



Lopez Hill Preserve



Management and Stewardship Plan

October, 2010

Adopted by the Land Bank Commission:

Approved by the County Council:

Stewardship Goal

The Land Bank's stewardship goal for its Lopez Hill Preserve is to maintain the property's outstanding ecological and aesthetic qualities while providing opportunities for low-impact educational, scientific, and public access.

Lopez Hill Preserve

Stewardship and Management Plan

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I. Introduction

Lopez Hill is the largest undeveloped parcel of land on Lopez, comprising 399 acres of forest, rock outcroppings and wetlands. Located just east of the center of the island, Lopez Hill is often referred to as the ‘Heart of Lopez.’ San Juan County acquired a fifty year lease to the property in 2009 through the Washington State Trust Land Transfer program, which conveys state Department of Natural Resources lands to local control. While Lopez Hill is managed by the Land Bank, it is unusual in that it is still owned in fee by the DNR. Islanders use the property as a quiet retreat and a place to recreate. In addition to recreation, Lopez Hill offers scenic qualities and outstanding wildlife habitat.

This stewardship and management plan intends to provide guidelines for both the long-term vision and the daily operations during the lease period. The plan first discusses the Friends of Lopez Hill and its historic and environmental background. Next, resource protection and public access are considered in light of objectives, stewardship tasks, and monitoring protocols.

Objectives describe the long-term vision for each of the topics. **Stewardship tasks** outline specific actions that lead toward the attainment of those objectives. **Monitoring protocols** provide the methods to measure progress along that path. A financial analysis provides estimates of stewardship costs for annual monitoring, upkeep, and site enhancements for Lopez Hill. Other appendices to this plan include a map, a summary of use restrictions, and references.

This management plan is written at a moment in time, and change is the only certainty in our world. Therefore, stewardship must be an adaptive process, responding to environmental and social changes while keeping habitat and resource protection as its overarching goals. Monitoring will reveal possibilities for improvement which may lead to plan updates or revisions.

II. Friends of Lopez Hill

The Friends of Lopez Hill (FOLH) is a group of volunteers organized to protect the 400 acres of Lopez Hill, and to preserve and keep it in public ownership and use for present and future generations. The FOLH began work in 2005 when the DNR considered trading Lopez Hill to a private developer. Through many hours of public relations, this group increased awareness of the unique features of the Hill, and worked with local and state legislators to keep it in the public domain. Their efforts came to fruition when the DNR signed a fifty year lease with San Juan County which was paid for by Washington State’s Trust Land Transfer program.

The lease specifies that San Juan County will use Lopez Hill for fish and wildlife habitat, open space and recreation. Other uses may be allowed, but must be approved by the state and compatible with the specified uses. Resources must be protected, both from human activities and

noxious pests. The lease also allows for the option to purchase the remainder of the fee interest, which would be the difference between the appraised value of the land less the lease value. Since this appraised value must be at least equal to the original appraisal (\$6.1 million), and the value of the lease will decrease over time, the cost to San Juan County for Lopez Hill would continue to increase. At the time the lease was signed, the amount the county would have paid for ownership of Lopez Hill was approximately \$1.1 million.

The Friends of Lopez Hill continue their work. In addition to constructing and maintaining more than four miles of trails, they have published a trail map, available on their website, and will be working to make county ownership of Lopez Hill a reality. The steering committee meets regularly with Land Bank staff to contribute physical work, management expertise, and an intimate knowledge of every nook and cranny on the Hill. A Memorandum of Understanding will be crafted between the FOLH and the Land Bank to delineate responsibilities and decision-making processes which will benefit each organization.

III. Historical and Ecological Background

Lopez Hill was originally designated as part of Washington's School Trust Lands. Trust Land properties were meant to provide a steady stream of income for the state's schools through the sale of timber and land. In the early 1900s, approximately 240 acres of the original section (640 acres) of land were sold to homesteaders, leaving about 400 acres in one contiguous parcel. Lopez Hill is the center of a larger forest ecosystem, and other than logging there has been less human impact than on the rest of the island.

At one time a frame house and log structure were built just over the southern property line, possibly as the result of a surveying error. The remains of a small corral and rail fencing point to the possibility of grazing on or around Lopez Hill. Judging from the combination of square and wire nails, the house was probably constructed in the 1940's. Its builder is unknown.

The DNR recorded only three major timber sales on Lopez Hill, in 1955, 1979, and 1992. Detailed records are unavailable for the first timber sale, but logging during that period usually removed only the most valuable timber, a process called "high grading." Imperfect and smaller Douglas firs (*Pseudotsuga menziesii*) and other tree species typically found in San Juan County were left intact to produce what is now a mature forest. The two later sales were confined to the northeast corner, where winter storms had toppled many shallow-rooted trees.

There is a high diversity of tree species found on Lopez Hill, which does not equal high timber productivity. The shallow, rocky soils are not conducive to rapid growth. Slow tree growth, public sentiment against logging, and the transportation difficulties inherent to islands have

recently convinced the DNR to refrain from further logging on Lopez. Remnants of previous logging practices on Lopez Hill include skid roads, logging platforms, drainage channels, and the introduction of non-native plants in limited areas.

The same shallow soils and bedrock outcroppings that slow tree growth combine with pocket wetlands to create a wide variety of habitats utilized by terrestrial, amphibian, and avian species. Lopez Hill is the core of the largest block of contiguous forest on the island, encompassing more than a thousand acres. This relatively large undisturbed area may function as a biological reservoir for uncommon species. In a county increasingly fragmented by roads and human settlement, such habitat is a local priority for conservation. Douglas fir is the predominant tree species. Other species including hemlock (*Tsuga heterophylla*), Western red cedar (*Thuja plicata*), madrona (*Arbutus menziesii*), alder (*Alnus rubra*), shore pine (*Pinus contorta*), yew (*Taxus brevifolia*), big-leaf maple (*Acer macrophyllum*), and willows (*Salix spp*) are all evident in a quick walk. Animal species which are less tolerant of people thrive in such large parcels with a lack of human development. At least twenty-one species of birds have been noted, along with several amphibians and many terrestrial species. Columbia black-tailed deer (*Odocoileus hemionus columbianus*) are especially commonplace.

The Washington State Department of Fish and Wildlife maintains a list of habitats and species which are considered to be priorities for conservation and management. The Columbia black-tailed deer and pileated woodpecker (*Dryocopus pileatus*) are the only priority species identified to date on Lopez Hill. Black-tailed deer are listed as a species of recreational, commercial or tribal importance. Pileated woodpeckers are listed as a candidate species within their breeding areas. Their foraging and nest building activities provide shelter and food for several other species. A nesting pair of pileated woodpeckers typically requires from 1200 to 2100 acres of land for their range west of the Cascades.

Several priority habitats listed by Fish and Wildlife are found on Lopez Hill: Freshwater Wetlands, Mature Forests, Snags and Logs, and Herbaceous Balds. Priority habitats are those habitat types with unique or significant value to many fish or wildlife species. The wetlands on the preserve feed several water systems that provide water to neighboring residents, and are relatively undisturbed. Likewise, forest ecosystems which contain mature trees with snags provide habitat to species such as the pileated woodpecker. Vegetation indicative of prairie habitat is found within herbaceous balds, which are relatively rare in forest ecosystems.

IV. Environmental Resources

The Land Bank holds protection of conservation values, including environmental resources, as the overarching goal of its stewardship program. Other attributes, such as aesthetics or scientific value, rely on healthy environmental resources. Lopez Hill enjoys relatively undisturbed habitat which needs protection more than restoration. Protection of environmental resources on Lopez

Hill will focus on forest habitat, wetlands, rocky balds, and species of concern, along with the removal and control of invasive species.

IV.A. Objectives

To maintain the habitats of Lopez Hill in good ecological health.

To promote a greater understanding of the natural systems through education and scientific research.

IV.B. Stewardship Tasks

1. *Protection of Sensitive Species and Priority Habitats*

Stewardship will carefully control human interaction with the environment, through signage, trail routing, and public use and vehicle restrictions to reduce degradation of sensitive habitat such as rocky balds and wetlands.

2. *Protection of Forest Habitat*

The DNR maintains ownership of the trees on Lopez Hill, which limits the possibility of thinning, fuels reduction, creation of snags or other intervention to enrich and protect the forest environment. The possibility of an unplanned event such as wildfire is a safety concern for neighbors, and would affect the aesthetic values of the preserve. The county's lease with the state requires wildfire suppression. For these reasons camping and fires will be prohibited on Lopez Hill, in keeping with county code. Stewards will cooperate with the Lopez Fire Department and work on a plan to prevent the spread of wildfire. There may be restrictions on public access during an extreme fire season.

3. *Protection of Wetlands*

Numerous wetlands direct water in all four directions from Lopez Hill. Trails should be routed away from wetland edges. Existing culverts will be maintained or replaced with natural alternatives, such as streambed rockeries. Trails will be designed and maintained to retain existing hydrology.

4. *Protection of Rocky Balds*

Rocky balds are a habitat that is extremely sensitive to change. Some native prairie species, such as Hooker's onion (*Allium acuminatum*) and camas (*Camassia leichtlinii*) are found on Lopez Hill only within bald patches. These open areas within the forest were likely maintained by periodic fires. Trampling damages the habitat within balds, as

is evident at the top of Lopez Hill. The lack of fires also changes the habitat, as conifers invade and shade out native prairie species.

Trails should be routed to exclude rocky balds. The top of Lopez Hill should be limited to a single trail for foot traffic only, with appropriate hitching posts and bike stands within the forest edge. Management of balds may include active removal of conifers and shrubs. Moss and native vegetation should be retained.

5. *Education and Scientific Research*

Just as an environment changes through the years, so does the knowledge of each place and its processes. Lopez School, in cooperation with Kwiaht, a local nonprofit research organization, has used Lopez Hill as a living laboratory for several years. The Land Bank encourages scientific research and education, and hopes to build upon previous studies. Land Bank biologists are currently assessing the environment of the Hill, characterizing the vegetation community, and cataloging bird and amphibian populations. Additional research will be encouraged with consultation to ensure compatibility with other management objectives. Specific actions may include:

- Cooperation with local schools, government, and nonprofit organizations to further the knowledge of ecosystem health, management and research options
- Reporting of research data to the Land Bank
- Photo monitoring and continued inventories to gauge changes in ecosystem parameters
- Recruitment of local experts for lectures and guided walks
- Interpretive signage.

6. *Invasive Species*

The Washington State Noxious Weed Control Board has designated several plant species found on Lopez Hill as invasive, including Scotch broom (*Cytisus scoparius*), tansy ragwort (*Senecio jacobaea*), Canada and bull thistles (*Cirsium arvense* and *C. vulgare*), reed canarygrass (*Phalaris arundinaceae*), English holly (*Ilex aquifolium*) and Himalayan blackberry (*Rubus armeniacus*). In addition, common teasel (*Dipsacus fullonum*) has been found in increasing numbers. Invasive species compete for space, water, and nutrients with native plants, often displacing them. The Land Bank works actively to reduce the numbers of noxious invasive weeds by:

- regular monitoring and removal by stewards
- recruiting volunteers for weed pulls
- cooperation with the county Noxious Weed Board and other agencies
- the introduction of biological control agents if necessary.

The Land Bank will consider the use of chemical control agents on a case by case basis when other methods show no chance of success.

7. *Restrictions on use*

This document sets out desired outcomes, and certain uses may be restricted or prohibited to achieve those outcomes. The Land Bank relies primarily on signage and personal contact with Land Bank staff and volunteers to educate visitors. Occasional cooperation with the San Juan County Sheriff's department provides a second layer of enforcement. Enforcement of Land Bank rules by the county sheriff's department includes the possibility of citations and fines, as noted in San Juan County Code chapter 12.08. The following use restrictions will be enforced for Lopez Hill:

- No camping
- No fires
- Daytime use only
- No motorized vehicles beyond roadways
- Use only designated trails
- Dogs must be leashed
- No commercial use
- Seasonal trail closures may apply for specific user groups
- No collection of botanical, zoological, geological or other specimens except by permission for scientific or educational purposes
- Hunting only during allowed periods.

IV.C. Monitoring Protocols

Ecological resources, especially high priority habitats and wildlife, will be monitored for change. This will provide timely, useful information to guide stewardship of Lopez Hill. The following methods may be employed:

- Photo monitoring—Permanent sites will be established where photos may be taken over a period of years to visibly gauge change, human impacts and progress toward environmental health
- Herbivory exclosures-- Excluding deer from an area allows stewards to monitor seedling growth rates and vegetation populations, and to gauge browsing damage
- Species inventory— Amphibians can be indicator species for environmental degradation. Cataloging of bird and amphibian species will express changes over time. Higher species diversity is another sign of environmental health
- Timber cruise—The DNR completed a timber cruise as part of the leasing process. This tally of total lumber available can provide an estimate of tree growth rates if repeated over a period of decades. A more complete inventory of trees, snags, and logs would be an improved metric of forest health, and the addition of plant and animal inventories would be better yet. This expensive operation will be considered if Lopez Hill can be purchased in fee.

V. Public Access

As a large, intact piece of public land with relatively few use restrictions under DNR management, Lopez Hill attracted many users. In the early years logging was the primary use, but recently hunters and trail users have been the most prevalent groups to enjoy Lopez Hill.

Hunting has a long history on Lopez Hill. Many hunters have told stories of hunting on Lopez Hill while growing up, and presently are teaching their children to hunt. It is considered a safe place for hunter education, due to a lack of large animal predators and a safe community.

Low impact recreation is included in the Land Bank's mission, but the highest stewardship priority is always maintenance of the environmental resources. Therefore, recreational use of Lopez Hill is granted only insofar as it does not degrade the resource base. The Land Bank reserves the option of discontinuing a recreational use if review proves that use is unmanageable or detrimental to the land's conservation values.

V.A. Objectives

- 1. To provide safe access to Lopez Hill for various user groups which will not endanger its resources.*
- 2. To maintain an appropriate level of use that provides a quality outdoor experience.*

V.B. Stewardship Tasks

1. Friends of Lopez Hill

The Friends of Lopez Hill have worked to gain more local control of Lopez Hill, to promote safe and enjoyable trail use. These volunteers help with maintenance and planning in conjunction with the Land Bank. A Memorandum of Understanding will be written to delineate responsibilities and decision-making processes between these two groups.

2. Level of use

With a small but notable number of exceptions, the Land Bank has allowed only pedestrian use on its preserves with public access. This decision pertains to the scale of impacts and the amount of management required for such uses as biking and hunting.

Groups have used Lopez Hill recreationally for decades. Mountain bicyclists, equestrians,

and hunters are recent examples. Use by these higher impact groups will be considered on Lopez Hill due to the history of use, volunteer work, and the degree of impact to natural resources. Trail users have had small impacts to resources due to their limited numbers spread throughout the year, and also due to trail design and maintenance by this group. Hunters have the possibility of larger impacts due to larger groups in a more concentrated time period.

In general, the following approaches will be followed to manage the level of use:

- Provide signage for education and safety without encouraging overexposure
- Limit facilities to discourage unwanted use and to allocate financial resources to other uses
- Recruit volunteer stewards to monitor use and impacts
- Require Land Bank permission for groups of 15 or more people
- Prohibit commercial use
- Seasonal or localized restrictions may be enforced.

3. *Parking*

Presently a single parking area is available with room for 5 to 8 vehicles. Overflow parking could be available along the side of the entrance road if there is a need. No further parking is presently planned. Parking will be monitored as a sign of usage.

4. *Signage*

To preserve a more natural ambiance, signage will be limited to protect resources, orient visitors, and discourage trespass onto neighboring private property. Due to the large number of trails and the possibility of people losing their way, directional trail signs and maps will be considered. Signs will be limited to:

- Directional signs to the main parking area
- A kiosk close to the parking area for orientation, information, restrictions, a map of the preserve, and education
- Simple trail signs at trail junctions which also show the direction to the parking area
- Maintained boundary signs to discourage trespass
- Interpretive signs.

5. *Trails*

Many trails have been planned, designed, constructed and maintained by the Friends of Lopez Hill. Trails have been open to bikers, hikers, and horseback riders, with some restrictions on equestrian use during wet months. Trails have been designed to limit the speed of bikes, thereby allowing slower and safer interactions. The following guidelines will help to continue safer and pleasurable use by all groups:

- Any future trails will consider safety, impacts on wildlife, resource protection, and the wilderness experience
- Trails will be sited to avoid private property boundaries and sensitive habitats, such as wetlands and rocky balds, incorporating best practices found in the International Mountain Bicycling Association's handbook
- Seasonal or permanent trail closures and re routing will be considered to protect sensitive habitat and trail tread
- Trails for physically disadvantaged groups will be considered in site enhancement plans.

6. *Hunting*

To date, the Land Bank has not allowed any type of hunting on any of its preserves, for reasons of public safety, resource protection, neighbors' concerns, visitor experience, and for management simplicity and consistency. Deer hunting is being considered on Lopez Hill, however, because the size and condition of the property may allow it to occur without compromising other management objectives. Deer hunting also has the potential to provide ecological benefit to the property. Deer hunting on Lopez Hill will be on a trial basis, revocable without notice if there are safety concerns, management issues or any indication that hunting is having undesirable ecological consequences.

Though data is lacking, there is a widespread assumption that deer population size in the San Juan Islands is very high compared to historical conditions, resulting from fewer hunters and the elimination of large predators, coupled with land development and management practices that create excellent habitat for deer. One recent assessment by the state Department of Fish and Wildlife estimated an average of 97 Columbia black-tail deer per square mile on nearby Blakely Island; in general, the state considers the islands to be overpopulated (Mike Davison, personal communication, July 15, 2010). High deer density can be a factor in disease transmission and high parasite loads within the population (Cross, et al. 2009) in addition to ecological impacts including declines in forest plant diversity, songbird diversity and abundance, and insect abundance and density (Allombert et. al., 2005; Martin, T.G. et. al., 2010). The effects of other species, such as turkeys and raccoons, will be monitored to inform future management decisions.

Traditionally, hunters have come from off-island and camped on DNR land during hunting season. Camping is not allowed on Land Bank properties (SJC Ordinance 33-2009) and would be unacceptable on Lopez Hill due to the lack of potable water, bathroom facilities, and the ability to manage such higher-impact use. Fires would pose an unacceptable risk and are likewise prohibited.

Some trail users on the preserve feel constrained during hunting season (generally September through December) and will not use the trails due to safety concerns and the loss of a feeling of “wilderness”. Wearing “hunter orange” clothing to increase visibility during hunting season is appropriate. While there has not been a hunting accident, safety must remain the primary concern of management. Most of the deer hunted on Lopez have been taken during the first half of the hunting season.

Hunting will be allowed on a trial basis with the following conditions:

- No camping
- No fires
- The hunting season on Lopez Hill will include only the first state authorized hunt for archery, modern firearms, and muzzle-loading weapons, generally September through October
- Hunter activities such as cleaning and offal disposal, should take place away from trails, parking areas and wetlands, in areas accessible by birds of prey
- Hunters must comply with state hunting regulations and county hunting restrictions
- Hunters will be encouraged through personal contact to hunt in the northeastern portion of the preserve, away from trails and roads
- Data regarding number of hunters and number, age, and sex of deer taken will be tracked
- Research will be solicited to help assess deer population size on Lopez Hill or related topics of interest, such as impacts to forest or rocky bald vegetation, deer parasite load, or population control techniques
- Signs informing the public of hunting seasons will be posted.

V.C. Monitoring Protocols

Public access will be monitored for safety and resource use. The following guidelines will be used for monitoring and response:

- Volunteers will be recruited to monitor use patterns and to note problems with public access. Examples include parking, trampling, and user conflicts.
- Trails will be assessed as to wear, habitat degradation, and siting issues

- There may be seasonal closures and restrictions placed upon various user groups, depending upon resource conditions and management issues. Examples include closing the top of the Hill to bikes and horses, closing trails that are too wet for horseback or bicycle riding, or restricting hunting to certain areas
- Stewards will work with the local fire department in determining possible access restrictions during periods of extreme fire danger
- The number of hunters and their success rate, and the number of deer taken along with their age, sex, and condition will be tabulated to establish baseline data on deer population health.

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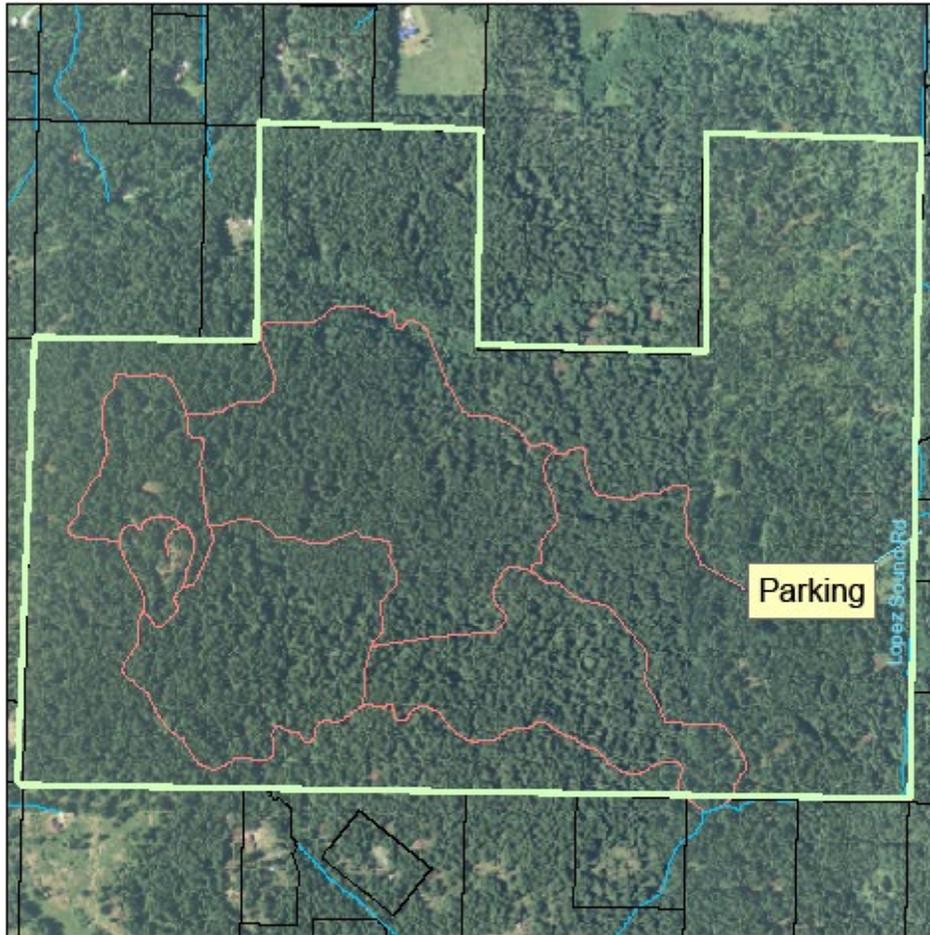
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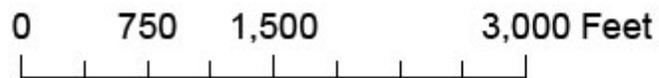
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Lopez Hill Preserve



Legend

-  **Roads**
-  **Trails**
-  **Parcels**
-  **Preserve**



Appendix B: Summary of Use Restrictions

1. No camping
2. No fires
3. Daytime use only
4. No motorized vehicles beyond roadway
5. Use only designated trails
6. Dogs must be leashed
7. No commercial use
8. Seasonal trail closures may apply for specific user groups
9. No collection of botanical, zoological, geological, or other specimens except by permission for scientific or educational purposes
10. Hunting only during allowed periods

Appendix C: Financial Analysis

The following is an analysis of anticipated future stewardship costs for the Lopez Hill Preserve, categorized as annual and five year expenses.

Projected Annual Preserve Maintenance Costs.....\$7000
(Staff time monitoring usage, maintaining trails and road, removing weeds, and volunteer coordination)

Projected Site Enhancements, 2011-2012.....\$4500
Signage-- \$1900
Kiosk-- \$1800
Benches--\$ 800

Projected Site Enhancements, 2012 to 2017\$1800
Parking area

Site Enhancement Total **\$6300**