Harper Estuary

RESTORATION & PARK PLANNING

Harper Park Improvement Plan

Kitsap County

February 2020

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I. INTRODUCTION

The purpose of the Harper Park Improvement Plan is to facilitate restoration, protection and enhancement of the park's natural ecosystems while providing for appropriate public access, recreational opportunities for diverse uses, and enjoyment of the environment.

The Harper Estuary is a small, but ecologically important bay in southern Kitsap County. This pocket estuary and salt marsh are productive habitats for fish and wildlife. A project to restore Harper Estuary's natural functions is coordinated and managed by Kitsap County, in partnership with the Washington Departments of Ecology (DOE), Fish and Wildlife (DFW) and Natural Resources (DNR).

The charming Harper area has a rich, local history and diverse ecology. The Harper Park and Estuary feature shore and tidelands, a stream corridor and 47 acres of Kitsap County forested parkland (See Figure 1). Another 19 acres is managed by Washington DNR. Kitsap County classifies Harper Park as a heritage park because of its valued historical roots. Dedicated as a park in 1946,[1] today's Harper Park offers a playfield, picnic facilities, trails, parking, and an interpretive display of the former brick plant known as Harper Brick and Pottery. Established in the southwest portion of the estuary in 1900, the factory was abandoned in the 1940's. The company buildings were demolished, and much of the material pushed into the estuary. The many "clinker" bricks remaining in the tidelands and park area serve as reminders of the community's historic industry that nurtured the growth of a town and community at Harper. Historic bricks and fill material have also left a lasting environmental impact that local and state agencies and tribes are working to restore.

Kitsap County seeks to enhance the Harper Park recreational qualities, while reflecting its historical significance and supporting efforts to restore natural functions of the pocket estuary and salt marsh.[2] This project highlights restoration of a community asset; and enhances access to a local park and waterfront.

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[1] Sharon A. Boswell, *Harper Brick: The Foundation of a Community* (2016), p 31.

[2] The Washington Department of Ecology dispersed funds in 2014 to restore tidal influences and natural habitat impacted by an ineffective culvert and fill at Harper Estuary, SE Olympiad Drive, and Southworth Drive. The Washington Department of Fish and Wildlife received funds to remove fill and bricks from the estuary, install large wood, and replace the undersized culvert on Southworth Drive. Kitsap County received funds to design a solution to address the undersized culvert on Olympiad Drive. Kitsap County hosted seven public meetings with several educational walks, and gained community feedback via questionnaires, meeting conversations, and social media. Kitsap County and State agencies received approximately 530 comments about estuary restoration – and responses span themes pertaining to the environment, history, cultural values, recreation, access across the estuary, and estuary restoration. Over the years, conversations have continued with Harper community members – to discuss project activities, and to refine a vision for further work. The Harper community has been actively involved in planning for the enhancement and continued stewardship, of Harper Park and Estuary. The neighbors' involvement has been crucial to preparing for needed park and estuary improvements.

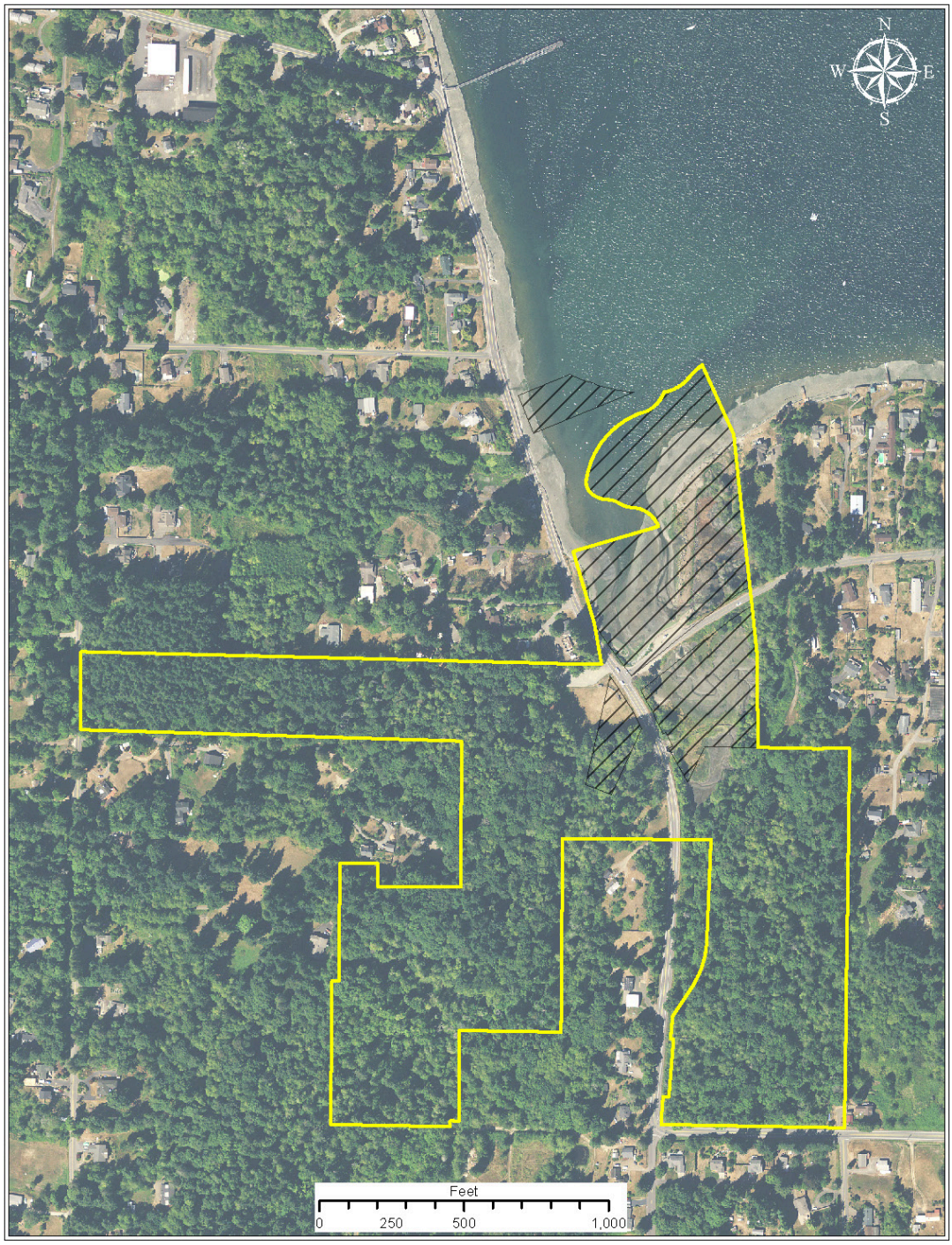

Figure 1. Harper Park is Located in Southworth. The yellow outline shows the park boundary and the hatched area, lands owned by Washington Department of Natural Resources.

II. NATURAL FEATURES OF THE HARPER PARK

General Watershed Description

Harper Park is located in Southworth within the 640-acre Harper Creek watershed. This watershed offers valuable habitat for plants, fish and other wildlife (See Figure 2). Coastal cutthroat trout presence, for example, is documented in the lower stream.[3] According to Department of Natural Resources data, there are just over two miles of stream – most is designated as "non-fish habitat," with 0.6 mile of "fish" stream in the lower end, near the Harper Park. Harper Creek has significant fish passage barriers. The 36" concrete culvert at Olympiad Drive is a major intertidal barrier and restricts upstream passage to the entire watershed. Additionally, there are smaller barrier culverts upstream for example, at the old clay mine, the park trail crossing and in the upper watershed.

In 2016, the Washington Department of Fish and Wildlife (WDFW) replaced the undersized culvert on Southworth Drive that acted as an intertidal barrier. Pre-project surveys revealed surprising results. Over 500 fish, crabs and shrimp were documented in a 50-foot section of stream in the estuary downstream of the Southworth Drive culvert. The fish were primarily sculpin, both staghorn and prickly sculpin. Three spine sticklebacks were also present, along with juvenile coho salmon and starry flounder. Immediately after the culvert replacement project, WDFW documented coho salmon spawning in Harper Creek, upstream of the previous barrier. This shows that restoration of the estuary provides significant environmental benefits to fish born in other parts of Puget Sound, beyond this watershed.

Coho Salmon

Prickly Sculpin

Starry Flounder

Figure 2. Fish known to be in Harper Creek and Estuary

The park features interesting geology including the clay deposits that sustained the Harper Brick and Pottery industry. Steep slopes are found in the central part of the park, along its western border; while gentler inclines are near the shore and along the lower reaches of Harper Creek. Much of the park is forested with both conifer and deciduous trees.

[3] Documented per Salmonid Stock Inventory from WDFW's Priority Habitats and Species database.

The development pattern surrounding the park is mostly residential, with an average parcel size of two acres. Except for Harper Park, the watershed is zoned rural residential, so future development impacts should continue to be minimal.

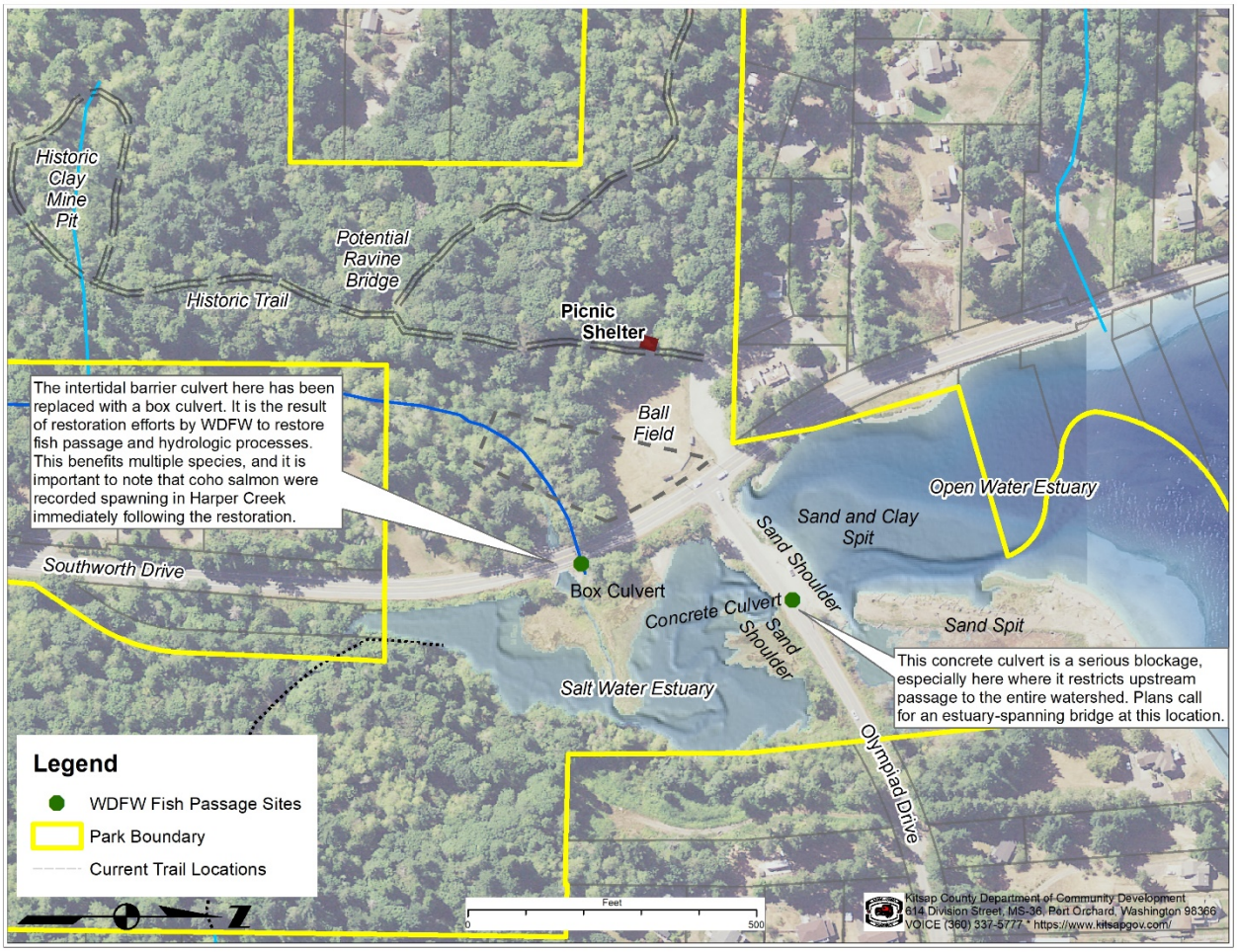

Figure 3. Harper Creek and Estuary

Wetlands

The National Wetlands Inventory designates the Harper Estuary as a saltwater wetland. Bounded on the west by Southworth Drive and enclosed by Olympiad Drive (built across the estuary), common vegetation for moist areas grows well here. In the higher elevation areas with less tidal influence documented plant and shrub species include: false lily-of-the valley, field horsetail, skunk cabbage, salmonberry, willow species, rose spirea and nootka rose. In the saltmarsh within lower elevation areas, documented species include: tapertip rush, pickleweed and seaside arrowgrass (Geoengineers, 2015). Riparian areas (indicated 150 feet from either side of all streams in Figure 4) tend to have wet soils with shade to maintain cool temperatures and clean waters in streams.

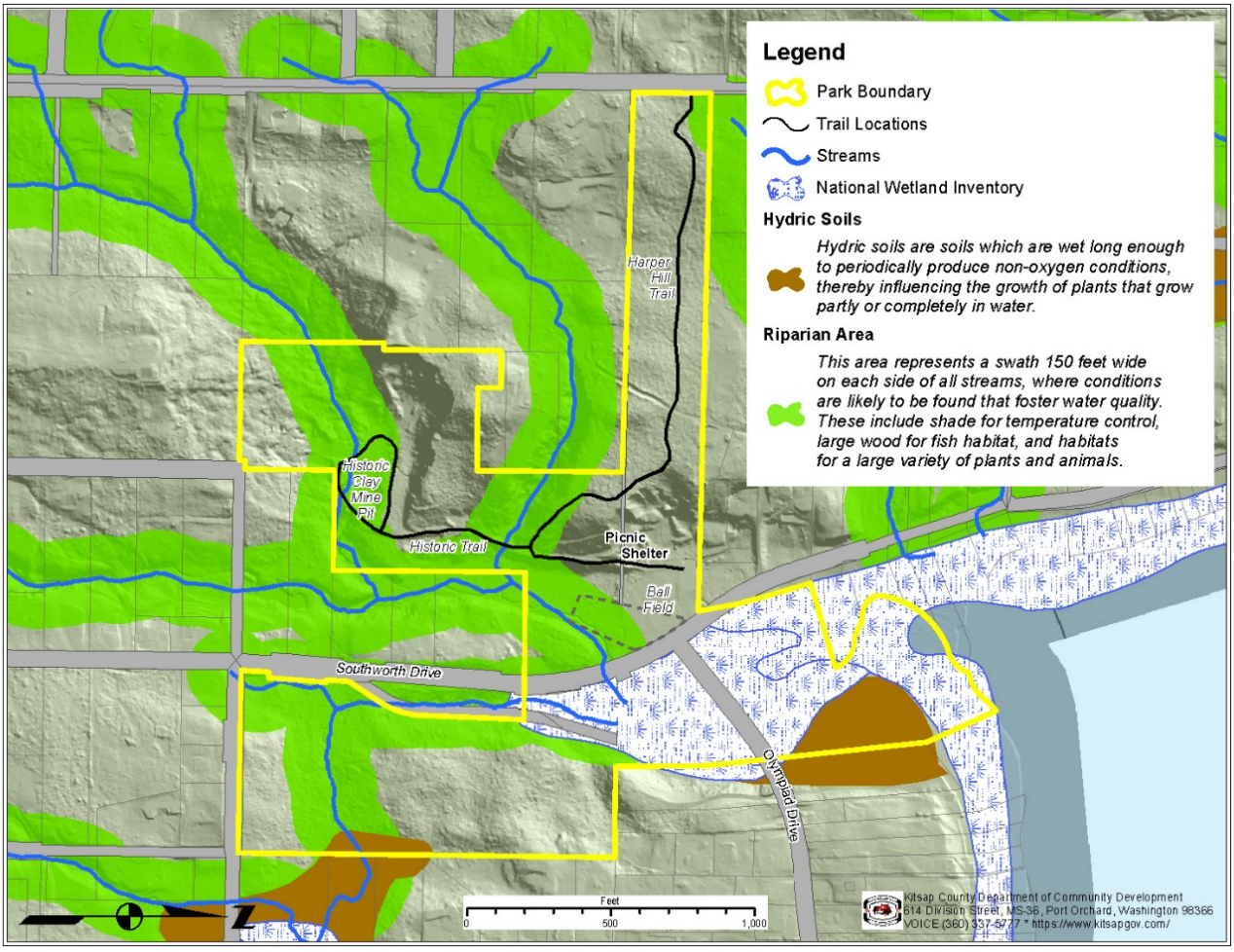

Figure 4. Wetlands and Riparian Areas in Harper Park. (Please note these wetland boundaries are not exact and provide only regional level accuracy).

Forests

The forest consists of a mix of conifer trees, including Douglas fir and western hemlock, along with western red cedar and limited amounts of grand fir. The broadleaf trees found here are red alder, willow and some madrone. The tallest forest areas, with many trees over 125 feet tall, are along the trail uphill (west) to Harper Hill Road. The remaining forest is primarily deciduous, with limited areas of mixed forest species. The deciduous stands tend to be younger and located in canopy openings.

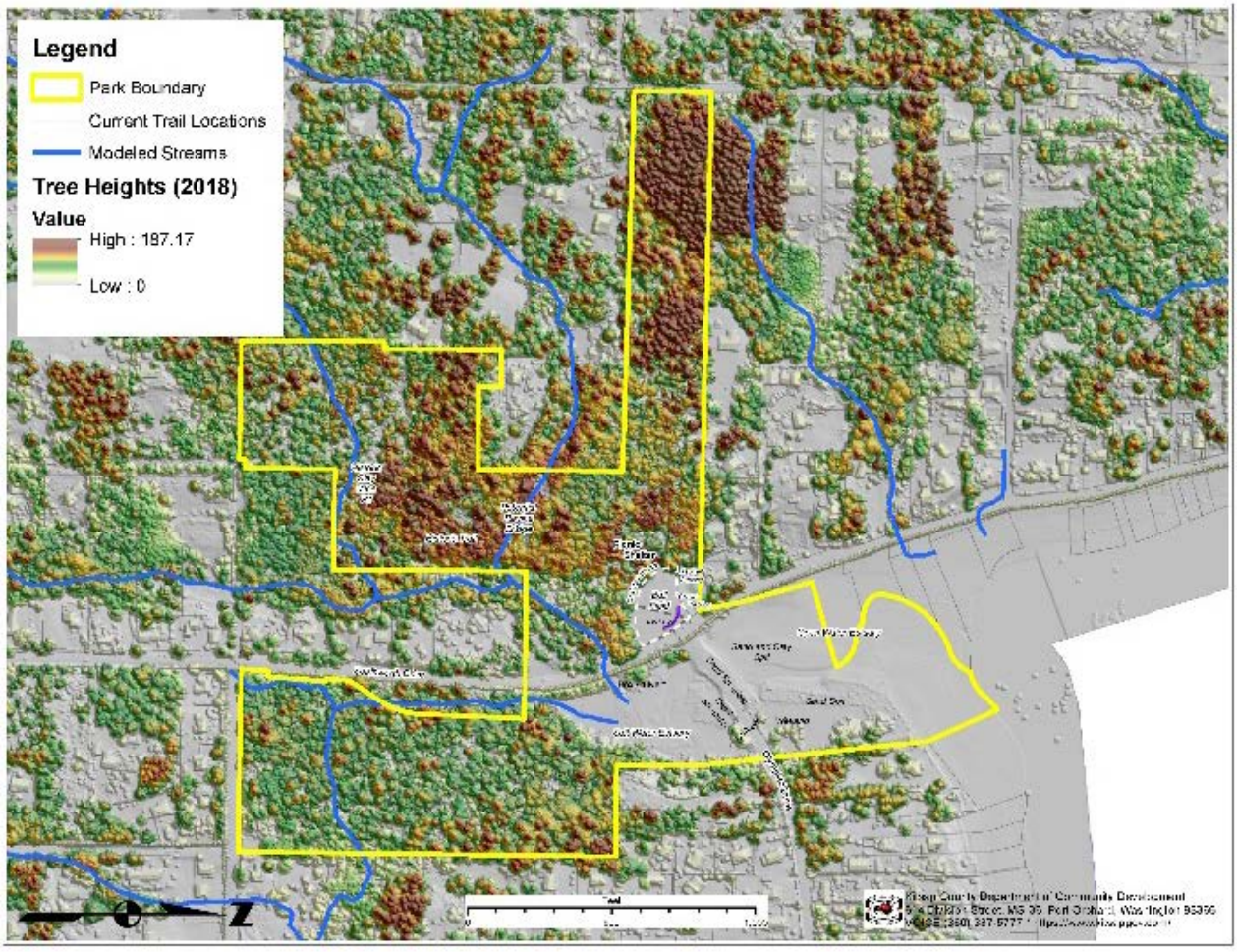

Figure 5. Tree Heights and Characteristics in Harper Park

Steep Slopes and Geology

Steep slopes (greater than 30%) that border small streams located in deep ravines (the dark red areas on Figure 6) pose erosion and land slide hazards at the historic clay mine pit and the historic transportation route leading to it[4]. Most of the remaining park consists of gently sloping forests. The LiDAR imagery in Figure 7 also depicts the topography of the land surface.

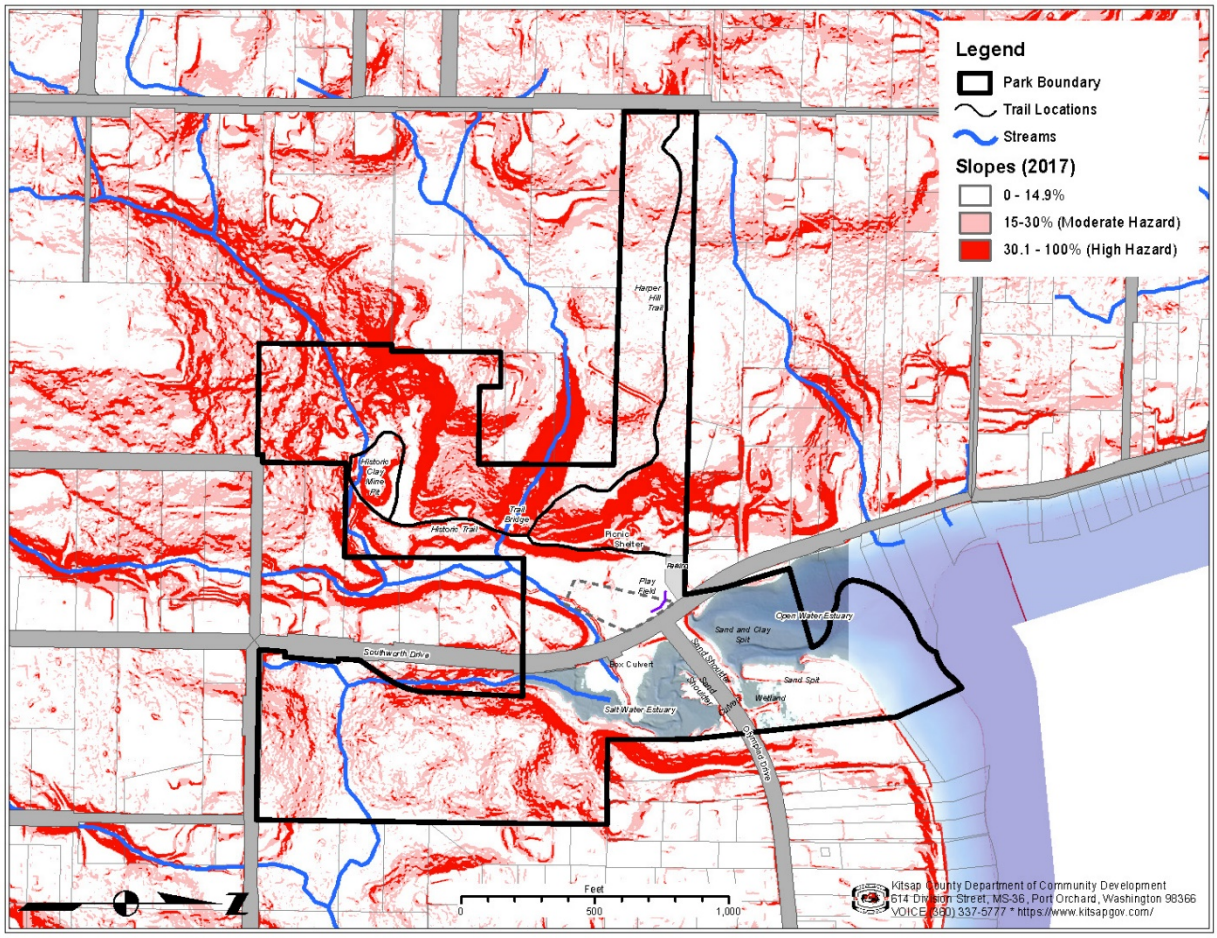

Figure 6. Steep Slopes in Harper Park

[4] Today this transportation route is the location of the trail to the clay pit.

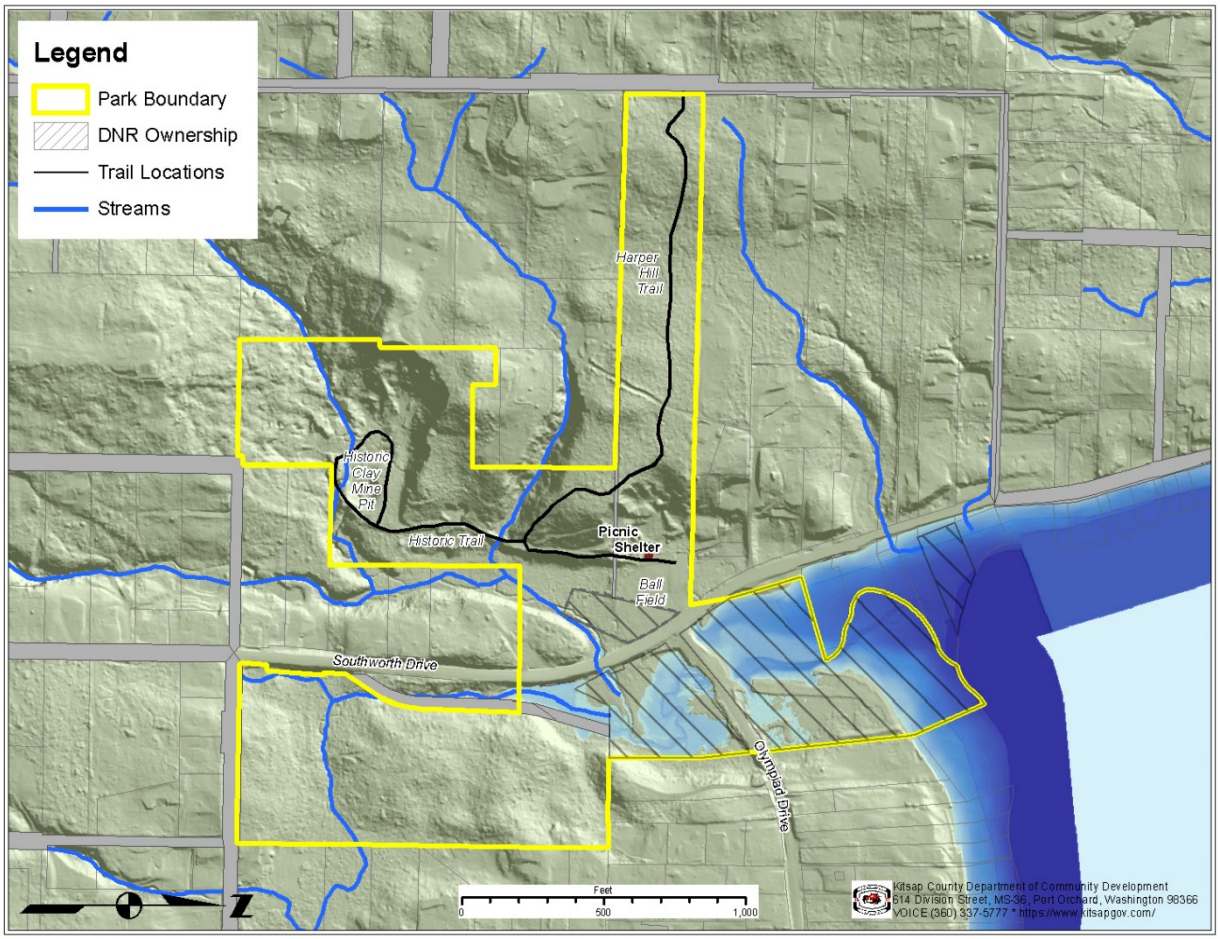

Figure 7. LiDAR Imagery of Harper Park

III. COMMUNITY ENGAGEMENT IN HARPER PLANNING

Summary of Community Interests

The Harper-Southworth community members are valued stakeholders in the design and outcomes of the Harper Estuary Restoration Project. When the restoration project began in 2014, Kitsap County and the Washington Department of Fish and Wildlife communicated with neighbors that they would be well informed throughout the project. Kitsap County consistently engages with the community to understand the community's needs, gain feedback, and provide updates about project developments. Previous community engagement also involved the partner participation of Washington Departments of Fish and Wildlife, Ecology and Natural Resources, and the Suquamish Tribe.

Kitsap County relies on the involvement of neighbors for the ultimate success of this project. Community involvement for the grant builds on previous community participation that shaped the direction of the project. Kitsap County's Commissioners' Office, Department of Community Development, and Parks Department collaborated with Harper neighbors through open house meetings, interactive walking meetings and further conversations. The first meeting was used to introduce the project goals, and to gather community insights to guide the restoration. The goals are to:

- restore tidal movement to the estuary, improve fish passage and habitat connectivity; and
- clean up industrial fill "clinker bricks" and relic roadway debris in the estuary.

The "Harper Estuary Restoration Project: Introductory Meetings Summary Report" delineates early meetings and ideas that have been used as a foundation for this restoration project. Additional meetings held between December 2014 and the present support the restoration and improvements for Harper Estuary and Park. For example:

- *2015: Four community meetings were held to hear from locals and provide updates on tasks associated with the estuary restoration and construction of a new bridge.*
- *2016: Five more meetings were held to gather community ideas on topics ranging from bridge design and permitting, boat launch access, to Harper history (the latter led to development of a booklet, entitled Harper Brick: The Foundation of a Community). Another forum identified valued assets and helped refine the future vision for the Harper community.*
- *2017: Three community meetings were held to discuss projects related to estuary restoration with community members and representatives of Kitsap County departments (Parks, Community Development, Public Works) working on this project.*

- *<u>2019</u>: Four community meetings have occurred to date as a part of a new DOE grant*. *These communications have helped shape the Harper Park Improvement Plan, as we begin to implement park improvements –and invite stewardship activities. This work builds on previous recommendations to restore Harper Estuary*. *These meetings occurred through two open house meetings, a walking-workshop ("walk-shop"), one educational walk and various community stewardship activities. In addition, "conversation boards" have stimulated conversations about topics associated with the future of Harper Park and Estuary. The conversation boards were posted at Harper Park and at Audrey's Espresso to invite neighbors and park users to add their voices to the conversation.*

Over the years, the Harper community has worked on projects to protect and improve Harper Park and Estuary. They initiate or participate in activities such as, picking up trash during their walks, monitoring for green crabs, pulling noxious weeds and planting native plants, and posting beautiful photos of Harper's scenic community online. Their perspectives have helped set the stage for implementing park and estuary improvements to benefit the community and the environment.

Harper community members have consistently expressed pride in their locale during this project, and particularly when walking along the shoreline. The most frequently mentioned assets (in no prioritized order) are the:

- Estuary and the natural setting - they support enhancement of the estuarine habitat, tidal exchange and fish passage;
- Local history and culture;
- Scenic vistas;
- Neighborhood connectivity;
- Recreational opportunities for all ages - naming, for example, hiking, kayaking, bicycling, child focused play, boating, picnicking, wildlife observation, and baseball;
- Multi-recreational opportunities in the park area; and
- Safety, public access to scenic water views and community stewardship.

Summary of Previous Analysis for Trailered Boat Launch Replacement

During the first phase of the Harper Estuary restoration it was determined that the informal boat launch at Olympiad Drive needed to be relocated to meet the restoration goals of the project. The goal set by the partners, Kitsap County, WDFW, WDNR and the Suquamish Tribe, was: *The completed project shall* provide *full tidal exchange and restore the impacted intertidal area within the right of way to maximum extent practical*.

During the design phase for the Olympiad Bridge, alternative boat launch designs and locations were considered as a replacement for the informal boat launch, but it was determined they were not feasible nor compatible with the restoration. The boat launch at Port Manchester four miles away was the most practical, safe and feasible alternative for vehicle access, and a trailered boat launch facility.

Despite this disappointment to some community members, there still remained community support for low-impact, hand-launch accommodation. To support the community's value for recreational non-motorized boating, a hand-launch for non-motorized boats became part of the new bridge design. The hand-launch was designed without compromising the restoration.

In the interim, before the bridge is built, the community has shown support for the use of the Olympiad Drive shoulder and an opening in the proposed roadside barrier to allow people to unload and hand-launch small recreational boats like kayaks.

Community Recommendations for Park Improvements

- Signage
  - Install a new sign on Harper Hill
  - Provide a trail map and interpretive educational signs for points of history, nature and community projects

Figure 8. A Current Sign Along a Trail in Harper Park (Spring 2019)

- Trail enhancements
  - Replace pedestrian bridge across the ravine
  - Add benches at key viewpoints along the trails

- Parking
  - Increase available parking
  - Install a privacy fence between the parking lot and neighboring private property
  - Provide bike racks

- Entrance
  - Upgrade the picnic shelter (such as adding barbecues)
  - Improve landscaping/garden improvements at entrance

- Safety is a priority for the community.
  - Create safe pedestrian crossing on Southworth Drive from the park to the beach

- Access to the waterfront and estuary
  - Provide ways to support environmental restoration
  - Add a vehicle barrier along the shoreline to prevent driving on beach
  - Provide a small opening in the barrier for kayak access
  - Add benches at waterfront (if this could be safely done)

- Recreation opportunities for all ages
  - Play structures for children
  - Multi-purpose recreation facilities
  - Continue offering baseball uses

IV. PARK PLAN

Landscape Classifications for Resource Management and Recreation

Kitsap County Parks' Resource Management and Recreation Landscape Classification System delineates areas within a park that are suitable for resource protection, and the management to accommodate public access and recreational activities. These Landscape Classification Categories (color-coded categories) are:

- **Natural Areas (green)** retain and protect the inherent natural, cultural or historic resource values, and are the most restrictive for public access**.**

- **Conservation Areas (yellow)** enhance the resource values, yet may require some management activities, such as invasive plant control, hazard tree removal (i.e. hazards to public safety as determined by the County), native plantings, ecosystem monitoring and research. To the extent practicable downed hazard trees will be left on site for wildlife habitat.

- **Passive Use Areas (brown)** denote low impact recreational uses, such as pedestrian trails, hand-launch water trail sites or interpretive vistas. [Note: Recreational shellfish harvesting areas may be included in Conservation or Passive Use areas depending on public access requirements.]

- **Active Use Areas (red)** are best suited for more developed recreational facilities and a broad range of uses. Such amenities include a parking area, picnic shelter, play fields, fencing, and art or interpretive exhibits.

- **To-Be-Determined (TBD)** indicates that this park area is not yet specified or needs to be assessed (such as for wildlife habitat or conservation concerns). Resource use will be considered after further research.

Figure 9 illustrates the land classifications in Harper Park. The narrative describes proposed guiding principles, as well as goals and objectives for each stage of Harper Park management.

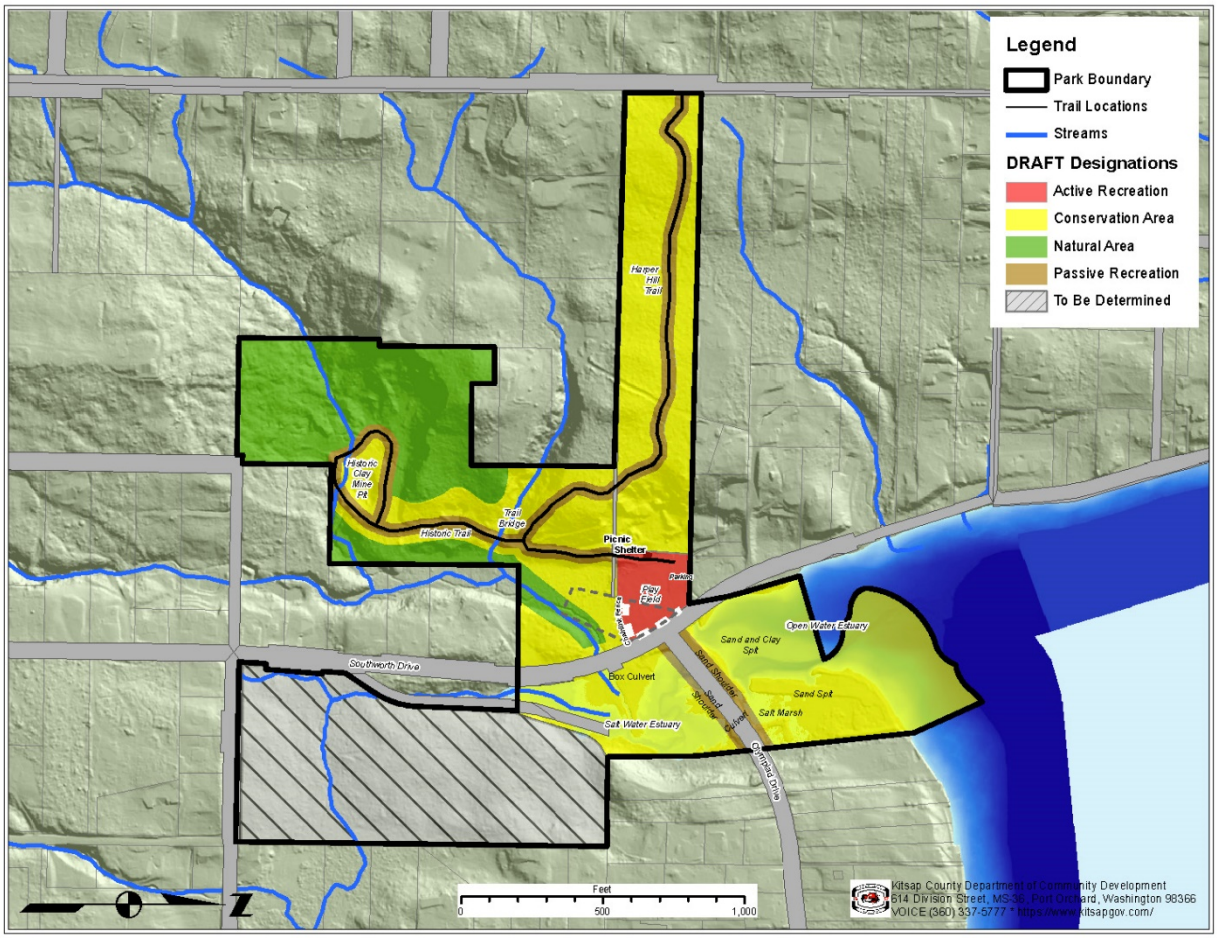

Figure 9. Harper Park Land Classifications

Harper Park Guiding Principles

- Restore and monitor the health of the saltwater estuary, stream and riparian areas and the parkland ecosystem.

- Support past state-funded restoration activities and continue to work towards reaching the maximum restoration potential at the estuary.

- Provide appropriate public access to the waterfront and improve access to recreation for all ages in a way that supports and preserves estuary restoration, function and wildlife habitat.

- Enhance community education about saltwater estuary, stream environment and upland forest ecosystems; emphasizing marine life and upland wildlife habitat.

- Highlight the historical significance of the Harper Brick and Tile Factory through park design elements and on-site interpretation.

- Engage and involve local community members interested in park planning and management, and as active volunteer stewards of the park.

- Support the enhancement of the Harper Park to serve awareness of the estuary restoration, protection of the riparian and upland environments, while providing improved picnic facilities park interpretation and good trails.

The park improvement plan will follow three progressive stages to achieve the following project goals.

- STAGE 1 GOAL: Maintain Harper Park facilities. Provide maintenance and minor project upgrades to promote safety, outdoor enjoyment, and recreation. *This initial stage includes planning work and minor projects that primarily maintain existing facilities.*

- STAGE 2 GOAL: Enhance Harper Park. Promote accessibility, safety, education, recreation, and environmental restoration by enhancing the park. *This second stage includes projects that require more planning than the initial stage.*

- STAGE 3 GOAL: Augment Harper Park. Add recreational amenities to support accessibility, safety, education, recreation, and environmental restoration. *This third stage includes more complex projects that could add new recreational amenities and require extra planning and preparation.*

STAGE 1 GOAL: Maintain Harper Park facilities. Provide maintenance and minor project upgrades to promote safety, outdoor enjoyment, and recreation.

Identify environmental and public access safety improvements.

- ✓ Conduct a hazard tree assessment and remove hazardous trees, as determined by the County, in public gathering areas of the park.
- ✓ Design and replace foot bridge crossing a ravine, which was vandalized and removed.
- ✓ Replace entrance signs at the two locations where visitors enter (Southworth Drive and Harper Hill Road). Add highway "brown signs" Southworth drive to alert drivers approaching the park/trailhead entrance.

Figure 10. Park Entrance Sign at Southworth Drive

Enhance the health of existing native vegetation. Begin a program to remove major invasive noxious weeds such as English ivy and Scotch broom throughout the park and shorelands.

- ✓ Assess priority areas for invasive noxious weed removal and develop a plan for control. See Appendix B for mapped locations of noxious weed management zones that are delineated based upon the long-term plan and specific goals.
- ✓ Coordinate volunteer labor to control invasive noxious weeds. Organize community volunteer work parties, and recruit volunteers from groups like the US Navy, high schools, churches, and Washington Youth Academy.
- ✓ Organize and coordinate a Parks community stewardship group that will take ownership of maintaining the forest and shoreland's health. The goal is for the stewardship group to maintain existing native vegetation and continue English ivy and Scotch broom removal efforts long-term.

Coordinate major park site and facility maintenance.

- ✓ Restore water drainage controls to improve access to the shelter and play field.
- ✓ Enhance the picnic shelter structure and add new picnic tables and barbecue facilities.
- ✓ Grade and rolled-gravel surface the main trail providing access to the historic clay mine.

STAGE 2 MID-TERM GOAL: Enhance Harper Park. Promote accessibility, safety, education, recreation, and environmental restoration by enhancing the park.

Design vehicle control barriers at the estuary shoreline and Olympiad Drive road edge to prevent driving on the beach and protect the estuary from erosion impacts.

- ✓ Provide for pull-through vehicle access along road right of way.
- ✓ Provide for unloading and barrier opening for hand-launch vessels.

Figure 11. Olympiad Drive, Looking North

Improve environmental education and park-wide communication/information.

- ✓ Develop signage related to estuary protection and restoration. Add a sign on the beach describing the restoration work.
- ✓ Design visitor introduction/orientation and interpretation signage at the park.
- ✓ Explore a docent pilot program.

Improve the accessibility of park picnic facilities.

- ✓ Broaden access to the picnic facility by improving the path to accommodate ADA needs.
- ✓ Construct picnic shelter pad extension to serve American with Disabilities Act (ADA) accessibility at kitchen shelter and barbecue area.

Enhance safety by discouraging crime, trespassing and vandalism.

- ✓ Identify park limits and add signage, etc. to help delineate park boundaries.
- ✓ Design and construct privacy fencing along property boundary adjacent to the north parking lot.
- ✓ Consider park facility features designed to promote safety.

Improve trail safety and accessibility.

- ✓ Routinely assess trail conditions.
- ✓ Upgrade trail standards and conditions (regarding trail width, grades, surfacing, and drainage) as needed to enhance safety and serve diverse user needs.

STAGE 3 LONG-TERM GOAL: Augment Harper Park. Add amenities to support accessibility, safety, education, recreation, and environmental restoration.

Enhance and improve the park setting and facilities to recognize the community's needs and values.

- ✓ To support more open-field play area, remove the large baseball backstop and the deteriorating wooden "dugout" structures.
- ✓ Retain the existing low perimeter fencing that supports open-field family play activities.
- ✓ Improve park amenities such as: benches, picnic tables, barbecues, bike racks, art and interpretive displays.
- ✓ Improve the aesthetic appeal of the entrance of Harper Park with a native plant landscape feature enhancing the entrance and formal entrance signage.

Figure 12. Fencing between Ballfield and Parking area

Support environmental restoration and environmental education in Harper Estuary and Park.

- ✓ Support projects and project partnerships to remove industrial fill (clinker bricks) and relic roadway debris for the restoration of natural functions and improvement of estuary health (partners could include the Washington Department of Ecology, Washington Conservation Corps, etc.).
- ✓ Provide visitor introduction/orientation and interpretation signage.
- ✓ Encourage environmental restoration, education and community events at the site.

PROPOSED IMPROVEMENT: Open Playfield and Picnic Area

1. Add a picnicking area in the grass field area to increase the enjoyment of the open field and the bay and estuary views.
2. Upon completing an approved design and permit for a replacement dome-style backstop proposed for the northeast corner of the open play field, the old chain-link backstop would be removed, while retaining the outfield chain-link fencing.
3. Add interpretive signage to improve park and estuary awareness and appreciation.
4. Improve gravel parking area and add parking wheel-stops.

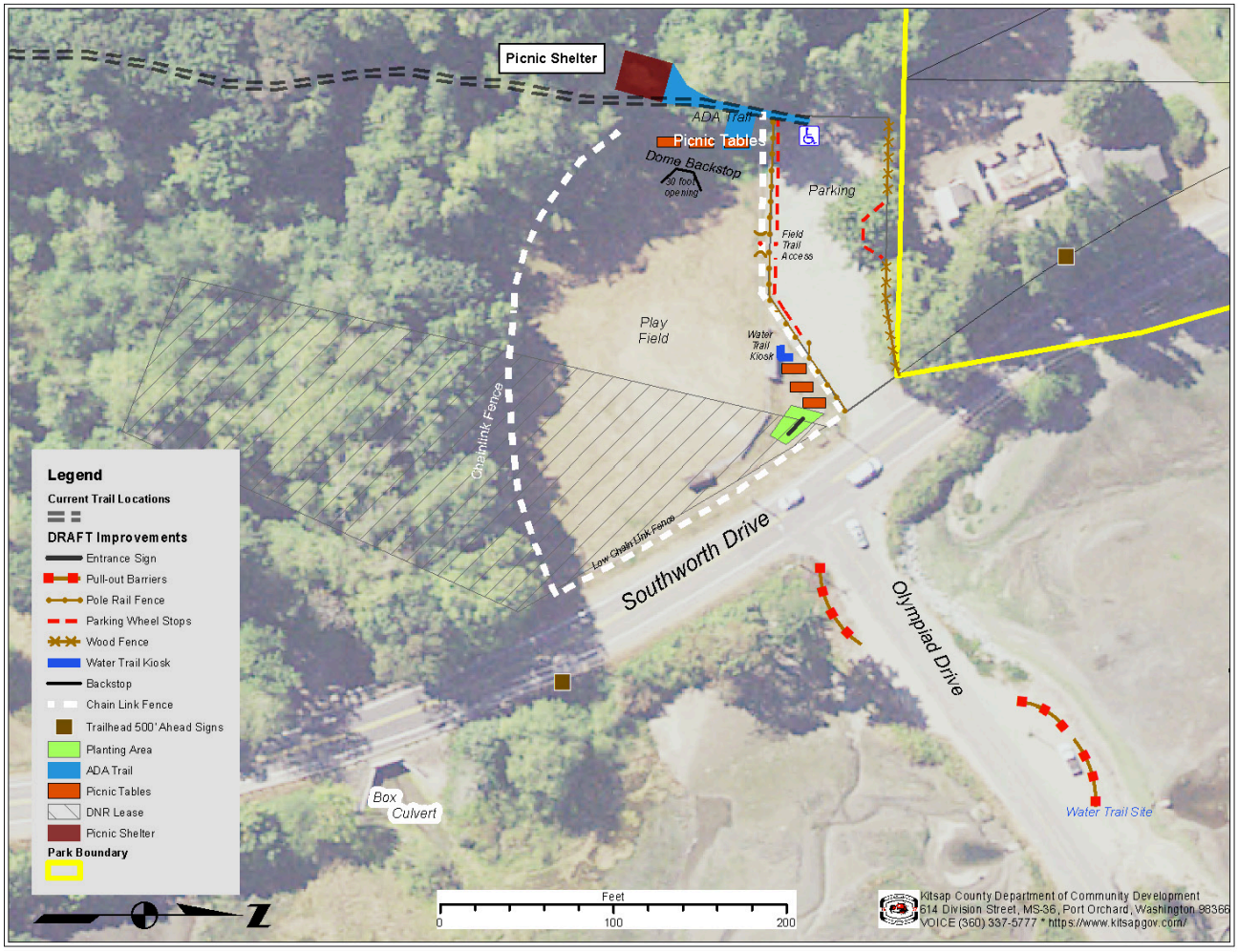

Figure 13. Proposed Harper Park Playfield and Picnicking Improvements

Figure 14. Example of a Potential Smaller Backstop Nearer to the Picnic Shelter

Open Playfield Advantages:

- The existing 1950's era baseball facility (backstop, wooden dugouts, fencing and sod field) are in poor condition. This condition and the size of the existing field is not suitable for an improved baseball facility. The condition of the clay-base soil, the uneven poorly drained grass sod, and brick debris underlying the field, would deter the development of any formal or standard baseball facility. Retaining an open field play, retaining the perimeter low chain-link fencing, responds to the community interest in retaining some practice baseball and ball-toss area. A small, dome-cage backstop may be a feasible fit in the northwest corner of the field, however would accept the same rough field conditions.
- This new orientation of the open field with aesthetic improvements, open-field play attraction, and waterway/estuary interpretive displays would be compatible with the state-owned aquatic lands requirements determined by the Washington Department of Natural Resources (DNR). Washington State is the underlying landowner of about half of the existing ball field footprint.

Constraints for Washington Department of Natural Resources State-owned Aquatic Lands

Currently about half of the ballfield development is within Washington State ownership. This area consists of filled state-owned aquatic lands (SOAL). RCW 79.105.220, 79.105.230, 79.110.330 stipulate that if a use is for public parks or public recreation purposes, then the use shall be granted without charge if the aquatic lands and improvements are available to the public on a first-come, first-served basis. So, filled tidelands used as park are not charged rent. However, Kitsap County must secure a lease for occupation of state-owned lands.

Washington State prioritizes water-dependent uses of State-owned lands over nonwatery-dependent uses. Public use and/or access activities that provide opportunities for water dependent public use and access are to be preserved and enhanced. Examples of water-dependent public use and access activities typically include:

1. Physical access to the water for swimming, fishing, shell-fishing or boating;
2. Unfettered visual access to the water. Some examples of typical improvements that might provide access include boardwalks, walkways, benches, viewing areas and open shelters which allow protection of users participating in these activities.

Non-dependent uses of state-owned aquatic lands are discouraged from expanding or establishing in new areas.

Advantages for Department of Natural Resources Lease Application: The open field play area best suits the recreational access and use of upland ownership and mandates under the Washington Department of Natural Resources State-owned Aquatic Lands management

authority. Focusing on the water-dependent components in a mixed-use plan and waterway access enhancement and interpretation, will further support the public benefits and goals provided by a DNR SOAL lease.

Renewed Park Attraction:

- Adding Park entrance landscaping, signage and site orientation/interpretive displays will help to redefine the image of the park and attract a more diverse park use.
- Park interpretive displays and signage can draw attention to the estuary, the waterway and the park's historical background.
- Near the Park entrance and by the waterway, provide signage to direct interest to the Kitsap Water Trail (WT) System with WT Regional Map and waterway chart orientation.
- Provide waterway access for kayaks and hand-launch boats at the roadside pull-out along Olympiad Drive. Displays, signage and kayak staging area will improve the usefulness of the adjacent beach area for water dependent public use and access.
- Picnic tables and a bike rack could be added near the field for increased attraction and use of the park.

Connect Harper Park to Waterfront Strategy:

a. Provide for vehicle alert to the park entrance and add signage awareness for safe crossing across Southworth Drive for pedestrians and kayakers (i.e. small boat users) to the beach. Connecting park orientation to waterfront with maps and signage will enhance water-dependent public uses and waterfront access.

b. A formal pedestrian crosswalk along the high traffic Southworth Drive is absent, however review by County Public Works indicated that the volume of daytime traffic and adequate distances did not warrant formal street crossings. Park signage can caution and alert pedestrians choosing to cross the highway. A "Park/Trailhead Parking – 500 ft. Ahead" sign (highway-approved recreation brown signs) would be installed along Southworth Drive in both directions to alert through-drivers and direct park visitors.

c. Enhance viewshed of the estuary, provide water view amenities like interpretive displays and benches, and provide kayak staging area in park.

Note: All planning stages integrated community participation and have been reviewed by County staff and officials, Parks Advisory Board, the Suquamish Tribe and partner agencies.

V. BIBLIOGRAPHY

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VI. APPENDICES

APPENDIX A. Summarized Demographic Information

Basic population demographic information was summarized for the communities residing within a short distance of Harper Park. The information shows that as you move further away from Harper Park, the population includes more non-white persons and slightly more children. Two schools are within one mile of Harper Park: South Colby Elementary School and John Sedgewick Junior High. These schools are within the South Kitsap School District. Additional information on the total population and housing units, race, and age for 2010 at different distances from Harper Park are provided below.

- **Population residing within one-half mile of Harper Park**: 288 children (19% of total population), 1261 adults (81% of total population is 18 years or older), and 130 non-white persons (8% of total population). Area has 706 housing units (627 occupied) and 1,549 persons, in total.
- **Population residing within one mile of Harper Park**: 604 children (21% of total), 2,308 adults (79% of total), and 260 non-white persons (9% of total). Area has 1,239 housing units (1,115 occupied) and 2,912 persons, in total.
- **Population residing within a distance of two miles of Harper Park**: 1300 children (21% of total), 4,925 adults (79% of total), and 598 non-white persons (10% of total). Area has 2,637 housing units (2,395 occupied) and 6,225 persons, in total.

Recent demographic information (2015-2018) on the ages of residents within two miles of Harper Park shows only minor shifts. Listed from closest to farthest, the following three census tracts are within two miles of Harper Park: Harper/Southworth Tract 927.04 is closest to Harper Park, West Harper Tract 927.01 is the next closest, and Manchester Tract 926 is located the furthest away (see Figure 15, below). Highlights:

- Tract closest to Harper Park (927.04): the number of potential retirees (65-74 and 75+ years) has increased and the number of children has remained the same since 2015.
- Tract west from Harper Park (927.01): the number of potential retirees (65-74 and 75+ years) and children slightly increased since 2015.
- Tract furthest and north of Harper Park (926): the number of older retirees (75+ years) dropped off but younger retirees (65-74) increased and the number of children remained the same since 2015.

The above information on population changes for different age groups from 2015 to 2018 is based on Washington State Office of Financial Management estimates.

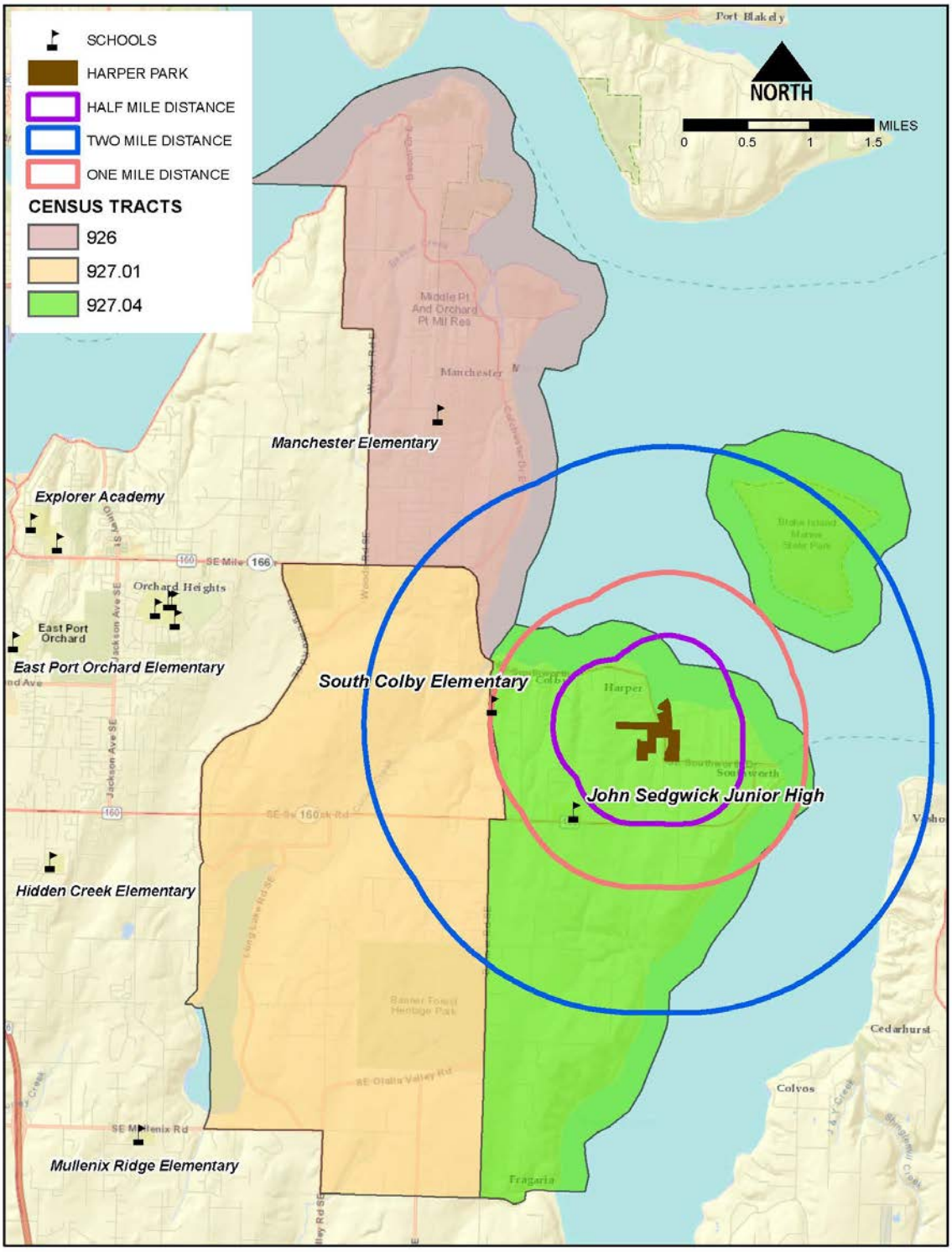

Figure 15. Census Tracts around Harper Park

APPENDIX B. Noxious Weed and English Ivy Removal Plan for Harper Park

Background

English ivy (*Hederal Helix*) is a non-native, climbing woody vine that invades parks, natural areas and landscaped sites. English ivy is a threat to tree health and plant diversity within habitats and ecosystems of Puget Sound. The weight of the ivy vines can smother trees, deprive them of sunlight and cause them to be more prone to wind damage. Thick blankets of perennial ivy vines crowd out native plant communities of herbaceous plants and shrubs, reducing natural forest diversity (See Figure 16). English ivy is classified as a Class C noxious weed by Washington State law (WAC 16-750) which means its distribution is already widespread or it's of special interest to the agricultural industry; however, the State does not enforce its control.

This noxious weed removal plan focuses on the English ivy infestations within the upland portion of Harper Park. However, these efforts are in addition to efforts that address noxious weed infestations within the park's estuary and shorelands. Scotch broom and knotweed will also be removed in the estuary, north and south along Olympiad Drive.

Management Zones

Managing English ivy is a multi-year process. Management can be done year-round, but tactics vary based on locations of infestations and end goals for management zones. The overall noxious weed control goals for Harper Park is to remove English ivy infestations within the park long-term to promote tree health, improve forest habitat diversity, improve riparian habitat quality for fish and wildlife, and to beautify the park and improve safety for visitors' recreation experience.

Harper Park is divided into three ivy management zones, Zone 1, 2 and 3. Figure 17 is a map which shows the boundaries of these zones.

Figure 16. English Ivy Infesting Trees and Up-close Image of Mature Leaves

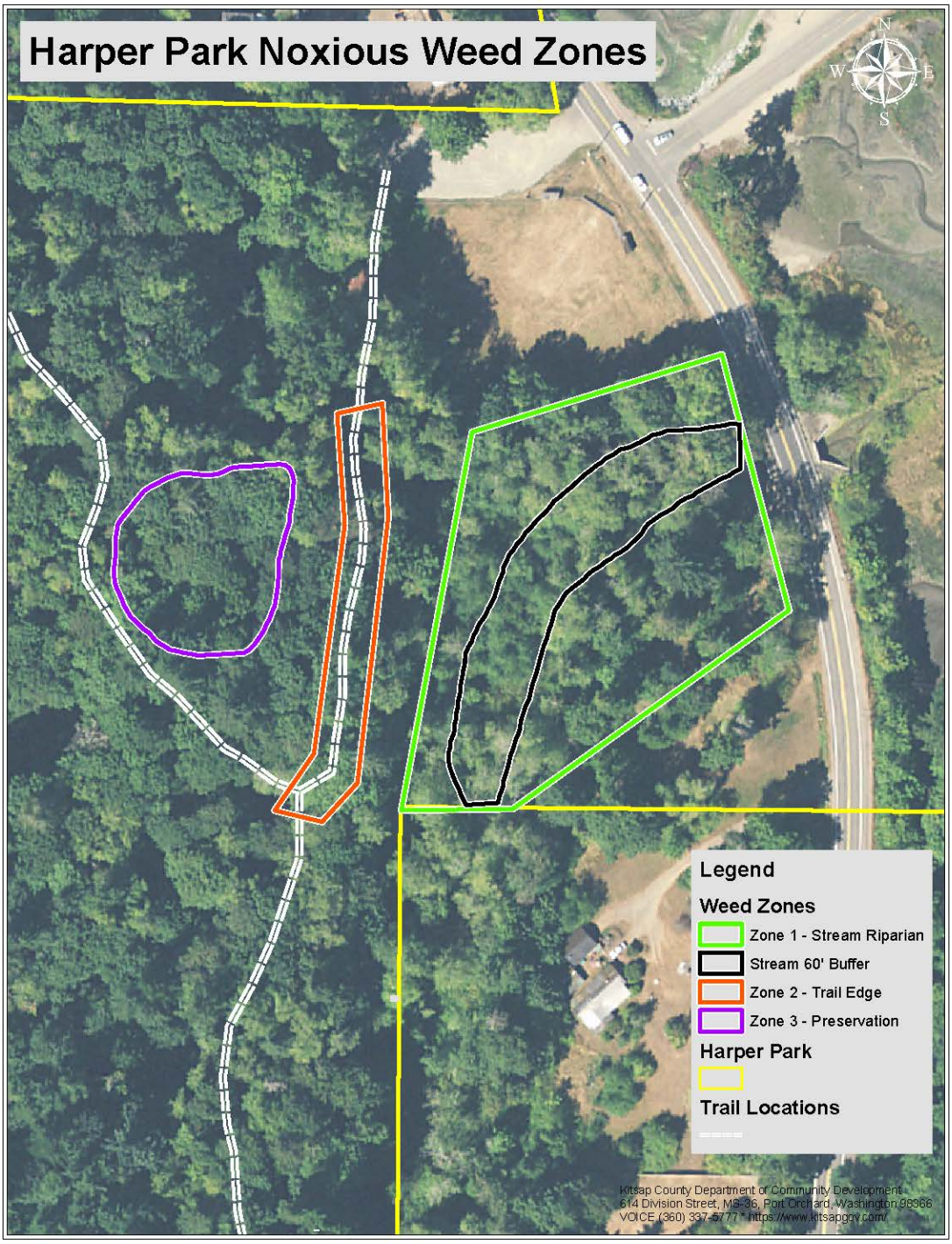

Figure 17. Noxious Weed Removal Zones (English ivy) in Harper Park

Zone 1 'Stream Riparian'

Zone 1 is located south of the baseball field. It encompasses an area of wetlands on either side of the stream, approximately 100 feet from each north and south stream bank. This zone is split into two sections: one section that is a 60-foot buffer from the stream banks, and a second larger section that is the entire 100-foot buffer from the stream banks. The management tactic for these two zones is to concentrate resources and effort first within the 60-foot buffer area because of the high value of the riparian habitat. The stream is fish-bearing and spawning Coho salmon have been previously observed. After the ivy is reduced to an acceptable level in the 60-foot buffer area, then efforts will shift to the 100-foot buffer area. The Parks Department and the Kitsap County Noxious Weed Program will make the decision as to when to shift efforts to 100-foot buffer.

In Zone 1 the ivy infestation is both on the ground and up many of the trees. This zone is the largest area of ivy to be managed in the park. This area has a mix of native plants that are being impacted by the ivy on the ground. Management will be a combined effort of first managing the ivy on the trees, and then on the ground. Due to the stream running through the middle of this zone, special care will be taken to ensure that volunteers and county staff stay a safe distance from the stream edge. Being cognizant of group dynamics and matching areas of management within this zone to the experience level of our volunteers will be a priority in each volunteer event held at Harper Park. A focus will be placed on safe, responsible action within this zone, and volunteer education on best management practices.

The key to management in this zone is to pick a section that is small enough for a group of three people to manage. The first goal is to work on trees. The group will select a few trees that they would like to free from ivy.

Best Practices for Removing Ivy from Trees:

At the base of the tree, at ground level cut the vines, then cut the vines around the tree about 4-5 feet off the ground. Slowly peel the cut sections away from the tree, leaving the rest of the vines up in the tree. Either pile these cut sections in an already infested area or you may take them off site for disposal. Do not take the vine sections to a compost facility because this will infest the compost facility.

Once ivy is removed from the trees in the desired areas then start to focus on the ground around the freed trees.

Once ivy has been removed from the trees in Zone 1 ivy infestation on the ground can be addressed. It is best to work in teams to remove ivy from the forest floor. Take care to work around native plants. Map out an area to focus on. Work from the edge of the population and move the roles of ivy towards the edge of the population for easier "carry out" from the site.

Best Practices for Removing Ivy from the Ground:

Use tools to get under the roots and pry the ivy out of the ground. Roll the ivy onto itself by standing behind the ivy and rolling it towards the "patch". When roots will not come out of the ground, cut them and keep the plants wrapped up.

Piles of ivy pulled from the ground can be placed on tarps, and then be moved to a holding location for pick up by county staff.

The removal areas should be surveyed for new growth once a month for 3-5 years.

Zone 2 'Trail Edge'

Zone 2 is a narrow corridor located either side of the main trail to the historic clay mine. The zone spans approximately 20 feet on either side of the trail and continues to the ravine crossing. This area has had passive control due to the restoration and widening of the trail. This section was cut, graded and graveled. This area needs to be managed in a way to maintain the new trail substrate (crushed gravel) from being destroyed by ivy regrowth. Ivy has been cleared from the sides of the trail but there is still ivy on the trees adjacent to the trail. The ivy also continues down the hillside towards the stream within Zone 1, but much of that ivy is not safely accessible for removal.

The goal for Zone 2 is to cut sections of ivy from the trees. Provide a 2-foot gap from the ground to where the ivy begins on the tree. Ivy on the ground could be cut and when the new growth appears licensed and trained staff should dab herbicide on the new growth. This will help move the herbicide into the root system without having to navigate the hillside or impact the newly placed trail substrate.

Encourage each visitor to take clippers with them to cut ivy along the trail side. Create a space for visitors and volunteers to dispose of ivy they have cut or pulled while on their hike. Create a kiosk or signage which asks visitors to document (written or online) the ivy they pulled.

Zone 3 'Preservation'

Zone 3 has limited ivy present and displays a generally healthy upland forested habitat. The area consists of mostly native plants, and staff speculates that this area could be successfully protected. There is a healthy mix of shrubs like Oregon grape, Indian plum and conifer species like Douglas Fir. The ivy is limited in this section so pulling plants is feasible. The pulled ivy should be carried out of the zone.

The ivy is small and the roots in this area are easily pulled. The ivy vines can be pulled from the middle of the plant towards the edges. Medium size patches in this section should be flagged so that volunteers can go back to the site to check for regrowth over the next 3-5 years.