EXHIBIT D

NORTH KITSAP HERITAGE PARK

FOREST STEWARDSHIP PLAN

Restoring NKHP'S Forest for Fish & Wildlife and You

Revision F
August 13, 2015

MANAGING NKHP FOREST ECOSYTEMS FOR HEALTH AND DIVERSITY

KITSAP COUNTY PARKS

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FORESTRY STEWARDSHIP PLAN

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DESCRIPTION OF NATURAL RESOURCES STEWARDSHIP OBJECTIVES

VISION

North Kitsap Heritage Park (NKHP) currently has a range of forest types from simple monoculture tree farm to complex natural forest that supports a diverse community of animals, high productivity for plants, and a replenishment of the water cycle. This NKHP Forest Stewardship Plan (the "Plan") emphasizes ecosystem management, a process that considers the environment as a complex system functioning as a whole. This plan recognizes that this land is a park that is regularly used by many people and that any plan must consider the health and social value of the human population. The approach to ecosystem management will rely heavily on partnership with park stewards, as well as private, tribal, local, state, and federal government stakeholders. This ecosystem management approach will:

- Work *with* nature: Work with native plant species that have evolved and adapted to our temperate climate and are competitive and resistant to disease and insects.
- Provide forest wildlife habitat: Structurally diverse forests provide the best habitat for the greatest number of wildlife species.
- Diversify plant species: Forests comprised of mixed native tree species improve habitat, aesthetics, and the value of both timber and non-timber assets and better support diverse wildlife populations.
- Recognize the true value of forest ecosystems: The stewardship of the park's forests must be a dynamic and adaptive process that will benefit the county for centuries to come.
- Protect water as a vital resource: Healthy, vibrant forest ecosystems are the best and least costly option for maintaining high water quality and for the management of surface and storm water runoff.
- Consider that human park users are part of the system and critical to the decision making about the future of their park.

GOALS

A successfully implemented Forest Stewardship Plan for NKHP will meet five basic goals, established by Resolution 169, which are closely related and not mutually exclusive. A successful plan will:

- Enhance natural forest ecosystem complexity and health
- Protect and enhance soil, water quality, and fish and wildlife habitat
- Be biologically and economically self-sustaining
- Provide safe, reasonable and appropriate public access to County forestlands
- Meet all grant requirements including deeds of right and revenue generation guidelines applicable to the properties.

Through this Forest Stewardship Plan, Kitsap County will realize the full range of benefits and values of the NKHP in a manner consistent with the County's overarching goal of a growing community where natural resources and systems are sustained for the benefit of current and future generations.

OBJECTIVES

The NKHP Forest Stewardship plan is designed to improve the NKHP's ecosystem health over a ten year period beginning in 2015. The plan is intended to be a living document that will change as the needs of the park change. It is anticipated that the park staff and stewards will make periodic updates and extend the plan beyond 2024.

Some timber stands in the park, most of which were planted by the previous landowner, Pope and Talbot Lumber Company as commercial forest, currently lack the vegetative diversity of a naturally grown forest in Western Washington. These areas are lacking in understory vegetation because of Commercial Forestry practices which created a dense monoculture by eliminating competing species. Park stewards desire to increase wildlife habitat and forest health by rectifying some of these past practices. This can be accomplished best by:

- Managing areas with diseased and dangerous trees
- Thinning stands that are over-stocked with one tree species.
- Planting a variety of tree species to promote a diverse forest habitat
- Controlling invasive species and noxious weeds

Kitsap County plans to conduct restoration thinning on approximately 200 acres, County-wide, of park land each year. NKHP will benefit from thinning because it will improve the health and habitat of the forest. NKHP contains a high percentage of Douglas fir trees in the early stem exclusion development stage (20-50 years). This is a critical growth period during which these trees are under extreme stress and are vulnerable to root rot and catastrophic fire. Restoration thinning operations will preserve the largest trees, reduce stand density, and improve habitat diversity, tree health, girth, and longevity.

Park stewards, in collaboration with the Forestry Stewardship Advisory Committee and the Kitsap County Parks – Forest Stewardship Program, will establish priorities for areas to be thinned over a ten year period beginning in 2015 (See Appendix 7 –Yearly Harvest & Net Revenue Projection). In addition, the County Forester will submit a Forest Road Maintenance and Abandonment Plan (RMAP) and other required permits and paperwork to state authorities as needed (See Appendix 5 for RMAP and Culvert Inventory). Stewards will meet each year to review and evaluate all aspects of the Restoration Thinning Program at NKHP. Stewards will report their findings to the County and recommend areas for improvement as well as noting operations that work well.

PUBLIC MEETING

Park Stewards held a public meeting on February 26, 2015 at 7:00PM at the Kingston North Kitsap Fire Station. The purpose of the meeting was to inform the public about the benefits of Restoration Thinning in NKHP. Logging procedures and prospective schedules were described and riparian and wetland protection methodology was discussed. Generally, the public had a favorable response to tree thinning in NKHP. Questionnaire responses are summarized and provided in Appendix 17.

GENERAL PROPERTY DESCRIPTION

HISTORY

North Kitsap Heritage Park is comprised of approximately 809 acres in the Grover's Creek Watershed in Kitsap County. Kitsap County purchased the first 430 acres in 2005 from Olympic Property Group (OPG), the real estate arm of Pope Resources, a limited partnership which was spun off from Pope & Talbot in 1985. The land has been owned by Pope and Talbot since the 1870's and logged for the last 150 years. At the time of this purchase, OPG granted Kitsap County an option to buy an additional 325 acres east of the park (Expansion Block) and a perpetual easement for trail development on these acres.

The purchase of the park was precipitated by the 2000 Kitsap Parks and Open Space Plan that indicated wide public support for the purchase of large tracts of timber land for preservation of open space and recreation at a time when Kitsap County was experiencing suburban growth. The purchase of the original 430 acres was funded by a grant from the Washington Wildlife and Recreation Office and Kitsap County conversation futures funds.

In 2006, Kitsap County purchased an additional 18.9 acres at the northwest corner of the park to provide access to Miller Bay Forest Road. In May of 2006 Kitsap County created a master plan for the NKHP and, at this time, created turn lanes on Miller Bay Road and a parking apron. Financial considerations have prevented execution of the master plan since these initial improvements.

Beginning in late 2008, a group of individuals contacted Kitsap County to recognize the recreational activity that was occurring in the park. In 2009, North Kitsap Heritage Park Stewardship Group (NKHPSG) was sanctioned by Kitsap County to work with the Parks Department to help maintain the park and guide plans for the future of the park. Since then, NKHPSG has created, maintained, marked and mapped trails, improved accesses and parking areas and managed invasive species in the park. As a result of the partnership with NKHPSG, the park was officially opened for use in January 2010.

In May of 1998 the Board of County Commissioners (the "Commissioners") adopted the 1998 Kitsap County Comprehensive Plan ("Comprehensive Plan"). Adoption of the Comprehensive Plan satisfied the requirements set forth in the Growth Management Act including parks and open spaces elements. As part of the Comprehensive Plan, the Parks, Recreation & Open Space Plan is updated every six years and adopted by the Commissioners, most recently in 2000, 2006, and 2012. In September of 2012, Kitsap County Parks & Recreation Advisory Board recommended to the Commissioners the adoption of the Kitsap County Forest Stewardship Policy ("Policy"). On October 8, 2012 a public hearing was held and public testimony was taken and comments were incorporated into the Policy. On October 22, 2012 the Commissioners adopted the Policy by Resolution Number 169. The Policy resulted in a Forest Stewardship Plan for each participating County park, a four-year pilot program that is evaluated annually to determine its continuance beyond 2016. This NKHP FSP Plan is a result of this process. Park stewards will be primary to the planning and implementation of the plan. North Kitsap Heritage Park stewards have been working with Kitsap County Forester Arno Bergstrom since January 2014 to learn about the proposed variable density thinning and to tailor the general Kitsap County Forest Stewardship plan to particular requirements of the NKHP.

NKHP FOREST ROADS

Access for the removal of old growth timber in the late part of the 1800's and early 1900's was accomplished using narrow gauge rail road lines. In the late 1930's early 1940's rail gave way to a network of forest haul roads when trucking became the most economical way to move harvesting equipment and haul timber. The park has approximately 12 miles of service roads that were built between 1940 and 1970, now between 45 and 80 years old. The service roads in the park are an important asset and have provided access for the public for generations (Pope

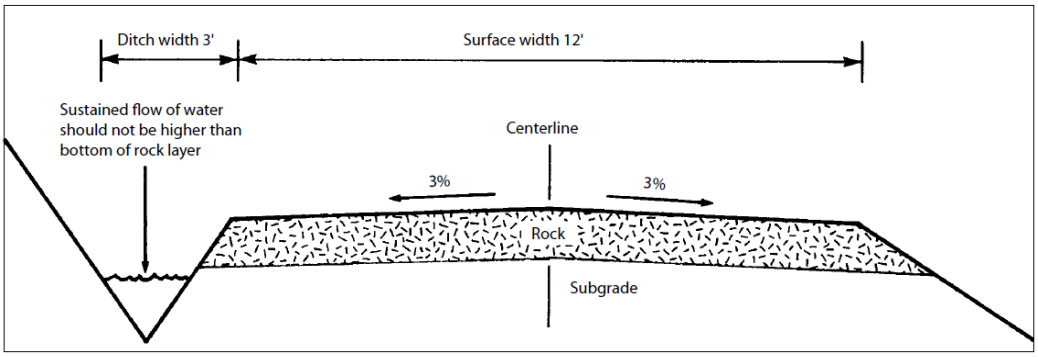
has always allowed non-motorized access). Labeled as trails on NKHP maps, these forest roads have had a history of transporting forest products harvested by the previous landowner, Pope Resources and its predecessors. Some of these forest roads have subsequently been designated as trails within the park and will continue to be used as trails. Some portions of forest roads will continue to see use for hauling forest products or for service vehicles. Others have fallen into disuse and will be abandoned.

The State of Washington has rules affecting forest road construction and maintenance, and these rules require Kitsap County to maintain Park Forest Roads to minimize damage to public resources, such as water quality and fish habitat. Since North Kitsap Heritage Park was established, only minimal maintenance of these forest roads has occurred. An approved Forest Road Maintenance and Abandonment Plan (RMAP) consisting of a forest road inventory and schedule for any needed forest road work will be created. The RMAP will need to be reviewed and approved by the Washington Department of Natural Resources (WDNR) not later than 2016. If there is a forest road problem, the DNR will provide advice for correction. Forest road maintenance requires a permit from the WDNR. Currently WDNR has on file a Forest Road inventory for NKHP based on the previous owners forest road system used for commercial logging. Through the RMAP process, Kitsap County will be updating the forest road system to accommodate the current needs, Appendix 13: NKHP Forest Road Plan. Forest roads will be incrementally built/upgraded between 2015 and 2024 to support restoration thinning operations. Ultimately, WDNR's Forest Road map will be updated to reflect the current Forest Road plan.

Forest roads will not exceed 18 feet in width tree line to tree line. The road surface width will be no greater than 12 feet with 3 foot drainage ditches on one or both sides of the road depending on the topography or none at all (see Figure 1 below). Short sections of forest roads may be used as log loading areas and will need to be wider to allow traffic to pass. The tree line along the forest road will be cut back not further than 9 feet from the centerline of the forest road bed.

The forest road network in NKHP is designed to facilitate the tree thinning operations. Ideally, the forest road network will be designed in such a way that logging equipment will not have to travel more than 1,000 feet from where a tree is felled to the point where the log can loaded onto the log truck. The trees along the forest road will be pruned vertically to be consistent with the maximum road width, if necessary, but in no event higher than 16 feet from the base of the tree.

Figure 1 – Forest Road Prism Cross Section



Forest road abandonment is required of all forest roads that will no longer be used or maintained. To abandon a forest road many factors must be considered. The most important factor is the forest road's location and potential impact on public resources. Abandonment will involve blocking the forest road to four-wheel vehicle access, the removal of stream crossing structures (culverts, bridges, and fords) and unstable forest road fill, installing water bars, and re-vegetating exposed soils. It may, however, be less expensive to abandon a forest road than maintain it. The DNR must approve the forest roadwork before the forest road can be considered abandoned. Several forest

road spurs in the park are candidates for abandonment and will be included in the RMAP. Well maintained service roads can be a valuable asset that will provide access to park patrons for generations. Abandoned forest roads may see future use as hiking, biking and horseback trails.

Table 1 lists the existing forest roads and trails in NKHP and the proposed uses during and following restoration thinning activity. Refer to Appendix 11, NKHP Trail Map and 13, Proposed NKHP Forest Road Plan for locations of forest roads, trails, and signposts.

Table 1 – Forest Road & Trail Use Plan

Forest Road or Trail Name and Length (miles)	Condition During Restoration Thinning	Condition Following Restoration Thinning
Arbutus (0.5)	No Entry	Maintained as trail
Bay Ridge (0.9)	Forest Road	Signpost 13 to Miller Bay Estates: maintained as trail Signpost 13 to 14: maintained as Forest Road
Boundary (1.0)	Forest Road from Signpost 14 to approximately 0.1 mile north of Signpost 15, including West Spur	Signpost 14 to 15: maintained as Forest Road North of Signpost 1: maintained as trail West Spur: abandoned
Forked Tongue (0.9)	Abandoned	Maintained as trail
Four Streams (0.7)	No Entry	Abandoned
Middle Ridge North (0.2)	No Entry	Abandoned
Middle Ridge South (0.6)	No Entry	Abandoned as trail
Power Line (1.0)	Signpost 11 to 13: Forest Road	Maintained as Forest Road
Ravine Run (0.6)	Limited entry from Signpost 7 to approximately 0.1 mile north	Maintained as trail
Salal (0.2)	No Entry	Maintained as trail
Short Cut (0.2)	Forest Road	Maintained as trail
Spine Line (2.9)	Signpost 1 to 4: No Entry Signpost 4 to 8: Forest Road Signpost 8 to 9: No Entry Signpost 9 to 10: Forest Road	Maintained as trail Maintained as trail Maintained as trail Maintained as trail
Unmapped spur Forest Road into Area 12 between Signposts 9 & 10	Forest Road	Maintained as trail

White Horse (0.4)	Signpost 8 to 11: No Entry	Maintained as trail

VEGETATION

The forest in North Kitsap Heritage Park has been impacted by human activities in many ways. The most evident is the commercial timber production which has resulted in a lack of habitat Diversity. About 90% of the park's land was actively managed by Pope Resources and some areas were replanted with Douglas fir monoculture after each harvest. Between harvests, competing species were suppressed or eliminated, creating dense, even-aged plantations of Douglas fir. Some areas were not replanted or replanting failed resulting in stands dominated by red alder or big leaf maple.

Some clear-cut areas were overtaken by Scotch Broom that NKHP volunteers have been steadily working to remove and manage. Natural processes have also impacted the park. Beaver, bear, wind and disease pockets have created openings in the forest that have promoted crown differentiation. The fertile forest soil, with a Site Index above 120 that exists in 80 percent of the park, contributes significantly to tree vigor and longevity (see Appendix 6: Soil Types).

Fifteen tree stands have been identified within the park based on age, species composition and/or vigor. Walking through the forest, the changes in forest structure are subtle and are found where soils change or where human or natural disturbances have occurred. Each stand has been mapped, documented, inventoried and given an ecological classification listed in the following Table 2:

Table 2 – Diversity Ecological Classification

Simple	Trees of uniform age, spacing, height with a single canopy and lacking tree species diversity. Often single species plantations.
Complex	Trees of different height, age, species and spacing. Canopy stratification to some extent, some mature trees (70-200 years old)
Old Growth	Defined as trees 200 years and older. Mix of shade tolerant understory trees and shrubs, decadent trees, snags, logs on the forest floor and canopy stratification
Meadow	Existing open areas, sometimes artificially maintained, as an ecotone for raptors and bats. Size often limited to 1-2 acres.
Hardwood Patch	Clumps of hardwood trees species including Red Alder,Big Leaf Maple, birch, Madrona, cascara, aspen and willow. Patches are small (1/4 to 1 acre) where conifers are removed to benefit wildlife.
Wetlands (WA Forest Practices wetland typing system)	TYPE A: An area of 1/4th acre or more covered by open water seven consecutive days between April 1 and October 1st TYPE B: An open area of 1/4th acre or more that is vegetated with water tolerant plants and or shrubs. Forested Wetland: A wetland with tree crown closure of 30% or more with mature trees.
Riparian	Those areas that interface land to streams. There are multiple unnamed tributaries to Grovers Creek in the park.

The dominant species in NKHP is Douglas fir, as described above. Many of the tree and shrub species growing in the park produce berries and support insect populations and thus provide important food sources for resident and migrating birds. Leaf litter from trees is essential to fungal and macro-invertebrate populations, which in turn form a food web that supports anadromous fish.

There are hazards associated with standing dead timber, such as snags and uprooted trees that are leaning against other trees and precariously perched. These potentially hazardous trees require attention when people are at risk of injury. However, logs on the forest floor and remote snags provide important food, protective cover, and nesting sites for wildlife and are essential components of a forest ecosystem.

RESOURCE DESCRIPTION AND RECOMMENDATIONS

Using County standards and guidelines the North Kitsap Heritage Park is managed by a stewardship group whose mission is to implement the guidelines below:

GUIDING PRINCIPLES

- Celebrate the natural beauty and protect the health of plant/wildlife communities and watershed headwaters
- Offer safe, inviting, and clear access points, as well as way-finding throughout the park through a system of well-marked trails
- Maximize the park's educational potential for students and the larger community in safe and engaging ways
- Connect to nearby regional trail systems
- Offer a variety of non-motorized recreational uses appropriate to the environmental characteristics of the land and within the County's ability to build and maintain them
- Contribute to the park's role as a good neighbor to surrounding communities

In their efforts to protect the natural beauty, wildlife diversity, and overall health of the park, volunteers have conducted forest ecosystem analyses using the latest accepted forms of scientific measurement. Sampled sections of forest stands were subjected to standardized plot analyses measuring such data and variables as tree height, diameter, and condition. Also, trees were counted by species; shade tolerant trees and seedling/saplings (replacement trees) were recorded. These studies have raised serious concerns about the health of the forest.

Because NKHP was formerly maintained by a commercial forest owner, typical use involved an intensely commercial style logging and replacement regimen. Stands would be densely planted, sometimes thinned, and then clear-cut at age 50. The resulting stands of timber are far less conducive to wildlife habitat and forest health than naturally regenerated stands and will take hundreds of years to develop into more diverse old growth forest ecosystems. Past logging practices resulted in uniform height stands dominated by a single species, typically Douglas fir.

Close planting and irregular thinning schedules often resulted in trees that are too near one another, encouraging disease and increasing fire risk. Trees compete for nutrients and sunlight, and an entire stand of trees grows at a less than optimal rate, into a potentially unhealthy environment. In addition, wildlife diversity is greatly diminished because of the uniform habitat. Animals, understory plants, and fungi, as well as microscopic organisms adapted to more complex ecosystems are more likely to absent in such a monoculture.

This Forestry Stewardship Plan seeks, over time, to create an environment at NKHP that is more like that of a healthy, old growth forest. Multiple canopy heights will be established naturally and by planting various species of native evergreens and hardwoods. . In all its endeavors, this plan's authors will refer to and reflect the Integrated Forestry Stewardship Policy guidelines set down by the Kitsap County Board of Commissioners in October 2012. The policy established the following resource categories:

RESOURCE CATEGORY I: FOREST HEALTH

a) Existing resource condition: As indicated, historic logging in the park has greatly diminished overall habitat and species diversity. In addition, laminated root rot, pine blister rust, bark beetle infestation, armillaria

root rot, and heart rot can be found in many areas of the park. Some invasive species, notably Scotch Broom, blackberry, English Ivy and holly, infect many areas of the park.

b) Resources protection measures: Plot analyses have identified areas that need prophylactic care and/or diseased tree removal. Fire risk will also be addressed, see Appendix 9: Fire Risk Reduction.

c) Stewardship practice recommendations: Measurement and identification of root rot pockets is ongoing. Park stewards, with the help of the Kitsap County Noxious Weed Control Program, are managing invasive species. Refer to Appendix 4: Forest Stand Conditions/Prescriptions for detailed information about the health of individual mapping units (stands) in the park.

RESOURCE CATEGORY II: FOREST TREE INVENTORY

a) Existing resource condition: Every section of the park has been sampled using inventory plots. Some minor tree species that were not noted in the inventory do occur in small patches and in riparian areas. Refer to Appendix 7 Yearly Harvest & Net Revenue Projection for a complete tree inventory. Some mapping unit inventory data was also provided by Olympic Resource Management.

b) Resources protection measures: Replanting will occur in areas where it is deemed appropriate. For instance, in a root rot pocket, after diseased trees are removed, resistant species would be planted. Where restoration thinning is done shade tolerant trees will be planted to increase tree diversity. If a meadow is desired, little replanting of trees would occur. Appendix 3, Tree Planting Schedule, shows a time line of when tree planting will occur.

c) Stewardship practice recommendations: Restoration thinning will be required in many areas of the park due to the nature of the Douglas fir plantations. The ultimate goal of this thinning is to achieve more diverse forests. There are currently seven forest habitat conditions are in the park:

See Appendix 9; List of Trees, Shrubs, Herbs & Invasive Plants.

1. COMPLEX OR DIFFERENTIATED CANOPY

This habitat needs no attention because the forest already possess the desired attributes of a healthy forest, i.e. diversified canopy heights, varied density, and a multi-age mix of various tree species and a healthy understory. Map Unit 2 is the only forest stand in NKHP that has a complex canopy.

2. SIMPLE CANOPY

Young even-aged Douglas fir forests with simple canopies, suffering from weakened trees with weak Crowns and lack of understory shrubs and plants, are the dominant habitat in many areas of the Park. These habitats would benefit from restoration thinning. Variable density thinning, or thinning from below, leaves the biggest individual trees and small clumps of large trees. Skips (areas without any thinning) that protect specific environmental features, and Gaps (small forest openings) will create a rich, diverse habitat for wildlife. Park map units with Douglas fir trees 30-50 years old are prime candidates for restoration thinning.

3. OLD GROWTH LEGACY

A third habitat type involves old growth, legacy trees (200+ years old). This habitat doesn't currently exist in NKHP but is the ultimate goal for many areas in the park. The challenge is to assess the surrounding timber and decide how best to encourage the development of these legacy trees. For instance,

if a root rot pocket is located nearby, it would be a priority to remove diseased trees creating a safe perimeter, then plant disease-resistant tree species as a buffer around the potential old growth.

4. FOREST INITIATION – YOUNG FOREST HABITAT

This is the beginning stage of a new forest and has the greatest diversity of wildlife species. As the young trees grow and their branches begin to touch, the transition to closed canopy begins. Park map Unit 6 is the only young open forest that is still in this habitat stage. The previous landowner overplanted this unit, to offset the anticipated high mortality, and so the unit would benefit from a non-commercial thinning.

CURRENT CONDITION AND PRESCRIPTION DATA

These forest habitat types are described in one or more of the Park's Mapping Units. Mapping units (stands) are distinguished from each other by age of planting/harvest, soil type, growing conditions, and features such as wetlands, streams or steep terrain. See Appendix 1: Mapping Units for detailed information about these discrete stands. Each Mapping Unit was extensively cruised to establish specific stand conditions and prescriptions. The data based on these field studies can be found in Appendix 4: Forest Stand Condition/Prescriptions

RESOURCE CATEGORY III: SOILS

a) Existing resource condition: Soils vary greatly throughout the park. Refer to Appendix 6: Soil Types for specific stand maps and information. This inventory shows that many areas of the park have some of the best known soils for growing large conifers (up to 160 feet of growth in 100 years).

b) Resources protection measures: Minimal forest floor impact and soil compaction during thinning is the highest priority. Minimal impact felling and other low-impact equipment can be used to remove trees to mitigate damage to forest soil. Modern mechanical tree removal is preferred over horse logging because it causes less damage to the forest floor.

c) Stewardship practice recommendations: Stewards recognize that some damage to the forest floor and surrounding trees is inevitable during forest thinning. But all care will be taken to minimize these occurrences by utilizing preexisting service forest roads and skid trails. Harvest contractors will be required to use low impact felling and forwarding methods to minimize damage to forest soils.

RESOURCE CATEGORY IV: WATER QUALITY, RIPARIAN, AND WETLAND AREAS

Existing resource condition: Heritage Park includes many streams and wetlands. Appendix 12 contains a map of these features.

Streams

Representatives of Kitsap County, assisted by NKHPSG, have recently completed an inventory of streams originating within or flowing through North Kitsap Heritage Park. Some portions of these streams are type "F" (fish-bearing) streams and some are type "N" (non-fish-bearing) streams using the Washington Department of Natural Resources (DNR) stream typing. Recent stream surveys conducted by the Wild Fish Conservancy identify four fish-bearing streams within the Park (http://wildfishconservancy.org/). DNR estimated the NKHP contains 2.77 miles of type F streams which is less than the Wild Fish Conservancy identified, and 4.5 miles of type N streams (See Appendix 8: List of Birds, Mammals, Reptiles & Fish). All of the streams are tributaries of Grovers Creek, a significant

salmonid stream in the North Kitsap area. The Suquamish Tribe operates a fish hatchery near the mouth of Grovers Creek, downstream from Heritage Park.

The Washington Forest Practices Act (FPA) specifies the requirements for riparian Buffers, called Riparian Management Zones (RMZs), to protect riparian functions and resources along Type F (fish-bearing) and Type Np (non-fish-bearing, perennial) streams.

Western Washington RMZs for Type F Waters have three zones: the core zone is nearest to the water, the inner zone is the middle zone, and the outer zone is furthest from the water. The FPA prohibits timber harvest in the core zone and in some cases in the Inner zone, and limits harvesting in the outer zone. The site index, stream width, and harvest options determine the widths of the inner and outer zones.

Along Type Np streams the FPA establishes a 50' wide no-harvest zone, the length of which depends on the stream's location and distance from a confluence with a Type F stream.

The FPA does not require buffers along Type Ns (non-fish-bearing, seasonal) streams, but establishes a 30' equipment limitation zone.

In addition to the FPA requirements, the Stewards also considered other agencies' recommendations for stream and wetland protection. The Northwest Forest Plan recommends approximately 330 feet for fish-bearing streams, and 150 feet for non-fish-bearing perennial & non-fish-bearing seasonal streams (reported in Welsh, Hartwell H., 2011. Frogs, Fish and Forestry: An Integrated Watershed Network Paradigm Conserves Biodiversity and Ecological Services. Diversity 3, 503-530; doi: 10.3390/d3030503).

The Washington Department of Fish and Wildlife (WDFW) recommends 200 feet for perennial or fish-bearing streams 5 to 20 feet wide, 150 feet for perennial or fish-bearing streams <5 feet wide, 150 feet for intermittent streams with low mass wasting potential and 225 feet for intermittent streams with high mass wasting potential (Knutson, K. L., and V. L. Vaef. 1997. Management recommendations for Washington's Priority Habitats: Riparian Wash. Dept Fish and Wildl. Olympia 181pp.)

Based on research recently published in the Journal Of The American Water Resources Association, Park stewards believe that no-entry buffers will not only protect riparian and wetland areas from direct impacts during the thinning operation and protect existing plant and animal communities adjacent to the streams and wetlands, they will also enhance forest biodiversity by providing a long-term source of large woody debris and snags. Areas outside the buffers where trees are thinned and left as logs and snags will provide an immediate source of large woody debris, and other areas outside the buffers where trees are thinned and removed will develop a forest community with large trees and a diverse understory. All three treatments (no thin, thin and leave, thin and remove) are needed to provide essential components of a healthy forest ecosystem. (Pollock, Michael M. and Timothy J. Beechie, 2014. Does Riparian Forest Restoration Thinning Enhance Biodiversity? The Ecological Importance of Large Wood. Journal of the American Water Resources Association (JAWRA) 50(3): 543-559.DOI: 10.1111/jawr.12206.

After reviewing several buffering approaches, the NKHP Stewards recommend increasing the FPA-mandated buffers to provide greater protection for the Park's streams and wetland habitats. Table 3 below identifies a buffer range (minimum and maximum buffer) for the various stream types. The Park Stewards believe that the buffer width could be different for a stream or section of a stream depending on topography, adjacent land use, and other considerations. For example, a break in an uphill slope 100 feet away from a Type F stream could be a natural buffer boundary that provides adequate protection. While providing a buffer range gives the steward who is in the field marking the buffers some discretion where the buffer is established, in all cases the NKHP buffer will be greater than the FPA-mandated buffers. In addition, unlike the FPA buffers, the NKHP buffers will be a harvest boundary/no-entry zone for mechanized logging equipment. Mapping Unit 12 is the first section of the Park where Wetland and Riparian features are delineated and buffered. The resulting map in provided in Appendix 15: Mapping Unit 12.

Table 3. NKHP Riparian Buffer Widths for streams and other water features located within the areas scheduled for Restoration Thinning.

Water Feature	Type	No-Entry Riparian Buffer Range
Streams	F	100 to 200 feet*
	Np	80 to 160 feet**
	Ns	80 to 160 feet**
Spring or Seep	(not applicable)	80 to 160 feet**

*Minimum based on WA FPA Core Zone + Inner Zone for streams <10 feet in width.

**Minimum based on site index 125 tree heights at 50 years (Source: Forest Ecology in Washington, D. Hanley and Baumgartner, WSU Bulletin EB 1943, 2002).

Wetlands

There are many wetlands associated with stream channels, groundwater seeps, and enclosed landscape depressions within NKHP. Many are shrub-dominated wetlands, and there is at least one large open-water wetland, created by a series of beaver dams, associated with a fish-bearing stream, and a forested wetland that is composed of mature western red cedar and Sitka spruce trees. Wetland assessments will be done by the Park Stewards to identify the boundaries of all the wetlands within the areas proposed for Restoration Thinning.

Resource protection measures: The Washington Forest Practices Act (FPA) requires wetland buffers, called Wetland Management Zones (WMZs), to protect wetlands greater than one-half acre with open water (Type A wetlands), and non-forested wetlands greater than one-half acre that are vegetated with water-tolerant plants (Type B wetlands). The FPA does not require a WMZ for forested wetlands.

The FPA allows limited harvesting in the WMZs of Type A and Type B wetlands larger than one-half acre, and in forested wetlands. The FPA does not regulate Type A and Type B wetlands smaller than one-half acre.

To provide greater protection for the Park's wetland areas, this plan amends the FPA-mandated buffers by increasing the minimum buffer widths specified in the FPA for Type A and B wetlands, and providing buffers for wetlands of every type and size. Consistent with the approach taken for streams, the Stewards believe that the buffer width could vary for any wetland or section of a wetland depending on topography and other considerations. Table 5 identifies the minimum and maximum buffer widths for wetland protection. Prior to each year's Restoration Thinning activities the perimeter of all wetland buffers will be flagged. Buffers establish a no mechanized equipment entry zone, and there will be no log extraction from the Park's wetlands or their field-defined buffers.

Table 5. NKHP Buffer Widths for wetlands located within the areas scheduled for Restoration Thinning.

Wetland Type	Wetland Size	No-Entry Wetland Buffer Width
Type A Type B Forested	Greater than 0.5 acre	100 to 200 feet
	0 to 0.5 acre	80 to 160 feet

* Minimum based on site index 125 tree height at 50 years (Source: Forest Ecology in Washington, D. Hanley and Baumgartner, WSU Bulletin EB 1943, 2002).

Forest Roads

To provide haul roads for log removal three of the Park's existing roads that cross riparian zones will be improved before thinning activities begin, and maintained as roads or trails following the completion of logging activities (Table 4). There will be no construction of new roads in riparian zones.

Table 4. Heritage Park roads that enter riparian zones, and the impacts of the restoration thinning activity. Refer to Appendices 10 and 12 for locations of roads, trails, and signposts.

Road Name and Length (miles)	Condition During Restoration Thinning	Riparian Zone Impact*
Boundary (1.0)	Haul Road from Signpost 14 to approximately 0.1 mile north of Signpost 15, including West Spur	Road crossings
Four Streams (0.7)	No Entry	None
Middle Ridge South (0.6)	No Entry	None
Ravine Run (0.6)	Limited entry from Signpost 7 to approximately 0.1 mile north	None
Spine Line (2.9)	Signpost 1 to 4: No Entry Signpost 4 to 8: Haul Road Signpost 8 to 9: No Entry Signpost 9 to 10: Haul Road	None Road crossings None Road crossings
Unmapped spur road into Area 12 between Signposts 9 & 10	Haul Road	Road crossing

White Horse (0.4)	Signpost 8 to 11: No Entry	None

*Road crossings are based on culvert locations mapped November 2014 by KCDCD.

NKHP Stewards Delineated Wetland and Riparian areas in 2015 for Mapping Unit 12. Buffers were created for Unit 12 in accordance with the above guidelines. A map of Unit 12 is provided in Appendix

RESOURCE CATEGORY V: FISH AND WILDLIFE HABITAT

a) Existing resource condition: Only Mapping Units 2 and 3 have large diameter conifers (>20 inches) and are considered priority habitats by the Washington State Department of Fish and Wildlife as well as streams and wetlands.

b) Resources protection measures: These priority habitats will be undisturbed. No-harvest buffers will exclude log extraction operations.

c) Stewardship practice recommendations: The science behind the State's and County's protection of sensitive areas is adequate in most locations; however, we have the luxury of exceeding minimum requirements in the park. Stewards believe it is better to err on the side of caution when sensitive fish and wildlife habitat is at risk.

Refer to Appendix 8 List of Birds, Mammals, Reptiles & Fishes.

RESOURCE CATEGORY VI: THREATENED AND ENDANGERED SPECIES

a) Existing resource condition: No endangered species have been noted in the park at this time. However, there are small areas that have been designated by the state as potential marbled murrelet habitat. Steelhead, a threatened species are passed upstream at the Grovers creek hatchery. The extent of their use of Grovers creek is presently unknown.

b) Resources protection measures: Restoring the health of the park forests may provide scarce habitat for endangered or threatened species. Culvert replacement can provide viable, healthy salmon habitat within the park that is under-utilized due to blocking or perched culverts.

c) Stewardship practice recommendations: As per county policy, stewards recommend restoration thinning, removal of diseased trees, under-planting with native tree species and removal of invasive species to improve forest health and to create habitat for endangered or threatened species. Stewards have developed an RMAPS with a plan to maintain some forest roads and replace and repair culverts. Other existing forest roads in the park will be abandoned with culverts being removed to restore natural stream flows. This will require extensive resources and inter-agency cooperation.

RESOURCE CATEGORY VII: HISTORIC AND CULTURAL RESOURCES

a) Existing resource condition: The first humans to enjoy the beauty and natural resources of the North Kitsap Heritage Park were Native Americans, who arrived sometime between 10,000 and 15,000 years ago. While no evidence of Native American habitation has been found, it can be assumed that the Suquamish tribe used the area for fishing and hunting. This Plan anticipates tribal use of Park lands in the future as provided in Resource Category IX: Special Forest Products.

Certainly the watersheds would have been crucial to salmonid rearing thousands of years ago. Salmon have been located by Washington Department of Fish and Wildlife (WDFW) in the wetlands that are crossed by Miller Bay Road, but inadequate culverts and other obstructions currently block access to the park's beaver ponds, which are part of the headwaters of Grovers Creek. Ancient Suquamish tribal members were grateful for the abundance of fish that used to migrate to these streams.

The next groups of humans to use the park were early pioneers in the 1850's in Kitsap County, taking advantage of homesteading acts to create farms. The only evidence in the park that may point to early settlers are the remains of a barn, farm ponds and a residence at the park entrance off Miller Bay Road. Several local residents remember fishing in the farm ponds, and the more recent logging activity by Pope and Talbot (Pope Resources).

Hunters, trappers, and local outdoors enthusiasts have taken advantage of the service forest roads to access what is now a public park. Residents in the area relate using the Pope land for various recreational purposes for multiple generations of their families.

b) Resources protection measures: No evidence of sensitive historical or cultural use has been found in the park.

c) Stewardship practice recommendations: Stewards have found metal debris and disturbed land harkening back to the early days of logging in the park. If the debris is innocuous, it is usually left in place as a reminder to visitors of the working forest that once echoed to the sounds of misery whips and double-bit axes. Other debris including garbage and abandoned car bodies have been and will eventually be removed by park volunteers.

RESOURCE CATEGORY VIII: AESTHETICS AND RECREATION

a) Existing resource condition: Besides being a sanctuary for wildlife, a valuable aquifer regenerator, and a protected place to grow late seral stage forests, NKHP provides various opportunities for citizens to enjoy their park. It fills the county's need to provide a more rural setting than those found in some of the smaller, urban parks. While the park is closed to motorized vehicles, many people enjoy riding horses, hiking, and mountain biking. The park is also used by geocachers, mushroom hunters, long-distance runners, and dog walkers.

Access to the park is currently somewhat limited due to the number of parking spaces available at the main Miller Bay parking lot, the Norman Road gate, and the small parking area near the White Horse Golf Course Clubhouse. There is currently only one kiosk marking the trailhead at Miller Bay Road. Approximately 12 miles of forest roads were built within NKHP boundaries (see Appendix 5 – Forest Road Maintenance & Abandonment Plan (RMAP)). Some of these old forest road beds have been incorporated into a trail system for use by park visitors. Additionally, several other foot/horseback/biking trails have been built by park volunteers led by the park stewards (see Appendix 11 – NKHP Trail Map).Most are multi-use trails, but some are limited to foot traffic or prohibit use by horses. Trails within and in close proximity to wetland areas are limited to foot traffic only. A trail plan created by the North Kitsap Trails Association shows regional trails that will link NKHP to the regional Seattle to Olympics trail system. Information is available on the group's website at: http://www.northkitsaptrails.org/.

b) Resources protection measures: Additional kiosks are planned for the Norman Road and White Horse Trail access points.. An additional parking area is planned for the Norman Road entrance. Forest roads must be maintained or abandoned according to state standards including culvert replacement or removal for abandoned sections. Since some of the trails are forest roads, maintaining the integrity of the forest will be needed ensure culverts, water bars and ditches are functioning properly. Trails that have been built

are subject to the same standard of public resource protection. Trails in NKHP are varied and will be built and maintained to trail standards agreed to by Kitsap County Parks Department and NKHPSG.

c) Stewardship practice recommendations: Continue to develop public access and parking at entry points to the park. Some of these old forest roads will be maintained for use during forest thinning projects and for fire safety (see Appendix 10, shaded sections). Some portions of the old forest roads will be abandoned for use by vehicles and maintained as park trails (Appendix 11 & 13). Other portions will be abandoned as required and allowed to return to natural processes. Efforts to control invasive and noxious weeds along park trails is a priority and will continue. NKHPSG is working with Dana Coggon to create an invasive species management plan. NKHPSG has a trails subcommittee which is working to create a trail plan in order to deter un-authorized trail construction.

RESOURCE CATEGORY IX: SPECIAL FOREST PRODUCTS

a) Existing resource condition: Brush harvesting of salal and evergreen huckleberry provide a source of revenue for Kitsap County Parks, specifically NKHPSG projects. Kitsap County maintains a contract with a brush harvesting company, which is up for bid every three years. Citizens can also harvest mushrooms in the park for personal use.

b) b) Tribal use of the Park: Organized events allowing local Tribal members to gather culturally important plants should be allowed provided conservation measures are followed and an agreement is in place between the Tribe and the County.

c) Resources protection measures: Activities of illegal, non-permitted brush pickers have occasionally caused problems in the park. Litter and debris from pickers has to be managed through the enforcement of guidelines and rules by lease holder and Kitsap County Forester.

d) Stewardship practice recommendations: One of the best safeguards against illegal brush picking is to have an active contract with a legitimate brush harvesting company. After all, legitimate pickers only make money if the resource their company has paid for is not abused, which often happens in the case of illegal picking. Contractor activities will be monitored for impact on the park environment.

STEWARDSHIP TIMELINE

In the short-term, stewards expect to conduct plot surveys of areas requiring restoration thinning. While large-scale timber harvesting on state and federal land focuses on generating revenue, the NKHP stewards are exclusively interested in a diverse and healthy forest, and the wildlife that depend on it. As the restoration needs of each mapping unit are addressed, this priority will guide the "feet-on-the ground" assessments of the areas to be thinned.

A longer-term goal is to treat the entire park over a ten year period. Much of the park would benefit from restoration thinning. These long-term priorities are reflected in Appendix 7 Yearly Harvest & Net Revenue Projection.

RESTORATION THINNING OPERATIONS

Kitsap County and its consultant, American Forest Management, work to manage all aspects of the thinning operation including estimating yield projections, selecting subcontractors and marketing the logs. The logging contractors working in the park will be selected based on several criteria including their ability to extract the logs with the least amount of disturbance to forest and existing forest road system. The loggers will use state-of-the-art harvest machinery which will tread lightly on the forest floor. Logs will be harvested using the cut-to-length method which

leaves tree slash evenly spread on the forest floor to decay. The slash also serves as a "carpet" for the machinery to drive on thus reducing soil disturbance. The cut-to-length method also means shorter logs so the forest road system will not have to be as wide to accommodate longer wheel base of the log trucks.

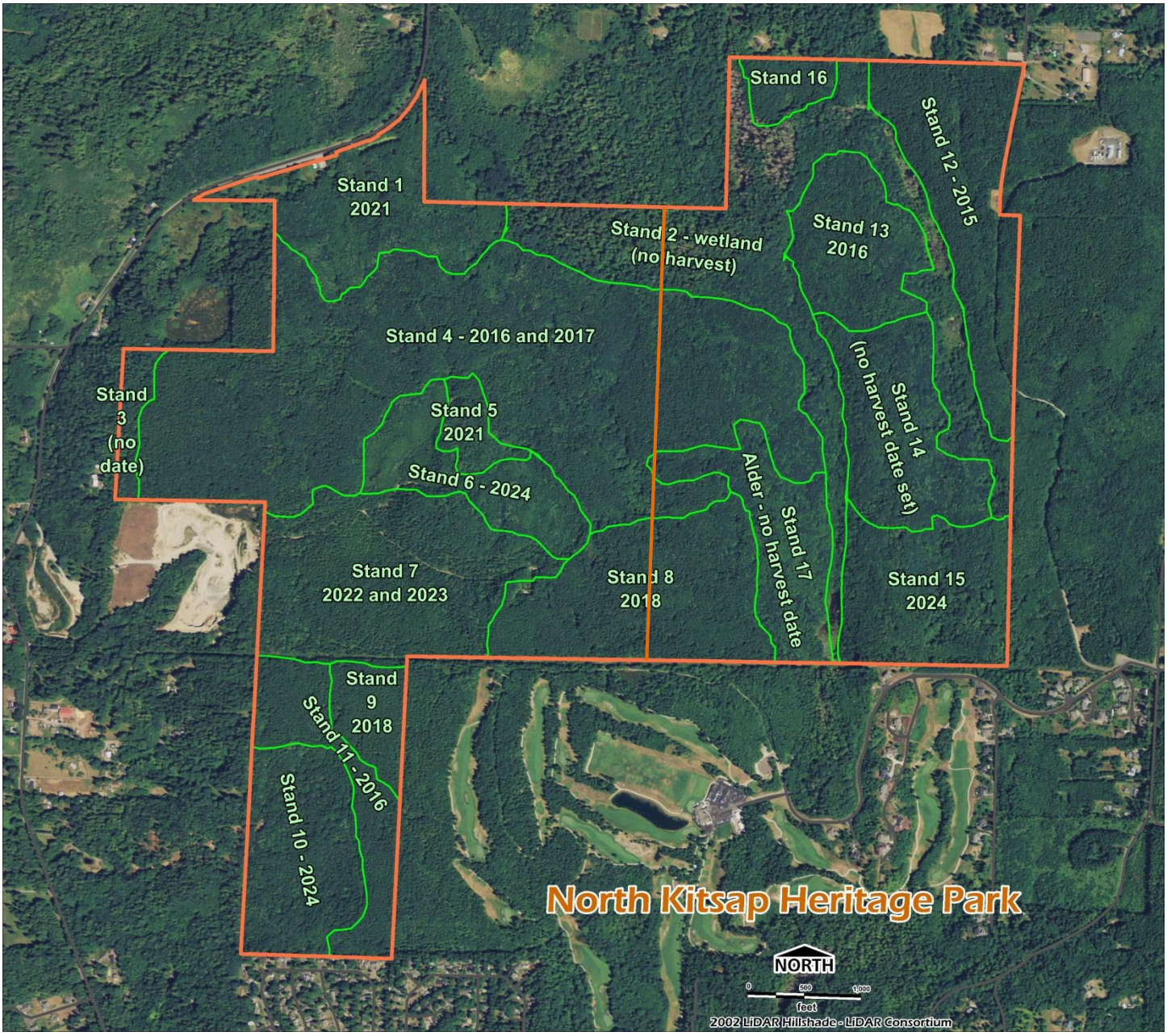
The Park Stewards will be involved in establishing the areas in the park the loggers will have access to and protecting special and sensitive areas such as park trails, riparian areas, and wetlands. Boundary tape and blue paint will be used to create buffers, no-entry areas and the trees for harvest. Parks staff and Stewards will mark 100% of the take trees with the goal of leaving the best and strongest trees which will improve the overall health and habitat of the forest.

To enhance and preserve habitat loggers will avoid disturbing stumps, and large woody debris that exist in the Park. Loggers will also use their best effort to create five snags per acre by topping trees at the maximum height their equipment will reach. Ideally snag trees should be 20" in diameter.

Stewards would like to conduct hand thinning in selected areas of the Park. The County has informed Stewards that currently, due to liability concerns, Stewards are prohibited from hand thinning. Stewards would like work with the County to explore ways to alleviate the County's liability concerns so the hand thinning would be permissible.

APPENDICES

APPENDIX 1: MAPPING UNITS



APPENDIX 2: PERCENTAGE OF TREES PER ACRE BY SPECIES

Stand/ Unit	Avg. TPA	% Douglas Fir	% Western Hemlock	% Red Cedar	% White Pine	% Red Alder
1	361	25%	0%	5%	0%	67%
2	140	0%	36%	36%	0%	21%
3	60	0%	100%	0%	0%	0%
4	305	75%	1%	4%	0%	12%
5	300	80%	0%	0%	20%	0%
6	260	70%	0%	0%	30%	0%
7	300	90%	0%	2%	8%	0%
8	305	92%	0%	0%	0%	8%
9	388	85%	0%	0%	0%	15%
10	300	70%	2%	4%	0%	24%
11	300	90%	2%	8%	0%	0%
12	360	90%	2%	8%	0%	0%
13	349	100%	0%	0%	0%	0%
14	150	2%	5%	10%	0%	83%
15	337	60%	5%	5%	0%	30%

APPENDIX 3: TREE PLANTING SCHEDULE

To promote forest diversity and to create understory, shade tolerant seedling trees will be planted before and after restoration thinning is completed. The planting history and future schedule is provided below.

Stand /Unit	Harvest Year	Planting Date	Red Cedar	Sitka Spruce	Total Planted
1	NA	2014	500		**500**
17	NA	2014	1,500	500	**2,000**
12	2015	2016			**0**
11	2016	2017			**0**
13	2016	2017			**0**
4A	2016	2017			**0**
8	2018	2019			**0**
9	2018	2019			**0**
1	2021	2022			**0**
5	2021	2022			**0**
7A	2022	2023			**0**
7B	2023	2024			**0**
6	2024	2025			**0**
10	2024	2025			**0**
15	2024	2025			**0**
4B	2017	3/21/2015	200	100	**300**
2	NA				**0**
3	?				**0**
16	NA				
14	NA				**0**
		Total	**2,200**	**600**	**2,800**

APPENDIX 4: FOREST STAND CONDITIONS/PRESCRIPTIONS

Map Unit #	Species	Age	Acres	Trees/Acre
1	Douglas Fir	29	47	300/100

% Stocking	Site Index Soil Type	Volume MBF Per Acre	Replacement Trees	Replacement Trees / Acres
100+	140	22	Red cedar	110

Unit Description Simple Canopy

This stand is dominated by Red alder, yet legacy trees and stumps indicate that it was largely Douglas fir and Western red cedar. Clear-cut and reforested into Douglas fir, approximately 30 years ago, this unit was quickly colonized by native Red Alder. Single canopy with Red Alder and Douglas fir fighting for dominance, Red alder is winning!

Unit Prescription

With the amount of wetland and stream flow, leave it to develop over the next 100 years. Western red cedar has been under-planted and should help form a more diversified canopy structure.

Map Unit #	Species	Age	Acres	Trees/Acre
2	RA/WRC/Sitka	75+	54	50 to 150

% Stocking	Site Index Soil Type	Volume MBF Per Acre	Replacement Trees	Replacement Trees / Acres
80 to 100	80 to 126	40 to 100	WRC/WH/Sitka	20 to 50

Unit Description Complex Canopy

Largely a lowland area that is ecologically sensitive. Residual cut stumps the age of the red alder and Sitka spruce suggest that the last harvesting that occurred in this unit 70+ years ago.

Unit Prescription

No restoration is necessary with the possible exception of monitoring and managing invasive plants and under-planting shade tolerant conifers when the Red alder declines.

Map Unit #	Species	Age	Acres	Trees/Acre
3	W Hemlock	95	8	60

% Stocking	Site Index Soil Type	Volume MBF Per Acre	Replacement Trees	Replacement Trees / Acres
80 to 100	115	70	W Hemlock	20

Unit Description Simple Canopy

This eight acre unit borders private residential property on the western most side of the park. It is dominated by reasonably healthy, old, western hemlock estimate to be 95 years old.

Unit Prescription

Monitor the health and vigor of this unit for potential hazard tree risks. In an effort to diversify this unit, under plant western red cedar to create a new canopy cohort.

Map Unit #	Species	Age	Acres	Trees/Acre
4	D fir	35	180	350

% Stocking	Site Index Soil Type	Volume MBF Per Acre	Replacement Trees	Replacement Trees / Acres
100+	120 to140	19 to 21	RC/WH/W Pine	47

Unit Description Simple Canopy

Unit 4 represents the typical Douglas fir plantation found throughout NKHP. Overstocked, this unit has vast areas where there is little or no understory vegetation and the competition for light, moisture and nutrients causes the entire plantation to be stressed and increasingly vulnerable to attack by diseases, insects and fire. Unit provides below average wildlife habitat.

Unit Prescription

Unit needs to be thinned (VDT) to between 125 and 160 trees per acre. The average diameter of leave trees would be approximately 14 inches. This spacing would reduce competition, improve tree vigor and allow light to reach the forest floor; stimulate the reestablishment of understory vegetation; begin providing enhanced wildlife habitat. Under planting of cedar and hemlock to create 2nd canopy would add much needed species diversity and vertical canopy structure.

Map Unit #	Species	Age	Acres	Trees/Acre
5	D fir	20	16	300

% Stocking	Site Index Soil Type	Volume MBF Per Acre	Replacement Trees	Replacement Trees / Acres
100+	126	12	0	0

Unit Description Simple Canopy

Unit 5 is the typical Douglas fir plantation found throughout NKHP. Overstocked, this unit has vast areas where there is little or no understory vegetation and the competition for light, moisture and nutrients causes the entire plantation to be stressed and increasingly vulnerable to attack by diseases, insects and fire. Unit provides below average wildlife habitat.

Unit Prescription

Unit needs to be thinned (VDT) to between 150 and 190 trees per acre. The average diameter of leave trees would be approximately 12 inches. This spacing would reduce competition, improve tree vigor and allow light to reach the forest floor; stimulate the reestablishment of understory vegetation; begin providing enhanced wildlife habitat. Under planting of cedar to create 2nd canopy would add much needed species diversity and horizontal structure.

Map Unit #	Species	Age	Acres	Trees/Acre
6	D fir/W pine	17	30	260

% Stocking	Site Index Soil Type	Volume MBF Per Acre	Replacement Trees	Replacement Trees / Acres
100	115	10	0	0

Unit Description Simple Canopy

Unit 6 is the youngest Douglas fir plantation in NKHP. It is overstocked due to the naturally seeded western white pine. Invasive plants, Himalayan blackberry and Scotch broom are thriving in small open areas and adjacent access Forest Roads/tails. Established trees are healthy and vigorous. This unit, still in a young stand development stage, hasn't yet achieved full Crown closure thus providing some of the best upland wildlife habitat in the park.

Unit Prescription

Monitor and manage invasive plant species. Non-commercially thin the stand to a spacing of 200 TPA, selecting the best Douglas fir and white pine for leave trees.

Map Unit #	Species	Age	Acres	Trees/Acre
7	D fir	29	106	300+

% Stocking	Site Index Soil Type	Volume MBF Per Acre	Replacement Trees	Replacement Trees / Acres

100+	115 to 123	21	0	0

Unit Description Simple Canopy

Unit 7 is the typical Douglas fir plantation found throughout NKHP. Overstocked, this unit has vast areas where there is little or no understory vegetation and the competition for light, moisture and nutrients causes the entire plantation to be stressed and increasingly vulnerable to attack by diseases, insects and fire. In the area between Spine Line and Arbutus Trails, there is tree diversity, included many Madrone, and a healthy understory. Unit provides below average wildlife habitat.

Unit Prescription

Unit needs to be thinned (VDT) to between 150 and 190 trees per acre. The average diameter of leave trees would be approximately 12 inches. This spacing would reduce competition, improve tree vigor and allow light to reach the forest floor; stimulate the reestablishment of understory vegetation; begin providing enhanced wildlife habitat. Under plant cedar and hemlock to create 2nd canopy adding much needed species diversity

Map Unit #	Species	Age	Acres	Trees/Acre
8	D fir	34	42	300

% Stocking	Site Index Soil Type	Volume MBF Per Acre	Replacement Trees	Replacement Trees / Acres
100	146	25	0	0

Unit Description Simple Canopy

Unit 8, again, the typical Douglas fir plantation found throughout NKHP. Overstocked, this unit has vast areas where there is little or no understory vegetation and the competition for light, moisture and nutrients causes the entire plantation to be stressed and increasingly vulnerable to attack by diseases, insects and fire. Units provides below average wildlife habitat.

Unit Prescription

This unit needs to be thinned (VDT) to between 125 and 160 trees per acre. The average diameter of leave trees would be approximately 14 inches. This spacing would reduce competition, improve tree vigor and allow light to reach the forest floor; stimulate the reestablishment of understory vegetation; begin providing enhanced wildlife habitat. Under-planting of cedar and hemlock to create 2nd canopy would add much needed species diversity and vertical canopy structure.

Map Unit #	Species	Age	Acres	Trees/Acre
9	D fir	34	12	300

% Stocking	Site Index Soil Type	Volume MBF Per Acre	Replacement Trees	Replacement Trees / Acres
100	121	24	RC/WH	42

Unit Description Simple Canopy

Unit 9, similar to 8 it is the typical Douglas fir plantation found throughout NKHP. Overstocked, this unit has vast areas where there is little or no understory vegetation and the competition for light, moisture and nutrients causes the entire plantation to be stressed and increasingly vulnerable to attack by diseases, insects and fire. Units provides below average wildlife habitat.

Unit Prescription

Unit needs to be thinned (VDT) to between 125 and 160 trees per acre. The average diameter of leave trees would be approximately 14 inches. This spacing would reduce competition, improve tree vigor and allow light to reach the forest floor; stimulate the reestablishment of understory vegetation; begin providing enhanced wildlife habitat. Under-planting of cedar and hemlock to create 2nd canopy would add much needed species diversity and vertical canopy structure.

Map Unit #	Species	Age	Acres	Trees/Acre
10	D fir	28	45	300+

% Stocking	Site Index Soil Type	Volume MBF Per Acre	Replacement Trees	Replacement Trees / Acres
100	115 to 121	21	0	0

Unit Description Simple Canopy

A10 has steep slopes, yet is the typical Douglas fir plantation found throughout NKHP. Overstocked, this unit has vast areas where there is little or no understory vegetation and the competition for light, moisture and nutrients causes the entire plantation to be stressed and increasingly vulnerable to attack by diseases, insects and fire. Unit provides below average wildlife habitat.

Unit Prescription

Steep slopes maybe a limitation. The unit needs to be thinned (VDT) to between 150 and 190 trees per acre. The average diameter of leave trees would be approximately 14 inches. This spacing would reduce competition, improve tree vigor and allow light to reach the forest floor;

Map Unit #	Species	Age	Acres	Trees/Acre
11	D fir	35	18	300+

% Stocking	Site Index Soil Type	Volume MBF Per Acre	Replacement Trees	Replacement Trees / Acres
100	115	19	0	0

Unit Description Simple Canopy

Unit 11 has steep slopes, yet is the dense Douglas fir plantation found throughout NKHP. Overstocked, this unit has vast areas where there is little or no understory vegetation and the competition for light, moisture and nutrients causes the entire plantation to be stressed and increasingly vulnerable to attack by diseases, insects and fire. Unit provides below average wildlife habitat.

Unit Prescription

The unit needs to be thinned (VDT) to between 125 and 160 trees per acre. The average diameter of leave trees would be approximately 14 inches. This spacing would reduce competition, improve tree vigor and allow light to reach the forest floor; stimulate the reestablishment of understory vegetation; begin providing enhanced wildlife habitat. Under-planting of cedar and hemlock to create 2nd canopy would add much needed species diversity and vertical canopy structure.

Map Unit #	Species	Age	Acres	Trees/Acre
12	D fir	37	53	360

% Stocking	Site Index Soil Type	Volume MBF Per Acre	Replacement Trees	Replacement Trees / Acres
100+	125	19	0	0

Unit Description Simple Canopy

Unit 12 has riparian/wetland areas (See Appendix 15: Mapping Unit 12). On upland slopes there are dense Douglas fir plantation found throughout NKHP. Overstocked, this unit has vast areas where there is little or no understory vegetation and the competition for light, moisture and nutrients causes the entire plantation to be stressed and increasingly vulnerable to attack by diseases, insects and fire. Unit provides below average wildlife habitat.

Unit Prescription

Except for riparian and wetland areas, the unit needs to be thinned (VDT) to between 125 and 160 trees per acre. The average diameter of leave trees would be approximately 14 inches. This spacing would reduce competition, improve tree vigor and allow light to reach the forest floor; stimulate the reestablishment of understory vegetation; begin providing enhanced wildlife habitat. Under plant of cedar and hemlock to create 2nd canopy would add much needed species diversity and vertical canopy structure.

Map Unit #	Species	Age	Acres	Trees/Acre
13	D fir	30	34	349

% Stocking	Site Index Soil Type	Volume MBF Per Acre	Replacement Trees	Replacement Trees / Acres
100+	126	18	0	0

Unit Description Simple Canopy

Unit 13 has steep slopes, yet is the densely stocked Douglas fir plantation. Overstocked, this unit has vast areas where there is little or no understory vegetation and the competition for light, moisture and nutrients causes the entire plantation to be stressed and increasingly vulnerable to attack by diseases, insects and fire. Unit provides below average wildlife habitat.

Unit Prescription

The unit needs to be thinned (VDT) to between 150 and 190 trees per acre. The average diameter of leave trees would be approximately 12 inches. This spacing would reduce competition, improve tree vigor and allow light to reach the forest floor; stimulate the reestablishment of understory vegetation; begin providing enhanced wildlife habitat. Under plant of cedar and hemlock to create 2nd canopy would add much needed species diversity and vertical canopy structure. Deciduous areas with few conifers should be skipped.

Map Unit #	Species	Age	Acres	Trees/Acre
14	R alder/BLM	26	79	150

% Stocking	Site Index Soil Type	Volume MBF Per Acre	Replacement Trees	Replacement Trees / Acres
100	115 to 128	10	-	-

Unit Description Simple Canopy

14 is a failed Douglas fir plantation that is dominated by Red Alder and Big Leaf Maple. There are some small pockets of Douglas fir, and of the few remaining individual fir, all are suppressed and will eventually dropout of the canopy. Unit has extensive slopes and contains the only annual stream and the largest wetland/pond in the park.

Unit Prescription

Given the sloped drainage that makes up the entire unit, no restoration thinning is prescribed. Setbacks and slope restrictions limit almost all forest restoration activities. Under planting shade tolerant conifers, specifically western red cedar, will add complexity and enhance wildlife habitat by providing a conifer component in the canopy and recruitment wood for the stream.

Map Unit #	Species	Age	Acres	Trees/Acre
15	D fir	30	58	337

% Stocking	Site Index Soil Type	Volume MBF Per Acre	Replacement Trees	Replacement Trees / Acres
100+	110 to 124	9	-	-

Unit Description Simple Canopy

Unit 15 has steep slopes, and is a densely stocked Douglas fir plantation. Overstocked, this unit has vast areas where there is little or no understory vegetation and the competition for light, moisture and nutrients causes the entire plantation to be stressed and increasingly vulnerable to attack by diseases, insects and fire. Unit provides below average wildlife habitat.

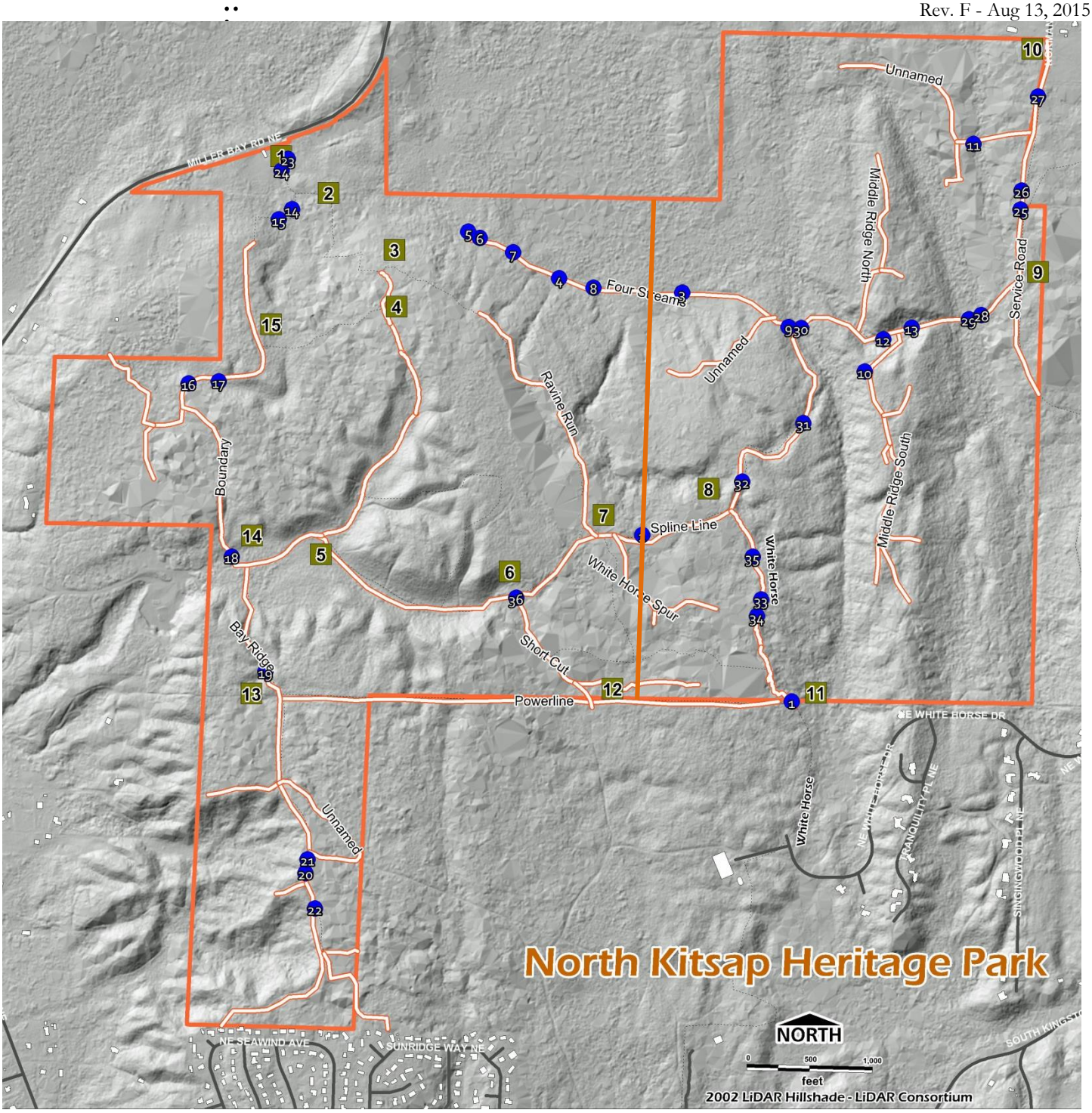
Unit Prescription

The unit needs to be thinned (VDT) to between 150 and 190 trees per acre. The average diameter of leave trees would be approximately 12 inches. This spacing would reduce competition, improve tree vigor and allow light to reach the forest floor; stimulate the reestablishment of understory vegetation; begin providing enhanced wildlife habitat. Under plant of cedar and hemlock to create 2nd canopy would add much needed species diversity and vertical canopy structure.

All forest land owners are responsible for properly constructing and maintaining forest roads to protect fish habitat and water quality. Trails must meet less stringent specifications.

Kitsap County has inherited forest roads in the NKHP that were constructed by Pope Resources for timber operations when this land was managed for commercial timber production. The following Forest Road and Culver map is the first inventor completed since the County purchased the Park from Pope Resources. In order to keep these Forest Roads, most which are now trails, we must comply with state law. The Forest and Fish law is part of the Forest Practices Regulations of Washington State. The intent of the law is the reduction of silt pollution and runoff into streams and rivers. Forest Road Prisms are hard on streams when forgotten culverts become plugged, wash out forest roadbeds, and deposit tons of silt in streams.

Our goal is to keep some of the existing Forest Road Prisms in the park to use as trails: access for people with disabilities, running trails for cross country track, football, wrestling and soccer teams and access routes for maintenance equipment, forest thinning projects, and ingress/egress during emergencies. In order to do this we must comply with the law by having approved RMAPs check list that complies with the small landowner rules. The accompanying map and table show locations of existing historical forest roads (Fig. 2) and culverts (Table 6), their size and condition.


North Kitsap Heritage Park
MILLER BAY RD NE
Unnamed
Middle Ridge North
Service Road
Four Streams
Ravine Run
Unnamed
Boundary
Spline Line
White Horse Spur
White Horse
Middle Ridge South
Bay Ridge
Short Cut
Powerline
Unnamed
NE WHITE HORSE DR
NE SEAWIND AVE
SUNRIDGE WAY NE
NORTH
0
500
1,000
feet
2002 LiDAR Hillshade - LiDAR Consortium

ID #	Type	Dia. (inches)	Length (feet)	2014 Condition	Location Ref.
1	Corrugated Plastic	6	20.5	Functioning	White Horse Trail
2	Corrugated Metal	6	10	Clogged	Spine Line Trail
3	Corrugated Metal	12	12.6	Clogged	North Central
4	Corrugated Metal	18	4.6	Functioning	North Central
5	Corrugated Metal	14	9.5	Crushed	North Central
6	Corrugated Metal	14	31.5	Functioning	North Central
7	Corrugated Metal	12	30	Clogged	North Central
8	Corrugated Metal	12	27	Clogged	North Central
9	Corrugated Metal	12	36	Crushed	North Central
10	Corrugated Metal	12	30	Functioning	Spine Line Trail
11	Corrugated Metal	12	30	Clogged	North East
12	Corrugated Metal	12	22	Crushed	Spine Line Trail
13	Corrugated Metal	14	30	Clogged	Spine Line Trail
14	Round Concrete	12	11	Functioning	Spine Line Trail
15	Round Plastic	4	8	Functioning	Boundary Trail
16	Corrugated Metal	12	20	Crushed	Boundary Trail
17	Corrugated Metal	12	20	Functioning	Boundary Trail
18	Corrugated Metal	12	31	Functioning	Boundary Trail
19	Corrugated Metal	12	30	Clogged	Bay Ridge Trail
20	Corrugated Metal	6	10	Functioning	Bay Ridge Trail
21	Corrugated Metal	12	20	Crushed	Bay Ridge Trail
22	Corrugated Metal	12	20	Crushed	Bay Ridge Trail
23	Round Concrete	12	16.6	Functioning	Spine Line Trail
24	Other	5	7.5	Functioning	Spine Line Trail
25	Corrugated Plastic	18	61.5	Functioning	Spine Line Trail
26	Corrugated Plastic	18	24	Functioning	Spine Line Trail
27	Round Concrete	14	23	Functioning	Spine Line Trail
28	Other	6	10	Functioning	Spine Line Trail
29	Corrugated Metal	66	30.8	Functioning	Spine Line Trail
30	Corrugated Metal	16	40	Functioning	Spine Line Trail
31	Corrugated Metal	14	59.5	Functioning	Spine Line Trail
32	Corrugated Metal	14	31	Clogged	Spine Line Trail
33	Corrugated Metal	12	21	Functioning	White Horse Trail
34	Corrugated Metal	12	21	Functioning	White Horse Trail
35	Corrugated Metal	12	20	Functioning	White Horse Trail
36	Other	5	10.5	Functioning	Spine Line Trail
37	Corrugated Metal			Functioning	Norman Road
38	Corrugated Metal			Functioning	Unnamed Road Spur

Culverts rated *Ephemeral* have flow during heavy rains.
Culverts designated *Intermittent* have flow approximately six months of each year.
Culverts with *RIW* designation are those where wetland water levels are augmented by forest road impoundment.
Bank Full Width (BFW) will be measured in the winter of 2015 at outfall of culverts.

BEAVER FLOODING

We recognize the beaver as a stakeholder and vital part of the park's ecosystem. During heavy winter rain periods, culvert (#29) on Spine Line Trail crossing the pond is being plugged by beaver, and water has, at times, topped the forest road prism. During dry season (August) when the wetland is dryer, the culvert will be unplugged. The north end of the culvert has already been fenced to prevent beaver from plugging the culvert, flooding, as well as keep the water below the forest road prism during heavy rainfall. This culvert is scheduled for replacement in summer of 2017 when Kitsap Public Work is schedule to install a paved trail through the park from the White Horse Trail to the Norman Road gate.

FOREST ROAD MAINTENANCE PLAN

There are 12 miles of forest roads within the park that need to be maintained or formally abandoned. Public use of motorized vehicles is not allowed in the park. The only motorized traffic on the park forest roads will be authorized maintenance vehicles (tractors, graders etc.), contractor vehicles (brush pickers and harvest contractors for example) and emergency vehicles. Where possible, runoff will be quickly returned to the forest floor as sheet flow by emphasizing out-sloping.

The following activities are necessary under DNR RMAPs rules.

1. An inventory of all park culverts will be maintained. This inventory has been completed.
2. GPS coordinates will be noted for each culvert. This has been completed
3. Culvert location monuments/markers will be placed at each culvert crossing, be tall enough to be visible from the forest road prism and be inscribed with a unique NKHP ID #.
4. Forest road prism culvert inspection will occur each August/September to prepare for winter rains.
5. Ditches along all maintained forest roads shall be freed from obstructions that impede water flow.
6. Moss, duff, and grasses in ditches should remain undisturbed: for added water energy distribution, water absorption, and head cut reduction.
7. Forest roads shall be sloped so that water is directed to the forest floor. See WAC 222-24
8. Where beaver activity is present, frequent checks must be made to prevent washouts.
9. As forest roads are needed for scheduled forest thinning projects, they will be prepared to withstand use by trucks or other equipment.
10. When forest road segments are no longer needed will be abandoned as prescribed under FPA rules.

CULVERTS TO BE REPLACED

Culverts that block fish passage must be removed or replaced with bridges or arched culverts by July 1st, 2016. The goal is to ensure stream crossings allow fish passage for all life stages of fish. Culverts can sometimes block juvenile fish by creating a strong laminar flow that prevents upstream migration of Coho and Steelhead smolt. Culverts block returning adult salmon when they are perched higher than the fish can jump.

Replacement culverts must be a minimum of 18" in diameter. Many culverts have deteriorated to the point they will need replacement. All but a few have been in use for more than 50 years.

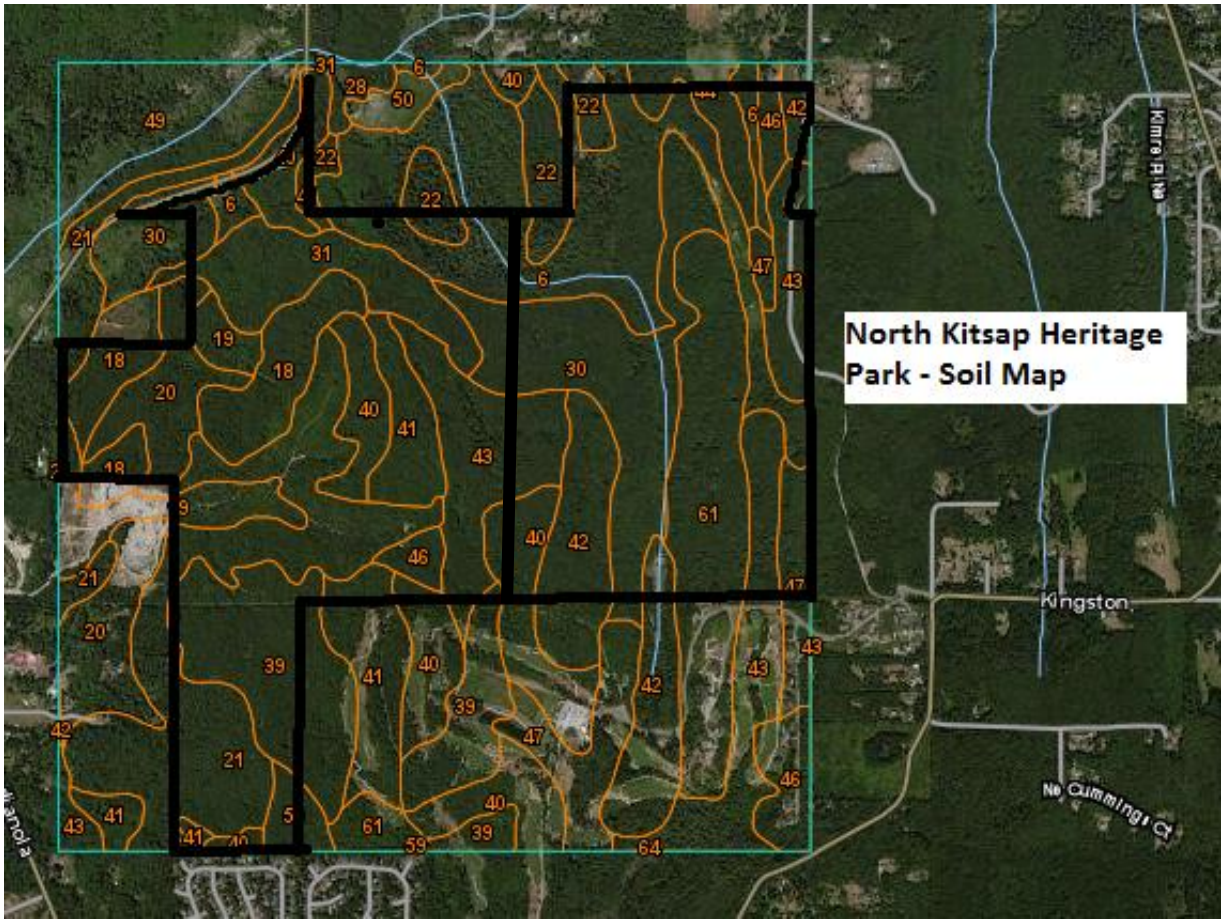
Currently, anadromous fish are present in the eastern and northern areas of the park, and the potential exists for them to utilize the park's wetland habitat. There are likely chum, sea run cutthroat, steelhead and Coho in the watershed of Grovers Creek that borders the park. The large Category 1 wetland is prime rearing habitat for juvenile Coho, and potential spawning habitat is available south of Spine Line forest road in the wetland on the park's eastside.

The only culvert that is a candidate for possible replacement with an arched culvert or bridge is the one on Spine Line Trail/ forest road on the eastside. Flow through this culvert is a type "F" (Fish Bearing) by WDNR, and flows into the Grovers Creek System. Replacing this culvert with a bridge or arched culvert should restore natural stream processes improving Salmonid habitat.

All forest roads and culverts need annual maintenance. Maintenance typically consists of clearing and cleaning culverts and ditches of debris and vegetative growth. Graded forest road surfaces restore the proper movement of water off the forest road surface and to prevent rutting and head cuts. Forest roads and culverts should be inspected before the fall rainy season and after any periods or record rainfall. A spring inspection will help identify problems that need attention during summer dry season.

There are 14 NKHP culverts that are not functioning. These culverts need to be inspected to determine if they are needed. If so, they will need immediate attention by cleaning to restore proper function or by replacement. Culverts 3, 8, 9, and 11 are conveying seasonal stream flows and are a priority. The remaining 10 non-functioning culverts may also be important to the management and control of storm and ditch water. Some culverts transfer storm and ditch water under the forest road and onto the forest floor.

APPENDIX 6: SOIL TYPES



North Kitsap Heritage Park – Soil Map Unit Symbols **

6 Bellingham silty clay loam: Deep, poorly drained soil is located on the flood plain of the park. This soil is formed in alluvium with mapped areas of between 5 and 20 acres. Vegetation is primarily grass and sedge with some conifers and hardwoods.

18, 19 & 20 Indianola loamy sand: 0 to 6, 6 to 15, and 15 to 30 percent slope respectively. This deep, somewhat excessively drained soil is found on the forest road uplands of the park. Formed in sandy glacial outwash, the primary vegetation is conifers. Some of the most fertile areas in the park, these soils have a site index* of 131 for Douglas fir and 95 for red alder.

21 Indianola-Kitsap Complex: 45 to 70 percent slope, this soil is located in the southwest corner of the park off Bay Ridge. Formed in glacial outwash and glacial lake sediment, the primary vegetation is conifers and hardwoods. Very productive soil and suited to Douglas fir and red alder. Site index* is 131 for Douglas fir and 99 for red alder. Due to the steepness of slope, this area of the park will be “skipped” in terms of restoration thinning.

22 Kapowsin gravely ashy loam: 0 to 6 percent slopes, this is a moderately deep moderately well drained soil on forest road uplands and terraces. Formed in glacial till, are found in relatively small amounts, with less than 5 acres in the park.

Native vegetation found on this soil is conifers and hardwoods. A very productive soil, Douglas fir has a site index* of 159.

30 & 31 Kitsap silt loam: 14 to 30, and 30 to 45, percent slope respectively. This is a deep, moderately well drained soil on terraces in the central area of the park. This very fertile soil formed in glacial lake sediment on the side slopes of terraces. Vegetation is conifers and hardwoods with a Douglas fir site index of 164 and site index* for red alder of 102.

39, 40 & 41 Poulsbo gravelly sandy loam: 0 to 6, 6 to 15, and 15 to 30 percent slope respectively. This moderately deep, moderately well drained soil is on forest road uplands and is formed in glacial till. Native vegetation is conifers and hardwoods. Well suited to Douglas fir and has a site index* of 161.

42 & 43 Poulsbo-Ragnar complex: 0 to 6, and 6 to 15 percent slope respectively, these soils are on forest road uplands and terraces in the park. The formed in glacial till and glacial outwash this soil supports native vegetation consisting of mixed stands of conifers and hardwoods. Well suited to Douglas fir, Poulsbo soil has a site index* of 171 for Douglas fir.

44 & 46 Ragnar fine sandy loam: 0 to 6 and 15 to 30 percent slope respectively. This is a deep, well-drained soil on terraces and uplands and was formed in glacial outwash. Native vegetation is conifers and hardwoods with a site index* for Douglas fir of 167.

47 Ragnar-Poulsbo complex: 15 to 30 percent slope. The soils of this complex are on forest road uplands and are formed in glacial till and glacial outwash. Native vegetation is a mixed stand of conifer and hardwoods. Ragnar soils are well suited to Douglas fir, western red cedar, hemlock and red alder. Douglas fir has a site index* of 139; The Poulsbo portion of the soil complex has a site index of 161 for Douglas fir.

61 Sinclair very gravely sandy loam: 15 to 30 percent slope. This moderately deep, moderately well drained soil is on till plains on the east side of the park. Formed in glacial till this soils support mainly conifers. Well suited to Douglas fir, hemlock and Red alder, this soil has a site index* of 136 for Douglas Fir.

* Site index is the height of a dominant example of the titled tree species in 100 years.

** USDA Natural Resources Conservation Service – Online Web Soil Survey.

Timeline for Restoration Thinning
North Kitsap Heritage Park

Restoration Thinning will be applied to all but five (5) mapping units (1, 2, 3, 14, 16 and 17) in the park. Map unit 1 has steep slopes, numerous wetlands and large areas of red alder. Map units 2 & 3 contain the oldest trees in the park; unit 2 is a mixed stand of Sitka spruce, red alder and western red cedar that can't be accessed due to current Washington Forest Practices Rules; unit 3 is a stand of western hemlock that boarders a residential development adjacent to the park. Map unit 14 has steep slopes, is bisected by a year round stream and dominated by red alder and big leaf maple. Map units 16 & 17 are not accessible and are mixed hardwood and conifer stands that provide diverse wildlife habitat.

Approximately 52 acres per year will be thinned on 64 percent of the park acreage for a total of 517 acres over a 10 year period. Riparian and Wetland management areas will be delineated and will create a no harvest zones designed to maximum protect for water and wildlife resources. The table below is the 10 year timeline with projected harvest volumes. The two largest mapping units, units 4 and 7 are planned to be thinned in two sections over a two year period.

Restoration Thinning –Volume per Mapping Unit

Mapping Unit	2015	2016	2017	2018	2019	2020	2021	2022	2023	2024	Acres Thinned
1	-	-	-	-	-	-	-	-	-	-	0
2	-	-	-	-	-	-	-	-	-	-	0
3	-	-	-	-	-	-	-	-	-	-	0
4		525	552								160
5							175				15
6										120	30
7								494	511		106
8				129							40
9				124							12
10									347		45
11		186									20
12	108										19
13			181								30
14	-	-	-	-	-	-	-	-	-	-	0
15										258	40
16	-	-	-	-	-	-	-	-	-	-	
17	-	-	-	-	-	-	-	-	-	-	
Volume Per Year (MBF)	108	711	733	253	0	0	576	494	859	378	

Estimated volume from restoration thinning over the 10 year period – 3,700 MBF

APPENDIX 8: LIST OF BIRDS, MAMMALS, AMPHIBIANS, REPTILES, & FISHES

Birds observed at North Kitsap Heritage Park (by TL Doty and RK Bishop). Birds, of course, can fly and so other species may be expected as visitors to NKHP. Contact Kitsap Audubon Society for a complete list of birds of Kitsap County.

Wildlife in North Kitsap Heritage Park

BIRDS

American Crow
American Goldfinch
American Robin
Anna's Hummingbird
Bald Eagle
Barred Owl
Black-capped Chickadee
Black-headed Grosbeak
Cedar Waxwing
Chestnut-backed Chickadee
Common Nighthawk
Common Raven
Cooper's Hawk
Dark-eyed Junco
Downy Woodpecker
Evening Grosbeak
Northern Flicker
Great Blue Heron
Golden-crowned Kinglet
Grouse
Hairy Woodpecker
Hammond's Flycatcher
Hooded Merganser
House Finch
Mallard
MacGillivray's Warbler
Mew Gull
Mourning Dove
Olive-sided Flycatcher
Osprey
Pacific-slope flycatcher
Pacific Wren
Pileated Woodpecker
Purple Finch
Red-breasted Nuthatch
Red-breasted Sapsucker
Red-tailed Hawk
Red-winged Blackbird
Rufous Hummingbird
Townsend's Warbler
Turkey Vulture
Sharp-shinned Hawk
Song Sparrow
Spotted Towhee
Swainson's Thrush
Steller's Jay
Western Tanager
Willow Flycatcher
Wilson's Warbler
Varied Thrush
Yellow-rumped Warbler

MAMMALS

Beaver
Black Bear
Black-tailed Deer
Bobcat
Cougar
Coyote
Eastern Cottontail
Douglas Squirrel
Little Brown Bat
Opossum
Mountain Beaver
Northern Flying Squirrel
Raccoon
Red Fox
Skunk
Snoeshow Hare

AMPHIBIANS

Bull Frog
Northern Red-legged Frog
Pacific Tree Frog
Northwest Salamander *Ambystoma gracile*
Long-toed Salamander
Ambystoma macrodactylum
Rough-skinned Newt *Taricha granulosa*
Ensatina *Ensatina eschscholtzii*
Western Red-backed Salamander

Plethodon vehiculum
Western Toad
REPTILES
Garter Snake
Northern Alligator Lizard

FISHES
Cutthroat Trout *Salmo clarki clarki*
Chum Salmon O*ncorhyncus keta*
Coho Salmon *Oncorhyncus kisutch*
Steelhead *Oncorhyncus mykiss*
Western Brook Lamprey *Lampetra ayresi*

Revised by Ron Vanbianchi, June 19, 2012
Updated CV, July 21, 2014
Updated CV, November 18, 2014
Bird list reviewed by Judy Willot, 3,2015
Fish list added by Jay Zishcke, June, 2015

The following is a list of observed list of native plant species (trees, shrubs and herbs) at NKHP:

Native plants in North Kitsap Heritage Park

TREES

Big leaf maple *acer macrophyllum*
Bitter cherry *prunus emarginata*
Black cottonwood *populus trichocarpa*
Cascara *rhamnus purshiana*
Douglas fir *pseudotsuga menziesii*
Grand fir *abies grandis*
Madrone *arbutus menziesii*
Pacific dogwood *cornus nuttallii*
Pacific willow *salix lasiandra*
Paper birch *Betula papyrifera*
Red alder *alnus rubra*
Scouler willow *salix scouleriana*
Sitka spruce *picea sitchensis*
Sitka willow *salix sitchensis*
Vine maple *acer circinatum*
Western hemlock *tsuga heterophylla*
Western red cedar *thuja plicata*
Western white pine *pinus monticola*
willow *Salix* sp.

SHRUBS

Blackcap *rubus leucodermis*
Buckbrush *Ceanothus velutinus*
Evergreen huckleberry *vaccinium ovatum*
Hardhack *spiraea douglasii*
Ocean Spray *holodiscus discolor*
Oregon boxwood *pachistima myrsinites*
Oregon grape *berberis nervosa*
Osoberry *oemleria cerasiformis*
Red huckleberry *vaccinium parviflorum*
Red currant *rubus sanguineum*
red elderberry *sambucus racemosa*
Salal *gaultheria shallon*
Salmonberry *rubus spectabilis*
Swamp gooseberry *ribes lacustre*
Tall Oregon grape *berberis aquifolium*
Thimbleberry *rubus parviflorus*
Trailing blackberry *rubus ursinus*
Twinberry *lonicera involucrata*

HERBS

Baldhip rose *rosa gymnocarpa*
Bleeding hearts *dicentra formosa*
Bracken *pteridium aquilinum*
Candyflower *montia sibirica*
Deer fern *blechnum spicant*
Dewey's sedge *carex deweyana*
Chickweed *stellaria media*
Common bedstraw *Galium aparine*
Common horsetail *equisetum arvense*
Common vetch *Vicia sativa* var. *angustifolia*
Goldenrod *solidago canadensis*
False miterwort *tiarella trifoliata*
False solomon's seal *smilacina racemosa*
Fireweed *epilobium angustifolium*
Fringe cups *tellima grandiflora*
Foxglove *digitalis purpurea*
Giant horsetail Equisetum telmateia
Enchanter's nightshade *circaea alpina*
Hedge nettle *stachys cooleyae*
Lady fern *athyrium filix-femina*
Large avens *geum macrophyllum*
Leafy mitrewort *mitella caulescens*
Licorice fern *polypodium vulgare*
Merten's sedge *carex mertensiana*
mugwort *Artemisia sp.*
Orange honeysuckle *lonicera ciliosa*
orchard grass *Dactylis glomerata*
Pearly everlasting *anaphalis margaritacea*
Self-heal *prunella vulgaris*
Spotted coral root *corallorhiza maculata*
Skunk cabbage *lysichitum americanum*
slough sedge *Carex obnupta*
Starflower *trientalis latifolia*
Soft rush *juncus effusus*
Small bedstraw *galium trifidum var. pacificum*
Stinging nettle *urtica dioica*
Sweet cicely *osmorhiza chilensis*
Sword fern *polystichum munitum*
Thistle (native) *?name?*
Tall buttercup *Ranunculus acris*
Trillium *trillium ovatum*
Twinflower *linnaea borealis*

Yarrow *achillea millefolium*
Yellow violet *viola glabella*
Youth-on-age *tolmiea menziesii*
Wall lettuce *lactuca muralis*
Small-flowered nemophila *Nemophila parviflora*
Wild ginger *asarum caudatum*
Wild lily of the valley *maianthemum dilatatum*
Wood fern *dryopteris austriaca*
Wood rush *luzula campestri*

<u>Invasive plants & their approximate locations</u>
Ajuga (MB Rd entry pond)
Bull thistle (Spine Line)
Canada thistle (near barn @ entry)
Creeping buttercup (Spine Line & Boundary)
Daisy (Spine Line)
Dandelion (Spine Line & Boundary)
English ivy (Boundary)
Hawthorn (Spine Line & Boundary)
Himalayan blackberry (Spine Line & Boundary)
Holly (all over)
Laurel (off trail)
Reed canary grass (Spine Line)
Scotch broom (Boundary, Power Line, Spine Line & Bay Ridge)
Stinky Bob (Spine Line)
Tansy ragwort (Boundary)
Yellow iris (MB Rd entry pond)
Nightshade (Boundary trail near post 13)

Fire Risk Reduction Strategies for NKHP

The objective of fire risk mitigation in the park is to reduce the potential for a crown fire. Because we cannot control the weather or change the topography of the park we are left with control and distribution of fire fuels as our only viable option for reducing the intensity of a fire. If successful, this strategy would not prevent fire, which is a natural part of the environment, but reduce the fire's intensity by limiting it to a ground fire or surface fire. Reducing the potential for a fire to occur and creating a defensible space are other options that are compatible with long range goals and objectives for this park.

Ground fires: least damaging and limited to duff with no visible flames (smoldering)
Surface fires: produce a flame front and can be destructive
Crown fires: most destructive with flames spreading from tree crown to tree crown

Recognition of the role of fire in maintaining natural ecosystems1

Historical records show that wildfires have been a part of the natural environment for many centuries before the arrival of Europeans. A single fire that occurred on the Olympic Peninsula circa 1700, burned from near the Elwha southerly to the Hood Canal as far south as Belfair. Wildfires create new forests and contribute to the diversity of plants and habitats.

Integrating Fire Management with Ecosystem Management

In addition to increasing plant and habitat diversity, employing Variable Density Thinning (thinning from below) reduces the potential for a crown fire by increasing the spacing between tree crowns. Thinning from below canopy retains larger more vigorous and fire resistant trees and raises the base of tree crowns reducing ladder fuels.

"The common denominator is fuel (**2**)

- Reduce surface fuels.
- Increase the height to the base of tree crowns.
- Increase spacing between tree crowns.
- Keep larger trees of more fire-resistant species.
- Promote more fire-resistant forests at the landscape level by reducing fuels both vertically and horizontally."

Following these principles accomplishes three goals:

1. Reduces the intensity of a fire, making it easier for firefighters to suppress.

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1 Fire Management for the 21st Century, James K Agee. Creating a Forestry for the 21st Century Kohm/Franklin

2 PNW 618 A Pacific Northwest Extension Publication
Oregon State University, University of Idaho, Washington State University

2. Increases the odds that the forest will survive a fire. Small trees, shrubs, and other understory vegetation may be injured or killed, but larger trees in the stand will only be scorched, and soil damage also will be reduced.
3. Reduces the extent of restoration activities needed, such as replanting or erosion control measures.

Specifics:

1. Access.

   Maintain portions of Bay Ridge, Boundary, Spine Line and Power Line Trails as access for firefighting personnel and equipment.

2. Fuel Reduction Zones

   Reduce fuel loading along trails by chipping or scattering.
   Control Scotch broom along existing service forest roads and the power line right-of-way.

3. Shaded Fuel Breaks

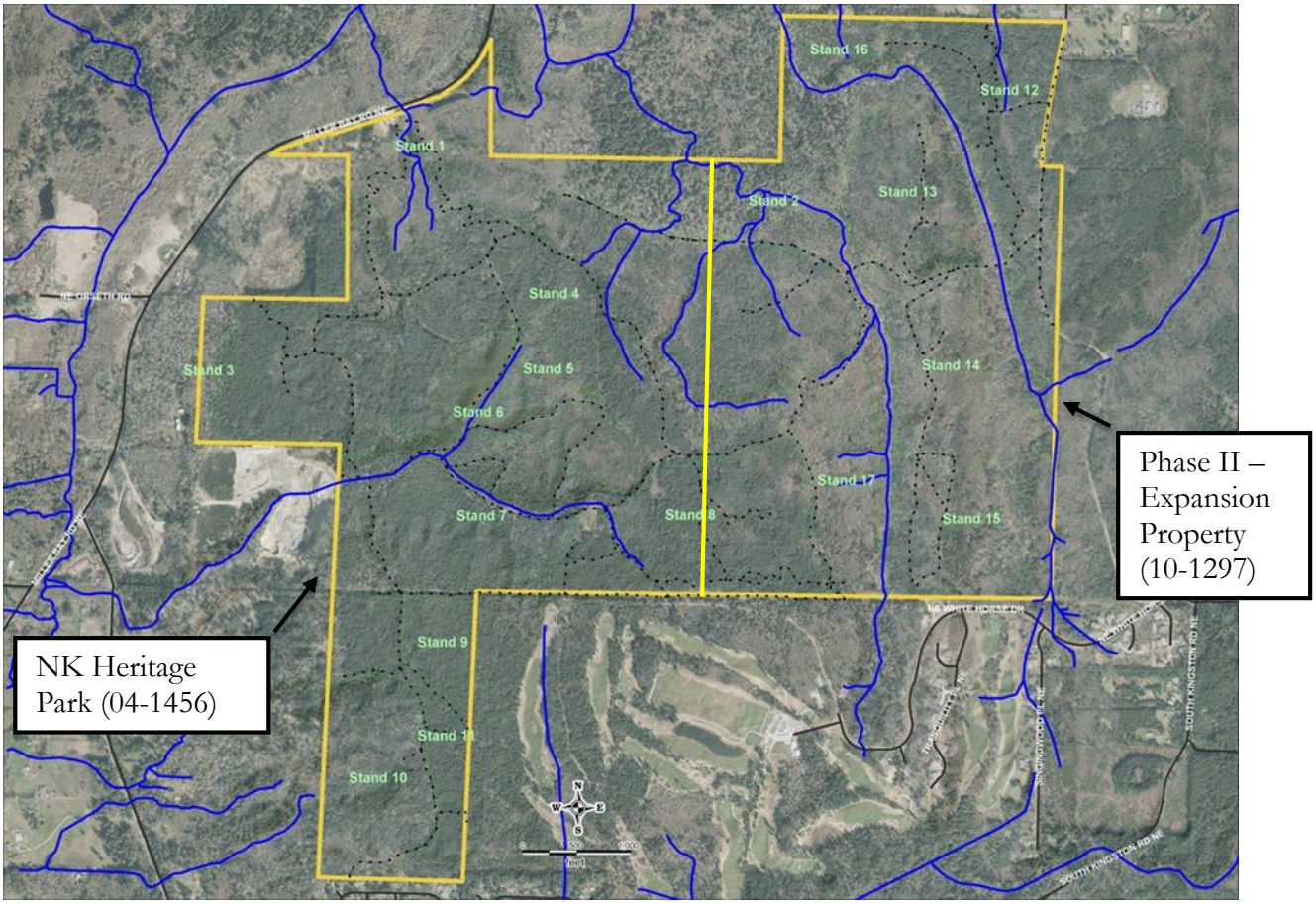
   Take advantage of topography and enhance moist areas by removing dead wood and ladder fuels while leaving groundcover to increase moisture retention reducing the potential for a fire.

4. Mineral Soil Firebreaks

   Maintain a minimum of 30 foot crown separation across existing forest roads, (See RMAPS supplement) and reduce fuels (noxious weeds and dead wood).

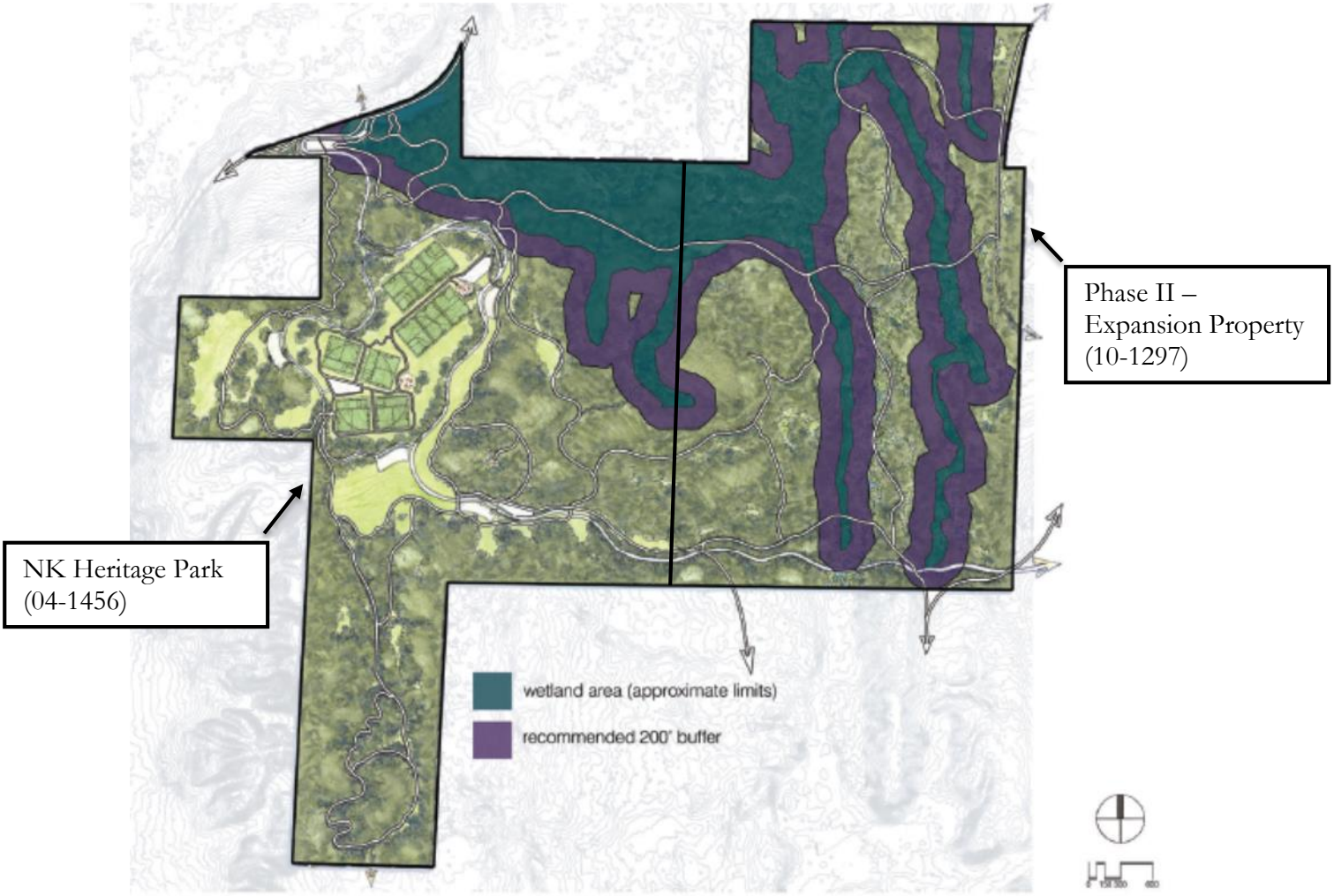
APPENDIX 11: NKHP TRAIL MAP

APPENDIX 12: STREAMS AND WETLANDS



NORTH KITSAP HERITAGE PARK STREAMS. (SOURCE: KITSAP COUNTY, 2015.)

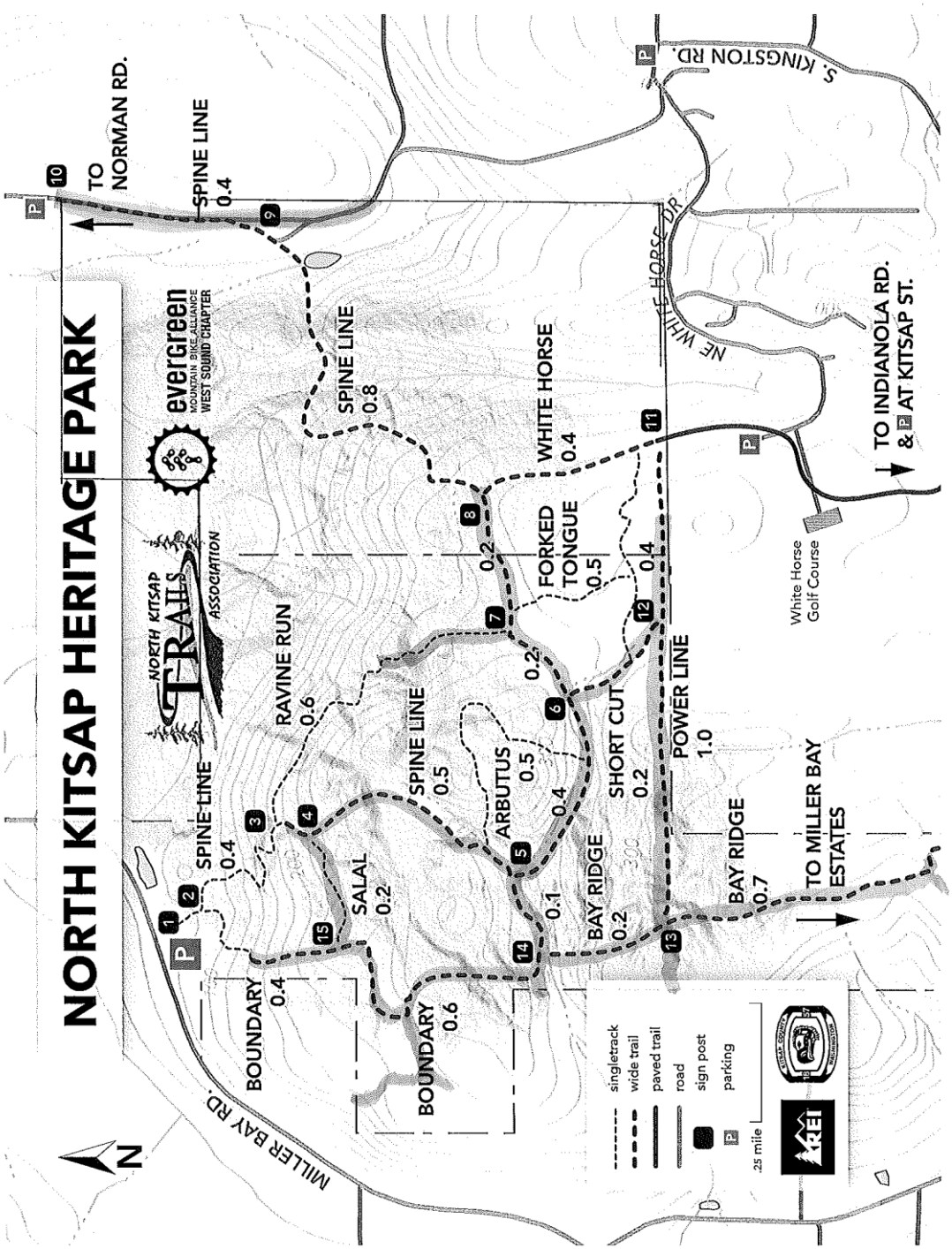
PRELIMINARY MAP OF WETLANDS IN NORTH KITSAP HERITAGE PARK. Wetland boundaries are approximate, wetlands less than 1 acre are not shown, and the buffers do not represent those described in this stewardship plan.



(SOURCE: NORTH KITSAP HERITAGE PARK MASTER PLAN, THE BERGER PARTNERSHIP, 2006.)

APPENDIX 13: NKHP FOREST ROAD PLAN

The highlighted Forest Roads are roads that will be used as haul roads during the tree thinning operation.



APPENDIX 14 – MASTER SCHEDULE

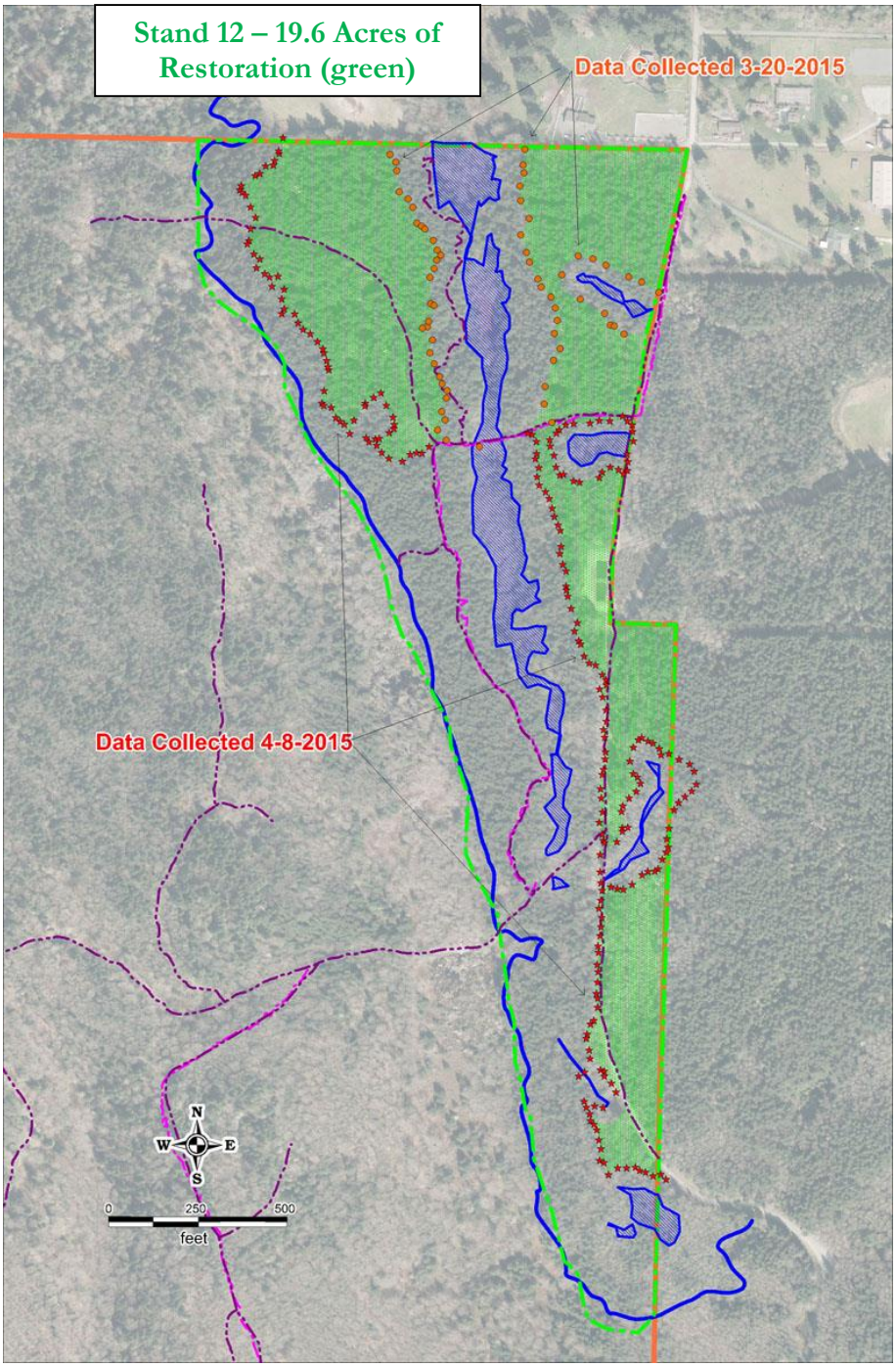
The Master Schedule was created by the NKHP Stewards and includes certain items from the County's schedule. Note: the schedule is sorted by End Date.

No.	Start Date	Stop Date	Task	Complete
1	12/10/2014	12/10/2014	NKHP Expansion acquisition closes	**Yes**
2	1/15/2015	1/15/2015	Place restoration thinning literature at NKHP entry points	**Yes**
3	1/28/2015	1/28/2015	Meeting - Present Forest Stewardship Plan to park Stewards	**Yes**
4	11/25/2014	2/1/2015	Map streams with Lucretia Winkler	**Yes**
5	2/24/2015	2/24/2015	Annual Stewardship Meeting	**Yes**
6	2/26/2015	2/26/2015	Meeting - General public to present NKHP Stewardship Plan	**Yes**
7	2/1/2015	2/28/2015	Deliniate Unit 12 riparian and wetland zones	**Yes**
8	3/1/2015	3/1/2015	Road Maintenance and Abandonment Plan (RMAP) application submitted	**?**
9	3/1/2015	3/1/2015	Forest Practices Application (FPA) & RMAP Checklist submitted to DNR	**?**
10	3/1/2015	3/1/2015	Submit State Environmental Policy Act (SEPA) Form	**?**
11	3/17/2015	3/17/2015	Pre-Application Informational Conference team site visit for Forest Practices Application (FPA)	**Yes**
12	3/21/2015	3/21/2015	Plant shade tolerant trees in Unit 4 Alder stand	**Yes**
13	3/29/2015	3/29/2015	Submit Final Forest Stewardship Plan to County for Review	**Yes**
14	4/1/2015	4/1/2015	FPA Notice of Decision issued by DNR	**?**
15	2/28/2015	4/12/2015	Mark No Harvest Buffers in Unit 12	
16	4/28/2015	4/28/2015	County Commissioners Review and Approve NKHP Forest Stewardship Plan	
17	4/2/2015	5/31/2015	Mark trees to be removed from Unit 12	
18	5/1/2015	7/31/2015	Harvest contract finalized, restoration thinning scheduled to begin on Unit 12	
19	8/1/2015	8/1/2015	Post thinning road and site clean up as necessary	
20	1/1/2015	12/15/2015	Invasive/Noxious weed control	
21	9/1/2015	1/15/2016	Compile monitoring results and update Forest Stewardship Plan	
22	1/1/2016	6/1/2016	Develop parking lot design for Norman Road access	
23	3/1/2015	4/15/2020	Replace culverts to restore stream function and facilitate Coho passage	

APPENDIX 15:

MAPPING UNIT 12 – NORTHEASTERN CORNER - PHASE II/EXPANSION PROPERTY

-Green: areas to be thinned.
-Blue: Wetland and Riparian Zones
-Unshaded: Buffers/no thinning areas.



APPENDIX 16: GLOSSARY OF TERMS

Acre - A land area of 43,560 square feet. An acre can be any shape. If square, it would measure approximately 209 feet per side. 640 acres = one square mile.
Anadromous Fish - Fish (salmon) that migrate up rivers from the sea to spawn
BFW - Bank Full Width. A measurement between the stream banks, the total length of the stream bank.
Biomass - Biological material from living, or recently living plants or plant-based materials
Buffer(s) - A protective strip of land or timber adjacent to an area requiring attention or protection; for example, a protective strip of un-harvested timber along a stream.
Commercial Forestry or Logging – Forestry practice design to maximize timber production and profitability.
Culvert - A tunnel transporting water under a forest road
Crown - The upper portion of a tree that has live branches and foliage.
Crown Stratification - Creating three or more crown canopy layers, leading to a diverse habitat for various mammals, amphibians, and birds.
DBH - Diameter Breast Height. A tree's diameter measured at four and half feet from the ground surface.
Delineation - Wetland and riparian delineation establishes the existence (location) and physical limits (size) of a wetland or riparian area. The no harvest buffers are measured from the delineation line.
Diversity - The variety and abundance of life forms, processes, functions, and structures of plants, animals, and other living organisms, including the relative complexity of species, communities, gene pools, and ecosystems at spatial scales that range from local through regional to global.
DNR or WDNR– Department of Natural Resources is a Washington State agency that manages and oversees harvesting of timber from private and public land through the Forest Practices Application Review System (FPARS).
DOE - Department of Ecology
Forestry - The profession embracing the science, art, and practice of creating, managing, using, and conserving forests and associated resources for human benefit and in a sustainable manner to meet desired goals, needs, and values.
Forest road(s) – Forest roads are identified by DNR in the Forest Practices Application Review System. The Forest Road Maintenance and Abandonment Plan (RMAP) will be used to manage the forest road system in the park. Some forest roads will be suitable for pedestrian and motorized vehicles such as emergency vehicles, maintenance vehicles, logging trucks.
FPA – Forest Practices Act, promulgated by the WDNR. Forest Practices are activities related to growing, harvesting, or processing timber, including, but not limited to, road and trail construction and maintenance, thinning, harvesting, salvage, reforestation, brush control, suppression of diseases and insects, and using fertilizers
FPARS - Forest Practices Application Review System administered by DNR.
Gap - A random quarter to two acre clearing created to mimic forest stand reestablishment. It can include forest road right of ways and landings.

Hazard Tree - Tree that poses a safety risk to persons or property
Hectare - Metric for 10,000 square meters. One hectare = 2.47105 acres.
ICO – Individual, Clumps and Openings Variable density thinning approach designed to mimic natural disturbance. I = individual tree; C = clumps of two or more trees; O = Openings are created to let more light reach the forest floor. See VDT.
Mapping Unit(s) also referred to a "Unit" or "Stand"– NKHP is divided into 17 sections that were based on the year that Pope and Talbot's planted trees. Mapping Units are shown in Appendix 1 and are used to plan yearly VDT.
MBF - One thousand board feet with a Board Foot = one foot by one foot by one inch.
Monoculture - A stand of a single tree species, generally even aged. After harvesting timber from the area that is now NKHP, Pope and Talbot replanted with Douglas Fir in a tight pattern so as to exclude other species.
NKHP or Park- North Kitsap Heritage Park
NKHPSG – North Kitsap Heritage Park Stewardship Group
OPG - Olympic Property Group
ORM - Olympic Resources Management
Perched Culverts - Culverts that have outflows above stream height.
Replacement trees - The trees that seed in naturally after a disturbance (harvest, fire, disease)
Restoration Thinning – Is a commercial thinning process of taking out small trees and leaving larger trees to achieve a tree density that is suitable for animal habitat and promotes a healthy forest, also known as Variable Density Thinning (VDT) or Individual, Clumps and Openings (ICO).
Riparian – Related to wetlands adjacent to rivers or streams.
RMZs - Riparian Management Zones is the area of land adjacent to streams, rivers, lakes and ponds which provide important fish and wildlife habitat and water quality.
RMAP - Forest Road Maintenance and Abandonment Plan is a requirement of the Washington Department of Natural Resources that must be approved prior to restoration thinning.
Forest Road Prism - The area of the ground containing the forest road surface cut slope and fill slope.
Road, Forest Road, Service Forest Roads or Haul Forest Road – Forest roads that were constructed to be used for heavy vehicles, such a log trucks Forest roads are described in Section 8 Park Forest Roads and in Appendix 13.
Root Rot - A disease affecting the roots of fir trees. This disease is also referred to as laminated root rot.
Silviculture - Science-based methods used to manipulate forest to achieve both ecological and landowner goals.
Site Index – Site Index is an indication of forest health based on a forest site productive capacity, in terms of height, of the dominant trees species in 100 years. The average site index helps to determine the influence of soil-related growth conditions on tree productivity for a particular site
Skip – In restoration thinning, a skip is an area of forest land that is skipped in thinning process and left "untouched" which is designed to mimic areas missed by fire, wind, and disease.
Snag - A dead standing tree.

Stem Exclusion - Forest development stage where trees are so crowded that only the vigorous individual trees thrive. It is sometimes referred to as natural thinning.

Stewards - Individuals responsible for continued sustainability and volunteer service in a park.

Thinning - A silvicultural treatment designed to reduce the stand density of trees; primarily to improve growth, enhance forest health, or recover potential mortality.

TPA - Trees Per Acre

Trails – Trails are suitable for pedestrians and non-motorized vehicles. The system of trails in the park is identified in the North Kitsap Heritage Park Trails Map. Some trails have also designated forest roads set forth in Appendix 11.

Type F Stream – Streams, lakes, and ponds that are used by fish, amphibians, wildlife and for drinking water.

Type Np Stream – Streams that flow year-round either on the surface of the stream bed or sometimes below the surface for some distance.

Type Ns Stream – Streams that do not flow year-round either on surface of stream bed or sometimes below the surface for some distance.

Understory Trees - Tree seedlings and saplings growing beneath the taller tree canopy.

VDT- Variable Density Thinning. See restoration thinning.

Watershed - The topographical area where water is separated and flows into various rivers, lakes, or Puget Sound.

Water Bars - Small hump built into the forest road surface that runs the width of the forest road at an angle sufficient to drain water to either a ditch or the forest floor.

Water Topping - Where water is flowing over the forest road.

WDFW - Washington Department of Fish and Wildlife

Wetland(s) – Lands consisting of marshes, swamps or saturated land.

Wetland Management Zone(s) or WMZ(s) – Wetland Management Zone is an area adjacent to Type A or B wetlands where specific measures are taken to protect the water quality and quantity, and fish and wildlife habitat.

WSU- Washington State University

APPENDIX 17: SUMMARY OF PUBLIC COMMENTS

A public information meeting was held on February 26, 2015 where the NKHP Stewards presented the slide show on the benefits forest thinning to the forest and habitat. A questionnaire was pasted out to the attendees and their comments are summarized below.

25 people signed in with an estimate of 30 to 35 people in attendance.
9 asked for the presentation or the link to the plan or both (I sent Kate e-mails & she sent those out.)

Reasons people said they came:
They use the park, 2
They wanted to learn more about & better understand proposed plan & logging, 8
They live adjacent to stand 12, am a neighbor of the park, 2
Curiosity 1
To support stewardship group 1
Kitsap County Parks Forest Board member 1

<u>18 feedback forms:</u>
NO: 2
~ People first
~ Mankind knows no better than mother nature
~ Park used by many residents & user experience will be diminished for extended period of time
~ Need for strong mitigation & monitoring to allow NKHPSG to veto process
~ Need for fire management

YES, conditionally: 3
~ Will improve forest health
~ Better for wildlife & people to thin overcrowded forest
~ Impact on visitor experience, possibly for many years
~ Must be well managed to protect short & long term park quality
~ Must be done with contractual controls to ensure work is done per the NKHP plan
~ Should make first stand a test section, then decide if to proceed

YES: 13
~ I want to do restoration in my neighborhood also (not near park)
~ Thinning will improve forest, bring it back to natural conditions
~ Best way to ensure long term success of habitat
~ This will be an improvement & has been carefully thought through
~ I support goal of increasing diversity & increasing species found in the park
~ Forest needs renovation & health maintenance
~ Better wildlife habitat
~ Forest health essential for long term funding of forest program
~ Healthy & diverse forest important for continued enjoyment of park
~ Forest needs to be thinned selectively to bring light to forest floor, increase plant & animal diversity, decrease disease & fire hazards.

YES concerns:

~ *Thinning must be done properly and not overwhelm volunteer resources*

~ *Slash should not be left on forest floor to increase fire fuel*

~ *What is forest fire plan for the park?*

APPENDIX 18: NORTH KITSAP HERITAGE PARK AND PHASE II/EXPANSION PROPERTY DEEDS OF RIGHT

Upon Recording, Please Return To:
Washington State Recreation and Conservation Office
PO Box 40917
Olympia, WA 98504-0917
Attn: Karl Jacobs

DEED OF RIGHT TO USE LAND FOR CONSERVATION AND SALMON RECOVERY PURPOSES

Grantor:	Kitsap County
Grantee:	STATE OF WASHINGTON, acting by and through the RECREATION AND CONSERVATION FUNDING BOARD AND SALMON RECOVERY FUNDING BOARD and the WASHINGTON STATE RECREATION AND CONSERVATION OFFICE, including any successor agencies.
Abbreviated Legal Description:	NE NE & SE NE, 03 26N 02E and Portion of N1/2 SE, S1/2 SE and S1/2 SW, 34 27N 02E (More particularly described in Exhibit "A" (Legal Description) and as depicted in Exhibit "B" (Property Map)),

Assessor's Property Tax Parcel Number(s): 032602-1-002-2007, 032602-1-001-2008, 032602-1-006-2003, 342702-4-002-2003 and 342702-4-005-2000

Reference Numbers of Documents Assigned or Released: _____

The Grantor enters this Deed for and in consideration of monies coming in whole or in part from the Habitat Conservation and Salmon Recovery Funding Board Accounts. Such grant is made

pursuant to the Project Agreement entered into between the Grantor and the Grantee entitled N. Kitsap Heritage Park, Phase II Acq. (Grover Cr.), Project Number 10-1297A signed by the Grantor on the 31st day of May, 2011 and by the Recreation and Conservation Office the 21st day of June, 2011 and supporting materials which are on file with the Grantor and the Grantee in connection with the Project Agreement.

The Grantor hereby conveys and grants to the Grantee as the representative of the people of the State, the right to enforce the following duties:

1. The Grantor shall take such reasonable and feasible measures as are necessary to protect the Real Property as described in Exhibit A: Legal Description, in perpetuity. Such measures shall be consistent with the purposes in the Project Agreement, including protecting, preserving, restoring and/or enhancing the habitat functions on the Real Property, which includes wetlands, streams, and mature forest habitat. This habitat supports or may support priority species or groups of species including but not limited to five species of salmon, great blue heron, wood duck, osprey, pileated woodpecker, bald eagle, and band-tailed pigeon.

2. The Grantor shall allow public access to the Property as provided in the Project Agreement. Such access shall be subject to the restrictions allowed under the Project Agreement, by written agreement with the Grantee, or under state law. This provision is not intended to prevent reasonable access or use restrictions that are necessary for safe and effective management of the property consistent with the Conservation and Salmon Recovery purposes and Project Agreement.

3. The Grantor shall allow access by the Grantee to inspect the Real Property for compliance with the terms of this Deed and the applicable Project Agreement to which the Grantor is a signatory. Such access shall be subject to the restrictions, if any, allowed under the Project Agreement, by written agreement with the Grantee, or under state law. The Grantor warrants it has and shall maintain the legal right and means to reach the Property.

4. Without prior written consent by the Grantee or its successors, through an amendment to the Project Agreement or the process set forth below, the Grantor shall not use or allow any use of the Real Property (including any part of it) that is inconsistent with the Conservation and Salmon Recovery purposes herein granted and as stated in the Project Agreement. The Grantor shall also not grant or suffer the creation of any property interest that is inconsistent with the Conservation and Salmon Recovery purposes herein granted and as stated in the Project Agreement.

   Grantee's consent to an inconsistent use or property interest under this Deed shall be granted only to the extent permitted by law and upon the following three conditions, which ensure the substitution of other eligible land. The conditions are: (1) the

substitute Conservation and Salmon Recovery land must be of reasonably equivalent usefulness, location, character and quality for the conservation and salmon recovery purposes as the Real Property prior to any inconsistent use; (2) the substitute Conservation and Salmon Recovery land must be of at least equal fair market value to the Real Property at the time of Grantee's consent to the inconsistent use; and (3) the fair market value of the Real Property at the time of the Grantee's consent to the inconsistent use shall not take into consideration any encumbrances imposed on or alterations made to that land as a result of the original state grant and other grants if such encumbrances or alterations reduce the value of the Real Property from what it would be without them.

For purposes of this Deed, the Project Agreement includes any amendments thereto that occurred prior to or may occur subsequent to the execution of this Deed.

This Deed contains covenants running with the land and shall be binding upon the Grantor, its successors and assigns, and upon any person acquiring the Property, or any portion thereof, or any interest therein, including a leasehold interest, whether by operation of law or otherwise. If the Grantor sells all or any portion of its interest, the new owner of the Property or any portion thereof (including, without limitation, any owner who acquires its interest by foreclosure, trustee's sale or otherwise) shall be subject to applicable covenants and requirements under the Deed.

This Deed may not be removed or altered from the Real Property unless specific approval has been granted by the Washington State Conservation Office and/or the Washington State Salmon Recovery Funding Board and/or the Recreation and Conservation Funding Board or their successors.

The Washington State Recreation and Conservation Office and the Washington State Salmon Recovery Funding Board and the Washington State Recreation and Conservation Funding Board and/or their successors shall each have a separate and independent right to enforce the terms of this Deed.

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SRL

GRANTOR:

KITSAP COUNTY

By: Charlotte Garrido

Name: CHARLOTTE GARRIDO

Title: CHAIR, BOARD OF COMMISSIONERS

Dated this 26 day of NOVEMBER, 2014

STATE OF WASHINGTON)
) ss
COUNTY OF KITSAP)

I certify that I know or have satisfactory evidence that Charlotte Garrido is the person who appeared before me, and said person acknowledged that (he/she) signed this instrument, on oath stated that (he/she) was authorized to execute the instrument and acknowledge it as the designee for the Sponsor, Kitsap County and to be the free and voluntary act of such party for the uses and purposes mentioned in the instrument.

Dated: 11/26/14

Signed: Sally K Coppinger

Notary Public in and for the State of Washington,

residing in Port Orchard.

My commission expires 9-26-17.

SALLY K. COPPINGER NOTARY PUBLIC STATE OF WASHINGTON COMMISSION EXPIRES 9-26-17

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STL

GRANTEE:

STATE OF WASHINGTON, acting by and through THE WASHINGTON STATE RECREATION AND CONSERVATION FUNDING BOARD, THE WASHINGTON STATE SALMON RECOVERY FUNDING BOARD, administered by the WASHINGTON STATE RECREATION AND CONSERVATION OFFICE

By: Scott T. Robinson

Name: Scott T. Robinson

Title: Deputy Director

Dated this 21st day of November, 2014

STATE OF WASHINGTON)
) ss
COUNTY OF Thurston)

I certify that I know or have satisfactory evidence that Scott T. Robinson is the person who appeared before me, and said person acknowledged that (he/she) signed this instrument, on oath stated that (he/she) was authorized to execute the instrument and acknowledge it as the Deputy Director for the Recreation and Conservation Office and to be the free and voluntary act of such party for the uses and purposes mentioned in the instrument.

Dated: November 21, 2014

Signed: Leslie ann Frank

Notary Public in and for the State of Washington,

residing in Thurston County.

My commission expires 7-9-17.

LESLIE ANN FRANK
COMMISSION EXPIRES
NOTARY PUBLIC
07-09-17
STATE OF WASHINGTON

STR

EXHIBIT A
Legal Description

PARCEL "A"

PARCEL I:

THE NORTHEAST QUARTER OF THE NORTHEAST QUARTER OF SECTION 3, TOWNSHIP 26 NORTH, RANGE 2 EAST, W.M., IN KITSAP COUNTY, WASHINGTON;

PARCEL II:

THE SOUTHEAST QUARTER OF THE NORTHEAST QUARTER OF SECTION 3, TOWNSHIP 26 NORTH, RANGE 2 EAST, W.M., IN KITSAP COUNTY, WASHINGTON;

PARCEL III:

THE WEST HALF OF THE NORTHEAST QUARTER OF SECTION 3, TOWNSHIP 26 NORTH, RANGE 2 EAST, W.M., IN KITSAP COUNTY, WASHINGTON;

ALSO THE EAST 571.71 FEET OF THE NORTHWEST QUARTER OF SAID SECTION;

PARCEL IV:

THE NORTHWEST QUARTER OF THE SOUTHEAST QUARTER OF SECTION 34, TOWNSHIP 27 NORTH, RANGE 2 EAST, W.M., IN KITSAP COUNTY, WASHINGTON ;

PARCEL V:

THE SOUTH HALF OF THE SOUTHEAST QUARTER OF SECTION 34, TOWNSHIP 27 NORTH, RANGE 2 EAST, W.M., IN KITSAP COUNTY, WASHINGTON; ALSO, THE EAST 571.71 FEET OF THE SOUTH HALF OF THE SOUTHWEST QUARTER OF SAID SECTION; ALSO, THE NORTHEAST QUARTER OF THE SOUTHEAST QUARTER OF SAID SECTION; EXCEPT THAT PORTION THEREOF DESCRIBED AS FOLLOWS:

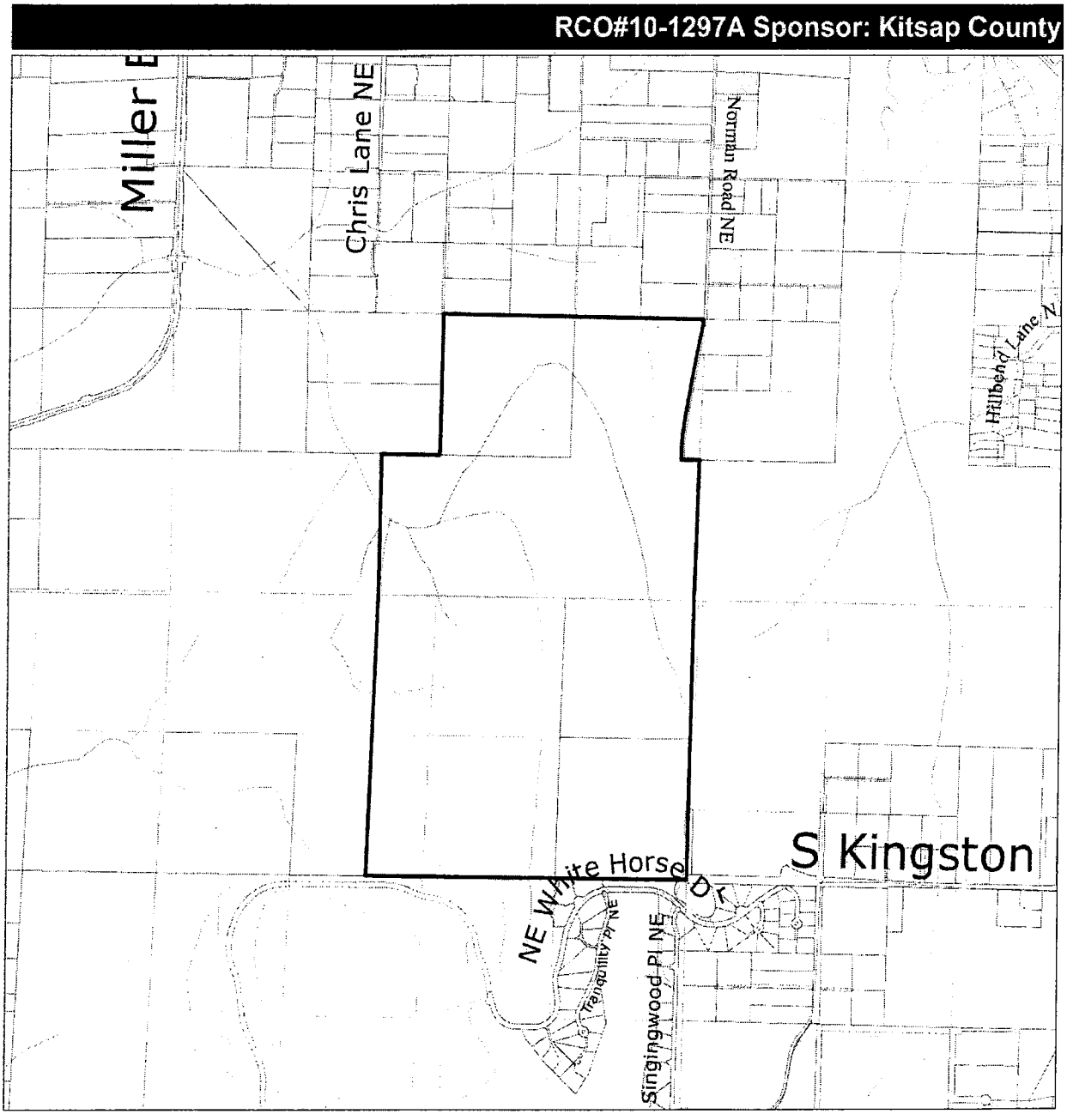
BEGINNING AT THE EAST QUARTER CORNER OF SAID SECTION;
THENCE SOUTH 2°04'43" WEST ALONG THE EASTERLY LIMITS THEREOF, A DISTANCE OF 107.86 FEET TO THE TRUE POINT OF BEGINNING;
THENCE PARALLEL WITH AND APPROXIMATELY 15 FEET EASTERLY OF THE CENTERLINE OF THE AS-BUILT EXTENSION OF NORMAN ROAD SOUTH 12°15' WEST, A DISTANCE OF 207.69 FEET;
THENCE SOUTH 11°50' WEST, A DISTANCE OF 70 FEET;
THENCE SOUTH 11°10' WEST, A DISTANCE OF 162 FEET;
THENCE SOUTH 10°40' WEST, A DISTANCE OF 157 FEET;

THENCE SOUTH 11°30' WEST, A DISTANCE OF 54 FEET;
THENCE SOUTH 9°40' WEST, A DISTANCE OF 63 FEET;
THENCE SOUTH 10°10' WEST, A DISTANCE OF 50 FEET;
THENCE SOUTH 9°40' WEST, A DISTANCE OF 170 FEET;
THENCE SOUTH 7°30' WEST, A DISTANCE OF 68 FEET;
THENCE SOUTH 4°30' WEST, A DISTANCE OF 73 FEET;
THENCE SOUTH 1°30' WEST, A DISTANCE OF 89 FEET;
THENCE SOUTH 2°00' WEST, A DISTANCE OF 75.70 FEET, MORE OR LESS, TO A POINT ON THE SOUTHERLY LIMITS OF SAID NORTHEAST QUARTER;
THENCE DEPARTING FROM SAID PARALLEL LINE SOUTH 88°52'30" EAST ALONG SAID SOUTHERLY SUBDIVISION LIMITS, A DISTANCE OF 154.16 FEET TO THE SOUTHEAST CORNER OF SAID SUBDIVISION;
THENCE NORTH ALONG THE EASTERLY LIMITS THEREOF, A DISTANCE OF 1225 FEET, MORE OR LESS, TO THE TRUE POINT OF BEGINNING;

SITUATE IN THE COUNTY OF KITSAP, STATE OF WASHINGTON.

SL

EXHIBIT B
Property Map



STL