

Ravensdale Retreat Natural Area
Site Management Guidelines
May 2005

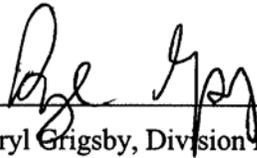


King County

Department of Natural Resources and Parks

Water and Land Resources Division

Ravensdale Retreat Natural Area
Site Management Guidelines
May 2005



Daryl Grigsby, Division Director

King County Water and Land Resources Division



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Ravensdale Retreat Natural Area Site Management Guidelines

Summary

Site Description

Ravensdale Retreat Natural Area is a King County Department of Natural Resources and Parks (DNRP) Ecological Land. Ecological Lands are managed for the protection of their ecological value, with appropriate public access.

Ravensdale Retreat Natural Area consists of eight parcels (145 acres) owned in fee by King County. The Natural Area is located in the Ravensdale area, approximately one mile east of Maple Valley and two miles north of Black Diamond. The Natural Area extends east along Kent-Kangley Road from the junction with SE Ravensdale Way, bounded on its southern side by railroad right-of-way. The Forest Production District boundary crosses this Natural Area and extends to the south and east of the site.

The site is located within the Rock Creek Valley, a 32-square mile area including the Rock Creek and part of the Green River drainages which is the focus of ongoing community planning efforts. This site was acquired by King County in 2002 and 2003 as part of ongoing acquisition efforts along Rock Creek, one of the highest quality and least developed streams in lowland King County. The acquisition preserved more than one mile of Rock Creek and associated upland forests, and prevents development of forested parcels.

Most of the site is upland, supporting coniferous forest that was replanted following harvests during the 1980s. The forest is predominantly Douglas-fir and western hemlock plantation of two different stand ages, however there are interspersed upland areas with higher proportions of deciduous species (such as young alder, or areas dominated by large bigleaf maples) and small meadow patches. Rock Creek flows through the site between River Mile 5.0 and 3.4. Ravensdale Retreat Natural Area also supports a two-acre pond/wetland complex, and other wetlands including wetlands adjacent to Rock Creek's channel. The wetland and riparian parts of the site include tree canopy of western red cedar, black cottonwood, and bigleaf maple, as well as scrub-shrub and emergent vegetation.

Public Use

Ravensdale Retreat Natural Area supports trails that extend the length of the site, between SE Ravensdale Way and Ravensdale Park on the west side, and leading through the site to Kent-Kangley Road on the eastern side. The trails are regularly used for walking and horseback riding. The trails are used by residents as part of the larger network of trails through the Rock Creek Valley area, which include trails on the Danville/Georgetown (Maple Ridge Highlands) Open Space to the west, and trails to Sugarloaf Mountain to the east, as well as the Cedar River regional trail and Cedar River Pipeline Road.

There is parking available at Ravensdale Park, across SE Ravensdale Way from the site. Unmarked trails lead into the site from SE Ravensdale Way. There is no parking allowed at the gated road off of Kent-Kangley Road.

Members of community stakeholder groups Backcountry Horsemen and Friends of Rock Creek Valley are key partners at the site, helping to maintain the trails and to control invasive species.

Management Objectives and Recommendations

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 following are management recommendations that are designed to support these goals. Text follows each recommendation explaining how that recommendation applies at the site.

Objective: Maintain ecological integrity of site

Recommendation: Ensure that management and public access support the regional ecological value of the site

Decisions about site management and public access should consider the hydrologic and habitat value of this site, and should preserve and protect ecological integrity. Public use should be focused on trails through upland forested areas. This overarching recommendation is carried out through the various recommendations below.

Objective: Contain spread of invasive vegetation

Recommendation: Monitor and control invasive vegetation

Park staff should monitor, contain the spread, and where possible to reduce the extent of noxious and invasive plant species that are present at the site. Local residents and trail users remove invasive species on a volunteer basis. Invasive species presence is fairly limited, though the listed noxious weed tansy ragwort was observed along trails/road. Control is primarily through manual removal of plants.

Objective: Allow appropriate level of impact by passive recreation at the site

Recommendation: Monitor public access

The current level of use by foot traffic and horse riders on trails in the upland portions of the site does not appear to be having a negative impact on site resources.

Park staff should note changes in visitor numbers and types of recreational activities and observe any noticeable visitor impacts on the ecological values of the site. These types of observations are also made by local residents and trail users, many part of Friends of Rock Creek Valley or Backcountry Horsemen. This information should be reported to King County Natural Resource Lands Management Staff responsible for updating site management guidelines.

Objective: Maintain public safety and environmental quality at site

Recommendation: Fill excavated holes on trails

Excavated holes on trails in the western part of the property should be filled in by Parks staff. Monitor these trails for use by off-road vehicles after filling in the obstructions to ensure that these vehicles are not using the site.

Recommendation: Address trail impacts on sensitive areas

In the two areas where trails impact sensitive areas (outflow of Spring Pond on parcel -9015 and outflow of wetland on parcel -9025) evaluate the problem and determine best approach to reduce impacts. Evaluation may occur by Parks staff and community members who maintain trails. Project work could be implemented through Park/NRL funds for small capital project work, or with a volunteer component by local community members.

Objective: Protect the site from inappropriate public uses

Recommendation: Control litter/dumping and encroachment activities

Park staff should monitor the site for encroachment and dumping, and respond as necessary to maintain a clean and safe property. Primary areas to monitor are along public roads; also, there are signs of older dump areas along road easement. Local residents, Friends of Rock Creek Valley, and Backcountry Horsemen are key partners in the work to keep a clean property.

Objective: Collect information on site conditions to inform management recommendations

Recommendation: Conduct further site assessment and develop recommendations

As prioritized and funded, conduct ecological assessment of basic ecological conditions and physical processes. Work with Friends of Rock Creek Valley to share information on the property and Rock Creek. Assessment information may be used to develop habitat enhancement recommendations for the site.

Recommendation: Evaluate forest ecosystem health benefits of thinning

An evaluation of forest health should include the perspective of a forest ecologist (WEAT) and of WLRD forestry staff (or designated consultant). Given the ecological goals of site purchase and the funding sources used for purchase, the thinning would be performed primarily to benefit forest ecological health, with any revenue generation from thinned trees as a secondary benefit of the action.

This evaluation will have to occur as prioritized and funded (possibly through WEAT staff time for ecological assessments, or if WLRD forestry staff time is allocated to NRL lands).

Recommendation: Advance stream restoration concept to capital projects group for consideration

NRL staff will bring to the attention of Capital Projects group or other appropriate WLRD staff the stream channel restoration project opportunity. NRL will make recommendation in 2005. Capital Projects (or other appropriate WLRD staff) will need to determine whether to fund and prioritize this project.

Objective: Maintain relationships with stakeholders

Recommendation: Work with stakeholders to gain information and inform management

Work with Friends of Rock Creek Valley to share information on ecological resources and site use. This information may be used to identify new management actions or habitat enhancement priorities. If other stakeholder groups become apparent, work with those groups toward the same end.

Objective: Update Site Management Guidelines

Recommendation: Update SMG within five years or as needed due to new information

NRL should update the SMG within five years to incorporate new information, accomplishments, and to assess management recommendations at the site. This work should involve Park staff, Basin Stewards, local stakeholders, and other DNRP staff that may have been involved at the site (e.g. ecologists, capital projects).

Ravensdale Retreat Natural Area Site Management Guidelines

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Friends of Rock Creek Valley

Backcountry Horsemen – Tahoma Chapter

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Ravensdale Retreat Natural Area

Site Management Guidelines

Introduction

Ravensdale Retreat 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, a chronology of recent events and management actions, and a list of management objectives and recommendations for Ravensdale Retreat Natural Area. These site management guidelines were developed using guidance established in the King County Water and Land Resources Division Ecological Lands Handbook (King County 2003). Discussion and comments received at a November 2004 meeting with members of the Friends of Rock Creek Valley and the Backcountry Horsemen-Tahoma Chapter provided guidance for this plan.

Part 1. General Property Information

Ravensdale Retreat Natural Area consists of 8 parcels (145.10 acres) owned in fee by King County. Ravensdale Retreat Natural Area is located in the rural Rock Creek Valley. The site is located approximately one mile east of Maple Valley and two miles north of Black Diamond. The Natural Area is located on the south side of SE Kent Kangley Road, bounded by SE Ravensdale Way/Black Diamond-Ravensdale Road on the west side, and extending east to 292nd Ave SE on the east side (within 1/3 mile of Retreat-Kanaskat Road). See Figure 1 for a vicinity map and Figure 2 for a site map depicting parcel numbers. Table 1 provides general information about the location of the Natural Area. Table 2 provides specific information for each parcel in the Natural Area.

The majority of the site lies within the Forest Production District (FPD). The two western parcels are zoned for rural residential development, one home per five acres; the six eastern parcels are zoned for forestry. The FPD extends south and east from the site. Parcels directly to the south have been segmented into 20 acres lots, although most parcels to the south are 80 acres or larger. Across Kent-Kangley Road to the north is zoned for rural residential at one home per 10 acres, though most of the vicinity (outside of the FPD) is zoned at one home per five acres.

The Rock Creek Valley is defined by the local community as a 32-square mile area which includes the Rock Creek basin of the Cedar River and extends south to the Green River (FRCV 2004). Community planning work led by the Friends of Rock Creek Valley produced the 'Rock Creek Valley Conservation Plan and Priorities.' "The Plan defines the community's view of resource priorities, and identifies proposed strategies for conserving the most sensitive of these resources." (FRCV 2004, p. 1) This Site Management Guidelines incorporates information from the Conservation Plan.

Local recreation opportunity includes Ravensdale Park, an active recreation site managed by King County Parks and Recreation Department across SE Ravensdale Way from Ravensdale Retreat Natural Area. This park supports baseball and soccer fields, the Gracie Hansen Community Center, parking lots, bathrooms, and other recreation facilities. The privately owned Lake Retreat Church Camp within ½ mile east of Ravensdale Retreat Natural Area also supports many recreation activities for its visitors.

The Friends of Rock Creek Valley have identified several trail complexes within open space areas in the vicinity. (FRCV 2004) The 'Ravensdale Ridge' area is the 2,600 acres of forest directly to the south of Ravensdale Retreat Natural Area owned by Weyerhaeuser and Plum Creek. To the northwest, on the King

County Maple Ridge Highlands Open Space, the ‘Danville-Georgetown’ trail network as mapped by the Friends of Rock Creek Valley contains approximately 25 miles of trails (burlingame pers. comm. 2004) which link to the regional Cedar River Trail and the City of Seattle’s Cedar River Pipeline Road.

Other publicly owned land in the vicinity includes nearly 620 acres owned by the King County Sheriff’s Office located across Kent Kangley Road to the northeast of Ravensdale Retreat Natural Area. Part of this parcel is used primarily as a shooting range but there may be public access to a portion of this site. Although proposals have come forward for conversion of a portion of the site to an Equestrian Center, there have been no clear plans for this activity to date. The Cemetery Reach Natural Area is located within one mile west of the site, primarily acquired for ecological value. King County owns conservation easements on several hundred acres of Plum Creek land extending between Ravensdale Lake and Lake Sawyer Regional Park. This land, called Black Diamond Open Space, is expected to be transferred to King County as part of the Black Diamond UGA Agreement.

Table 1. Ravensdale Retreat Natural Area General Information.

Best Available Address	South side of Kent Kangley Road, between SE Ravensdale Way and 292 nd Ave SE
Thomas Guide Map Location	p. 718, F6, G6, H6
Legal Description	Sections 36, Range 6E, Township 22N, and Sections 31 and 32, Range 7 E, Township 22 N
Acreage	145.10
Drainage Basin	Rock Creek
WRIA	8, Cedar River
Council District	12
King County Sensitive Areas	Stream, coal mine

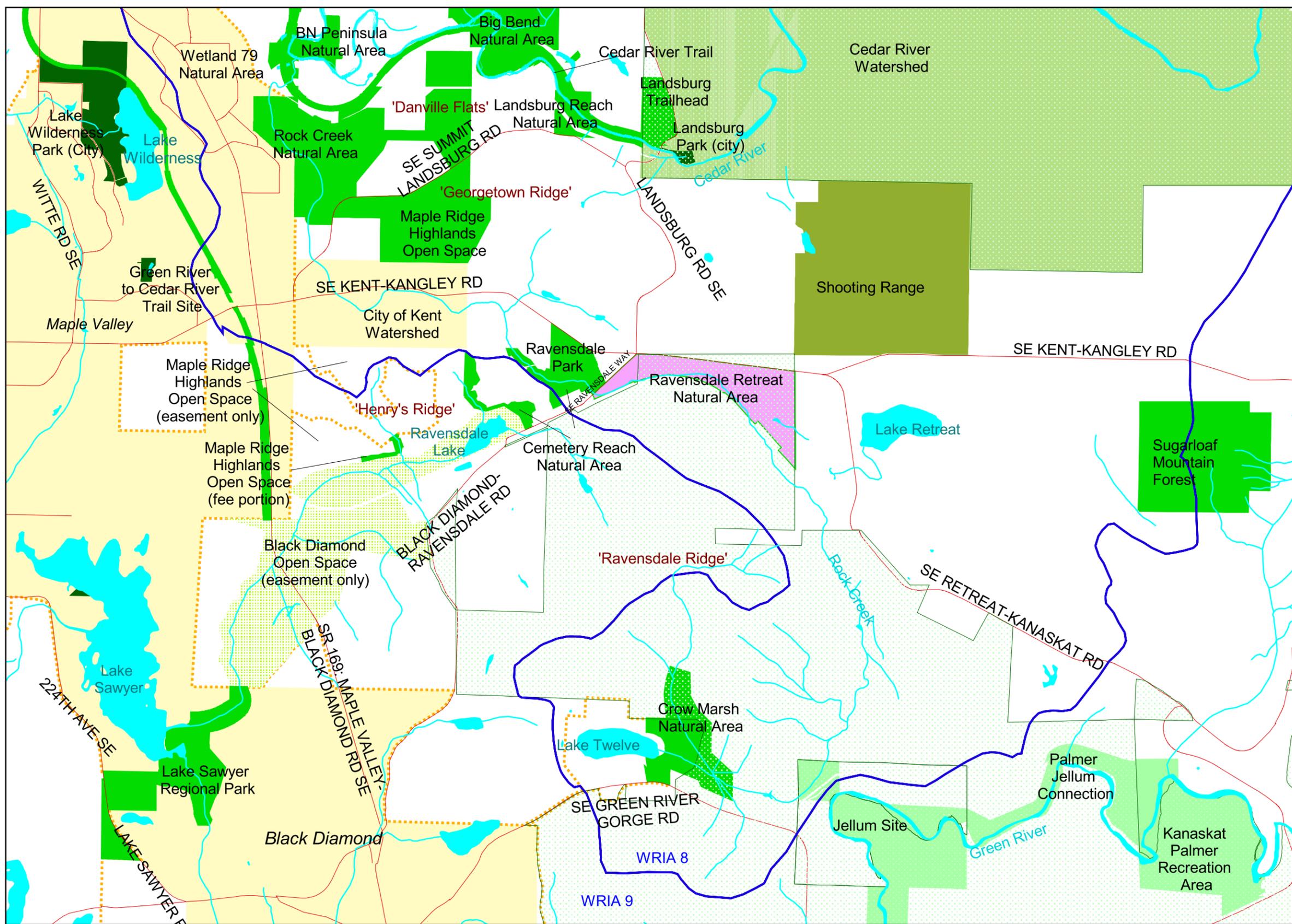
Table 2. Ravensdale Retreat Natural Area Parcel Information.

Parcel Number	Name Used in Document ¹	Acreage ^{2*}	Purchase Date	Ownership type/price	Previous Names	Zoning	Funding Source ³	Recording Number
Phase 1								
312207-9005	Ravensdale-9005	20.53	12/27/02	In fee; \$500,000	Plum Creek	F	REET, NFWF, SWM, CFT	2002122700 1875, re-recorded as 2003012400 2442
312207-9010	Ravensdale-9010	20.96						
312207-9015	Ravensdale-9015	20.54						
312207-9020	Ravensdale-9020	21.08						
312207-9025	Ravensdale-9025	21.08						
Phase 2								
312207-9030	Ravensdale-9030	21.08	6/30/03	In fee; \$300,000	Plum Creek	F	Unrestricted open space, donation, SWM	2003063000 5541
362206-9137	Ravensdale-9137	3.13				RA-5		
362206-9063	Ravensdale-9063	16.70				RA-5		

¹ Parcels are referred to by the site name plus the last four digits of the ten-digit parcel number.

² Acreage from King County Assessor’s data

³ Funding information confirmed by Linda Holecek pers. comm. 4/19/05



Legend

River miles for Rock Creek from Lower Cedar Basin Action Plan (WMC 1998)

Streams, Rivers and Lakes locations are approximate

- Ravensdale Retreat NA
- Selected Public Lands
 - City
 - King County (Parks, Natural Areas, Forests)
 - State
 - KC Shooting Range (no access)
 - Cedar River Watershed (no access)
- Forest Production District
- Rivers and Lakes
- Streams
- Streets
- WRIA
- Municipal Boundaries
- KC Urban Growth Area

January 12, 2005

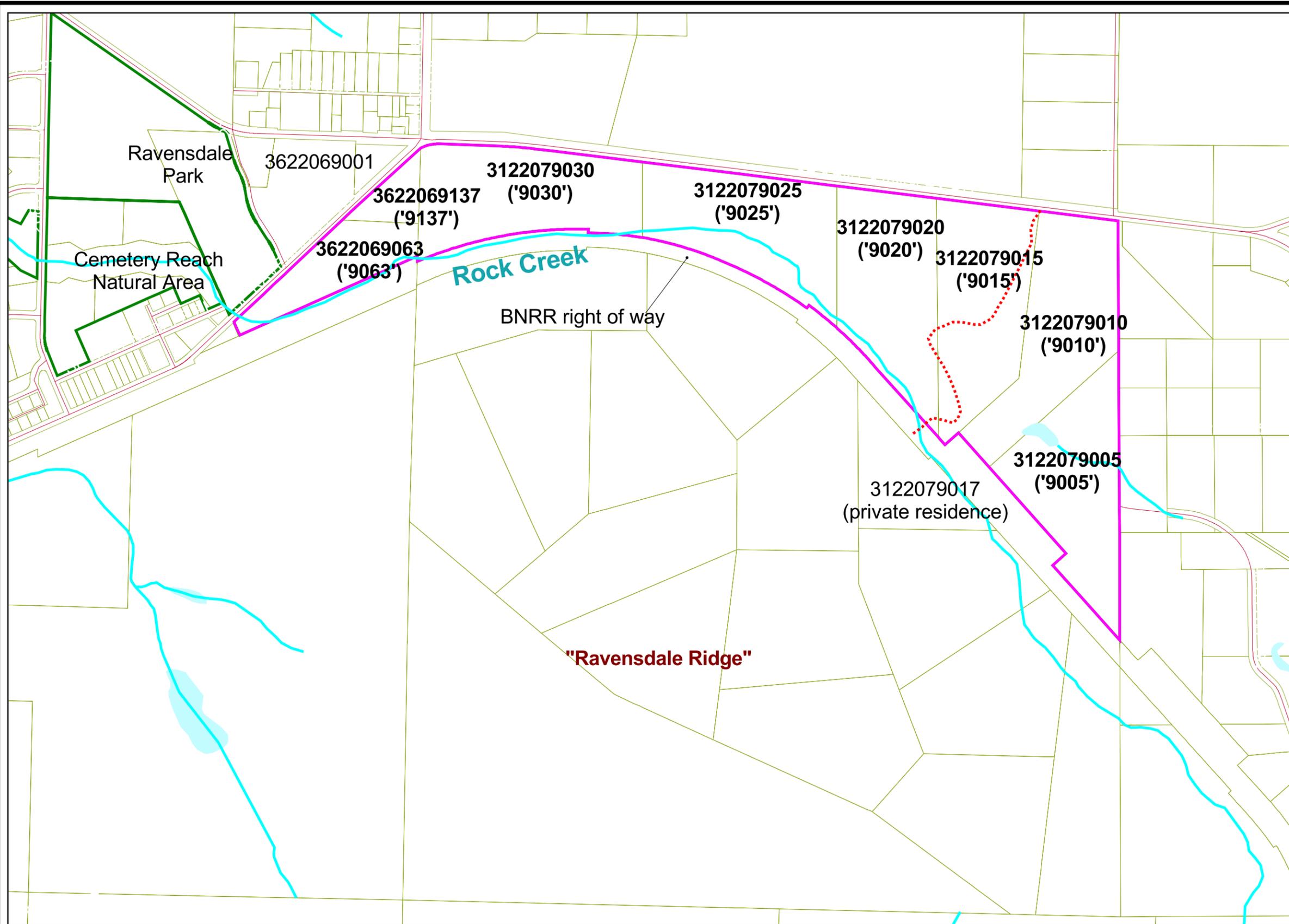
1000 0 1000 2000 3000 4000 5000 6000 Feet

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Figure 1
Ravensdale Retreat Natural Area: Vicinity Map





Legend

Road easement through parcel 9015, drawn from aerial photograph.

Streams and Rivers & Lakes GIS data layers are approximate.

-  Road (under license)
-  Streams
-  Open Water
-  Rivers and Lakes
-  Wetland
-  Ravensdale Retreat Natural Area
-  Parks and Natural Areas
-  KingC
-  King County Tax Parcels
-  Streets



January 12, 2005

500 0 500 1000 Feet

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Figure 2

Ravensdale Retreat Natural Area: Parcel Numbers and Roads/Easement

Part 2. Acquisition History, Funding Source and Deed Restrictions

Due to funding availability, the property was acquired in two phases: approximately 104.21 acres were acquired in Phase 1 (parcels 312207-9005, -9010, -9015, -9020, -9025) and approximately 40.91 acres were acquired in Phase 2 (parcels 312207-9030, 362206-9063, and -9137⁴).

Deed Restrictions and Easements

The Special Warranty Deeds for both the Phase 1 & 2 parcel acquisitions indicate that the properties are subject “to an easement in the public for any public roads heretofore laid out or established and now existing over, along or across any portion of the real estate; and to all additional easements, reservations, restrictions, encumbrances and water rights, if any, of record;...” Exceptions listed on both deeds include the following three bulleted items that may have implications for King County property management, plus the Road Easement and Road Licenses discussed further below:

- Notice of Moratorium on Non-Forestry Use of Land (1/24/01 Recording # 20010124000183). This does not affect County management; it would restrict development of land for six years following harvest
- Memorandum of Lease between Burlington Resources Oil & Gas Company and Duncan Oil Partners (1/13/00 Recording # 20000113000333). This reflects the existence of lease to reserved oil/gas rights, with a term that extends until “completion of production.” (Title Officer’s review of Title Report Item #14)
- Agreement between Plum Creek and Meridian Minerals and Oil Companies (6/3/91 Recording # 9106030593). This indicates right to use the roads of surface owner, presumably reflecting prior sale of subsurface mineral rights.

Road Easements

The Recorded Deeds for both phases contain the following language:

“Subject further to All covenants, conditions, restrictions, reservations and all easements and other servitudes as disclosed by the recorded documents of Boundary Survey recorded under Recording No. 199302099007.”

This survey cited in the quote above depicts two road easements off of a road that extends south from Kent Kangley Road through Parcel -9015 (see road mapped with dashed line in Figure 2 and 3). The survey does not indicate to whom these easements are granted. Title Officer’s Review of Title Report indicates that “The roads represented on the survey do not necessarily conform to the actual location of the roads, which follow existing logging roads.” (King County 2000)

The first easement extending off the centerline of this road is described as follows.

“60 foot easement for ingress, egress and utilities lying either side of the shown centerline through tracts 1 & 2 [i.e. Parcels -9005 and -9010]. Said easement shall commence at the intersection of existing logging road centerline as it physically exists in the field and the southwesterly property line of Tract 2 [parcel -9010] and terminate at the northerly boundary of the right of way of the BNRR. At this terminus an easement crossing permit or other form of permit is required from BNI prior to crossing of the RR.”

⁴ Parcel 362206-9137 was part of parcel 362206-9001 at time of purchase. New parcel number was created for -9137; remaining acreage of 362206-9001 is located west of SE Ravensdale Way.

The second easement is “a 60 foot easement for ingress, egress and utilities over the southeasterly portion of Tract 3 [i.e. Parcel -9015] from the existing 60 foot easement to the northerly right of way of the BNRR to service tax lot 17 [i.e. parcel 312207-9017].”

Road License

Use of the logging road off of Kent-Kangley Road and this latter easement on parcel -9015 by the owners of parcel 312207-9017 is granted in an “unrecorded License for roadway, by and between Burlington Northern, Inc., and [the owners of 312207-9017] dated June 7, 1976.” The Statutory Warranty Deed for the Phase 1 parcels indicates that the parcels are subject to this License, as well as to additional unrecorded permits between Burlington Northern and Pacific Northwest Bell and Puget Sound Power and Light Company. These easements run through parcel -9115 to the privately owned parcel 312207-9017.

The License for Roadway is granted to the owners of parcel -9017 (“Licensee”). The License includes the following terms:

“[Licensees may] enter upon and use the [existing roadway through parcel -9115] for unpaved roadway purposes... Said roadway shall be used exclusively as a means of personal access to Licensees property...

Reserving, however, to Burlington the right at its expense to relocate said roadway subject to the condition that, except for distance and curvature, such relocated roadway provide the same type and quality of unpaved roadway as may be established and maintained by Licensee at the time of any such relocation.

The foregoing license and permission is granted...subject to the following terms and conditions:

1. Licensee, at licensee’s expense, shall:

(a) Provide all necessary maintenance, drainage, water barriers, and provide such other measures as in the judgment of Burlington may be required to prevent and control erosion;

(b) Control all brush and other growth on said right of way which could constitute a fire hazard and dispose of slash and other refuse in a manner and at such times as will not endanger the adjoining timber or land and in accordance with the applicable laws.

2. In the event Burlington has permitted or hereafter shall permit other persons to use the roadway, Burlington agrees to require such persons to bear their proportionate share of the cost of maintaining the roadway...and Licensee agrees to bear Licensee’s portion of said cost...”

The license may terminate as follows: “Any purported assignment of this agreement by operation of law or otherwise shall terminate this agreement. This agreement shall also terminate: (1) if Licensee shall not use the roadway for a period of one year; (2) upon written request of Licensee addressed to Burlington; or (3) for failure of Licensee to comply with any of the terms or conditions of this agreement.”

This license will expire upon transfer of ownership of the privately owned parcel, at which time King County will need to establish a new agreement with new parcel owners regarding their access through the Natural Area (Roland pers. comm. 2004).

Funding Sources

Phase 1 properties were purchased with \$200,000 of REET, \$116,600 of National Fish and Wildlife Federation funds, \$28,661 of surface water management funding⁵, and \$19,429 of Conservation Futures

⁵ These surface water management funds were called ESA funds. ESA funds are a type of King County Surface Water Management funding used in the Cedar River, and is not associated with restrictions on property management (Holecck, L. pers. comm. 2004)

tax levy funds. Phase 2 properties were purchased with \$262503 in unrestricted open space funds, \$35,732 from donations and surface water management funds.

Donations totaling \$19,235 were raised by Friends of Rock Creek Valley. King County Acquisitions staff indicate that their records show that donated funds include \$11,435 from Boeing, \$6,800 from Polygon Northwest, and \$2,000 from K Bar M Riders (Holecek pers. comm. 2005).⁶

The following information is about the two sources of grant funding that have implications for property management.

National Fish and Wildlife Foundation

\$116,600 in federal matching funds were awarded through a National Fish and Wildlife Foundation, Washington State Salmon Restoration grant, for “Upper Rock Creek Tract Acquisition (00-367).” NFWF funds were used for the purchase Phase 1 parcels, -9005, -9010, -9015, -9020, and -9025.

The National Fish and Wildlife Foundation provides federal matching funds to governments and qualified conservation organizations “to conserve and restore fish, wildlife, and native plants... The Foundation awards matching grants to projects that address priority actions promoting fish and wildlife conservation and the habitats on which they depend, work proactively to involve other conservation and community interests, leverage Foundation-provided funding, and evaluate project outcomes.” (NFWF 2004a) Specifically, the Washington State Salmon Restoration grant criteria include quantifiable benefits to salmon that are demonstrable within one year; community-based support, multiple, diverse partnerships and volunteer support; definable success criteria; and consideration of a monitoring strategy. (NFWF 2001a)

NFWF grant guidelines indicate that the deed should contain the following language on the title. The Phase 1 warranty deed was re-recorded in 2003 to contain this language (Recording number 20030124002442):

This conveyance is to perpetually protect an important wildlife area. Therefore, as its purchase is partially funded by a National Fish and Wildlife Foundation grant, any disposal of the property, in whole or in part, must have the concurrence of the Foundation. Likewise, should the property be sold or condemned in whole or in part, the Foundation shall share in the proceeds of such sale or condemnation, including any increase in land value, in direct proportion, percentage-wise, to its share in this purchase. The Foundation will use such restored funds to purchase, restore, or enhance similar wildlife habitats. (NFWF 2004b)

Grant guidelines specify that “the grantee will allow public access to all lands purchased through a Foundation grant, to the extent that such access is compatible with the long-term conservation of fish, wildlife, and plant resources dependent on the area. The grantee may impose restrictions on public access in order to protect and conserve the natural resources of the acquired lands.” (NFWF 2004B)

The grant agreement signed by King County in May 2001 issues funding based on King County “satisfactorily performing the Project described in [the grant] proposal” (NFWF 2001b) This agreement states that “should there be any material change in the purpose, character...for the Project as approved by NFWF, the Grantee will provide timely written notice of these changes to NFWF.” (ibid p. 5)

The grant application states that this site will be preserved in perpetuity as fish and wildlife habitat. Additional project objectives include “maintaining surface water runoff characteristics of a forested

⁶ Burlingame pers. comm. 2004 and Brathovde pers. comm. 2004 indicated that the totals may be \$15,000 from Boeing, \$4,000 from Polygon, \$2,000 from K Bar M Riders, and possibly additional private donations.

landscape that in turn can ensure adequate salmon habitat conditions.” The application states that monitoring will occur “to ensure that the current [good to excellent] habitat conditions either remain the same or improve.” (King County 2000a)

Conservation Futures Tax Levy

Conservation Futures Tax (CFT) levy is authorized by state statute RCW 84.34.230. A county may place this levy upon all taxable property in its jurisdiction. Revenues may be placed in a Conservation Futures Fund for jurisdictions or nonprofit nature conservancy corporations to acquire open space land or rights to future development within that county (these development rights are termed “conservation futures” in RCW 84.34.220). Open space is defined in RCW 84.34.020 generally as land contributing to natural resources, streams, water supply, public land network, historic sites, visual quality, or as certain agricultural conservation lands. Acquisition criteria identified by King County include: wildlife, salmonid, or rare plant habitat value; scenic resource, community separator, greenbelt, or general park and open space value; or historic and cultural resources. Additional consideration is given to passive recreation opportunity, interpretive opportunity, threat of loss, complexity of acquisition, public-private partnership, regional significance, relationship of proposed acquisition to existing parks, trails, or greenway systems or plans, and short-term and long-term stewardship commitment at the site (KCC 26.12.025).

King County Council directs the spending of a portion of annual CFT funds; a Citizen’s Oversight Committee reviews and approves competitive applications for the remainder of the funds. CFT funds are allocated to sponsoring jurisdictions with the requirement that matching funds from the applicant jurisdiction are of equal or greater value to CFT funding sought (matching funds may be cash, land trade, or value of land purchased adjacent to proposed acquisition). Acquisitions may be fee simple or less-than-fee acquisitions.

Purchases made with Conservation Futures funds are to be used for low-impact, passive-use recreation. Motorized use is limited to parking/staging/maintenance areas. “Non-vegetative impervious surfaces” should cover less than 15% of the site (CFT 2002). Conservation futures interests shall not be transferred except with agreement that land interests shall be preserved in accordance with the intent and language of RCW 84.34.230; uses of lands shall not be altered unless equivalent lands within the geographic jurisdiction are provided (KC Ordinance 10750, p. 10).

Part 3. Ecological and Physical Setting

This section describes the existing natural resources and ecological processes associated with Ravensdale Retreat Natural Area. Additional analysis is presented in Part 6 below. Figure 3 depicts site features including streams, wetlands, and topography.

Topography and Soils

Ravensdale Retreat Natural Area lies beneath the steep slopes of Ravensdale Ridge, on the southern edge of the valley containing Rock Creek in this vicinity. The valley is approximately ½ mile wide in this vicinity. The southern valley wall rises approximately 500 feet, across less than ½ mile distance. Rock

Creek flows at the base of this wall, along the Burlington Northern railroad grade through the site.

Topography at the site slopes slightly upward from Kent Kangley Road to the south, rising more steeply in elevation at the southeast corner of the site approximately 50-75 feet in elevation.

The site lies outside the extent of the King County Soil Survey (Snyder et al. 1973). Soil data from the University of Washington⁷ indicates Barneston coarse gravelly sand soil type on site. Most of the western portion of the site is 0-6% slopes; the eastern portion within the area of topographic rise is 6-30% slopes (parcels -9010 and -9005). There is no description available for this soil type in the King County Soil Survey.

A historic map of coal mines⁸ shows that mining occurred beneath parcels -9063, -9137, and the western edge of parcel -9030. (burlingame pers. comm. 2004b)

Rock Creek Hydrology

Rock Creek (WRIA #08.0339) is an 8.2-mile,⁹ Class 2 salmonid-bearing stream. Crow Marsh, Lake Twelve, and small tributary streams from surrounding slopes comprise the headwaters for Rock Creek. Ravensdale Retreat Natural Area is located between RM ~5.0 to ~3.4. Rock Creek is tributary to the Cedar River at approximately River Mile 18 of the Cedar. The King County Sensitive Areas Folio classified the lower reaches as Class 2 stream with salmonids, but it did not map most of the length of Rock Creek probably due to the intermittent nature of the stream for much of its length (King County 1990).

Rock Creek is seasonally intermittent above approximately River Mile 2.4 (King County 2001a). The grant application for Conservation Futures funds for this site contains the following description (King County 2001a):

“Above RM 2.4...stream flow is seasonal and appears strongly linked to precipitation activity and groundwater levels. In years of abundant flow, coho have been reported to use areas above RM 2.4. The value of Rock Creek’s unique flow regime is that it functions as both a vital source of water for the lower reaches at all times, and during high water years, as a natural detention basis that greatly dampens erosive flows. The dynamic seasonal flow regime also plays a critical role in creating and preserving genetic, behavioral, and population diversity among the aquatic-dependent species due to the ever-changing physical habitat conditions.”

The Rock Creek subbasin, as designated in the Lower Cedar River Basin Action Plan, is the largest in the basin planning area at approximately 7700 acres. At the time of the Basin Plan, it was noted that the Rock Creek subbasin is the largest in the entire Lake Washington watershed without urban or suburban development. However, the designation of Lake Twelve within the City of Black Diamond Urban Growth Area may have changed the accuracy of that statement (WMC 1998, p. 3-55). As of 1993, the basin was approximately 77% forested and 13% converted to development (King County 1993, p. 4-30).

The Lower Cedar Basin Action Plan makes the following statements about Rock Creek:

“Rock Creek has exceptionally high natural resource value. It is the single largest source of municipal water for the City of Kent, and with few exceptions, the subarea’s stream and wetland habitats are relatively intact. Lower Rock Creek’s riparian areas and channel reaches are reminiscent of old growth in structure and complexity, making its aquatic habitat among the best remaining in western King County.

⁷ Information about shapefile at: http://www.metrokc.gov/gis/sdc/Content/external/enviro_ext/uuw_soils.htm

⁸ Geological map of the Cumberland, Hobart, and Maple Valley Quadrangles 1960, information from joan burlingame. burlingame notes that mining is probably related to Ravensdale Mines #9 and #5.

⁹ Citations of length vary; this 8.2 mile figure is from Lower Cedar Basin Action Plan p. 4-39 (WMC 1998).

Between RM 0.0 and 2.6, Rock Creek's habitat is classified as a regionally significant resource area¹⁰ because of its habitat quality and current and future potential for salmonid production." (p. 3-55)

The Current and Future Conditions Report states:

"Rock Creek is outstanding habitat throughout most of its length and is among the best habitats in western King County... Natural system stability is enhanced by a relatively low gradient, a storm hydrology dampened by large amounts of glacial outwash soils in the subbasin, and a series of uninventoried riparian wetlands between RM 2.6 and 0.8.... Much of the vegetation, which has a high proportion of coniferous trees, is approaching old growth in size and structural complexity. Most of the stream has high volumes of LWD. In many reaches the habitat can best be typified as continuous "debris complexes" within which complex pool and riffle habitats have developed." (7-73)

Rock Creek flows through several corridors of publicly owned land, including Crow Marsh Natural Area between RM 8.2 and 7.4, Ravensdale Retreat Natural Area between RM ~5.0 to ~3.4, Cemetery Reach Natural Area ~3.4 to ~2.9, the City of Kent's Watershed between RM ~2.4 and ~1.5, and the Rock Creek Natural Area between most of RM ~1.2 to ~0.4, and a small amount of acreage at the confluence with the Cedar River (all river miles approximate, based on Figure 3-14 in WMC 1998). Many of these parcels in King County ownership were prioritized through basin planning activities during the 1990s and have been acquired in the past decade.

Rock Creek's flow is intermittent through Ravensdale Retreat Natural Area. Rock Creek flows on the south side of the railroad grade at the southeastern corner of the site. At River Mile ~4.6 or 4.7, Rock Creek is culverted beneath the railroad grade. During a site visit in early July 2004, at this culvert location the creek supported substantial flow, including pools several feet in depth in the vicinity of the culverts. The water appears to infiltrate subsurface along the stream's course through the Natural Area, leaving most of the stream bed completely dry during summer months.

Communication with a local resident indicates that the reach of Rock Creek between the Kent Watershed and through Ravensdale Retreat Natural Area has historically supported lower flows than other portions of the stream due to high infiltration rates of water into porous soils. In the past, the stream in this area existed for most of the year as a series of connected pools. The resident reports that salmon runs may have historically adapted to migrate upstream late in the season (November or December), when fall rains raised the level of the creek high enough for salmon to pass through the Cemetery Reach of the creek and move upstream. (Brathovde pers. comm. 2004b)

According to the same local residents, the main channel was degraded during logging on the site in 1983. The logs obstructed stream flow and diverted water out of the channel through adjacent wetland areas. There has been some natural re-establishment of the stream channel. Historic actions with an effect on stream conditions and channel location is the construction of the railroad grade early in the century.

The figures for this plan use the 'Streams' data from King County GIS. This data layer is somewhat inaccurate, however. A few known errors verified by local residents include: Rock Creek flows fairly parallel to the BNRR right of way and does not curve north into parcel 9025; there is no eastern tributary to the wetland mapped in parcel 9005. (Brathovde pers. comm. 2004b).

¹⁰ Regionally Significant Resource Areas (RSRAs): RSRAs are those portions of watersheds that contribute to the resource base of the entire Puget Sound region by virtue of exceptional species and habitat diversity and abundance when compared to aquatic and terrestrial systems of similar size and structure elsewhere in the region. RSRAs may also support rare, threatened or endangered species or communities. (2004 King County Executive Proposed Comprehensive Plan, Glossary: <http://www.metrokc.gov/ddes/compllan/2004/ExecRec/PDFs/GlossaryExec.pdf>)

Wetlands

The King County Wetlands Inventory maps no wetlands on the site. Information from the Friends of Rock Creek Valley describes at least two significant wetlands on site; other wetland areas may be present, particularly around the stream corridor.

'Beaver Bog' is a forested wetland located along the banks of Rock Creek within Ravensdale Retreat Natural Area at approximately river mile 3.6. On Figures 2 and 3, the 'Beaver Bog' area is located on 9025, where the stream layer is mapped as curving to the north. Local residents note that the stream mapping is inaccurate: the stream follows the BNR right-of-way fairly closely (Brathovde pers. comm. 2004b). According to local residents, there is no indication of beaver activity in the stream channel or wetland; overbank flow to the wetland is the result of logging slash felled into the channel. The name 'Beaver Bog' is in reference to the former name of Rock Creek: 'Beaver Creek.' (Brathovde pers. comm. 2004b).

Two-acre 'Spring Pond' is located on the Ravensdale Retreat Natural Area at approximately river mile 4.7 (mapped on parcel 9005 on Figure 2). The pond's water source is springs located at its southeast end. (Brathovde pers. comm., 2004a) While the 'Streams' data from King County GIS shows a stream flowing into Spring Pond from the east, this layer is inaccurate: according to local residents there is no surface tributary from the east (Brathovde pers. comm. 2004b). The pond has no surface connection to Rock Creek, but is presumed to be hydrologically connected via subsurface flow (burlingame pers. comm. 2004a; Brathovde pers. comm. 2004b). The pond typically stands several feet in depth during much of the year, although the water level drops during the summer dry season. (Brathovde pers. comm. 2004a) An outflow channel leaves the western side of the pond when the water level is sufficient (approximately 8 or 9 months of the year). The outflow channel flows several hundred feet from the outlet before going subsurface within several hundred feet of the outlet. During the site visit in early July 2004, there was still substantial outflow from the pond within a short distance of the outlet.

Other wetlands occur on the property. A wetland area lies on the northwest portion of parcel -9025. Off-channel wetlands may occur along the course of Rock Creek.

The Wetland Inventory maps Wetland 84 just east of the Natural Area near river mile 5.0. This wetland may be the point at which Lake Retreat's outflow channel, Fish Creek, drops subsurface at approximately ½ mile distance from Lake Retreat (burlingame 2004). There is no known surface connection between Lake Retreat/Fish Creek and the identified wetlands on the Ravensdale Retreat Natural Area properties.

Vegetation

Ravensdale Retreat Natural Area supports forest stands of two distinct age groups, as may be observed on Figure 3 aerial photo. Portions of parcels -9015 and -9010 support a stand of trees which were harvested in 1987 according to local residents (trees were estimated by King County staff to be approximately 10-15 years of age upon site visit) (Brathovde pers. comm. 2004b). The trees are predominantly Douglas-fir replanted after the harvest, with a substantial proportion of alders of equal height to the conifers.

The remainder of the site was harvested in 1983, according to local residents. Except for the portions of parcels -9015 and -9010 noted above, and the westernmost parcel -9063, most of the trees on the other parcels were planted after the 1983 harvest. (Brathovde pers. comm. 2004b) Areas of this older planting may have been pre-commercially thinned by Plum Creek (Brathovde pers. comm. 2004b)

Although many of the recently planted areas were predominantly Douglas-fir, other species such as western hemlock and western red cedar were present in the older stands. Areas dominated by bigleaf maple, black cottonwood, and alder were also present along the riparian corridor, and in patches within the upland portions of the site (such as near the road under license on parcel -9015). The eastern parcel -9063 supports an open grassy area along Ravensdale Way. This parcel was a former railroad depot and supports old apple trees (burlingame pers. comm. 2004b)

A species list compiled during a July 2004 site visit is included in Appendix 1. Areas visited were primarily along trails and roads. The wetlands were not specifically visited, although observation of Spring Pond through perimeter vegetation revealed that the edges supported tree and shrub species to the edges of the pond, with emergent vegetation along the edges.

Tansy ragwort, a listed noxious weed for which control is required, was observed at the site in July 2004 growing along a main trail leaving the area of the road on the western side of parcel -9015. There may be more tansy ragwort growing at the site in other areas. The residents of privately owned parcel -9017 and other trail users at the site pull tansy ragwort regularly, and have done so for many years. (Brathovde pers. comm. 2004b)



Figure 4: Forest in central area of site Figure 5: Parcel -9015 on logging road Figure 6: Woods adjacent to wetland

Fish and Wildlife

The Basin Action Plan reports that Rock Creek “has been highly regarded by fisheries professionals and local residents alike for its runs of four key species of anadromous salmonids: sockeye, coho, Chinook salmon and steelhead trout.” (WMC 1998, p. 3-55) The Current and Future Conditions Report describes Rock Creek as outstanding habitat for most of its length.

“[The limited level of disturbance] contributes to a stable, diverse habitat even in the higher-gradient reaches. Natural system stability is enhanced by a relatively low gradient, a storm hydrology dampened by large amounts of glacial outwash soils, and a series of uninventoried riparian wetlands between RM 2.6 and 0.8...Much of the riparian vegetation, which has a high proportion of coniferous trees, is approaching old growth in size and structural complexity. Most of the stream has high volumes of LWD.” (King County 1993, p. 7-73)

The seasonal nature of Rock Creek limits the upstream extent of salmonids during much of the year. WRIA 8 fish distribution maps indicate that cutthroat trout use extends to the upper reaches of Rock Creek, but coho, sockeye, and Chinook distribution are limited to the first few miles of Rock Creek (King County 2001b) Coho presence through this reach of the creek was documented in previous decades (King County 2001b).

There has been no inventory of fish or wildlife specifically performed at this site. A list of birds observed in Rock Creek Valley is included in Appendix 2.

The Wildlife Habitat Network identified in the King County Comprehensive Plan¹¹ extends south from Ravensdale Lake to Lake Sawyer and to Crow Marsh/Lake Twelve; and extends north from Ravensdale Lake to the Cedar River. The network was not mapped to include the Ravensdale Retreat Natural Area, although the site supports wildlife habitat due to its characteristics, its adjacency to other large forested tracts, and the presence of Rock Creek. The 2,600 acres of “Ravensdale Ridge” properties are identified in the Rock Creek Valley Conservation Plan as a priority to preserve in forestry in order to support wildlife habitat, and notes possible locations that represent wildlife corridors between Ravensdale Ridge and nearby wildlife habitat blocks.

Part 4. Site Use, Access, and Management Chronology

This section provides information about access points and use of the site, and management actions taken since acquisition.

Access

Although there is no parking at the site, parking is available at Ravensdale Park/Gracie Hansen Community Center located on the east side of Ravensdale Way, just west of Ravensdale Retreat Natural Area. Park name signage has been ordered to be erected along Kent-Kangley Road.

Trails and Public Use

Unmarked trails lead into the Natural Area from SE Ravensdale Way, a short distance north of the Gracie Hansen parking lot. The trails are regularly used for walking and horseback riding.

A draft recreation plan by Friends of Rock Creek Valley indicated that there is a 1 ¼ mile main trail through the site between Ravensdale Park and the northeast end of the site at Kent Kangley Road and near King County Shooting Range. There are also about 1½ miles of additional secondary trails within the site. (burlingame 2003, p. 22) The main trail runs east-west through the site, with a few side trails and a loop that circles around Spring Pond. Small trails on the eastern side of the site terminate at private property. Appendix 3 includes a map published by Friends of Rock Creek Valley which maps trail locations on the site and in the vicinity.

According to FRCV, these trails were placed in areas of deep glacial till, away from most sensitive areas of the site. The trails were sited to allow “relatively heavy equestrian use (20-50 riders a day) without measurable degradation of the trails” (burlingame pers. comm. 2004b). There are two areas where the trails are near sensitive areas: the outlet of Spring Pond (on parcel -9015) and near the outflow of a wetland area on parcel -9025. The condition of an old bridge (at Spring Pond outlet) or problematic trail location (at the wetland outflow on -9025) results in trail users riding through areas that are wet or support small streams for much or all of the year.

¹¹ The King County Wildlife Habitat Network is described in the 2004 King County Comprehensive Plan as a method to “identify and protect critical fish and wildlife habitat conservation areas, [and] to link those critical habitat areas and other protected lands through a network system.” (King County 2004, p. 4-19) The network is intended to provide some degree of landscape-level protection for wildlife species, to maintain wildlife as viable components of ecosystems, and to facilitate wildlife movement between large habitat patches. This approach creates a network of natural lands across the landscape by linking contiguous blocks of ecologically significant natural resource areas (hubs) with natural corridors through adjacent critical habitat, open space tracts, and wooded areas. Ideally, these corridors would enable terrestrial populations to intermingle and disperse from east to west and north to south within the County.

The trails have been in place for years when the site was owned by Plum Creek, and have been maintained by members of the local community. King County Parks staff do not regularly maintain any of these trails. Members of the Friends of Rock Creek Valley and Backcountry Horsemen – Tahoma Chapter and local residents are key partners at the site.

Some of the trails on the western portion of the site have had trenches excavated to prevent motorized vehicle use. There is little evidence of motorized vehicle use since acquisition. These holes may make passage of current non-motorized trail users difficult and potentially hazardous. There is no evidence of current regular use by motorized vehicles, which may be due to the fact that the trail entrances on SE Ravensdale Way are not highly visible.

The trails are part of the larger network of trails through the Rock Creek Valley area, which include trails on the Henry's Ridge and Danville/Georgetown areas to the west and northwest (part of Maple Ridge Highlands Open Space managed by King County Parks), and trails to Sugarloaf Mountain to the east, as well as the Cedar River regional trail and Cedar River Pipeline Road.

Road Under License

The road under license used for access to the private residential parcel 312207-9017 leads from Kent-Kangley Road to the Burlington Northern railroad right-of-way. A locked gate prohibits vehicle access from Kent-Kangley Road and there is no parking at this entrance. The gate is a former Plum Creek gate, and Parks staff do not have a key to this gate but access can be arranged at any time with owners of parcel -9017. According to the License Agreement, the owners of parcel-9017 are responsible for maintenance of this road.

Known Site History

As has been noted in the vegetation and hydrology sections above, the site was used for timber operations prior purchase by King County. Logging occurred on most parcels in 1983; a more recent harvest occurred in about 1987 on portions of parcels -9015 and -9010. As noted above, logging operations felled trees into Rock Creek affecting its flow patterns through the site. Local residents created and have maintained trails on the site over previous decades while the site was under Plum Creek ownership.

Part 5. Analysis

The purpose of this section is to provide a context and foundation for developing recommendations that meet the NRL program mission of protecting the ecological value of lands within Ravensdale Retreat Natural Area. Site-specific information, public access considerations, and the larger landscape considerations described in the conservation principles section of the *Ecological Lands Handbook* will be used to help meet this purpose.

Restoring Processes, Structure, and Functions

Key problems along Rock Creek identified in the Cedar River Current and Future Conditions Report include water withdrawals by the City of Kent, and other permitted or unpermitted water withdrawals; immature riparian areas and little LWD in lower stream reaches due to logging; localized agriculture and residential development at the headwaters. Future threats include large-scale residential development; logging of mature riparian forest; and impact of human recreational access to the stream. (King County 1993, p. 7-74)

The acquisition of this 145-acre site supporting forest, wetlands, and more than one mile of stream channel contributes to the goals of the Basin Plan for open space acquisition to protect high-quality habitat. (WMC 1998, p. 3-55 to 3-56) The Rock Creek Valley Conservation Plan highlights several acquisition priorities near Ravensdale Retreat Natural Area which would increase the acreage of publicly

owned or protected land in the vicinity (FRCV 2004, Section 5.2 and Map 5.2-1). FRCV identified priorities near Ravensdale Retreat include Ravensdale Townsite (48 acres just southeast of Ravensdale Lake), Ravensdale Ridge West (140 acres across the railroad tracks south of Ravensdale Retreat Natural Area), Ravensdale Ridge East (80 acres south of Ravensdale Retreat's eastern edge), and a lower priority acquisition areas on Ravensdale Ridge.

Although Kent's water withdrawals have been noted as a contributing factor to low water levels, the site's location upstream of the withdrawal site at the Kent Watershed would suggest that Rock Creek's intermittent flow through the site (and for most of the channel upstream of RM 2.4) is primarily due to underlying geology and seasonal water conditions, combined with the possibility of a lowered aquifer level due to water well withdrawals upstream.

The site supports young coniferous forest of several different stand ages. Portions of the young forests have significant deciduous components, and certain areas (particularly near wetland or stream areas) are dominated by mature deciduous trees. Invasive species appeared to occur at relatively low levels, primarily limited amounts of blackberry and herbaceous non-native species. There were no access trails apparent that led to the wetland, indicating that disturbance of this area is very limited. Further exploration of upland and wetland portions of the site may reveal additional invasive species presence that is not known at this time.

Any plantings performed at the site should represent the historic vegetative communities commonly associated with forested, riparian, and wetland areas in western Washington and at the site in particular. Inherent in the habitat enhancement should be efforts to maintain structural complexity, historic levels of plant diversity and multiple canopy layers in order to provide a variety of vegetative and physical features that would provide a number of niches for wildlife.

Although major habitat enhancement projects are not planned for the site at this time, detailed information about plant, fish, and wildlife species, and geologic and hydrologic conditions at the site is necessary prior to developing enhancement concepts and specific designs, particularly for large-scale changes and modifications to site features. If basic site inventory and assessment is not done, there is a strong likelihood of inadvertently harming either individual plant or animal species or ecological processes that sustain one or more of these species. Therefore, prior to undertaking major management activities in this Natural Area, a site inventory and assessment should be undertaken that is focused, at a minimum, on the conditions and processes that the management activities will affect. Such assessment or evaluations of proposed actions should be conducted by staff with appropriate expertise (e.g. Watershed and Ecological Assessment Team staff).

Stream restoration project opportunity

Friends of Rock Creek Valley has recommended that a future large capital project be performed to restore the stream corridor. Restoration should include Rock Creek within both Cemetery Reach Natural Area and Ravensdale Retreat Natural Area. Project activities may include the restoration of the physical stream channel (possibly including addition of woody debris if in keeping with historic conditions of the stream); removal of logging slash and railroad detritus from stream corridor; and removal of invasive species. Benefits of the project as envisioned by FRCV would include local improvement in habitat conditions, creation of a defined channel through the site, removal of debris barring fish passage, and possibly a longer period of sustained flows and therefore increased fish passage upstream of Cemetery Reach.

If this project were to be carried out by King County it would be considered a major capital improvement project to be funded and prioritized through the WLRD budget process, and would be implemented by the Capital Projects section of WLRD. King County capital improvement projects need to go through a number of screening steps. Some considerations include:

- Regarding project prioritization: Project outcomes and costs/benefits would need to be weighed against other priorities within the County, and against other priorities within the watershed. With the completion of the WRIA 8 Chinook Salmon Conservation Plan the focus of most restoration efforts and dollars in the Cedar River basin are on the mainstem Cedar River; a few projects are identified in Rock Creek but this is not included.
- Regarding evaluating project feasibility: Study to scope the project should consider historic channel conditions (it is possible that the stream always supported areas where the channel diffuses into wetland/ponded areas, or has always existed as a series of disconnected pools); restoration opportunities given irreversible channel modifications (establishment of the railroad grade); how seasonality of flows might be affected by channel restoration (restoration of defined stream channel may not make stream any more passable to fish if subsurface geology limits the seasonal presence of water in channel).

Forest Management

Discussion with local residents while preparing this SMG raised questions about the opportunities for (a) the need for thinning for forest ecological health, and (b) the possibility of commercial forestry operations on the site.

This site was replanted as a timber plantation after the most recent harvests. The planting presumably was laid out with the intent to pre-commercially thin and to commercially harvest the timber. Because of this intent, the site may become overstocked and may benefit from a thinning operation.

Regarding Commercial Timber Harvest:

This site does lie within the Forest Production District and was planted for commercial harvest. However, the goals of the acquisition, obligations to grant funding sources, and policies of WLRD regarding ecological land management and revenue generation must be considered when making a decision about whether commercial harvest would be appropriate.

The grants that funded the purchase were provided based on stated goals to permanently preserve high-quality fish and wildlife habitat. National Fish and Wildlife Federation, Conservation Futures, and Salmon Recovery Funding Board grant applications cited the value of the site for wildlife habitat connectivity, noting large mammal use and connectivity between adjacent forested lands. As noted in Part 2: Funding Sources/NFWF grant section, the NFWF grant is bound to the grant application conditions, which specifically include the objective of “maintaining surface water runoff characteristics of a forested landscape that in turn can ensure adequate salmon habitat conditions.” The application states that monitoring will occur “to ensure that the current [good to excellent] habitat conditions either remain the same or improve.” (King County 2000a). SFRB grant materials emphasize that “the project’s primary objective is to protect the Ravensdale-Retreat Reach in its existing condition.” (King County 2000b Question #15) The application also states that “The property’s existing high quality habitat will only improve over the long term as the second growth forest matures, increasing its value for the biological integrity of Rock Creek.” (King County 2000b Question #16a1)

Due to the overall purpose of the grants and the stated language in grant conditions/applications, it is the interpretation of the Basin Steward and NRL program that commercial harvest operations should not be considered a priority management goal for the site.

Furthermore, commercial forest harvest on ecological lands does not appear to be in keeping with WLRD land management goals for ecological lands (commercial forest harvest is a management goal for WLRD working forest lands). By placing this site in the ecological lands inventory King County has prioritized preserving the ecological value of this site for its benefits to fish and wildlife habitat, rather than

promoting its working forest value. Future policy decisions by WLRD to pursue commercial forestry on ecological lands may give cause to re-evaluate this decision (within grant funding constraints).

Regarding forest thinning:

The primary goal of the thinning would be to benefit forest ecological health rather than to establish conditions for future harvest (based on current interpretation of grant funding restrictions and WLRD policy on ecological lands). While revenue may be generated by sale of thinned trees, this benefit would be secondary to the goal of benefiting forest health.

The need for forest thinning should be evaluated by a forester and also by a forest ecologist. While they both can provide input on whether forest stand health would benefit from thinning, the forest ecologist may consider the question from a perspective of long-term forest health, while the forester may consider feasibility, costs and benefits of operations, as well as forest health.

Public Use

Regular public use of this site does not appear to have a negative impact on site ecological conditions. Local residents have erected signage for a number of the main trails through the site, and continue to work to keep use to designated main trails and prevent the opening of new trails.

Trails are mostly located in well-drained, upland areas. The two spots where trails cross sensitive areas should be evaluated and steps taken to decrease negative impacts on sensitive areas. This may be accomplished through trail re-routing or establishing a new bridge over the streams.

Certain trails on the west side of the site have excavated holes that could be filled to ensure user safety. Given that the original intent of the holes was to deter motorized vehicle use, Park staff and trail users should note whether filling in the holes affects the types of use at the site.

In general types, extent, and impacts of site use should be monitored by Park staff and by the regular users of the trail system in the Backcountry Horsemen and Friends of Rock Creek Valley to ensure that uses do not inappropriately impact sensitive areas or overall habitat quality at the site. The Friends of Rock Creek Valley and the Backcountry Horsemen contribute extensive time and energy to maintaining this trail system and are key partners for King County on this Natural Area property.

Part 6. Management Goals, Objectives, and Recommendations

The objectives and recommendations in this section are derived from the standard practices for most NRL sites. Office of Rural and Resource Programs staff will revise the recommendations for Ravensdale Retreat Natural Area as new information from baseline inventory, assessment, and site monitoring programs and other initiatives becomes available for use in land management decisions.

Goals for Ravensdale Retreat 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 at Ravensdale Retreat Natural Area.

Management Objectives and Recommendations

Objective: Maintain ecological integrity of site

Recommendation: Ensure that management and public access support the regional ecological value of the site

Decisions about site management and public access should consider the hydrologic and habitat value of this site, and should preserve and protect ecological integrity. Public use should be focused on trails through upland forested areas. This overarching recommendation is carried out through the various recommendations below.

Objective: Contain spread of invasive vegetation

Recommendation: Monitor and control invasive vegetation

Park staff should monitor, contain the spread, and where possible to reduce the extent of noxious and invasive plant species that are present at the site. Local residents and trail users remove invasive species on a volunteer basis. Invasive species presence is fairly limited, though the listed noxious weed tansy ragwort was observed along trails/road. Control is primarily through manual removal of plants.

Objective: Allow appropriate level of impact by passive recreation at the site

Recommendation: Monitor public access

The current level of use by foot traffic and horse riders on trails in the upland portions of the site does not appear to be having a negative impact on site resources.

Park staff should note changes in visitor numbers and types of recreational activities and observe any noticeable visitor impacts on the ecological values of the site. These types of observations are also made by local residents and trail users, many part of Friends of Rock Creek Valley or Backcountry Horsemen. This information should be reported to King County Natural Resource Lands Management Staff responsible for updating site management guidelines.

Objective: Maintain public safety and environmental quality at site

Recommendation: Fill excavated holes on trails

Excavated holes on trails in the western part of the property should be filled in by Parks staff. Monitor these trails for use by off-road vehicles after filling in the obstructions to ensure that these vehicles are not using the site.

Recommendation: Address trail impacts on sensitive areas

In the two areas where trails impact sensitive areas (outflow of Spring Pond on parcel -9015 and outflow of wetland on parcel -9025) evaluate the problem and determine best approach to reduce impacts. Evaluation may occur by Parks staff and community members who maintain trails. Project work could be implemented through Park/NRL funds for small capital project work, or with a volunteer component by local community members.

Objective: Protect the site from inappropriate public uses

Recommendation: Control litter/dumping and encroachment activities

Park staff should monitor the site for encroachment and dumping, and respond as necessary to maintain a clean and safe property. Primary areas to monitor are along public roads; also, there are signs of older dump areas along road easement. Local residents, Friends of Rock Creek Valley, and Backcountry Horsemen are key partners in the work to keep a clean property.

Objective: Collect information on site conditions to inform management recommendations

Recommendation: Conduct further site assessment and develop recommendations

As prioritized and funded, conduct ecological assessment of basic ecological conditions and physical processes. Work with Friends of Rock Creek Valley to share information on the property and Rock Creek. Assessment information may be used to develop habitat enhancement recommendations for the site.

Recommendation: Evaluate forest ecosystem health benefits of thinning

An evaluation of forest health should include the perspective of a forest ecologist (WEAT) and of WLRD forestry staff (or designated consultant). Given the ecological goals of site purchase and the funding sources used for purchase, the thinning would be performed primarily to benefit forest ecological health, with any revenue generation from thinned trees as a secondary benefit of the action.

This evaluation will have to occur as prioritized and funded (possibly through WEAT staff time for ecological assessments, or if WLRD forestry staff time is allocated to NRL lands).

Recommendation: Advance stream restoration concept to capital projects group for consideration

NRL staff will bring to the attention of Capital Projects group or other appropriate WLRD staff the stream channel restoration project opportunity. NRL will make recommendation in 2005. Capital Projects (or other appropriate WLRD staff) will need to determine whether to fund and prioritize this project.

Objective: Maintain relationships with stakeholders

Recommendation: Work with stakeholders to gain information and inform management

Work with Friends of Rock Creek Valley to share information on ecological resources and site use. This information may be used to identify new management actions or habitat enhancement priorities. If other stakeholder groups become apparent, work with those groups toward the same end.

Objective: Update Site Management Guidelines

Recommendation: Update SMG within five years or as needed due to new information

NRL should update the SMG within five years to incorporate new information, accomplishments, and to assess management recommendations at the site. This work should involve Park staff, Basin Stewards, local stakeholders, and other DNRP staff that may have been involved at the site (e.g. ecologists, capital projects).

Implementation

Many of these recommendations pertain to ongoing site maintenance and short-term management. These short-term recommendations are currently being implemented through actions by the Parks Resource Coordinator. Table 3 presents the time frame and sections responsible for recommendations.

Recommendations that address long-term management will need to be developed when funded and prioritized by DNRP management (within the work programs of NRL, Watershed and Ecological Assessment Team, Basin Stewards, and Capital Projects groups). As new information is gathered for the site, habitat enhancement projects may be developed subsequent to SMG adoption. Projects should be consistent with management objectives and approaches described above and in the Ecological Lands Handbook. Funding for enhancement projects may be available through Surface Water Management CIP funding or salmon conservation planning funds.

Table 3. Matrix of Management Recommendations

X indicates group that will be involved in coordinating or carrying out activity.

(X) indicates group that may be involved in activity.

Recommendations	Year	Park Resource Staff	NRL staff	Basin Steward	Friends of Rock Creek Valley/ Backcountry Horsemen/ other local stakeholders	WEAT	WLRD Forestry Program	WLRD Capital Projects Program
Priority One								
Monitor public access	At least quarterly	X			X			
Fill excavated holes on trails	2005	X						
Address trail impacts on sensitive areas	2005	X	X		X			
Control litter/dumping and encroachment activities	At least quarterly	X			X			
Monitor and control invasive vegetation	At least quarterly	X			X			
Work with stakeholders to gain information and inform management	Ongoing	X	X	X	X			
Priority Two								
Conduct further site assessment	As prioritized and funded		X	X	(X)	X		
Advance stream restoration concept to Capital Projects group for consideration	2005 action by NRL; CP work as prioritized and funded		X	X	(X)	X		X
Evaluate forest ecosystem health benefits of thinning	As prioritized and funded	X	X	X	(X)	X	X	
Update Site Management Guidelines	Within 5 years	X	X	X	(X)			

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Appendix 1. Plant List

Plant list is incomplete, based on plants observed during July 2004 site visit to the eastern and central parcels of the site, and to the western edge along Ravensdale Way.

TREES

<i>Acer macrophyllum</i>	Bigleaf maple
<i>Alnus rubra</i>	Red alder
<i>Picea sitchensis</i>	Sitka spruce
<i>Populus alba</i>	White poplar
<i>Populus trichocarpa</i>	Black cottonwood
<i>Prunus emarginata</i>	Bitter cherry
<i>Pseudotsuga menziesii</i>	Douglas-fir
<i>Rhamnus purshiana</i>	Cascara
<i>Thuja plicata</i>	Western red cedar
<i>Tsuga heterophylla</i>	Western hemlock

SHRUBS

<i>Acer circinatum</i>	Vine maple
<i>Berberis nervosa</i>	Oregon grape
<i>Buddleia</i> sp.	Butterfly bush
<i>Cornus sericea</i>	Red-osier dogwood
<i>Cytisus scoparius</i>	Scot's broom
<i>Gaultheria shallon</i>	Salal
<i>Holodiscus discolor</i>	Ocean spray
<i>Menziesia ferruginea</i>	False azalea
<i>Oemleria cerasiformis</i>	Indian plum
<i>Oplopanax horridum</i>	Devil's club
<i>Philadelphia lewisii</i>	Mockorange
<i>Physocarpus capitatus</i>	Pacific ninebark
<i>Ribes sanguineum</i>	Red flowering currant
<i>Rosa gymnocarpa</i>	Baldhip rose
<i>Rubus discolor</i>	Himalayan blackberry
<i>Rubus laciniatus</i>	Evergreen blackberry
<i>Rubus leucodermis</i>	Blackcap raspberry
<i>Rubus parviflorus</i>	Thimbleberry
<i>Rubus spectabilis</i>	Salmonberry
<i>Rubus ursinus</i>	Trailing blackberry
<i>Salix</i> sp.	Willow
<i>Sambucus racemosa</i>	Red elderberry
<i>Sorbus</i> sp.	Mountain ash
<i>Spiraea douglasii</i>	Hardhack
<i>Symphoricarpos alba</i>	Common snowberry
<i>Vaccinium parvifolium</i>	Red huckleberry
<i>Ilex</i> sp.	Holly
<i>Corylus cornuta</i>	Beaked hazelnut

OTHER

<i>Luzula</i> sp.	Woodrush
<i>Athyrium filix-femina</i>	Lady fern

<i>Polystichum munitum</i>	Sword fern
<i>Pteridium aquilinum</i>	Bracken fern

HERBS

<i>Achillea millifolium</i>	Yarrow
<i>Achlys triphylla</i>	Vanilla leaf
<i>Arctium</i> sp.	Burdock
<i>Hypochaeris radicata</i>	Cat's ear
<i>Chrysanthemum leucanthemum</i>	Oxeye daisy
<i>Circaea alpina</i>	Enchanter's nightshade
<i>Cirsium arvense</i>	Canada thistle
<i>Cirsium vulgare</i>	Bull thistle
<i>Clintonia uniflora</i>	Queen's cup
<i>Dicentra formosa</i>	Bleeding heart
<i>Digitalis purpurea</i>	Foxglove
<i>Dipsacus</i> sp.	Teasel
<i>Epilobium angustifolia</i>	Fireweed
<i>Epilobium watsonii</i>	Willowherb
<i>Galium</i> sp.	Bedstraw
<i>Geranium robertianum</i>	Herb Robert
<i>Geum macrophyllum</i>	Large-leaved avens
<i>Heracleum lanatum</i>	Cow parsnip
<i>Hydrophyllum tenuipes</i>	Waterleaf
<i>Hypericum perforatum</i>	St John's wort
<i>Lactuca serriola</i>	Prickly lettuce
<i>Linnaea borealis</i>	Twinflower
<i>Lonicera ciliosa</i>	W. trumpet honeysuckle
<i>Maianthemum dilatatum</i>	False lily of the valley
<i>Osmorhiza</i> sp.	Sweet cicely
<i>Plantago lanceolata</i>	Plantain
<i>Prunella vulgaris</i>	Self-heal
<i>Ranunculus repens</i>	Buttercup
<i>Rumex crispus</i>	Curly dock
<i>Senecio jacobea</i>	Tansy ragwort
<i>Solanum dulcamera</i>	Bittersweet nightshade
<i>Stachys cooleyae</i>	Hedge nettle
<i>Streptopus</i> sp.	Twisted stalk
<i>Tanacetum vulgare</i>	Common tansy
<i>Tiarella trifoliata</i>	Foamflower
<i>Tolmiea menziesii</i>	Piggyback plant
<i>Trientalis latifolia</i>	Starflower
<i>Trillium</i> sp.	Trillium
<i>Urtica dioica</i>	Nettles
<i>Veronica</i> sp.	Veronica
<i>Viola</i> sp.	Violet

Appendix 2. Birds Observed in the Rock Creek Valley

This list of birds observed in the Rock Creek Valley was taken from information contained in “Facts about the Rock Creek Valley” (draft 8/17/03). Information was gathered by Audubon Society and Tetra Tech/KCM. Information about bird sightings in nearby locations is available in Appendix F of the Rock Creek Valley Conservation Plan (<http://www.frcv.org/?id=194>)

1. American Coot
2. American Crow
3. American Goldfinch
4. American Robin
5. Bald Eagle
6. Band-tailed Pigeon
7. Barn Swallow
8. Belted Kingfisher
9. Bewick's Wren
10. Black-capped Chickadee
11. Black-headed Grosbeak
12. Black-throated Gray Warbler
13. Blue heron
14. Brown Creeper
15. Brown-headed Cowbird
16. Bushtit
17. Canada Goose
18. Cedar Waxwing
19. Chestnut-backed Chickadee
20. Chipping Sparrow
21. Common Raven
22. Common Yellowthroat
23. Dark-eyed Junco
24. Downy Woodpecker
25. European Starling
26. Golden-crowned Kinglet
27. Green Heron
28. Hairy Woodpecker
29. Hammond's Flycatcher
30. House Finch
31. House Sparrow
32. Hutton's Vireo
33. Kingfishers
34. Mallard
35. Mourning Dove
36. Northern Flicker
37. Orange-crowned Warbler
38. Osprey
39. Pacific-slope Flycatcher
40. Pileated Woodpecker
41. Pine Siskin
42. Red Crossbill
43. Red-breasted Nuthatch
44. Red-breasted Sapsucker
45. Red-eyed Vireo
46. Red-tailed Hawk
47. Red-winged Blackbird
48. Rock Dove
49. Ruby-crowned Kinglet
50. Rufous Hummingbird
51. Savannah Sparrow
52. Song Sparrow
53. Spotted Sandpiper
54. Spotted Towhee
55. Steller's Jay
56. Swainson's Thrush
57. Townsend's Warbler
58. Tree Swallow
59. Turkey Vulture
60. Varied Thrush
61. Vaux's Swift
62. Violet-green Swallow
63. Warbling Vireo
64. Western Tanager
65. Western Wood Pewee
66. White-crowned Sparrow
67. Willow Flycatcher
68. Wilson's Warbler
69. Winter Wren
70. Yellow Warbler
71. Yellow-rumped Warbler

Appendix 3. Ravensdale Ridge Trails Map

The map below was published by the Friends of Rock Creek Valley and is available on their website at <http://www.frcv.org/?id=54>.

