



CAMP KILWORTH REDEVELOPMENT

A HEALTH IMPACT ASSESSMENT

Federal Way, WA June 2023

W UNIVERSITY of WASHINGTON

College of Built Environments & School of Public Health & School of Nursing

Report Editors: Elizabeth Carnesi - Hudson | Autumn Davis | Sammie Inevil | Chelsea Lee | Janice North

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We acknowledge that Camp Kilworth sits on the traditional homelands of the Puyallup Tribe. The Puyallup people have lived on and stewarded these lands since the beginning of time, and continue to do so today (Puyallup Tribe of Indians, n.d.).

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Course Instructor: Andrew L. Dannenberg, MD, MPH

*Affiliate Professor, Dept. of Environmental and Occupational Health Sciences,
School of Public Health, and Dept. of Urban Design and Planning,
College of Built Environments, University of Washington*

HIA Authors:

College of Built Environments:

Autumn Davis
Solana Granados
Chelsea Lee
Joshua Matla
Yuliia Voloshyna
Maddie Weicht
Marah Zinnen

*College of Built Environments and
School of Public Health:*

Elena Arakaki
Matias Korfmacher
Pamela Lim

School of Public Health:

Hayley Berger
Iz Berrang
Chelsea Blanes
Elizabeth Carnesi - Hudson
Keeley Ffrench
Helen Haile
Rachel Koller
Janice North
Felicidad Smith
Sarah Wang

School of Nursing:

Sammie Inevil

Report Editors:

Elizabeth Carnesi - Hudson
Autumn Davis
Sammie Inevil
Chelsea Lee
Janice North

School of Public Health
College of Built Environments
School of Nursing
College of Built Environments
School of Public Health

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Geoff Eseltine
Arthur Wendel, MD, MPH

*Forterra
YMCA of Greater Seattle
YMCA of Greater Seattle
Medical Officer*

EXECUTIVE SUMMARY

During the spring quarter of 2023, an interdisciplinary team of students from the University of Washington conducted a Health Impact Assessment (HIA) for the YMCA of Greater Seattle (the YMCA) and Forterra to address the redevelopment plans for Camp Kilworth. The purpose of this report is to show potential health impacts for the redesign of the camp and to provide recommendations to minimize health risks and maximize the health and wellbeing of campers and the surrounding community of Federal Way. This project is set to revitalize the former Boy Scouts of America camp to serve low income persons in Federal Way, Washington. The camp will be utilized for a variety of activities including day camps, school groups, and potentially community trails.

Camp Kilworth, located on the western edge of Federal Way in Washington state, has historically been a place for experiencing nature. The 29.33-acre camp is located on the ancestral land of the Coast Salish People of the Puget Sound, specifically the Puyallup Nation, and is located along the Tribal Canoe Journey route. Tribes from Washington, Oregon, and British Columbia participate in an annual canoe journey with different landing locations along the route. The camp sits 200 feet above sea level on one of the last natural bluffs in Federal Way. This provides a nearshore environment, which is crucial for juvenile salmon. The current site contains second growth conifer and hardwood forest in the Puget Lowlands Ecoregion. In addition to the ecological importance of this site, the camp holds historic value for the Puyallup Tribe and the greater Seattle area.



Figure 1.1 Map of Camp Kilworth (Source: YMCA Presentation)

The first recorded settler claim on the land was by William Ollard. He logged the land from 1907-1930 and then sold the acreage to Dr. Frank and Minni Kilgore. After a few years, the Kilgores sold the land to William W. Kilworth and Augusta L. Kilworth on February 27, 1934. The next day the Kilworths deeded the property to the Tacoma Area Council of Boy Scouts of America. Camp Kilworth served the Boy Scouts and a variety of other youth organizations until it officially closed in 2016 (Forterra, 2022).

Without regular visitors or maintenance, it quickly fell into disrepair. A group of past Scout Leaders, neighbors and environmentalists formed the organization Kilworth Environmental Education Preserve (KEEP) in 2020. The intent of this organization is to engage stakeholders and raise support for the camp's future. KEEP sought out Forterra, a non-profit land conservation organization, and the YMCA of Greater Seattle to develop a plan to preserve Camp Kilworth. Forterra was able to secure funds for purchase of the camp property in March of 2022. The YMCA then leased the property from Forterra with the intent of creating a summer day camp that will also provide outdoor access for the surrounding community.

KEY FINDINGS

ACCESSIBILITY AND EQUITY

- While data indicates that access to outdoor space is an important part of staying healthy, there are inequities to these resources across racial, ethnic, and socioeconomic demographics. There is a need to examine how the roles of outdoor recreation, accessibility, and transportation relate to health, and highlight methods to ensure that access to Camp Kilworth is equitable. Equity for Camp Kilworth could look like offering individuals and families that fall below the poverty line with financial aid to attend camp or to recruit individuals and families that do not normally have access to camp and green space and allowing them the opportunity to be part of camp.

SUSTAINABILITY AND ENVIRONMENT

- A redevelopment plan that emphasizes sustainable development and assesses environmental impact is vital given Camp Kilworth's unique location. Many studies show that people who have access to the natural

environment have better health outcomes than those who are unable to access green space or nature within their communities. Camp Kilworth provides an opportunity to address this inequity through access to natural space. There is a need for sustainability to be considered through proper forest management and building in order to ensure that the environment and sustainability are at the forefront of the project. Thoughtful replanting and forest maintenance can support a healthy ecosystem, protect wildlife, and offer climate change adaptation strategies. These methods and tools will help to ensure the health of all persons who participate at Camp Kilworth.

HEALTH AND SAFETY

- Camp Kilworth is largely prepared for environmental hazards that may occur, such as air quality, wildfires, severe weather, and landslides. Although crime and vandalism are ongoing concerns, the YMCA has plans in place to mitigate these concerns. Efforts to prevent disease spread among camp users should be incorporated into the YMCA's programming initiatives.

EDUCATION AND ACTIVITIES

- Camp programs provide opportunities to engage and educate youth and families through hands-on activities. The YMCA camps can help to provide a strong foundation of knowledge relating to nature and the environment, while also supporting the social and emotional learning of campers. Data from other camps shows how camp programming and nature contact benefit the young children, emerging adults, and families in the long run.

COMMUNITY AND CULTURE

- Camp Kilworth is located on ancestral land of the Puyallup Tribe. It also provides a space where local residents can gather to foster a sense of community. Forterra and the YMCA are planning to ensure that the Puyallup Tribe will regain access to their ancestral land and honor the culture of the Tribe. As a focus of several community-led preservation and restoration groups, the site is a point of community pride for providing youth and families access to outdoor experiences which are a rite of passage growing up in the Pacific Northwest.

PRIORITY RECOMMENDATIONS

RECOMMENDATION 1: **FORTERRA AND THE YMCA SHOULD COLLABORATE TO ENSURE THAT CAMP KILWORTH IS ACCESSIBLE TO ALL COMMUNITY MEMBERS OF FEDERAL WAY REGARDLESS OF SOCIOECONOMIC STATUS OR RACE.**

Federal Way is home to many different communities and therefore needs to ensure that access to Camp Kilworth is available to all. This recommendation aligns with the mission of both the YMCA and Forterra as it allows for Camp Kilworth to be utilized equitably by all. There should be special attention given to BIPOC and low income families in the Federal Way area as they are the ones who, historically, have less access to camping opportunities and green space. By ensuring that marginalized communities are given equitable access, Camp Kilworth can serve as a model for other camps in the Greater Seattle area and for camps that are in more urban areas. The YMCA and Forterra should consider working together to do targeted recruitment for campers from groups that have historically not had access to camp, and to reduce systemic barriers to participation that exist through financial aid and travel assistance.

RECOMMENDATION 2: **THE YMCA SHOULD CONSIDER HIRING BIPOC STAFF, AND ADDRESSING RACE AND INTERSECTIONALITY IN PROGRAMMING.**

Programming at Camp Kilworth should reflect the diversity of participants they hope to serve. Instructors of color are able to connect with BIPOC students, who benefit when leadership acknowledge, understand, and incorporate intersectionality—overlapping identities and experiences that complicate prejudices and privileges—into outdoor recreation programming. Intersectionality could include lessons on how different intersecting identities work to create greater disparities than either individual identity could. The YMCA, therefore, should make an intentional goal of hiring BIPOC staff

who represent the students in the catchment area and who will engage in conversations about race/ethnicity, gender, poverty, and other identities that are meaningful to the participants.

RECOMMENDATION 3: **FORTERRA AND THE YMCA SHOULD CONSIDER ESTABLISHING A FORMAL TRIBAL LIAISON POSITION WITH THE PUYALLUP TRIBE.**

This position would serve as a point of contact between the project stakeholders and the Puyallup Tribe, facilitating ongoing communication, collaboration, and the implementation of tribal cultural considerations. As Camp Kilworth sits on Puyallup Tribal land, it is important to ensure that programming is consistent with the needs of the tribe as well as ensuring that the lease between Forterra and the YMCA is honored in their collaboration with the Puyallup Tribe. Part of this liaison position could also help to actively seek out what the tribe wants to have access to at Camp Kilworth in addition to potential special programming that would benefit camp participants

RECOMMENDATION 4: **THE YMCA SHOULD CONSIDER UPDATING EXISTING HEALTH AND SAFETY PLANS FROM OTHER YMCA CAMPS TO INCORPORATE SPECIAL CONCERNS AT CAMP KILWORTH, SUCH AS STEEP SLOPES.**

All camp activities come with some level of health and safety risk regardless of location. Camp Kilworth's location, the impacts of climate change, and the need for camp staff to be aware of new and changing disease provides a unique opportunity to workshop and develop enhanced guidelines that can address the changing needs of the Pacific Northwest. Federal Way sits in a unique spot that, as the climate warms, will become more of a heat island, which can impact the importance for the community to have access to the camp, specifically in the summer. By having enhanced health and safety guidelines, the YMCA can ensure that the health and safety of camp goers is addressed to the greatest extent of what is possible.

RECOMMENDATION 5:

FORTERRA SHOULD CONSIDER UPDATING THEIR EXISTING FOREST MANAGEMENT PLAN TO PROVIDE DETAILS ON HOW TO PRESERVE AND PROTECT THE WILDLIFE CORRIDOR, PLANT NEW TREES WHERE REMOVAL IS NECESSARY, AND SHARE MONITORING DATA WITH THE PUBLIC.

Forterra currently has a forest management plan for the Camp Kilworth site that prioritizes preservation, protection, and restoration of the natural ecological systems on site. In addition to these goals, we recommend that Forterra provide details on how to preserve and protect the existing wildlife corridor, plant new trees where removal is necessary, and share monitoring data with the public on an annual basis.

RECOMMENDATION 6:

THE YMCA AND FORTERRA SHOULD CONSIDER USING TECHNOLOGY IN THE FORM OF MOBILE APPLICATIONS OR OTHER MULTIMEDIA DEVICES TO INTEGRATE CULTURE INTO CAMP KILWORTH'S TRAILS TO ENHANCE THE USER EXPERIENCE.

YMCA and Forterra should consider creating a self-guided or group tour using multimedia guide devices or a phone app. This approach would allow visitors of all ages, abilities, and backgrounds to learn more about the history of Camp Kilworth and the Puyallup Tribe, and could help to remove additional barriers for individuals who feel daunted by engaging with nature. Alternatively, the YMCA could place signs throughout the camp with information about the camp's history and the Puyallup Tribe as a cost-effective and visually appealing alternative to devices.

RECOMMENDATION 7:

THE YMCA SHOULD CONSIDER PROVIDING OPPORTUNITIES FOR CAMP COUNSELORS/ STAFF TO SHADOW LEADERSHIP ROLES THAT MAY PERTAIN TO DIFFERENT FUTURE CAREERS IN ORDER TO PROVIDE RELEVANT SKILLS FOR FUTURE JOB SEARCHING.

Especially if the YMCA pulls staff from South King County, where the opportunities may otherwise not be available to emerging adults, the camp can provide various experiences for job crafting (such as social media, event planning, etc.), and use the job crafting to expand on the organization's current diversity and inclusion programs to provide opportunities to BIPOC counselors, which could allow for spaces that encourage more diverse campers.

EQUITY STATEMENT

This HIA was conducted using a health equity lens at all stages, and our research reflects why equity needs to be at the center of the health impact assessment. The revitalization of Camp Kilworth and its upcoming use by the YMCA for outdoor programming presents an opportunity to reduce health disparities in the City of Federal Way and South King County. Federal Way is a racially and ethnically diverse community: BIPOC individuals make up 43% of the total population, and there are more than 111 languages spoken. The current most common languages spoken within the Federal Way Public School District other than English are Spanish, Russian, Ukrainian, and Somali (About Federal Way Public Schools/District Profile, n.d.).

There is an undeniable link between the built environment and determinants of health; ensuring that equity is incorporated into any and all plans that are executed through the Camp Kilworth Redevelopment Project is important for the long-term success of this project. BIPOC communities often have less access to parks and recreational opportunities than their white counterparts; this camp will increase environmental equity by providing beneficial outdoor resources to BIPOC families and communities living in the area. For indigenous communities who have been removed from accessing green spaces due to historical injustices or urbanization, the YMCA and Forterra will be able to begin rectifying past harms by partnering with the Puyallup Tribe and providing them access to the property for cultural use.

Racism and inequities do not exist in a vacuum, and unless we work to address them at their roots, an equitable world will not be achieved. This is especially true as we have seen how BIPOC individuals were disproportionately affected by the COVID-19 pandemic due to systemic inequities in our health system. Because of this and the diverse communities found in Federal Way, it is important to recruit campers and staff that are representative of the greater community. Therefore, we urge you, the decision-makers tasked with assessing and implementing the recommendations in this HIA, to prioritize racial, ethnic, economic, educational, and physical equity into each stage of Camp Kilworth's redevelopment and operations.



Figure 1.2 Graph of Social Determinants of Health (Source: Healthy People)

PROJECT BACKGROUND

The Camp Kilworth redevelopment project is a collaboration between Forterra, a land conservancy organization, and the YMCA of Greater Seattle to revitalize the camp and camp offerings in the area. Camp Kilworth is located at 30900 50th Ave SW in Federal Way, due east of Dash Point State Park on a bluff above the Puget Sound. The camp includes 29.33 acres of forested land that will be redeveloped as part of the Camp Kilworth redevelopment plan (see Camp Kilworth Site Plan and Funding Allocation Map and the Camp Kilworth Site Plan with NAIOP Markups in Figures 1.3 and 1.4). Forterra and the YMCA of Greater Seattle have signed a 50 year lease agreement which includes maintenance of the camp by the YMCA.

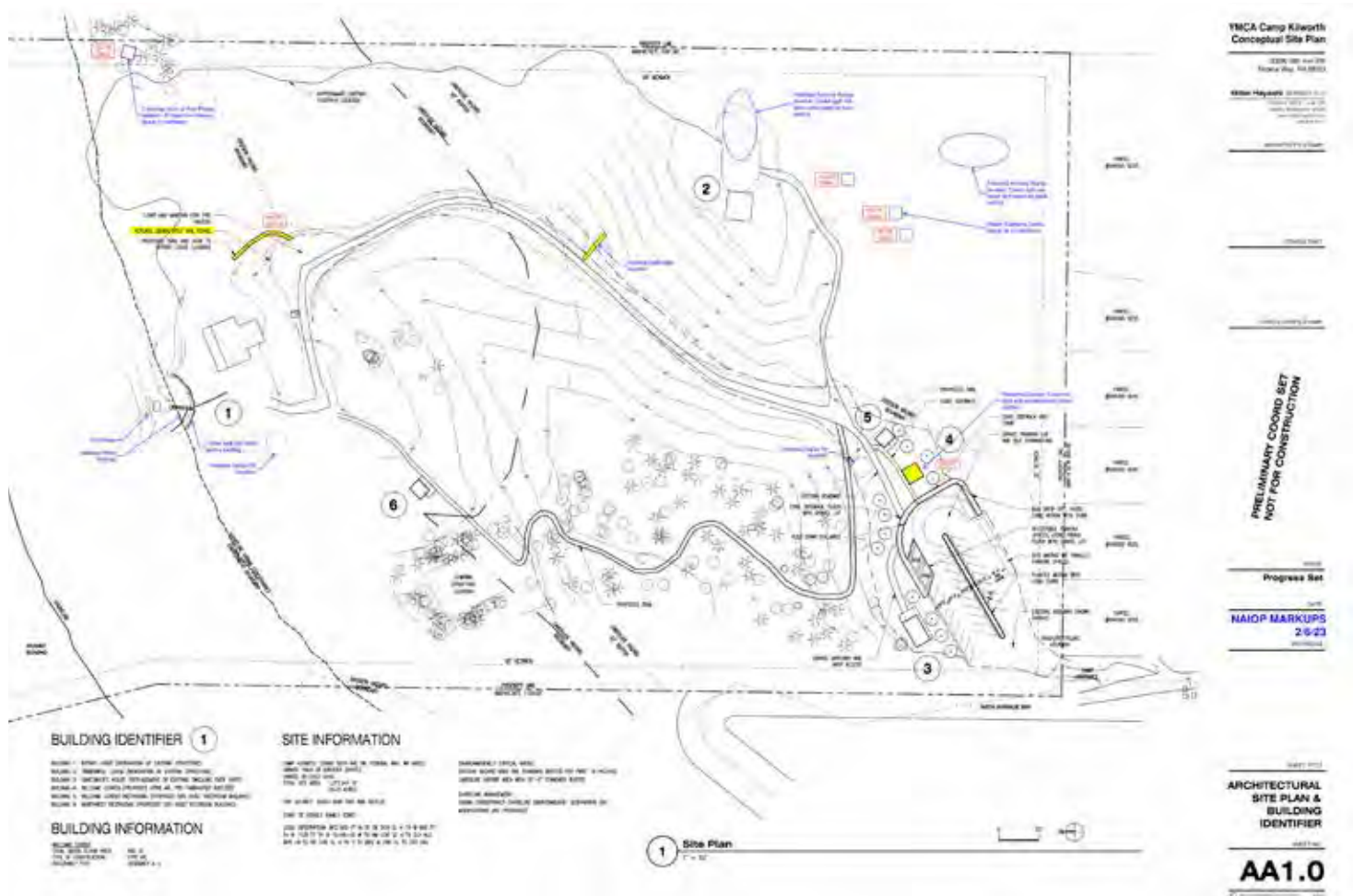






Figure 1.3 Camp Kilworth Site Plan with NAIOP Markups (Source: YMCA)



CAMP KILWORTH

Site Plan and Funding Allocation

PROPERTY FEATURES

-  Property Boundary
-  Existing Building Footprint
-  Steep Slope Area
-  Tidal or Submerged Area

FUNDING ALLOCATION

-  Conservation Futures
28.00 acres; 1,219,483 square feet
-  Cooperative Watershed Management
1.33 acres; 58,059 square feet

SITE PLAN FEATURES

-  Approximate Location of Future Structure on CFT-Funded Land
- 1** Caretaker's Residence:
Replace within 6,000 sq ft envelope
- 2** Parking Area:
Retain approximately 30,000 sq ft gravel area
- 3** Emergency Vehicle Access Road:
Pave to 20ft width, approximately 28,000 sq ft
- 4** Administrative Building:
Replace within 1,500 sq ft envelope
- 5** Outhouse:
Demolish, do not replace
- 6** New Structures:
Picnic shelter and restrooms
- 7** Timberwolf Lodge:
Replace with picnic shelter
- 8** Other Building:
Demolish, do not replace
- 9** Outhouse:
Demolish, do not replace
- 10** Fort Phillips:
Replace with picnic shelter
- 11** Emergency Vehicle Turn-Around Areas:
Pave approximately 9,700 sq ft
- 12** Rotary Lodge:
Restore, possibly expand, within 8,000 sq ft envelope
- 13** Maintenance and Storage Building:
Replace within 3,000 sq ft envelope
- 14** Stand-Alone Restrooms:
Replace
- 15** Archery Pavilion:
Demolish, do not replace
- 16** New Climbing Tower:
Construct within 1,800 sq ft envelope

OTHER FEATURES

-  Public Road
-  Shaded Relief
Derived from 2016 LiDAR at 3-ft resolution

Map date: March 3, 2022



Figure 1.4 Camp Kilworth Site Plan and Funding Allocation (Source: Forterra)

FORTERRA

With this lease agreement, Camp Kilworth will be utilized as a day camp throughout the year for YMCA participants, as well as by local schools with YMCA supervision and cooperation. By revitalizing the camp, it will provide an opportunity for groups of people that have historically not had access to camp opportunities, the ability to attend a camp and spend time in green space. Having this space be utilized as a day camp for marginalized communities also allows for Forterra and the YMCA of Greater Seattle to help address needs that are currently unmet by other organizations and camps in South King County. This HIA provides information on potential health impacts of the camp redevelopment plan and works to guide decision making to maximize health benefits and minimize negative health impacts for campers and the surrounding community of Federal Way.

CAMP KILWORTH HISTORY

According to the Washington Trust for Historic Preservation, Camp Kilworth was established in 1934 by William Kilworth, who “deeded the property to the Tacoma Area Council of Boy Scouts” (Washington Trust for Historic Preservation, 2018). This land was used as a Boy Scouts camp site from 1934 until 2016, when it was shut down by the Boy Scouts of America, which left a gap in camp services in the Federal Way/South King County Area (Washington Trust for Historic Preservation, 2018). Camp Kilworth sits on land that historically belonged to the Puyallup tribe and includes ancestral land that has been unavailable to the Tribe for several generations. The camp’s prominence in the community as a nature preserve and source of educational enrichment through camp programs was recognized and, as such, when the Boy Scouts of America vacated the camp site, there was a large community effort to preserve the campsite and find new ownership. This effort was aided by the Kilworth Environmental Education Preserve (KEEP), which was formed in 2020 to help find stakeholders to take ownership of the campsite and revitalize it to be used again.

There are two buildings on site that were designated with historical significance. The first, the Rotary Lodge, designed by the architectural firm Mock and Morrison, was constructed between 1935 and 1936. It is a one-story wood frame log-veneer structure that stands on a poured concrete foundation.



Figure 1.5 Historical Image of Rotary Lodge (Source: preservewa.org)

The second building is the Timberwolf Lodge. It was constructed in 1935 as a one-story, wood frame, rustic-style building which stands on a post and pier foundation. Because of the historical status of these two buildings, they will need to be brought up to code while preserving the historical exteriors. Both buildings have experienced vandalism and are in need of significant work before they can become operable for the YMCA. The shop (an area for tool and other repairs), West Hill restrooms, and welcome center will be retained, but will all need various amounts of renovation based on present conditions. The caretaker’s house will be demolished and replaced with a modular home from Forterra. Due to the many years of the site’s vacancy, the camp has become overgrown with invasive species. The YMCA has scheduled volunteer work parties to begin in the summer of 2023 to address the overgrowth and trail maintenance needs.



Figure 1.6 Recent Image of Timberwolf Lodge (Taken by Autumn Davis)

FEDERAL WAY, WASHINGTON

Federal Way is a city located at the border of Pierce and King Counties in Washington state, between the cities of Seattle and Tacoma. It is more diverse than King County as a whole. Based on 2020 U.S. Census data, 14% of the population in Federal Way is Asian, 17% is Black, 16.9% is Hispanic or Latino, and 44.7% is White (United States Census Bureau, 2021a). In comparison, 16% of the population in Seattle is Asian, 6.8% is Black, 7.2% is Hispanic or Latino, and 64.9% is White (United States Census Bureau, 2021b). Furthermore, Federal Way has a lower median household income (\$72,969) than Seattle (\$105,391) and has higher rates of poverty (11.3% in Federal Way compared to 10.0% in Seattle) (United States Census Bureau, 2021b).

The Federal Way Public School District (FWPS) has a sizable number of students (28%) who speak languages other than English at home, as shown in Table 1.7. Therefore, it is crucial for signage and emergency alerts to use additional languages to allow non-English speaking students and caregivers of students to understand. Research shows that access to quality child care is associated with better health outcomes, and children in immigrant households are much less likely to be enrolled in child care programs than children in non-immigrant households (Malik et al., 2018). Camp Kilworth has an opportunity to provide an essential child care resource for these households while ensuring equitable participation in camp activities. This Health Impact Assessment will expand on child care access in Chapter 5.

LANGUAGE	NUMBER OF STUDENTS
English	13,582
Spanish	4,003
Russian	288
Ukrainian	233
Somali	225
Vietnamese	200
Dari	187
Korean	162

Table 1.7 Most common languages spoken by students in FWPS (Source: About Federal Way Public Schools / District Profile, n.d.).

BACKGROUND AND SCREENING

WHAT IS A HEALTH IMPACT ASSESSMENT?

A Health Impact Assessment (HIA) is a process which allows for an exploration into the potential public health effects of proposed policies, programs, or projects. The goal of an HIA is to inform decision-makers about these potential impacts based on assessments and existing information. HIAs also highlight potential equity concerns with proposed projects and programs. The ultimate goal is to help influence decision making in order to reduce negative health impacts and promote health.

HIA TEAM

The Camp Kilworth HIA team consisted of graduate students and faculty from the University of Washington College of Built Environments and School of Public Health. The team conducted the HIA over the course of 10 weeks from March 30 to June 5, 2023, and an in-person site visit on May 4, 2023.

HIA PROCESS

The six steps used in this HIA are:

- **Screening:** Prior to the start of the 2023 Spring Quarter, Dr. Andrew L. Dannenberg sought out and assessed the feasibility of conducting a HIA on the Camp Kilworth Redevelopment Project with Forterra and the YMCA of the Greater Seattle Area.
- **Scoping:** As a group, the HIA team identified and divided proposed topics into five focus areas to examine and explore through public health and equity lenses: environment and sustainability, health and safety, education and activities, community and culture, and accessibility and equity.
- **Assessment:** The team first reviewed documents about the camp redevelopment plans provided by Forterra and the YMCA. An extensive literature review was conducted pertaining to the five identified focus areas to provide background knowledge for the proposed recommendations and information put forth in the HIA.

- **Recommendations:** For each focus area, the HIA team created recommendations to provide insight into potential effects of the redevelopment. Recommendations are provided at the end of each chapter.
- **Reporting:** Within chapter groups, the HIA team worked to write the HIA report that was presented orally to the partners from Forterra and the YMCA of Greater Seattle on June 1, 2023. Comments and feedback were then incorporated into the final written report submitted to these partners the week of June 5, 2023.
- **Monitoring and Evaluation:** Many of the recommendations proposed by the HIA team could feasibly be publically monitored after the project is completed; however, due to the completion of the ten week course, the HIA team is unable to provide monitoring or evaluation for the Camp Kilworth Redevelopment Project.

HEALTH AND HEALTH EQUITY

The World Health Organization (WHO) defines health as a state of complete physical, mental, and social well-being, and not merely the absence of disease or infirmity. This HIA report highlights education, safety, culture, and accessibility issues as they relate to health. Each chapter is consciously connected to health

The Centers for Disease Control and Prevention (CDC) defines health equity as a state in which everyone has a fair and just opportunity to attain their highest level of health (CDC, 2023). Through societal, not individual efforts, health equity can be achieved by:

- addressing historical and contemporary injustices;
- overcoming economic, social, and other obstacles to health and health care; and
- eliminating preventable health disparities.






The HIA team incorporated equity considerations throughout the HIA process. Screening and scoping discussions were informed by Forterra and YMCA's priority to improve green space access for residents of South King County, a geographical region that

serves a more racially and socioeconomically diverse population than Seattle. Through the analysis of health impacts and the development of recommendations for Forterra and YMCA leadership, the HIA team emphasized the impacts of equitable access, as well as the role that equity holds in every aspect of the revitalization of Camp Kilworth. Due to the nature of this HIA, the HIA team cannot ensure monitoring and evaluation plans. To ensure that monitoring and evaluation are followed, it is recommended to continually seek community and partner input on future development plans.

SCOPE OF THE HIA

The HIA Team identified several areas of focus to research and expand upon with an extensive literature review for the purpose of providing insight on potential impacts of the redevelopment. Each focus area has several sub-topics that shaped the recommendations of this Health Impact Assessment. The five focus areas of the Camp Kilworth Redevelopment Project are:

CHAPTER FOCUSES

-  1. Accessibility and Equity
-  2. Sustainability and Environment
-  3. Health and Safety
-  4. Education and Activities
-  5. Community and Culture

CHAPTER 1: ACCESSIBILITY & EQUITY



INTRODUCTION

This chapter examines the roles that accessibility plays in health, with a particular focus on equity. It highlights a range of barriers that often prevents under-resourced communities and communities of color from participating in after-school and summer programming. Considering Camp Kilworth is designed to serve the demographically and socioeconomically diverse populations of Federal Way and South King County, it is essential for Camp Kilworth to be accessible to communities of color, low-income communities, immigrant and refugee communities, and other under-resourced communities in the area. This chapter examines current research and existing conditions in four focus areas.

- Access to outdoor recreation
- Access to quality childcare
- Access to healthy food and recreational supplies
- Access to public transit

CONNECTION TO HEALTH

OUTDOOR RECREATION

The Centers for Disease Control and Prevention (CDC) recommends that adolescents ages 6-17 perform 60 minutes or more of moderate-to-vigorous intensity physical activity each day (CDC, 2022). The World Health Organization (WHO) outlines a range of health benefits that physical activity has for hearts, bodies, and cognitive abilities. Physical activity strengthens the

prevention of noncommunicable diseases, such as cancer, diabetes, or cardiovascular diseases, and helps to maintain a healthy body weight. It has been proven to have positive effects on mental health and healthy development in young people (WHO, 2022). However, a study about global trends in physical activity showed that 81% of children and adolescents worldwide (11–17 years) are insufficiently physically active (Movia et al., 2022). Research shows that children from low-income families have fewer opportunities to participate in physical activities. They tend to lack access to safe and appropriate spaces to play outdoors. They also tend to lack organized, affordable physical activity programs (Lindsay et al., 2006).

In the United States, those who are Black, Indigenous, and people of color (BIPOC) are less likely to participate in outdoor recreation than white persons, especially if they are also of lower socioeconomic status (Lee et al., 2001). Patterns of participation in outdoor recreation also reflect people's intersectional identities—overlapping identities and experiences that complicate prejudices and privileges, and can affect a number of discriminators and disadvantages at once. For example, Lee et al. (2001) found that young, college educated Anglo men who make more than \$20,000 annually are almost five times more likely to participate in outdoor recreation away from home than elderly minority women who make less than \$20,000 annually and have no college degree.

Jason Byrne and Jennifer Wolch put forth a model that attributes disparities in park use among racial and ethnic groups to a number of factors (2009). They describe how park and land use systems have

historically excluded people of color, and how the ongoing history of racism in park development influences outdoor recreation spaces today. Park systems are designed to serve white participants and continue to reinforce whiteness as normal or standard in outdoor spaces. These factors influence the preferences and perceptions of individuals and communities regarding the safety and accessibility of outdoor spaces, and ultimately affect the patterns of park use among different racial and ethnic communities. It is also important to note that whiteness is embedded in American experiential education and outdoor recreation (J. Rose & Paisley, 2012), which further excludes and discourages people of color from participating in outdoor activities

Further, research shows students benefit when leadership acknowledges, understands, and incorporates intersectionality into outdoor recreation programming. Instructors of color have shown to be more able to connect with BIPOC students over a shared understanding of students' backgrounds and situations. Fostering relationships between caregivers and the outdoors often result in intergenerational health benefits, as caregivers sometimes make decisions about youth participation in outdoor recreation (Thomas & Thomas, 2022).

QUALITY CHILD CARE

Access to quality affordable child care has health implications for both parents and their children. For parents, child care is a necessity in order to secure employment and pursue educational or training opportunities, both of which are linked to better health outcomes (Children's Health Watch [CHW], 2020). The association between education and health is due in part to the health-protective factors that education affords, such as higher earning potential, access to safe housing and healthcare, and the knowledge and resources to engage in health-promoting behaviors (Zajacova & Lawrence, 2018). For children, child care is linked to improved health outcomes through a similar pathway, as participation in quality child care improves school readiness and leads to higher educational attainment, which translates to higher wage earnings and better health later in life (CHW, 2020).

Research shows that low-income families, families headed by single caregivers, and people of color

disproportionately struggle to afford quality child care. Additionally, children of immigrants in low-income households are much less likely to be enrolled in childcare compared to those of low-income, U.S.-born parents (Malik et al., 2018). Moreover, surveys show this disparity is not due to differences in preferences among U.S. born and immigrant parents, but rather additional barriers to enrollment such as insufficient program outreach and inadequate supply of interpreters (Malik et al., 2018).

Lack of access to affordable child care results in approximately \$30 billion in lost wages to working families, and while 10% of caregivers with low incomes are enrolled in education and training opportunities, child care constraints are a significant barrier to career advancement (Child Care Aware of America, 2018). This in turn represents less money available to invest in the health of their families. Indeed, compared to families who do not face child care constraints, data suggests that parents and children who struggle to afford child care were nearly 50% more likely to report fair or poor health (CHW, 2020)

HEALTHY FOOD AND RECREATIONAL SUPPLIES

Healthy dietary patterns can help lower the risk of chronic disease, and are associated with beneficial outcomes for all-cause mortality, cardiovascular disease, overweight and obesity, type 2 diabetes, bone health, and certain types of cancer (breast and colorectal) (Rose, 2010). The U.S. Department of Agriculture and U.S. Department of Health and Human Services Dietary Guidelines for Americans, recognizes that establishing a healthy dietary pattern early in life may have a beneficial impact on health promotion and disease prevention over the course of an individual's life (Dietary Guidelines for Americans, 2020-2025, n.d.). Additionally, research has identified that members of racial and ethnic minorities and residents of low-income communities, such as Federal Way, are overly burdened by poor access to healthy, quality, and affordable food, consequently contributing to further health disparities (Gittelsohn et al., 2022). Camp Kilworth and the YMCA of Greater Seattle have an opportunity to help curb food insecurity within South King County and promote the

benefits of healthy food choices for individuals and communities who have a documented higher burden of chronic diseases (King County Community Health Needs Assessment, 2021-2022, n.d.).

PUBLIC TRANSPORTATION

Access to public transit, bike lanes, and sidewalks is associated with increased physical activities and better health, which could enhance Camp Kilworth's usage in Federal Way and South King County. Research shows that safe routes to parks and other destinations can improve the health of not only children, but also adults of all races, abilities, and income levels. Safe Routes to Parks are described parksthatcanbeaccessedbyaten-minuteorshorter walk or bike ride (Safe Routes Partnership, n.d.):

- Accessible via multiple modes of transportation for people of all ages and abilities
- Conveniently located within approximately one half mile (10 minute walk) from where people live
- Safe from traffic and personal danger
- Comfortable and appealing places to walk or bicycle
- End at parks that are well-maintained and programmed

According to the Federal Highway Administration (FHWA), there has been a downward trend in personal vehicle ownership countrywide due to higher costs of automobile ownership, healthier lifestyle choices, and rideshare options. Meanwhile, the demand for transit, walking, and bicycling in Federal Way has been increasing (*City of Federal Way Comprehensive Plan*, 2015).

A continuing study of upward mobility identifies commuting time as the single strongest predictor of whether or not someone escapes poverty (Chetty & Hendren, 2015). Poverty affects health by limiting access to safe housing, education, job opportunities, income, access to nutritious foods and clean air, and other resources that define a person's standard of living. Persons living in poverty are likely to experience poorer health due to one or a combination of these factors (Healthy People 2030).

EXISTING CONDITIONS

OUTDOOR RECREATION

As the YMCA and Camp Kilworth leadership aims to form advisory groups to advise on all aspects of the Camp development, it would be crucial to pay particular attention to including representatives from the BIPOC and low-income communities given the demographic profiles of the Federal Way School District and South King County. The revitalization of Camp Kilworth and its upcoming use by the YMCA for outdoor programming presents a unique opportunity to make these health benefits available to all residents in the region, specifically for youth attendees historically underrepresented in after-school programs and summer camps.

QUALITY CHILD CARE

In King County, the high cost of child care, high cost of living, and scarcity of available child care has created a child care crisis. The affordable child care crisis has disproportionate impacts by race and income. The Best Starts for Kids Health Survey in 2019 found that more than one out of three families in King County experienced challenges finding child care, with low-income and BIPOC families facing the most burden (Best Starts for Kids Health Survey Data - King County, n.d.). Additionally, according to a 2018 report which overlaid census data with available child care slots in licensed centers, child care was highly scarce in the geographic area covered by the Federal Way Public Schools (FWPS) district (Malik et al., 2018).

The COVID-19 pandemic exacerbated child care shortages, with as many as half of all child care facilities nationwide expected to permanently close. In response to this crisis, in May 2021 Governor Jay Inslee signed the Fair Starts for Kids Act into law, which expanded income eligibility for subsidized child care and lowered co-pays for families, with full implementation to be completed by 2027 (Best Starts for Kids Implementation Plan, 2021). While Fair Starts for Kids was an important step in expanding access to child care for low-income families, it will take time for the program to be fully implemented and for child care facilities to expand to meet the needs of newly-eligible participants.

Beginning the 2022-2023 school year, FWPS went with a single service provider for before- and after-school child care called Right at School, a licensed program that accepts state subsidies (FWPS 2022-2023 Child Care, n.d.). While there is no recent data to determine the impact of subsidized child care available through the Fair Starts for Kids legislation and Right at School program, it is unlikely that these efforts alone will completely resolve the affordable child care crisis, especially for children of low-income immigrant households who are most impacted.

HEALTHY FOOD AND RECREATIONAL SUPPLIES

According to the U.S. Census Bureau in 2022, Federal Way had 11.3% of the population living in poverty, and 75.57% of all students in the Federal Way school district received free lunches at school (Child Nutrition Program Reports | OSPI, n.d.; U.S. Census Bureau QuickFacts, n.d.). According to the King County Community Health Needs Assessment eligibility for free and reduced-price school lunch is a sign of underlying economic inequities and varies widely across school districts (King County Community Health Needs Assessment, 2021-2022, n.d.). As a reference point, the neighboring school district to Federal Way, Tacoma had 15.4% of students qualified for free or reduced lunch, and the King County average is 35.7% (King County Community Health Needs Assessment, 2021-2022, n.d.).

PUBLIC TRANSPORTATION

Currently, there are limited bus lines between Camp Kilworth and nearby transit centers in South King County, with Route 187 being the closest bus line. It is unclear the extent to which YMCA is planning to run shuttle services to and from Camp Kilworth. However, given the history of YMCA providing campers with transportation to and from camp in Seattle, this seems feasible, experience-based, and measurable (YMCA Camps Transportation Request, n.d.). The upcoming opening of the Federal Way Link Extension in 2025/2026 also presents a unique opportunity to explore various investments in local transit to diversify access to the catchment area by transit-dependent South King County residents.

Located within the city limits of Federal Way in southwest King County, Camp Kilworth is a 22-minute car or minibus ride from the Angle

Lake Light Rail Station, the southernmost station on the 1 line. One-half mile west of Camp Kilworth is Dumas Bay Wildlife Sanctuary. Dash Point State Park is 1.5 miles to the east.

Camp Kilworth can be entered from 50th avenue SE off of State Route (SR) 509/SW Dash Point Road. North of SW 310th is when 50th avenue turns into a rustic drive-through that marks the entrance of the camp and leads to a oblong-shaped graveled parking area. The catchment zone is planned to be a 5-10-mile radius from the camp, which coincides with the Federal Way Public Schools district borders that are approximately 10 miles in every direction from the project location.

ANALYSIS

QUALITY CHILD CARE

The Greater Seattle YMCA operates a licensed child care program called Before and After School Enrichment (BASE) in several King and Snohomish County school districts. FWPS does not participate in BASE because of their contract with Right at School (YMCA Enriching & Engaging Young Minds, n.d.). This leaves an opportunity for the Camp Kilworth site to run before- and after-school programming and summer programming that is not officially licensed as child care, but which could still fill a need for adult-supervised activities for children in grades K-5. Importantly, because the Camp Kilworth programming would not be licensed as a child care provider, families would not be able to apply child care subsidies to the cost of participation. The YMCA has a longstanding commitment to providing financial assistance for YMCA membership and programming, and has pledged \$30,000-45,000 annually in financial aid for Camp Kilworth-related programming.

Financial aid applications for current YMCA programming are accessed online in English, and require the name of the person, a statement of their annual income, and household size. While there is also a phone number that applicants can call for assistance with the application, families who are not comfortable reading or writing in English will face barriers to applying (YMCA Financial Assistance, n.d.). FWPS is a crucial partner for the YMCA to ensure equitable engagement of children who may otherwise be left out of after-school or

summer programming due to language barriers or financial constraints. Family liaisons work specifically with immigrant and refugee families in all 23 of the FWPS elementary schools. These liaisons help to minimize language barriers for these families and engage them in their child's personal and educational development (Jacques & Villegas, 2020). Additionally, the family liaisons keep track of the number of contacts that they make with each student and their family. This existing infrastructure presents an opportunity for the YMCA to disseminate information about YMCA programming and in particular, financial aid opportunities, to students who might otherwise be left out..

Camp Kilworth is well positioned to serve as an informal, financially accessible, and much needed childcare option for children in the Federal Way Public Schools district. FWPS has existing infrastructure for engagement of immigrant and refugee families, and partnering with FWPS in the application and sign-up process can decrease barriers and prioritize the inclusion of low-income families, especially those whose primary language is not English. Working within the existing infrastructure also increases the feasibility of this partnership, as it introduces no financial cost to the YMCA. Finally, the tracking system that family liaisons already use will be useful in determining the potential reach of Camp Kilworth financial aid opportunities.

HEALTHY FOOD AND RECREATIONAL SUPPLIES

Given that South King County has a need for greater healthy food interventions, healthy food access is an important area for YMCA leadership to adopt admission criteria to address. For children and adolescents between the ages of 2-18 years, healthy eating involves families, caregivers, and institutions and settings where food is provided and consumed, such as Camp Kilworth (Dietary Guidelines for Americans, 2020-2025, n.d.). Children and adolescents are mostly reliant on others to provide their meals and snacks, and the YMCA has identified the need for "a variety of healthy snacks and a healthy lunch to help them power through their day." Some families may not be able to provide healthy foods or may have difficulty finding affordable, quality foods (Packing Lunches and Snacks for Day Camp, n.d.). In Figure 1.8, Federal

Way is the dark purple, furthest south west block, which indicates that 30% of residents are recipients of Basic Food Assistance, and provides additional context about the magnitude and who is most at risk of food insecurity, mainly residents in South King County (Food Insecurity in King County, 2023).

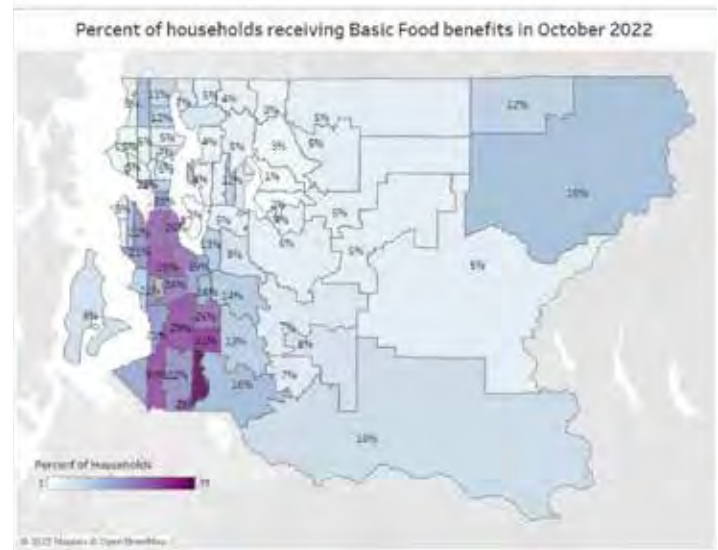


Figure 1.8 Percent of households receiving basic food benefits in October 2022
(Source: King County)

In addition to healthy food access, the cost barrier also impacts other aspects of attending camp, including a lack of equipment that is needed to participate in such programs. For instance, the YMCA of Greater Seattle's Day Camp Essentials Checklist provides a packing list of nine required items: backpack, water bottle, lunch, change of clothing, outerwear, hat or visor, swimsuit, towel, and plastic bag. It appears that these are the responsibility of the camper. It is unclear if the YMCA has any available items for check out for campers with the greatest need. The YMCA has an opportunity to address physical activity disparities among low income communities by providing quality sports equipment for all programs to adolescents who can't afford the required or essential items, by partnering with local and non-profit organizations to provide more access to outdoor gear by increasing the scope and quantity of outdoor sports equipment without increasing the competition for valuable resources. Additional measures could include, embarking on better transparency on the initial application for outdoor gear requirements, specifically for multi day and

week long programs. By specifying the quantity of extra recreational supplies the YMCA has it may increase the number of participants who may not engage with the programs otherwise.

PUBLIC TRANSPORTATION

Table 1.9 shows the current bus lines to Camp Kilworth from nearby transit centers, approximate commute time for each bus line, bus drop off location, and walking distance from bus drop off to the entrance of the Camp Kilworth site. There appear to be two access barriers: 1) over 30-minute bus commute in normal traffic, and 2) nearly one mile of walking from bus drop off to Camp Kilworth. As shown in Table 1.7, the only bus that goes to Camp Kilworth stops at SW 320th St & 47th Ave SW, which is a 0.9-mile walk to the camp entrance. Considering shorter daylight hours in winter, few sidewalks near the camp area for children and young teens to safely use, and the need to carry gear, food, and sometimes children, this distance is unrealistic for most people.

The new Federal Way Link Extension (FWLE) is a

7.8-mile light rail transit line that will extend the light rail from Angle Lake Station in the City of SeaTac to the Federal Way Transit Center. This extension is expected to open in 2025/2026 and will add a total of 3,200 parking spaces along the route for cars, vanpooling, and shuttles.

The FWLE will significantly reduce the bus commute time from the nearest transit station to Camp Kilworth (e.g., reduce the commute time from Angle Lake to Federal Way by 41 minutes, from 1 hour and 11 minutes to 30 minutes). Additionally, the FWLE would allow Camp Kilworth to expand its service area to include schools (both public and independent schools) beyond the Federal Way 10-mile radius, including but not limited to: Highland School District (N of Federal Way), Auburn School District (E of Federal Way), Renton School District (NE of Federal Way) (Washington Schools Explorer Application, n.d.). See Figure 1.10 for the new Federal Way Link Extension from Angle Lake Station to the Federal Way Transit Center. See Figure 1.11 for the school districts within the catchment area of Camp Kilworth.

Transit Centers in South King County	Transit commute from transit center to Camp Kilworth	Closest bus stop to Camp Kilworth	Walking distance from bus stop to Camp Kilworth	Total commute time from Transit Center to Camp Kilworth (transit + walking)
Angle Lake	A Line LOCAL -> 187 LOCAL	SW 320th St & 47th Ave SW	0.9 mi	1 hr 11 min
Kent	183 -> 187 LOCAL	SW 320th St & 47th Ave SW	0.9 mi	1 hr 32 min
Federal Way	187 LOCAL	SW 320th St & 47th Ave SW	0.9 mi	30 min
Auburn	181 LOCAL -> 187 LOCAL	SW 320th St & 47th Ave SW	0.9 mi	58 min
Summer	578 -> 187 LOCAL	SW 320th St & 47th Ave SW	0.9 mi	1 hr 19 min

Table 1.9



Figure 1.10 Federal Way Link Extension from Angle Lake Station to the Federal Way Transit Center (Source: Sound Transit)



Figure 1.11 Public school districts within the catchment area of Camp Kilworth (Source: Washington Office of Superintendent of Public Instruction)

For persons with disabilities who face additional access barriers to after-school and summer programming, being able to participate will likely be linked to increased confidence and skills that can transfer beyond the program, as well as higher self-efficacy and self-esteem, enhanced interpersonal relationships, and elevated quality of life (Dorsch et al. 2016). Currently, the Camp Kilworth redevelopment project team is partnering with Studio Pacifica on the design of the space to ensure it meets the Americans with Disabilities Act (ADA) guidelines. However, the organizers acknowledged the fact that it is difficult to make everything accessible for everyone in outdoor programming. The Sierra Club shared a list of adaptive outdoor gear that expands opportunities for adventurers with physical disabilities. For example, climbing-specific shoes for amputees, mountain bikes of hand cycles, and beefed-up child carriers with a 70-pound capacity (suitable for adults with muscular disorders). The gear library that is being developed at the camp would ideally include some of the adaptive outdoor gear relevant to camp activities that could mitigate the additional challenges facing participants with physical disabilities.

RECOMMENDATIONS

PRIORITY RECOMMENDATION: FORTERRA AND THE YMCA SHOULD CONSIDER ENSURING THAT ACCESS TO CAMP KILWORTH IS EQUITABLE TO ALL, BY MEANINGFULLY ENGAGING WITH UNDER-RESOURCED COMMUNITY LEADERS, CREATING AND STRENGTHENING PARTNERSHIPS WITH COMMUNITY ORGANIZATIONS THAT CENTER BIPOC AND/OR LOW-INCOME COMMUNITIES, AND IMPLEMENTING STRATEGIES TO STRUCTURE MEETINGS AND COLLABORATION MECHANISMS SO THAT PARTNERS FEEL EMPOWERED TO ENGAGE IN THE DECISION-MAKING PROCESS.

Leadership at Camp Kilworth is bringing together an advisory group which includes the Federal Way Public Schools district, the City of Federal Way, the Puyallup Tribe, and various other organizations with which the camp has strong partnerships. We recommend that Forterra and the YMCA consider conducting proactive outreach to include community organizations that represent and serve under-resourced communities. Long-established

relationships can advantage certain communities who are already well-connected to outdoor recreation systems. Creating and strengthening partnerships with community organizations that center BIPOC and/or low-income communities can provide an opportunity for these groups to participate and lead in the design of camp programs and systems. We also recommend that the YMCA makes their community engagement accessible in languages other than English by providing translation and interpretation services. The YMCA should consider coordinating their community-engaged activities in parallel with community partners, such that connections are not dependent on individual staff; rather, they are accessible across the YMCA.

Community engagement should provide partners with opportunities to influence decisions about the camp. We acknowledge that the YMCA has struggled in the past with successfully gathering feedback during the early stages of planning, when there is a wide range of possible options. To address this, we recommend that the YMCA implement strategies to structure their meetings and feedback mechanisms so that the questions being asked are more focused. For example, they can organize focus groups to collect different ideas. Each focus group can cover specific topics such as camp hours, food and dining, or camp activities.

Lastly, tracking participant demographics, systematizing partnerships with partner organizations, and potentially expanding upon the practice of reserving enrollment spaces for program partners would help ensure equitable access to Camp Kilworth. For example, the YMCA could take note of what percentage of participants who are recruited through program partners are persons of color and/or are from low-income households. This data would inform the YMCA about the effectiveness of reserving enrollment spaces, and can direct leadership to adjust their system as necessary. Furthermore, systematizing guidelines and best practices would ensure that future generations of leadership will continue to focus most of outreach and recruitment activities on underserved communities with the intentions to recruit participants from these communities.

THE YMCA SHOULD CONSIDER HIRING BIPOC STAFF, AND ADDRESS RACE AND INTERSECTIONALITY IN PROGRAMMING.

Programming at Camp Kilworth should reflect the diversity of participants they hope to serve. Instructors of color are able to connect with BIPOC students over a shared understanding of students' backgrounds and situations (Thomas & Thomas, 2022). Furthermore, these students benefit when leadership acknowledges, understands, and incorporates intersectionality—different intersecting identities work to create greater disparities than either individual identity could (e.g., a refugee/immigrant who is also low-income)—into outdoor recreation programming. The YMCA, therefore, should make an intentional goal of hiring BIPOC staff who represent the students in the catchment area and who will engage in conversations about race/ethnicity, gender, poverty, and other identities that are meaningful to the participants.

OTHER RECOMMENDATIONS

ENGAGE CAREGIVERS AND PROVIDE OPPORTUNITIES FOR THEM TO LEARN ABOUT, PARTICIPATE IN, AND GAIN SKILLS IN OUTDOOR RECREATION.

Consider the caregivers who make decisions about youth participation in outdoor recreation. Fostering relationships between caregivers and the outdoors can result in intergenerational health benefits, as families are empowered and motivated to engage in outdoor recreation. For example, the YMCA is considering Family Camp activities at Camp Kilworth, and we recommend that they consider following through with this option so that caregivers are able to gain skills and knowledge about outdoor recreation. This can include learning how to use gear, participating in Wilderness First Aid (WFA) and Wilderness First Responder (WFR) training, and learning about Leave No Trace (LNT) and other practices. We also recommend that the YMCA consider conducting marketing and outreach in the languages spoken by communities present in the area in order to connect with caregivers.

CONSIDER MAKING HEALTHY FOODS AND FINANCIAL AID AVAILABLE TO LOW INCOME FAMILIES AND CAMPERS.

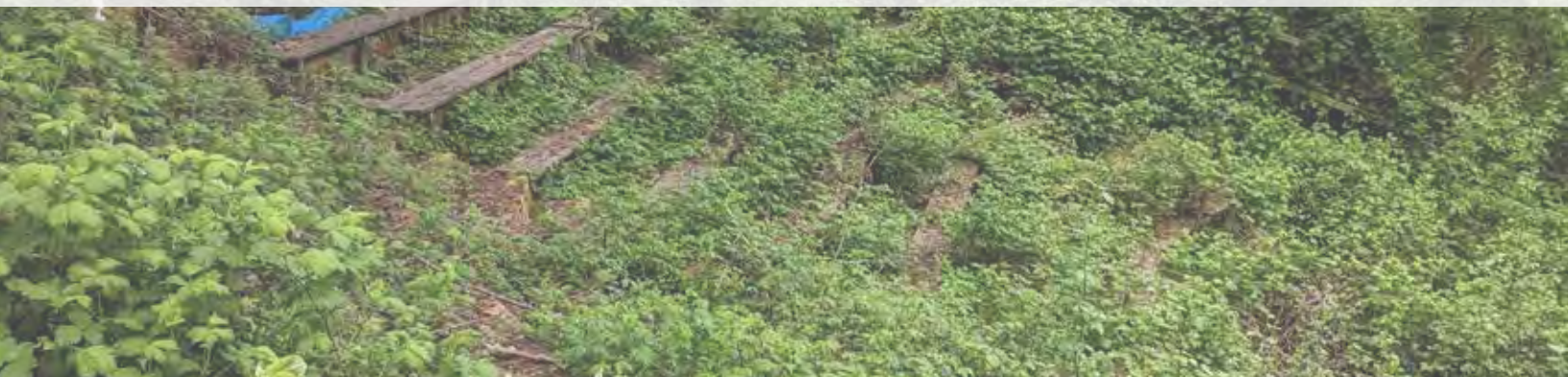
The YMCA should consider creating a threshold on application status for family income levels

to automatically be eligible for free/reduced lunch, thereby reducing the amount of unhealthy foods consumed by camp attendees, and making healthy food choices an option for all attendees, regardless of financial status. Meanwhile, the YMCA should consider working collaboratively with Family Liaisons at Federal Way Public Schools to identify families in financial need, with the goal of disseminating programming and financial aid opportunities to children in non-English speaking and low-income households.

THE YMCA SHOULD CONSIDER ADVOCATING FOR BETTER PUBLIC TRANSIT OPTIONS TO THE CAMP WHEN THE BUS LINES ARE RE-ORGANIZED UPON THE OPERATION OF THE FEDERAL WAY LINK EXTENSION.

Explore the feasibility of a shuttle or minibus system to bring participants to and from Camp Kilworth. Consider the frequency of service needed, what pickup and drop-off points are convenient for participants, and the differences in service between the summer and the academic year. Collaborate with organizations that are focused on equitable access to outdoor recreations (e.g., Outdoors for All, Courageous Climbers) to ensure the camp experience is accessible by children and adults with disabilities

CHAPTER 2: SUSTAINABILITY & ENVIRONMENT



INTRODUCTION

Camp Kilworth features many natural assets, including native flora and fauna, trails, a second-growth conifer and hardwood forest, and a feeder bluff overlooking the Salish Sea. The planned project provides a perfect opportunity for people to connect to nature.

Camp Kilworth's location will allow children and parents from YMCA day camps, community members from the Federal Way area, and other volunteers to spend time outdoors surrounded by nature. This opportunity to be outdoors and restore a connection to nature is often lost in more urbanized environments.

The following chapter looks into how the environment is connected to health and describes the current environmental concerns of Camp Kilworth. This analysis focused on the following topics:

- Forest Management
- Climate
- Pollution
- Waste Management

CONNECTION TO HEALTH

In recent decades, the concept of "Nature-Deficit Disorder" (NDD) has emerged and become popularized by researchers and the media (Nikkhou & Tezer, 2020). Although NDD is not

officially listed in the International Classification of Diseases and Related Health Problems, the disorder is mainly associated with children who are increasingly deprived of direct contact with nature (Driessnack, 2009; Louv, 2005). NDD consists of mental and physical issues due to excessive time spent inside, a sedentary lifestyle, and built-up urban environments. It is often related to obesity, diabetes, hypertension, vitamin D deficiency, ADHD, depression, and other symptoms (Driessnack, 2009). Although it is primarily discussed in the context of childhood issues, many researchers believe that adults suffer from the same set of problems.

Human health is more than the absence of sickness or pain. It involves psychological well-being. Research states that time spent surrounded by trees provides human physical and psychological health benefits (Nisbet et al., 2020). Nature profoundly impacts mental health by reducing stress, enhancing physical activity, and creating better social connections (Smith et al. 2022).

Additionally, climate change has brought rising temperatures in the summer and declining air quality (Jackson et al. 2023). Preserving and protecting the land the Camp Kilworth is located on will provide health benefits to those that visit the site and the greater area. Nature is critical in mitigating climate change by acting as a carbon sink, regulating temperature, and reducing air pollution (Smith et al. 2022).

EXISTING CONDITIONS

FOREST MANAGEMENT

The Camp Kilworth site has abundant natural resources and assets that should be protected throughout any development or restoration efforts. In fact, two out of Forterra's four stated goals for management and restoration relate to the environment (MacLean, 2023):

- Preserve, protect, and restore natural systems for fish and wildlife habitat
- Maximize the ecological function of the site to contribute to the region's biodiversity and improve sustainability

To achieve these goals, the team should consider what assets the site already has and what could be disrupted through redevelopment. This section will cover invasive species, the wildlife corridor, and the feeder bluff as considerations for managing a healthy forest.

INVASIVE SPECIES

Camp Kilworth was closed in 2016 and has remained relatively untouched ever since. Due to this neglect of the site, several invasive species are present. The two most aggressive species that negatively impact site facilities and the health of native species are English Ivy (*Hedera helix*) and Himalayan blackberry (*Rubus armeniacus*). Both of these plants are listed as Class C weeds according to the Washington State Noxious Weed Control Board (2012). The trails, existing buildings, and amphitheater have all become overgrown, and the site is not usable in its current state.



Figure 2.1 Overgrown amphitheater in current state (Taken by Autumn Davis)

The following are also listed as non-native species from the report created by Forterra (2023):

- English holly (*Ilex aquifolium*)
- English laurel (*Prunus laurocerasus*)
- Bull thistle (*Cirsium vulgare*)
- Creeping buttercup (*Geranium robertianum*)
- Periwinkle (*Vinca minor*)



Figure 2.2 Invasive *Rubus armeniacus* at Camp Kilworth (Taken by Iz Berrang)

At this time, Forterra has made plans to hire a local contractor to perform initial treatment for the invasive species. Maintenance removal will be done by volunteer groups organized by the YMCA of Greater Seattle starting in June 2023.



Figure 2.3 Volunteer work party (Source: YMCA presentation)

WILDLIFE CORRIDOR

The area serves as a wildlife habitat for many bird species, including species at risk, such as the marbled murrelet (endangered), common loon (sensitive), Cassin's auklet (list candidate), and western grebe (list candidate) (MacLean, 2023). Wildlife thrives in natural areas like Camp Kilworth,

and the area should continue to serve as a wildlife corridor, especially for endangered species. Dumas Bay Sanctuary and Dash Point State Park are located on either side of the site and form a corridor for wildlife to move between for food, shelter, and nesting. It's imperative for the forest to remain a place for animals to pass through and take refuge in for biodiversity and ecosystem health.

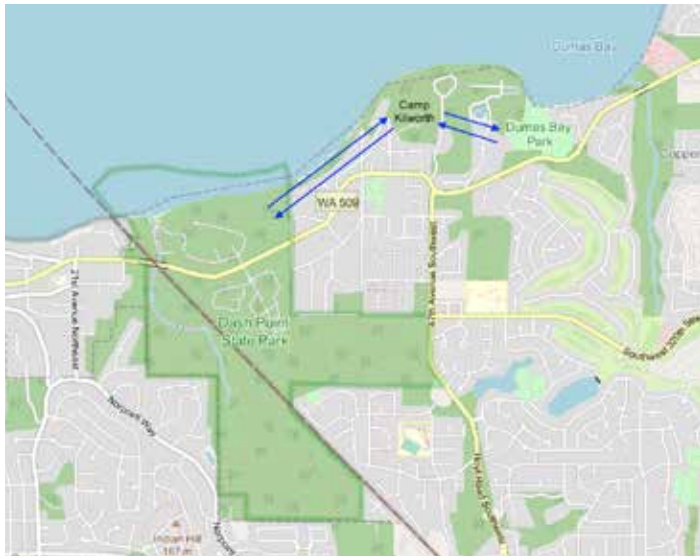


Figure 2.4 Wildlife Corridor Map (Source: arcgis.com)

FEEDER BLUFF

The site features one of the last undeveloped natural bluffs in Federal Way, situated 200 feet above sea level with a slope of over 50%. A feeder bluff is a coastal bluff undergoing erosion, gradually supplying sand and gravel to a beach. These bluffs play a role in augmenting the sediment accumulation on the underlying beach. The erosion of most bluffs, to varying degrees, results in the provision of sediment to the coastal ecosystem (Puget Sound Feeder Bluff - Washington State Department of Ecology, n.d.). In particular, the bluff at Camp Kilworth fosters an environment where insects thrive, providing food for the salmon below. The nearshore environment protects young salmon from predators and creates a safe transition to a saltwater habitat.

Chinook salmon (*Oncorhynchus tshawytscha*) is one species that feeds off the bluff, and is listed as endangered under the Endangered Species Act (ESA) for the Puget Sound according to the National Oceanic and Atmospheric Administration (NOAA) Fisheries (NOAA Fisheries, 2023). Populations of coho (*Oncorhynchus kisutch*), chum

(*Oncorhynchus keta*), and sockeye (*Oncorhynchus nerka*) are also protected under the ESA in other parts of Washington State (NOAA Fisheries, 2023).

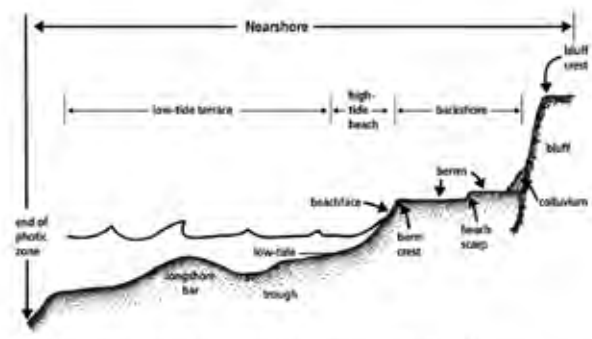


Figure 2.5 Cross-section of a beach with terminology used in the Puget Sound (Source: Beaches and Bluffs of Puget Sound and the Northern Straits)

Figure 2.5 Cross-section of a beach with terminology used in the Puget Sound (Source: Beaches and Bluffs of Puget Sound and the Northern Straits)

The conservation status of these salmon species is closely related to the Southern Resident killer whale (*Orcinus orca*), which is also listed as endangered under the ESA (NOAA Fisheries, 2022). The decline in salmon populations negatively affects the Southern Resident killer whales (SRKWs) in several ways:

- **Food availability** - Chinook salmon is the preferred food source for the SRKWs, consisting of a significant portion of their diet. The decline in Chinook populations reduces prey availability, leading to nutritional stress and overall population health concerns.
- **Reproduction and survival** - insufficient prey availability can impact female killer whales' reproductive success and their offspring's survival. A decrease in Chinook salmon availability can decrease birth rates and increase mortality rates among young calves.

By supporting the recovery of salmon populations, the conservation of the SRKWs can be enhanced, ensuring the ecological balance and health of the Pacific Northwest marine ecosystem.



Figure 2.6 Orca chasing salmon graphic (Source: whalescout.org)

CLIMATE

Healthy ecosystems are not only essential for the species themselves, they are also important for mitigating climate change. Nature-based solutions hold great promise for reducing the amount of greenhouse gasses (GHG) in the atmosphere. Humans need to significantly reduce our GHG emissions, and one-third of reductions could happen through nature-based solutions if we take care of the environment. Two-thirds of nature-based reductions could come from forests, which places Camp Kilworth in a crucial position to protect its land for climate change mitigation (United Nations, 2022).

There are several ways that forests help with climate change (Connecticut Department of Energy & Environmental Protection, 2022):

- Trees absorb carbon dioxide and produce oxygen
- Plants naturally filter stormwater, protecting soil and other species from pollutants
- Plants mitigate flood and erosion risk
- Forests reduce ambient temperatures

Trees are a crucial part of ecosystem health, and the Camp Kilworth site has an excellent balance of species to provide ecosystem services to the region. Conifers and deciduous trees both absorb carbon dioxide (CO₂) but on different timelines. Conifers, which have year-round needles, grow quickly; thus, they absorb CO₂ quickly. Deciduous trees, on the other hand, grow more slowly, which slows down their CO₂ absorption rate. However, deciduous trees tend to grow bigger with more leaf areas (Le Méné, 2019). The forest at Camp Kilworth has mostly conifers, such as western hemlock, Douglas fir, and western red cedar, and also has deciduous trees, such as big-leaf maple, red alder, and some Pacific madrone (MacLean, 2023).

POLLUTION

People are exposed to pollution daily in a number of ways through our environment, including air pollution (e.g., particulate matter, nitrogen dioxide), water pollution (e.g., chemical contaminants, microbial pathogens), and soil pollution (e.g., heavy metals, pesticides). These pollutants negatively affect people's respiratory health, cardiovascular health, neurological function, and overall well-being (Johnson et al. 2022). This section will

discuss soil contamination and sustainable building as potential exposures to pollution that could affect human and environmental health.

SOIL CONTAMINATION

Camp Kilworth soil safety is actively monitored under the King County Soil Safety Program (SSP) Area (Soil Sampling - Washington State Department of Ecology, 2023). The camp is eligible for free soil sampling and soil safety actions through the Department of Ecology.



Figure 2.7 Predicted Arsenic Concentration (Source: Washington State Department of Ecology)

Currently, the contamination level, primarily arsenic, in Camp Kilworth soil is considered “low risk.” According to the Department of Ecology's Dirt Alert website (Department of Ecology, 2023), the predicted arsenic concentration in the soil is between 20 and 40 parts per million (ppm). Based on the U.S. Environmental Protection Agency (EPA) standards, levels of arsenic in soil from 5 ppm to 20 ppm are considered safe (Environmental Health Information: Arsenic, 2007). However, levels slightly above that are unlikely to have negative health effects. Therefore, the levels of arsenic present at Camp Kilworth are likely safe, but cleanup efforts should still be pursued to maximize public health.

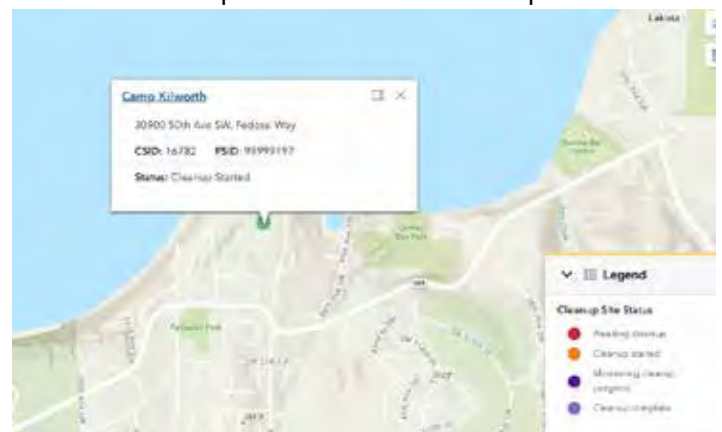


Figure 2.8 Soil Contamination CleanUp Status (Source: Washington State Department of Ecology)

SUSTAINABLE BUILDING

CONSTRUCTION

The proposed redevelopment plan includes retrofitting several existing buildings on site, demolishing other buildings or their parts, and addressing problems such as mold and other unsafe or old elements. See Figure 2.9 Camp Kilworth Demolition Map below. The new buildings will be constructed with sustainable wood materials and elements safe for the people and the environment. New septic systems will allow for safe water and preserve the environment.

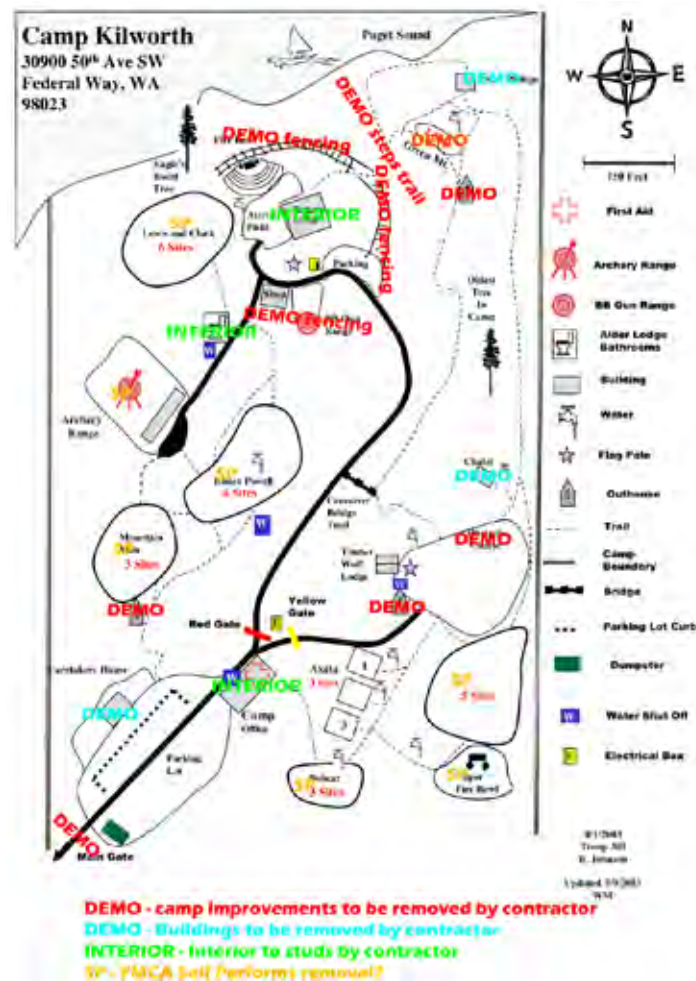


Figure 2.9 Camp Kilworth Demolition Site Map (Source: YMCA)

CONSTRUCTION NOISE

Construction noise can affect the surrounding area, especially the camp's neighboring facilities. Prolonged exposure to loud noises can lead to poor health outcomes, such as premature hearing loss, stress, anxiety, depression, and high blood pressure. Based on the current plans,

there will be extensive demolition efforts at the site, including fencing, a steps trail, the obstacle course, and a few building interiors. As part of the revitalization plan, multiple sites in the camp will be rebuilt or renovated, such as the Timberwolf Lodge and the Rotary Lodge, new fencing will be installed, and other improvements will be made.

In terms of neighboring facilities, there are a number of residential houses west of the camp and a religious retreat center east of the camp. Noise is not likely to be a significant concern, given the dense forestry surrounding the camp that will absorb most of the noise. However, ground vibrations may disturb the neighboring facilities, especially during the week when most construction activities are expected to occur. The levels of noise and disruption will also depend on the types of heavy machinery that will be used during the demolition and construction phases.

WASTE MANAGEMENT

Smart and sustainable waste management is a key factor for a healthy environment. This section will discuss plans for water and septic systems and solid waste.

WATER & SEPTIC

Forterra and the YMCA's current plans indicate a transition to a centralized water system and away from the previously used wells. The YMCA Camp Kilworth Redevelopment Program/Priorities V6 document outlines plans to run the water line from the road to the Caretaker's House & Welcome Center Restrooms, Rotary Lodge and Restroom Building, and a spigot to Timberwolf, which can be drained during the colder months (YMCA, 2022).

Forterra and the YMCA are also planning on a septic redesign in which the existing septic tanks would be decommissioned and replaced by a new sewage system that would meet the wastewater needs of 125-150 campers and 20 staff members weekly during the summer. This new septic system would serve the Caretaker's House, Welcome Center Restrooms, Rotary Lodge, and restrooms on West Hill, according to the Redevelopment Program/Priorities V6 document (YMCA, 2022).

SOLID WASTE

Currently, the waste is separated into compost, recycle, and trash, all picked up by the local operator. Waste is a massive problem of the 21st century, including food waste (Anuardo et al., 2022; Ishangulyyev et al., 2019). The lush green environment on the site is ideal for demonstrating the environment and climate we need to preserve.



Figure 2.9 Waste category graphics (Source: Seattle Public Utilities)

RECOMMENDATIONS

PRIORITY RECOMMENDATION: FORTERRA SHOULD CONSIDER UPDATING THEIR EXISTING FOREST MANAGEMENT PLAN TO PROVIDE DETAILS ON HOW TO PRESERVE AND PROTECT THE WILDLIFE CORRIDOR, PLANT NEW TREES WHERE REMOVAL IS NECESSARY AND SHARE MONITORING DATA WITH THE PUBLIC.

Forterra's current forest management plan goals are:

- Preserve the site for public access, youth education, and recreation
- Preserve, protect, and restore natural systems for fish and wildlife habitat
- Maximize the ecological function of the system to contribute to the region's biodiversity and improve sustainability
- Implement management recommendations in phases according to priority and available funding

In addition to these goals, this plan should consider including details on invasive species removal and management, wildlife habitat restoration, and climate resilience, with specific goals to keep the forest intact and healthy for current and future generations. Anyone that makes decisions regarding the forest could reference the plan and be on the same page for the long-term vision for

the site. This will help with maintaining consistency in goals throughout changes to the site, such as staffing transitions or natural disruptions. By prioritizing the health of the forest, people will continue to have the opportunity to connect to nature and enjoy the many benefits it provides.

This plan could include tree risk management, hazard tree removal, invasive species treatment, native plantings, forest care, and upkeep strategies for wood-waste product management, such as tree pruning cycles (City of Seattle, 2020; Fischer et al., 2018). The plan should also draw connections between forest health and climate change mitigation, including strategies for maintaining older trees and planting new ones for carbon sequestration. Additionally, the plan should aim to preserve the wildlife corridor that connects Dumas Bay Sanctuary, Camp Kilworth, and Dash Point State Park. Forterra's current Camp Kilworth Management Plan has tackled some of these components, such as invasive plant species removal and cultivation of native species (MacLean, 2023), but it should be expanded to specify timeframes, indicators, and goals. As climate change accelerates habitat change, and this ecosystem is exposed to human impact with the camp's reopening, the need for active and innovative management and stewardship becomes abundantly clear (Fischer et al., 2018).

Consider referencing Green Seattle Partnership's Strategic Plan for forested parkland restoration as a guide (Green Seattle Partnership, 2023). Green Seattle Partnership is a collaborative effort between the City of Seattle and Forterra (along with other groups, and now expanding to other cities), which is an existing relationship that could be strengthened even further with this Camp Kilworth project. Forterra may consider partnering with environmental service groups familiar with Puget Sound to oversee and execute this plan. Washington Conservation Corps (WCC) is an AmeriCorps program that restores habitat, builds and maintains trails, and assists in disaster response (WSDOE, n.d.). EarthCorps revives and restores ecosystems and promotes green infrastructure for enhanced climate resilience (EarthCorps, 2022). This restoration and maintenance plan could even be woven into YMCA's existing Earth Service Corps as a service learning opportunity (YMCA, n.d.). Data on plan components should be collected at regular intervals for an extended amount of time to track progress and outcomes.

Specific goals of the plan could be to:

- Preserve the wildlife corridor
 - Work with the City of Federal Way and Washington State Parks to ensure that wildlife can travel between Dumas Bay Sanctuary, Camp Kilworth, and Dash Point State Park.
 - Consider creating a pollinator corridor consisting of flowering, native habitats where birds and insects have reliable food supplies. Reference EarthCorps's Native Pollinator Best Practices Guide for management and approach ideas (Schwartz & Salisbury, n.d.)
- Plant new trees where removal is necessary for redevelopment
 - Partner with local environmental service corps who have knowledge and experience in habitat restoration to conduct this work.
 - Hire a certified arborist to identify the best species for planting and recommend ways to mitigate forest degradation during redevelopment.
- Create a forest and habitat management and monitoring plan that is available to the public
 - Prioritize high biodiversity by replacing invasive species with native plants which help to more quickly and effectively recover from environmental stresses.
 - Establish a monitoring protocol and tool to collect data on tree size, plant and habitat health, and canopy cover over time. This data could be made available to the public on an annual basis.

A local example of a well-executed forest management plan was released in 2020 by the City of Seattle. While Seattle's urban forest is very different from Camp Kilworth, the structure of the plan can serve as a guide. For example, Chapter 2 of Seattle's plan covers the existing conditions of the forest, which Camp Kilworth already has in its management plan (MacLean, 2023). Chapter 3 describes current management strategies, including partnerships and responsibilities. The sections that Camp Kilworth could benefit from the most are Chapters 4 and 5, which describe the goals and specific actions to improve forest health. The Action Agenda in Chapter 5 outlines those specific activities and who is responsible

for each one. Finally, Chapter 6 discusses how to track progress and identifies metrics for measuring success towards the goals over time (City of Seattle, 2020). Seattle's plan was developed in partnership with community stakeholders, and Camp Kilworth should consider involving various community partners to decide on common goals and priorities.

The maintenance and protection of a forest area are essential to ecosystem health and human health. A comprehensive and well-designed forest management plan can enhance the assets of natural resources, reduce hazards and degradation, and ensure the sustainability and vitality of an ecosystem for years to come. As the 2020 Urban Forest Management Plan published by the City of Seattle recognizes, an established plan can help "maintain, preserve, enhance, and restore" forests (City of Seattle, 2020). The opportunities and challenges inherent in urban forestry make a management plan all the more important.

OTHER RECOMMENDATIONS

SOIL CONTAMINATION

Forterra should consider involving the YMCA to ensure that soil contamination levels are available for camp goers, parents, and staff to increase transparency. This can be done by providing contamination levels on the camp website and on-site bulletin boards. The data could be updated each time the soil is evaluated.

WATER & SEPTIC

Forterra and the YMCA should consider executing their current plans to install a new water line on the Tacoma Water System, as it is a reliable, available resource. We recommend that the former wells are properly decommissioned by a licensed well driller, according to Washington State laws and regulations (WA Dept. of Ecology, n.d.). Similarly, we support the plan to install a new septic system and properly decommission previously-used septic tanks on the Camp Kilworth property.

WASTE MANAGEMENT

The YMCA should consider installing an onsite composting system for education and onsite food-growing projects. It also allows to minimize the expenses associated with the compost pick up. However, for onsite food growing, it is recommended

to install raised beds with clean soil to avoid the usage of contaminated soil. Rainwater catchment cisterns could supply clean water for gardening. Furthermore, the educators are recommended to know the basics of food growing and fertilizing.

Additionally, we recommend that the YMCA consider providing activities that include education for camp users on the importance of keeping the environment clean, collective clean-ups, and craft lessons on upcycling ideas of the objects that could otherwise go to waste. This can be a learning opportunity about the importance of proper waste management, low-waste living, types of waste, and ways to reuse, recycle and upcycle (Peace Corps, 2017). It will also allow the YMCA to keep the site clean and sustainable, which could avoid expenses for maintenance and repair.

CONSTRUCTION

The YMCA and Forterra should consider focusing on the sustainability of the construction processes by using sustainability sourced wood and other materials, as well as upcycled, recycled, or reused materials; minimizing non-recyclable construction waste; and incorporating green elements, such as green roofs and walls.

CHAPTER 3: HEALTH & SAFETY



INTRODUCTION

Since Camp Kilworth is intended to frequently host members of the community, particularly youth, it is vital to consider the potential safety risks that those visiting the site may be exposed to. Based on the surrounding area of Federal Way, members of the community are likely to be youth in the greater Federal Way and Tacoma areas, as well as South Seattle communities like SeaTac. Additionally, as Camp Kilworth sits on Puyallup Tribal land, members of the Puyallup Tribe are likely to be community members being hosted at the camp.

Examining the potential health ramifications of revitalizing Camp Kilworth is a key aspect of the health impact assessment. The features of Camp Kilworth and the land it is built on have significant ties to the community of Federal Way and cultural connection to local Native tribes. Through review of the current plans that Forterra and the YMCA of Greater Seattle have for programming at Camp Kilworth, we can examine the potential health benefits and health consequences that will impact all people who will interact with and utilize this land. Considering the various factors that can contribute to the health and safety of all camp visitors, this chapter will explore the following focus areas:

- Injury and illness prevention
- Property safety and adverse uses
- Disasters and emergencies

CONNECTION TO HEALTH

INJURY AND ILLNESS PREVENTION

Camps, whether during the summer months or as part of a year-round experience, are an important contribution to the lives and development of hundreds of youth in Washington state. However, many aspects of the camp experience pose a health risk to both campers and staff, such as close proximity to others, rough terrain, and day-to-day hazards that arise from programmatic activities (examples specific to Camp Kilworth include, but are not limited to, archery and rock climbing). In a health impact report conducted by the American Camp Association (ACA), injury data was collected from hundreds of camps across the U.S. from 2006-2010. This report found that campers who attended day-only camps experienced approximately 0.42 injuries per 1,000 camp days (Healthy Camp Study: Impact Report, n.d.). Common injuries reported by campers included sprains, fractures, cuts, abrasions, splinters, and bruises (Handler et al., n.d.). However, while injuries can result in additional healthcare costs for the camper's family, the unintentional exclusion of the injured camper, and may present legal implications for the camp, the ACA reported that camp attendees and camp staff members are twice as likely to develop an illness compared to physical injuries (Ten Ways to Reduce Injuries and Illnesses in Camp, 2015).

Injuries are preventable, yet unintentional injuries are a leading cause of death among children in the U.S. In 2019, more than 7,000 children and

youth between the ages of 0-19 died because of unintentional injuries (Child Injury Prevention, 2021). There is no current surveillance to track injuries and deaths that have occurred at summer camps, making it difficult to determine the scope of injuries experienced by campers. According to the health impact report conducted by the ACA, injuries sustained by campers and staff members at day camps were associated with improper supervision and falling on uneven terrain. Sprains/strains (28.9%) were at the top of the list of injuries that were most likely to take people away from camp for four or more hours, followed by wounds (15.4%), bruises/contusions (15.0%) and fractures (15.0%). The context where these injuries occurred included: playing a sport or game (34.4%), other recreational activity (15.7%), walking (8.4%), and when running, jogging or jumping (6.3%). Musculoskeletal injuries that occurred during physical activity accounted for the majority of reported injuries, highlighting the importance of supervision, protective equipment, and appropriate weather conditions. In nearly 40% of injuries reported, protective equipment was used during the activity and 15% of injuries did not use protective equipment. When injury occurred, a staff/volunteer person was on-site and on duty in only 23.5% of these cases (Erceg et al., n.d.). However, this data is from 2011 and may not represent the current landscape of camp injuries.

EXPOSURE TO HARMFUL PLANTS

Summer camps provide exposure to new settings and, by extension, introduce campers to harmful plants that they may not be familiar with in the area around their homes. Exposure to harmful plants can lead to skin irritation as well as physical symptoms if ingested or if the plants come into contact with a camper's eyes (Dreisbach, 2019; Washington Poison Control, n.d.). As young children may encounter these kinds of plants for the first time while at camp, it is important to make sure that they are aware of the risks that are associated with these plants and how to minimize exposure and negative health impacts.

As Camp Kilworth intends to conduct outdoor activities which will involve campers being in nature, it will be important for the camp to note the potential for contact with harmful or poisonous plants that may be in areas of the camp that have less traffic. The Washington State Department of

Transportation's Environmental Services Office has a booklet with different poisonous or harmful plants across Washington state, eighteen of which could potentially be at the Camp Kilworth site (Dreisbach, 2019). Western Washington and the Pacific Northwest are home to Pacific poison-oak and western poison-ivy which "often grow in fencerows, waste areas, evergreen forests, woodland savannahs, hill pastures, clear-cut forests, stream banks, wetlands, and rocky canyons" (Edmunds et al., 2018). Knowledge of these plants will be especially important during Phase 1 of the Development Schedule that has been developed for Camp Kilworth and the YMCA when the likelihood of encountering harmful plants is most likely. When the camp begins to conduct camp sessions, monitoring for re-growth of harmful plants will be important once camp activities begin due to the potential for exposure to these harmful plants which then could lead to campers becoming unnecessarily ill. Education on native species of harmful plants could help to reduce risks associated with these plants.

COMMUNICABLE DISEASE OUTBREAK

PREVENTION

In day-camp settings, campers and staff go home each day and mix with the general population; consequently, this means that their risk profile includes a daily potential for exposure to communicable illness from that population and the potential to bring illness to camp the next day (Kambhampati et al., 2019). This increases the risk of spreading communicable diseases such as COVID-19 and norovirus. As mentioned above, campers and staff are more likely to be at risk of contracting infectious diseases than they are of being physically injured at camp, so it will be important to consider proper infection control measures at Camp Kilworth.

Communicable diseases can spread in multiple ways: person-to-person contact, contaminated water supplies, improper food handling, or from animals (Kambhampati et al., 2019). The following section will focus on two common communicable diseases, COVID-19 and norovirus.

Since first detected in 2019, COVID-19 has had a devastating impact on communities around the globe. In the U.S., COVID-19 skyrocketed to become

the fourth leading cause of death in 2021 (Leading Causes of Death, 2023), and the lasting impacts of long-COVID are still unknown (Post-COVID Conditions, 2022). Since the development of the COVID-19 vaccine and subsequent booster shots, the rates of COVID-19 infection, hospitalizations, and deaths have drastically declined. In King County, reported COVID-19 infections are now estimated to be overall 26.1 cases per 100,000 people from April 2023 to May 2023, as seen in the chart below (Current COVID-19 Metrics - King County, n.d.). Although the number of COVID-19 infections has decreased since the beginning of the pandemic, there is still a racial health disparity in the number of COVID-19 cases, as shown in the chart below. American Indian and Alaska Native tribes (AIAN), African American, multi-racial, and Native Hawaiian and Pacific Islander (NHPI) populations currently experience a COVID-19 infection rate of 44.3, 36.6, 47, and 54.7 per 100,000 people, respectively, compared to White residents with a COVID-19 infection rate of 21.8 per 100,000 people. Federal Way is a diverse community. The revitalization of Camp Kilworth will invite representation of children of color and Native American tribes. Due to these communities experiencing disproportionate rates of COVID-19 infection, it will be important for Camp Kilworth to reduce overexposure of COVID-19 to diverse populations.

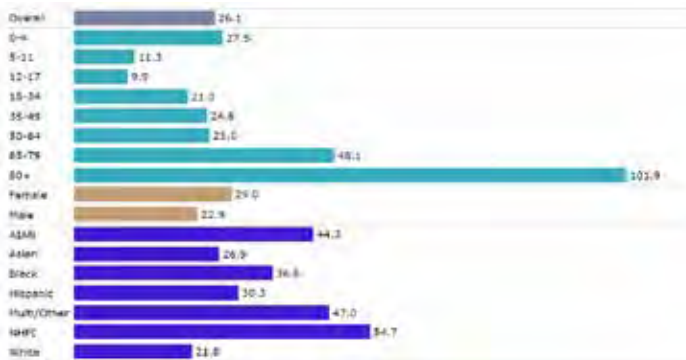


Figure 3.1 Current COVID-19 Metrics - King County (Source: Public Health – Seattle & King County)

Norovirus is a highly contagious disease that can cause acute vomiting and diarrhea (Norovirus Prevention at Youth Camp | CDC, 2023). Norovirus is the most common cause of acute viral gastroenteritis in the U.S., and results in an estimated 19-21 million illnesses each year. The U.S. Centers for Disease Control and Prevention (CDC) estimates that norovirus contributes to

109,000 hospitalizations and 900 deaths each year in the U.S. (Norovirus Burden and Trends | CDC, 2023). As few as 18 virus particles can cause an infection (Norovirus, 2023). Norovirus can survive for weeks on surfaces (e.g., walls, doorknobs, handrails, telephones, and toys) if not properly cleaned and disinfected. Norovirus can spread quickly from person to person in places such as camps and schools. It is sometimes called the “stomach flu” but is not related to influenza (flu) viruses, which primarily cause respiratory infection.

Preventing and controlling norovirus and other types of viral gastroenteritis can be challenging in camp settings. The risk for person-to-person transmission of viral gastroenteritis in camps may be higher due to community dining, group activities, and shared bathroom facilities and sleeping quarters. Camps, especially those in rural areas, may have little or no running water, which can also result in gaps in personal hygiene among campers and staff; this may lead to outbreaks in camp settings. It can also be challenging to differentiate between norovirus and other types of viral gastroenteritis; their symptoms can be similar, and it can be difficult to obtain stool samples to determine the cause of illness through laboratory confirmation. In King County, three norovirus outbreaks have been identified since the beginning of 2023 (Foodborne Illness Outbreaks - King County, n.d.).

LICE

Pediculus humanus capitis, otherwise known as head lice, is most common among school-aged children and their families (Head Lice - Prevention & Control, 2020a). The CDC estimates between six to twelve million lice infestations occur among children between the ages of 3-11 every year in the U.S. (Head Lice - Epidemiology & Risk Factors, 2019). Head lice are miniscule insects that feed on blood on the human scalp, and they most commonly spread from direct head-to-head contact. Coming in physical contact with an individual who has lice, or sharing items (such as pillows, scarves, hats, etc.) are methods in which head lice can spread. Lice is highly contagious, and the risk of spreading head lice is greatest among children because they come into close contact with one another through playing and in settings such as youth camps. The occurrence of head lice is not an indication of poor hygiene or an unclean home environment; lice can

infect anybody (Head Lice - General Information - Frequently Asked Questions (FAQs), 2020b).

Treatment for head lice involves using medications that kill the insects and their eggs. However, lice can develop antimicrobial resistance to medications over time, similar to viruses. As lice medication became widely used, some lice strains adapted with genetic changes, making them resistant to these medications. This treatment-resistant strain of lice is called “super lice” (Durand et al., 2012).

PROPERTY SAFETY AND ADVERSE USES

The U.S. Department of Health & Human Services (HHS) defines crime and violence as a determinant of health (HHS, n.d.). Although violence has been less of a concern on the site thus far, smaller offenses such as breaking and entering, discarding broken alcohol bottles, and vandalism are relevant concerns for the Camp Kilworth site during non-business hours. If neighbors perceive the area to be unsafe due to these occurrences, it may decrease time spent outdoors or exercising and lead to increased mental stress due to perceptions of danger.

Vandalism has been a recurring issue at the camp, especially at the Rotary Lodge. There is evidence of break-ins, graffiti, broken bottles, broken windows, damaged electrical systems, and stolen wires. Neighbors in the area are not allowed access to the buildings or the parking lot, but they are allowed to walk the trails on the property, which has allowed vandals to access the site as well. The YMCA would naturally like to remedy these issues. The organization plans to include low light LED bollards on the path from the parking lot to Rotary Lodge and are considering security lighting around the parking lot and buildings. Security cameras and new signage will also be installed. A caretaker will eventually live on the property, which will hopefully decrease the prevalence of vandalism.

DISASTERS AND EMERGENCIES

Although camps are often viewed as safe retreats for youths, campers may still be exposed to hazards that lead to a disaster. Disasters are disruptive, often unpredictable events that cause serious harm to communities. King County is exposed to numerous natural hazards, technological failures,

and human actions that may result in disasters. These events may cause property damage, injury, and death, and they can significantly disrupt normal life functioning. Disasters may generate secondary hazards that create additional health risks or interrupt important public health services (Brown & Perkins, 1992; Jamali & Nejat, 2016). Youth are particularly vulnerable to the health impacts of disasters, particularly mental and behavioral health impacts (Greer et al., 2020; Scannell et al., 2016; Cox et al., 2017). Individuals with functional or mobility challenges may face additional barriers when attempting to evacuate from a hazard-exposed area. Because Camp Kilworth will frequently host large youth populations, the staff may be responsible for a large number of vulnerable individuals. At the same time, Camp Kilworth is a unique piece of property that can serve as an important community asset by helping community members better connect to place. This attachment has shown to be important in facilitating disaster preparedness and more effective recovery, especially among youth. As such, Camp Kilworth can be viewed as a space of both vulnerability and community adaptive potential. The latter is more difficult to operationalize outside of ensuring the utilization of the site by the whole community, which is partly covered in another section.

Based on geographic and environmental features of Camp Kilworth and the primary intended uses of the camp, the highest-frequency hazards are likely to be fire and smoke exposure, severe weather, and landslides and erosion. Other less likely, but potentially devastating hazards include earthquakes and tsunamis.

Emergency planning is important for any facility hosting people on site. King County has a regional hazard mitigation plan (HMP) that identifies many hazards of concern, the likelihood of occurrence, their potential impacts, and ongoing efforts to mitigate said hazards (King County Emergency Management, n.d.). While the City of Federal Way does not have a city-specific annex to the regional HMP, the neighboring City of Des Moines does, which could serve as a model for future plan development (King County Emergency Management, n.d.). Similarly, while King County provides guidance and disaster-related support as detailed in its Comprehensive Emergency Management Plan

(CEMP), the City of Federal Way does not have its own CEMP (King County Emergency Management, 2020). Federal Way does, however, subscribe to the CodeRED Emergency Notification System, a communication service that can target areas of the city to provide immediate emergency notification (City of Federal Way, n.d.). The City's Emergency Management Division recommends that all businesses and residents of the city should register for CodeRed, particularly those who have changed their address or phone number within the last year, who have unlisted phone numbers, or who are using their cellular phone as the primary home phone.

For Camp Kilworth itself, the YMCA has already stated its intention to develop an emergency response plan, as is standard policy. While this plan is still under development, there are lessons to be learned related to the plan's presentation and contents that can be taken from other YMCA branches and camps. Notably, several steps would help to create actionable responses for different emergency types. These are as easy as providing staff with appropriate training, knowing the locations of local medical facilities, and ensuring that these are easily available in an emergency. These also align with several publicly-available YMCA plans. Incorporating these elements may improve the effectiveness of the camp's emergency response plan.

AIR QUALITY, SMOKE, & FIRE

The World Health Organization (WHO) defines air pollution as "contamination of the indoor or outdoor environment by any chemical, physical or biological agent that modifies the natural characteristics of the atmosphere" (WHO, n.d.). Ambient (outdoor) air pollution can result in a range of diseases including decreased respiratory functioning and premature death (CDC, 2020). A recent comprehensive literature survey of more than 170 articles related to health and air pollution described negative effects of air pollution on respiratory health, lung function, lung cancer, chronic obstructive pulmonary disease (COPD), cardiovascular disease, diabetes, epilepsy, mumps, and general productivity and wellbeing (Almetwally et al. 2020).

Poor air quality as a result of wildfire smoke is a recurring hazard in the Puget Sound area. Since 2017, the amount of wildfire smoke during the

summer months has increased dramatically. In 2020, there were 14 days of poor air quality that were either unhealthy or unhealthy for sensitive groups (Puget Sound Clean Air Agency Air Quality Data, n.d.). According to the City of Federal Way's Comprehensive Plan (2015), the city hopes to mitigate the negative impacts of air pollution, especially from vehicle use and proximity to Interstate 5 (I-5).



Figure 3.2 Image of forest fire (Source: federalwaymirror.com)

Regarding onsite fire safety, the site of Camp Kilworth is located in the South King County Fire and Rescue District, which serves both the City of Federal Way and the city of Des Moines. There are seven fire stations in the district (South King Fire & Rescue Station Locations, n.d.). Fire Station No. 63 serves the camp and is 3.4 miles away from the Camp Kilworth site (South King Fire & Rescue Coverage Areas, n.d.). Because the YMCA accredits their camps through the American Camp Association (ACA), the organization will be required to create an emergency response plan and locate the nearest fire station and hospitals in the area. Accreditation through the ACA requires extensive documentation to be submitted to the accrediting body and requires renewals every year. Because recreational fires are allowed on private property, campfires would be allowed on the Camp Kilworth site, so long as a burn ban is not in effect.

The Washington State Department of Ecology (Ecology) identifies two types of burn bans: an air quality burn ban and fire safety burn ban. The former is meant to mitigate ambient air pollution, while the latter is meant to protect against wildfire (Washington State Department of Ecology Burn Bans, n.d.). According to the Puget Sound Clean Air

Agency, fires are prohibited in most areas of King County except for in designated recreational areas (Puget Sound Clean Air Agency Outdoor Burning, n.d.). Air quality burn bans are issued by the Puget Sound Clean Air Agency and fire safety burn bans are issued by the County Fire Marshal (Puget Sound Clean Air Agency Air Quality Burn Ban Status, n.d.).

SEVERE WEATHER

While there are many severe weather events that occur in King County, including thunderstorms, hail, high winds, winter storms, and extreme cold. Extreme heat is of particular concern for a site reliant on outdoor access during summer months. As the globe continues to be impacted by climate change, extreme heat events that can result in heat related illnesses will become more common. The Washington Tracking Network has data showing that while Heat Stress related hospitalizations and deaths are relatively low, these risks will increase as Washington state heats up due to climate change (Washington Tracking Network, 2023). As heat related illnesses become more commonplace, it may become more likely that there is a need for Camp Kilworth to teach their campers and the surrounding community about heat related illnesses. Federal Way, the location of the Camp Kilworth site, may be a heat trap due to the built environment in the area, based on King County data (Constantine, 2021).

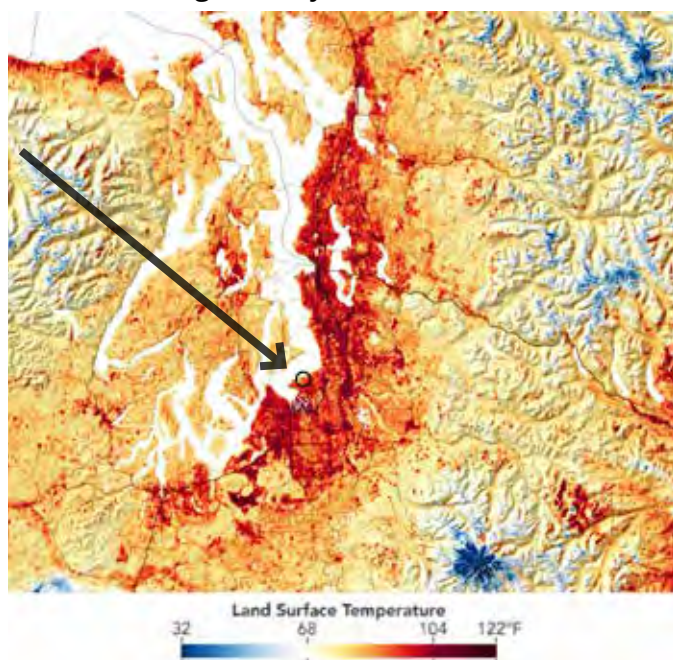


Figure 3.3 A heat map of the greater Seattle area, with Camp Kilworth circled in black. Based on these estimates, the temperatures in the surrounding area may reach the high 90s or low 100s (Source: earthobservatory.nasa.gov)

Any outdoor activity comes with the risk of sun or heat exposure related illness. Camp Kilworth will be no different. While the camp has lots of existing shade coverage from the natural trees in the area as shown by the photo below, once the camp has been cleared, there is likely to be more sun as a form of natural lighting. As climate change leads to hotter temperatures during the summer months, the need to ensure that there are procedures and protocols for heat exposure and sunburns will become necessary to keep campers healthy. This is important to note as there are predictions that “By the mid-21st century, the number of [extreme heat] days is projected to more than triple, to about thirteen days per year” (Isaksen et al., 2014 as cited in UW Climate Impacts Group et al., 2018). Keeping campers safe in extreme heat events is important as it not only prevents heat exhaustion or stroke, but also protects them from extreme sun burns which can lead to adverse health outcomes later in life. This can be addressed by providing an air controlled or air conditioned area where students exhibiting signs of heat exhaustion can go in order to cool down and receive medical attention.

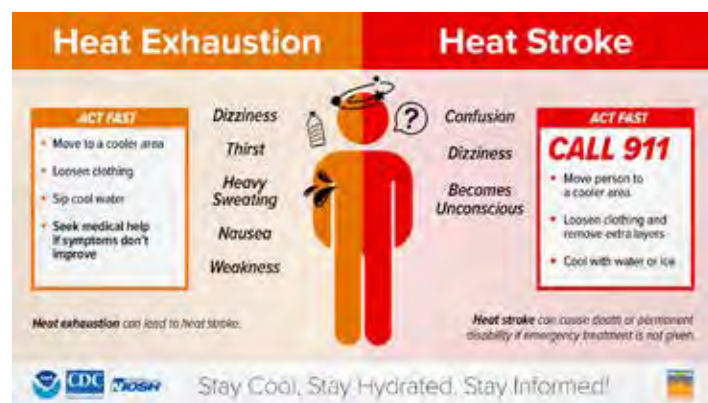


Figure 3.4 Heat symptoms (Source: CDC)

LANDSLIDES & EROSION

The CDC defines landslides as “masses of rock, earth, or debris [that] move down a slope.” Mudslides are a type of fast-moving landslide caused by water running down a steep channel. Between 25 to 50 deaths are caused by landslides annually in the U.S. (Centers for Disease Control Landslides & Mudslides, 2018). Steep slopes may lead to both landslides and/or erosion. Erosion may cause increased dust in the air which can increase respiratory concerns due to air pollution (Cornell University, 2006).

Although most portions of the site are fairly flat, ranging from 0-10% slopes, bluffs on the northern portion of the site are critical landslide and erosion hazard areas with slopes over 50% (City of Federal Way GIS Maps n.d; Forterra Camp Kilworth Management Plan 2023). Development within 50 feet of a geologically hazardous area (one susceptible to erosion, landslide, or seismic hazards) or of a site that contains slopes 40% or greater is prohibited by the City of Federal Way Municipal Code (Federal Way Revised Code [FWRC] 19.145.220). However, improvements may be permitted within erosion hazard areas as long as they do not increase surface water discharge, decrease adjacent slope stability, or adversely impact other critical areas (FWRC 19.145.240).

EARTHQUAKES

Earthquakes, seismic ground shaking events that can last from seconds to over five minutes, are a major regional threat in Puget Sound (King County Emergency Management, n.d.). Ground shaking can lead to serious injuries and even deaths, though the risk is highest when indoors. Earthquake casualties are most often the result of injuries from falling debris from structures. In addition to the immediate casualties from the ground shaking, earthquakes may also contribute to secondary hazards like liquefaction (where soils flow like liquid, damaging structures resting on them), landslides, fires, hazardous material releases, and tsunamis that have additional health impacts. Earthquakes can also damage critical infrastructure and disrupt services important to supporting health and health-related human activities. This includes power outages and gas shortages, communication disruptions, transportation route closures, and damage to sewer, electric, and water lines. Foreshocks (smaller earthquakes leading up to the event) and aftershocks (repeated, smaller earthquakes that occur in the following weeks or even months) can exacerbate damages from earthquakes.

King County Department of Emergency Management determines that earthquakes bear the greatest potential for casualties, damages, and social and economic impacts, even though they are incredibly rare events in the region. Camp Kilworth sits near an active fault and is also exposed to an earthquake hazard from major regional faults– the

Seattle Fault and Cascadia Subduction Zone. The combined risk from these two major faults has led King County Emergency Management to suggest that within the next 35 years, there is an up to 20% chance of a major earthquake (at the scale of potentially catastrophic damages) striking King County. The site sits in a moderate-to-low liquefaction zone per the 2020 King County Hazard Mitigation Plan.

TSUNAMIS

Tsunamis are a series of fast, long, large waves with incredible destructive power that can cause massive damage and flooding to an area. They are caused by mass displacements of water– typically due to an earthquake, landslide, or volcano. Because of their speed and size, these waves have the ability to cause massive infrastructure damage and human casualties at a regional scale. This is especially worrisome given that they may occur as the result of another hazard, creating the potential for a complex event like the Great East Japan Earthquake of 2011 (King County Emergency Management, n.d.). Casualties from tsunamis usually occur as a result of drowning, as the amount of water from the waves can easily trap people in structures or wash them out to sea. Injuries may also occur from collisions with objects in the water (Centers for Disease Control and Prevention, 2013). Evacuation of low-lying areas is often recommended to avoid casualties, though evacuation presents additional challenges for more at-risk populations, such as those with functional or access needs (King County Emergency Management, n.d.). Longer term health impacts may come about due to a loss of housing or shelter, contaminated food and water, and disruption to key utilities, transportation, public health, and healthcare services.

The 2020 King County Hazard Mitigation Plan identified a tsunami risk zone for all coastal properties in Federal Way (King County Emergency Management, n.d.). There are five main potential sources of tsunamis that could affect the site: an earthquake originating along the Cascadia Subduction Zone, and earthquake along the Seattle Fault, an earthquake on the Alaska-Aleutian Subduction Zone, a distant tsunami originating from somewhere along the Pacific Rim (though this is less likely), and a major landslide along the Puget Sound. Geological records, indigenous storytelling, and modern events confirm that

King County has experienced tsunamis related to these sources in the past. Worst-case scenario waves from the Cascadia Subduction Zone and the Seattle Fault would create waves up to 13-20 feet above Mean High Water (an average of all tidal high water measurements).

ANALYSIS

INJURY AND ILLNESS PREVENTION

The current state of Camp Kilworth includes vast overgrowth of vegetation. As seen in the below image captured at Camp Kilworth, a main walking path leading to a camp facility is overgrown with many branches and roots partially blocking the pathway. Overgrown vegetation can pose a risk of falling and injury.



Figure 3.5 Photo of walking path at Camp Kilworth (Taken by Elizabeth Carnesi-Hudson)

Archery is another prominent activity on camp grounds that may lead to injuries if practiced improperly. Boy Scouts of America requires the use of protective equipment such as arm-guards, finger tabs, or archery gloves (Information: ARCHERY, n.d.). Upholding archery guidelines along with proper supervision can minimize the risk of preventable injuries. If a health emergency were to happen on site, the closest hospital to Camp Kilworth (St. Francis

Hospital) is six miles away. This knowledge, in addition to proper basic life support skills or cardiopulmonary resuscitation (CPR) training and first aid kits would be able to ensure that safety is taken seriously at Camp Kilworth.



Figure 3.6 Photo of kids practicing archery (Source: YMCA)

COMMUNICABLE DISEASE OUTBREAK PREVENTION

With the demolition of the administrative building, caretaker's building, and outbuildings, there may be fewer resources for visitors and staff to access hygiene stations, such as bathrooms. Proper hand hygiene is an essential aspect of minimizing the spread of COVID-19 and norovirus. The current revitalization plan does not indicate where the infirmary will be located or the health supplies that will be kept on site. Current YMCA protocol for camping indicates that campers and staff must either show valid proof of vaccination or a negative COVID test prior to arriving at camp, and that masks will not be required. This is partially aligned with current state recommendations; the statewide mask mandate was lifted on April 3, 2023 (Masks and Face Coverings, n.d.), and the vaccine mandate was lifted in King County on February 6, 2023 (Ramirez, 2023).

LICE

There are different variations of lice policies from one camp to another. The CDC, the American Academy of Pediatrics (AAP), and the National Association of School Nurses (NASN) recommend continued treatment and prevention of further infestation, then allowing those afflicted to remain in group settings (Head Lice - Schools, 2019). The guidelines from these organizations will allow

for children who still have nits (lice eggs) but not adult parasites to participate in group activities, as long as additional prevention methods are taken. Most nits are located more than a quarter inch away from the scalp, so they do not have access to the host's blood supply. Such nits are usually very unlikely to hatch to become crawling lice, may actually be empty shells, and are very unlikely to be transferred to another person (Head Lice - Schools, 2019). Other organizations, including the National Pediculosis Association (NPA), recommend temporarily removing those with lice from group settings until all signs of nits and lice are gone (Lice - Tips for Camps, 2015).

PROPERTY SAFETY & ADVERSE USES

Crime Prevention Through Environmental Design (CPTED) as an urban planning and development strategy has received much attention in recent years. Conzens & Love's Review and Current Status of Crime Prevention through Environmental Design (2015) examined the existing literature on the subject. Although they found that CPTED is no "silver bullet," positive strategies regarding lighting, fencing, and surveillance, among others, were found to decrease crime. Guidebooks on CPTED, such as those from Singapore's National Crime Prevention Council, New Zealand's Ministry of Justice, and the European Commission, encourage adequate lighting and sightlines, among other interventions (International CPTED Association n.d.).

Lighting increases public perception of safety and substantially decreases crime during nighttime hours (Chalfin et al. 2019; Kaplan & Chalfin 2021). In some cases, additional lighting can prove controversial if adjacent neighbors will be impacted by increased light pollution. However, mitigating light pollution while providing adequate lighting for safety purposes is not necessarily mutually exclusive (America Walks 2022). The City of Federal Way requires that developers "[...] select, place, and direct light sources both directable and nondirectable so that glare produced by any light source, to the maximum extent possible, does not extend to adjacent properties or to the right-of-way" (FWRC 19.105.030). The city defines glare as a public nuisance and development violation (FWRC 7.05.030).



Figure 3.7 Photo of picnic table at Camp Kilworth (Taken by Elizabeth Carnesi-Hudson)

DISASTER AND EMERGENCY PREPAREDNESS

Based on information in the King County Hazard Mitigation Plan (HMP), the King County Comprehensive Emergency Management Plan (CEMP), the County's Online Hazard Map, observations about Camp Kilworth, and other information, the main hazards of concern for Camp Kilworth's normal operations are fires (and associated air quality impacts), severe weather (storms, extreme heat and cold), and landslides (including associated erosion). Less frequent, yet significantly devastating hazards like earthquakes, tsunamis, and armed assailants, may also pose a risk to the site. A brief summary of health impacts associated with each hazard are included below:

LANDSLIDES & EROSION

Landslides have the potential to contribute to fall-related injuries, and individuals trapped in a landslide also face crushing and suffocation risks. According to the 2020 King County Hazard Mitigation Plan, the Camp Kilworth site plan and the City of Federal Way's GIS data, the camp is partially located in areas susceptible to erosion and landslides. Barrier fences, as

described in the Camp Kilworth redevelopment plan, can help to ensure that campers and staff are safe from environmental factors.

AIR QUALITY, SMOKE, & FIRE

Wildfire smoke exposure may contribute to respiratory distress or discomfort by affecting the air quality. The site is situated far from I-5 or other major roadways, as well as from industrial uses that might negatively affect air quality (City of Federal Way GIS Maps, n.d.). The area contains dense vegetation and is located near the coast, both of which have positive impacts on air quality (Leung et al., 2011; Crosman & Horel, 2010). In the case of wildfire smoke, the YMCA already plans for days of poor air quality. Policies may need to be developed regarding inclement weather, including outdoor air quality issues include continuous monitoring (via online resources such as AirNow or the Washington's Air Monitoring Network) and closure of the facility or program site by the general manager if conditions necessitate (YMCA of Greater Toronto, 2017). In regard to indoor air quality, the YMCA plans to install an HVAC system with an electric heat pump allowing for efficient cooling/heating and air filtration in Rotary Lodge. All of the above measures will go far in mitigating exposure to air pollution by campers and staff.

While wildfire risk is low in King County, Camp Kilworth is heavily forested, and intentional or accidental fires may present risks to camp property and anyone on the property at the time (such as the caretaker). Based on the YMCA's site plan, the camp will include fire rings on the northwestern portion of the site near the amphitheater. Ensuring that YMCA staff are starting and/or supervising the starting of fires and teaching about fire safety in locations that are close to water sources (e.g., spigots) can help to minimize the risk of fires spreading.

The YMCA's protocol requires immediate evacuation in the case of a fire alarm and expects the On Site Manager to assign a staff member to call the local fire department (Greater YMCA of Toronto, 2017). Policies and procedures for the specific site will lay out evacuation procedures, but these have not yet been finalized.

SEVERE WEATHER:

Extreme heat is an increasing risk that camp attendees face, especially during summer months, and can lead to heat-related illnesses. In order to safely facilitate camp activities, there is a need to ensure that there are protocols in place to make sure that when heat advisories are present, the campers will be able to safely participate in activities that are being planned to accommodate the heat. During winter months, extreme cold has the potential to lead to hypothermia and winter storms may exacerbate access issues and create slipping and falling hazards. Finally, storms (thunderstorms, wind storms, and hail) have the potential to contribute to injury or property damage on the site, and relevant insurance for the major structures may help offset repair costs should one be damaged (such as by a falling tree).

EARTHQUAKES

In the event of an earthquake, the greatest risk of damage is to the existing structures on the site. The historical buildings, in particular, will need to be retrofitted for earthquake resilience, as many older buildings are constructed from materials that have a greater risk of collapse or failure due to ground shaking. As such, retrofitting or otherwise stabilizing the restored and new structures could help mitigate risk from earthquakes.

TSUNAMIS:

Low-elevation areas near the shoreline bear most of the exposure risk on the property, as drowning and being washed away are serious risks during a tsunami event. Although most of Camp Kilworth is above the elevation of a tsunami, the site does include shoreline access. Since camp programming is not intended to reach the shoreline, this may not be a major concern for the YMCA, but should beach access be permitted for community groups or other users, it is important to maintain the capacity to alert beach users of tsunami threats and evacuation procedures and routes.

RECOMMENDATIONS

PRIORITY RECOMMENDATION: FORTERRA AND THE YMCA OF GREATER SEATTLE SHOULD CONSIDER UPDATES TO THEIR HEALTH AND SAFETY GUIDE TO ACCOUNT FOR THE UNIQUE FEATURES OF CAMP KILWORTH.

All camp activities come with some level of health and safety risk regardless of location. The Camp Kilworth site, the impacts of climate change, and the need for camp staff to be aware of new and changing disease provides a unique opportunity to workshop and develop enhanced guidelines that can address the changing needs of the Pacific Northwest. Federal Way sits in a unique spot that, as the climate warms, will become more of a heat island, which can impact the importance for the community to have access to the camp, specifically in the summer. By having enhanced health and safety guidelines, the YMCA can ensure that the health and safety of camp goers is addressed to the greatest extent of what is possible.

OTHER RECOMMENDATIONS

CAMP KILWORTH SHOULD CONSIDER FOLLOWING AMERICAN CAMP ASSOCIATION GUIDELINES REGARDING COUNSELOR TO CAMPER RATIOS AND ALL SAFETY PRECAUTIONS FOR ACTIVITIES THAT HAVE HARM RISKS ASSOCIATED WITH THEM.

- This also includes signage on any walking or hiking pathways to alert walkers of potential dangers. If an injury were to occur, camp staff should either have a first aid kit on hand and be trained on how to treat common camp injuries or have first aid kits located at primary activity areas of the camp.
- To limit the spread of diseases and to protect camp attendees from the negative health impacts of COVID-19, the YMCA should consider implementing a disease identification and prevention plan. Outbreak prevention guidelines and procedures should align with recommendations produced by local health jurisdictions to ensure the health and safety of camp goers, camp staff, and the community.
- With the expectation that Camp Kilworth

will eventually host over 100 children during summer and after-school day camps, the YMCA should consider adopting a lice prevention camp policy to protect the most people. The rise of super lice and the close proximity of dozens of children at the camp have the potential for a super spread event. To protect camp visitors and staff, the YMCA should consider implementing multiple strategies for lice treatment and prevention that could control the spread of lice while also minimizing children being excluded from activities.

THE YMCA SHOULD CONSIDER INCLUDING CPTED STRATEGIES SUCH AS LIGHTING, CAMERAS, AND CAREFULLY CONSIDERED SIGHTLINES TO PREVENT VANDALISM AND CRIME.

Include common strategies from CDC's Parks & Trails Health Impact Assessment review, listed below:

- Create natural surveillance along trails and along abutting streets, connecting streets, and street crossings
- Ensure proper sight lines and increase "eyes on the street" to facilitate roadway surveillance around parks and trails
- Include entrances and windows that face the park or trail in adjacent buildings
- Design trail paths to support multiple uses while ensuring users feel safe
- Install emergency call boxes or cameras, or both, in the camp

THE YMCA SHOULD CONSIDER INCORPORATING HAZARD-SPECIFIC ELEMENTS INTO CAMP KILWORTH'S EMERGENCY RESPONSE PLAN.

Including specific and hazard-dependent actions for staff to take and making these easily trainable and communicable is important when dealing with a population subject to frequent turnover. Recommendations for the most frequent hazards are found below:

- **Severe Weather:** Extreme heat is the highest priority severe weather hazard. To protect site users from heat illnesses, the YMCA should consider a plan to shift activities to air-conditioned indoor areas, or move them to outdoor shaded areas; ensure that they have adequate hydration stations to keep campers hydrated, and provide access to

electrolyte replenishment as needed; and educate both campers and camp counselors on how to identify and report symptoms of heat exhaustion and heat stroke so that cases of heat-related illnesses can be mitigated early, and reduce long-term effects of exposure.

- **Air Quality, Smoke, and Fire Safety:** YMCA leadership and staff can reduce fire risk by staying aware of and enforcing burn bans. The organization should consider placing signage around campfire areas in order to educate campers about fire safety and wildfire prevention strategies. The YMCA should adhere to the existing policies and plans around inclement weather including air pollution and ensure staff are fully informed about these protocols. Additionally, a traffic impact assessment might be conducted to account for increased traffic volumes. Although the increased traffic volumes will likely not be high enough to cause significant air pollution concerns, especially as campers will also have the opportunity to travel by bus, the YMCA may wish to assess these impacts thoroughly before proceeding.
- **Landslide and Erosion:** The YMCA already plans to ensure that fencing and signage around steep slopes are included on site; following through on these plans will help reduce exposure to landscape hazards. The YMCA should consider plantings, diversion of stormwater, or other techniques to minimize areas of loose soil and to mitigate soil erosion. Construction efforts on slopes require increased caution when removing plantings, as removal of trees or brush on steep slopes can cause increased risks for erosion and landslides.

create an annex to King County's regional Hazard Mitigation Plan (HMP) and to develop its own Comprehensive Emergency Management Plan (CEMP) to better align the camp's emergency response plan with local response activities.

THE YMCA SHOULD CONSIDER USING THE CAMP'S POSITION WITHIN THE COMMUNITY TO IMPROVE COMMUNITY ADAPTIVE CAPACITY AND DISASTER RESILIENCE.

Whole-community programming and programming with local schools or other youth groups outside of normal camp programming can help increase the and build place attachment. The YMCA and Forterra should consider evaluating how the Camp Kilworth facilities might be utilized to protect the community during and after disasters as a community location. Finally, the YMCA should consider petitioning the City of Federal Way to

CHAPTER 4: EDUCATION & ACTIVITIES



INTRODUCTION

Research states that simply being in a natural environment can promote one's health and wellbeing (de Vries et al., 2003). YMCA programming provides opportunities for children to continue receiving social/emotional stimulation, both during the school year and the summer, that supports development that they may have received at school. Family camp programs provide opportunities for parents and children to connect in new settings. Summer camps can also provide valuable early employment experience to emerging adults. Vegetable gardening programs for children show numerous benefits for their social, emotional, and physical health. Camp Kilworth will have ample opportunities for nature and place-based educational activities, which have been shown to have numerous health benefits for children.

The health benefits from nature contact are abundant, and include stress reduction, improved mental health, and longer lifespans (Botchwey et al., 2022). This chapter considers topics within three focus areas:

- Connectivity and Development
- Outdoor Education
- Programming

CONNECTION TO HEALTH

CONNECTIVITY AND DEVELOPMENT

CHILDHOOD DEVELOPMENT

Research shows that settings in which children spend time are critical to the development of physical, intellectual, psychological, social, and emotional skills and competencies. Exposure to positive experiences and people, as well as opportunities to gain and refine life skills, supports young people in their growth. Ensuring continuity between school-year programs and camp settings so that children remain engaged physically and mentally throughout summer could enforce this growth, as well as reduce related health risks—such as sedentary lifestyle or a lack of social interaction—that youth sometimes experience in the summer months (National Academies of Sciences et al., 2019).

Further, research shows that while schools may attempt to encourage social-emotional learning skills, they don't always have the time or capacities to teach them explicitly. Obligations to complete the academic curriculum often make it difficult for teachers to prioritize community building, goal-setting, or problem solving in their classrooms. Summer camps, however, without the obligations of the school day, can further focus on social-emotional learning. These opportunities are especially important for low-income students, many of whom already have fewer opportunities to gain these skills outside of school (Shafer, 2016).

Another aspect of camps that can lead to development is the time away from phone and computer screens and daily media intake. In research on summer camp programs, researchers found that after five days of face-to-face interaction, without the use of any screen-based media, preteens' recognition of nonverbal emotion cues improved significantly. This can show benefits of summer programs where youth are immersed in outdoor or other programming and away from screens used at home or school (Uhls et al., 2014).

In some research, despite the fact that youth reported better experiences at camp than in school, analyses revealed that youths' experiences at camp and school were generally mutually-reinforcing. Specifically, youths who had better experiences in one setting tended to have better experiences in the other setting. More than demonstrating that some youths thrive across contexts, however, the findings suggest that a high-quality camp experience may promote improvements in school experiences, just as a high-quality school experience may promote improvements in camp experiences. Additionally, positive connections between camp experiences and youth outcomes were sometimes transmitted through improved school experiences (Spielvogel et al., 2022).

This YMCA camp can provide these developmental benefits for even more children with the expansion to Federal Way. The camp can encourage opportunities for new programming, as discussed in other sections. Additionally, furthering relationships/partnerships with schools in the Federal Way community will likely encourage successful development and social-emotional learning.



Figure 4.1 Image of kids hiking at Camp Terry (Source: YMCA)

PARENT & FAMILY BENEFITS

Across the literature, family camp programs—especially multi-day camps—can play a role in enhancing family dynamics and functioning (American Camp Association, 2012). In the literature, parent respondents indicated how family camp experiences benefited them because of parenting reinforcement and enhancement of family relationships. Based on the Family Environment Scale, family camp programming improved elements of Family Cohesion, Family Expressiveness, and Family Conflict.

Additionally, family camps allow camps to connect with children. As some research shows, to reach children, one must reach the family. Doing so in a camp setting has been found to be effective for countless families every year (Agate & Covey, 2007). Family camps can be a “highly motivating and empowering experience for a family” and allow for engagement, participation, empowerment, and integration of family dynamics.

Some research found that longer programs (>12 hours) tended to yield somewhat better results than shorter activities for families (Agate & Covey, 2007), as they allow for additional programming and relationship building. Families who have attended family camp programs have reported enjoying active experiences they could complete together as well as the opportunity for separate activities for children and parents/guardians. Parents express excitement for the opportunity to learn and engage with outdoor programming previously not available to them or only available to their children. Thus, family camp providers should also consider flexible programming with a combination of activities for whole families as well as activities for individual age groups (American Camp Association, 2012).

The YMCA's family camp weekends and retreats, which have proven successful at other YMCA sites, will provide an important resource to previously underrepresented families in South King County to engage with family relationships and new activities at the Camp Kilworth location. As the new site opens, camp leadership could consider evaluating the capacity to expand on family camp programming to provide additional year-round opportunities for families, as parents and guardians may be more likely to encourage outdoor experiences for their children and young family members.

STAFF EDUCATION & DEVELOPMENT

Camps provide emerging and young adults opportunities to work with children, while also gaining experience in other areas, such as social emotional skills and leadership. Summer camp professionals should consider these skills for their own programming for staff. While camp leaders may often focus specifically on camper programs, it is important to understand that staff are also in a developmental period of emerging adulthood and can benefit just as much as campers (Povilaitis et al., 2021).

Although camp employment may encourage skill development for many camp staff, it is a particularly powerful setting for future teachers to practice various skills important to their profession. Camp staff in the research indicated that, especially for interest in teaching, camp was a form of experiential learning or an internship (Povilaitis et al., 2021). For camp staff who sought other careers or were unsure of future career directions, camp can still provide beneficial work experience. For some hiring managers, industry experience was a top resume highlight for offering roles. Even if camp duties and responsibilities may not be clearly transferable within a specific industry, camp directors can find ways to provide those skills and retain camp staff. Industry experience matters for job seekers, meaning that camp directors either must acknowledge that staff may leave after one or two summers to seek other job-related experience, or may need to be more creative in helping their best staff “job craft” their position in order to align with employees’ career aspirations. For example, seasonal staff seeking degrees in marketing could assist with the development of camp marketing or social media as part of their duties during the summer (Richmond et al., 2021). For young adults who are uncertain about careers, camp directors can consider ways to assist young people in exploring different careers while at camp, such as providing staff the opportunity to try or shadow different roles at camp throughout the summer, or allowing returning staff to craft a relevant role for them (Richmond et al., 2021; Povilaitis et al., 2021).

The YMCA provides various opportunities to work at day camps and after-school programming, which could all provide experiences to new staff who otherwise may not have had these opportunities without the camp site in South King County.

OUTDOOR EDUCATION

NUTRITION EDUCATION/GARDENING EDUCATION

Across reviews, the literature shows that gardening-based interventions for children are effective at improving nutrition related outcomes, including their nutritional status and fruit and vegetable consumption. Children who contribute to growing food in a garden at any stage in the process are more likely to eat fruits and vegetables, and show higher levels of knowledge about nutrition. Eating fruits and vegetables in childhood is an important predictor of produce consumption in adulthood, which helps prevent or delay chronic disease conditions (Yost & Chawla, 2009). While gardening in early child care, educational, and community settings supports this, evidence is particularly strong in garden-based interventions in home gardens (Skelton et al., 2020), which suggests that gardening programs could be a strong component of parent outdoor education.

The elevated arsenic levels in the soil at Camp Kilworth may be cause for concern, however opportunities for safe gardening practices exist. The Washington State Department of Ecology has a number of recommendations that the YMCA could incorporate. While scientists have linked long-term exposure of arsenic to a variety of health problems, such as heart disease and some forms of cancer, the risk of exposure from eating vegetables grown in arsenic-contaminated soil is low. Arsenic is not absorbed well into skin or fruits and vegetables, and most risk comes from soil being stuck to hands and the outside of produce, and swallowing it accidentally. Short-term arsenic poisoning occurs only when large amounts are ingested, and may result in vomiting, abdominal pain, and diarrhea (Arsenic, 2022). Preventative measures include:

- Wearing gloves and washing hands after gardening
- Washing produce well and peeling before eating
- Placing a new layer of topsoil over existing soil
- Building raised garden beds

Gardening in raised beds or ceramic pots allows the use of new, separately obtained soil. A heavy-duty landscape fabric can be placed on the bottom of the bed for added protection and then separate, uncontaminated soil can be added. Another option is to mix the ground soil with compost or manure, to dilute contamination.

Implementing a vegetable garden program at Camp Kilworth will also provide an opportunity for children to learn about arsenic contamination, its health effects, and how to follow safe and healthy practices.

NATURE EDUCATION

Nature-based education can improve health-related quality of life across various domains, including physical health functioning, emotional health functioning, school functioning, social functioning, and social functioning (Sprague et al., 2020). The American Psychological Association noted nature-based education as a source of improved attention, lower stress, increased mood, reduced risk of psychiatric disorders, and increased empathy.

Environmental stewardship is also cultivated through place-based nature education. At Camp Kilworth, campers will be able to engage with the ecosystems and communities that they're surrounded by, which will cultivate agency, critical thinking, and a sense of responsibility to the earth. This can be achieved through educational programming around forest ecology and the local salmon spawning.

This educational programming can be developed with the science curriculum of Federal Way Public Schools (FWPS) in mind. Due to the YMCA's partnership with FWPS and the schools' use of the camp, they will have opportunities to collaborate with each other and complement each other's work with in- and out- of class learning experiences. Studies have repeatedly shown that hands-on experiences in nature are key for students in developing an emotional connection to nature, as well as improving problem-solving skills, team work, and resilience (Kuo et al., 2019). Collaborating with FWPS to ensure that the curriculum overlaps and complements each other will promote engagement, enthusiasm, and

comprehension for students while they are learning. Nature-based learning is an opportunity to also learn about plant identification and safety. By teaching plant identification, including which plants are safe and which can be poisonous, youths can be empowered to take control of their safety and connect with the environment and build stewardship. There are a variety of edible native plants on the site, including salmonberries, salal, stinging nettle, huckleberries, and Oregon grape, which can be incorporated into the YMCA's programming for youth to gain confidence and understanding of plant identification and safety. There is little evidence that children under the age of five can reliably learn to avoid dangerous plants, so education and empowerment should be focused on older children and teens (Children's Hospital of Philadelphia, 2014).

Nature education will require training of camp counselors or staff, which is an opportunity for staff education and development, or to designate nature specialist roles during the staff hiring process.



Figure 4.2 Image of Camp Terry (Source: YMCA)

LEAVE NO TRACE

The seven principles of Leave No Trace (LNT) as we know them today—plan ahead and prepare, travel and camp on durable surfaces, dispose of waste properly, leave what you find, minimize campfire impacts, respect wildlife, and be considerate to other visitors—were established in 1999 (Cole, 2018). The elements can seem straightforward to people who are familiar with exercising courteous behavior while enjoying nature, but that has not always been the case. Backcountry trash accumulation in the

1960s and 1970s prompted the United States Forest Service, the National Outdoor Leadership School, and the Bureau of Land Management to develop a consistent message regarding conservation practices. The U.S. Forest Service committee named the LNT program, despite concerns that the phrase was misleading (Cole, 2018).

The Camp Kilworth site will utilize appropriate receptacles for composting, recycling, and waste. While the YMCA intends to incorporate the seven LNT principles, and the ways in which waste management positively affects the environment, there are limitations and equity issues to be considered as related to the environmental and educational factors that influence the physical and social aspects of health.

First, LNT is not a holistic consideration of minimizing our impacts to the environment through everyday behavioral changes (Simon & Alagona, 2009). “We come to accept that our urban environments are polluted and seek to escape to the ‘wilderness’ which we aim to keep clean” (Amirault, 2019). Per a 2008 article that was republished in the Outdoor Blueprint, LNT can serve as a form of miseducation, acts as a disconnecting force in which humanity does not belong to the natural environment, and addresses our actions and behaviors only in the wilderness (Moskowitz & Ottey, 2014). The attitudes and behaviors that recreationists are taught to adopt within the frontcountry or backcountry environments are not presented in a way that activates proponents to incorporate them into their everyday lives within the built environment. As such, the guidelines for environmental preservation are not carried over to urban spaces, which can accelerate the effects of climate change in the area and lead to an increase of negative health impacts as discussed in the previous two chapters.

Second, the principles require education to understand them, a privilege that not everyone can easily access (Williams, 2019). Max Peterson, the former Chief of the U.S. Forest Service, stated that “wilderness management is 80-90 percent education and information and 10 percent regulation” (Marion & Reid, 2001). Studies have been conducted which indicate that recreationists who have acquired higher levels of self-reported knowledge of LNT principles were more likely to

implement effective behaviors (Sharp et al., 2018; Coulson et al., 2019). Providing unbalanced access to LNT learning opportunities has the potential to create entitlement on one end of the spectrum—which can act as a barrier to participation for those who are on the receiving side of criticism—and a knowledge gap at the other end—with people who do not understand the ways in which their actions and behaviors affect environmental health. An inequitable distribution of knowledge serves to maintain the status quo, in which society as a whole does not work to reduce the negative impacts done to the environment, which can contribute to negative physical and social health outcomes.

Additionally, the lack of education around LNT can lead to BIPOC recreationists who experience “xenophobia and racism, masked by a self-proclaimed dedication to Leave No Trace ethics” (Buhay, 2020) while camping or on hiking trails, due to an unintentional lack of awareness, or because observers have not understood the cultural traditions held by indigenous peoples. Dana Watts, the executive director for the Leave No Trace Center for Outdoor Ethics explained that LNT principles are based on scientific research and input from land management agencies. She acknowledged that the organization “could do more to loop in indigenous stewards as well as people of color” (Buhay, 2020). The Camp Kilworth site, located on tribal land, is poised to create educational opportunities in partnership with local tribes, to learn about environmental stewardship and connections to health, both for people and the planet. The U.S. Climate Resilience Toolkit (2017) features a short video that describes how climate change and urban developments have negatively affected the lives of the Puyallup Tribal members.

An article that was published in the Outdoor Blueprint encouraged a shift from LNT to “Conscious Impact Living,” which also includes seven principles. This approach “naturally connects our lives back home to our behavior in the wilderness. No longer is repackaging prepackaged food so that we’re carrying less waste into the backcountry the solution, but rather minimizing waste, and disposing of it properly, throughout our urban and wilderness travels becomes a goal” (Moskowitz & Ottey, 2014). The seven principles of Conscious Impact Living (CIL), which incorporate the seven LNT principles, paraphrased from Moskowitz and Ottey, are:

However, many of those skills are easily transferable to everyday living, especially given our society's increased dependence on technology, as well as the persistent presence of the climate change crisis.

There was an increased demand for wilderness survival skills classes during the first stages of the COVID-19 pandemic (Salisbury, 2022), likely due to the opportunities provided by nature for people to physically distance themselves from others. The popularity for classes increased again once they were able to shift from online back to in-person attendance (Salisbury, 2022). Recreational Equipment, Inc., commonly known as REI, hosts a series of classes to teach essential wilderness survival skills. The YMCA intends to partner its Camp Kilworth programs with REI to conduct wilderness first aid and first responder skills classes; the camp provides a combination of indoor and outdoor spaces that are suitable for hands-on learning. Additionally, the camp's location provides an opportunity for residents of South King County to participate, which has not typically been an area within the range of where in-person lessons are held.

There are a variety of skills that can be acquired to prepare for survival in both the built and natural environments. Alderleaf Wilderness College, located in Monroe, Washington, offers an extensive selection of courses, and their website features an "Online Survival Training Readiness" quiz to determine if their Essential Wilderness Survival Skills course is a good fit (Alderleaf Wilderness College, n.d.). The quiz asks participants to describe their motivations, goals, and interests in the wild, which include gaining self-sufficiency, preparing for natural disasters, and navigation skills (see Figures 4.4 and 4.5 below), which are critical to overall health and survival.

The importance of extending those skills to non-wild scenarios has become a logical necessity as the built environment has endured increasingly worse wildfires, droughts, and climate-related disasters. The modern world's dependence on technology means that basic survival skills may be required when electric lights, heat sources, cellphones, and the internet are not available. Aside from technological failures—caused by the weather, downed power lines, or network outages, to name a few examples—people should generally be equipped with basic navigation skills, such as reading a map or using a compass, and basic first aid.

Question 2 of 8

Motivations

What To... (please select all that apply)

- ☐ A Know what to do if I get lost in the wilderness
- ☐ B Identify potential blind-spots in my current survival knowledge
- ☐ C Learn how to build shelters, purify water, and make fire without special gear
- ☐ D Know how to prevent and prepare for survival emergencies
- ☐ E Deepen my connection with nature
- ☐ F Become knowledgeable about the plants and wildlife around me
- ☐ G Learn to identify wild edible plants
- ☐ H Be better prepared for natural disasters
- ☐ I Gain skills to feel self sufficient
- ☐ J Learn skills to help others in a survival situation

Submit

Figure 4.4 Screenshot of the "Online Survival Readiness" quiz
(Source: Alderleaf Wilderness College)

Question 3 of 8

Your Goals & Interests

Let's identify some of the specific skills you're most interested in developing. Please select all that apply.

- ☐ A How to build survival shelters for myself
- ☐ B How to build survival shelters for a group
- ☐ C How to create a survival kit
- ☐ D How to source safe water in the wild
- ☐ E Making fire without matches or a lighter
- ☐ F How to tell which plants are safe to eat
- ☐ G Plant identification skills
- ☐ H What makes a good survival knife
- ☐ I Navigation skills
- ☐ J Other

Submit

Figure 4.5 Screenshot of the "Online Survival Readiness" quiz
(Source: Alderleaf Wilderness College)

PROGRAMMING

AFTER SCHOOL PROGRAMS

There has been a significant rise in demand for after-school programs throughout the years in response to a number of historical, economic, and political factors (de Oliveira Major et al., 2023). Most camp participants come from economically disadvantaged backgrounds with reduced family availability for after-school supervision. While after-school programs provide a social solution for these families, they also aid the attendees' safety, development, health, and well-being.

Research associated with attending an after-school program has found positive changes in attendees' feelings, attitudes, behaviors, and school performances (Durlak et al., 2010). Positive social outcomes include increased social and communication skills with peers, parents, and teachers; positive self-perceptions, including self-confidence, self-esteem, and self-efficacy; and reduced levels of anxiety and depression (de Oliveira Major et al., 2023). After-school attendance has also been associated with a decrease in behavioral problems. Through after-school activities, attendees can learn teamwork and cooperation skills that foster understanding and empathy (Shernoff, 2010). Lastly, attendance in after-school programs can improve academic performance. Research studies have shown that attendees earned higher grades and test scores than non-participants (Cooper et al., 2006; Darling, 2005; Fredricks & Eccles, 2006).

As schools face a shortage of physical activity opportunities for students, including shortened recess and physical education class times, after-school programs present an opportunity to fill a much-needed gap. Research has shown that after-school programs have the potential to support physical activity among children (Riser et al., 2020). Physical activity is important for children's health and development, especially in the motor development of young children. Active play and self-managed activities are essential elements to promote physical activity within after-school programs. Studies have found that training after-school program employees in competence building, among other interventions,

can lead to increased physical activity among participants (Beets et al., 2009; Cradock et al., 2016; Gortmaker et al., 2012; Hughey et al., 2014).

In particular, children from economically and socially disadvantaged backgrounds benefit from attending after-school programs (Woodland, 2014). This is particularly true among vulnerable populations with risk factors for violence, poverty, and academic challenges. Research has shown that after-school programs can have a number of positive outcomes for these populations, including a reduction in vulnerability, risks, and stressors. Therefore, after-school programs can serve as a fruitful and protective resource within a community. The YMCA, which will offer non-licensed after-school care, programs, and classes at the new Camp Kilworth location, can be that resource for the diverse populations of Federal Way and greater South King County. While it would be particularly beneficial to these populations, it can be a bastion for safety, learning, development, health, and wellness for all children who attend the after-school programs. The proposed diverse offering of nature-based activities, classes, and programs should ensure the social, emotional, and physical health benefits of after-school programs.

OUTDOOR RECREATION ACTIVITIES

Literature defines outdoor recreation activities as any leisure activity an individual conducts in a natural setting. This includes the activities that will be offered at Camp Kilworth, such as hiking, day camping, archery, and climbing. While outdoor recreation activities may range in intensity, they are well-documented as an important aspect of a healthy lifestyle (Nielsen, 2021). Conducting these activities in nature and participating in physical activity offers the participant many physical and mental health benefits. With the rise in sedentary lifestyles and a growing disconnect with nature, outdoor recreation activities remain a critical opportunity for exposure to nature and physical activity especially for older adults and children.

Studies have shown that being in a green environment positively affects stress levels. According to the American Institute of Stress (2023), acute and chronic stress continues to plague US adults, 43% of whom experience adverse health impacts. Stress puts them more at risk for

the common cold, heart attack, and cancer. This is particularly problematic for older adults due to the adverse effects of aging. Pediatricians also have a growing concern about children's stress levels due to increased school workloads and extracurricular activities (McCurdy et al., 2010). This makes the rejuvenating effects of being in a natural environment all the more critical for older adults and children's physical and mental health.

Outdoor recreation activities also positively impact health through increased levels of physical activity (Boyadjiev et al., 2021). The U.S. Department of Health and Human Services (DHHS) states that regular physical activity helps build and maintain healthy bones and muscles, reduces the risk of obesity and chronic diseases such as diabetes and cardiovascular disease, reduces feelings of depression and anxiety, and promotes psychological well-being. Due to the increase in sedentary lifestyles among children, there has been an increase in childhood chronic conditions such as childhood obesity, asthma, attention-deficit/hyperactivity disorder (ADHD), and vitamin D deficiency (McCurdy et al., 2010). The integration of technology into the lives of children from a young age has further decreased levels of physical activity and led to a disconnect with nature. However, outdoor recreation activities have the opportunity to mediate the negative physical and mental health impacts of our increasingly technologically-dependent world.

As a result of COVID-19, there has been an upward trend in outdoor recreation participation. More than half of US adults are now participating in outdoor recreation activities, with about 20% of those who became new to outdoor activities during the pandemic (Wagner, 2022). While this is quite a positive statistic for environmental health, 13% also ceased participation in outdoor activities during this time. Among that 13% was a significantly more diverse and lower income population primarily residing in urban areas. This is a concerning statistic considering the structural impacts of racism and oppression on outdoor recreation participation for communities of color (Thomas & Thomas, 2022). As climate change continues to impact these communities disproportionately, it is increasingly vital that BIPOC youth have access to nature and gain the knowledge required to become environmental leaders in their community.

The YMCA will have the opportunity to provide access to nature and its educational opportunities to BIPOC communities through outdoor recreation activities like hiking and camping. These activities will be open to the general public and help recover the 13% that ceased participating in outdoor activities during the pandemic. This will be a significantly impactful opportunity for the diverse populations of Federal Way and South King County. Other outdoor recreation activities like archery and climbing offered by Camp Kilworth through day camps, summer camps, and after-school programs will be another significant opportunity to improve local children's physical and mental health through increased physical activity and exposure to nature.



Figure 4.6 Image of kids playing outside at Camp Terry (Source: YMCA)

RECOMMENDATIONS

PRIORITY RECOMMENDATION: THE YMCA LEADERS SHOULD CONSIDER PROVIDING OPPORTUNITIES FOR CAMP COUNSELORS/ STAFF TO SHADOW LEADERSHIP ROLES THAT MAY PERTAIN TO DIFFERENT FUTURE CAREERS IN ORDER TO PROVIDE RELEVANT SKILLS FOR FUTURE JOB SEARCHING.

Especially if pulling staff from South King County where the opportunities may otherwise not be available to emerging adults, the camp can provide various experiences for job crafting (such as social media, event planning, etc.), and use the job crafting to expand on the organization's current diversity and inclusion programs to provide opportunities to BIPOC counselors, which could allow for spaces that encourage more diverse campers.

OTHER RECOMMENDATIONS

THE YMCA SHOULD CONSIDER ONSITE VEGETABLE GARDENING EDUCATION AND PROGRAMMING.

There is great potential at Camp Kilworth, both for students during the school year, and for campers during the summer, who could contribute to different stages of the growing and harvesting processes. Several staff members, the exact number of which could be determined by the YMCA, would be needed to support onsite gardening. The YMCA has existing partnerships with organizations like the Tilth Alliance that provide experiential learning opportunities for young people to grow and cook healthy foods, and this may be an appropriate partnership to continue at Camp Kilworth.

THE YMCA PROGRAM STAFF AT CAMP KILWORTH SHOULD CONSIDER DEVELOPING AND IMPLEMENTING A CURRICULUM RELATED TO PLACE-BASED NATURE, INCLUDING SALMON SPAWNING, FOREST ECOLOGY, AND PLANT IDENTIFICATION, WHICH NOT ONLY HAS SAFETY BENEFITS, BUT IMPROVES HEALTH RELATED QUALITIES OF LIFE AND PROVIDES CAMPERS WITH A FOUNDATION FOR ENVIRONMENTAL STEWARDSHIP.

The YMCA should collaborate with Federal Way Public Schools to ensure the programming

complements the curricula used in the schools. This would require staff training or specialty hiring, which is a financial cost to consider. There may be some additional minor costs associated with this programming, including exposure to plants, such as nettles that may cause temporary discomfort, which can be mitigated through continuous education, however, the benefits of the programming remain clear.

THE YMCA SHOULD CONSIDER DEVELOPING A PLAN TO INCORPORATE THE COMPONENTS OF LNT WITHIN THE NATURAL ENVIRONMENT, THE CONSCIOUS IMPACT LIVING ELEMENTS FOR THE BUILT ENVIRONMENT, AND SURVIVAL SKILLS WITHIN BOTH THE BUILT AND NATURAL ENVIRONMENTS INTO THEIR OVERALL EDUCATIONAL APPROACH, AND FORTERRA SHOULD CONSIDER INTEGRATING THE LNT AND CIL PRINCIPLES INTO EACH PHASE OF THE REDEVELOPMENT PLANS FOR THE SITE.

Studies have shown a positive statistical relationship between knowledge of Leave No Trace and self-reported behaviors that align with those principles (Sharp et al., 2018). For the YMCA, this can include the creation of a mission statement specifically for Camp Kilworth to demonstrate a commitment to environmental sustainability, and through actions on the part of YMCA staff to discuss topics such as "think globally, act locally," the consideration of product life cycles (e.g., which outdoor gear is suitable to acquire second hand versus that which should always be purchased new or replaced for safety), and how wilderness skills can be utilized or transferred to daily living. Additionally, the YMCA should continue to be active in providing opportunities for clean up efforts, trail maintenance, and rehabilitation projects in the South King County area after Camp Kilworth is established to reinforce LNT and CIL actions and behaviors (Marion et al., 2011).

WE RECOMMEND THAT THE YMCA STAFF CONSIDER ENGAGING WITH LOCAL BIPOC COMMUNITY GROUPS (E.G., THE FEDERAL WAY BLACK COLLECTIVE) TO ESTABLISH TRUST WITH CAREGIVERS AND CREATE A SAFE DIALOGUE WITH THEIR CHILDREN TO INCREASE THEIR PARTICIPATION IN CAMP KILWORTH'S OUTDOOR RECREATION ACTIVITIES, INCLUDING FAMILY CAMPING, SUMMER CAMPS, AND DAY CAMPS.

Additionally, the YMCA should make connections with diverse groups of adolescents from disadvantaged backgrounds in Federal Way and South King County to bolster the benefits of after-school program attendance throughout the community. The after-school programs should provide clear and explicit goals and implement age-appropriate activities and challenging content to promote positive development, learning, social, and health outcomes. The YMCA should foster a positive and safe after-school environment through adequate materials and facilities and trained staff that are well-prepared, culturally competent, and reflective of the student population's background.



INTRODUCTION

As an outdoor day camp, Camp Kilworth will become a place where community relationships and economical opportunities are created and strengthened. This chapter will explore the camp's relationships with different organizations and communities, and propose recommendations to enhance the visitor experience and connection to Camp Kilworth.

The first section of this chapter will focus on the historical and cultural preservation of Camp Kilworth. First, it will first examine the relationship between the property and the ancestral land of the Puyallup Tribe and its people, past and present. It will also highlight the significance of the commitment to tribal heritage, culture, and partnership within the context of the project or initiative under consideration. Second, the section will examine how the community came together to protect and preserve Camp Kilworth.

The second section of this chapter will focus on the benefits of Camp Kilworth to the communities living in Federal Way. The camp's capability to host other organizations during off-day camp hours may be used as a platform to benefit local organizations' need for space, saving resources, increasing organization's programming capabilities, and fostering community relationships. It will also lay out creative approaches for Camp Kilworth to elevate the visitor experience, facilitate more awareness about the Puyallup tribe, and understand Camp Kilworth's history.

CONNECTION TO HEALTH

Environmental justice is defined as the *"the fair treatment and meaningful involvement of all people regardless of race, color, national origin, or income with respect to the development, implementation and enforcement of environmental laws, regulations and policies"* (U.S. EPA, 2022). The U.S. Environmental Protection Agency states that meaningful involvement requires (U.S. EPA, 2022):

- People having the opportunity to participate in decisions about activities that may affect their environment and/or health
- The public's contribution influencing an agency's decision
- Community considerations strongly considered in the decision-making process
- Decision makers ensuring the involvement of those potentially affected

Eliminating environmental health inequities involves the engagement of all individuals, communities, and sectors. In developing new and equitable solutions to environmental health inequities, it is necessary to incorporate other perspectives and acknowledge the work that underrepresented communities have been doing in this area. There are seventeen principles that inform the environmental justice movement. The eleventh environmental justice principle explicitly states that tribal sovereignty and self-determination must be recognized from previously signed treaties, agreements, compacts, and covenants (Environmental Justice & Environmental Racism – Greenaction for Health and Environmental Justice, n.d.).



Figure 5.1 Image of hands around the world (Source: rti.org)

To indigenous communities, a strong connection to nature is an important value and it translates into how they believe it impacts their health and wellbeing. In a study with Hatala et al. (2020), indigenous youth living in urbanized parts of Canada found nature to be a calming place, increased their resilience during difficult times, and provided a sense of hope for the future. The results from this study aligned with indigenous communities' perspective that relationships with nature enhances overall health, resilience, and well-being; improves self-esteem and self-efficacy, increases consumption of traditional foods; fosters intergenerational relationships; reduces psychological distress; and strengthens cultural identity and belonging (Hatala et al., 2020).

As the YMCA moves forward in redeveloping the Camp Kilworth site, adopting the indigenous communities' perspectives about nature and integrating them into comprehensive and holistic metrics and measures will provide more meaningful insights on the short- and long-term health impacts that Camp Kilworth will have on the communities living in Federal Way.

HISTORICAL AND CULTURAL PRESERVATION

ANCESTRAL LAND AND CULTURAL IDENTITY

The Puyallup Tribe has a deep historical and cultural connection to the land on which the project is located; thus, the involvement of the Puyallup Tribe as a collaborator in the Camp Kilworth project holds significant importance due to their ancestral ownership of the land. The Puyallup Tribe, known

as the *spuyaləpabš* in their Lushootseed language, translates to "people from the bend at the bottom of the river." This name refers to the scattered villages that spanned from the mouth of the Puyallup River to the Tacoma Dome area (Puyallup Tribe of Indians, n.d.). Traditionally, the Puyallup Tribe has relied on the land for sustenance, cultural practices, and spiritual beliefs. Their traditional way of life encompassed fishing, hunting, and gathering activities, which were deeply intertwined with the natural environment (Puyallup Tribe of Indians, n.d.). These activities not only ensured physical sustenance but also played a central role in their ceremonies and cultural traditions.



Figure 5.2 Puyallup Tribe logo (Source: puyallup-tribe.com)

HISTORICAL CHALLENGES AND RESILIENCE

The arrival of European settlers brought significant changes to the Puyallup Tribe's community. Explorers like Captain Vancouver and Lieutenant Peter Puget traversed the region in the late 18th century, and renamed many local sites that were already known by their traditional Lushootseed names (Puyallup Tribe of Indians, n.d.). This period marked the beginning of a broader transformation as the U.S. government asserted its influence in the region.

With the establishment of the Hudson's Bay Company's trading post and the subsequent territorial status of Washington in the mid-19th century, the Puyallup Tribe faced increasing pressures from non-Native settlers encroaching on their lands (Puyallup Tribe of Indians, n.d.). Forced relocation, loss of traditional territories, and suppression of cultural practices became harsh realities for the Tribe. The Medicine Creek Treaty of 1854 further impacted the Puyallup Tribe. During this negotiation, tribal

representatives, often without fluency in English, signed documents that resulted in the creation of reservations, including the Puyallup Reservation (Puyallup Tribe of Indians, n.d.). The treaties, while providing a land base, were often the result of miscommunication, coercion, and abuse of power.



"Treaty between the United States and the Nisqualli, Puyallup and Other Indians at Medicine Creek, Washington." 1854. First page, recto and verso. National Archives, Washington, D.C.

Figure 5.3 Treaty between the United States and the Nisqualli, Puyallup and Other Indians at Medicine Creek, Washington, 1854 (Source: Smithsonian Magazine 2017)

In response to continued injustices, the Puyallup Tribe and other Washington Territory tribes engaged in the Treaty Wars between 1855 and 1856. These conflicts arose from the encroachment, mistreatment, and even violence inflicted upon tribal communities by new settlers (Puyallup Tribe of Indians, n.d.). The tribes united in solidarity to protect their rights, lands, and cultural heritage.



Figure 5.4 Washington State Tribal Reservations and Draft Treaty Ceded Areas (Source: Governor's Office of Indian Affairs, 2010)

TRIBAL RIGHTS ADVOCACY AND LAND SETTLEMENT

It is crucial to understand the concept of tribal sovereignty and the principle of self-determination to establish a foundation for positive tribal-non-tribal relationships, as well as to begin to mediate historical harm. Tribal sovereignty recognizes tribes as independent political entities with inherent powers to govern their own affairs, make decisions, and protect their interests (National Congress of American Indians, 2020). Respect for tribal sovereignty is fundamental to building meaningful relationships and ensuring the inclusion of tribal perspectives in the decision-making process.

Over the past 160 years, the Puyallup Tribe has advocated for their rights as a sovereign body. Their elders played pivotal roles in the struggle for tribal fishing rights, which culminated in the landmark Boldt Decision of 1974, an affirmation of the Tribe's treaty-protected fishing rights (Puyallup Tribe of Indians, n.d.). The Tribe's political influence grew with the 1990 Land Claims Settlement, a significant agreement reached between the Puyallup Tribe, local governments, Washington state, and the U.S. government (Puyallup Tribe of Indians, n.d.). This settlement acknowledged and addressed historical injustices, facilitating improved relationships and cooperation between the Tribe and external stakeholders.

Thus, it is important that those who currently occupy the land undertake the responsibility to partner with the Puyallup Tribe to provide access to the property for cultural use. Forterra, as property owners, have already codified this in their lease agreement with the YMCA. It commits the lessee (the YMCA) to collaborate with the Puyallup Tribe to provide access for cultural use of the property, granting scheduling priority outside of regular YMCA Day Camp and Environmental Education programs. Additionally, the YMCA is obligated to partner with the Puyallup Tribe in developing educational curriculum, signage, facility improvements, and program materials that authentically acknowledge and incorporate tribal heritage, culture, and partnership. This commitment aims to prioritize the Puyallup Tribe's cultural needs and allow them to maintain and strengthen their connection to the land.

History connects the dots of our identity, and our identity was all but obliterated. Our land was taken, our language was forbidden. Our stories, our history, were almost forgotten. What land, language, and identity remains is derived from our cultural and historic sites. . . . Sites of cultural and historic significance are important to us because they are a spiritual connection to our ancestors. Even if we do not have access to all such sites, their existence perpetuates the connection. When such a site is destroyed, the connection is lost.

—Chairman Dave Archambault, II, Standing Rock Sioux Tribe.

Figure 5.5 Environmental Justice and Tribal Sovereignty: Lessons from Standing Rock, (Source: The Yale Law Journal, 2018)

ACCESS FOR CULTURAL USE

The YMCA has already agreed that the Puyallup Tribe will have first priority in scheduling cultural activities and events, excluding regular Day Camp and Environmental Education programs. This commitment aims to prioritize the Puyallup Tribe's cultural needs and allow them to maintain and strengthen their connection to the land.

KILWORTH ENVIRONMENTAL EDUCATION PRESERVE (KEEP)

In May of 2019, the Pacific Harbor Council – Boy Scouts of America returned Camp Kilworth to the William and Florence Kilworth Foundation. In that same year, Friends of Camp Kilworth, a group of community members and advocates, renamed themselves to Kilworth Environmental Education Preserve (KEEP). As KEEP, this group has continually worked to keep the camp as a natural open space and to increase access for the youth in the Greater Federal Way community.

In 2020, KEEP became a non-profit with 501(c)(3) status and has connected with many local and state elected officials, parks and recreation agencies, conservation groups, historic preservation advocates, and funders to continue pushing the work forward of preserving Camp Kilworth (KEEP, n.d.). Since establishing itself as a non-profit organization, KEEP has developed partnerships with Forterra, a local land conservation non-profit organization, and the YMCA of Greater Seattle.

In 2021, 4Culture awarded KEEP a \$4800 grant to support its work in landmarking and preservation (4Culture, 2019). The Washington Trust for Historic Preservation also awarded KEEP, in 2022, a Sivinski grant to support historic preservation planning for the Camp (Valerie Sivinski Fund, n.d.; Washington Trust for Historic Preservation, 2022).



Figure 5.6 Kilworth Environmental Education Preserve (KEEP) logo (Source: kilworthpreserve.org)

EXISTING CONDITIONS

RENTING SPACES AT CAMP KILWORTH

Currently available event spaces for local organizations to use include the Federal Way community center (Town Square Park, Steel Lake Park picnic areas), Federal Way district facilities, and private venues. Such venues often have restraints that make it difficult for organizations to access for hosting large events, programming, and meeting spaces, including competitive scheduling with other users, operating hours of the facility, party size, desired event type, indoor/outdoor accommodations, and fees for usage.

This is especially challenging considering that organizations are limited by their physical space and finances when it comes to renting spaces and programming. Camp Kilworth is in a unique position to assist with this issue. Annually, at least three weekends are available to the public for recreational purposes. The Rotary Lodge and amphitheater will be available for the public to use and the grounds have a large amount of planned maintained space, indoor and outdoor amenities, and the ability to host adults and children.

HOW PUBLIC SPACES BENEFIT SURROUNDING GROUPS

Cost and resource savings: By sharing the Camp Kilworth space and amenities with the public, multiple organizations can save on the costs associated with renting, maintaining, and managing their own dedicated spaces. This enables organizations to allocate their resources more effectively towards their core programs and services. However, Camp Kilworth may need to charge organizations a fee for using the space, which would go towards the camp's maintenance cost for the space.

Networking and joint events: Sharing public spaces and forming organization partnerships encourages collaboration and networking among community organizations. They can work together to achieve similar goals by combining resources (labor and transportation) and organizing large-scale events (community gatherings or cultural festivals) that would be more cumbersome and less impactful than if each organization operated individually. This fosters a sense of unity, belonging, and engagement among different organizations and community members.

Knowledge exchange: Partnerships foster collaboration and knowledge exchange among organizations. By working together, organizations can learn from each other's experiences, share best practices, and innovate collectively. This collaboration promotes continuous learning, improvement, and the development of new approaches to address community needs more effectively. For example, by having external organizations partner with the YMCA and Camp Kilworth more community organizations that represent non-majority populations can learn about resources the YMCA provides including job training, General Educational Development (GED) test preparation, connections to counseling services, and disability wellness programs.

NEIGHBORING ORGANIZATIONS

The following organizations of Federal Way can assist in networking to find interested potential partners or benefit from a partnership around sharing resources to serve the larger community (Adriano, 2020).

- **Federal Way Public Schools:** The school district can advocate for youth well-being and interests, and local schools' interest in utilizing public spaces for outdoor activities that could not otherwise be completed within the school grounds.
- **Local government agencies:** Agencies can identify additional stakeholders within the community and provide feedback on residents' values and feedback on local initiatives.
 - Examples include: Federal Way City Hall, Federal Way City Council, Federal Way Youth Commission.
- **Religious and faith-based organizations:** These organizations, representing different religious affiliations and denominations, often serve as hubs for community outreach and advocacy for members of their congregation and vicinity.
- **Federal Way Chamber of Commerce:** They can work with Camp Kilworth to network and identify local businesses who provide relevant services to the camp.
- **Healthcare centers:** They often pair with public spaces to host larger health promoting events which increase disease awareness, connect individuals to medical care resources, and use outdoor space to facilitate group therapy workshops and exercises that cannot be done inside standard clinics.
 - Examples include: Sound Mental Health and Navos Behavioral Health Solutions
- **Nonprofits:** Federal Way is home to numerous nonprofit organizations that address a wide range of community needs, such as social services, education, health, and advocacy. Camp Kilworth's partnership with these organizations can lend space and resources to increase each organization's impact and enhance their event programming.
 - Examples include: Multi-Service Center, Federal Way Community Caregiving Network, United Way, Federal Way Youth Action Team, Big Brothers Big Sisters, and Boys & Girls Club of Federal Way.

- **Community-based organizations:** According to the Camp Kilworth lease agreement component, commitment to Providing Public Use Benefits, there will be dedicated time set aside for BIPOC, immigrant, Refugee, and Tribal communities to use the Rotary Lodge and amphitheater.
 - Some examples of organizations Camp Kilworth can partner with to serve these communities are OneAmerica, New Citizen Campaign, Refugee Women's Alliance, the Puyallup Tribe, Asian Counseling and Referral Service, El Centro de la Raza, and the Urban league of Metropolitan Seattle.

SUPPORTING THE LOCAL ECONOMY

Within the City of Federal Way, there is currently a 3.7% unemployment rate (Greater Federal Way Chamber of Commerce, 2023) and 66% of the population makes up the eligible labor force (aged 16+, includes employed and unemployed) (United States Census Bureau QuickFacts, n.d.). According to the YMCA's Director of Facilities, there will be about 20 full time employees once the camp is in full operation. The hourly wages will range between \$19-\$24 an hour for entry level positions. There are a variety of full time, part time and seasonal positions through the YMCA for summer camps. These positions include:

- Lead Camp Counselor
- Summer Camp Day Camp Counselor
- Outdoor Environmental Education Program Coordinator
- Summer Camp Cabin Counselor
- Health Aide
- Cook
- Archery Program Counselor
- Camp Supervisor
- Maintenance Assistant
- Outdoor Day Camp Counselor (Part-Time)

The seasonal nature of the counselor positions aligns with the availability of young adults' academic schedules throughout the summer months. The short-term positions serve well as internships, work experiences for career development, and continued education outside of academic settings. Specifically, these opportunities are useful for career

development related to counseling, education/teaching, program coordination and development, and physical education. These opportunities will help build skill sets related to working with children, advocacy, and community service.

There are universities and colleges in Washington, such as Central Washington University and Bellevue College, which offer educational degrees programs or certificates in counseling and outdoor recreation, so there is a vested local interest in immediate work experience relevant to roles within Camp Kilworth. With the increase in employment opportunities comes the availability of employment benefits such as health insurance, even for part-time workers. This helps address the 9.7% uninsured rate for people under the age of 65 (United States Census Bureau QuickFacts, n.d.). Nonprofit employers often have the benefits of healthcare insurance and retirement savings plan, employee assistance programs (EAPs), life insurance, and time off.

As with any community, there are a number of local businesses in a variety of sizes that offer a range of services and goods. For events and other gatherings, local Federal Way restaurants could be used to provide catering, such as Mi Bella Honduras, Azteca Mexican Restaurant, and Vince's Italian Restaurant & Pizzeria. The YMCA may already have a set contract with maintenance and facility services. However, for services that fall outside their in-house expertise and do not have a policy for said service, local options, such as JC Plumbing, can be considered.

VOLUNTEERING AND COMMUNITY SERVICE

Volunteering facilitates a sense of social belonging within a community. It also creates an excellent opportunity for individuals to network with others in their field or project of interest. During off-peak seasons, the Federal Way community can come together to help with maintenance efforts such as tackling overgrowth, pulling weeds, and picking up garbage. This can be organized by neighbors, an organization like the Washington State Historic Preservation Society.

The YMCA runs an extensive volunteering program in three focus areas of youth development,

healthy living, and social responsibility. Within the youth-related volunteerships, there is support for basketball, soccer, birthday parties, camps, cooking classes, and more. It is likely that some of the volunteers will be directed to Camp Kilworth and would be vetted before working with children.

Outdoor-focused organizations like REI could be involved in different areas at Camp Kilworth to provide field trip opportunities (e.g., to a rock climbing gym). The YMCA of Greater Seattle's official partners webpage has a list of organizations that entail Big Brothers Big Sisters, Diversity in the Outdoors, Hopelink, and King County to name a few (YMCA Partnerships & Collaborations, n.d.). Some of these organizations can provide financial support to camp goers and/or donations to Camp Kilworth for site features and so forth. Moreover, employees at these organizations and future partners could provide training to staff and leadership as well as fund events or other camp related activities.



Figure 5.7 Volunteering Heart Word Cloud (Source: hr.uw.edu)

MAXIMIZING COMMUNITIES' CONNECTION WITH NATURE

In a society that has become increasingly busy with their work and personal lives, it can be difficult to disconnect from the daily routine and be fully present when experiencing nature. It is important for the YMCA to incorporate creative/innovative approaches to maximize communities' connections to nature when onsite. While it is important to foster a space for communities to disconnect from everyday life and technology, there are also opportunities to utilize technology to enhance communities' connections with nature.

In many arts and cultural spaces, multimedia guide devices are often used for self-guided or group tours. These devices can be used to communicate information in different languages and accommodate for those with visual or auditory impairments. Multimedia guides can support a more interactive and engaging experience at a site depending on how content is curated and presented on the device. In a study conducted by Petrie et al. (2017), visitors reported that, with a smartphone guide, they had a more positive experience, learned more about Holy Trinity, Stratford-upon-Avon: Shakespeare's church, and spent a significantly longer time during their visit than with a paper guide.

In 2016, the Mount Diablo Interpretive Association (MDIA), a non-profit, all-volunteer organization that supports Mount Diablo State Park, added a multimedia guide to its audio tour for one of their hiking trails called the Trail Through Time (Morales, 2016). The multimedia guide explores 190 million years of Mount Diablo's geologic history through videos and is narrated by an MDIA naturalist (Morales, 2016). The guide informs visitors about various topics about the mountain at 19 stops along the six mile trail route. At this time, usage of multimedia guide devices have not been considered for Camp Kilworth.

RECOMMENDATIONS

PRIORITY RECOMMENDATION: FORTERRA AND THE YMCA SHOULD CONSIDER ESTABLISHING A FORMAL TRIBAL LIAISON POSITION WITH THE PUYALLUP TRIBE.

The commitment to tribal heritage, culture, and partnership holds significant importance for Camp Kilworth. By recognizing the ancestral land of the Puyallup Tribe and engaging in meaningful collaboration, the YMCA and Forterra should consider promoting cultural understanding, respect, and appreciation. Active empowerment of the Puyallup Tribe in the planning and implementation of these elements will help promote and reinforce cultural understanding, respect, and appreciation among all users of the property.

This position would serve as a point of contact between the project stakeholders and the Puyallup Tribe, facilitating ongoing communication, collaboration, and the implementation of tribal cultural considerations. Establishing this position will allow the project's cultural impact to be sustained, benefiting both the Puyallup Tribe and the broader community.

Organizations such as UnitedHealth Group, U.S. Department of Energy, CHOICE Regional Health Network (Olympia), U.S. Federal Emergency Management Agency, PacifiCorp, and CareOregon have similar roles titled Tribal Relations Strategist, Tribal Relations Specialist, or Tribal Liaison Representative.

Before a liaison position is created, YMCA and Forterra should consider committing to active collaboration with the Puyallup Tribe, in which the Tribe should be asked directly to assist in the development of culturally appropriate educational initiatives. This may include cultural awareness training for staff and visitors, workshops, and other events that highlight the significance of the Puyallup Tribe's heritage and culture.

Based on jobs with similar titles, the responsibilities may include:

- Serving as a primary point of contact for Tribes, external agencies, and community organizations, facilitating communication and collaboration between them and the YMCA.
- Building and maintaining strong relationships with Tribal partners, state agencies, and other relevant organizations, aligning work with the priorities and needs of Tribes and the local community.
- Attending and actively participating in meetings related to Tribal initiatives, representing the YMCA and advising on relevant projects.
- Developing project plans aligned with Tribes' and community's priorities, supporting educational programs and initiatives.
- Coordinating with Tribal Affairs offices to ensure proper planning, reporting, and coordination of efforts.
- Representing the YMCA at meetings, forums, and conferences related to Tribal and community engagement.

- Advising leadership on funding for special projects, managing grant processes, and making recommendations for the development and implementation of processes and protocols.
- Planning and participating in education and awareness events for community members.
- Analyzing data to determine opportunities for education and track activities in a reporting database.
- Serving as a valuable resource both internally and externally, identifying innovative ways to engage and meet the needs of underserved populations.
- Receiving ongoing training on Tribal history, sovereignty, and customs, and sharing lessons learned to increase awareness and understanding across the organization.
- Supporting diversity, equity, and inclusion initiatives and apply an equity framework to ensure representation and understanding of community interests.
- Maintaining regular communication with tribal partners, providing updates on engagement activities and coordinating agreements and work plans.
- Fostering relationship-driven approaches, teamwork, and collaboration with staff, stakeholders, and partners.

To ensure a lasting and continued relationship, the YMCA and Forterra should consider exploring different methods to acknowledge the Puyallup Tribe's historical and ongoing connections to the land.

OTHER RECOMMENDATIONS

In addition to the priority recommendation above, the YMCA and Forterra should also consider incorporating the recommendations listed below to enhance the visitor experience and foster strong connections to Camp Kilworth.

ESTABLISH AN ADVISORY COMMITTEE:

The first step to developing partnerships between Camp Kilworth and neighboring organizations is to identify which organizations would be interested in pursuing such engagements..

- The YMCA's Camp Kilworth leadership team would benefit from an advisory committee formed by stakeholder representatives who

were involved in establishing the camp, are carrying out similar YMCA camp operations, and represent local youth and the Puyallup Tribe. This advisory board should help identify additional community stakeholders who would be interested in forming partnerships with Camp Kilworth.

USE DIFFERENT METHODS TO COMMUNICATE VOLUNTEER OPPORTUNITIES:

Make volunteering opportunities accessible by sharing informational material about the YMCA's volunteering program via bulletin board posters and flyers, staff, teachers in the district and newsletter emails among community members, high school students, and families of the children attending the camp.

- The camp can directly share materials about other YMCA programs and opportunities to get involved in the community at each hosted event and with every child who attends the day camp, as an alternative to a physical information hub or bulletin board. For example, the YMCA's Social Impacts Center provides wraparound services including shelter, counseling, employment training, educational support, and suicide prevention for all ages (YMCA of Greater Seattle, n.d.). Parents, neighbors and community members should consider organizing service days for pulling weeds, managing overgrowth, trash pickup, and food and/or clothing drives, especially during off peak season.

INCORPORATE TECHNOLOGY INTO THE CAMP KILWORTH EXPERIENCE:

The YMCA and Forterra should consider creating a self-guided or group tour using multimedia guide devices or a phone app. This approach would allow visitors of all ages, abilities, and backgrounds to learn more about the history of Camp Kilworth and the Puyallup Tribe, as well as remove additional barriers for individuals who feel daunted by engaging with nature.

- Per the Washington Trust for Historic Preservation website, funds from the Sivinski grant can be used for direct preservation/rehabilitation projects, or for planning, research, education, and advocacy projects that raise support for a historic or cultural place related to the histories of marginalized or

underrepresented communities. The funds that Camp Kilworth received from this grant could be used to purchase multimedia guide devices or develop an app that visitors could download.

- Stakeholders could develop content for the multimedia guide devices in collaboration with the YMCA and Forterra. Those involved in content development should ensure that information is appropriate for different age groups and audiences.
- Alternatively, the YMCA could consider placing signs throughout the camp with information about the camp's history and the Puyallup Tribe. Signage to represent the history and culture of the land can provide a cost-effective and visually appealing alternative to devices.

Camp Kilworth has the opportunity to transform the lives of those living in Federal Way and in the surrounding area. Although Camp Kilworth primarily serves and focuses on the youth, the camp's site will be impactful to individuals, families, and larger communities. Forterra and the YMCA of Greater Seattle have an opportunity to address social determinants of health and other negative health outcomes that are associated with inequities while ensuring that Camp Kilworth is able to be accessible to as many people as possible.

Through its outdoor programming, Camp Kilworth will improve the health and wellbeing of youth and families by adding recreational spaces to facilitate increased physical activity, providing families with options for child care, supporting healthy eating and nutrition, fostering positive relationships with the outdoors, reducing barriers to accessing green spaces, and developing youth leaders. Positive, high quality experiences at Camp Kilworth may lead to improvements in other parts of people's lives, as mentioned in Chapter 4.

Redeveloping Camp Kilworth will be beneficial to visitors, as well as the entire ecosystem. As mentioned in Chapter 2, a comprehensive and well-designed forest management plan can enhance the assets of natural resources, reduce hazards and degradation, and ensure the sustainability and vitality of an ecosystem for years to come.

In order for the impact of Camp Kilworth to persist across time and generations, the YMCA and Forterra need to continue acquiring multi-year grants and strengthening community partnerships.

LIMITATIONS

One of the major limitations for this HIA was time. The ten-week timeframe to collaboratively complete the steps of the HIA required a rapid process. The class had three opportunities to connect and speak with representatives from the YMCA and Forterra in person, which included one in-person site visit; there were limited amounts of information and perspectives that could be gathered about the state

of the camp through those avenues. Additionally, because the project's redevelopment has not yet begun, the community collaborations that the YMCA have planned (e.g., with the Puyallup Tribe) are not yet established; the team was unable to perform an in-depth partnership assessment to determine how the value and benefits of Camp Kilworth will be received by communities in the area.

MONITORING AND EVALUATION

In Chapter 5, it was mentioned that indigenous communities perceive relationships with nature to enhance overall health, resilience, and wellbeing; improve self-esteem and self-efficacy, increase consumption of traditional foods; foster intergenerational relationships; reduce psychological distress; and strengthen cultural identity and belonging (Hatala et al, 2020). If the YMCA and Forterra choose to implement the recommendations provided in this HIA, developing metrics and measures that integrate the perspectives of the local indigenous peoples will provide deeper insights on how the establishment of Camp Kilworth led to improved health outcomes and increased equity for the youth and communities living in Federal Way over time.

Prior to implementing any of the recommendations, the YMCA, Forterra, and other relevant stakeholders should discuss and create a monitoring and evaluation plan that tracks both processes and outcomes. While the evaluation frequency may vary, the timeline for the first evaluation should be at one year post-implementation. After the first year of the camp's operation, the impact on the social determinants of health, as well as non-health related factors, may be able to provide data for the YMCA and Forterra to collect.

DISSEMINATION AND REPORTING

To foster transparency and accountability, it is important for the YMCA and Forterra to continue providing updates about the camp's redevelopment and subsequent operations through quarterly progress reports and an annual report. Providing these reports will help stakeholders—such as the Puyallup Tribe, the Federal Way Public Schools, and local community-based organizations—stay connected on the timeline, as well as provide clarity on how the camp is improving health outcomes of the communities living in Federal Way and the surrounding area. The YMCA and Forterra can use multilingual, multimedia formats for the reports in order to ensure effective communication with the diverse communities around the Camp Kilworth redevelopment site.

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