

## ***OUTDOOR RECREATION AND ITS IMPACT ON HEALTH OUTCOMES***

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### **Executive Summary**

Access to outdoor recreation can have a significant positive impact on health outcomes for people including their physical, cognitive, and mental health. Numerous studies highlight the growing body of evidence that shows many health benefits in these areas. The behavioral health benefits in particular have been highlighted during the COVID-19 pandemic, especially for children and youth who were faced with social isolation due to online learning.

Despite the clear benefits of accessing outdoor recreation, there are still many barriers that hinder access, both at the individual level and systemic level:

- At the individual level, barriers include cost of entry, lack of transportation, access to outdoor equipment, time to research places to go, and access to information (especially translated to different languages).
- At the systemic level, the drastic increase in the number of people getting outside and insufficient funding has led to challenges with ongoing maintenance and operations, making some spaces difficult or even unpleasant to access (e.g. long lines, overcrowded spaces, overfilled garbage and toilets, poor road access, reliance on reservation and permit systems (not everyone is able to plan to take time off in advance), lack of signage – especially for people who speak other languages, etc.).

In additions to the broad barriers listed above, there are also significant racial disparities with access to and engagement in outdoor recreation. Historic segregation, racism, and economic inequality, are among the factors that have contributed to the “diversity gap” in nature-based outdoor recreational activities.<sup>1</sup>

While state investments in outdoor recreation have been building in recent years, it has still not been sufficient to address the barriers and challenges outlined above.

This policy brief provides an overview of the health benefits of outdoor recreation (physical, behavioral, and cognitive health); a discussion of barriers to accessing outdoor recreation, including systemic issues resulting in racial disparities with accessing outdoor recreation; and highlights of some of the progress that has been made in recent years to start addressing these barriers.

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<sup>1</sup>The Deep Roots of Outdoor Recreation’s Diversity Gap. Mother Jones, August 2021. <https://www.motherjones.com/politics/2021/08/outdoor-recreation-diversity-gap-black-access-nature-national-parks/>

## Health Benefits of Outdoor Recreation

The health benefits of outdoor recreation include not only the obvious benefits to physical health, but there is an increasing body of research that demonstrates the benefits to a person's cognitive and behavioral health. Access to quality greenspace and bluespace (views of water such as lakes, rivers, and oceans) is increasingly included as a social determinant of health (SDOH), which are the conditions in the environments where people are born, live, learn, work, play, worship, and age that affect a wide range of health, functioning, and quality-of-life outcomes and risks.<sup>2</sup> Access to nature and the importance of outdoor activity falls under the 'Neighborhood and Built Environment' SDOH bucket, and is an important strategy when working to improve individual and community health outcomes.

The sections below provide a brief overview of some of the research that has been done looking into the physical, behavioral, and cognitive health benefits of outdoor recreation and exposure to nature.

### *Physical Health*

Numerous studies have shown that that outdoor recreation and greenspace and bluespace exposure can be linked to many positive physical health outcomes including lower blood pressure, cholesterol, heart rate, etc. In turn, these positive health factors are shown to lead to a reduced incidence of preterm birth, type II diabetes, hypertension, stroke, asthma, cancer, arthritis etc. It has also been shown that being outside in nature is often more relaxing than being indoors or in an urban environment. This has positive behavioral health benefits (more on this topic below), which correlate to reduced stress, heart rate, and cortisol levels, which are all risk factors for cardiovascular disease.<sup>3,4</sup>

While many of these physical health benefits are also captured by indoor physical activity, some studies have shown that outdoor environments can generate more motivation for people to exercise, which can lead to higher levels of fitness and therefore improved physical health outcomes.<sup>5</sup>

### *Behavioral Health*

While there are clear physical health benefits of engaging in outdoor recreation activities, a growing body of research shows there are also many positive impacts of outdoor recreation on behavioral health. The benefits of exposure to nature and engaging in outdoor recreation has received particular attention during the COVID-19

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<sup>2</sup> *Social Determinants of Health*. Healthy People 2030. U.S. Department of Health and Human Services. <https://health.gov/healthypeople/priority-areas/social-determinants-health>

<sup>3</sup> *The health benefits of the great outdoors: A systematic review and meta-analysis of greenspace exposure and health outcomes*, Caoimhe Twohig-Bennett & Andy Jones. October 2018. Science Direct. <https://www.sciencedirect.com/science/article/pii/S0013935118303323>

<sup>4</sup> *Outdoor Recreation, Health, and Wellness: Understanding and Enhancing the Relationship*, Geoffrey Godbey. May 2009. <https://bit.ly/3yuEgUx>

<sup>5</sup> *The wellness benefits of the great outdoors*. March 2021. U.S. Department of Agriculture Forest Service. <https://www.fs.usda.gov/features/wellness-benefits-great-outdoors>

pandemic when people turned to the outdoors to engage in physical activity while gyms were closed and for safer ways to meet up with friends and families.

Studies have shown that people who live in urban areas have 20% higher risk of anxiety and 40% higher risk of mood disorders as compared to people in rural areas<sup>6,7</sup>. But there are researchers who have been studying how outdoor recreation can reduce these risks. One study found that people who walked for 90 minutes in a natural area, as opposed to an urban setting, showed decreased activity in the region of the brain associated with depression. The study found that people who spent more time in nature reported lower levels of anxiety and rumination, which is when a person has constant and repetitive thoughts about something such as negative aspects of themselves, a problem, or situation. Researchers also observed that those who walked in a natural environment showed reduced activity in the area of the brain linked to risk for mental illness when compared to those who walked through an urban environment.<sup>8</sup>

The behavioral health issues many children and youth are experiencing in the wake of the COVID-19 pandemic has been a significant topic of conversation amongst elected officials, state agencies, and advocates. In May 2021, Governor Jay Inslee issued an emergency proclamation ([Proclamation 21-05.1](#)) relating to this behavioral health crisis being faced by children and youth. This crisis has spurred some researchers to look at the potential benefits of participation in outdoor activities for youth during the pandemic. One such study did a survey of youth ages 10-18 across the United States asking about the frequency of participation in outdoor activities before and during the pandemic, as well as changes in subjective well-being, which is a measure of happiness and mental health. The survey showed that outdoor activity improved subjective well-being for all adolescents, regardless of their demographic background. Children and youth that continued to participate in outdoor activities during the pandemic were better able to cope with the stress of the pandemic and in turn showed lower declines in subjective well-being and reported better mental health when compared with adolescents who did not spend as much time outdoors.<sup>9</sup>

### *Cognitive Health*

In addition to physical and behavioral health benefits, spending time in nature has also been shown to have significant cognitive benefits including improving working memory, higher levels of sustained attention, improved self-control, and cognitive flexibility<sup>10</sup>, which relates to the brain's ability to adapt to new, changing, or unplanned events.

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<sup>6</sup> *Cities and Mental Health*. Oliver Gruebner, et al. February 2017. National Library of Medicine. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC5374256/>

<sup>7</sup> *Stanford researchers find mental health prescription: Nature*. Rob Jordan. June 2015. Stanford Woods Institute for the Environment. <https://news.stanford.edu/2015/06/30/hiking-mental-health-063015/>

<sup>8</sup> *Nature experience reduces rumination and subgenual prefrontal cortex activation*. Gregory Bratman, et al. June 2015. Proceedings of the National Academy of Sciences of the United States. <https://www.pnas.org/doi/10.1073/pnas.1510459112>

<sup>9</sup> *Outdoor Activity Participation Improves Adolescents' Mental Health and Well-Being during the COVID-19 Pandemic*. S. Jackson, et al. March 2021. National Library of Medicine. <https://www.ncbi.nlm.nih.gov/pmc/articles/PMC7967628/>

<sup>10</sup> *Understanding Nature and Its Cognitive Benefits*, Kathryn Schertz & Marc Berman. June 2019. American Psychological Association. <https://www.apa.org/monitor/2020/04/nurtured-nature>

Studies have also shown that increased contact with nature is associated with improvements in Attention Deficit Hyperactivity Disorder (ADHD) symptoms in children including increasing their ability to pay attention and have lower levels of stress and anxiety.<sup>11</sup>

The studies above show just a small sample of the growing body of research that is looking into the potential benefits that exposure to nature and engaging in outdoor activities can have on physical, behavioral, and cognitive health outcomes.

The benefits of outdoor recreation has also been a topic of interest for the Washington State Legislature in recent years. In 2018, the legislature provided funding for the Recreation and Conservation Office to study into the economic and health benefits of trail-based activities, including hiking, walking, and bicycling. With this funding, the Recreation and Conservation Office produced two reports: [Health Benefits of Contact with Nature](#) and [Economic, Environmental and Social Benefits of Recreational Trails](#). The first report included a literature review of the physical, behavioral, and cognitive health benefits highlighted above as well as broader social benefits. While the second report is focused on economic, environmental, and social benefits, the study included links between health and economic benefits – specifically that physical activity associated with trail use results in over \$390 million of health savings per year.

### **Barriers to Outdoor Recreation**

While there are many known health benefits from exposure to nature and engaging in outdoor activities, and those benefits became even more apparent and important during the COVID-19 pandemic, there are still significant barriers that prevent access to the outdoors. These barriers exist at both the individual and systemic level.

*Individual Level:* There are many barriers at the individual level that can hinder a person's ability or comfort with accessing nature and engaging in outdoor recreation. Some examples include:

- **Costs:** the various costs associated with accessing the outdoors can be a significant barrier for individuals to engage in outdoor recreation. Examples of such costs include entry fees, the cost to purchase outdoor equipment, and transportation costs to get to an outdoor activity (gas, vehicle, bus fare, etc.)
- **Safety concerns:** if there are perceived safety concerns (such as car break-ins at trail heads, animal attacks, or reports of violence), people may be less likely to access an outdoor activity.

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<sup>11</sup> *Nurtured by Nature*, Kristen Weir. April 2020. American Psychological Association. <https://www.apa.org/monitor/2020/04/nurtured-nature>

- **Lack of culturally appropriate information:** if there is not culturally appropriate information, such as information in other languages, can be another barrier for people accessing the outdoors.
- **Diversity Gap:** research shows that people of color are far less likely to engage in nature-based outdoor recreation, resulting in what has come to be known as the 'diversity gap'. Historic discrimination and systemic racism are key underlying factors in this diversity gap. There are countless accounts of people of color being discriminated against while accessing the outdoors, including physical and verbal acts of violence.
- **Fear/Discomfort:** even if other barriers can be addressed, there are people who are not comfortable with the outdoors and do not have access to resources to provide outdoor education and supported experience to overcome that fear and discomfort. Such fear and discomfort may be with nature itself, with the activity, or fear of experiencing acts of racism as discussed in the diversity gap section above.
- **Transportation:** there are a number of potential transportation barriers that range from not having a vehicle to lack of public transportation to many outdoor recreation locations.

*Systemic Level:* There are also systemic barriers that limit access to outdoor recreation. Some examples include:

- **Availability of Outdoor Recreation Spaces:** Washington overall has a wealth of outdoor recreation spaces, including national parks and forests maintained by the federal government, lands maintained by state agencies (Washington State Parks, Washington Department of Fish & Wildlife, Washington Department of Natural Resources), and local park and recreation areas. However, there are areas that still lack spaces designated for outdoor recreation, and other areas that do not have sufficient designated outdoor spaces to meet the high demand.
- **Maintenance & Operations:** High utilization of certain outdoor spaces and insufficient funding has led to challenges with ongoing maintenance and operations, making some spaces difficult or even unpleasant to access (e.g. long lines, overcrowded spaces, overfilled garbage and toilets, poor road access, etc.).
- **Systemic Racism:** In addition to individual level issues discussed above, there are also systemic factors resulting in the diversity gap around access to outdoor recreation. Until the 1964 passage of the Civil Rights Act, Black people in many states were legally barred or subjected to segregation on public lands. While such direct barriers may have ended, there are still widespread systemic policies

and practices that perpetuate the diversity gap in the outdoors. People of color have historically not been considered stakeholders in the planning and implementation of outdoor recreation areas and the establishment of protected outdoor spaces. Historical systemic racism has also resulted in people of color tending to have higher unemployment rates and lower income levels, which leads to less disposable income for the costs associated with outdoor recreation.<sup>12</sup> In addition, people of color are three times more likely than white people to live in places that have no immediate access to nature<sup>13</sup>. These systemic factors and others have resulted in a strong gap with people of color accessing nature and engaging in outdoor activities at a significantly lower rate than white people.

### **2021 & 2022 Legislative Session: Progress in Supporting Outdoor Recreation**

It is clear from the section above that despite the many health benefits of outdoor recreation, there are many barriers that hinder access to nature and engagement in outdoor activities. During the 2021 and 2022 legislative sessions, there was progress made in supporting outdoor recreation by providing resources to address some of the systemic barriers.

#### *2021 Legislative Session:*

##### **Outdoor Recreation Equity: \$375,000**

One-time funding is provided to review state grant programs administered by the Recreation & Conservation Office and develop targeted equity strategies informed by a public stakeholder process. [Recreation & Conservation Office]

##### **Equity Coordinator: \$260,000**

Ongoing funding is provided for State Parks to hire a diversity, equity, and inclusion coordinator with the goal of expanding the diversity of the agency's workforce. (Ongoing) [State Parks & Recreation Commission]

##### **Equity Study: \$85,000**

One-time funding is provided for State Parks, in collaboration with the Governor's Office and the Governor's Commission on African American Affairs, to conduct a study to identify modes of systemic racism for Black Washingtonians in accessing public outdoor recreation. [State parks & Recreation Commission]

##### **No Child Left Inside Program: \$3 million**

The [No Child Left Inside](#) program provides grants for outdoor education, ecological, agricultural, and other natural resource-based education and

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<sup>12</sup> *Nature Gap: Why Outdoor Spaces Lack Diversity and Inclusion*, Emma Gosalvez. December 2020. North Carolina State University. <https://cnr.ncsu.edu/news/2020/12/nature-gap-why-outdoor-spaces-lack-diversity-and-inclusion/>

<sup>13</sup> *How 'nature deprived' neighborhoods impact the health of people of color*, Alejandra Borunad. July 2020. National Geographic. <https://www.nationalgeographic.com/science/article/how-nature-deprived-neighborhoods-impact-health-people-of-color>

recreation programs for underserved youth. This item increases funding for the grant program for a total of \$6 million available for grants to organizations that provide outdoor learning opportunities. (Ongoing) [State parks & Recreation Commission]

**Increase Park Services & Maintenance: \$15.8 million**

Ongoing funding is provided for State Parks to increase customer service, conduct more custodial maintenance, expand interpretive services, expand public safety, and accelerate the pace of preventive maintenance projects. (Ongoing) [State parks & Recreation Commission]

**Washington Wildlife & Recreation Program: \$100 million**

Funding is provided for the [Washington Wildlife & Recreation Program](#), which provides competitive grants to support habitat conservation, outdoor recreation, riparian protection, and farmland and forest preservation projects statewide. [Capital Budget, Recreation & Conservation Office]

**RCO Equity Grant Review Process: \$4 million**

Of this amount, \$2.3 million would be provided for planning, technical assistance, and predesign grants, with a focus on increasing access to outdoor recreation facilities and resources for racially diverse neighborhoods within dense urban areas and small, rural communities. The program is also intended to provide grant funding for early action on, and in response to, the comprehensive equity review required of RCO in the 2021-23 biennium through an operating budget proviso. [Capital Budget, Recreation & Conservation Office]

**Parks Rx Task Force: \$200,000**

Funding is provided for three regional [Parks Rx](#) pilot projects where the use of public parks spaces, trails, and facilities can be prescribed as a wellness and preventative health measure. [Department of Health]

*2022 Legislative Session:*

**Emerging Leaders Program: Expanding Equity in the Outdoors: \$160,000**

One-time funding is provided to contract with a trail maintenance and hiking nonprofit organization for the [Emerging Leaders Program](#), which provides employment training for the outdoor recreation and natural resource management sectors. The program prioritizes people historically underrepresented in leadership roles in natural resources, outdoor recreation and non-profit sectors, while highlighting how representation in the outdoors matters and can be empowering. [State Parks & Recreation Commission]

### **Recreation Lands Maintenance: \$15 million GFS**

Ongoing funding is provided for the maintenance of recreational lands, such as maintaining grounds and facilities, trails, restrooms, water access areas, and similar activities. (Ongoing) [\$5 million annually ongoing each to State Parks, the Department of Fish & Wildlife, and the Department of Natural Resources]

### **Passage of [Senate Bill 5504](#) - Extending current discover pass free days from state parks to all state recreation sites and lands. [Sponsored by Senator Warnick]**

Requires the State Parks and Recreation Commission, in consultation with the departments of Fish and Wildlife and Natural Resources, to designate up to 12 days per calendar year where entry to a recreation site or lands is free. Prior to this legislation Discover Pass free days only applied to state parks; this bill expands free days to Department of Fish & Wildlife and Department of Natural Resource sites.

### **Conclusion**

Accessing nature and engaging in outdoor activities have clear physical, behavioral, and cognitive health benefits. Despite the many benefits, there are still significant barriers at the individual and systemic level that prevent people from engaging in outdoor recreation. The popularity of engaging in outdoor activities such as hiking, camping, mountain biking, climbing, and other outdoor activities, which increased significantly during the COVID-19 pandemic, has meant that many outdoor destinations are seeing increased visitation. While such an increase in use is clearly a positive thing overall, especially when looking at the behavioral health benefits of being in nature, increased investments are needed to keep up with demand.

The legislature made strong investments during the 2021 and 2022 legislative sessions to expand and better maintain Washington's outdoor spaces. Investments were also made to improve individual access, increase education around accessing the outdoors, and take steps to start addressing the diversity gap – both at the individual and systemic level. While these investments have made some progress in addressing barriers, there is still substantial need. For example, the \$15 million invested in maintenance and operations for State Parks, Department of Fish & Wildlife, and Department of Natural Resources was a critical first step, but those agencies estimate that the cost of the current backlog on state lands is at least \$50m to \$75m annually. The studies and equity reviews will also need to translate into real policy change and further state investments. There are numerous other opportunities that can and should be explored to help reduce or eliminate barriers that prevent people from accessing the outdoors, which will in turn result in better health outcomes for individuals and communities.



*Prepared for the Prevention Alliance by:*  
Carrie Glover  
Carrie Glover Consulting  
[carrie@carriegloverconsulting.com](mailto:carrie@carriegloverconsulting.com)

*For more information about the Prevention Alliance, contact:*  
Julie Peterson  
Executive Director  
Foundation for Healthy Generation  
[juliep@healthygen.org](mailto:juliep@healthygen.org)

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