THE SEOLA POND PARK PROJECT

SEATTLE, WA
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HEALTH IMPACT ASSESSMENT

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Author Acknowledgement

This health impact assessment report was written by graduate and undergraduate students as a class project for ENVH/URBAN 536 Health Impact Assessment in Spring Quarter 2025 at the University of Washington. These students came from diverse programs within the University of Washington, representing the fields of public health, environmental health, landscape architecture, bioengineering, urban design and planning, infrastructure planning, and social work.

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EQUITY STATEMENT

Access to parks and green space is an environmental determinant of health, where health benefits can be measured for an individual or a community according to access and proximity to parks and green spaces. Access to parks and green spaces has historically been greater among upper class, white communities and most inaccessible to lower class communities of color. This characterizes park and green space access as an environmental justice issue and presents park departments, public health agencies, and city planners across the U.S. with a unique opportunity to collaborate in addressing environment, equity, and justice issues simultaneously. We recognize that inequitable access to green space in King County is a motivating factor for King Counties' interest in the development and maintenance of the Seola Pond Park Project. Thus, the contributors to this HIA prioritized a focus on equity. Each chapter of the report includes equity considerations specific to environmental health, accessibility, and short to long term community implications from the development of Grace Church/Seola Pond Park.

POSITIONALITY STATEMENT

The contributors to this report are all graduate and undergraduate students at the University of Washington representing the fields of public health, environmental health, landscape architecture, bioengineering, urban design and planning, infrastructure planning, and social work. We recognize that our pursuit of higher education is a privilege that is inaccessible to many people, and that our position as students allows us to dedicate time toward learning about and addressing the root causes of health, environment, and structural inequity. Not all of the contributors of the report are familiar with the neighborhood and surrounding area of the Seola Pond site. Our report and recommendations are informed by educational and personal experiences, online research, informal meetings with representatives from King County Parks, King County Public Health, the Grace Church minister, and limited firsthand accounts of visiting the site. As this project develops, continued community engagement conducted by the county and the church will help ensure that the implementation of these recommendations align with community interests and perspectives.

INTRODUCTION TO THE HIA

WHAT IS AN HIA?

A Health Impact Assessment (HIA) strategically evaluates the potential health effects of a policy, plan, initiative, program etc and provides recommendations for mitigations and/or opportunity. HIAs often focus on underserved communities, prioritizing those that are disproportionately affected by the proposed change.They are intended to be conducted proactively, ahead of decision-making in order to inform the decision-making process. Community engagement is a critical component of an HIA. However, due to the time constraints, the HIA team had to rely on previous community engagement efforts to inform their research. Therefore, continued community engagement is outlined as a paramount recommendation in this HIA.

HIA TEAM

The HIA Team consisted of 15 graduate and undergraduate students at University of Washington, spanning several disciplines, including: public health, environmental health, landscape architecture, bioengineering, urban design and planning, infrastructure planning, and social work. The team conducted the HIA during the 10 week Spring term from March to June of 2025, with an in person site visit conducted in May 2025.

HIA PROCESS

The steps used in this HIA are:

Screening: Prior to the Spring 2025 term, Dr. Andrew L. Dannenberg and Dr. Edmund Seto assessed the feasibility of multiple projects and determined the Seola Pond Park Project was suitable for an HIA during the 10 week course term.

Scoping: After we received an overview of the project presented by the King County Parks Department, Professors Dannenberg and Seto conducted a scoping exercise with the class, where we brainstormed numerous health implications for Grace Church/Seola Pond. The class then categorized the implications and grouped the subtopics into 4 major chapters.

Assessment: The class met with the King County Parks Department to understand current conditions, previous work done, key stakeholders involved and project limitations. The class divided into chapter groups and reviewed source material developed and provided by the Parks department, conducted literature reviews and analyzed multiple data sources.

Recommendations: For each chapter and subtopic, the team developed recommendations to mitigate potential adverse health impacts and promote health opportunities. Key recommendations are outlined in the executive summary and comprehensive recommendations can be found at the end of each chapter.

Reporting: The HIA team worked collectively to develop a report that was presented orally to King County Parks on June 5th, 2025. Comments and feedback from the presentation were integrated into the final written report. This final written report is being submitted to the King County Parks Department in mid-June 2025.

Monitoring and Evaluation: The recommendations outlined in this report have varying levels of monitoring and evaluation needs. However, due to the completion of the 10 week course, the HIA team was not able to provide monitoring and evaluation for the Grace Church/Seola Pond redevelopment project.

SCOPE OF THE HIA

In examining potential health impacts of the Grace Church/Seola Pond area, the HIA team identified four areas of focus for primary investigation and analysis. Each of these areas of focus were grouped into chapters, which also included multiple sub topics. Each chapter provided project recommendations for consideration. The four focus areas for the Seola Pond Park Project HIA were:

Chapter 1: Health & Well-being

Chapter 2: Environment Health

Chapter 3: Community, Equity & Access

Chapter 4: Facilities & Land-use

PROJECT BACKGROUND

The Grace Church/Seola Pond Project is part of the King County Land Conservation Initiative, which has the objective of preserving important natural lands and urban green spaces. Located at 2840 SW 104th Street on the western edge of the North Highline unincorporated area, and adjacent to Roxbury Heights neighborhood (Seattle), the area is property of the Grace Conservative Baptist Church and it is mostly residential in this sector (Milholland, 2025).

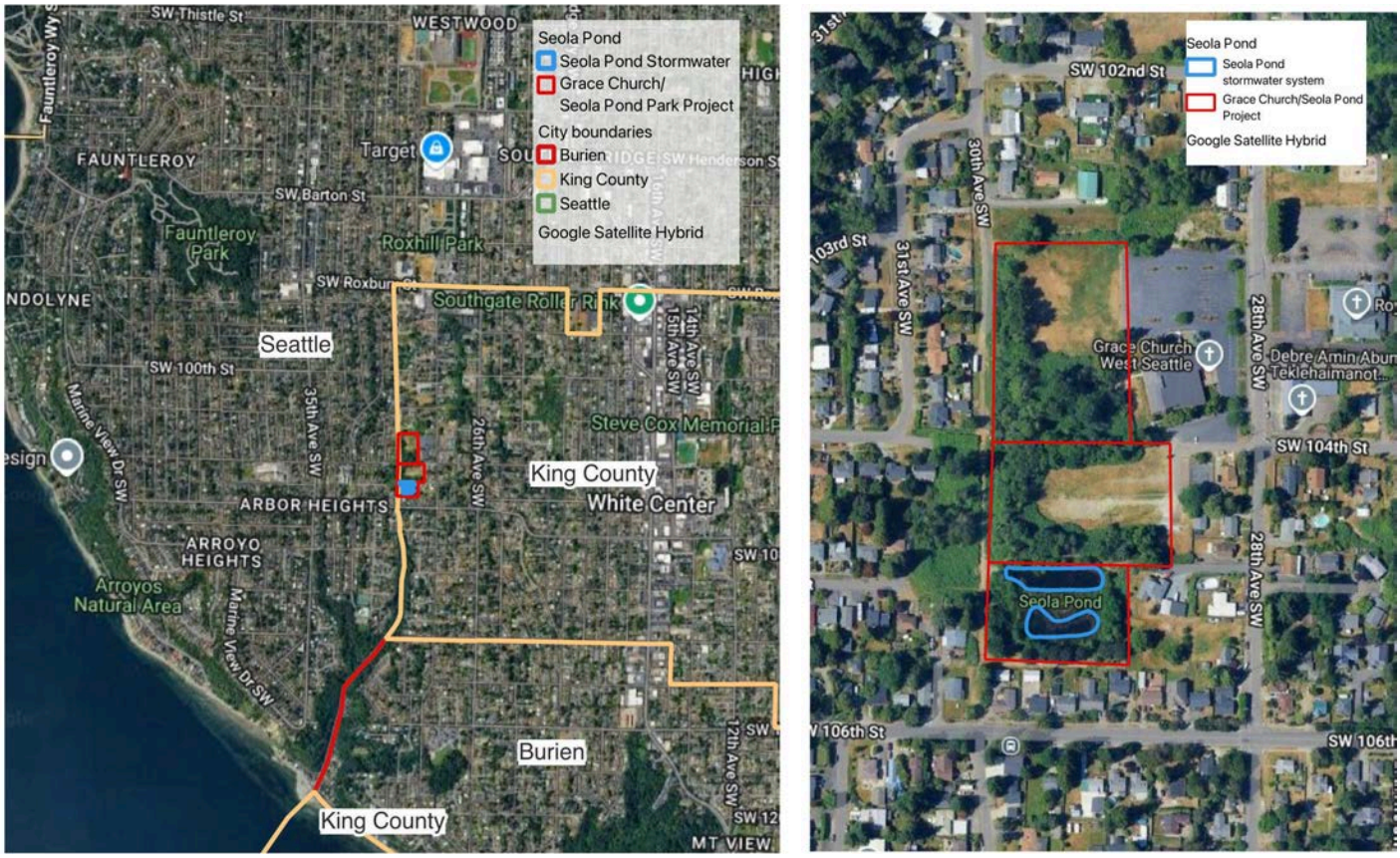


Figure 1. Grace Church/Seola Pond Location.

This area is defined by King County as an “Opportunity Area” in the Land Conservation Initiative. Besides the criteria of natural habitat value of the area, environmental equity indicators including low household income, elevated hospitalization rates and limited access to parks or natural areas, as well as historic redlining were criteria considered in the choice of this area.

From the census tract information, the area where Grace Church Seola Pond Project is located the projected population for 2018 was 2,530 persons, who are predominantly White (42%), followed by Asian (23%) and Hispanic (20%).

The composite score for environmental health disparities for the area of the project is 7 on a scale from 1 to 10, considered medium high (University of Washington Department of Environmental & Occupational Health Sciences & Washington State Department of Health, 2022). This score serves as an indicator of overlapping factors in this area including environmental exposures, environmental

effects, socioeconomic factors and sensitive populations, that can impact the community's health. As depicted in the Environmental Health Disparities Map, characteristics with higher scores in the area of the project include a medium-high index of unaffordable housing, proximity to hazardous waste facilities, and toxic releases from facilities.

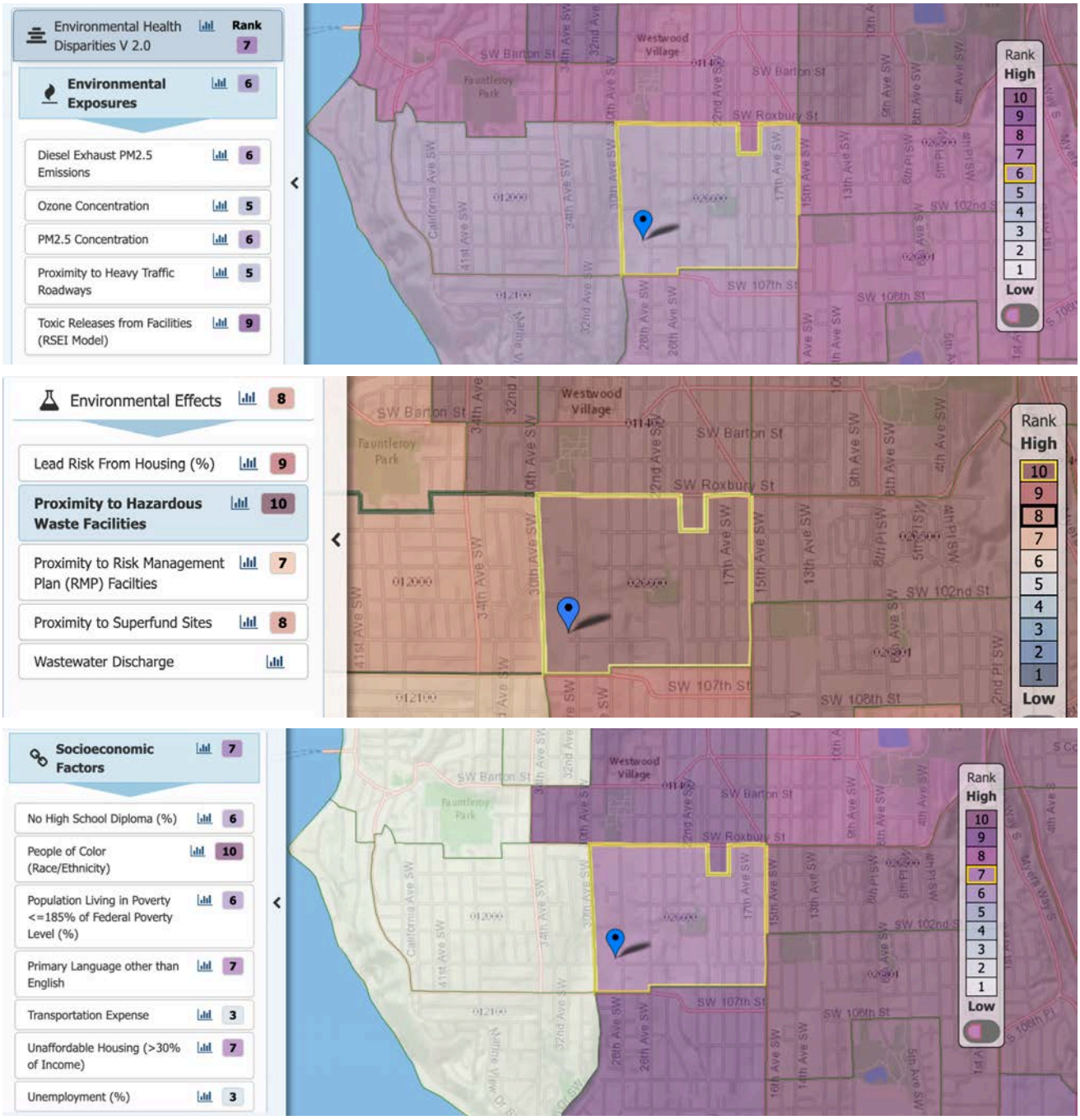


Figure 2. Environmental Health Disparities Interactive Map. Displaying the census tract where Seola Pond Park Project is located and environmental and social factors that overlap with this census tract. Source: Environmental Health Disparities Map (University of Washington Department of Environmental & Occupational Health Sciences & Washington State Department of Health, 2022)

Historically, the land was part of a larger wetland system and has remained undeveloped despite surrounding urbanization, although there is information about peat mining and fill activities in the mid-20th century that altered the natural landscape. Since the area is in a depression, a lot of the watershed drains through it leading to recurrent floodings. In 1989, the Seola Pond Stormwater facility was constructed as an effort to mitigate the impacts of the recurrent flooding that affected the residents surrounding this specific area, as well as to control the flow of water going downstream that would affect water quality going out to Seola Creek and eventually Puget Sound. Seola Pond was retrofitted in 2015 by King County.

To preserve the opportunity area, a conservation easement was signed in 2024, between the Grace Conservative Baptist Church and King County. The goal of preserving the land as open space will enable King County Parks to construct and maintain a new public multi-use trail and planned park to support passive recreation, ecological restoration and improve public access to green space in a historically underserved neighborhood. By converting this area into a public accessible park, the Grace Church/Seola Pond project advances for health equity and expanded access to nature for all residents whose goal is, according to King County, to provide an urban, nature-based recreation site in a historically underserved neighborhood.

The project aims to preserve 5.41 acres of open space that span two parcels owned by Grace Conservative Baptist Church as mentioned earlier (see *Grace Church/Seola Pond Site Map*). This green space consists of two open fields separated by a forested area that includes wetland forested areas, drainage and as a main feature a green stormwater pond associated with Seola Creek watershed and plays a role in local drainage and ecological connectivity.

Grace Church has historically used the open areas for parking and for community gatherings, but it is open for the public use and serves as a local informal park where neighbors use the green space, bring their children and walk their dogs. Additionally, the wetland forested area configuration hosts a variety of bird species, which makes it a birding hotspot. The community has helped maintain the area by voluntarily mowing some of the green spaces and informal paths through the forested area.

The main components proposed for the project are developing a public nature trail, restoring natural habitat and improving stormwater treatment while engaging the community to activate this urban natural area (Milholland, 2025).

Figure 3. Left: Grace Church/Seola Pond Park Site Map. Right: Seola Pond Park Project. Source: King County Parks presentation (Milholland, 2025).

Given the socioeconomic and environmental conditions of the area, as well as the projected components that the project will be targeting, this Health Impact Assessment will cover four main topics: Environmental Health, Community, Equity and Access, Facilities and Land Use, and Health and Well-Being. For each of these topics, we will describe their relationship with health, characterize the current conditions of the area in relation to each topic, and provide recommendations considered to maximize the health potential of the project.

EXECUTIVE SUMMARY

Introduction

This Health Impact Assessment aims to determine the most relevant factors of the Seola Pond Park Project that will impact health in the surrounding community. In addition to preserving important natural habitats and community health within King County, this area was also chosen considering social vulnerability factors, which informed the topics and subtopics that would be assessed for health impacts.

Our report and recommendations were informed by meetings with stakeholders, including representatives from King County Department of Natural Resources and Parks, King County Public Health, the Grace Church minister. King County is currently managing Seola Pond in the area of the project. This is a stormwater detention facility and one of the main features of the project site, which gave us more information on how part of the area has been managed. Documentation of the Seola Pond Project was provided by King County Parks, including the Conservation Easement, the project description and surveys with the community. Additionally, a literature review was conducted to inform the connection between each subtopic and health. Our consideration of health went beyond “absence of disease”, but considered both individual-level and community-wide well-being. Our assessment was also informed by firsthand observations from a site visit during May 2025, accompanied by Rusty Milholland and Marta Olson (from King County Department of Natural Resources and Parks) and the Grace Church Minister.

We identified four overarching topics that have the potential to impact health for this project: Environmental Health; Community, Equity and Access; Facilities and Land Use; and Health and Well-Being. Chapters devoted to each of these topics also included subtopics that were assessed for the project. In Chapter 1: Environmental Health, we describe the environmental relevance of the project for preserving the natural area, and the importance of green stormwater management and maintenance to health; we highlight the benefits of maintaining native species, managing invasive species, and utilizing the site to bring education about the natural environment to the community. In Chapter 2: Community, Equity and Access, we focus on community access to the park, the impact of the project on youth, and the cultural aspects of the space. In Chapter 3: Facilities and Land Use, we describe the role of facilities such as trails or bathrooms, as these infrastructure will determine formal spaces for the community and the park users within the natural habitat; and trails safety and public lighting as they relate to community mental health and sense of safety. Finally, in Chapter 4: Health and Well-Being, we address the impact of natural spaces on physical and mental health, including physical activity, exposure to heat, availability of shade and allergens; additionally the role of the park as a sociocultural space that brings sense of belonging and connectedness to the community members, and how redesigning the park would impact these scenarios.

Chapter 1. Health & well-being

Environmental Comfort

Environmental stressors such as excessive heat and exposure to allergens impact both physical comfort and long-term health outcomes. Some parts of the site currently lack adequate tree canopy and shaded areas, exposing people to hot weather during certain months. Additionally, the presence of invasive plant species such as Himalayan blackberry contributes to ecological imbalance and limits native biodiversity. We recommend increasing tree cover through native plantings, creating shaded rest areas, and removing invasive species. Consideration should also be given to selecting low-allergen plant species to reduce potential allergic reactions. These actions will not only improve thermal comfort and reduce allergen exposure, but also enhance habitat value and support long-term ecosystem health.

Access to Nature and Health Benefits

Nature contact is strongly associated with improvements in mental, emotional, and social health. The Seola Pond Park Project features woodland edges, a pond, and informal trails, but many of these elements are underutilized due to limited infrastructure. For example, a lack of seating, interpretive signs or organized programming reduces opportunities for reflection, learning, and social connection. Dog walking is a common use of the site, yet no designated areas or clear guidelines exist, which could lead to future issues. We suggest enhancing nature access by adding benches and sensory or educational signage, implementing designated dog walking areas, and integrating therapeutic or seasonal nature-based programming. These improvements would maximize the site's restorative and inclusive potential.

Healthy Food Access

The site offers strong potential for community-based nutrition initiatives. The surrounding neighborhood faces ongoing food security challenges, and nearby institutions such as Grace Church or local schools could become key partners in efforts to install community gardens or edible landscapes. We recommend engaging with community to understand cultural diets and leveraging local partnerships to introduce small-scale food production opportunities, such as raised garden beds or native edible plants, alongside nutrition education programming. These efforts could support healthier diets, encourage intergenerational learning and provide long-term health benefits for people with limited access to fresh, affordable food.

Social and Cultural Spaces

The Seola Pond Park Project has the potential to become a cultural and social anchor in North Highline. With thoughtful enhancements to design and programming, the site could expand opportunities for community connection and belonging. Adding inclusive gathering spaces, cultural markers, and public art that reflects local identity would help foster a strong sense of ownership, pride, and emotional connection among people. We suggest engaging with the community to co-create streetscapes and implementing community-led public art installations (such as murals), cultural signage that reflects local histories, and seasonal events or workshops that bring people together. These efforts would help build social cohesion, celebrate community identity, and make the space more welcoming and interactive for all.

Chapter 2. Environmental Health

Water and Green Stormwater Management

Seola Pond functions as a stormwater detention facility to reduce flooding and improve water quality, but struggles to handle intense rainfall, leading to recurrent neighborhood flooding and pollutant spread. Urban runoff carries contaminants like excess nutrients, metals, bacteria, and persistent organic pollutants (POPs) that threaten both ecosystem and human health. Despite stormwater runoff being the source of water feeding the pond, we found that periodic water quality monitoring for potentially harmful contaminants is not currently being conducted. The pond area currently serves as an informal community green space, and may have greater visitation after redevelopment, highlighting the need to maintain safe water conditions.

To maintain proper water quality and stormwater management in the Seola Pond Park Project, we propose key recommendations. First, we recommend to continue improving stormwater management, expanding the green stormwater infrastructure capacity by creating a rain garden that increases runoff infiltration as well as improving the roadside ditches with the same purpose. We also recommend designing trails along the park that minimize proximity of park users to the pond and avoid accidental contact with the water. Trails design will have an impact on physical activity and mental health.

We recommend considering signage that warns users about the importance of avoiding contact with the water, as well as establishing the forested area and the pond areas to be obligatory use of dog leash to prevent contact of pets with the water. We also recommend management of litter and pet waste control to preserve water quality, since this would impact environmental safety and the community's perception of cleanliness in the park; this could be done by providing pet waste stations and visible garbage containers. We recommend establishing a periodic water quality monitoring program according to environmental conditions such as high temperatures; this could be done by implementing an annual water quality testing. Enhancing this natural space to preserve native species would improve ecological resilience and contribute to water infiltration and capture. Maintaining water quality will bring health benefits for the community, because this prevents risks of exposure (to both pathogenic agents and pollution).

Native Habitat, Biodiversity, and Wildlife

The Seola Pond Park Project site and its surrounding green space support a diverse native ecosystem that benefits both biodiversity and human health through mental, physical, and social pathways. The area hosts native trees, shrubs, wetland plants, and over 105 bird species, along with mammals, amphibians, and reptiles typical of the Pacific Northwest urban environment. Biodiverse parks like the Seola Pond Park Project enhance community well-being by improving psychological health, encouraging physical activity, fostering social cohesion, and supporting clean air and water. Key conservation recommendations include increasing habitat complexity, planting native species, establishing vegetated buffers, providing nesting structures, limiting human disturbance, promoting community stewardship, and implementing biodiversity-friendly maintenance and monitoring to sustain and enhance the ecosystem's health and its benefits to people.

Invasive Species

The Seola Pond Park Project faces challenges from invasive plants like Himalayan blackberries, knotweed, English ivy, and reed canary grass. These species reduce visibility and safety, increase habitats for pests (ticks, mosquitoes, rats), and limit physical activity opportunities. Knotweed is

primarily on private land near the park, with risk of spreading. Removal efforts should prioritize Himalayan blackberries and English ivy, followed by reed canary grass, and include ongoing monitoring of knotweed. Post-removal, community planting of native species and updated educational signage are recommended to restore ecosystem health and build local stewardship.

Urban Green Space

The site is used informally as an urban green space offering mental, physical, and social health benefits, along with ecosystem services like air purification and temperature regulation. Increasing plant diversity should be considered by replacing invasive species and converting lawns (particularly the southern lawn, as noted by King County interest) into rain gardens or woodlands. While green space development benefits health and social cohesion, it can also trigger green gentrification, risking displacement of local lower-income and minority residents. Anti-displacement measures and community involvement in park planning are essential to maintaining communities where green space development has occurred.

Chapter 3: Community, equity & access

Community demographics: Refugees and Immigrants

Largely, immigrants and refugees arrive in the United States with a health advantage, also known as the Healthy Immigrant Effect. Upon arrival, immigrants experience lower rates of chronic health conditions and experience better health outcomes. However, the immigrant health effect wanes over time and their health converges to the health of the local population. Racial and ethnic stratification, lack of access to cultural foods, and social participation are significant factors in this health decline. However, there is an overall lack of data tracking, measuring and evaluating immigrant health in the unincorporated Seola Pond Park Project area, impacting the development of a comprehensive health strategy. The King County Parks and Recreation department can play a critical role in activating the park by working alongside community to improve social participation, increase access to culturally relevant foods through the expansion of already established Parks food programming, and leveraging community based organizations to support an immigrant and refugee needs assessment.

Youth Engagement & Culture

The Grace Church/Seola Pond Park redevelopment project can promote community health by centering youth engagement, honoring cultural identity, supporting inclusive recreation, and preventing displacement through anti-gentrification strategies. When designed with community input and equity in mind, the park can serve as a culturally meaningful, multigenerational space that improves mental, physical, and social well-being for residents in North Highline, White Center, and surrounding communities.

Community Education

Located in a residential neighborhood with four schools, many school groups and pet owners currently frequent Seola Pond for its greenery. From an educational and community standpoint, green spaces as classrooms have shown significant mental, physical, and social health benefits. To better serve the community, the Seola Pond Park Project restoration process should consider shade and weather protection to provide a space for an “outdoor classroom” or designated area for educators and student groups.

Community Access

Access to reliable public transit is critical to ensuring equitable access to the park. Improvements to King County Metro bus service to Seola Pond Park Project would make the park more accessible to the community. Access to the park will also promote a sense of community, which is associated with positive health outcomes. Current uses of the park, such as volunteer work days, community events, and educational programs help to build community, and should be considered to be maintained or expanded upon.

Chapter 4. Facilities & Land Use

Maintenance and Cleanliness of Urban Natural Areas

Ensuring the maintenance and cleanliness of the park is critical for encouraging community engagement and maximizing the mental and physical benefits of the park. After King County clears invasive species and builds trails, ongoing upkeep is essential to achieve goals related to health, safety, accessibility and equity. Access to waste collection and disposal, routine maintenance and prompt response to any possible vandalism are critical for ensuring the park's usability and appearance. King County has agreed to maintain the park's trails while Grace Church has agreed to maintain the rest of the park moving forward, but both entities should consider building on the momentum of previous community mobilization around restoration efforts and involve the broader community in the ongoing stewardship of the larger site. This will further cultivate a broader community investment in the park.

Accessibility and Safety

Pedestrian access, lighting, wayfinding, and disaster prevention and preparedness can contribute to the accessibility and safety of this proposed project. Walkability is essential for promoting physical activity, supporting mental health, and ensuring equitable access for visitors using mobility devices. Adequate park lighting is essential for wayfinding and pedestrian safety; pedestrian level lighting should be considered to reduce the risk of injury from environmental hazards and to improve both the actual and improved safety. Additional wayfinding features, such as defined paths and clear signage, should be implemented to further support equitable access to the park and its amenities. Parks can also serve as valuable resources during emergencies and disaster events, acting as gathering spaces that foster community reliance during crises.

Structures

Restrooms, drinking fountains, seating and respite, bicycle facilities, and physical signage can serve as important infrastructure in parks. While Grace Church currently provides restrooms and drinking fountains that some visitors use, more permanent and publicly accessible facilities may be needed in the long term to meet basic needs and support environmental health. Seating and respite areas should be incorporated into the park to create inclusive spaces for rest that accommodate visitors of all ages and abilities. Although there are currently picnic tables on-site, the addition of benches should be considered in the future. Bicycle facilities can promote active transportation, reduce traffic congestion, and offer mental and physical health benefits. Currently, the site lacks any bicycle infrastructure. Physical signage is also a key component of wayfinding. While there are some existing signs about local flora and fauna, there is an opportunity to include additional information about the park, the pond and safety guidelines as the park is further developed.

Recreation

Clearly defined trails can promote physical activity, which reduces the risk of chronic disease. With improvements, the trails on the site have the potential to become more accessible, well-used, and supportive of greater health benefits for the community. Nature-based play supports physical activity, creativity, cognitive development, and emotional well-being in children. The existing play structure near the church provides a starting point, and there is great potential to enhance the site with additional natural play features that encourage sensory, interactive, and exploratory experiences. Overgrown vegetation on the site and steep, uneven terrain pose barriers to accessibility and safety which can be addressed to ensure safe recreation. Birdwatching is already a popular activity at the site and offers immense health benefits including stress reduction, mindfulness, and emotional restoration. With the addition of formal viewing areas, accessible paths, ample seating, shade, and designated quiet zones, the site could become an inviting and inclusive destination for bird watching and nature appreciation. Enhancing the site to better accommodate birdwatching could further promote it as a valuable recreational activity.

Priority Recommendations Table

The table below summarizes a set of high-impact, cross-cutting recommendations identified across all four HIA chapters. These strategies were selected based on their potential health impact, feasibility, and relevance to the Seola Pond Park Project site. They are intended to guide decision-makers, planners, and community stakeholders toward the most actionable and impactful interventions.

Many of these recommendations are grounded in principles of community engagement, including co-design with local youth, collaboration with neighborhood organizations, and inclusive, low-barrier programming. While the list is not the result of a formal ranking process, it reflects key themes discussed throughout the HIA and recommendations that resonated with community values and King County priorities during the final presentation.

CHAPTER	KEY RECOMMENDATION	DETAILS	POSSIBLE IMPLEMENTING PARTNERS
Environmental Health Facilities & Land Use	**Promote wildlife-friendly design and education**	Enhance habitat value and ecological literacy by introducing wildlife-supportive features such as birdhouses, native plantings, and quiet viewing areas. Combine stewardship programs with signage to educate visitors on seasonal biodiversity. Highlight nature as an everyday educational resource, especially for families and youth.	• Local Bird Organizations • King County Parks • Grace Church • Local Schools
Community, Equity & Access	**Foster youth participation in design and stewardship**	Collaborate with local schools and CBOs to co-design features like interpretive signage, park elements, or small installations with youth. This builds leadership skills, fosters long-term ownership, and supports equitable engagement in public space planning.	• King County • Local Schools • CBOs that work with youth
Facilities & Land Use Health & Well-being	**Create culturally reflective spaces with signage and art**	Design small gathering areas that reflect local identities through culturally-informed signage, shade structures, or temporary art. Locate these outside ecologically sensitive zones and implement only if aligned with long-term stewardship goals. These spaces can support multi-generational use, connection, healing, and belonging, especially for groups historically excluded from planning.	• King County Parks • Local Artists/ Schools • Grace Church • WCCDA • Arts Corps/ 4Culture
Facilities & Land Use Health & Well-being	**Improve accessibility through multi-use and resilient trail design**	Construct ADA-compliant trails with shaded rest areas to support users of all ages and mobility needs. Prioritize safe and continuous routes that connect the park to transit and nearby neighborhoods, encouraging walking, rolling, and nature-based physical activity. Trails can also support programs such as walking school buses or intergenerational walking groups, promoting regular physical activity.	• King County Parks • WLRD • Seattle DOT • Westside School • Washington Trails Association

CHAPTER	KEY RECOMMENDATION	DETAILS	POSSIBLE IMPLEMENTING PARTNERS
Community, Equity & Access Health & Well-being	**Enhance urban food access through community gardens**	Partner with existing food system programs to develop soil-safe community gardens, orchards, and educational signage. Use food production as an entry point for health promotion, cultural expression, and climate education. Consider seasonal programming for all ages. Consider adding community-led nutrition workshops, youth cooking demonstrations, or intergenerational gardening programs as part of food education.	• Seattle Dept. of Neighborhoods P-Patch Program • King County • Local School • Local CBOs
Environmental Health Health & Well-being	**Promote community safety through visibility and lighting improvements**	Improve nighttime safety and community trust by adding lighting, trimming vegetation, and activating key routes. Use passive surveillance principles and community feedback to determine priority areas. Where infrastructure already exists—such as along 30th Street—optimize lighting and visibility to support safer access to the park.	• King County Parks • Local Lighting Engineers
Facilities & Land Use Community, Equity & Access	**Activate the site through volunteer and educational programs**	Activate the park with inclusive, low-barrier programs like art days, participatory science, storytelling, and cleanups. Add seasonal activities—such as fitness days or youth-led games—to promote movement and intergenerational engagement.	• King County Parks • Community Members • CBOs • Grace Church • Mountains to Sound Greenway
Environmental Health Community, Equity & Access	**Address displacement and immigrant health equity**	Use co-design processes and needs assessments to ensure anti-displacement strategies reflect real concerns of immigrants, renters, and other vulnerable groups. Consider affordable programming, language access, and long-term governance models.	• Local Policymakers • King County • Neighborhood Councils • CBOs work with refugee & immigrant populations

CHAPTER	KEY RECOMMENDATION	DETAILS	POSSIBLE IMPLEMENTING PARTNERS
Environmental Health Health & Well-being	**Implement water quality monitoring and ecological planning**	Coordinate with county departments to conduct seasonal pond and stormwater testing. Use findings to inform design, maintenance, and community education. Consider involving youth and schools in participatory science efforts.	• King County • WA Dept. of Ecology • Local Water Labs
Health & Well-being	**Improve thermal comfort and green shade infrastructure**	Plant climate-resilient trees and install shaded seating to create places of comfort, rest, and thermal refuge. Prioritize locations with heavy sun exposure and users who may be sensitive to heat, including seniors and children.	• King County Parks • Landscape Consultants • Urban Forestry Programs
Environmental Health	**Expand green stormwater infrastructure**	Support and expand King County's existing green stormwater efforts with added public visibility. Use visible rain gardens, educational signage, and community planting events to deepen awareness and stewardship around natural systems.	• WA Dept. of Ecology • Local Universities • Community Groups

Conclusion

This report aims to assess the health impacts of creating a park in the Seola Pond area of unincorporated King County. Overall, we expect the Seola Pond Park Project to have positive impacts on the health of the environment through improved biodiversity and disaster resilience and the health of the local community through improved physical and mental wellbeing. To maximize positive health outcomes and mitigate potential negative impacts, we suggest that King County prioritize physical activity, safety, equitable access, social cohesion and culturally reflective spaces through the recommendations in the above table.

CHAPTER 1: HEALTH & WELL-BEING

Introduction

Access to high-quality parks can provide substantial benefits to both mental and physical health—especially when parks are thoughtfully designed and well-managed. Research shows that regular use of parks is linked to a 43% lower risk of poor general health and a 40% reduced likelihood of being overweight or obese. Additionally, individuals with access to a park are 20% less likely to be physically inactive and 24% more likely to meet recommended levels of physical activity (Camden Council, n.d.). Given these findings, considerations of health and well-being should be central to the planning and development of park spaces, to maximize their positive impact and mitigate potential health risks associated with poor design or maintenance. This chapter will examine key dimensions of effective park planning, including environmental comfort, access to nature and its health benefits, availability of healthy food, and opportunities for social and cultural engagement.

Environmental Comfort: Heat and Shade

Connection to Health

This section explores the relationship between extreme heat exposure and public health within urban environments, with a specific focus on how stormwater parks and their vegetative elements can mitigate heat through microclimate regulation. The integration of green infrastructure (e.g., urban forest) and blue infrastructure (e.g., pond, stormwater management), plays a critical role in reducing ambient temperatures and enhancing climate resilience (Kumar *et al.,* 2024).

Background and Current Conditions

Based on King County's Heat and Health Data Explorer Tool, the Grace Church/Seola Pond is located in an area that has high heat exposure with median evening temperature 86.0 – 86.8°F (Figure 4 Heat Map of Seola Pond) (King County, n.d.), which indicates a low level of tree canopy coverage. The site has an open field, covered with grass, which used to be an extra parking space for the church. Around the pond, there are some trees, arbors, and shrubs. Some invasive plants, such as himalayan blackberry, are also present both at the ground level and around the trees. There are small amounts of dead trees as well. Several water plants are present on the pond. Trees and native plants are among the priorities mentioned by the community related to green stormwater infrastructure (GSI).

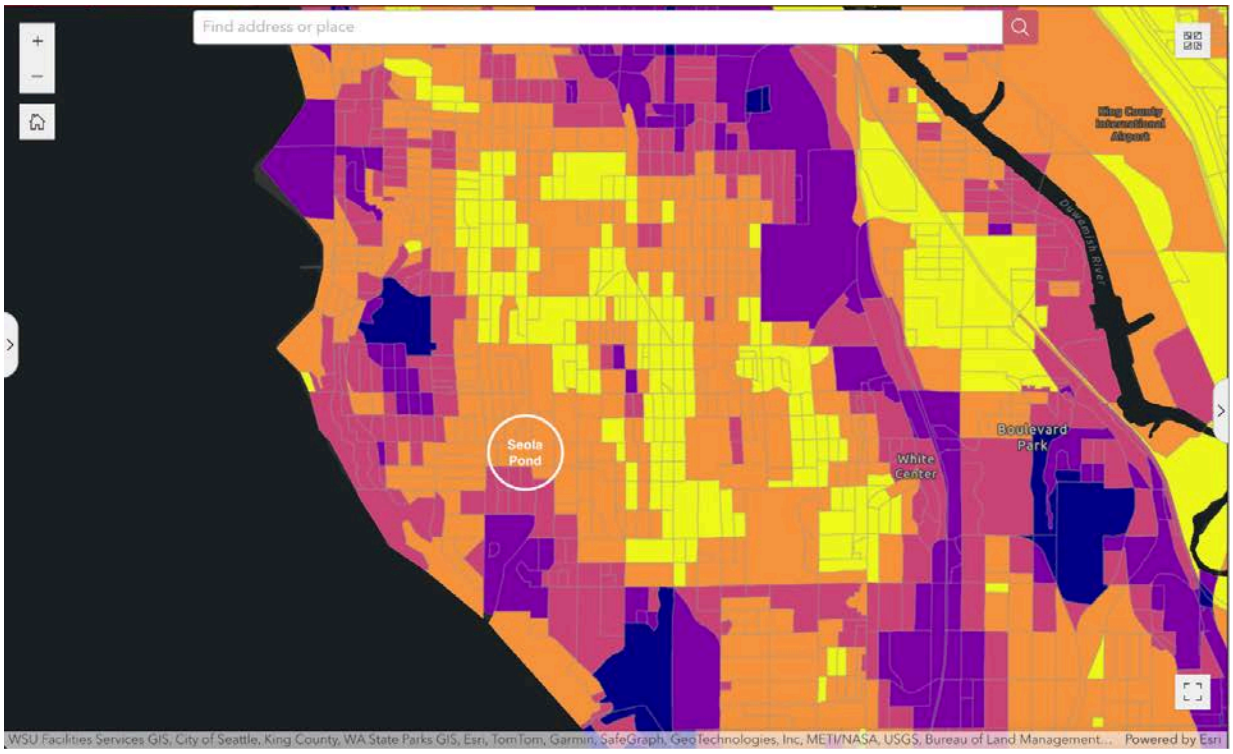


Figure 4. Heat Map of Seola Pond (King County, n.d.)

Key Findings

Exposure to extreme heat poses serious health risks, especially in urban settings where the heat trapped among built environments or urban heat island (UHI) effect exacerbates temperature increases (Oke, 1982). Events like the 2021 Seattle Heat Dome demonstrated the severity of such exposure, with spikes in emergency department visits and hospitalizations, and particular vulnerability among older adults, women, and individuals with chronic conditions (Wettstein *et al.*, 2024). Beyond direct mortality, heat also impacts cognitive and physical performance (Anderson & Bell, 2011).

Vegetation and water bodies significantly influence local temperatures. Parks with GSI have been found to produce stronger cooling effects than traditional green spaces (Xu *et al.*, 2023). Determining the optimal placement of tree canopies to provide adequate shade for park trails involves a combination of spatial analysis, environmental considerations, and community engagement (Sustainable Solutions of Central Texas & Austin Urban Trails, 2011; Hwang *et al.,* 2015). Vegetation types and configurations, especially combinations of arbors, shrubs, and grasslands, enhance thermal regulation. Blue elements like ponds provide cooling during dry spells (Lu *et al.*, 2025). Tree pits that are designed with drainage systems to capture and retain stormwater (tree box filter) and layered planting strategies offer additional benefits (Johnson *et al.*, 2021).

Recommendations

1. Integrating multifunctional infrastructures which utilize natural environments for public and environmental health, includes increasing tree canopy coverage, introducing layered vegetation, and maintaining the existing pond as a stable cooling source.
2. Tree canopy placements (Sustainable Solutions of Central Texas & Austin Urban Trails, 2011; Hwang *et al.,* 2015):

- Use Geographic Information Systems (GIS) to access canopy coverage and identify areas along trails lacking shade
- Ensure that trees are spaced appropriately to create a continuous canopy that offers effective shades (e.g., large trees situated within five meters on the east or west aspects of structures offer substantial shade during the cooling season)
- Choose tree species that naturally develop broad canopies to maximize shade coverage
- Consider sun path and seasonal variations to ensure that trees are strategically placed and provide maximum comfort during hot period
- Involve community to understand their preferences and needs regarding park usage and shades provision

Environmental Comfort: Allergens

Connection to Health

Allergy is one of the most common diseases in the US. There are over 100 million people in the US experiencing various types of allergies each year (Asthma and Allergy Foundation of America, n.d.). Allergic reactions include mild symptoms- watery eyes, runny nose, and rashes and more serious symptoms- trouble breathing, throat swelling and asthma. These symptoms largely affect people's health and quality of life. The best way to control allergy is staying away from allergens. Common allergens in Seattle King County are pollen from specific species of trees, grass,and weeds (Mannan, 2025). Increasing the presence of hypoallergenic or low-allergen plants could also be essential for enhancing community health. This approach allows people to enjoy green spaces with a reduced risk of allergies.

Background and Current Conditions

During the visit to Seola Pond, many plant species were observed on-site. Some, such as Western Hazelnut, Vine Maple, Himalayan Blackberry, and Pacific Blackberry, may cause mild to moderate allergic reactions through airborne pollen or skin contact, potentially affecting individual health. In particular, Western Hazelnut produces pollen that can trigger hay fever in sensitive individuals. Although Himalayan and Pacific Blackberry plants produce low levels of pollen, they may cause mild skin irritation upon direct contact due to their thorns or fine hairs. Some plants, such as the invasive Himalayan Blackberry, are currently targeted for removal or are in the planning stages of management. Other species may be candidates for removal, depending on how they impact the local community. The removal of plants open spaces available for future planting of community friendly species.

Key Findings

Allergies cause emergency visits to hospitals. The rate of emergency department visits involving allergic disease among King County residents was 73.0 per 100,000 which translates to 1,631 visits in 2023 (Public Health Seattle & King County, 2025c). The visits to the emergency department due to allergy is an increasing trend from 2019-2023 Figure 13. Also, roughly 13.5% of adults in Washington State have been diagnosed with asthma during their lifetime, with about 400,000 adults currently affected (Dilley, et al., 2005).

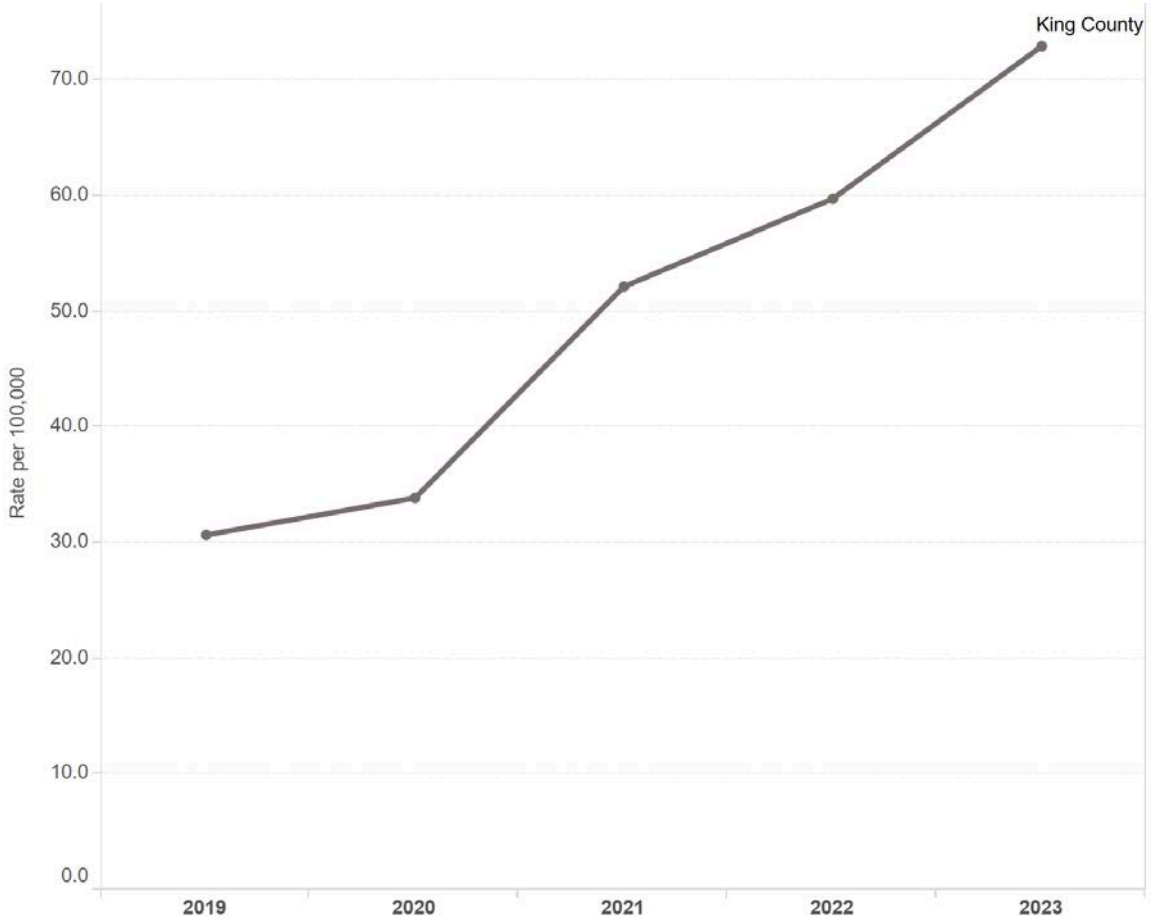


Figure 5. Emergency department visits involving allergic disease among King County residents (2019–2023) (Public Health Seattle & King County, 2025c)

Recommendations

1. Consider removing plants that may cause allergies and replacing them with species that are less likely to trigger allergic reactions for the majority of people in Washington.
2. As the park planner must consider bird nesting areas and overall green space conservation, if hypoallergenic plants are unavoidable, designating a specific area for them and posting clear signage to alert vulnerable individuals would be a beneficial approach.

Access to Nature and Health Benefits: Contact with nature

Connection to Health

Contact with nature refers to people's direct or indirect interactions with natural environments, including green spaces, forests, water, plants, or wildlife. Research shows that regular contact with nature can significantly improve physical and mental health, reduces stress, increases concentration, and builds resilience at both the individual and community levels (Kaplan & Kaplan, 1989; White et al., 2019).

The concept of biophilia suggests that humans have an innate emotional connection to nature and benefit when natural elements are incorporated into everyday environments (Kellert et al., 2008). Similarly, Attention Restoration Theory explains how natural settings help people recover from mental fatigue and restore cognitive clarity, promoting emotional well-being (Kaplan & Kaplan, 1989).

Background and Current Conditions

The site currently offers natural elements such as a pond, surrounding wooded areas, and informal trails (King County, 2024). However, site observations indicate that people have limited opportunities to fully engage with these natural features due to a lack of defined trails, seating, interpretive signage, or viewpoints. While the pond and surroundings hold ecological and educational value, they are not currently designed or structured for therapeutic or learning purposes, which limits the potential benefits for the community (King County, 2023). Given the existing socio-economic challenges in this area, and as urban development pressures continue to grow, it becomes even more important to protect and enhance access to high-quality natural spaces.

Key Findings

Several significant studies and frameworks explain why contact with nature is essential, especially in urban settings like North Highline. These findings demonstrate clear benefits for individual health, psychological restoration, and overall community resilience:

- Nature contact supports psychological and physical well-being: Theories such as Attention Restoration Theory (Kaplan & Kaplan, 1989) and Biophilic Design (Kellert et al., 2008) describe how natural environments reduce stress, support focus, and improve mood through immersive experiences.

- Time in nature yields measurable benefits: Spending at least 120 minutes per week in nature is linked to improved health and well-being across populations (White et al., 2019).

- Access to nature in North Highline is limited: Data from King County (King County, 2023) indicates that residents of North Highline currently experience limited access to public green spaces, ranking in the lower half for open space availability (42nd percentile) and tree canopy coverage (55th percentile). These conditions suggest that there is potential for improvement to provide more equitable access to nature and maximize community health benefits.

- Current site features do not promote consistent nature engagement: Lack of wayfinding, resting areas, and safe trails reduce accessibility, especially for seniors, youth, or people with mobility needs. Without these features, the full health potential of the site cannot be realized.

Recommendations

1. Install educational interpretive signage focused on local ecology and natural systems. According to Attention Restoration Theory, nature engagement restores mental clarity and reduces cognitive fatigue (Kaplan & Kaplan, 1989). On-site interpretive signage about local plant and animal life can deepen people’s understanding of the landscape and transform passive walks into meaningful learning experiences, encouraging mindfulness and mental restoration.

2. Create sensory landscapes with native plants, water features, and wildlife habitats. Biophilic design principles highlight that immersive nature experiences improve mental health and social resilience (Kellert et al., 2008). Enhancing the site's natural textures, colors, sounds, and smells will invite sensory engagement and strengthen emotional ties to the landscape. These features also promote biodiversity and support passive recreation for users of all ages.

3. Organize nature-based programming, such as guided tours and eco-meditation events. Research shows that at least 120 minutes per week in nature can significantly improve mental and physical well-being (White et al., 2019). Hosting occasional events like guided tours, forest bathing, or environmental education workshops can encourage people to connect with nature and support site stewardship through shared experience.

4. Improve trail visibility, entrances, and signage to make natural features more accessible for everyday use. North Highline ranks low in open space and tree canopy coverage (King County, 2023), also the site remains underutilized due to unmarked trails. Improving trail visibility, adding safe and clear entrances, and incorporating educational signage would allow more people, especially those with limited mobility to experience nature on a regular basis. This directly addresses current access issues and supports regular engagement with nature.

Access to Nature and Health Benefits: Mental Health

Connection to Health

This section explores the mental health benefits of urban green and blue spaces, particularly stormwater parks, and how their design and accessibility can contribute to psychological well-being in dense urban settings. As stress, anxiety, and depression become increasingly prevalent in urban populations, integrating restorative, nature-based environments into city planning has become a key strategy for public health (Patwary *et al.*, 2024). Stormwater parks serve not only environmental purposes but also offer mental health benefits by providing calming, aesthetically pleasing spaces that support both solitude and social interaction (Choi & Rezaei, 2022).

Background and Current Conditions

King County Stormwater Service’s interview with White Center community in 2020 highlighted the importance of expanding green space in the area, particularly in relation to its potential mental health benefits. Residents expressed that additional green areas would provide much-needed opportunities for relaxation, stress relief, and connection with nature, contributing to overall psychological well-being. This sentiment suggests a local recognition of the restorative value of natural environments (e.g., bird and wildlife viewing, existing tree, water, and lands), which also has a potential for mental health benefits for the community.

Key Findings

Frequent visits to parks are associated with improved well-being, lower levels of psychological distress, and reduced reliance on depression medications (White *et al.*, 2021). In contrast, greater distances from parks are linked to increased risks of mental health problems, including depressive symptoms (Orstad *et al.*, 2020). Stormwater parks, by combining ecological functions with thoughtfully designed natural elements, offer restorative environments that reduce anxiety, depression, and enhance mood and psychological calm (Choi & Rezaei, 2022). The diversity and configuration of park landscapes, e.g. tranquil areas, walking trails, and recreational opportunities, are crucial in meeting a wide range of psychological needs (Choi & Rezaei, 2022). Social connections

formed in parks also help combat loneliness and provide emotional support, further amplifying their mental health benefits (Orstad et al., 2020).

During the COVID-19 pandemic, parks served as vital outlets for psychological relief, with increased visitation reflecting their importance during crises (Volenec *et al.*, 2021; Orstad *et al.*, 2020). Müller-Riemenschneider *et al*. (2018) mentioned this as “park prescription” The pandemic highlighted the need for accessible, mental health–focused park planning in both normal and emergency contexts.

Recommendations

1. Include quiet zones that support relaxing activities, such as bird and wildlife viewing.
2. Promoting “park prescription” programs to local health care providers, recommending time in nature as part of health treatment plans.

Access to Nature and Health Benefits: Dog Walking

Connection to Health

Dog walking in urban environments provides great benefits not just for pet owners but for entire communities. Regular dog walking promotes daily physical activity, fosters social contact between neighbors, enhances community safety through increased foot traffic, and promotes mental health and social interaction. Research indicates that dog ownership and well-designed dog-friendly spaces are essential to a healthy, socially cohesive urban community, particularly in densely populated or underserved areas (McCormack et al., 2010).

Background and Current Conditions

The site is frequently used informally by local residents for dog walking and casual outdoor recreation (King County, 2024). However, there is no formal infrastructure to support safe and responsible dog use, such as designated off-leash areas, signage, dog waste stations, or seating, limiting the site’s ability to accommodate both dog owners and other visitors. While current documentation does not report formal complaints or user conflicts, the lack of clear guidelines and facilities may lead to some issues as the area becomes more heavily used.

North Highline is designated by King County as an urban infill area and is expected to experience population growth and increased development pressure (King County, 2023). At the same time, dog ownership remains high in nearby Seattle, where over one-third of households have at least one dog (Seattle Parks and Recreation, 2017). Given the community’s proximity to Seattle and similar demographics, it is likely that demand for dog-friendly public space will continue to rise. Proactive planning is necessary to ensure that informal dog use does not lead to conflicts with other users, contribute to water contamination from dog waste, or undermine the safety and enjoyment of this shared community space.

Key Findings

Several key findings from research and local data demonstrate why dog walking infrastructure should be prioritized at the Seola Pond Park Project:

- Human and Pet Health Benefits: Dog walking significantly increases daily physical activity, reducing risks of obesity, cardiovascular disease, and related health problems. Regular walks also positively impact mental health by reducing stress, anxiety, and depression, improving emotional well-being for both pets and owners (Christian et al., 2018).
- Social Capital and Community Cohesion: Dog walking facilitates frequent, casual interactions among neighbors, building stronger community ties and enhancing neighborhood trust. Dog parks and well-designed off-leash areas serve as social hubs, promoting informal socialization, mutual support, and community resilience (Wood et al., 2017).
- Effective Dog Park Design & Management: Properly designed dog parks or off-leash areas reduce conflicts among park users by clearly mapping out dog-friendly zones and providing appropriate facilities like fencing, water stations, and waste disposal. These facilities improve comfort, safety, and overall satisfaction for all park users, fostering inclusive and equitable access (Seattle Parks and Recreation, 2017).
- Local Access Issues: According to the Seattle Parks and Recreation's "People, Dogs & Parks Strategic Plan," Seattle and surrounding areas like North Highline face significant gaps in dog-friendly spaces. With over 150,000 dogs citywide but only 14 designated off-leash areas, there is a high demand for increased and equitably distributed dog-related infrastructure (Seattle Parks and Recreation, 2017).

Recommendations

1. Implement a time-based, multi-use off-leash area to reduce user conflicts and expand park accessibility. As site observations suggest the lack of clear signage and guidelines along informal trails, there is potential for conflicts between dog owners and other users, especially as site use increases (King County, 2024). Rather than designating the area as a permanent off-leash dog park, time-based scheduling can balance competing uses. Several cities, like San Francisco and Portland, have successfully used time-based off-leash models in shared public spaces (Seattle Parks and Recreation, 2017). This approach could serve dual purposes: allowing safe, designated time for dogs and their owners while preserving open access for other park users during different hours.
2. Install dog-friendly infrastructure to support safe and responsible recreation. Current conditions lack basic amenities like dog waste stations, shaded seating, and water fountains, which discourages safe and inclusive use. Research shows that adequate infrastructure for dog walking not only improves user experience, but also encourages more regular physical activity and responsible pet ownership (Christian et al., 2018), reduces environmental degradation, and enhances positive social interaction (Wood et al., 2017). Infrastructure improvements would support responsible ownership and increase the comfort of all visitors.
3. Use durable surfacing materials in designated dog zones to ensure hygiene and reduce maintenance burden. Given the site's current lack of formal infrastructure, introducing low-maintenance surfaces like granolithic rock, decomposed granite, or pea gravel can help minimize wear-and-tear and keep the area clean and user-friendly. One guide (Seattle Parks and Recreation, 2017) recommends such materials as ideal for multi-use dog areas due to their durability, permeability, and ease of upkeep, especially important in shared natural environments with limited resources for frequent maintenance.
4. Establish a volunteer dog steward group to promote education and site stewardship. A locally organized group could facilitate waste cleanup, peer education, and community-led events

such as "Dog Days at the Pond." These initiatives have been shown to build social capital and trust within neighborhoods (Wood et al., 2017), and could foster a sense of shared responsibility over the site. Additionally, involving dog owners in stewardship helps ensure that use remains aligned with broader community values and access goals.

Healthy Food Access: Nutrition

Connection to Health

This section explores the intersection of stormwater park design with public health priorities related to nutrition and physical activity. As communities face rising rates of diet-related chronic diseases and barriers to healthy lifestyles (34.2 percent of adults in King County are obese (King County, 2025c), urban green spaces, particularly multifunctional ones like stormwater parks, are increasingly seen as essential tools for promoting equitable access to nutritious food and active living. These spaces can be leveraged not only for their ecological functions but also to support urban agriculture and host community food programs through inclusive design (Warner *et al.*, 2022; Cohen *et al.*, 2015).

Background and Current Conditions

The site is located in White Center, which was among the neighborhoods in South King County with highest average of food insecurity together with North Highline in 2018-2022 (20.8%) (Communities Count, n.d.). King County Stormwater Service’s interview with White Center community in 2020 revealed a strong desire for improved access to culturally relevant food, particularly among families with children who are spending more time at home. This need has become more pressing due to shifting routines and growing economic pressures. Additionally, residents highlighted the demographic diversity and abundance of good food as some of the neighborhood’s most valued characteristics. These responses suggest that any future park interventions should recognize and support the area's rich food culture, while also addressing underlying nutritional gaps and physical activity opportunities. The existing play fields nearby the church can be utilized for such activities as the flood area does not seem to extend to the fields (Figure 14).

Figure 6. Existing Seola Pond Inundation (King County, 2013)

Key Findings

Stormwater parks can play a key role in addressing nutrition and physical activity challenges by incorporating urban agriculture and food programming. Access to healthy food is not only about proximity to stores but also about affordability and consistent availability across socio-economic lines (Neff Warner *et al.*, 2022), also appropriate to the varying cultural background of the community (Onyango *et al*., 2025). Allowing street vendors can be an option to not just add more food options, but provide economic opportunities (Frumin, 2023) Research has shown that a lack of access to nutritious food correlates with increased chronic disease risks, including obesity and diabetes (Oh *et al.*, 2024). Stormwater parks can help reverse these trends through interventions such as community gardens, edible landscapes, and on-site farmers' markets, which encourage healthy eating and create inclusive, communal spaces (Cohen *et al.*, 2015). Community gardens can also serve as educational tools for sustainable agriculture and nutrition (Oh *et al*., 2024).

However, integrating food production in stormwater parks must be approached with care. According to the U.S. Environmental Protection Agency (2011), site assessments should consider historical land use, potential soil contamination, and stormwater dynamics. Edible landscaping and gardens require clean, safe soil, and may benefit from design features like raised planting beds, tested soil amendments, and erosion control. Understanding hydrology and slope is also essential to ensure both food safety and effective stormwater management.

Recommendations

1. Incorporate community gardens and edible landscapes within areas of the park that meet soil safety and hydrological criteria (U.S. Environmental Protection Agency, 2011), which also serve as educational tools for sustainable agriculture and nutrition (Oh *et al.*, 2024)
2. Integrate the park as community hubs that foster nutrition awareness, sustainable agriculture, and support food security (Cohen *et al.,* 2015; Oh *et al.,* 2024)
3. Promote and regulate street vendors to add food options and economic opportunities (Frumin, 2023)

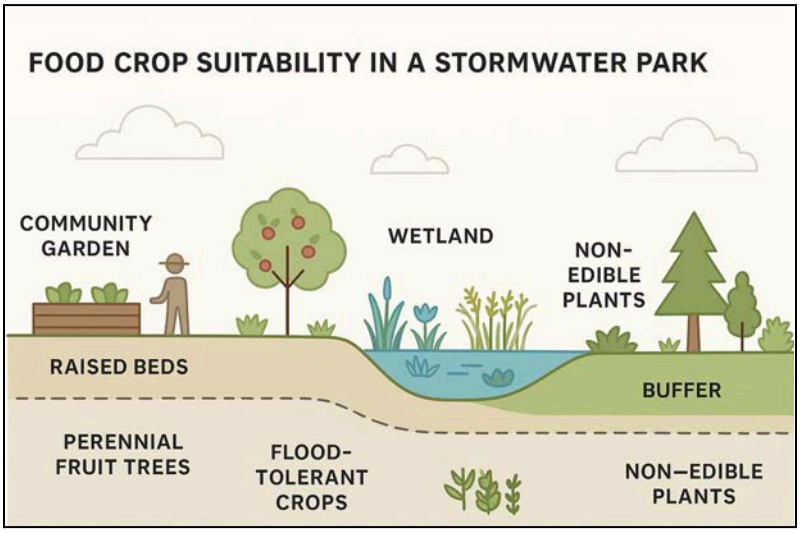


Figure 7. Possibility for Community Garden in Stormwater Park

Social and Cultural Spaces: Social Connections

Connection to Health

This section examines how urban green spaces, particularly stormwater parks, contribute to social connection, community cohesion, and a sense of belonging. These parks serve not only environmental functions but also play a critical role as inclusive social spaces (Barron, 2018). Their design and accessibility directly influence the strength of interpersonal relationships and the resilience of communities (Hu *et al.,*2023).

Background and Current Conditions

Demographic profile of the site's neighborhood, White Center, consists of various race and ethnicity groups (i.e., White (36%), Asian (22%), Hispanic (21%), Black (14%), Native (1%)), with a poverty level of 17.1 percent (U.S. Census Bureau, 2023). The site is situated within a neighborhood characterized by a strong sense of community, with residents representing a wide range of ethnic and racial backgrounds. This cultural diversity contributes to a vibrant and inclusive atmosphere (Egerer *et al.*, 2019). Community engagement efforts revealed a desire for specific improvements to the park, particularly the addition of picnic areas and enhanced access. Currently, there is only one picnic table and some grass lawns. These requests suggest that residents are interested in using the space not only for passive recreation but also for social gatherings and communal activities. The current layout

and amenities appear to limit such opportunities, indicating the need for better infrastructure to support and encourage social interaction across all age groups and cultural communities.

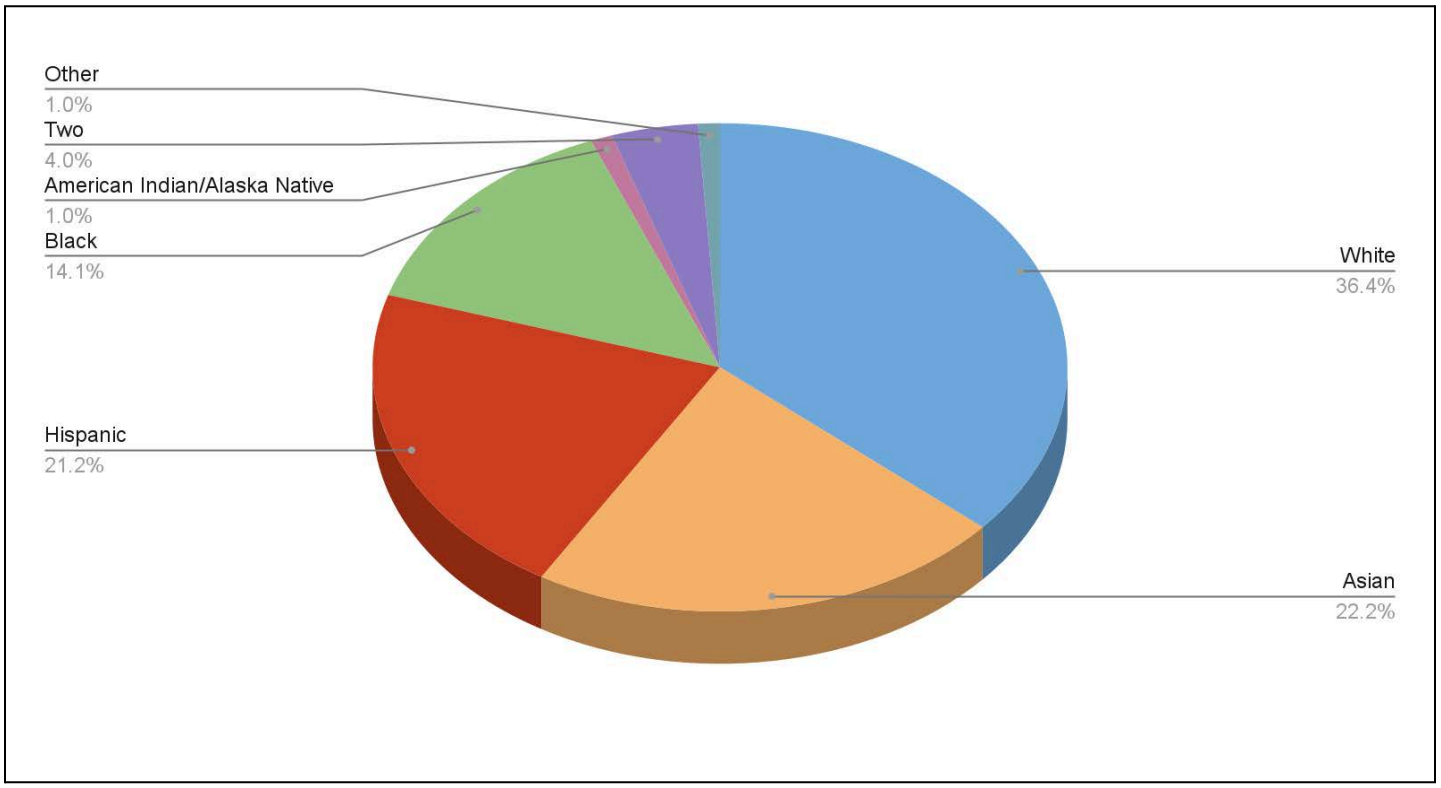


Figure 8. Demographic Profile of White Center, Washington (Adapted from U.S. Census Bureau, 2023)

Key Findings

Social cohesion is vital for both individual well-being and the resilience of communities (Davis & Davies, 2025). Urban green spaces, including stormwater parks, are instrumental in fostering these social connections by providing shared spaces for casual encounters, cultural events, and recreational activities (Barron, 2018). Positive perceptions of landscape design enhance emotional bonds to place and reinforce community ties (Hu *et al.*, 2023). Well-designed spatial configurations, such as walkways, seating areas, and recreational zones, encourage active social engagement (Sheng *et al.*, 2021; Yang *et al.*, 2024).

Stormwater parks uniquely combine ecological utility with social function. When designed intentionally, these parks can host informal play, community gatherings, and cultural expression, making them especially valuable in neighborhoods seeking inclusive, multipurpose spaces.

The COVID-19 pandemic further highlighted the role of parks in maintaining social health. Access to green spaces became essential for safe social interaction and psychological relief during lockdowns (Lopez *et al.*, 2021; Swapan *et al.*, 2024).

Design choices directly affect how people interact in these environments. Sociable seating, such as circular benches, can encourage spontaneous conversations and inclusive socialization (Badri, 2023). Older adults benefit particularly from such features, as parks offer them opportunities for interaction and inclusion (Cui *et al.*, 2024). Additionally, parks can serve as cultural bridges, providing space for immigrants and diverse groups to connect their cultural practices with their new communities, enhancing their sense of belonging (Zapata-Barrero & Hellgren, 2023). This can be achieved through a participatory design process, including the community from the beginning to the end of park development (Larson *et al.,* 2022).

Recommendations

1. Implement inclusive design features, e.g., picnic tables, shaded communal seating, culturally resonant gathering spaces such as sport competitions and dance festivals.
2. Improve access to the park by enhancing entry points, circulation paths, universal design, and other facilities which comply with the Americans with Disabilities Act (ADA), particularly for people with disabilities.
3. Incorporate participatory design processes to engage local residents, especially those from underrepresented backgrounds, in shaping the space (Larson *et al.*, 2022)

Social and Cultural Spaces: Place Attachment & Belonging

Connection to Health

Place attachment is the emotional bond between people and the places they use and value (Altman & Low, 1992; Scannell & Gifford, 2010). When people feel connected to their environment, they are more likely to participate in community life, take care of shared spaces, and feel a sense of pride in where they live. Belonging grows from this attachment, especially when public spaces reflect the culture, needs, and identities of those who use them.

The Project for Public Spaces (PPS) indicates four essential qualities of successful public spaces: sociability, uses & activities, accessibility & linkages, and comfort & image. Spaces that support informal gathering, host meaningful activities, are easy to reach, feel safe and welcoming tend to foster emotional bonds and community trust (PPS, n.d.). These qualities create environments where people feel relaxed, represented, and connected to others, while also directly supporting mental and social well-being, especially in diverse communities like North Highline (Scannell & Gifford, 2010; Klinenberg, 2018).

Background and Current Conditions

The Seola Pond Park Project site, located in the North Highline neighborhood, is a natural open space currently used informally by nearby residents for walking, nature viewing, and recreation. While the site includes valuable ecological features like a pond and surrounding woodland, it lacks some of the social infrastructure to support inclusive public use. Trails are informal and unmarked, with little seating or signage and no clear spaces for community interaction or cultural expression. These conditions may limit the site's potential to foster stronger place attachment and community engagement (King County, 2024).

Key Findings

Place attachment and belonging are supported not only by access to space, but also by how space invites participation, reflects community identity, and facilitates social interaction. Public spaces that feel welcoming, culturally relevant, and socially active tend to foster stronger emotional connections among people and promote long-term community engagement (Scannell & Gifford, 2010; PPS, n.d.).

Figure 9. Criteria for what makes a great place, based on the four principles of public space design: sociability, uses & activities, access & linkages, and comfort & image. *Source: Project for Public Spaces. (n.d.). What Makes a Great Place? Retrieved from https://www.pps.org/article/grplacefeat*

However, local data from King County (King County, 2023) shows that North Highline residents face systemic challenges in developing these kinds of connections:

- The neighborhood ranks only in the **42nd percentile for open space per capita**, meaning people have fewer opportunities for routine outdoor use and spontaneous connection compared to other communities.
- It also ranks in the **69th percentile for hospitalization rates**, suggesting underlying physical and mental health challenges that may limit people's ability to engage in community life or use public space regularly.
- In addition, the area's **median household income is in the 33rd percentile**, which reflects not just economic disadvantage but also less access to funding, art, and programming that help communities shape public spaces in ways that reflect who they are.

These social and spatial gaps make it harder for people to feel seen, included, or rooted in place (Scannell & Gifford, 2010; Klinenberg, 2018). While the Seola Pond Park Project site holds ecological value and may already foster attachment for some residents, its lack of formal access points, cultural features, and inclusive gathering spaces limits its potential to serve as a place where more people can connect, feel welcomed, and build a sense of belonging. Addressing these gaps is essential to make the space meaningful and inclusive for the community it serves.

Recommendations

1. Implement community-driven placemaking projects. Co-created murals, memory walls, and culturally relevant signage can foster a sense of ownership and shared identity. Research shows that people who participate in shaping their environment are more likely to form lasting emotional bonds with it (Scannell & Gifford, 2010; PPS, n.d.).
2. Develop comfortable seating areas that reflect local culture and community identity. Shaded rest areas that integrate cultural symbols or culturally relevant design elements can encourage social interaction, support mental well-being while affirming identity and belonging (PPS, n.d.).
3. Establish interpretive signage to highlight local history, ecology, and narratives. Storytelling through signage helps build place-based connections and increases people's emotional investment in the space (PPS, n.d.).
4. Collaborate with Grace Church and local schools to host regular cultural events. Events such as storytelling nights, neighborhood celebrations, or seasonal markets can activate the space and promote belonging, especially when held in partnership with trusted community institutions (Klinenberg, 2018).

Social and Cultural Spaces: Art & Interactivity

Connection to Health

Art and interactivity are essential components of dynamic public spaces. Community art projects, interactive installations, and creative placemaking initiatives all invite people to actively participate in their space and interact with each other. Public art not only contributes to the visual environment but also reinforces community pride, reflects community identity, facilitates social interactions, and even tackles larger social concerns such as equity and inclusion (Urban Institute, n.d.). Public interactivity provides the potential for social connections, active participation, and strengthened community cohesion, particularly in diverse, underserved urban communities.

Art and interactivity are essential components of dynamic public spaces that support health and well-being. Participatory public art, such as murals, sculpture gardens, or cultural installations, can encourage people to express their identities, engage with others, and strengthen emotional connections to places (Bublitz et al., 2019; Thompson, 2012; Scannell & Gifford, 2010). Research shows that community-based art initiatives can reduce social isolation, improve mental health outcomes, and foster a sense of collective efficacy, especially in historically marginalized communities (Bublitz et al., 2019).

Public art not only contributes to the visual environment but also reinforces community pride, reflects community identity, facilitates social interactions, and even tackles larger social concerns such as equity and inclusion (Urban Institute, n.d.). Culturally relevant public art plays a particularly important role in diverse neighborhoods like North Highline, it helps residents feel valued and recognized, which supports psychological well-being and long-term social cohesion (Tornaghi & Knierbein, 2015).

Interactive public spaces that incorporate tactile, visual, or performative elements also support physical activity, creative play, and intergenerational engagement. These features help reduce stress and strengthen community bonding by encouraging repeated, meaningful encounters between people (Thompson et al., 2012).

Background and Current Conditions

The site currently offers limited opportunities for people to engage in meaningful social interactions or artistic expression. The space is predominantly natural and undeveloped, with minimal infrastructure to promote active community usage or interaction. There are no formal gathering spots, interactive elements, or visible cultural markers such as murals, sculptures, or community-designed art features. In addition, local demographic data highlights a highly diverse community, with approximately 71% people of color and 47% households with limited English proficiency (King County, 2023). These factors emphasize a significant need to foster more inclusive community engagement through culturally reflective art and interactive spaces that resonate with diverse local identities.

Key Findings

Research and local data strongly demonstrate that art and interactivity can reduce social isolation, enhance cultural visibility, and strengthen social bonding. These outcomes are essential for fostering social cohesion and improving community well-being, particularly in diverse and underserved neighborhoods.

- Community-Based Art Projects actively engage residents in artistic processes, fostering a strong sense of ownership, pride, and emotional attachment to the local environment. Collaborative art projects provide both emotional and tangible benefits, creating stronger social ties and community cohesion (Bublitz et al., 2019).
- The Creative Placemaking Principles from the National Endowment for the Arts (NEA), emphasize the integration of arts and culture into public spaces. Creative placemaking can improve community well-being, increase safety, and build a sense of collective identity by incorporating local artists and community members in shaping their shared environments (National Endowment for the Arts, n.d.).
- Interactive public art installations can enhance community participation and cross-cultural interaction. They provide a platform for marginalized groups to express their identities and enhance people’s sense of being represented and valued in the community. (Urban Institute, n.d.).
- Eric Klinenberg's Social Infrastructure Theory highlights that well-designed public spaces serve as essential platforms for social interaction, trust-building, and community resilience. Interactive public spaces and engaging art initiatives play a crucial role in reducing social isolation, especially in culturally diverse and socioeconomically challenged communities (Klinenberg, 2018).

- Local data indicate that residents in North Highline have limited access to high-quality public spaces (King County, 2023). This spatial inequity may reduce opportunities for inclusive programming, such as public art and interactive installations, which are known to support social cohesion and cultural representation in diverse communities (Urban Institute, n.d.; Bublitz et al., 2019).

Recommendations

1. Develop community-driven art initiatives through rotating collaborations with artists and residents. Transform the site into a living outdoor gallery by inviting local artists and community members to co-create murals, sculptures, or temporary art installations that reflect neighborhood identity and cultural narratives. These initiatives foster pride, representation, and emotional connection to place (Bublitz et al., 2019; NEA, n.d.). Potential partners: Arts Corps, 4Culture, White Center Community Development Association (WCCDA)

2. Install interactive public art to promote social interaction and cultural expression. Elements such as sound walls, participatory murals, or storytelling kiosks can invite playful engagement and give space for diverse voices to be heard. These features can foster belonging, reduce isolation, and make the park more inclusive and expressive (Urban Institute, n.d.). Potential partners: 4Culture's Public Art Program, local schools, neighborhood artist collectives

3. Create flexible open-air gathering spaces to encourage spontaneous community use. Introduce movable seating, shaded micro-venues, or informal performance corners that can adapt to different activities. These spaces help build social infrastructure, foster casual interaction, and support cross-cultural connection and community resilience (Klinenberg, 2018). Potential partners: WCCDA, King County Parks for space coordination, local youth or cultural organizations

Summary

Public open space is essential in promoting physical, mental, and social well-being. Through analysis of site conditions, community needs, and health determinants, this chapter provides evidence-based recommendations to transform Seola Pond into a safe, welcoming, and health-supportive environment for all.

Key themes include the importance of:

- **Environmental Comfort**: Improving thermal comfort through shade and vegetation reduces heat exposure and allergen-related risks, especially for vulnerable groups such as children and elders.

- **Access to Nature and Health Benefits**: Enhancing opportunities for nature contact through trails, quiet zones, dog-friendly design, and sensory landscapes can support mental health, reduce stress, and encourage daily wellness habits.

- **Healthy Food Access**: Introducing edible landscapes and community gardens not only promotes nutrition awareness but also fosters environmental education, food resilience, and multigenerational engagement.

- **Social and Cultural Spaces**: Culturally inclusive design, such as community gathering areas, art, and identity-based programming can strengthen place attachment, social connection, and local identity.

The key takeaway is that health-supportive parks are shaped not only by natural features, but also by how people connect, learn, and feel safe within them. By investing in equitable infrastructure, inclusive programming, and culturally relevant design, the Seola Pond Park Project can evolve into a welcoming neighborhood green space that promotes healing, connection, and long-term community resilience.

Chapter Recommendations Summary Table

KEY FINDING	RECOMMENDATION	HEALTH IMPACT	TIMELINE	FEASIBILITY
High heat exposure and lack of tree cover reduce comfort and usage	**Integrate green-blue infrastructure by planting trees, layered vegetation, and preserving the pond to reduce heat and increase climate resilience**		▲▲	●●
Limited access to fresh food and low physical activity opportunities	**Create community gardens and edible landscapes in soil-safe areas to improve access to fresh food and promote healthy eating**		▲▲	●●
Lack of culturally relevant, inclusive spaces for social gathering	**Develop shaded and culturally relevant gathering spaces that reflect local identity and encourage inclusive community use**		▲	●
The site is used by dog walkers, but lacks clear off-leash guidelines, so without management, dog activity may lead to user conflicts as site use increases.	**Establish a time-based, multiuse off-leash zone to balance dog activity with safe access for all park visitors**		▲▲	●
Park access is limited for users with strollers, wheelchairs, or walking aids	**Construct accessible, slip-resistant wooden trails to support use by strollers, wheelchairs, and those with limited mobility**		▲▲	●●
Lack of designated, comfortable spaces for informal interaction	**Install shaded seating and picnic areas that support informal gathering and community interaction**		▲	●
Trails are underused due to lack of visibility and educational features	**Improve trails and add ecological signage to enhance user navigation, learning, and visibility of natural features**		▲	●
Limited mental health support through site design	**Designate quiet zones and promote green prescription programming to support mental restoration and emotional wellness**		▲▲	●●

HEALTH IMPACT (The number of icons will reflect the predicted strength of the impact.)

- **Physical Activity** — Promotes physical movement, walking, and exercise
- **Mental Health** — Supports emotional well-being and cognitive function
- **Social Cohesion** — Builds trust, social interaction, and inclusion
- **Stress Reduction** — Alleviates stress and supports relaxation
- **Safety** — Enhances real and perceived public safety
- **Access to Nature** — Increases contact with natural environments

TIMELINE

- ▲ Can be implemented within 0–1 year
- ▲▲ Requires 1–3 years to implement
- ▲▲▲ Long-term strategy, more than 3 years

FEASIBILITY

- ● Readily feasible with low cost or existing community capacity
- ●● Somewhat challenging, requires coordination or resources
- ●●● High effort or dependent on funding/policy change

CHAPTER 2: ENVIRONMENTAL HEALTH

Introduction

Public green and blue spaces have been found to be beneficial for human health, in addition to improving environmental conditions in urban settings. Maintaining healthy natural places has shown improvement on health outcomes, depending on their structure and design. For example, green spaces with a mixed structure including both paved paths and more natural trails are inclusive for both younger, middle age and older population (Nguyen et al., 2021). Cleanliness in green spaces has been related to lower rates of depression and improved quality of life (Zhang et al., 2019). At the same time, poorly managed green spaces are associated with health risks, for example, asthma can be associated with allergens from certain species. Blue spaces (water bodies, lakes, ponds, etc) have been linked to attenuate heat stress, improve mental health and to an increase in physical activity (Georgiou et al., 2021). However, poor water quality in these blue spaces can become repositories for pollutants, if not properly maintained, the accumulated contaminated sediments may release toxins back into the water, exacerbating en environmental and health concerns (Flanagan et al., 2021). The presence of birds and other wild species has demonstrated an impact in communities' perception and feeling of connectedness with nature (Belaire et al., 2015). Preserving natural spaces gives a place to both humans and ecosystems to promote a healthy environment for all. Urban green and blue spaces can lead to a better understanding of how to approach and develop better human-nature connections and sustainable practices. To assess environmental health factors in the Seola Pond Park project area, we focused on water quality and green stormwater management, and the importance of biodiversity of species and native habitat.

Water and Green Stormwater Quality

Connection to Health

Urban stormwater runoff can carry both pathogens and pollutants such as fecal bacteria, nitrogen, phosphorus, heavy metals, polyaromatic hydrocarbons, road salt, pesticides and persistent organic pollutants (e.g., PBDEs) (Flanagan et al., 2021). These contaminants are derived from anthropogenic activities and impervious surface runoff (including roads, rooftops and parking lots) that ends up in natural water bodies (Dixon et al., 2022; Gurusamy et al., 2024; Swistock, 2022). Waterfowl such as mallards, blue heron and migratory birds that frequent the zone (see native habitat and biodiversity section) are another factor that can drive fecal pollution into the pond (Smith, 2006).

High prevalence of impervious surfaces in urban settings (such as paved roads and parking lots) change water infiltration into the ground, and this is exacerbated by the lack of vegetation and green surfaces that usually contribute to keeping runoff infiltration. These changes in surfaces lead to accumulation of water and increase runoff pollution, flooding and erosion, later impacting negatively stream habitats (King County, Stormwater Services Section, n.d.). Urban wetlands and stormwater detention ponds like Seola Pond are essential to protecting both environmental and public health since these contaminants can be naturally degraded by microorganisms and plants or can be deposited in the sediments preventing the polluted runoff to end up in rivers or oceans downstream.

These contaminants can pose a risk of exposure for aquatic ecosystems and humans through direct contact, contact with pets that get in the water, seasonal gaseous emissions from the pond or during and after storm events (Crane, 2019; Hu et al., 2023). Sediment bound pollutants can accumulate and be remobilized during flooding, spreading contamination downstream, in this case to Seola Creek and Puget Sound. Additionally, stormwater systems can get overwhelmed and lead to flooding, which causes not only property damage but amplifies exposure to pollutants (heavy metals, persistent

pollutants) and pathogens that increase risk of waterborne diseases (gastrointestinal disease, diarrhea) (Anthonj et al., 2019), increases risk of mold-related respiratory illness and elevates mental health stressors among affected communities (Gaffield et al., 2003; Ishaq et al., 2020). These considerations are relevant to the area of study because of the rainfall regime that includes constant rainfall as well as seasonal storm events that can lead to the pond's overflow.

Recreational users like children, dog walkers, and bird watchers may come into direct contact with contaminated water or sediment. Such exposures are usually linked to skin irritation, gastrointestinal illness, and long-term risks for exposure to endocrine disrupting chemicals. Eutrophication (excessive nutrient load leading to dissolved oxygen loss in water bodies) is a key phenomena to monitor for in still water bodies, since it will negatively impact the proper functions of degrading pollutants at the pond and become a source of exposure to more contaminants. This phenomena can also create conditions for eventual algal blooms that can often release toxins threatening both humans and wildlife (Vantarakis, 2021). Preventing this through periodic monitoring is crucial to maintain proper management of still water ponds, wetlands or lakes and therefore maintain a healthy ecosystem and prevent risk of exposure for the community.

Social perceptions of water quality significantly influence well-being and community use of blue green spaces. Clean, well maintained water bodies are associated with improved mental health, reduced chronic disease risk and stronger neighborhood identity (Bell et al., 2021a; Mitroi et al., 2022).

These considerations about still water ponds and stormwater wetlands help elucidate that there are management factors to consider to maintain public health safety for communities in urban residential settings with access to these features.

Background and Current Conditions

Seola Pond is part of the Seola Creek Basin. This area is a depression where water flows towards Seola Creek and finally into Puget Sound. Historically the area was a marsh and bog ecosystem. Remnants of natural wetland vegetation persist within the project site, especially along the upper basin, which is currently drained by roadside ditch along the western boundary of the property adjacent to 30th Ave SW.

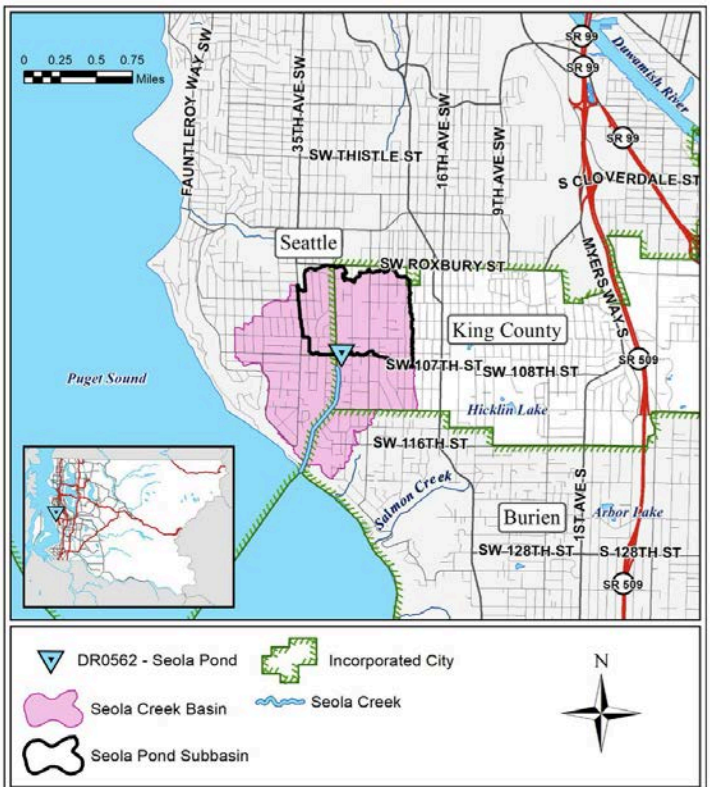


Figure 10. Seola creek basin and Seola Pond location. Adapted from: "Seola Pond subbasin flood abatement review", King County 2019

Originally constructed in 1989 and retrofitted in 2015, Seola Pond is a water detention facility, whose main purpose is to prevent and mitigate recurrent flooding in the immediate area, reducing peak flows, as well as improving water quality by capturing and incorporating biofiltration of stormwater runoff (King County, 2019).

The Seola Creek Basin Retrofit Project, is a collaboration between King County and the City of Seattle, aiming to improve the capacity of the stormwater detention pond and water quality as a measure to mitigate and prevent recurrent floodings in this area (King County, 2013). During the 2015 retrofit, the original pond was divided to create a two cell system to improve water quality and filtration functions to treat the water by having two phases of treatment (Milholland, 2025).

The facility was designed to manage runoff from up to a 25-year storm, but it's proven insufficient during intense rainfall events. Water regularly overtops the pond's outlet elevation and overwhelms the existing conveyance system. The pipe that transfers overflow to the ravine and Seola Creek is undersized, contributing to the persistent neighborhood flooding (King County, 2013a). The recurrent seasonal floodings still impact residents in the immediate surrounding area, posing risks of housing damage, mold formation and also risks of exposure to contaminants present in the water (King County, 2019).

Figures 5 and 6 below show the inundation area likely to flood, associated with 5, 25 and 100 year storm events (20%, 4% and 1% probability of happening any given year according to the rainfall regime of the area).

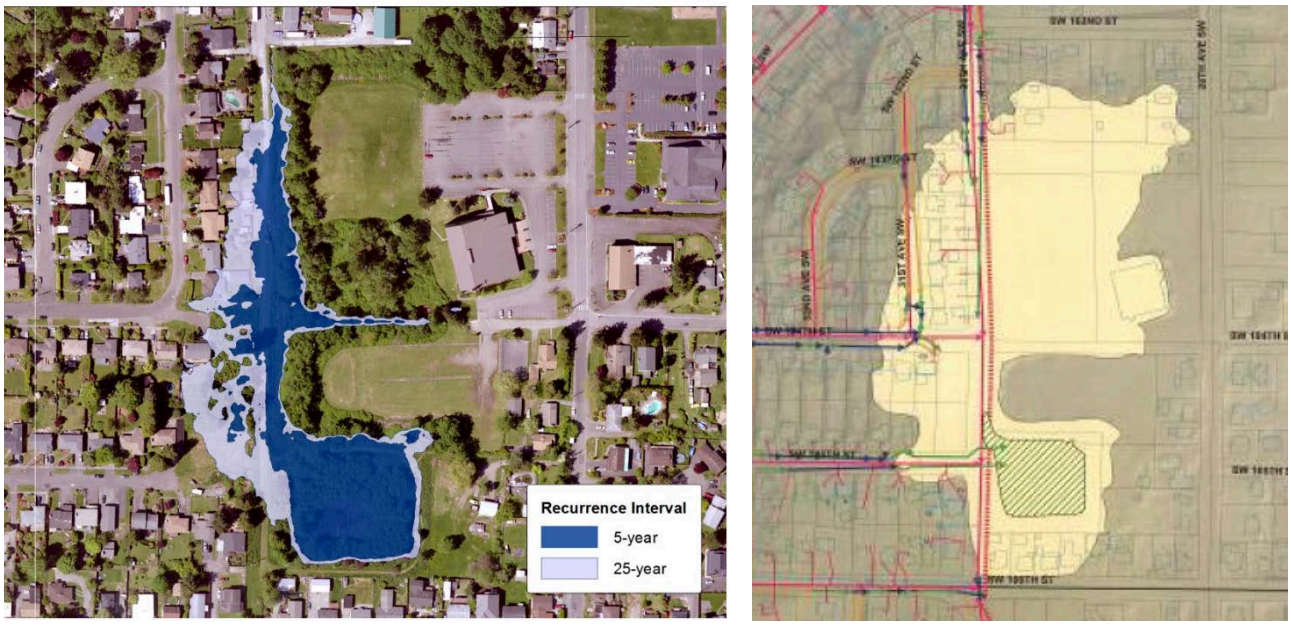


Figure 11. Left: "Existing conditions of Seola Pond Inundation" Source: Seola creek basin retrofit report 2013 King County (King County Department of Natural Resources, 2013a). Right: Seola Pond 100-year storm inundation Source: King County Parks.

To illustrate the current conditions of Seola Pond, Map 1 shows both the location and surrounding area of the pond, as well as the area around the pond. The points in the map represent the spots where we took photographs during a site visit.

Figure 12. Seola Pond Area, created using King County GIS open data and information from Seola Pond Subbasin Flood Abatement 2019 (King County, 2019).

Left: Photo registry (1) Side view of lower pond. Right: Photo registry (4) Upper pond. (Image source: Mariah Rubin and Adriana Riaño respectively)


Photo registry (2) (left) and Photo registry (7) (right): Side road undeveloped 30th Ave SW, Seattle. (Image source: Adriana Riaño and Mariah Rubin respectively)

Photo registry (5) Area of projected rain garden / green stormwater infrastructure expansion. (Image source: Mariah Rubin)

Photo registry (6) Roadside ditch along undeveloped 30th Ave SW, Seattle
(Photo credit Adriana Riaño and Mariah Rubin respectively).

Despite the pond's critical role, there is not a current routine water quality monitoring. The only recent water quality sample reported, was collected by Washington State Department of Ecology in April 2024, in response to a spill complaint and identified presence of natural iron reducing bacteria (Milholland, 2024). These current conditions make it difficult to ensure what the common pollutants and contaminants are measurable in the water. However, based on literature review and given the current use of the area as an informal park for the community, it is safe to assume that stormwater runoff is usually loaded with pollutants and pathogens provenient from both impervious surfaces (roads, parking lot areas, roofs) and pervious surfaces (landscaped areas, lawns, sport fields) (King County, 2024a).

Sediment levels are assessed annually as part of the county's Regional Facility Inspection Program. Once sediment accumulation exceeds 10% of the pond's design depth, it is removed by King County to preserve capacity in ecological function. However, no testing for contaminants in sediment is conducted (e.g., phosphorus, PBDEs or heavy metals), and no data exists for soil contaminants on the adjacent church or stormwater easement properties (King County, 2024).

Nearby residents have informally used the area as a community park, creating footpaths and restoration species that contribute to biofiltration in the pond. Birdwatching is a feature that the area is known for which is another reason to monitor these remnant natural habitats and the conditions of still water in the pond. This social use highlights the need to manage the pond not only as an infrastructure facility, but also as a community asset. This reinforces the importance of managing water quality in the pond for water safety and to ensure that there are no uses such as swimming or pet wading that would pose health risks when water is polluted or stagnant.

Additionally, surveys have been conducted by the King County Department of Natural Resources with the White Center and North Highline community about green stormwater infrastructures preferred locations and perceived benefits (Jessica Engel, King County Department of Natural Resources and Parks, 2021). These surveys included opinions on roughly 150 community members where they expressed that rainwater run-off, flooding, and pooling of water on roadways and in parks are a problem, with a higher concern for water runoff polluted with oil, garbage, and household toxins; additionally, respondents expressed their concern about the environmental impacts that poor stormwater management on rivers and Puget Sound pollution and negative impacts for orcas and

salmon (King County Stormwater Services & Pyramid Communications, 2021).

Recommendations

To safeguard health of both the ecosystem and people, the following recommendations are made:

1. **Prevent contamination of the pond's water:** To avoid littering and solid waste from the park users getting into the water, we recommend providing enough visible garbage containers and pet waste stations by the entrance access to the park, as well as requiring users to keep dogs on the leash while walking through the native wooded area that leads to the pond. We recommend considering a trail design around the park that avoids close proximity to the water for the park users, this will help prevent accidental contact with the water.

2. **Expand green stormwater infrastructure:** We recommend enhancing the Seola Pond stormwater facility with additional green stormwater infrastructure. According to King County Parks (Milholland, personal communication, May 15th, 2025), improving the area by incorporating new green stormwater infrastructure such as a rain garden has been considered as part of the expansion of the Seola Pond Park Project. The proposed rain garden should be designed to manage and retain the excess stormwater that currently overwhelms the existing infrastructure. This would involve calculating the appropriate size and depth of the rain garden based on the contributing impervious surface area and local and native soil infiltration rates (Bell et al., 2021b). We see this as a good match for the area of the project because it will bring a pleasant appearance to the park, providing more space for the community to connect with natural spaces. A rain garden will enhance biofiltration and retention of stormwater runoff, contributing to preventing flooding in the nearby area. We also recommend improving the roadside ditch for biofiltration and potential water retention purposes. These techniques have proven effective in reducing runoff volume and pollutant loads (Holzer & Poor, 2024; Poor et al., 2021).

3. **Implement regular water quality monitoring:** To maintain a healthy habitat and pond environment, we recommend establishing a periodic water quality monitoring program for Seola Pond. This program should include seasonal or annual sampling of stormwater runoff and standing water in the pond (King County, 2021). We recommend doing a broad testing including regular physicochemical parameters, as well as nutrients such as nitrogen and phosphorus, metals, persistent organic pollutants and microbial pathogens to support the assessment and characterization of the pond. Regular monitoring is critical for tracking changes and identifying emerging exposure risks and early detection of contamination levels. This information will be helpful when responding to emergencies such as the recurring floodings in the surrounding area. Additionally, signage would be helpful for the community to be informed about the risks of accidental falling to water and warnings about possible pollutants in the water. Seola Pond's future monitoring and infrastructure can serve as a regional indicator and as an example of urban green space conservation and stormwater health.

4. **Connect with nearby natural spaces:** We recommend coordinating stormwater management and habitat planning with surrounding parks and greenbelts such as Seola Park, to promote ecological corridors and connectedness to the Seola Pond Park Project. In terms of green stormwater infrastructure, this could improve perspectives for planning the capacity needed at the site project.

Native habitat, biodiversity and wildlife

Biodiversity in local parks, referring to the variety of wildlife and plant species that can be found in a given place, has been shown through multiple research studies to have a significant and positive impact on human health. Exposure to these biodiverse environments - including bird-rich habitats - has numerous positive effects on human health, and these positive effects span across mental, physical, and social health domains, influenced by ecological, psychological, and immunological pathways.

Connection to Health

Mental Health Benefits - Higher biodiversity in green spaces has been linked to improved psychological well-being. For instance, it has been shown that psychological benefits from green space are positively associated with plant species richness, and individuals who live near more biodiverse green areas report higher levels of psychological well-being (Fuller et al., 2007). People who visit biodiverse natural environments also experience greater reductions in mental distress and improved emotional well-being compared to visits to less biodiverse spaces (Marselle et al., 2016). A study by Cox et al. (2017) also found that individuals living in neighborhoods with more birds, shrubs, and trees had significantly lower rates of depression, anxiety, and stress. Green spaces, particularly those with a diversity of species, may enhance cognitive performance, including memory, attention, and creativity, as shown by a study by Bratman et al. (2015), which found that participants who walked in a biodiverse natural setting showed decreased rumination and reduced neural activity in the subgenual prefrontal cortex, an area associated with mental illness.

Physical Health Benefits: Biodiverse parks are more attractive and engaging environments to visitors, promoting increased physical activity, such as walking, jogging, or cycling. Increased physical activity is a known determinant of health. A study by Lin et al. (2014) found that higher plant species richness in urban green spaces was associated with increased visitation and physical activity. People were more likely to spend time and be physically active in parks perceived as more "natural" or biologically rich. Hartig et al. (2014) reviewed how access to biodiverse nature promotes physical activity, which in turn reduces risks of chronic conditions like cardiovascular disease and obesity. Wildlife-rich parks also often have a higher density and diversity of vegetation, which contributes to better air quality by filtering pollutants, leading to respiratory health benefits. Nowak et al. (2014) quantified the effect of urban trees on air pollution and found that they removed significant amounts of particulate matter, which is linked to cardiovascular and respiratory diseases.

Social Health Benefits: Fuller et al. (2007) found that biodiversity of wildlife in local parks positively influences human social health by promoting more frequent and meaningful social interactions among individuals, fostering a sense of community. People are more likely to visit and spend time in parks that are visually stimulating and ecologically diverse, leading to increased opportunities for social interaction. High biodiversity often correlates with better-managed parks, which are perceived as safer and more welcoming, encouraging communal use.

Aerts et al. (2018) found that biodiversity-rich parks increase neighborhood satisfaction and social trust, leading to higher levels of perceived social support. Furthermore, a study by Hartig et al. (2014) emphasized that green spaces with rich biodiversity support place attachment and social cohesion, because they encourage gatherings, shared activities, and community events. This comprehensive review also examined how contact with nature, including biodiverse green spaces, can promote health through various pathways such as stress reduction, physical activity, social cohesion, and improved air quality.

Local parks with high biodiversity do more than support ecological and mental health—they create vibrant, restorative environments that nurture human social well-being. These areas act as hubs for community life, contributing to both individual and collective health outcomes. Wildlife presence (e.g., birds, butterflies) adds interest and variety to park environments, encouraging group activities like birdwatching, nature walks, or informal play among children. Together, these factors show that protecting and enhancing biodiversity in urban parks is not only crucial for ecosystems but also vital for public health.

Background and Current Conditions

Seola Pond, is part of a forested urban green space that includes the Seola Pond Park Project and sections of the Fauntleroy Creek watershed. The current goal is to transform the area into a stormwater park, so that the local community can benefit from a well-managed park and natural setting that encourages both plant and wildlife diversity. The Seola Pond Park Project area also hosts a diverse range of native plant species typical of the Puget Sound lowland forests and wetland environments. The native vegetation in and around the Seola Pond Park Project site plays a crucial role in maintaining ecological balance by supporting wildlife, stabilizing soil, filtering stormwater, and contributing to the health of nearby aquatic systems.

Key native plant species in the Seola Pond Park Project site include:

Trees:

- Douglas Fir (*Pseudotsuga menziesii*)
- Western Red Cedar (*Thuja plicata*)
- Bigleaf Maple (*Acer macrophyllum*)
- Red Alder (*Alnus rubra*)

Shrubs and Understory Plants:

- Salal (*Gaultheria shallon*)
- Red-osier Dogwood (*Cornus sericea*)
- Indian Plum (*Oemleria cerasiformis*)
- Snowberry (*Symphoricarpos albus*)

Ferns and Herbaceous Plants:

- Sword Fern (*Polystichum munitum*)
- Lady Fern (*Athyrium filix-femina*)
- Skunk Cabbage (*Lysichiton americanus*)
- Western Trillium (*Trillium ovatum*)

Wetland and Aquatic Plants:

- Slough Sedge (*Carex obnupta*)
- Soft Rush (*Juncus effusus*)

- Duckweed (*Lemna spp.*)

Existing Signage about Natural Elements on the Site (Image Source: Katie Wood)

These native plants in the Seola Pond Park Project site play an outsize role of ecological importance by supporting pollinators like bees, butterflies, and birds. They also provide food and shelter for the amphibians, small mammals, and reptiles in the area, and contribute to stormwater management by absorbing excess runoff and reducing erosion. Lastly, they help maintain water quality by filtering pollutants before they enter Fauntleroy Creek and Puget Sound (King County Noxious Weed Control Program, 2019).

Seola Pond and its surrounding forested area represent a valuable remnant of native habitat in an increasingly urbanized setting. Restoration and conservation efforts in the area (discussed later in the chapter) focus on removing invasive species (like Himalayan blackberry and English ivy) and reintroducing or protecting native species to preserve the ecosystem's health (King County Noxious Weed Control Program, 2019).

<u>Key Native Bird Species and Sightings in the Seola Pond Park Project site:</u>

The Seola Pond Park Project site serves as a vital urban greenspace and wetland supporting a diverse array of native bird species. The stormwater pond, maintained through community-led restoration efforts described later in this chapter, offers a vital habitat for both resident and migratory birds, and is a haven for various waterfowl. Over 105 bird species have been identified in the area, including 53 this year alone. The following are some of the most common species spotted in this birding hotspot (eBirdb, 2025):

- Mallard (*Anas platyrhynchos*)
- American Coot (*Fulica americana*)
- Great Blue Heron (*Ardea herodias*)
- Song Sparrow (*Melospiza melodia*)

- Red-winged Blackbird (*Agelaius phoeniceus*)
- American Crow (*Corvus brachyrhynchos*)
- Northern Flicker (*Colaptes auratus*)
- Anna's Hummingbird (*Calypte anna*)
- Black-capped Chickadee (*Poecile atricapillus*)
- American Robin (*Turdus migratorius*)
- Barred Owl *(Strix varia)*
- Cedar Waxwing *(Bombycilla cedrorum)*
- Snow Geese *(Anser caerulescens)*

Raptors and Predatory Birds:

Of note, the surrounding trees and open skies also attract several birds of prey. Bald Eagles and Osprey have been seen in the area, along with Cooper's Hawks and Red-tailed Hawk. The presence of these raptors are indicative of a healthy ecosystem (Sergio et al., 2005).

Bird Observations

Date Range: Change Date
Jan-Dec, 1900-2025

Change Location **Seola Pond**

Updated ~2 day(s) ago.

Figure 13. eBird. (2025a). eBird bar chart: Seattle, WA (L10972959). Cornell Lab of Ornithology.

The above figure quantifies some of the most frequent bird sightings at Seola Pond across the span of a year.

Bird List

105 All Years | 53 This Year 2025 | 23 This Month May 2025 | Last Observed | First Observed | High Count

	SPECIES NAME	COUNT	DATE	OBSERVER	LOCATION
1.	**American Crow** *Corvus brachyrhynchos*	258	8 Jul 2021	Jim Flynn	Seola Pond
2.	**Snow Goose** *Anser caerulescens*	150	13 Feb 2023	Marissa Benavente	Seola Pond
3.	**American Robin** *Turdus migratorius*	150	22 Nov 2023	Marissa Benavente	Seola Pond
4.	**Pine Siskin** *Spinus pinus*	80	5 Nov 2023	Jim Flynn	Seola Pond
5.	**Caspian Tern** *Hydroprogne caspia*	51	6 Aug 2021	Jim Flynn	Seola Pond
6.	**Dark-eyed Junco** *Junco hyemalis*	51	5 Dec 2021	Jim Flynn	Seola Pond
7.	**European Starling** *Sturnus vulgaris* *	50	30 Jan 2023	Alex Gutierrez	Seola Pond
8.	**Red-winged Blackbird** *Agelaius phoeniceus*	41	8 Mar 2024	Damon Taylor	Seola Pond
9.	**Mallard** *Anas platyrhynchos*	40	15 Feb 2025	Hunter Ruck	Seola Pond
10.	**House Finch** *Haemorhous mexicanus*	38	19 Dec 2021	Jim Flynn	Seola Pond
11.	**Rock Pigeon** *Columba livia* *	31	22 Oct 2022	Jim Flynn	Seola Pond
12.	**Glaucous-winged Gull** *Larus glaucescens*	30	22 Feb 2021	Marissa Benavente	Seola Pond
13.	**American Goldfinch** *Spinus tristis*	30	5 Nov 2022	Penny Rose	Seola Pond
14.	**Bushtit** *Psaltriparus minimus*	25	17 Dec 2023	Marissa Benavente	Seola Pond
15.	**Cedar Waxwing** *Bombycilla cedrorum*	25	23 Feb 2025	Jim Flynn	Seola Pond
16.	**Yellow-rumped Warbler** *Setophaga coronata*	25	2 May 2022	Greg Harrington	Seola Pond
17.	**Song Sparrow** *Melospiza melodia*	20	16 Jan 2022	Jim Flynn	Seola Pond

Figure 14. (eBird, 2025b) Seola Pond (King Co, Seattle) bird checklist shows the most frequent sightings by species for all years.

Key Mammal Species and Sightings in the Seola Pond Park Project site:

While specific mammal sightings at the Seola Pond Park Project site are not extensively documented, the pond's wetland environment and surrounding deciduous woods create suitable habitats for several mammal species commonly found in the Seattle area (West Seattle Blog, 2012; King County, 2025b).

- Raccoon *(Procyon lotor)*
- Coyotes *(Canis latrans)*
- Beaver *(Castor canadensis)*

- Bats (varies)
- Eastern Gray Squirrel *(Sciurus carolinensis)*
- Muskrat *(Ondatra zibethicus)*
- River Otter *(Lontra canadensis)*

Seattle's Urban Carnivore Project (2024) relies on resident reports, and details some of the larger mammal species found within a one-mile radius of Seola Pond:

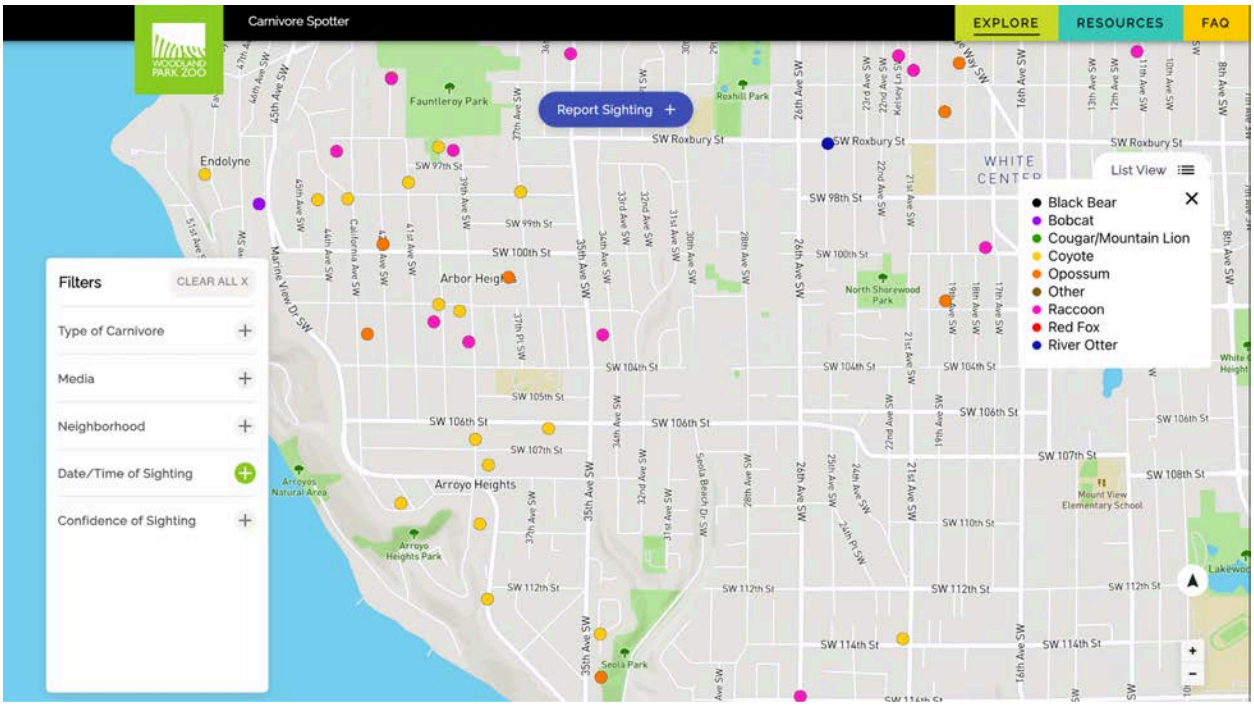


Figure 15. Opossums and bobcats (though some distance away), have also been spotted in the Seola Pond/Burien and White Center area. Seattle Urban Carnivore Project. (2024). Carnivore Spotter Summary Report: August 12, 2019 – December 31, 2023

<u>Key Amphibian and Reptile Species and Sightings in the Seola Pond Park Project site:</u>

Similarly to mammalian data, herpetological data for the Seola Pond area is limited. However, Seola Pond's similarity in ecological habitat to other stormwater parks and wetlands in the King County regional area suggest the presence of several native and introduced herpetological species that have been documented elsewhere. Consulting the Washington Department of Fish and Wildlife "Herp Atlas", and reviewing blog data from restoration efforts reveals the following species likely to be found in a stormwater park such as Seola Pond (Washington Herp Atlas, 2009):

King County hosts 11 native amphibian species and 2 introduced species (King County, n.d). Given Seola Pond's wetland environment, the following amphibians are likely to inhabit the area:

- Pacific Treefrog (*Pseudacris regilla*)
- Northern Red-legged Frog *(Rana aurora)*
- Western Toad *(Anaxyrus boreas*)
- Long-toed Salamander (*Ambystoma macrodactylum*)

- Northwestern Salamander *(Ambystoma gracile*)
- Rough-skinned Newt *(Taricha granulosa)*
- Bullfrog *(Lithobates catesbeianus)*

The following reptiles are known to inhabit King County and may be present around Seola Pond (King Co, n.d; Washington Herp Atlas, 2009):

- Northwestern Garter Snake *(Thamnophis ordinoides)*
- Common Garter Snake *(Thamnophis sirtalis)*
- Western Terrestrial Garter Snake *(Thamnophis elegans)*
- Rubber Boa *(Charina bottae)*
- Painted Turtle *(Chrysemys picta)*

Recommendations

To preserve and ideally increase the biodiversity of plants, birds, amphibians and reptiles, and small mammals in the Seola Pond Park Project site, a number of evidence-based recommendations can be implemented that align with ecological science and proven conservation practices. These recommendations that support biodiversity of these plant and animal species in turn support human health (mental, physical, social and immunological).

Referencing King County's Surface Water Design Manual (2024), the Washington State Department of Transportation (WSDOT) Stormwater Pond Management and literature analysing biodiversity friendly practices in the urban environment, the following recommendations can be made that support preserving biodiversity of plants and animals, and monitoring water quality will have a positive impact on human health by supporting a healthy and thriving stormwater park (Washington State Department of Transportation, 2024):

1. Increase habitat heterogeneity: Structural diversity (practices like: varying water depths, mounds, islands, and vegetated edges) supports more niches for birds and plant species (Mitsch and Gosselink, 2015). Design wetlands with complex topography and microhabitats like shallow zones, deep pools, and dry patches.

2. Establish native plant communities: Native plants provide appropriate food, shelter, and nesting materials for local fauna and outcompete invasive species (Tallamy, 2007). Prioritize planting diverse native wetland and riparian vegetation (grasses, sedges, shrubs, and trees).

3. Create vegetated buffers around wetlands: Buffer zones reduce pollution, human disturbance, and provide additional bird foraging and nesting areas (Tallamy, 2007). Maintain or plant buffer vegetation using native species.

4. Provide Nesting and Roosting Structures: Artificial nesting boxes, dead trees, and platforms can increase breeding success for certain bird species, especially in urbanized areas (Marzluff & Ewing, 2001). Install birdhouses, nest boxes, or platforms tailored to target species (e.g., mallards, sparrows, etc).

5. Limit Human and Pet Disturbance: Frequent disturbance reduces bird diversity and breeding success. Establish boardwalks and viewing areas, and restrict off-trail access during breeding seasons; enforce leash laws (Marzluff et al. 2016).

6. Continue to Foster Community Stewardship: Public involvement increases awareness and long-term protection of urban biodiversity (Bonney et al., 2009). Support participatory science projects (e.g., bird counts, native planting days), guided tours, and improve graffitied interpretive signage.

7. Biodiversity-Friendly Maintenance: Regular maintenance practices, like mowing during nesting seasons, can harm biodiversity and violate the Migratory Bird Treaty Act (Washington Department of Transportation, 2024). Train maintenance staff in biodiversity-sensitive practices (e.g., timing mowing post-nesting season).

8. Implement Long-Term Monitoring: Tracking changes in species richness and composition helps evaluate the success of interventions (US Forest Service, n.d). Establish regular bird and vegetation surveys; use data to refine management strategies.

Invasive Species

Connection to Health

Removal of these invasive species would greatly increase visibility and safety within the park, reduce the potential for vector-borne disease, and improve emotional and physical health benefits of the Seola Pond Park Project (Fairfax County, n.d.). The Himalayan blackberries and Knotweed patches create visual barriers where their dense walls of foliage can prevent people from seeing threats like falling into the pond. Invasive species can also increase the prevalence of pests like ticks, mosquitos, and rats by providing more habitat and less protective factors against pests (Fairfax County, n.d.). Removal of large patches of invasive species would also remove the hiding spots of these pests and reduce the chance of exposure to the people who use the park (Fairfax County, n.d.). Finally, removal of large patches of invasive species opens up more opportunities for physical activity, especially since the Himalayan blackberry patches take up ~47% of the park, and improvement of emotional health by improving the health of the local ecosystem. Ecological damage, mismanagement, and presence of invasive species can create a personal sense of helplessness (Fairfax County, n.d.).

Background and Current Conditions

There are a couple identified invasive species at the pond area, with a special interest in controlling the knotweed found in the Southwestern corner of the pond area as well as the Himalayan blackberries that are relevant throughout much of the pond area. These invasive species are classified as noxious weeds (King County Noxious Weed Control Program, 2019). Knotweed is classified as a class B noxious weed in Washington state, where there is required control efforts in regions where Knotweed has not yet spread to. English ivy, reed canary grass, and Himalayan blackberries are classified as class C weeds, which means that they are typically widespread in WA but their control and management can be of special interest for local conservation efforts.

Based on our survey, there are no class A noxious weeds species at the pond area, which would require immediate eradication. The knotweed is located on the southwestern area of the site and west of 30th Ave SW. There is a small path of desired intent that cuts through the knotweed patch connecting 30th Ave SW to SW 105th St, suggesting development of a trail may be useful in that particular area. The knotweed patch is primarily on private property, but the landowner has expressed

interest in maintaining the land as green space and is in consultation with land use authorities on potential jurisdictional barriers to adding the patch to the HIA park site. Regardless, monitoring efforts should be taken to ensure that the knotweed does not spread to the east of 30th Ave SW, where it would enter the pond area.

The class C noxious weeds: english ivy, reed canary grass, and Himalayan blackberries are found within the pond area. Reed canary grass dominates the drainage ditch along 30th Ave SW, while Himalayan blackberry covers the understory and sloping areas of the park. English ivy is common as both groundcover and climbing the canopy of many of the trees (King County, 2024b). Planners have expressed an interest in removal of noxious weeds and the planting of native species with their largest priority pertaining to the estimated 110,00 square feet of Himalayan blackberries which take up about 47% of the 235,660 square feet park area (King County Noxious Weed Control Program, 2019; King County, 2024b). Removal efforts will fall to the county for managing the removal plan, and a mix of physical removals along with targeted herbicides are currently being considered. Once removal is complete, a community planting event may be planned to involve the community with planting native plants in the site and encouraging community connection with the development of an official community park.

Recommendations

Recommendations for control of invasive species at the Seola Pond Park Project site would include, but are not limited to:

1. Removal and monitoring: complete removal of Himalayan Blackberries and English Ivy from the site three years after site development begins. Removal of the Reed Canary grass along 30th Ave SW by five years after site development begins. Monitoring the spread of Knotweed along the southwestern section of 30th Ave SW until jurisdictional management questions are settled. Should Knotweed be found on the Eastern side of 30th Ave SW, it should be immediately removed and the new growth site should be monitored for one full growing season to ensure complete removal.

2. Reintroduce native species: To ensure good maintenance of the plant life in the park, utilization of a community planting event to reintroduce native plants and build community connections with the park may improve invasive species monitoring and removal capacity. This event could include education on the identification of invasive species to empower community members to help identify and maintain native plant habitat, reducing park maintenance costs long term and increasing the working knowledge of local ecologies. It may be beneficial to give plant identification cards and books to the church for public use and environmental education. While there is a plant identification and information plaque between the pond and 30th Ave SW, it is faded and damaged, making it hard to read. Updating and replacing this plaque could also be useful for environmental education on native and invasive plant species.

Urban Green Space

Connection to Health

Development of the Seola Pond Park Project site as an official urban green space paves the way for increased community connections and a strengthened sense of community, which can be a protective factor for mental and physical health outcomes. Even the physical presence of green space in a neighborhood is associated with positive psychosocial outcomes, regardless of individual use (Francis et al., 2012). Additionally, residents living in high-nature areas are more socially active, know more neighbours, feel neighbours are more helpful and supportive, and have a greater sense of

belonging. Sense of community has a direct correlation with the availability of natural areas, landscaping, and trails or pathways within natural areas, including natural areas with amenities (Francis et al., 2012). Improving the sense of community in an area through the use of green space can be a valuable asset to reducing chronic and psychological illness and encourages healthy behaviors and social connections.

While urban green spaces can promote healthy and protective health behaviors, they can also create additional socio-political stressors. A recently emerging phenomena is the concept of 'green gentrification,' where there is an influx of wealthier new residents to a previously low-income neighborhood where some greening initiatives were implemented (Assaad & Jezzini, 2024). The neighborhoods surrounding the Seola Pond Park Project are lower-income, minority communities that become at risk from green gentrification due to urban greening (see Chapter 2: Community, Equity, and Access for more information). Development of Seola Pond Park into a curated green space may contribute to higher property prices and ultimately the displacement of nearby vulnerable communities. Measures should be taken to protect current residents from increased property costs this project may cause.

Background and Current Conditions

The site has been used as an unofficial urban green space by residents in the area. The park mostly draws in dog walkers, bird watchers, and residents within a ~3 mile radius of the park. Urban green space is a significant pillar of urban infrastructure as it facilitates physical activities and social connections, mental and psychological relaxation, provides clean air, and can even purify air pollutants (Jabbar et al., 2021; Vieira et al., 2018). Urban green spaces can also decrease temperatures, reduce urban heat island effects, conserve soil and water, minimize noise pollution, reduce wind speeds, and save soils from contamination and erosion (Jabbar et al., 2021). Therefore, development of urban green spaces with a high vegetation density can mitigate climate change effects while providing a platform for social connection, and enhancing human health and well-being (Jabbar et al., 2021). The Seola Pond Park Project site has already been used as an urban green space by nearby residents, and development of the park may increase the benefits it can bring to residents.

Emphasis should be placed on diversifying the vegetation at the park. With the removal of some of the invasive plant species that take up much of the park's land, native plants should be planted with a range of ecosystem roles since managed and less complex vegetation types like lawns and planted woodlands have a lower capacity for beneficial environmental services such as air purification and climate regulation (Jabbar et al., 2021). The site already has two areas where there are just grass lawns. The field to the west of the church parking lot and the southern field which has been previously used for overflow parking. King County has expressed interest in converting the south field of the park into a rain garden, which would greatly improve the stormwater drainage capacity and ecosystem services the park provides (Holzer & Poor, 2024; Poor et al., 2021). Planting native plants with diverse ecosystem roles in portions of these areas and the current blackberry-dominated understory would greatly increase the environmental benefits of the site. This has the potential to increase visitation to the park and decrease exposure to air pollution for those who live and/or work nearby (Jabbar et al., 2021).

Recommendations

While developing the Seola Pond Park Project as an official urban green space can enhance environmental services, community health, and community connections, emphasis should be placed on planting native plants with a range of ecosystem roles like pollinator support, carbon

sequestration, and erosion control to improve air purification, climate regulation, and habitat diversity (Tallamy, 2007). Once the invasive himalayan blackberries and english ivy are removed, areas that are replanted with native plants should have at least three to five plants with different ecosystem roles and services, effectively improving biodiversity and potential environmental health benefits (Tallamy, 2007). Additionally, converting portions of the two grass lawns into more ecologically beneficial landscapes would improve the environmental service capacity of the park like converting the southern lawn to a rain garden would greatly increase the park's capacity for protective environmental services, reduce park temperatures, and protect the park from potential flood hazards (Holzer & Poor, 2024; Poor et al., 2021). During replanting, lawn areas chosen to be converted into woodlands should include more tree species like firs, dogwood, cedars, ash, and hemlock. Furthermore, implementation of anti-displacement measures to combat green gentrification and protect current residents is necessary to maintain the existing community and minimise displacement (see Chapter 3: Community, Equity, and Access; Immigrants and Refugees for more information). Involving local residents in this process would ensure that their needs and concerns regarding the design and development process of the park would be addressed.

Summary

Effective management of the Seola Pond Park Project site requires a comprehensive, integrated approach that addresses invasive species control, urban green space development, and stormwater management. The removal of invasive species particularly Himalayan blackberry, knotweed, reed canary grass, and English ivy should be prioritized through coordinated management plans led by the County in partnership with the community. Policies that pair invasive species removal with community-based native planting initiatives and events can ensure long-term, low-cost vegetation management while building public stewardship capacity and reducing future maintenance costs.

Restoring and enhancing the stormwater drainage corridor along 30th Ave SW is critical to reducing flood risk, improving water quality entering Seola Pond, and stabilizing local ecosystems. Incorporating green infrastructure such as bioswales and rain gardens will mitigate urban runoff while providing co-benefits for habitat diversity and community resilience. Coordinated efforts across these domains will not only protect and enhance the ecological integrity of the site but also promote equitable community health outcomes and sustainable urban development. Ensuring partnership collaboration, community engagement, and ongoing monitoring will be essential for the long-term success and adaptability of the project.

Urban green space development at this site aligns with county planning objectives related to climate change adaptation, stormwater management, and equitable access to open space. To maximize these benefits land use policies should support vegetation diversification and prioritization of green infrastructure that enhances air quality, biodiversity, and thermal regulation. Conversion of underutilized lawn space into ecologically rich habitats is also encouraged and prioritized by the County as they have stated the intent to convert the southern field into a rain garden. Development plans should explicitly incorporate anti-displacement strategies to mitigate the risks of green gentrification, particularly given the site's proximity to lower-income, racially diverse communities. This may include policies supporting affordable housing preservation, community land trusts, and inclusive participatory planning mechanisms.

The Seola Pond Park Project has the potential to serve as a demonstration site for interagency collaboration and policy innovation in urban ecological restoration. By embedding environmental justice, climate resilience, and health equity into all stages of planning and development, the County can deliver lasting community benefits while advancing regional sustainability and public health policy goals.

Chapter Recommendations Summary Table

KEY FINDING	RECOMMENDATION	HEALTH IMPACT	TIMELINE	FEASIBILITY
Recurrent flooding presents the need for expanded green stormwater infrastructure	**Install rain gardens to reduce flooding and improve water quality**		▲▲	●●
Implementing regular water quality monitoring is necessary for tracking public health.	**Conduct seasonal testing of stormwater and pond water for pollutants and pathogens.**		▲	●
Preserving space for diversity of birds	**Install bird nesting structures and train staff on eco-friendly maintenance practices.**		▲▲	●●
Increase habitat heterogeneity and establish native plant communities	**1. Design wetlands with complex topography and microhabitats** **2. Prioritize planting diverse and native species**		▲▲▲	●●
Need for reintroduction and preserving native plant species	**1. Host native planting events with invasive species education and ID tools** **2. Update signage to support long-term community-led habitat maintenance**		▲▲	●●
Invasive species removal is a priority for the site.	**1. Phase removal of invasive species: remove blackberry and ivy within 3 years, Reed Canary Grass within 5 years** **2. Monitor and control Knotweed as jurisdiction is clarified**		▲▲	●●
Improving environmental service capacity of the park	**1. Replant invasive removal areas with at least 3–5 native species serving diverse ecological roles (e.g., pollination, erosion control, carbon capture).** **2. Convert 10% of lawn space into wooded areas with diverse tree plantings to enhance biodiversity, reduce temperature, and expand trail potential.**		▲▲	●●
Need for improving contamination prevention	**Provide waste stations and regular cleanup to prevent contamination.**		▲	●●

KEY FINDING	RECOMMENDATION	HEALTH IMPACT	TIMELINE	FEASIBILITY
Protective measures against green gentrification	**Implement anti-displacement strategies and involve local residents in park planning to ensure equitable development and minimize community displacement.**	♥ 🤝 ☺ ♥ 🤝 ☺	▲▲▲	●●
Create inclusive, culturally Relevant educational materials	**Ensure signage and programming reflect the community's cultural and linguistic diversity.**	♥ ♥ 🌿 🤝 🤝 🤝	▲▲	●
Establish partnerships with local schools and community organizations	**Partner with nearby schools and churches to co-create programs and foster community stewardship.**	🌿 🌿 🌿 🤝 🤝 🤝	▲▲	●
Invest in site infrastructure for outdoor learning	**Add seating, shade, interactive signage, and learning zones to support nature-based, place-focused education.**	🌿 🌿 🌿 🤝 🤝 🤝	▲▲	●●
Opportunity for connecting green belts	**Plan for natural corridors to connect with surrounding parks and habitats**	🚶 🚶 🌿 🌿 🌿	▲▲▲	●●●
Improving environmental service capacity of the park	**1. Replant invasive removal areas with at least 3–5 native species serving diverse ecological roles (e.g., pollination, erosion control, carbon capture).** **2. Convert 10% of lawn space into wooded areas with diverse tree plantings to enhance biodiversity, reduce temperature, and expand trail potential.**	🚶 ♥ 🤝 🌿 🌿	▲▲	●●

HEALTH IMPACT (The number of icons will reflect the predicted strength of the impact.)

- **Physical Activity** — Promotes physical movement, walking, and exercise
- **Mental Health** — Supports emotional well-being and cognitive function
- **Social Cohesion** — Builds trust, social interaction, and inclusion
- **Exposures** — Prevents exposure to environmental stressors
- **Stress Reduction** — Alleviates stress and supports relaxation
- **Safety** — Enhances real and perceived public safety
- **Access to Nature** — Increases contact with natural environments

TIMELINE

- ▲ Can be implemented within 0–1 year
- ▲▲ Requires 1–3 years to implement
- ▲▲▲ Long-term strategy, more than 3 years

FEASIBILITY

- ● Readily feasible with low cost or existing community capacity
- ●● Somewhat challenging, requires coordination or resources
- ●●● High effort or dependent on funding/policy change

CHAPTER 3: COMMUNITY, EQUITY, & ACCESS

Introduction

The Seola Pond Park Project is situated in the North Highline and Roxbury neighborhoods, which are adjacent to the White Center community. There are four schools and two churches within easy walking distance to The Seola Pond Park Project site. The community is predominantly composed of immigrants and Black, Indigenous, People of Color (BIPOC) individuals, with approximately 29% of White Center residents being born outside of the United States (Data USA, n.d.). The North Highline and Roxbury neighborhoods' identities have been shaped by redlining, displacement, and annexation policies, which has impacted the public infrastructure (education and transportation), recreational resources, and cultural preservation efforts. To ensure that there is equity and community involvement during and after the restoration process, this chapter provides more information on the neighborhood, cultural, educational, and transportation contexts and recommendations for the Seola Pond Park Project site restoration process.

Immigrants and Refugees

Connection to Health

Even though immigrants and refugees arrive with significant socio-economic barriers, they also arrive with a health advantage. This is called the Healthy Immigrant Effect. Immigrants experience lower rates of chronic health conditions such as diabetes, hypertension, stroke than US natives (Brown, 2018). Studies show that first generation migrants experience better health outcomes because of factors such as positive nutritional behaviour, social and familial support, and living in multi-generational families (Loi & Hale, 2019).

However, this health advantage decreases over time. As the length of their residence increases, health outcomes decrease for immigrants and their health advantage wanes. As the immigrant health effect wanes, immigrant health converges to the health of the “native population” (Loi & Hale, 2019). Decline in health shows up as negative self-rated health, chronic morbidity and activity limitations (Loi & Hale, 2019). Acculturation, negative assimilation, and decrepit socio-economic conditions contribute to the decline in migrant health (Loi & Hale, 2019).

Stratifications

Stratification is important to examine to understand how systems converge and impact immigrant health. As immigrants assimilate into US society, they also become stratified in our racial ethnic systems, ultimately assuming the negative or positive impacts of those stratifications. “White” or “White-adjacent” immigrants (those who appear white or are categorized as white) are likely to experience more advantageous health outcomes than Black or Brown immigrants, due to their proximity to whiteness and therefore stratification to whiteness (Bown 1511). Whereas Black and Hispanic immigrants experience more deleterious impacts. The decline in the immigrant health effect is considered more rapid for non-white immigrants as a result of the stratification into racialized systems that oppress minoritized communities (Brown, 2018).

Naturalization and citizenship also play a role in immigrant health. While naturalization improves labor and employment outcomes, citizenship improves health outcomes by reducing the decline of the immigrant health advantage (Fenoll, 2022).

Social Participation

Social exclusion plays a key role in the collapsing of the immigrant health advantage. Lack of participation in society can erode the health capital immigrants experience upon entry into the country. Social ties provide “socio-cultural buffers” against decline in immigrant health (Brown, 2018). They create a sense of place and community attachment. Engaging in community projects, membership in local organizations, active and recreational play, are all interventions that can be employed to create social ties and develop community attachment for immigrants. Seolo Pond provides an exciting opportunity to develop and sustain these social ties, therefore positively impacting immigrant health.

Background and Current Conditions

The Seola Pond Park Project is situated in the North Highline and Roxbury neighborhoods, which rolls into the White Center community. In 2023, 29% of White Center residents were born outside of the United States (4,360 people). This is higher than the overall percentage of King County residents born outside of the United States (Data USA, n.d.). As a result, any redevelopment of the Seola Pond Park must critically examine impacts to refugee and immigrant communities and their desired outcomes.

Firstly, it is important to understand the historical and cultural context in which these refugee and immigrant communities arrive, and how that shapes their relationship with the natural and built environment. Many immigrants experience a surprising health paradox where recent immigrants often report better health than people who are not immigrants despite often having lower socioeconomic status (Farrara et al., 2024).

Recommendations

Comprehensive Strategy for Immigrant Health Advantage:

1. Refugee Needs Assessment: There is a lack of data around who are the refugee and immigrant populations in this community, what is the state of their health access and health outcomes, and how would they like to be represented in the re-development of the Seola Pond Park Project. Given the current political climate, leveraging community based organizations with established relationships with the immigrant community in this area will be critical in doing this type of surveying and data collection effort. Collaborate with Public Health Seattle King County to develop a health monitoring and health information system targeting refugees in the community surrounding the Seola Pond Park Project. To improve the health of refugees and migrants, WHO identifies strengthening health monitoring and health information systems as a key priority: this includes analyzing trends in refugee and migrant health, disaggregating health information by relevant categories- ensuring cultural specificity, and collating and facilitating the exchange of experiences.

2. Explore culturally relevant food access programs: Cultural dietary assimilation and access to culturally relevant food are important factors in immigrant health. When immigrants do not have readily available access to their cultural food and are forced to adopt their host country’s dietary patterns, this can have negative health impacts. Expanding food system programs to target the unique needs of refugees provides an opportunity to enhance health outcomes. Develop programming similar to the Seattle Parks and Recreation Urban Food Systems program, which seeks to improve food access and food education. This expansion effort would target refugees in the Seola Pond Park Project area and use the park as an activation space. Potential activations include:

community garden, public orchard, food vendor showcases. Potential CBO partnerships include: Solid Ground and Washington State Immigrant Solidarity Network.

3. Explore investment in technical assistance programs for refugees: Language, job access, and civic education are crucial to long-term wellbeing for immigrant and refugee communities. The park can serve as an outdoor learning space that connects refugees with opportunities for growth and inclusion, and improving health outcomes .Using park as outdoor classroom for citizenship courses, language classes, and job training

Interventions

Focus	**Strategy**	**Tactic**	**Key Resources Needed**
Data Discovery	Conduct Refugee Needs Assessment	Collaborate with King County and CBOs to build a health info system	Survey tools, translators, community trust, data analysts
Food Security	Expand Urban Food Systems Program	Develop garden/orchard; host food vendor events with CBOs	Land use, planting materials, event coordination, community leads
Social & Economic Integration	Partner with Local Organizations to Provide Technical Assistance for Refugees	Offer outdoor classes on ESL, job training, and citizenship	Instructors, program materials, outdoor learning infrastructure

Youth Engagement and Culture

Connections to Health

Youth, especially from BIPOC, immigrant, and low-income families, face disparities in access to nature, safe play environments, and culturally relevant programming. At the same time, parks can be powerful vehicles for health—supporting physical activity, intergenerational learning, and mental wellness. Studies show that access to culturally relevant green space supports youth mental health, identity development, and a sense of belonging—particularly among refugee and immigrant adolescents (Prince, et al., 2019; Gillespie, et al., 2024). Parks that reflect local histories and cultural narratives can deepen place-based identity and collective efficacy (Frumkin, et al., 2017). Community-based recreation fosters belonging and social cohesion, particularly for young people navigating systems of displacement or marginalization. These programs have also been shown to reduce violence, promote physical activity, and build trust in public institutions (Jennings, et al., 2017).

However, without safeguards, park investments risk fueling green gentrification where improvements attract outside interest and drive up housing costs, resulting in the displacement of the very communities intended to benefit (Hwang & Burns, 2014). The Seola Pond Park Project must intentionally center youth engagement, cultural preservation, and inclusive programming to ensure that neighborhood residents—not newcomers—reap the long-term benefits of a restored green space.

Youth Engagement

Youth who participate in the design, programming, and stewardship of public spaces experience improved mental health, self-efficacy, and social connection. Green spaces that center youth voices can foster agency and belonging while reducing risk factors associated with isolation and intergenerational trauma (Prince, et al., 2019; Gillespie, et al., 2024).

There are four schools within walking distance of the Seola Pond Park Project, yet the site currently lacks any youth-specific amenities, signage, or programming. Informal footpaths suggest current use by students, but there is no infrastructure to encourage safe or structured engagement. The absence of formal youth programming and infrastructure is a missed opportunity in a neighborhood with a high concentration of school-aged children and teens.

Background and Current Conditions

The Seola Pond Park Project is located in the heart of White Center, an urban unincorporated area of King County characterized by cultural diversity, a large immigrant and refugee population, and a significant youth presence. The community includes families with deep generational ties as well as newly resettled refugee youth. The neighborhood's identity has been shaped by histories of redlining, displacement, and annexation policies, which have left residents with limited access to city infrastructure, recreational resources, and cultural preservation efforts. With four schools, two churches, and several youth-serving community organizations nearby, the Seola Pond Park Project offers a unique opportunity to build a space that promotes youth leadership, reflects community histories, and expands access to inclusive park programming. This section explores how the Seola Pond Park Project can serve as a catalyst for health equity by fostering community-based recreation, preventing green gentrification, and supporting culturally meaningful public use.

Key Findings

The White Center neighborhood, especially Census Tract 53033026700, faces entrenched structural inequities that disproportionately impact youth. Over 86% of local households live in poverty, and the area ranks among the lowest third in the region for median income. Nearly three-quarters of residents identify as people of color, and nearly half of households have limited English proficiency—barriers that can limit access to services and civic engagement.

Health disparities are pronounced. The area ranks in the 79th percentile for residents without health insurance or living with a disability and in the 69th percentile for hospitalization rates. Life expectancy is among the lowest in King County. Educational and food insecurity indicators also raise concern: over 75% of students receive free or reduced-price meals, and access to formal parkland is limited.

Together, these inequities underscore the urgent need for inclusive, culturally relevant youth programming at Seola Pond. Parks like this can serve as protective environments that offer safe spaces for play, learning, leadership, and healing—especially when they reflect the identities and histories of the communities they serve.

Recommendations

1. Engage Youth in Park Design and Leadership: The Seola Pond Park Project should begin with meaningful youth engagement through formal partnerships with nearby schools and youth-serving organizations. Youth engagement is not only a design tool—it is a strategy for equity, community ownership, and trauma prevention. These partnerships should:

- Co-design park features, programs, and interpretive signage
- Dedicate space for youth-led art, peer-to-peer education, and stewardship roles
- Support youth agency, leadership development, and long-term mental and emotional wellbeing

2. Integrate Cultural Preservation and Storytelling: Youth in White Center often belong to communities with rich cultural histories shaped by migration and displacement. Public spaces that reflect these narratives foster identity, pride, and belonging. This approach promotes place-based identity and reinforces intergenerational connections to space.
    - Include multilingual signage, interpretive panels, and culturally significant plantings (e.g., Somali, Spanish, Amharic, Vietnamese)
    - Feature storytelling elements and community-driven art that reflect the lived experiences of refugee and immigrant families
    - Engage youth in collecting oral histories and co-creating cultural content
3. Establish Year-Round, Culturally Relevant Recreation Programs. A lack of accessible recreational programming can reinforce isolation and inequity among BIPOC and immigrant youth. These programs promote social cohesion, reduce youth violence risk, and improve physical and mental health.
    - Create multi-use spaces that accommodate informal play and structured activities
    - Prioritize free or low-cost programs that are culturally resonant and linguistically accessible (e.g., Somali, Spanish, Amharic, Vietnamese)
    - Partner with local groups to lead inclusive, youth-centered activities throughout the year
4. Prevent Displacement through Policy and Equity Tool. While green space investment improves community wellbeing, it can also drive green gentrification if safeguards aren't in place. These safeguards ensure that park improvements benefit current residents—not just newcomers.
    - The Parks Department should partner with local advocacy organizations to integrate anti-displacement strategies into the development process, such as community land trusts, local hiring for park-related jobs, and affordable housing protections
    - Apply King County's Equity Impact Review Tool throughout the redevelopment process
    - Monitor and evaluate outcomes related to youth access, cultural use, and displacement risk

Community Education

Natural areas have been shown to improve social, mental, and physical health outcomes across all ages. However, studies show marked health benefits for children such as increased physical activity, a safe place for social connection with their peers and community, and improved environmental stewardship behaviors. Many school groups, pet owners, and bird watchers frequent the Seola Pond Park Project site, and children comprise ⅓ of all visitors to the site. School groups often use the area as a specimen collection site, which can help students learn more about the local flora and fauna that reside in their neighborhood. This specific segment focuses on the community use of the Seola Pond Park Project for educational purposes and as an outdoor classroom.

The broader context of the site supports a compelling case for expanding environmental education opportunities. Seola Pond's restoration-focused mission and its use as a de facto park by neighbors reflect strong community interest and engagement (King County, 2024). Its proximity to four schools and two churches within walking distance presents a ready-made audience for environmental learning programs (King County, 2024). Moreover, the site sits within a historically underserved,

culturally diverse neighborhood where investments in public education and engagement could be meaningful for the community.

Connections to Health

The use of green spaces and parks as health interventions have gained significant traction among various communities, with many studies highlighting improvements in mental and physical health outcomes. Among children, natural areas can help foster improved cognitive function (working memory, attentiveness), boost immune system function, and self-regulatory behaviors/practices for those with attention disorders by enabling kids to play and mingle with others in a safe environment (Nebraska Game & Parks Commission, 2025; Ulset et al., 2017; UNICEF, n.d.; Weale, 2024). This has also been shown to improve mental health outcomes, with notable improvements in children from lower-income families (UNICEF, n.d.). This is an important factor, as the Seola Pond Park Project is located in a historically underserved neighborhood and has four schools and two churches within walking distance. It is imperative that the Seola Pond Park Project development process incorporates an outdoor classroom or an area for education into the final product to improve children's mental, physical, and social health and development.

Background and Current Conditions

The Seola Pond Park Project is located in a residential neighborhood, with many pet owners, bird watchers, children, and school groups frequenting the site. School groups (teachers and students) that visit collect specimens from the green space, and approximately ⅓ of all visitors to the site are children. The project site presents a foundational but limited infrastructure for environmental education, with the potential for significant enhancement. There is an existing park picnic table and bench that is well maintained, and the incorporation of more small recreation amenities could benefit the existing visitors to the Seola Pond Park Project. Currently, educational resources at the site include minimal signage related to environmental topics and a single wooden table that has previously served as an informal classroom space. It was also reported that a teacher was using the area for evening classes. These amenities and activities indicate some precedent for outdoor learning but also highlight a need for more intentional and accessible educational infrastructure.

Key Findings

Green spaces have been shown to improve health outcomes in persons of all ages, with marked benefits being found in children's cognitive, physical, and social development (Nebraska Game & Parks Commission, 2025; Fernandes et al., 2023, UNICEF, n.d.). However, traditional educational settings typically take place in indoor classrooms and may have limited access to green spaces, which can be a detriment to overall wellbeing and cognitive development for children (Mann et al., 2022; UNICEF, n.d.; Weale, 2024). Cognitive benefits that have been found in students of outdoor classrooms and children who spend time in natural areas were improved working memory and attentiveness, and better self-regulatory behaviors in kids with attention disorders such as ADHD and ADD (Nebraska Game & Parks Commission, 2025, Mann et al., 2022; Ulset et al., 2017; UNICEF, n.d.). Teenagers also reported improved attention, increased enthusiasm for learning, and a greater capacity to cope with stressful events (Fernandes et al., 2023; Mann et al., 2022; UNICEF, n.d.; Weale, 2024). Social benefits that have been recorded are improved social cohesion through interaction with neighbors, friends, and community members in inclusive spaces (UNICEF, n.d.).

Physical health is promoted through outdoor classrooms and green spaces via increased physical activity and has even been reported to boost immune system function (Fernandes et al., 2023; Mann et al., 2022; UNICEF, n.d.; Weale, 2024). For kids up to six years of age, benefits from green spaces

including balance and motor coordination, better sleep, and a reduction in nearsightedness have been reported (Ulset et al., 2017; Weale, 2024). For older kids aged between 15 and 17, benefits reported include lower blood pressure and cortisol levels, as well as increased physical activity (UNICEF, n.d.; Weale, 2024).

Attitudes towards the environment are also influenced by children's experiences spent outdoors, and studies show that kids who spend more time outdoors demonstrate positive perceptions of environmental stewardship and conservation behavior (Mann et al., 2022). Children's knowledge and interest in animals also tend to be higher in those who spent more time in natural areas. These attitudes are assisted by having role models in care for nature and can be further facilitated by having place-based learning experiences and participation opportunities in civic decision-making related to local environments (Mann et al., 2022). The addition of providing mentors and modeling real practice in context can also give children more opportunities for genuine agency, rather than focusing solely on cognitively-oriented engagement.

Importantly, Chawla (2020) emphasizes that social and cultural contexts shape environmental education experiences. Families, educators, and communities play crucial roles in nurturing or limiting children's engagement with nature. Access to natural spaces is often limited in urban environments, especially in underserved or culturally diverse neighborhoods. As such, she argues, environmental education must be both inclusive and responsive to local conditions, incorporating multiple languages, culturally relevant activities, and equitable access to outdoor learning (Chawla 2020).

Recommendations

1. Invest in Site Infrastructure for Outdoor Learning: Enhance the physical space with more seating, shade structures, interactive signage, and designated learning zones. Currently, only a wooden table and minimal signage exist. Upgrading infrastructure will make the site more functional and welcoming for educators and students, and support consistent use. Creating a more supportive environment for nature-based learning aligns with the findings on the need for access and place-based education experiences to promote health.

1. Establish Partnerships with Local Schools and Community Organizations: Leverage the proximity of four schools and two churches to build strong partnerships for recurring programming, co-created lessons, and community stewardship. These collaborations can provide consistent use of the space, shared resources, and a strong local identity for the site.

2. Create Inclusive, Culturally Relevant Educational Materials: Ensure that signage, programming, and communication at the Seola Pond Park reflect the community's diverse cultural backgrounds and languages. As Chawla (2020) emphasizes, environmental education must be responsive to social and cultural contexts to be effective. Culturally inclusive storytelling, multilingual signage, and community-led programming can foster a sense of belonging and relevance, increasing engagement and long-term impact.

3. If a community garden is established at Seola Pond, partner with local schools to provide environmental education on local plants and agricultural skills for students. See Chapter 1 for more detailed recommendations around community gardens.

Public Transit Access

Connection to Health

Public transit use is associated with increased physical activity levels, which is health-promoting (Xiao et al., 2019). Additionally, public transit results in fewer greenhouse gas emissions and less air pollution compared to personal vehicle use. Public transit use can lessen climate impacts and reduce air pollution, which is linked to asthma and other respiratory illnesses (Glazener et al., 2021; Beaudoin et al., 2015). Public transit can allow people who cannot drive or do not drive to visit the park, thus promoting equitable access to the park. Historically marginalized groups such as people of color are most likely to rely on public transit (Pereira et al., 2017; "Advancing Transportation Equity: Research", 2019). Individuals who cannot afford a car, individuals who cannot drive due to a disability, and individuals who are too young to drive may not be able to access the park without reliable public transit. Ensuring equitable access will allow as many people as possible to benefit from the positive health impacts of visiting the Seola Pond Park.

Background and Current Conditions

The Seola Pond Park Project site is served by two Metro bus routes with stops within one to two blocks on the park: route 22 at SW 106th St and Seola Beach Dr SW and route 113 at 26th Ave SW and SW 106th St (King County Metro, n.d.). However, route 113 is a peak-only route, which runs only Monday through Friday at peak commute hours, towards Seattle city center in the morning and towards White Center in the evening. Route 113 cannot be used to access the park on weekends or outside of peak commute hours on weekdays, meaning it is unlikely to be a practical way for visitors to access the park. Route 22 runs on weekdays only and operates fewer than one trip per hour (King County Metro, n.d.). Bus stops near the park are uncovered, so individuals are exposed to the elements while waiting for the bus.

Additional bus routes that run more frequently and that include weekend service are located roughly one mile north of the park at Westwood Village, which is labeled as a “major transfer point” by King County Metro (King County Metro, n.d.). The RapidRide C and H lines and bus routes 21, 21X, 60, 125, 128, and 560 serve this area (King County Metro, n.d.). These routes operate primarily within Seattle city limits. Transit options are limited in unincorporated King County, including the areas south and east of the Seola Pond Park Project site. As a whole, the neighborhood is considered car-dependent, with a Walk Score of only 41 (White Center WA, n.d.).

Key Findings

While many Seaola Pond Park visitors are likely to live nearby and walk, ensuring transit access is still important. King County Metro bus route 22 provides direct but infrequent weekday access to the Seola Pond Park. No direct weekend service is available. More frequent weekday and weekend service, located approximately one mile north of the Seola Pond Park, connects the park to the City of Seattle, but fewer routes with infrequent service connect to unincorporated King County. Major routes near Westwood Village are within walking or biking distance of the Seola Pond Park for most able-bodied individuals, but do not provide direct access to the park for individuals with limited mobility.

Recommendations

1. Expand King County Metro bus service in unincorporated King County. In particular, increase the frequency of buses on route 22 and expand service to include weekends to make the

Seola Pond Park more accessible, especially during the hours that community members are more likely to visit the park.

2. Install structures at bus stops near the park to provide shade and protect riders from inclement weather. This is especially important given that transit riders will experience more than an hour wait time between buses on the route nearest the park.

Community Gathering Spaces

Connection to Health

As discussed in Chapter 1, access to biodiverse green space is associated with improved psychological well-being, including decreased rates of depression, anxiety, and stress (Fuller et al., 2007; Marselle et al., 2016; Cox et al., 2017). Green space contributes to positive health outcomes in part by increasing sense of community and social integration, which are correlated with health benefits such as improved mental health, decreased mortality, and improved immune function (Seeman, 1996; Sugiyama et al., 2008; Francis et al., 2012). Public spaces, in particular public spaces like parks that can be accessed on foot, encourage community members to interact with one another, strengthening social cohesion (Jennings et al., 2024; Seeman, 1996). Research indicates that design, including walkability, and perceived quality of a public space can have a positive impact on sense of community and therefore a positive impact on health (Ramos-Vidal & De La Ossa, 2024; Wood et al., 2010).

Background and Current Conditions

In its current use as an unofficial park, Seola Pond functions as a community gathering space. Grace Church hosts community events in the field. Over the summer, a local teacher held weekly storytime for neighborhood children. Since 2017, Community members have arranged annual volunteer workdays to improve the park, removing invasive species and planting native species (*HELPING*, n.d.). In addition to organized events, community members use the space for smaller, informal gatherings such as picnics and walks.

Key Findings

A sense of community is associated with positive health outcomes. Current uses of the Seola Pond Park Project site promote a sense of community and should be maintained or expanded. Making the area into a formal park may bring more visitors, increasing opportunities for community-building.

Recommendations

1. Provide a bulletin board or other public space for community members to advertise local events that promote community-building.

2. Ensure that the current uses of the park that promote community are able to continue after the Seola Pond Park Project becomes an official park.

3. Continue volunteer workdays to maintain, and ideally increase, community involvement, encourage a sense of collective ownership over the space, and promote environmental education.

Summary

To ensure that the Seola Pond Park Project's restoration process will benefit the local community and improve wellbeing, it is important that a refugee needs assessment is conducted to better understand their health access, health outcomes, and how they can play an active role in the re-development of the Seola Pond Park. Collaborating with community-based organizations and King County would be helpful in conducting this needs assessment. The inclusion of culturally relevant food access programs, such as community gardens/public orchards can also be implemented to meet the needs of refugees and BIPOC communities to improve health outcomes. Investing in technical assistance programs (civic, language, and job access education) and using the Seola Pond Park as an outdoor learning space should also be considered to improve long-term wellbeing for immigrant and refugee populations.

For the youth living in the neighborhood, meaningful engagement can be facilitated through local partnerships with schools and organizations to co-design programs, interpretive signage, and park features. There should be a large focus on art, nature stewardship, peer-to-peer engagement programs to foster long-term leadership among the community. The artistic aspect can also be used to support historical and cultural preservation of the Seola Pond Park Project, and things such as storytelling elements and multilingual signage that incorporate the community's cultural identities and lived experiences can aid this recommendation. Multi-use spaces should also be used to accommodate year-round, culturally-appropriate informal and community-led recreation activities and programming for free or at a low cost. Anti-displacement strategies such as community land trusts, local hiring for park-related jobs, and affordable housing policies should also be incorporated to mitigate green gentrification. The redevelopment process should also incorporate King County's Equity Impact Review Tool to regularly measure youth access, cultural use, and displacement risk outcomes among residents.

Community education is also connected to the youth engagement and culture segment's recommendations. Because there are multiple schools that use the Seola Pond Park Project site for education purposes and children make up ⅓ of all visitors to the site, having a designated outdoor classroom or space for school groups would further facilitate learning opportunities for local children. Updating the existing signage that details the local flora and fauna that reside in the Seola Pond Park would also provide more context on the importance of environmental stewardship at a local level. The inclusion of community gardens would also be beneficial for social cohesion and agricultural education for all community members. Existing uses and activities at the park that promote community cohesion should also continue after Seola Pond becomes an official park. The continuation of volunteer workdays will also maintain, and potentially increase, community involvement to foster collective ownership and promote environmental stewardship education at a community level. A bulletin board can assist in advertising local community-building events.

Lastly, transportation infrastructure is limited at the moment. To remedy this, the expansion of King County's Metro bus service in unincorporated King County would improve accessibility in the Seola Pond Park Project site. Increasing the frequency of buses on Route 22 and expanding services to include weekends would enable community members to reach the park more easily. Shade and seating structure installations at bus stops near the park would also provide shade and shield riders from inclement weather, in addition to long wait times.

Chapter Recommendations Summary Table

KEY FINDING	RECOMMENDATION	HEALTH IMPACT	TIMELINE	FEASIBILITY
Youth voices are underrepresented in the redevelopment process, limiting long-term engagement and leadership opportunities	**Co-design youth-led programs, art spaces, and educational features to build long-term engagement**		▲▲	●●
Ongoing stewardship and environmental education are needed to maintain park quality and build community ownership	**Organize regular volunteer workdays to maintain the park and strengthen community stewardship**		▲	●
Limited access to culturally relevant, affordable food options reduces food security and community nutrition	**Expand urban food access by creating gardens and hosting culturally relevant food vendor events**		▲▲	●●
Refugee and immigrant communities face gaps in health information and access to culturally relevant services	**Conduct a needs assessment and build a culturally relevant health info system with King County and CBOs**		▲	●●
Lack of weather-protected transit infrastructure near the park creates barriers for residents reliant on public transportation	**Install bus shelters to protect riders from weather and improve transit access near the park**		▲▲▲	●●●

HEALTH IMPACT (The number of icons will reflect the predicted strength of the impact.)

- **Physical Activity** — Promotes physical movement, walking, and exercise
- **Mental Health** — Supports emotional well-being and cognitive function
- **Social Cohesion** — Builds trust, social interaction, and inclusion
- **Stress Reduction** — Alleviates stress and supports relaxation
- **Safety** — Enhances real and perceived public safety
- **Access to Nature** — Increases contact with natural environments

TIMELINE

- ▲ Can be implemented within 0–1 year
- ▲▲ Requires 1–3 years to implement
- ▲▲▲ Long-term strategy, more than 3 years

FEASIBILITY

- ● Readily feasible with low cost or existing community capacity
- ●● Somewhat challenging, requires coordination or resources
- ●●● High effort or dependent on funding/policy change

CHAPTER 4: FACILITIES & LAND USE

Introduction

This chapter explores the role that park's built environments play in affecting visitors' experience, safety, and health outcomes. The chapter addresses the importance of park maintenance and cleanliness as a contributor to community health. Themes of lighting, pedestrian access, wayfinding and disaster mitigation are focal points for preserving the safety and accessibility of park users. The health impact of utility structures such as restrooms, drinking fountains, and seating areas on park spaces are examined. Outdoor recreation and opportunities for nature-based play are also discussed as contributors to physical, mental and social health outcomes in the surrounding community. Site conditions and development plans are examined and opportunities to maximize the health benefit and mitigate harm are presented in the recommendations.

Maintenance and Cleanliness

Connection to Health

The maintenance and cleanliness of public green space is directly linked to individual and community health. Well-maintained parks support increased physical activity by encouraging regular use and creating a welcoming environment for movement and recreation. Quality aesthetics and functional infrastructure contribute significantly to this engagement. Physical health benefits include improved cardiovascular and musculoskeletal outcomes, while safe, stable trails and open sightlines help reduce injury risk and enhance users' sense of security (Botchwey, Dannenberg, and Frumkin 2022).

Green space also serves as an important mental health resource. Regular interaction with natural environments has been shown to lower stress and anxiety levels, supporting mental well-being. Signs of neglect, such as litter, graffiti, and disrepair, can discourage use and degrade these benefits (Klinenberg, E. 2018).

Park maintenance intersects with equity. Underserved communities often face disproportionate levels of neglect in public space upkeep, perpetuating environmental injustice (National Recreation and Park Association, n.d.). Cleanliness and maintenance are not only technical goals but also measures of social investment, inclusion, and dignity.

Background and Current Conditions

Under the current arrangement, King County is responsible for the design and construction of the public Trail Corridor, as well as the protection of its conservation values. The County also oversees the maintenance of the Trail Corridor, including trash removal, stormwater feature management, and the upkeep of surrounding areas under its jurisdiction. This includes:

- Maintenance of the multi-use trail
- Control of non-native and invasive plant species
- Replanting with native vegetation
- Wetland restoration

Grace Church, as the Grantor, retains ownership of the land and is responsible for all costs and liabilities associated with the upkeep, operation, and maintenance of the Protected Property outside of the Trail Corridor. However, Grace Church and King County will likely work together on the following aspects:

- Waste management
- Signage
- Vegetation management, such as mowing lawns, and control of English Ivy and Himalayan Blackberry

While formal maintenance responsibilities are divided, a neighboring resident has been informally mowing the south side of the Seola Pond Park Project site, highlighting the need for coordinated and clearly defined responsibilities. Additionally, in 2021, students from Explorer West Middle School and The Bridge School partnered with Dirt Corps and local residents to lead restoration efforts and plant native vegetation at the Seola Pond Park. These efforts, supported by King County Noxious Weed Control, focused on open space within Seattle and unincorporated King County (West Seattle Blog, 2021).

Given that maintenance responsibilities are divided by parcel and land use, both the Grantor and Grantee are accountable for solid waste management within their respective areas, unless amended by future agreements. Currently, only trash, recycling, and dog waste receptacles were observed at the edge of the site, as shown below.

Seola Pond Park Gravel Roads and Field (photo from the ENVH 536 site visit)

Maintenance activities for this site include:

- Grounds and landscaping: mowing, irrigation system upkeep, tree trimming
- Waste management: trash collection, recycling, and litter removal
- Facility and structure upkeep: restroom cleaning, playground and picnic area maintenance
- Trail and pathway care: surface repairs, vegetation clearing, signage maintenance
- Environmental stewardship: stormwater feature maintenance, invasive species control, habitat restoration
- Safety and compliance: regular inspections, graffiti removal, accessibility checks

The site is surrounded by residential properties and informal trail access points exist along neighborhood streets. The site is currently used for recreation, with anticipated increases in foot traffic. These conditions contribute to existing litter and emphasize the ongoing need for solid waste removal, hazardous waste consideration, and graffiti mitigation. While graffiti was not widespread, it appeared intermittently on site structures, as shown below.

Water Management Infrastructure on Site (photo from the ENVH 536 site visit)

Key Findings

- Ongoing maintenance is essential for meeting project goals related to health, safety, equity, and environmental sustainability.
- A clean, well-kept park supports positive physical and mental health outcomes, fosters social cohesion, and strengthens public trust.

- Community engagement is essential in both the development and maintenance phases to ensure long-term success.

Recommendations

Clear roles and responsibilities for maintenance, especially for vegetation management, trail upkeep, stormwater infrastructure and cleanliness, must be formalized. These responsibilities should be paired with robust community involvement opportunities to support stewardship, encourage local pride, and ensure consistent site cleanliness.

To ensure long-term ecological health, both King County and Grace Church will need to coordinate invasive species management, particularly for Himalayan blackberry and English ivy, which are currently present.

Additionally, cleanliness must extend beyond vegetation to include solid waste management and the removal of hazardous materials. Increased accessibility to waste disposal, routine trail maintenance, and prompt response to vandalism are all critical elements of site upkeep. Informal trail access points exist along neighborhood streets, additional coordination with the

1. Provide solid waste disposal at the most commonly used entry and exit points whether formal or informal.
2. King County should organize regular volunteer days for trail clean-up, planting, and restoration, involving local schools and youth groups.
3. Develop community-based employment or stipend programs for site maintenance and monitoring.
4. Partner with organizations like Dirt Corps and the White Center Teen Program to support stewardship and education.
5. Install signage with contact info for reporting maintenance issues and encouraging shared responsibility.
6. Implement a system to monitor and address cleanliness, including waste management, graffiti removal, and other concerns. Develop signage to encourage visitors to responsibly dispose of dog and pet waste.
7. Promote resident engagement in litter prevention through education, infrastructure improvements, and incentive programs.
8. Site Conditions and Observations

Accessibility and Safety: Pedestrian Access

Connection to Health

Pedestrian access refers to the ability for pedestrians to enter and navigate park spaces. Pedestrians include people who walk by foot as well as individuals utilizing mobility devices such as wheelchairs and strollers (WA State Legislature, 2025).

Convenient pedestrian access is necessary to ensure frequent usage of natural spaces (Lin et al., 2014). Walkability of open spaces is a precursor for regular physical activity which is a protective factor against cardiovascular disease and several chronic diseases (Sallis et al., 2012). Two way pedestrian corridors help to facilitate seamless foot traffic.The ability to easily access and navigate a park space can also confer a mental health benefit to patrons by reducing the stress and anxiety that can be associated with engaging with outdoor spaces (Li et al., 2021). Walkability of open spaces is highly beneficial to community building through the promotion of social interaction and group activities (Morales-Flores & Marmolejo-Duarte, 2021).

Pedestrian access is important for individuals who rely on a mobility assistive device such as strollers, prosthetics, walkers, and wheelchairs. Existing literature indicates a need for more accommodative infrastructure in the outdoor built environment (Kapsalis et al., 2024). Enhanced accessibility of open spaces to mobility assisted device users can help to combat social isolation and stigma, and can improve social inclusion and mental health outcomes (Zhang et al., 2017).

Background and Current Conditions

There are plans to develop an easement trail up to six feet wide which will provide pedestrian access to members of the public based on a conservation agreement between Grace Church and King County Parks. The agreement includes a limit on the percentage of parkland that can consist of impervious surfaces. Park developers intend to allow strollers and similar mobility assisted devices on the trail, but prohibit motorized vehicles. Trail restrictions will be finalized in future discussions by King County Parks. Predevelopment, the park includes a winding dirt trail and a short boardwalk. Noxious weeds such as Himalayan blackberries and knotweed border and threaten to grow over the existing trails.

Key Findings

- Good walkability within park grounds promotes healthy behaviours such as physical activity and social interaction.
- Easy access within a park space can also confer a mental health benefit to patrons by reducing the stress and anxiety.
- Equitable pedestrian access is important to individuals who rely on a mobility assistive device.

Recommendations

Park routes should be designed with accessibility considerations for diverse pedestrians including individuals that utilize mobility assisted devices. Trail and boardwalk surface should prioritize firmness, stability and slip resistance. Sidewalks leading up to the park and park trails should accommodate a two-way pedestrian corridor. Trails should be wide enough to accommodate individuals using mobility assistive devices including wheelchairs and strollers in both directions of a pedestrian corridor. The development of entry and exit points should also prioritize easy accessibility. Park trail design should ensure moderate, pliable slopes and minimize excessive or steep inclines and uneven surfaces. Park developers can consider implementing resting spaces along the park trail for individuals in need of frequent respite during travel.

Accessibility and Safety: Lighting

Connection to Health

Adequate park lighting is essential to park accessibility and wayfinding. Adequate lighting is a precursor to wayfinding, walkability, and disaster mitigation. Natural ambient light is the primary source of lighting in park spaces. This natural light may be occluded by natural structures such as dense tree canopies and thickets, or manmade structures such as surrounding buildings or shelters. Natural ambient light may be supplemented by artificial light during early or late hours of the day. The use of artificial lighting in public outdoor spaces during low natural light periods can improve mental wellbeing by fostering an increased sense of safety and can act as a deterrent to criminal and antisocial behavior. (Kaplan & Chalfin, 2022). Adequate lighting is critical to improving visibility which can lower the risk of injury due to environmental hazards present in flora and fauna (Staunton et al., 2007).

Background and Current Conditions

There is currently minimal lighting within the park land, predevelopment. There are plans to install lighting fixtures in the park as part of the development project.

Key Findings

- Adequate park lighting is essential to park accessibility, wayfinding and pedestrian safety.
- The use of artificial lighting in public outdoor spaces such as LED lighting fixtures during low natural light periods can increase mental wellbeing, improve safety and deter antisocial behaviour.
- Lighting infrastructure improves visibility and averts injury due to environmental hazards.

Recommendations

LED lighting fixtures should be stationed along trails to improve visibility and walkability. Similar fixtures can be placed near seating and gathering spaces. Security lights should also be stationed around public infrastructure such as pipes, stormwater structures, manhole covers, electricity poles, and fences to deter vandalism. To minimize light pollution in natural spaces, park developers may consider utilising motion-sensor lighting around these structures. Areas with excessive thickets and dense tree canopies should be cleared or maintained to allow sufficient natural light distribution.

Accessibility and Safety: Wayfinding

Connection to Health

Wayfinding is “the process of using spatial and environmental information to navigate to a destination” (Lynch, 1964). Structures that support this activity include signage, informational kiosks, landmark structures, and waymarked trails. Digital tools such as virtual maps and augmented reality live navigation are also sources of wayfinding. Comprehensive wayfinding resources in public parks allows patrons to take full advantage of park space and amenities. Wayfinding encourages physical activity and social interaction which can promote physiological and psychological wellness (Romagosa et al., 2015). Effective wayfinding increases park users’ perceptions of safety and confidence navigating the environment, thus reducing anxiety and supporting mental wellbeing (Ryan

& Hill, 2022). Wayfinding aids are important for preserving the safety of park users by guiding behavior (Soh & Smith-Jackson, 2003). For example, wayfinding signs can demarcate areas of restricted access and can communicate park rules such as authorized modes of transport. Wayfinding is especially critical to ensuring equitable access to park space and amenities by individuals with unique health considerations. For example, neurodivergent populations benefit from wayfinding aids in navigating recreational open spaces (Finnigan, 2023).

Background and Current Conditions

There are currently minimal wayfinding aids within and around the park. The park also lacks an entrance sign. Distinct park features such as the stormwater facility and picnic table may serve as reference points for navigation by park users.

Key Findings

- Wayfinding resources include both physical structures and digital resources such as a QR code leading on an online map of the park and information about the park.
- Wayfinding aids are essential to preserving the safety of park users and promoting permissible park conduct.
- Conspicuous wayfinding is important for equitable access to park space and amenities.

Recommendations

Consider positioning structures such as benches strategically to serve as landmarks and reference points for park users. Ensure that digital wayfinding tools (e.g. virtual maps) are regularly updated so that wayfinding information aligns with the onground park conditions and amenities. Utilise straightforward, inconspicuous signage with high contrast colors to establish waymarked trails on park grounds. More so, employ signs and fingerposts to differentiate the locations of park features such as trails, picnic areas. Ensure that entry/exit points of the park and surrounding restricted areas are visibly marked with signs. Consider placing informational kiosks and signboards at the park entrance. Regular greenkeeping and park maintenance should be conducted to prevent obstruction of wayfinding aids by park flora. For sign placement, consideration should be given to minimize hindrance to greenkeeping activities such as mowing.

Accessibility and Safety: Disaster Prevention and Preparedness

Connection to Health

Infrastructure intended to safeguard against natural disasters is an essential part of developing the outdoor built environment. Within the context of Seola Park, the presence of a stormwater facility exists to mitigate the increased risk of flooding in the area due to weather and climate conditions (City Parks Alliance, 2024). By averting major flooding, stormwater facilities can improve park user safety and prevent environmental hazards that can lead to injury. Stormwater structures can prevent waterborne disease infection and contamination that can occur during floods. Stormwater facilities can potentially increase the risk of vector borne disease transmission (Center for Disease Control and Prevention, 2012). Standing water within the stormwater structure can create breeding grounds for mosquitoes which transmit mosquito borne diseases such as Dengue fever and West Nile virus.

Park grounds can also serve as respite areas during extreme weather events by providing open, safe spaces for people to gather (Wei et al., 2020). In the case of building fires or fire drills, a park space can serve as an accessible assembly point. Parks help to promote physical well being and psychological safety during unanticipated events. The land can also be used to enact emergency response and conduct relief activities such as distribution of water and food. In disaster events, parks can facilitate social cohesion and help to build community resilience.

Background and Current Conditions

There is stormwater infrastructure in the park which intends to prevent flooding. The stormwater pond was installed in 2010. There is minimal signage around this water body to notify park users of the pond's utility. There is significant open and level land mass which formerly served as a parking lot for the church.

Key Finding

- Parks are a useful resource for preserving safety and preventing injury during emergencies and disaster events.
- Parks can facilitate social cohesion and help to build community resilience during unexpected events.
- Stormwater facilities are effective in flood mitigation but may introduce additional health risks.

Recommendations

The stormwater facility should be clearly marked with signs to prevent park users from mistaking the structure for a regular pond. Regular monitoring and maintenance of stormwater facilities can mitigate potential health hazards and minimize stagnant water. Potential human hazards such as electrical installations and barriers should remain unobscured by park flora. Decisions to integrate park space into emergency preparedness plans should be evaluated for feasibility and safety by relevant agencies prior to formal documentation. Appropriate signage should be placed in areas that are intended to serve as assembly points or respite areas during emergencies.

Structures: Restrooms

Connection to Health

Providing restrooms in parks is part of addressing the basic human rights to accessing sanitation as recognized by the United Nations (United Nations, n.d.). Being unable to use the restroom when necessary can be stressful, particularly for those with bowel conditions or other health conditions that may require more frequent use of restrooms (Nielsen, 2024). Unfortunately, limited public restrooms are a known issue nationwide (Lazo, 2023). Planning for restrooms in parks is one way to address this nationwide issue. Research has established that planning for and providing adequate restrooms can improve communities' quality of life through "improv[ing] public activity, socialization, health and quality" (Park & Bliss, 2019).

Lacking access to restrooms has serious implications for individuals, the environment and surrounding communities. If someone needs to use the restroom, and they are unable, then they may still urinate or defecate which could contaminate the site and impact the environment and public health (Mara, 2017). This could be especially harmful for the water quality improvement efforts at the pond. Lacking restroom infrastructure may leave some visitors with no other option which could

further pollute the site. Individuals who publicly urinate or defecate could incur King County's $125 public urination fee. This fee was implemented to specifically impact unincorporated communities, like White Center (Campbell & Spencer, 2013). Cleaning up public urination and defecation has significant costs for local governments which should also be considered in any future cost analysis (Holme et al., 2025).

Background and Current Conditions

Currently, the only restroom on site is within Grace Church. The church does allow some visitors to the site to use it. However, most of the visitors who use this restroom visit regularly, and the restroom does not have any signage or advertising to indicate to new visitors that it exists. Additionally, the restroom remains under the discretion of the church. Long term, the restricted accessibility of restrooms could raise equity concerns. The closest park to Seola Pond with a public restroom is Steve Cox Memorial Park which is maintained by King County. However, this park's restroom is over a mile away making it a less accessible option and Seola Park users are unlikely to be aware of this other park (King County Parks and Recreation, n.d.).

Key Findings

- Providing public restrooms can prevent public health and environmental health concerns.
- The only restroom currently on site is within Grace Church. Some visitors use this restroom, but there could be accessibility or equity concerns in the future.

Recommendations

In the long term, King County Parks & Recreation should consider adding a low-cost porta potty that could be maintained by a third-party contractor. Alternatively, but more costly, Parks could consider building a permanent restroom in the Seola Pond Park. There aren't any King County public restrooms in any parks in White Center as Roxhill Park is outside of the neighborhood's boundary. Building a bathroom in a White Center park could contribute to bridging the ongoing resource gaps.

Structures: Drinking Fountains

Connection to health

Water is one of the most important and most basic needs, and the United Nations has established clean water as a basic human right (United Nations, n.d.). It is critical to provide water if people are recreating at this site, particularly in warm summer months. It will be critical to provide for basic needs as the park develops and likely welcomes more visitors. Providing water fountains or other forms of potable water infrastructure can protect people's health. Providing water fountain infrastructure for dogs, who frequently visit the site, could prevent the dogs from drinking out of the pond and potentially further preventing dogs from getting into the pond to swim. Water fountains and other water features can be used to protect the pond.

Water Fountain with Dog Infrastructure in Volunteer Park (Image source: Mariah Rubin)

Background and Current Conditions

Many U.S. cities and urban regions lack potable water infrastructure like water fountains. King County is part of this national gap in accessible drinking water infrastructure (Holme et al., 2025). Currently, there is no drinking water or potable water infrastructure in the park. Grace Church has water fountains inside, but like the restrooms, it is at the discretion of the Church who can use them. Additionally, the many dogs that visit the site everyday are unable to drink water from inside the church.

Key Findings

- Providing potable water is critical for addressing basic needs and rights.
- Providing potable water may prevent people and other animals from drinking from the pond or using the pond to cool off.
- Providing drinking water infrastructure could help fill water accessibility gaps in White Center and King County.

Recommendation

In the long term, King County Parks & Recreation should support the development of a drinking fountain with a lower spigot for dogs and other animals who visit the park. This could be placed near any sort of bathroom facilities if they are constructed. Alternatively, a drinking fountain could be built

near the existing play structure and connect to the Grace Church water supply. Dog walkers are one of the biggest user groups, so it is important to meet their needs to prevent potential health hazards.

Structures: Seating and Respite

Connection to health

Providing adequate seating can expand parks inclusiveness and accessibility, help cultivate social connection, and improve the overall experience (Paydar & Kamani Fard, 2021). Seating, including benches and picnic tables, can provide places to rest for visitors of all ages and abilities. Seating is particularly important for older adults and can influence their choice whether to visit a park (Veitch et al., 2020). Providing adequate seating can increase the use of parks and the amount of time that visitors spend in parks across potential visitor groups.Increasing the amount of time spent in parks can also increase the potential health benefits from visiting a park (Mumcu & Yilmaz, 2016). Providing adequate seating can help cultivate social connection and activities that can reduce loneliness, which has been formally declared an epidemic in the U.S. (Mumcu & Yilmaz, 2016; Office of the Surgeon General (OSG), 2023).

Background and Current Conditions

There are currently picnic tables on the site, but there are no benches. There is one picnic table by the pond which is in fair condition, but does have some graffiti and overall wear. There are two picnic tables by the play structure that are in good condition.

Picnic tables by the playground area (Image Source: ENVH 536 Class Site Visit)

Picnic table by the pond (Image Source: Mariah Rubin)

Key Findings

- Seating can make parks more accessible, inclusive, and increase social connection.
- Seating can encourage visitors to stay longer and increase the benefits of visiting a park.

Recommendation

King County Parks & Recreation and Grace Church should build upon the existing seating infrastructure to develop more respite and seating infrastructure throughout the site. Selecting locations for seating should take the future trail system into consideration. Benches are likely a more affordable option than picnic tables, so it is recommended to include more benches throughout the park. Large logs and rocks could be considered as more natural ways to provide seating and respite throughout Seola Pond Park.

Structures: Bicycle Facilities

Connection to health

Bicycling, or biking, is an active form of transportation that includes physical activity which can contribute positively to overall health. It can help strengthen muscles, improve cardiovascular fitness and health, improve mobility, reduce body fat, and improve mental health (The Nutrition Source, n.d.). On a community level, opting for bikes instead of vehicles can help reduce greenhouse gas emissions and contribute to reducing traffic congestion and pollution which improves air quality and

related health outcomes (Pearson et al., 2023). However, inadequate bike infrastructure can make biking more dangerous, especially when sharing the roads with cars. Perceptions about biking being unsafe is a major barrier to bicycle ridership (Pearson et al., 2023; The Nutrition Source, n.d.).

Building adequate bicycle infrastructure, including bicycle facilities in parks, can help encourage bicycle usage and the health benefits that come with that on an individual and community level. Further, providing bike parking infrastructure can help encourage ridership and shape perceptions about biking as a legitimate form of transportation (Seattle Department of Transportation, 2018). Additionally, bicycle parking can take significantly less space than car parking, allowing for other land uses such as additional greenspace, public restrooms, or other facilities that may be beneficial to the community.

Sidewalk Bicycle Parking (Image Source: Seattle Department of Transportation)

Background and Current Conditions

King County has recently invested in building more bicycle infrastructure in White Center, including bicycle lanes (Switzer, 2024). However, there are currently no formal bicycle facilities on the Seola Pond Park Project site. When the HIA team visited the site, there were some bikes locked up to the railings on the front steps at the Grace Church. This demonstrates a potential need for more formalized space for bike parking on site.

Key Findings

- Building bicycle facilities can encourage using bicycles as a mode of transportation which can have benefits for physical and mental health.
- The site does not have any bicycle infrastructure, but current conditions indicate a need in the future.

Recommendation

King County and Grace Church should consider adding bicycle parking to the site. In the long-term King County and Grace Church could consider building or advocating for bicycle lanes on roads leading to the site. Another consideration in this recommendation is that building bicycle infrastructure could have additional benefits for the church who may not visit the park. Building bike infrastructure could benefit all visitors to the site, including church members.

Structures: Physical Signage

Connections to health

Signage can be a critical component of wayfinding for park visitors (Urban Design Program, n.d.). It can help visitors navigate parks, learn about the park and its surrounding area, and promote healthy behaviors that can protect the park in the long-term (American Trails Association, 2020). Many parks employ a bulletin board to post maps, emergency preparedness plans and resources, and other crucial safety information. Providing safety information and an emergency preparedness plan can lead to improved health outcomes amongst sick or injured in case of an event. Signage can also convey rules that help protect visitors and the park. This could include warnings against entering the water or allowing pets to swim in or drink from the pond.

Example of a Bulletin Board in a Park (Image Source: Morristown National Historical Park)

Background and Current Conditions

There are two signs on the western side of the pond that provide information about the natural elements across the site. However, these signs have graffiti and significant weathering that make them difficult to read. There are also paper signs about pesticides in the park that have been posted by King County Parks & Recreation. There is an opportunity to incorporate the signage into the design of the site.

Existing Signage about Natural Elements on the Site (Images Source: Katie Wood)

Key Findings

- Signage can be an important component of wayfinding.
- There are some signs on the site, but creating additional signage would be helpful and could provide critical information about health and safety.

Recommendations

Grace Church and King County Parks & Recreation should work together to develop signage that will support wayfinding and convey important safety information. Given the frequent birders as a user group of the site and pond, there could be signage about birds and safety information while birding. There could also be information about the native plants that have been planted by the community and the importance of the pond for stormwater runoff and water quality.

Recreation: Trail Access and Connectivity

Connection to Health

<u>Public Health Benefits</u>

Trail systems in urban green spaces are proven to enhance public health. The Community Preventive Services Task Force recommends park, trail, and greenway infrastructure, especially when paired with community engagement and promotional efforts, as effective strategies to increase physical activity (Jacob et al., 2024). These interventions contribute to higher levels of activity and are associated with reduced risks of chronic diseases including cardiovascular disease, diabetes, obesity, depression, osteoporosis, hypertension, and certain cancers (Warburton, 2006). In children, proximity to walkable or bikeable routes correlates with increased physical activity and adherence to daily movement guidelines.

Trails offer more than physical health benefits, they foster social cohesion, reduce isolation, and promote mental well-being, particularly for older adults and youth (McGowan, 2021). Access to green space also supports stress reduction and improved autonomic function, further lowering cardiovascular disease risk (Joyner, 2009; van den Berg, 2015). Achieving these benefits relies on:

- Encouraging people to access and spend time in natural settings, and
- Promoting physical activity once they are there.

To do so, sites must be welcoming, functional, and safe. This includes:

- Easy, barrier-free access near where people live (e.g., no major roads or fences blocking entry, and connections to public transit);
- Supportive infrastructure such as community gathering areas, play opportunities, benches, restrooms, and shade opportunities;
  Appealing natural features like tree canopy, wildlife viewing, water elements, and lawns;
- Clear wayfinding, safe trail surfaces, and good overall maintenance.

Community engagement in trail planning and activation enhances usage and promotes health equity by tailoring access and design to the needs of underserved groups. For example, the Burien Green Teens program, a paid summer internship for Highline Public Schools students, empowers youth from underserved communities to engage in ecological restoration and explore green careers. Their work in Salmon Creek Ravine includes removing invasive species, planting native trees, and learning about climate justice, environmental racism, and Indigenous land stewardship (Ramirez, 2023).

Public health benefits can be tracked by monitoring trail usage over time. Tools like the Path Environment Audit Tool (PEAT) for trail quality assessments and public input (Troped et al., 2006) or the Environmental Assessment of Public Recreation Spaces (EAPRS) Tool (Saelens et al., 2006) provide valuable data for ongoing trail improvements and can demonstrate long-term health benefits.

Designing for Health

Trail design significantly influences health outcomes. Wider trails support safe, shared use by walkers, runners, cyclists, and wheelchair users. High foot traffic can enhance perceptions of safety, increase social interactions, and encourage continued trail use (Johansen et al., 2021). Surface quality such as firm, stable, and slip-resistant affects both safety and accessibility, encouraging use across all ages and abilities. In contrast, uneven or loose surfaces can deter individuals with balance or mobility challenges.

Equity is critical. ADA-compliant trails with clear, multilingual signage, wayfinding tools, and consistent maintenance ensure broad community access. Features such as distance markers, shade, rest areas, and limited road crossings are associated with increased trail usage (Johansen et al., 2021). Incorporating Universal Design principles enhances usability for people with a broader range of physical and cognitive abilities.

Environmentally sensitive areas such as wetlands and steep slopes require thoughtful design. King County adheres to national standards, such as the USDA Trail Fundamentals Trail Fundamentals and and Trail Management Objectives Trail Management Objectives (U.S.D.A. Forest Service, 2016), and USFS Accessibility Guidebook for Outdoor Recreation and Trails (U.S.D.A. Forest Service, 2012), to ensure trail development supports both public health and ecological sustainability.

Pairing infrastructure with programming—like guided walks, youth education, or cultural events—can further amplify trail benefits (Jacob et al., 2024).

Background and Current Conditions

Seola Pond site, protected under a Conservation Easement, is designated for development and maintenance of a public, multi-use pedestrian and bicycle trail. King County or an authorized partner

(e.g., Washington Trails Association) will manage its construction.

Figure 15. Seola Pond site overview showing existing unimproved trails and access points to the site (Image Source: Google Maps, edited by Katie Wood)

Topography and Vegetation

The site includes two large, relatively flat grassy fields separated by a densely vegetated drainage ditch. This central area limits visibility and mobility between the fields. A deteriorated paved road in the southern field provides vehicle access to nearby properties. Degraded east-west sidewalks cross this field and could potentially be repurposed into a portion of the new trail.

North field with road in the foreground and sidewalks extending into the field. Road access will need to be maintained to allow entry to the back side of homes (Image Source: Katie Wood)

Existing Trail Conditions and Other Improvements

An informal dirt trail loops around the stormwater ponds, which are part of the site's drainage system. This trail is not formally constructed or ADA accessible. It is only 2 feet wide at most, overgrown in many areas, and prone to seasonal flooding. It is unclear whether the ponds qualify as regulated wetlands, although nearby restoration efforts suggest potential ecological value.

Site Access Points

- **Northeast Entry (Pond Trail):** Informal access from Grace Church's south parking lot leads to the northeast corner of the ponds. Users must walk across a grassy area to reach a narrow opening in the trees, which is not visible from the parking lot.

Left: Northeast entry to pond trail. Photo taken from the direction of the parking lot. Right: Northeast entry closer up (Image Source: Katie Wood)

- **Northwest Entry (Pond Trail):** Most established entry via an unimproved right-of-way at 30th Ave SW, used informally by residents.
    - The southern access point is less defined and follows the neighbors fence line until a worn path is visible at the SE corner of the ponds.


Left: Southern edge of the ponds, informal trail mowed by a neighbor along the fenceline of adjacent properties. Right: Tree and trail at SE corner of pond (Image Source: Katie Wood)

    - A wooden footbridge guides the way to the trail from the northern access point.


Left: Footbridge on the pond loop trail located at the NW corner of pond (looking east from 30th Ave SW) Right: Same footbridge looking west while on the pond trail (Image Source: Katie Wood)

- **South Field Access:**
    - East side is open to Grace Church's south parking lot.
    - No Access from 30th Ave SW.

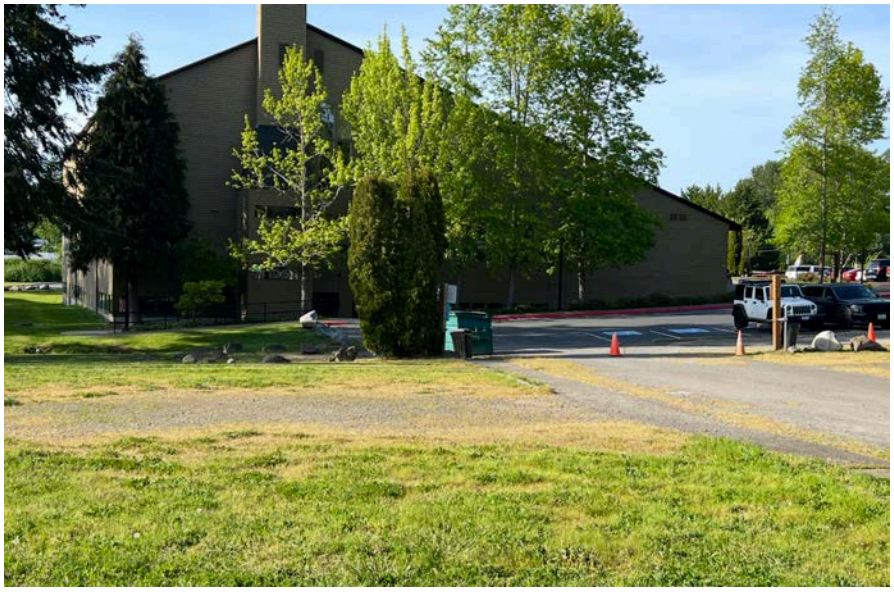


Image taken from the south field looking towards Grace Church and the south parking lot. Also shown is entrance to the access road with houses out of sight to the right (Image Source: Katie Wood)

- **North Field Access:**

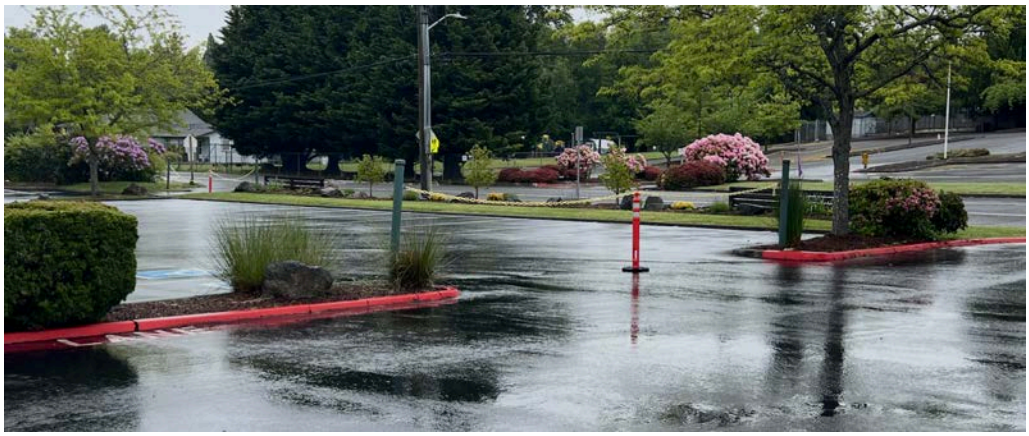
- A narrow footpath from 30th Ave SW enters through a wooded area via a wooden bridge.

Left: Footbridge from 30th Ave SW through the trees to the north field. Right: Same footbridge from 30th Ave SW showing the trail condition (Image Source: Katie Wood)

- A wider vegetated opening at the northwest corner could be formalized; currently accessed via a neighbor's driveway and an informal trail.

NW corner of north field access. Top Left: looking north on 30th Ave SW , access to avoid ditch is down the neighbors drive (top right). Bottom Left: from the neighbors drive, an informal path is being worn in the grass and as you approach the trees, the path appears to be more worn (bottom right). The north field is on the other side of these trees. (Image Source: Katie Wood)

- The east side of the north field is accessible from Grace Church's north parking lot, though vehicle access is uncertain due to chain barriers.



Grace Church north parking lot with chains limiting access (Image Source: Katie Wood)

Connectivity Challenges

30th Ave SW is an unimproved, unmarked City of Seattle street used by neighbors as a trail. It leads to the pond trail and north field but resembles an alleyway. An informal access point exists at SW 106th St and Seola Beach Dr. This location also has the nearest bus stop to the site. Further north, at SW 104th St, a chain-link fence across 30th Ave SW may create the appearance of private property. Another informal trail leads onto 30th Ave SW from the adjacent neighborhood at roughly SW 105th St. This corridor is critical for connecting neighbors west of the site, as well as nearby transit routes.

Left: Unimproved 30th Ave SW photo from the north end looking south. North field to the left. Right: Unimproved 30th Ave SW photo taken from the ponds looking south towards SW 106th St. Informal trail worn through grass (Image Source: Katie Wood)

Left: Entry point from SW 106th St looking north on 30th Ave SW. Middle: Trail on 30th Ave SW exits onto SW 106th street at the intersection of Seola Beach Dr. Right: Looking from the 30th Ave SW trail across the street to Seola Beach Dr. Not pictured: Bus stop near this intersection (Image Source: Katie Wood)

West-side access to the north field is limited by steep, uneven terrain and dense vegetation. An opportunity exists to upgrade trail segments to meet ADA or Forest Service Trail Accessibility Guidelines standards. Opportunity exists to connect trails to regional trail systems and create more direct, accessible paths to key community destinations like schools, grocery stores, and transit stops.

Key Findings

Health

- High potential for health impact through thoughtful trail design and activation.
- Trails are proven to increase physical activity and reduce chronic disease risks.
- Current informal trails are muddy, inaccessible, and underused, limiting health benefits.
- The lack of ADA-compliant infrastructure, trailheads, and signage especially affects older adults, people with mobility limitations, and families with young children.

Infrastructure

- Existing trails are limited to informal paths around Seola Pond.
- 30th Ave SW is essential for local community access.
- Informal trails do not meet ADA standards.
- Terrain, flooding, and overgrowth restrict equitable use.
- Though nearby schools, stores, and transit stops exist, accessible routes are lacking.
- No formal connections to regional trails or major destinations.
- Drainage and potential wetland areas require ecologically sensitive planning.

Activation

- Safe, well-marked trails encourage frequent use.
- Ongoing restoration efforts support nature-based recreation and education.

Recommendations

Consider the Following Aspects in the Established Plans to Construct a Multi-Use Trail

1. Build a six-foot-wide, firm, stable, slip-resistant trail, using boardwalks where necessary.
2. Follow ADA and FSTAG guidelines; integrate Universal Design principles (e.g., tactile cues, shaded rest areas, intuitive layout).
3. Install multilingual signage, maps, lighting, and distance markers.
4. Improve sightlines to enhance safety.
5. Partner with groups like the Washington Trails Association or Washington Conservation Corps for construction and maintenance.

Improve and Formalize Trail Access

1. Upgrade informal west-side entries with developed trailheads, grading, and vegetation management.
2. Formalize 30th Ave SW as a trail corridor from SW 106th St to the paved portion of 30th Ave SW roughly at SW 103rd St.
3. Consider adding a crosswalk across SW 106th St from Seola Pond Dr to a formalized trailhead.
4. Formalize access points from Grace Church's parking lots and explore public-use agreements.
5. Create direct, accessible pedestrian and bike links to nearby schools, transit stops, and grocery stores.
6. Explore opportunities to extend connections to the regional trail network; leverage funding sources such as the King County Parks Levy.

Integrate Environmental Protection with Trail Design

1. Adhere to national trail construction standards (e.g., USFS Trails Management Handbook).
2. Use elevated paths or boardwalks in ecologically sensitive areas (e.g., near Seola Ponds) to minimize disruption.

Trail Activation and Maintenance

1. Collaborate with schools, churches, public health agencies, and community groups to host events, guided walks, and youth programs.

2. Develop a program modeled after the Burien Green Teens to engage underserved youth.
3. Incorporate features like exercise stations, shaded rest stops, and clear distance markers.
4. Use passive data tools (e.g., trail counters, community science apps) to monitor usage and impact.
5. Conduct regular assessments using tools like PEAT or EAPRS.
6. Establish a non-trail site maintenance agreement with Grace Church.

Recreation: Natural Play Opportunities

Connection to Health

Nature-based play supports a broad range of physical, mental, and developmental benefits, especially for children. Unlike traditional playgrounds, natural play environments encourage unstructured movement, sensory exploration, creativity, and age-appropriate risk-taking (Trudeau et al., 2024). These activities are associated with improved physical activity levels, enhanced mental health, and cognitive growth.

A 2020 systematic review found that nature play contributes to psychological resilience, stronger social interaction, improved academic performance, and overall well-being in children (Dankiw, 2020). Such environments also offer inclusive play opportunities that can engage children with diverse physical and developmental needs.

Adults benefit as well. Outdoor exercise in natural environments has been shown to produce greater positive effects compared to indoor workouts, including enhanced feelings of vitality, restoration, and emotional well-being, along with reduced stress, fatigue, and negative affect (Brito et al., 2022). Informal fitness activities, such as stretching on benches or tree branches, step-ups on logs, or bodyweight exercises using rocks and boulders, are easily supported in these environments.

By promoting multigenerational physical activity, encouraging nature connection, and supporting emotional and cognitive health, natural play areas offer meaningful public health benefits for the entire community.

Background and Current Conditions

The current site offers very few elements that actively support nature-based play. Outside of the two multi-use fields, there is one climbable log near a bench on the west side of the pond. Most wooded areas are currently inaccessible due to overgrown Himalayan blackberry, limiting opportunities for exploration and discovery.

Natural play opportunity on this log located near the pond and 3oth Ave SW (Image Source: Katie Wood)

The pond contains stormwater runoff and is not suitable for direct interaction, such as wading or water play. Surrounding terrain, if cleared, is uneven and steep in areas, limiting accessibility, especially for individuals with mobility challenges. While the flat fields offer potential for informal play, a steep drainage ditch divides them, and would need to be connected to improve accessibility.

Access point to the pond / stormwater infrastructure from 30th Ave SW (Image Source: Katie Wood)

Grace Church maintains a conventional play structure and has expressed openness to allowing its use by trail visitors. However, this structure is not clearly integrated into the site's trail system, nor is public access well-communicated through signage or site design. An opportunity exists to clarify usage.

Grace Church play structure sits between the north and south fields. Picture taken facing north (Image Source:Yufei Nancy Gao)

Key Findings

Health

- Nature-based play enhances children's physical, cognitive, emotional, and social development, while also supporting academic success and resilience.
- Compared to traditional playgrounds, natural environments offer more diverse play for all ages and abilities, benefiting adults too through improved fitness, mental health, and social connection.

Infrastructure

- An opportunity exists for formal natural play features and materials that support sensory, interactive, and/or exploratory play.
- Overgrown vegetation and steep, uneven terrain pose barriers to accessibility and safety.
- The existing play structure on church property could be better integrated into the broader trail or park system with additional posted information about shared use.

Recommendations

Create Natural Play Opportunities

1. Remove invasive Himalayan blackberry in targeted areas to open space for nature-based exploration and play.
2. Introduce natural play elements such as:
    - Climbable logs
    - Large boulders and tree stumps
    - Tunnels or small shelters made of natural materials
    - Balance beams made from milled or salvaged logs

Photos from Barkley Village Play Park in Bellingham, WA (Image Source: https://www.barkleyvillage.com/scramble-nature-playpark)

3. Recommend using locally sourced, sustainable, or salvaged materials for natural play features.
4. Use the site's varied terrain to promote gross motor development, coordination, and age-appropriate risk-taking.

Photo of natural play feature with artwork (turtle sculptures) integrated into play at Ravenna Park, Seattle, WA (Image Source: Katie Wood)

5. Incorporate informal fitness elements for adults, such as logs for step-ups, rocks for balance exercises, and trees for stretching.

Physical fitness utilizing available amenities. Could also use logs, boulders, or tree stumps (Image Source: https://www.youtube.com/watch?v=kHo07fUmGCE)

Improve Safety, Accessibility, and Inclusivity

1. Conduct a site safety assessment during design and prior to activation to identify and mitigate hazards (e.g., steep drop-offs, unstable terrain, sharp debris, or water access).
2. Clearly define play areas with natural borders (e.g., logs, low fencing, plantings) to guide movement and prevent children from entering unsafe zones such as steep slopes or stormwater ponds.
3. Ensure natural play features (logs, rocks, climbing structures) are stable, securely anchored, and regularly inspected for wear, splinters, or deterioration.
4. Install signage to communicate appropriate use, age recommendations, and safety guidance in multiple languages.
5. Provide clear lines of sight for caregivers of younger children through thoughtful vegetation management and placement of seating areas.
6. Design features to support a range of physical and developmental abilities.
7. Construct ADA-accessible paths using firm, stable, slip-resistant surfaces.
8. Consider installing foot bridges between the fields to safely span the drainage ditches, improving connectivity and enabling continuous movement across the site for children, caregivers, and individuals with mobility challenges.
9. Consider incorporating sensory-friendly features like quiet zones, tactile surfaces, and natural soundscapes for children with sensory processing differences.

Education and Collaboration

1. Add interpretive signage that promotes nature-based learning and highlights the developmental and health benefits of natural play.
2. Install clear wayfinding signs to guide users to both existing and new play areas.
3. Establish formal agreements with Grace Church regarding their play structure and add appropriate signage with public access protocols.
4. If natural play structures cannot be fully inclusive, consider upgrading the existing church structure to meet ADA standards or supplementing with universally designed features nearby.
5. Consider opportunities to collaborate with the community to incorporate art in the design/build.

Recreation: Bird Watching and Wildlife Viewing

Connection to Health

Birdwatching and wildlife viewing are associated with a range of mental health benefits, including mindfulness, stress reduction, and psychological restoration. These activities support quiet, reflective engagement with nature and provide opportunities for informal education.

Birds, in particular, contribute to well-being by being easy to observe, non-threatening, and engaging to the senses through their colors, movements, and songs. Because they are active

during the day and commonly found in both urban and natural settings, they offer frequent opportunities for calming, restorative experiences. Their presence can uplift mood, reduce stress, and foster a deeper connection to the environment (Methorst, 2020).

Birds also carry cultural and symbolic significance and are sources of inspiration in myths, folklore, and spiritual practices (Berndt, 1940; Altaf et al., 2017). These deeper connections reinforce a sense of meaning, identity, and belonging; elements important to mental and emotional well-being. While mammals and other wildlife groups also provide psychological benefits, their contributions are more often associated with inspiration, spirituality, or a general sense of connection to the natural world.

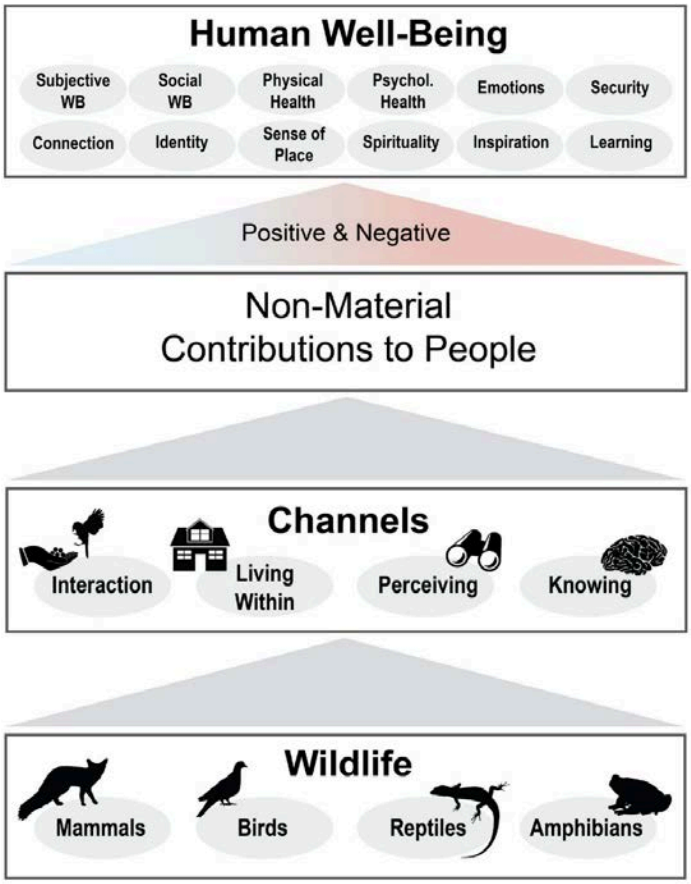
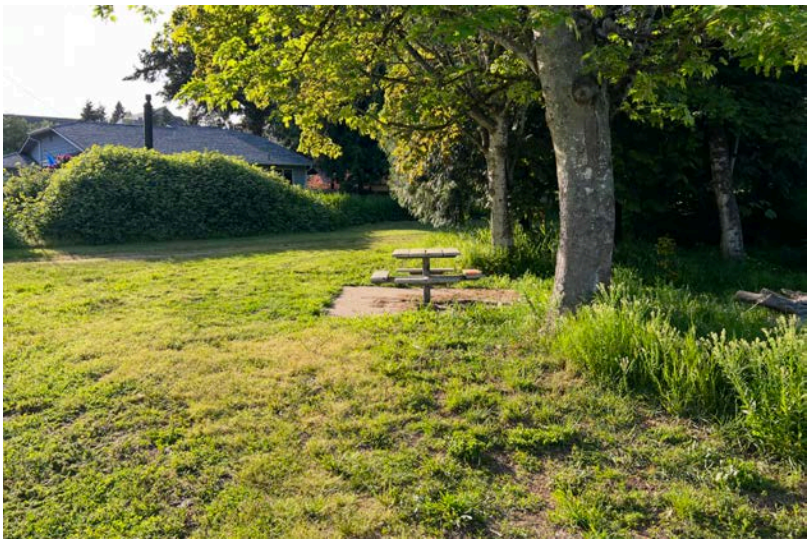


Figure 16. Left: Wildlife's contributions to people conceptual graph showing different human well-being dimensions via the four channels: Interaction, Living Within, Perceiving and Knowing (Methorst et al., 2020).

Background and Current Conditions

The site features two open fields bordered by tree cover and vegetation along the western edge, between the fields, and around the ponds. The pond areas have been enhanced with native plantings through the Seola Pond Park Project, supporting a diverse habitat for birds and wildlife.

Opportunities for wildlife observation are limited. There is one picnic table on the west side of the pond, and no formal infrastructure or accessible wildlife viewing areas.



Picnic table located on the west side of the pond (Image Credit: Katie Wood)

Key Findings

Health

- Birdwatching supports stress reduction, mindfulness, and emotional restoration.
- Birds are visible, audibly stimulating, and accessible, making them ideal for daily interaction with nature.
- Wildlife contributes to deeper senses of meaning, cultural identity, and emotional connection, which are all important aspects of mental health.

Infrastructure

- No formal or accessible viewing infrastructure exists.
- Lack of seating, shade, and designated quiet zones limits the potential for restorative, inclusive use.

Activation

- The site supports high biodiversity, with over 100 bird species recorded and diverse amphibian and mammal populations.
- Significant opportunity exists to promote informal learning, nature connection, and family-oriented engagement.
- Nearby schools and community groups could utilize the site as an outdoor classroom or gathering space for environmental education, nature journaling, or participatory science activities involving birds and wildlife.

Recommendations

Install Dedicated Viewing Infrastructure

1. Install ADA-compliant benches, shaded seating, and low-profile viewing platforms at key observation points, particularly along pond edges, forest openings, and overlooking drainage ditches.

2. Include safety features such as handrails, non-slip materials, and subtle lighting for early morning or dusk use.

Comfort, Accessibility, and Reflective Use

3. Provide rest spots with shade to support extended viewing and use by older adults and people with mobility challenges.

4. Upgrade trail surfaces and path widths to meet ADA standards, connecting key observation areas with firm, stable, and slip-resistant surfaces.

5. Site wildlife viewing areas in quieter zones, away from high-traffic trails and playgrounds, to preserve a tranquil, contemplative atmosphere, and add appropriate “quiet zone” signage.

Collaboration and Education Opportunities

6. Add interpretive signage about common bird species, amphibians, and native ecosystems. Include images, seasonal migration info, and cultural references where appropriate.

7. Use QR codes on signage to link visitors to bird calls, sighting records, and interactive learning materials.

8. Partner with local organizations (e.g., Audubon chapters, nature centers, schools) to offer:

    - Guided birdwatching walks
    - Participatory science projects (e.g., bird counts, FrogWatch)
    - Seasonal activities like bird ID scavenger hunts or journaling prompts for youth

Summary

Intentional park and trail design plays a critical role in fostering community health, equity, and environmental sustainability. Through a comprehensive review of site conditions, health connections, and key findings, the chapter presents actionable recommendations for transforming the underutilized natural area into an inclusive community resource to promote health.

Key themes include the importance of:

- **Maintenance and Cleanliness**: A clean, well-kept park supports positive physical and mental health outcomes, fosters social cohesion, and strengthens public trust.
- **Accessibility and Safety**: Designing for all users’ safety, especially those with mobility challenges ensures equitable access to health-promoting environments.

- **Wayfinding and Lighting**: Clear signage and adequate lighting are foundational for user confidence, safety, and park usability.
- **Disaster Preparedness**: Integrating features such as stormwater management and emergency gathering points strengthens community resilience.
- **Restroom and Water Access**: Meeting basic human needs, like sanitation and hydration, is essential for public health and environmental protection.
- **Natural Play and Wildlife Viewing**: Unstructured, nature-based recreation fosters mental, physical, and developmental health benefits across age groups.
- **Trails and Connectivity:** Convenient trail and park access, along with strong connections to neighborhood walkways, are essential for encouraging regular use. Supporting alternative transportation through bike facilities and safe, direct access to public transit further enhances usability and community reach.
- **Seating Infrastructure**: Supporting opportunities for rest along the trail or in quiet zones for bird-watching expands usability and encourages long-term park engagement.

The greatest health benefits stem from increased use of trails and parks. This can be encouraged by creating safe, accessible spaces equipped with amenities such as restrooms and water access that invite longer visits and more physical activity. Thoughtful design and inclusive programming are essential to unlocking a park's full health potential. When implemented with care and collaboration, the recommendations in this chapter can help foster a safe, inclusive, and restorative public environment that promotes physical activity, enhances mental well-being, and strengthens community connections.

Chapter Recommendations Summary Table

KEY FINDING	RECOMMENDATION	HEALTH IMPACT	TIMELINE	FEASIBILITY
Improving walkability, lighting, and wayfinding can enhance equitable access, physical activity, and safety	**Enhance ADA and pedestrian access with lighting, signage, and trail connections to improve safety and disaster preparedness**		▲▲	●●
Accessible trails, nature-based play, and wildlife viewing areas support physical activity, creativity, and emotional well-being for all visitors	**Enhance trails and add natural play features, wildlife viewing areas, seating, and quiet zones to support recreation and restoration**		▲▲	●●
Permanent, inclusive amenities such as restrooms, fountains, seating, and bike infrastructure are needed to meet basic needs and promote health	**Add restrooms, drinking fountains, seating, bike facilities, and interpretive safety signage to support basic needs and comfort**		▲▲▲	●●●
Involving community members in outdoor education and conservation builds lasting investment and strengthens local connections	**Expand education and stewardship programs with schools and local groups; offer volunteer opportunities**		▲	●●
Ongoing maintenance and cleanliness are essential to support engagement, protect health, and ensure the long-term usability and safety of the site	**Provide waste disposal, signage for reporting, and organize community cleanups to support site stewardship**		▲	●●
Waste infrastructure and monitoring systems are critical for maintaining a clean, welcoming, and safe park environment	**Install waste bins, monitor cleanliness, and involve the community in reporting and upkeep**		▲	●●
Clear signage with educational content improves navigation, safety, and understanding of the park's ecological value	**Update signage with wayfinding aids, QR codes, and educational content on native plants and pond functions**		▲	●

HEALTH IMPACT (The number of icons will reflect the predicted strength of the impact.)

- **Physical Activity** — Promotes physical movement, walking, and exercise
- **Stress Reduction** — Alleviates stress and supports relaxation
- **Mental Health** — Supports emotional well-being and cognitive function
- **Safety** — Enhances real and perceived public safety
- **Social Cohesion** — Builds trust, social interaction, and inclusion
- **Access to Nature** — Increases contact with natural environments

TIMELINE

- ▲ Can be implemented within 0–1 year
- ▲▲ Requires 1–3 years to implement
- ▲▲▲ Long-term strategy, more than 3 years

FEASIBILITY

- ● Readily feasible with low cost or existing community capacity
- ●● Somewhat challenging, requires coordination or resources
- ●●● High effort or dependent on funding/policy change

LIMITATIONS

This rapid health impact assessment was completed over the course of 10 weeks. We analyzed existing data but were not able to generate new data to inform the report due to time and resource constraints. Most notably, we were not able to conduct community-engaged research. We hope that King County will be able to fill these gaps in research and engage meaningfully with the community prior to creating the park. Additionally, we were only able to complete one site visit to make in-person observations about the park. This HIA was carried out as part of a graduate-level course through the University of Washington's School of Public Health and College of Built Environments. While we are confident in our findings, we acknowledge that we are students who are still gaining expertise in our respective fields. Still, this HIA offers insights into how to maximize the potential health benefits of the new park at Seola Pond.

CONCLUSION

This report aims to assess the health impacts of creating a park in the Seola Pond area of unincorporated King County. The increased opportunities for recreation and respite in a natural environment will have positive impacts on the health of the local community. Overall, park use can improve the physical and mental health of visitors. We also expect the new park improvements to have positive impacts on the health of the environment by replacing noxious, invasive plants with native species and managing stormwater more effectively. Seola Pond improves community disaster resilience as a stormwater detention facility, and designing the park to promote biodiversity will help to mitigate climate impacts.

Our recommendations aim to maximize positive health outcomes while mitigating the potential for negative impacts. To do so, we recommend that King County prioritize community engagement, physical activity, safety, equitable access, and biodiversity so that the benefits of the park may be enjoyed by as many community members as possible. These recommendations are outlined in detail in the Priority Recommendations section of this report.

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