Evans Creek Natural Area
Site Management Guidelines

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King County Water and Land Resources Division

King County
Department of Natural Resources and Parks
Water and Land Resources Division

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Executive Summary

Evans Creek Natural Area is a King County Department of Natural Resources and Parks Ecological Land managed for the protection of ecological values and where appropriate public access. The Evans Creek Natural Area is approximately 38-acres in size and located in the Bear Creek Basin approximately four miles east of the City of Redmond in unincorporated King County.

Evans Creek flows through the western portion of the natural area for a distance of a quarter of a mile and lies within its 100-year floodplain. The site is predominantly scrub-shrub wetlands with a small forest component. The Evans Creek Natural Area is completely surrounded by private property and the western edge is bordered by 196th Avenue NE. It was donated to King County in December 1986.

The Evans Creek Natural Area contains significant habitat for a variety of fish and wildlife species. Evans Creek is home to chinook salmon as well as substantial populations of coho and sockeye salmon. Chinook salmon are listed as threatened under the federal Endangered Species Act. The Evans Creek Natural Area also provides substantial habitat for a variety of bird species and mammalian wildlife.

Current public use of the Evans Creek Natural Area is minimal due to its relatively limited access, generally undeveloped character and lack of trails. Some informal recreational activities such as nature observation and bird watching occur especially on the edges of the site. As residential development continues in the vicinity of Evans Creek Natural Area public use may increase substantially.

The goals for the Evans Creek Natural Area are 1) to conserve and enhance the ecological value, and 2) accommodate appropriate public uses that do not harm ecological resources. The following are planning and management recommendations that are designed to support these goals.

- Maintain and enhance the site's dynamic floodplain by planting trees and shrubs and controlling noxious, invasive and non-native plant species.

- Seek funding and grants to carry out enhancement projects which maintain and enhance the site's dynamic floodplain.

- Fill data gaps by completing a biological inventory and surveying the site's property boundaries.

- Implement preserve and protect measures to limit inappropriate public use.

- Monitor public use, types of use and impacts to ecological systems to inform management decisions.

Evans Creek Natural Area Site Management Guidelines

Introduction

Evans Creek Natural Area is a King County Department of Natural Resources and Parks (DNRP) Ecological Land. Ecological Lands are a category of Water and Land Resources Division (WLRD) properties managed for the protection of their ecological value. Appropriate public access and interpretive opportunities are accommodated on these sites where they do not harm the ecological value of the site.

This document provides general property and acquisition information, a description of existing site conditions, analysis, management actions, and a list of management objectives and recommendations for Evans Creek Natural Area. These site management guidelines were developed using guidance established in the King County Water and Land Resources Division Ecological Lands Handbook (2003).

Part 1. General Property Information

The Evans Creek Natural Area, also known as Evans Creek Park, is approximately 38-acres in size and located in the Bear Creek Basin approximately four miles east of the City of Redmond in unincorporated King County. Evans Creek runs through the western portion of the site for the distance of a quarter of a mile and lies within its 100-year floodplain (King County, 1990b). Evans Creek provides good habitat for chinook salmon as well as a variety of wildlife species. The site is predominantly scrub-shrub wetlands with a smaller forested component. Evans Creek Natural Area is completely surrounded by private property and the western edge is bordered by 196th Avenue NE.

The Evans Creek Natural Area is zoned RA-5 in accordance with the 2000 King County Comprehensive Plan. The zoning designation refers to rural areas where the predominant lot pattern is five-acres or greater but less than 10-acres in size in an area that is typically environmentally unconstrained. The purpose of the rural zone (RA) is to provide for area wide long-term rural character and to minimize land use conflicts with nearby agricultural and forest production districts or mineral extraction sites.

Land use in the Bear Creek Basin is largely rural in character, most notably in the eastern portion of the basin where it adjoins the agricultural setting of the Snoqualmie Valley. Urban land uses in the form of housing, commercial and industrial activities are primarily concentrated in the southern part of the basin in and around the City of Redmond (King County, 1990a). Since 1990, the population of Redmond and the surrounding region has increased by more than 26% and it is predicted to further increase over the next 20 years (Puget Sound Regional Council, 2001).

Table 1. Evans Creek Natural Area General Information.

Best Available Address	196th NE and NE 60th, Redmond
Thomas Guide Map Location	Page 537
Legal Description	Section 8, Township 25 N, Range 6 E
Acreage	38.17-acres
Drainage Basin	Evans Creek
WRIA	8
Council District	3
King County Sensitive Areas	100-year floodplain, wetlands, erosion, landslide and seismic hazard

Table 2. Evans Creek Natural Area Parcel Information.

Parcel Number	Acreage*	Purchase Date	Ownership type/price	Previous Names	Zoning	Funding Source	Recording Number
0825069016	38.17	12/24/1986	Owned in Fee; Donation	Evans Creek – Welcome; Evans Creek Park	RA-5	Donation	8612240758

*Acreage from King County Assessor's data.

Part 2. Acquisition, Funding Source and Deed Restrictions

The Evans Creek Natural Area, originally named Evans Creek – Welcome was donated to King County in December of 1986. The circumstances behind the donation are unknown. The King County Real Property Division originally managed the grantor's "gift to King County". However, in 1990, the King County Parks Division assumed custodianship of the property from the Real Property Division and it was therefore renamed Evans Creek Park.

King County access is granted under a "60 foot easement for ingress, egress and utilities" along the driveway of the Welcome residence off of 196th Ave NE. According to the easement, King County has "no responsibility to build, improve, maintain or otherwise service the private roads contained within or providing service to the property described in the short plat."

In August 2003, in conjunction with the possible development of the short plats adjacent to the Evans Creek Natural Area, the landowners proposed a change in the existing 60-foot easement. The change would move remove the current easement location beyond the building setback line for the plats and reestablished it about approximately 40 feet west. To date there has been no follow-up no this request.

Although King County does have access via the 60-foot easement, public access restrictions are stated in the statutory warranty deed as:

> "By acceptance of this Deed, the County of King covenants and agrees that public access to the subject property shall not be from the 60 foot road easement shown in King County Short Plat Nos. 679020, 679021, 679022, recorded under Auditors File Nos. 8101120765; 8101060666 and 8101060667 respectively."

Part 3. Ecological Resources

This section describes the natural resources and ecological processes present at Evans Creek Natural Area. This section describes existing conditions; further analysis will be provided in Part 5 below.

Topography and Soils

Evans Creek Natural Area is predominantly flat and lies within Evans Creek's 100-year floodplain. The maximum elevation of the natural area is approximately 100 feet above sea level and the minimum is 75 feet above sea level.

The soil survey, King County Area, Washington indicates that soils within the property boundaries are Seattle muck, Kitsap silt loam and Puget silty clay loam (Snyder et al, 1973). The Seattle muck, on the western portion of the property, is made up of very poorly drained organic soils that formed in material derived primarily from sedges. These soils are in depressions and valleys on the glacial till plains in river and stream valleys. Seattle muck is predominantly level and when well trained can be used for agricultural uses. Kitsap silt loams are moderately well drained soils, on the western portion of the

property, formed in glacial lake deposits usually under a conifer / shrubs cover. The soils are undulating with 15-30% slopes on low terraces of valleys. Puget silty clay loam, located in the central portion of the property, are made up of poorly drained soils that formed in alluvium, under sedges and grass, in small depressions of river valleys.

All soils in the Evans Creek Natural Area are listed as hydric soils. These soils were developed under conditions representative of floodplain landforms and sufficiently wet to support the growth of hydrophytic vegetation. Hydric soils such as those underlying Evans Creek Natural Area are thought to be saturated, flooded or ponded at times of heavy run-off.

The Evans Creek Natural Area is recognized as a seismic and erosion hazard according to the King County Sensitive Area Ordinance, King County Code 21.54 (King County, 1990b).

Bear Creek Basin Hydrology

The Bear Creek Basin is part of the larger Lake Washington/Cedar/Sammamish Watershed (Watershed Resource Inventory Area [WRIA] 8) and covers approximately 32,100 acres (50 square miles), including 30 tributaries in southern Snohomish and northern King County (King County, 2002). Large sections of Bear Creek Basin have undergone development and residential growth in recent years which has fundamentally altered the dynamic flooding processes of the Bear Creek Basin in terms of its in-channel and riparian habitat, sediment load, channel migration and interaction with its floodplain.

The Bear Creek Basin has three main tributaries: Bear Creek, Cottage Lake Creek and Evans Creek. Bear Creek originates in Paradise Valley immediately north of Paradise Lake along the King - Snohomish County line and flows a total of 12.4 miles south to the confluence with the Sammamish River at river mile (R.M.) 12.2 near Redmond (Williams et al, 1975). Cottage Lake Creek originates from Little Lake and Crystal Lake about 1.5 miles north of the Woodinville-Duvall Road and joins Bear Creek at R.M. 4.85 (Williams et al, 1975). Evans Creek, which runs through the Evans Creek Natural Area is 8.2 miles in length and originates from a network of wetlands 5 miles east of Redmond on Union Hill. Evans Creek, which has 15 small tributaries, meets Bear Creek at R.M. 2.

From its source, Evans Creek flows south from forested hillsides through a narrow canyon (from R.M. 7.0 to 5.4) with steep gradients of 200 feet per mile. In the upstream canyon of Evans Creek, cascades, rapids and small falls with boulders, rubble and fallen trees predominate (Williams, 1975). Below R.M. 5 in close proximity to the Evans Creek Natural Area, Evans Creek has a gentle gradient with stream widths between 13 and 20 feet. In this area the creek has good riffle-pool stability with long glide areas and substantial bottom gravels (Williams et al, 1975). The lower 2.5 miles of Evans Creek lies in the open Sammamish Valley as it flows northwest until it joins Bear Creek at R.M. 2 (Williams et al, 1975). Along the length of lower Evans Creek are artificial barriers that confine the creek to reduce instances of flooding. These barriers inherently alter the creeks natural floodplain processes.

Wetlands

The Evans Creek Natural Area contains large portions of two extensive, inventoried, depressional wetlands, which make up a majority of the property (King County, 1990b). These wetlands (15) and (16) are fed by flows from Evans Creek and runoff from the adjacent hillside.

The wetland component of the Evans Creek Natural Area is about 33 acres in size or roughly 88% of the total natural area. A majority of the wetlands are seasonably flooded and dominated by scrub-shrub vegetation with a small forest component. The wetlands in the northern portion of the site exhibit characteristics of a shallow marsh and contain emergent vegetation such as hydrophytic grasses and shrubs. The wetland likely undergoes periodic water-level fluctuations due to the variability of flows in Evans Creek and in response to localized development in the sub-basin. Moreover, since past practices of draining and ditching have subsided and beaver activity has increased, the water level of the wetlands as well as the area of saturation has greatly expanded at the Evans Creek Natural Area.

The wetlands are considered class 2 according to the King County Wetland Classification System (King County, 1991). According to the King County Wetlands Inventory (1991), class 2 wetlands meet the following criteria: greater than one acre in size; equal to or less than one acre and having three or more wetland classes; wetlands equal to or less than one acre that have a forested wetland class; the presence of heron rookeries or raptor nesting trees. A buffer width of 50-feet is required for all class 2 wetlands (KCC21A.24.320). Currently, the King County Critical Areas Ordinance is being revised and may result in stricter wetland protection standards.

Vegetation

The Evans Creek Natural Area is made up of approximately 33 acres of forested and scrub-shrub wetlands and an additional inland forest component of 5 acres. The wetlands are made up of a variety of vegetative components including shrubs, herbs, grasses and sedges distributed relatively evenly over the natural area. Shrubs that occur on site include large concentrations of hardhack (*Spirea douglasii*) and Willow (*Salix spp*.) with lesser amounts of vine maple (*Acer circinatum*), salmonberry (*rubus spectabilis*), and red huckleberry (*Vaccinium parvifolium*). The wetland also includes extensive sedges and grasses including foxtail (*Alopecurus geniculatus*), sedge (*Carex spp*.), common rush (*Juncus oxymeris*), duckweed (*Lemna minor*), reed canary grass (*Phalaris arundinacea*) and bulrush (*Scirpus spp*.). Herbs that occur on site include small amounts of skunk cabbage (*Lysichiton americanum*) and cattail (*Typha latifolia*).

The inland forest component occurs predominantly on the north and eastern sections of the Evans Creek Natural Area where the effects of the flooding are less pronounced and thus the ground is not saturated. Tree species on the site include red alder (*Alnus rubra*), Oregon ash (*Fraxinum latifolia*), Sitka spruce (*picea sitchensis*), western red cedar (*Thuja plicata*), black cottonwood (*Populus trichocarpa*) and Douglas fir (*Psuedosuga menziesii*). Where the site's wetlands have encroached on previously forested areas due to rising water levels, numerous snags in various stages of decay exist.

Noxious, invasive and non-native plant species also infest portions of the Evans Creek Natural Area. These weeds impact and degrade native plant and animal habitat. In the wetland portion of the site purple loosestrife has been identified. The control of purple loosestrife, a class B weed according to the King County Noxious Weed List (2003), is required by law (WAC 16-750). The wetlands of the site also contain large amounts of reed canary grass which is recognized as a noxious weed of concern (King County, 2003). The eastern inland portion of the natural area contains massive infestations of Himalayan blackberry, a non-native and obnoxious weed.

Fish and Wildlife

The Bear Creek Basin sustains the North Lake Washington population of chinook salmon. Chinook salmon (*O. tshawytscha*) are listed as threatened under the federal Endanger Species Act (ESA) and are part of the larger Puget Sound chinook salmon evolutionary significant unit. Bear Creek represents a "core" area for chinook salmon production (King County, 2002). The core area is designated based on the presence of chinook salmon populations on an annual basis and which have high abundance areas for spawning, rearing and migration areas. The chinook salmon stocks in the Bear Creek basin are native with wild production. Several other salmonid species also use Bear Creek for spawning or rearing purposes. These include sockeye (*O. nerka*), coho (*O. kisutch*), steelhead/rainbow (*O. mykiss*) and coastal cutthroat (*O. clarki*).

Evans Creek, which is a sub area of Bear Creek Basin, is considered a "satellite" area for chinook salmon in which chinook are present most years but are less abundant than in core areas (King County, 2002). Evans Creek is home to chinook as well as substantial populations of coho and sockeye salmon. Rutherford Creek, a tributary of Evans Creek, contains one of the largest populations of coho salmon in the entire Bear Creek Basin (King County, 1990a). The Bear Creek and Evans Creek systems also

contain populations of freshwater mussels (*Margaratifer falcata*) which are known by the common name western pearlshell.

The Evans Creek Natural Area's extensive wetland complex provides substantial habitat for a variety of resident and migratory bird species. The site provides habitat for red tailed hawks (Buteo jamaicensis), great blue heron (*Ardrea herodias*) and a variety of waterfowl. The barn swallow (*Hirundo rustica*), song sparrow (*Melospiza melodia*), swainson's thrush (*Catharus gattatus*) and tree swallows (*Iridoprocne bicolor*) have also been observed on-site (King County Department of Parks, Planning and Resources, 1991). The existence of many partially submerged snags indicates habitat for cavity nesting bird species including, tree swallows, woodpeckers and osprey. In the past, bald eagles (*Haliaeetus Leucocephalus*) have nested in the vicinity of the Evans Creek Natural Area and the site does contain potential bald eagle habitat. Bald Eagles are listed as threatened under the federal ESA.

The Evans Creek Natural Area offers significant habitat for a variety of mammalian wildlife, especially those species that thrive in clearings, in and around wetlands or on the forest edge. Blacktail deer (*Odocoileus hemionus columbianus*) and coyote (*Canis latrans*) are abundant at the Evans Creek Natural Area. Bear (*Ursus americanus*), cougar (*Felis concolor*) and bobcat (*Lynx rufus*) may also utilize the site. Beavers (Castor canadensis) are abundant along the shores of Evans Creek and raccoons, river otter, muskrat and mink are likely present. In addition, small mammals such as shrews, mice, voles, squirrels and weasels inhabit the site.

A wide variety of unidentified amphibians and reptiles are believed to inhabit the wetland areas. However, no inventory has been undertaken.

Part 4. Site Use and Infrastructure

This section describes public use, access points, and site infrastructure such as trails and roads at Evans Creek Natural Area.

Public Use

Currently public use of the Evans Creek Natural Area is minimal due to its relatively limited access, generally undeveloped character and lack of trails. The site provides excellent opportunities for the public to engage in informal recreational uses such as nature observation and bird watching, especially from the edges of the natural area. The extent of the wetlands and lack of formalized trails likely discourages the general public from using the interior of the site. Most public use occurs on the edges of the natural area by adjacent landowners or those who live nearby.

Recent survey work on plats for potential residential development on the southeastern edge of the Evans Creek Natural Area is currently ongoing. If increased residential development does occur adjacent to the natural area public use will increase substantially.

Hunting of waterfowl is common on the private lands adjacent to the Evans Creek Natural Area and it may spill over onto the site. Hunting and shooting are not allowed per King County Regulations (KCC 7.12).

Access

Public access to the Evans Creek Natural Area is limited and no official vehicular access or parking area exists. Some visitors may park along the shoulder of 196th Avenue NE where the bridge crosses Evans Creek. However, since a majority of the site's visitors are adjacent landowners and nearby residents, public access is achieved predominantly by walking onto the property.

Access to the Evans Creek Natural Area for King County staff for maintenance and inspection purposes occurs via the easement off of 196th Ave NE.

Trails and Roads

Evans Creek Natural Area offers no formal or informal public trails or roads.

King County Stewardship

The Evans Creek Natural Area's ongoing maintenance and stewardship is provided by the Parks Resource Coordinators and documented in the annual Site Maintenance Plan (SMP). The SMP's document on-site tasks that are to be completed annually for the stewardship and restoration of King County sites. In 2004 the central on-site task is limited to 'park inspections'.

In the summer of 2000 King County Park staff worked on invasive and non-native plant removal at the Evans Creek Natural Area. The plant removal activities focused on purple loosestrife, which were hand pulled from the northern section of the natural area and on adjacent property. Staff also conducted a Beetle release to control the loosestrife.

Part 5. Analysis

This section is intended to integrate site-specific information, public access considerations, and the larger landscape considerations described in the conservation principles section of the King County Ecological Lands Handbook (2003). This section presents the analysis from which site management recommendations will be made.

Information Gaps

In the absence of more complete site information, actions intended to restore parts of the ecosystems present at the Evans Creek Natural Area may inadvertently harm rare and critical species and habitats or negatively affect the ecological processes at site.

Precise information that documents ecological processes, structures and functions at the Evans Creek Natural Area and that ultimately guides management decisions has never been collected for the site. The absence of this pertinent baseline information, including a comprehensive biological inventory and site analysis, creates difficulties in managing the site effectively.

To avoid this, it would be prudent to complete a biological inventory designed to gain a more thorough understanding of the site's ecological resources. This information can be used to evaluate the full spectrum of ecological impacts from the natural disturbances, proposed habitat enhancement projects, public use activities and proposed management recommendations.

Species of Concern

Due to the lack of a comprehensive biological inventory at the Evans Creek Natural Area, the species identified in this document very likely do not account for all species that use the site for one or more stages of their lifecycles.

Documented evidence of one threatened species listed under the federal ESA, chinook salmon, makes habitat preservation and enhancement the central priority at the Evans Creek Natural Area. Activities that have the potential to harm chinook salmon should be undertaken cautiously, if at all. Habitat should be protected and enhanced where necessary and appropriate. The relatively intact wetland component of the Evans Creek Natural Area contributes significantly to the protection of chinook salmon and long-term sustainable management actions must foremost address ecological processes and structure on site. Moreover, there is evidence that bald eagles, which are listed as threatened under the federal ESA, have nested in the vicinity of Evans Creek Natural Area. When possible, potential bald eagle habitat should be protected.

It is important to note that management decisions do not affect all species equally. For example, management strategies that address ecological processes may have negative impacts on the short-term ecological structure, thus affecting certain species.

Ecological Processes

Ecological processes must be maintained for ecosystems and habitats to be sustained. Current conservation theory suggests that where ecological processes are intact, systems are likely to recover – or be recovered – more easily from disturbances or inappropriate actions (if the actions themselves are not permanent). Conversely, the more interference there has been with the basic ecological processes the greater the severity and longevity of the effects (King County 2003). If systems are not functioning properly, management activities should focus on system-wide processes instead of affected elements. Ultimately, management actions that do not consider the processes are less sustainable.

Bearing this concept in mind, management interventions within the Evans Creek Natural Area should strive to maintain and restore basic ecological processes. As a result of residential development and the existence of artificial barriers which confine Evans Creek, floodplain processes and functions have been altered at the Evans Creek Natural Area and within the surrounding landscape. When a river is constrained, its natural processes such as meandering and flooding are curtailed, thus diminishing riparian ecosystem complexity, diversity and function. Essentially, without the dynamic natural ecological processes associated with the natural floodplain conditions, sustainable enhancement will be difficult.

The Evans Creek Natural Area contains limited opportunities to conduct floodplain reconnections and hence target enhancement of ecological processes. Any management interventions and alternatives to conduct floodplain reconnections (i.e. removal of artificial barriers), while certainly beneficial from an ecological perspective would likely impact adjacent roads and properties. It is therefore unlikely that any large-scale floodplain restoration projects would be implemented to enhance the overall ecological processes at the Evans Creek Natural Area. However, several small-scale alternatives should be examined to increase the amount of flow to the floodplain, including strategies to increase natural flood regimes and reconnect historical flows to the riparian areas. These alternatives would likely improve habitat conditions for chinook salmon.

Ecological Structure and Function

Although addressing the ecological processes at the Evans Creek Natural Area would be most beneficial to the site's natural resources, the feasibility of doing so is limited. Therefore, the top management priority should be to enhance the structural component of the Evans Creek Natural Area floodplain.

A structurally diverse and functioning floodplain provides numerous ecological benefits such as shading the river, trapping sediment and detritus in the floodplain, preventing excessive erosion, providing diverse habitat and delivering large woody debris. The Evans Creek Natural Area offers opportunity for restoring the floodplain through native tree and shrub plantings as well as controlling noxious, invasive and non-native plant species.

There are several distinct locations within the Evans Creek Natural Area that would likely benefit from efforts to enhance the ecological structure and function. Tree planting in the riparian area would potentially be beneficial. Here the riparian floodplain lacks the structure and function essential to healthy chinook salmon habitat. Inherent in these tree plantings would be attempts to maintain and enhance structural complexity and plant diversity. In addition, over several years the riparian plantings along the riparian buffer would serve to create a canopy, which would act to control noxious, invasive and non-native plant species and offer a variety of vegetative and physical features for wildlife.

Another enhancement project should be to control noxious, invasive and non-native, plant species. Specifically, the small amount of purple loosestrife and the infestation of Himalayan blackberry on the southeastern portion of the property should be addressed. Without a prudent strategy to control the

blackberry infestation it will continue to spread and impact the site. Priority for the control of noxious, invasive and non-native plant species should be given when control of specific weeds is required (purple loosestrife) and where infestations have the potential to impact sensitive areas (blackberry).

Monitoring

There are two types of monitoring: 1) monitoring of management actions to determine if they are succeeding in their objectives; and 2) monitoring the processes on lands where no management action is taking place to determine if the management action is needed (King County, 2003). Since natural and social systems are uncertain, dynamic and in a constant state of flux, monitoring information is used too adaptively manage the site.

While a long-term monitoring program for the Evans Creek Natural Area would provide an early warning of ecological change on the site, it is not feasible at this time due to the absence of enhancement projects and lack of financial resources. If future projects are initiated or public use increases substantially, an appropriate monitoring framework should be administered. However, King County Department of Natural Resources and Parks staff should monitor public use and ecological impacts to the site as much as possible. Photographic evidence should be kept in order to visualize short and long-term changes.

Public Use

Aquatic and riparian habitats are especially vulnerable to recreational activities (Washington State Department of Fish and Wildlife, 1997). Currently, public use at the Evans Creek Natural Area is minimal due to its lack of access, undeveloped character and lack of trails. The current public use, predominantly by neighboring landowners, occurs on the edges of the natural area and seems to be having no adverse effect on the site's ecological resources. In addition, due to the extent of the wetlands, no formal or informal trails exist on site.

Since the natural area is in the Evans Creek floodplain and dominated by wetlands, too much visitation is definitely undesirable. Any recreational use should be encouraged away from rare and sensitive portions of the site. The riparian and wetland areas of the Evans Creek Natural Area lack the ability to resist changes in environmental conditions and/or lack the resilience to recover from change.

Although the Evans Creek Natural Area exhibits excellent public use opportunities for bird watching and other forms of nature observation, the site's sensitive nature and lack of adequate space for public access reduces the need for site infrastructure improvements. If public use of the site were to be encouraged, extensive project work would be required.

Currently, no signs are present at the Evans Creek Natural Area that identify the site as managed by King County for its ecological resources. A sign would be beneficial here as a public education tool. A sign centrally located along 196th St indicating King County's ownership of the property and the site's importance for regional salmon conservation and as wetland habitat would be beneficial.

At this time no revenue generating opportunities are foreseeable at the Evans Creek Natural Area.

Part 7. Management Goals, Objectives, and Recommendations

The objectives and recommendations in this section are derived from the analysis in the previous section. Office of Rural and Resource Programs staff will revise the recommendations for Evans Creek Natural Area within five years, or more frequently when new information indicates a need for a change in management strategies.

Goals for Evans Creek Natural Area

The goals for all King County Ecological Lands are to:

- conserve and enhance ecological value, and

- accommodate appropriate public use that does not harm the ecological resources on site.

The objectives and recommendations that follow are designed to support these goals when practicable at Evans Creek Natural Area. The corresponding matrix (Table 3) designates the King County Department of Natural Resources and Parks staff involved in implementing the specific recommendations.

Management Objectives and Recommendations

Objective: Maintain and enhance dynamic floodplain

➢ *Recommendation: Plant native trees and shrubs*

King County Department of Natural Resources and Parks staff should consider planting native trees and shrubs on-site to enhance the dynamic floodplain. Staff should initiate opportunities such as volunteer planting events and solicit donations of native tree starts.

The priority area for tree and shrub plantings should be along the riparian buffer of Evans Creek. The plantings would provide numerous ecological benefits to the site in the short and long-term such as helping to shade the river, trapping sediments and reducing erosion, delivering large woody debris and creating a canopy that shades out noxious, invasive and non-native plant species.

King County staff should provide adequate protection for tree and shrub plantings until monitoring suggests that the trees will prosper without such protection measures. All plantings should be monitored often to estimate tree survival and health as well as to assess watering needs, disease, animal damage and competition.

➢ *Recommendation: Control noxious, invasive and non-native plant species*

King County Department of Natural Resources and Parks staff should manage the noxious, invasive and non-native plant species that infest portions of the Evans Creek Natural Area. These efforts will aid in the enhancement of the natural floodplain conditions and in restoring the natural ecological structure to the site.

Priority for the control of noxious, invasive and non-native plant species should be given when control of specific weeds is required and where infestations are impacting sensitive areas.

The removal and control of purple loosestrife and the large infestation of Himalayan blackberry on the southeastern portion of Evans Creek Natural Area should be a priority. Without a prudent enhancement strategy to control the loosestrife and blackberry infestation it will continue to spread and impact the site. Other noxious, invasive and non-native plant species should be controlled as needed or when resources are available.

Various methods of control are possible for unwanted plant species. In some areas, cutting the plants where they are found and using week fabric to cover infested areas is advisable. If necessary, staff should explore and implement alternative methods of control as part of an Integrated Pest Management program.

➢ *Recommendation: Seek funding sources and grants for enhancement projects*

To date, no projects targeted at enhancing or restoring the ecological conditions (i.e. processes, structure and function) of the floodplain have been initiated on the Evans Creek Natural Area. The site's strategic location on Evans Creek and its important contribution to ecological processes and habitat structures for productivity and spawning potential of chinook salmon make enhancing the ecological conditions essential.

To make this possible, King County Department of Natural Resources and Parks should actively seek funding sources and grants for enhancement projects. Inherent in this recommendation is that funding

sources and grants need to be established to cover enhancement expenses. Staff should explore CIP projects, habitat restoration and salmon recovery grants, as well as other available funding to support enhancement projects.

➢ *Recommendation: Acquisition of adjacent properties*

King County Department of Natural Resources and Parks should continue to actively pursue negotiations with landowners to acquire priority properties within this important reach of Evans Creek.

Objective: Fill data gaps

➢ *Recommendation: Complete comprehensive biological inventory*

The absence of complete information limits the scope and accuracy of management decisions. Department of Natural Resources and Parks staff should complete a comprehensive and thorough biological inventory to provide vital baseline information.

➢ *Recommendation: Survey property boundaries*

King County Department of Natural Resources and Parks staff should survey the property boundaries of the Evans Creek Natural Area. Specifically, the southeastern boundary of the natural area should be surveyed to delineate King County access (easement) and mark the boundary in response to the potential residential development that is likely to occur on the adjoining property.

Objective: Allow levels of public use that do not impact ecological resources

➢ *Recommendation: Implement preserve and protect measures*

The Evans Creek Natural Area receives limited public use, predominantly on its edges and from adjacent landowners. Limited low-impact public use is compatible with the site goals provided the ecological resources are not impacted. King County staff should recommend, install and maintain any necessary capital improvements to protect the site from inappropriate uses. This could include bollards, fences, rules signs and boundary markers.

A King County sign would be beneficial as a public education tool at the Evans Creek Natural Area. The sign should be centrally located along 196th St and indicate King County's ownership of the property and the site's importance for regional salmon conservation and as wetland habitat.

➢ *Monitor public use*

King County staff should monitor public use activities at the Evans Creek Natural Area. Noticeable impacts from visitors on the ecological or public use values of the site should be recorded and addressed. This information should be reported annually to the Natural Resource Lands Program for updating and adapting site management guidelines.

Objective: Implement site management guideline recommendations

➢ *Recommendation: site maintenance plan creation*

King County Park staff should prepare a site management plan for the Evans Creek Natural Area that incorporates these site management guideline recommendations. King County Natural Resource Lands staff and the Bear Creek Basin Steward should collaborate on this effort.

- *Recommendation: Coordinate implementation of site management guideline recommendations*

King County Natural Resource Land staff should monitor the recommendations in the site management guidelines and coordinate with the various programs responsible for implementing these recommendations to facilitate their timely accomplishment.

King County Natural Resource Lands staff should coordinate with the Bear Creek Basin Steward and King County Park staff to revise the site management guidelines as needed.

Table 3. Matrix of Evans Creek Natural Area Management Recommendations

Recommendations	Cost	year	Park Resource Staff	Basin Steward	WRIA Project Coord.	CPOSA/ Contract	WEAT	FHRS	NRL staff
Priority One									
Survey property boundaries		2005	X	X		X			X
Implement preserve and protect measures		Ongoing	X						X
Monitor public use		Ongoing	X						X
Site maintenance plan creation		Annual	X	X					X
Priority Two									
Complete comprehensive biological inventory		2006-2007	X	X			X		X
Seek funding sources and grants for enhancement projects		Ongoing	X	X					X
Acquisition of adjacent properties		Ongoing	X	X	X				X
Control noxious, invasive and non-native plant species		Ongoing	X	X					X
Plant native trees and shrubs		Ongoing	X	X		X			X
Coordinate implementation of site management guideline recommendations		X	X						X

References

King County. 2003. King County Ecological Lands Handbook. King County Department of Natural Resources and Parks, Water and Land Resources Division. Seattle, Washington.

King County. 2002. Lake Washington/Cedar/Sammamish Watershed (WRIA 8) Action Agenda. King County Department of Natural Resources and Parks, Water and Land Resources Division. Seattle, Washington.

King County. 2000. King County Comprehensive Plan. Seattle, Washington.

King County. 1991. King County Wetlands Inventory.

King County. 1990a. Bear Creek Basin Plan. King County Surface Water Management Division. Seattle, Washington.

King County. 1990b. Sensitive Areas Map Folio. King County Department of Parks, Planning and Resources. Seattle, Washington.

Puget Sound Regional Council. 2001. King County Annual Growth Report.

Snyder, D. E. et al. 1973. Soil Survey of King County Area, Washington. U.S. Department of Agriculture, Soil Conservation Service. Washington D.C.

Williams, R. W. et al. 1975. A Catalog of Washington Streams and Salmon Utilization. Volume 1, Puget Sound Region. Washington State Department of Fisheries. Olympia, Washington.

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Maier, Mary. 2003-2004. Bear Creek Basin Steward, Land and Water Stewardship Services, King County WLRD.