

J40 – Neighborhood Forest Resource Assessment

Phase 1



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Executive Summary

I provided a resource overview of the J40-Neighborhood Forest property northwest of Kirkland, Washington to assist the Denny Creek Neighborhood Alliance with their project to establish an assessment of current habitat conditions. This report describes my observations of wildlife resources on a 10.1-acre section of a 40-acre forest property currently managed by King County Parks.

Mature forest consisting of mixed-age and mixed-species woodlands provides a variety of habitat conditions for mollusks, insects, fish, amphibians, birds, terrestrial mammals, and bats. Washington Department of Fish and Wildlife Priority Habitats and Species present in the area include Urban Natural Open Space, Instream, Mature Forest, and Snags and Logs. The study area provides high quality habitat in good condition, and close proximity to other productive wildland resources. Future projects should focus on water quality improvement and community education that promotes responsible resource management.

Table of Contents

Executive Summary	1
Table of Contents	1
Introduction	2
Study Area	3
Methods.....	4
Results.....	5
Species and Communities With Special Status	5
Discussion	7
References.....	13

Introduction

Juanita Woodlands (J40-Neighborhood Forest) is the last large, unprotected natural area within Kirkland’s proposed annexation area on Holmes Point, northwest of Kirkland, Washington. The property is under imminent threat of conversion from Washington Department of Natural Resources (DNR) timberland to residential development. DNR has delayed public auction and will consider a phased purchase to provide the community an opportunity to preserve it.

The City of Kirkland, King County, Cascade Land Conservancy, and Denny Creek Neighborhood Alliance are working to finance conservation of as much of the property as possible. Acquisition will conserve wildlife habitat, provide recreational respite, protect neighborhood forest buffers, and offer both formal and informal environmental education opportunities to Juanita and Kirkland area residents of all ages.

This report provides a detailed narrative of my observations regarding flora, fauna, and aquatic resources on a section of the J40–Neighborhood Forest. Results and Discussion include a table of Species and Communities with Special Status, an analysis of threats to local ecosystem integrity, and management recommendations.

Objectives for this study were as follows:

1. Evaluate current vegetation communities and vertical structure of the forest.
2. Survey the study area for animal use – birds, mammals, insects, etc.
3. Assess aquatic resources on a watershed scale.
4. Relate current J40-Neighborhood Forest resources to the Washington Department of Fish and Wildlife Priority Habitats and Species List.

Study Area

The J40–Neighborhood Forest property is located northwest of Kirkland, Washington, immediately south of the intersection of Juanita Drive NE and its southern intersection with Holmes Point Drive NE (Fig 1).

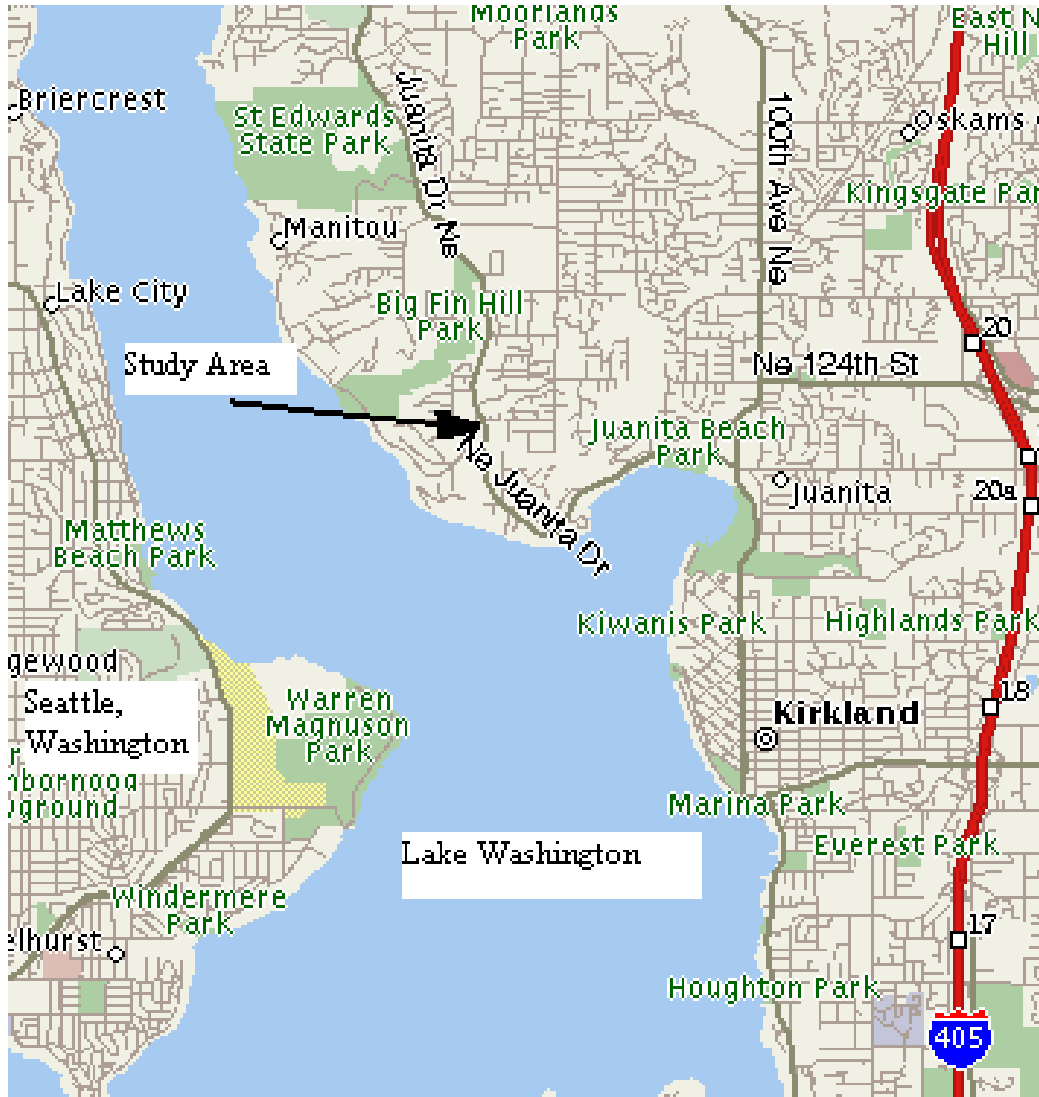


Figure 1. The 10.1-acre study area is located northwest of Kirkland, Washington.

The forest covers approximately 40–acres and is separated by roads and topography into three distinct units. The western unit is located west of Holmes Point Dr. NE. The central unit is between Holmes Point Drive NE and Juanita Drive NE. The eastern unit is located east of Juanita Drive NE. This study focused on the 10.1-acre central portion of the property (Fig. 2).

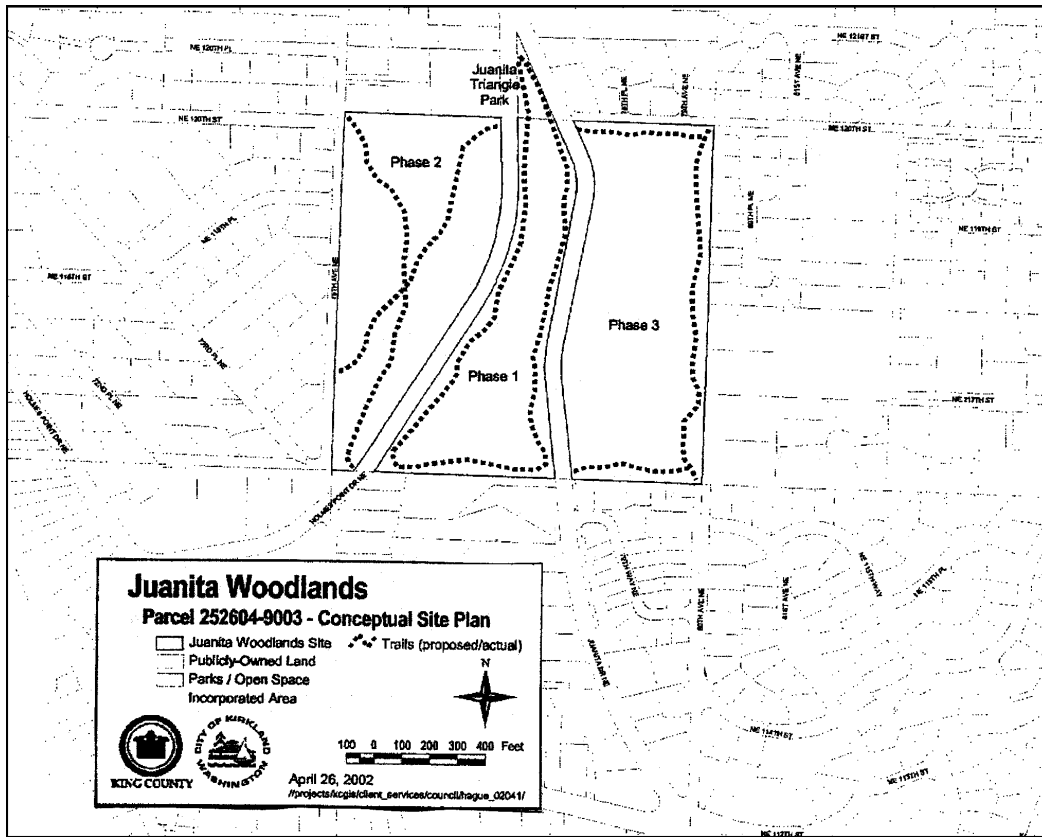


Figure 2. This study focused on a 10.1-acre section of forest (Phase 1) within a larger 40-acre area of interest (Phases 1, 2, and 3).

Methods

Observations focused on physical vegetation structure, vegetation communities, animal use, and water resources. I surveyed the study area using basic transect methods and observations from strategic points throughout the forest. I also spoke with local officials and interviewed long-term residents of the area.

Forest resources were evaluated in terms of seral stage, degree of disturbance, and value as wildlife habitat per the Washington Priority Habitats and Species (PHS) List. The PHS List is a catalog of species and habitat types identified by the Washington Department of Wildlife as priorities for management and preservation. PHS List criteria are used to review which habitat types and species are considered to be a priority, to establish mapped and digital data that display occurrences of important fish and wildlife resources, and to assist in formulating management recommendations for priority habitats and species.

Results

Results are summarized in a Table of Species and Communities with Special Status (Table 1). Species and communities of note were cross-referenced with the Washington Department of Wildlife Priority Habitats and Species List.

Table 1. Species and communities with special status, per Washington Department of Wildlife guidelines (1999), observed on the J40 – Neighborhood Forest study area, June 2002.

Species and Communities With Special Status			
Project name: J40 – Neighborhood Forest Applicant Name: Denny Creek Neighborhood Alliance Date: June 2002 Check one: <input type="checkbox"/> Critical Habitat <input type="checkbox"/> Natural Areas <input checked="" type="checkbox"/> Urban Wildlife Habitat			
Species, Community, or Habitat Type	Occurrence	Status	Source
Communities present in the J40-Neighborhood forest:			
Instream	Present	Declining	Local biologist
Mature Forest	Present	Thriving	Local biologist
Snags and Logs	Present	Conspicuous	Local biologist
Urban Natural Open Space	Present	Threatened	Local biologist
Species recently observed in the J40-Neighborhood forest:			
Bald eagle, Osprey	Roosting	State listed or candidate species	Local biologist
Cooper's hawk, Sharp-shinned hawk	Foraging; Breeding?	State listed or candidate species	Local biologist
Pileated woodpecker	Foraging; Roosting; Breeding?	State listed or candidate species	Local biologist

Species and Communities With Special Status

Project name: J40 – Neighborhood Forest
 Applicant Name: Denny Creek Neighborhood Alliance
 Date: June 2002

Check one: Critical Habitat Natural Areas Urban Wildlife Habitat

Species, Community, or Habitat Type	Occurrence	Status	Source
Species directly influenced by the J40-Neighborhood forest:			
Western Washington non-breeding concentrations of: Loons, Grebes, Cormorants, Fulmar, Shearwaters, Storm-petrels, wood ducks, Barrow's goldeneye, Common goldeneye, Bufflehead, Hooded merganser, Alcids, and Harlequin ducks.	Potential foraging	State listed or candidate species	Local biologist
Merlin, Northern goshawk, Peregrine falcon	Potential roosting, foraging, wintering	State listed or candidate species	Local biologist
Western Washington non-breeding concentrations of Plovers, Sandpipers, and Phalaropes.	Potential foraging	Vulnerable aggregations	Local biologist
Frogs and Toads (Anura)	Potential breeding, foraging	State listed or candidate species	Local biologist
Salamanders (Caudata)	Potential breeding, foraging	State listed or candidate species	Local biologist
Trout, Salmon (Salmonidae)	Potential juvenile foraging	State listed or candidate species	Local biologist
Shrews	Potential breeding, foraging	State listed or candidate species	Local biologist
Big brown bat, Myotis bats, Pallid bat, Townsend's big-eared bat	Potential roosting, foraging, breeding	State listed or candidate species	Local biologist

Discussion

Vegetation

Trails are faint and mostly overgrown or non-existent. Vegetation includes associations described as Urban Natural Open Space, and characteristics described in Instream, Mature Forest, and the Snags and Logs habitat types. A complete list of tree species observed in the study area is included in Table 2.

Vegetation includes a diverse mixed-aged forest with good structure. Over-mature trees and snags are abundant and stand among younger generations. Abundant dead and down material, thick duff, and associated organic material indicate active soil generation. Western red cedar, Douglas-fir, and Western hemlock associations generally have a salal and sword fern understory, typical of mature forest compositions. Regeneration is occurring under the canopy with many young cedar, fir, and hemlock evident.

Table 2. Tree species observed on the J40 – Neighborhood Forest study area, June 2002.

Common Name	Scientific Name
Douglas-fir	<i>Pseudotsuga menziesii</i>
Western red cedar	<i>Thuja plicata</i>
Western hemlock	<i>Tsuga heterophylla</i>
Grand fir	<i>Abies grandis</i>
Pacific yew	<i>Taxus brevifolia</i>
Big leaf maple	<i>Acer macrophyllum</i>
Red alder	<i>Alnus rubra</i>
Cottonwood	<i>Populus sp.</i>
Pacific madrone	<i>Arbutus menziesii</i>
Pacific Dogwood	<i>Cornus nuttallii</i>

Conifer size varies for mature trees from 24-inches to > 40-inches diameter at breast height (DBH). Mature stands contained trees > 80-years old. Several mature cottonwood trees are quite large and measure > 60-inches DBH. Abundant snags of diverse age, species, and degree of decay are present. Several snags present excellent potential bat roosting habitat.

Forest canopy is heterogeneous and varies from open deciduous associations to areas with dense, closed canopy having ≥ 5 layers of vegetation structure. Douglass fir, Western red cedar, and Western hemlock associations represent advanced seral stage conifer stands, including snags. Also present are several mature Pacific yew and Grand fir trees. A variety of deciduous trees were observed – Big-leaf maple, Alder, Cottonwood, Madrona, and Dogwood.

Threats to existing vegetation include removal of large trees that make up the forest canopy, human disturbance of understory vegetation or younger trees, and invasion of non-native or undesirable pioneer species from forest edges. Fragmentation of large habitat blocks may compromise community integrity or reduce carrying capacity.

Runoff from storm drains seems to run directly into the watercourse. Future building project should include mitigation for runoff. Wetland areas within the watershed should be utilized and managed as a related resource.

If left to natural processes, the forest is likely to continue providing food and cover for many bird, insect, mollusk, amphibian, and mammal species. The forest will also remain resilient to minor disturbances like human, domestic dog, and domestic cat use.

Birds

Birds of special interest observed in the J40-Neighborhood forest include Pileated woodpecker, Belted kingfisher, Cooper’s hawk, Sharp-shinned hawk, Bald eagle, Great blue heron, and the Rufus hummingbird. A complete list of birds seen or heard in or above the study area is included in Table 3.

Table 3. Bird species seen or heard on or above the J40 – Neighborhood Forest study area, June 2002.

Common Name	Scientific Name
Pileated woodpecker	<i>Dryocopus pileatus</i>
Red-shafted flicker	<i>Colaptes auratus</i>
Hairy woodpecker	<i>Picoides villosus</i>
Downy woodpecker	<i>Picoides pubescens</i>
Belted kingfisher	<i>Ceryle alcyon</i>
Bald eagle	<i>Haliaeetus leucocephalus</i>
Osprey	<i>Pandion haliaetus</i>
Red-tailed hawk	<i>Buteo jamaicensus</i>
Great blue heron	<i>Ardea herodias</i>
Stellar’s jay	<i>Cyanocitta stelleri</i>
American crow	<i>Corvus brachyrhynchos</i>
Black-capped chickadee	<i>Parus atricapillus</i>
Red-breasted nuthatch	<i>Sitta Canadensis</i>
Evening grosbeak	<i>Coccothraustes vespertinus</i>
House wren	<i>Troglodytes aedon</i>
Kinglet	<i>Regulus sp.</i>
Waxwing	<i>Bombycilla sp.</i>
Song sparrow	<i>Melospiza melodia</i>
American robin	<i>Turdus migratorius</i>
Varied thrush	<i>Ixoreus naevius</i>
Cooper’s hawk	<i>Accipiter cooperii</i>
Sharp-shinned hawk	<i>Accipiter striatus</i>
Rufus hummingbird	<i>Selasphorus rufus</i>
Tree swallow	<i>Tachycineta bicolor</i>
Violet-green swallow	<i>Tachycineta thalassina</i>
European starling	<i>Sturnus vulgaris</i>
Warbler	<i>Parulinae</i>
Vireo	<i>Vireo sp.</i>
Barred owl	<i>Strix varia</i>

Birds depend on many local resources provided by the J40-Neighborhood Forest for foraging, cover, water, nesting, fledging, migrating, and over-wintering needs throughout the year. Threats include habitat loss, resource degradation, removal of snags, and increasing pressure from humans and domestic animals.

Mammals

Little sign of mammals was observed other than the work of burrowing critters – coyote, raccoon, skunk, or mountain beaver. Voles, mice, rats, squirrels, and bats are all likely to be present. Bats may depend on snags within the study area for roosts while on migration. Threats include habitat loss, resource degradation, removal of snags, and increasing pressure from humans and domestic animals.

Other Animals

A more extensive survey of the study area may result in observations of frogs, toads, salamanders, butterflies, moths, dragonflies, bees, ants, beetles, myriad soil denizens, and stream invertebrates.

Water

Fresh-water clams have been reported in the area north of where the stream feeds Lake Washington. Juvenile Salmonids are known to use areas near stream confluence with lakes.

Threats include runoff from Juanita Drive NE and Holmes Point Drive NE, as roadside drains directly to the stream. Current residential runoff may contribute to non-point source pollution. Two gas stations, a car wash, a restaurant, approximately fifty single-family homes, a fire station, and several small businesses are immediately upstream of the study area. Stream water should be tested for petroleum that may be leaking from underground fuel tanks at the gas stations. Water quality investigations should also include verification of proper water recycling and use of non-phosphate soaps at the car wash. Additional development or conversion of natural landscapes to non-porous drainage status may contribute to degrading water quality.

The surrounding neighborhoods are relatively well forested, extending and buffering the wildlife values of the Denny Neighborhood Forest property. The property is also very close (<1-km) from the O.O. Denny Creek Park and the Big Finn Hill Natural Area (Figs 3, 4, and 5). The Big Finn Hill Natural Area connects directly to O.O. Denny Park and St. Edward's State Park.

While the high degree of connectivity and combined size of neighboring parks and natural areas enhances the functionality of the J40-Neighborhood Forest property, the two roads that traverse the forest provide many carloads of people the daily pleasure of a true forest experience.

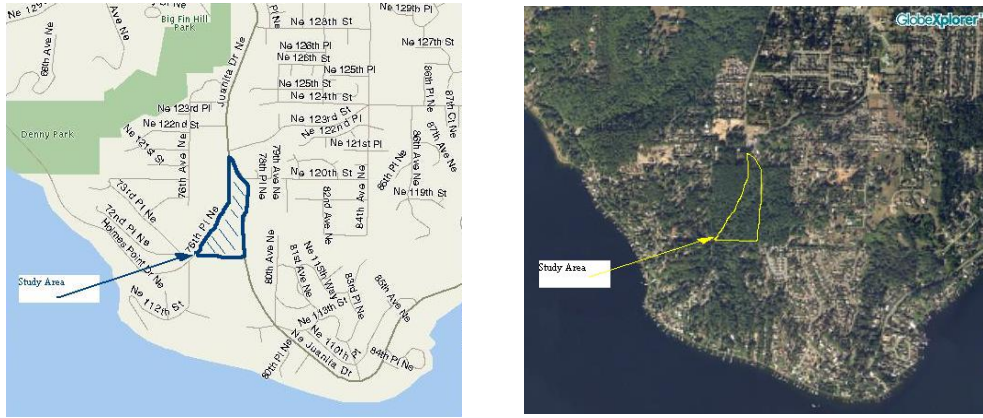


Figure 3. Map and aerial photo of the J40-Neighborhood Forest study area relative to O.O. Denny and Big Finn Hill parks.

The J40-Neighborhood Forest is not an isolated piece of wild land within an urban context. Rather, it is an active piece of a much larger functional system of forestlands, riparian areas, and wildlife resources.

Water quality and long-term resource restoration should be the focus of community projects and park resources. Special emphasis should be given to a community education campaign that focuses on establishing backyard wildlife habitat status, providing water use education, increasing awareness of the richness of this open space resource, and promoting proper choice and use of household, yard care, and automotive products.

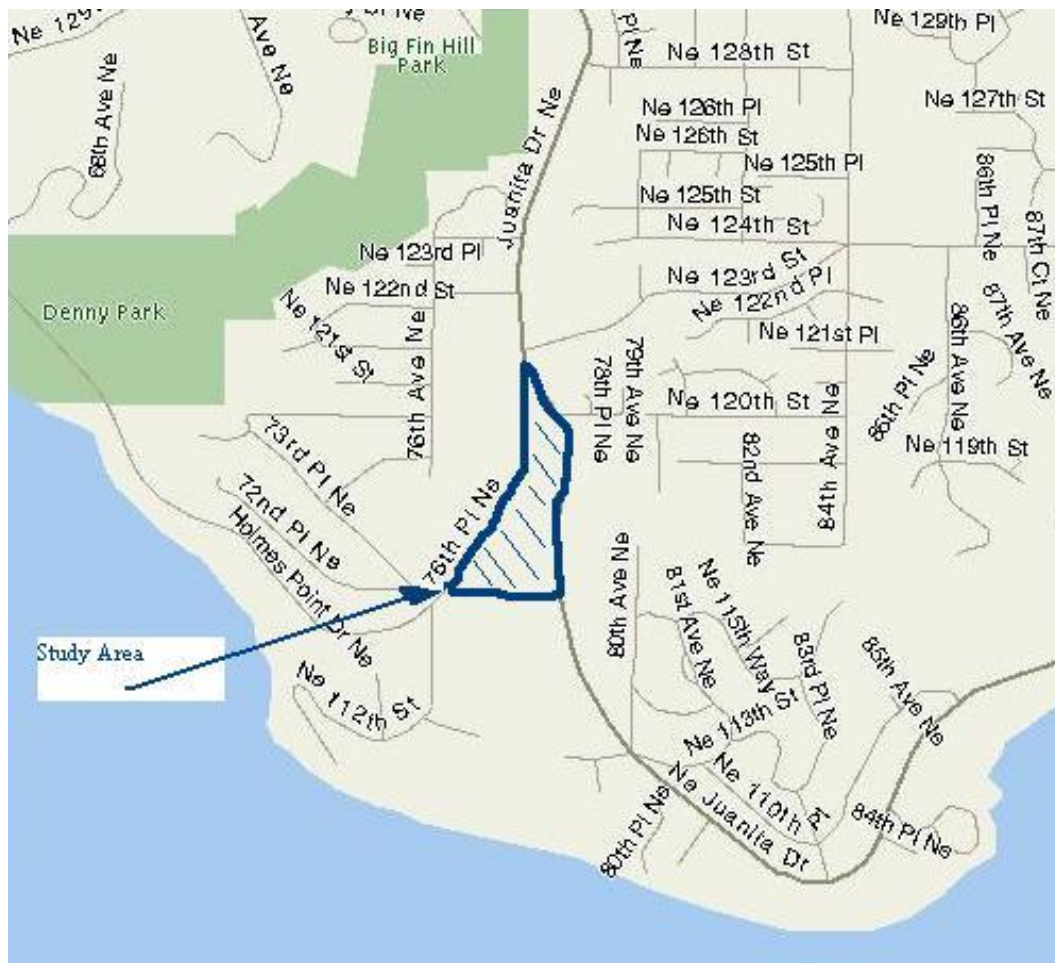


Figure 4. Map of the study area location relative to O.O. Denny and Big Finn Hill parks.

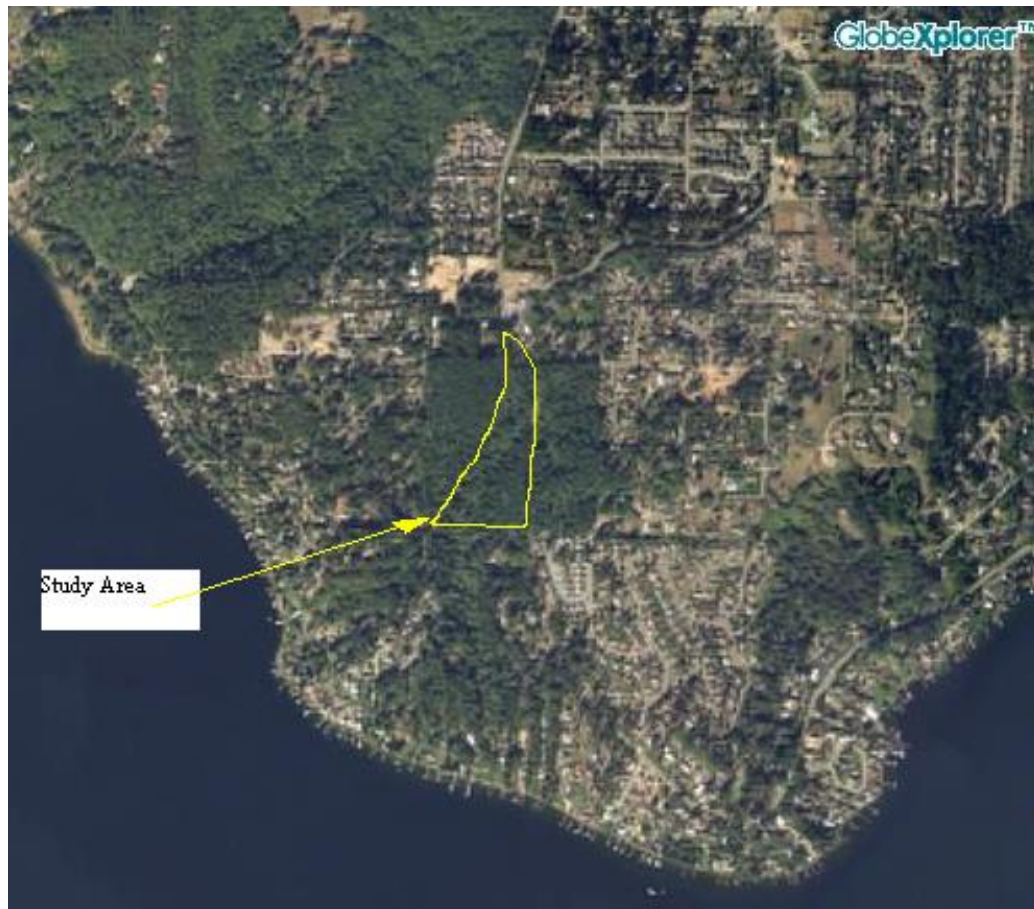


Figure 5. Aerial photo of the study area location relative to O.O. Denny and Big Finn Hill parks.

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