklist is based on an article by Kevin Zobrist, WSU Forestry Educator, 2011 permission granted 1/12/12