**Text

Description automatically generatedHow do we better engage Grove users and others in understanding and advocating for green space in Rochester?**

Washington Grove’s 26 acres of old growth forest is a “green lung” for the surrounding area, storing CO2 and through photosynthesis providing we humans with oxygen. It, as do all stands of trees, also moderates climate heating, creating an oasis of relative cool during hot spells. Yet it thrives only through volunteer activity. We seek city and county policies that see the value of trees and green space generally to mitigate climate change, but also to promote human health and well-being. We also seek to promote behaviors that take advantage of green space.

Forest bathing or Shinrin-yoku (‘Shinrin’ means forest and ‘Yoku’ stands for bathing) has its origins in Japan. This practice of immersing oneself in nature in a mindful way, benefits one’s physical, mental, emotional, and social health. Time spent in Washington Grove attending to the surrounding nature and unplugged from media offers these benefits, but green space in general promotes greater health.

Those who live in green neighborhoods are less likely to have high blood pressure and cardiovascular disease as well as other health benefits – e.g. better birth outcomes, better immune functioning, enhanced healing after surgery.[[1]](#endnote-1) Daily contact with nature can reduce mortality rates; studies have shown that these can be cut in half with greener neighborhoods.[[2]](#endnote-2) Green space has also been linked to mental health benefits such as recovery from mental fatigue and reduced stress, which has been documented through environmental psychology.[[3]](#endnote-3) Higher levels of neighborhood green space have also been associated with significantly lower levels of symptomology for depression, anxiety and stress, after controlling for a wide range of confounding factors. “Greening” could be a potential population mental health improvement strategy in the United States. [[4]](#endnote-4) As little as 10-20 minutes 2-3 times a week of sitting or walking in a diverse array of natural settings significantly and positively impacted defined psychological and physiological markers of mental well-being for college-aged individuals.[[5]](#endnote-5)

Time in green spaces such as Washington Grove is also associated with better learning outcomes. Being outside in a natural environment can improve memory performance and attention span by twenty percent.[[6]](#endnote-6) In a large cross-sectional study of 59,754 Chinese children, attendance at schools or kindergartens in greener areas was associated with lower odds of having attention-deficit/hyperactivity disorder symptoms.[[7]](#endnote-7)

Trees and green space aren’t equally spread around Rochester. A recent study found that as a result surface temperature in formerly redlined neighborhoods in Rochester are on average 8.82 degrees F warmer than those in the city’s highest-rated ones.[[8]](#endnote-8)

How can The Friends of Washington Grove communicate the importance of green space and spending time in green space to our community using the media at our disposal (web site, Facebook, Instagram) in a graphic manner that communicates to a wider audience than does written reports on the research? *American Forests*, for example, has recently created a web site from which anyone can search for the Tree Equity Score which provides a snapshot of information about environmental, climate, demographic, and health data, and assigns a “Tree Equity Score” for each census block in America’s cities[[9]](#endnote-9). **Are there approaches or electronic graphics that a *Eureka* team can provide for us that will expand and enhance the ways in which we communicate this information to those we contact?**

1. James, P., Banay, R.F., Hart, J.E. *et al.* A Review of the Health Benefits of Greenness. *Curr Epidemiol Rep* 2, 131–142 (2015). https://doi.org/10.1007/s40471-015-0043-7 [↑](#endnote-ref-1)
2. *Ming Kuo.”* How might contact with nature promote human health? Promising mechanisms and a possible central pathway.”  *Landscape and Human Health Laboratory, Department of Natural Resources and Environmental Sciences, University of Illinois at Urbana-Champaign, Urbana, IL, USA*

   Maas, J.; Verheij, R.A.; de Vries, S.; Spreeuwenberg, P.; Schellevis, F.G.; Groenewegen, P.P. “Morbidity is related to a green living environment.” *J. Epidemiol. Community Health* 2009, *63*, 967–973.

   De Vries, S.; Verheij, R.A.; Groenewegen, P.P.; Spreeuwenberg, P. “Natural environments-healthy environments? An exploratory analysis of the relationship between greenspace and health.” *Environ. Plan. A* 2003, *35*, 1717–1732.

   Van Dillen, S.M.; de Vries, S.; Groenewegen, P.P.; Spreeuwenberg, P. “Greenspace in urban neighbourhoods and residents’ health: Adding quality to quantity.” *J. Epidemiol. Community Health* 2012*, 66*, doi:10.1136/jech.2009.104695.

   Bell, J.F.; Wilson, J.S.; Liu, G.C. “Neighborhood greenness and 2-year changes in body mass index of children and youth.” *Amer. J. Prev. Med*. 2008, *35*, 547–553.

   Bowler, D.E.; Buyung-Ali, L.M.; Knight, T.M.; Pullin, A.S. “A systematic review of evidence for the added benefits to health of exposure to natural environments.” *BMC Public Health* 2010, *10*, 1–10. [↑](#endnote-ref-2)
3. Kirsten M. M. Beyer et al. (2014) “Exposure to Neighborhood Green Space and Mental Health: Evidence from the Survey of the Health of Wisconsin,” in *Int. J. Environ. Res. Public Health* 2014, *11*, 3453-3472; doi:10.3390/ijerph110303453

   Thompson, C.W.; Roe, J.; Aspinall, P.; Mitchell, R.; Clow, A.; Miller, D. “More green space is linked to less stress in deprived communities: Evidence from salivary cortisol patterns.” *Landscape Urban Plan.* 2012, *105*, 221–229. [↑](#endnote-ref-3)
4. Berman, M.G.; Kross, E.; Krpan, K.M.; Askren, M.K.; Burson, A.; Deldin, P.J.; Kaplan, S.; Sherdell, L.; Gotlib, I.H.; Jonides, J. “Interacting with nature improves cognition and affect for individuals with depression.” *JAD* 2012, *140*, 300–305. [↑](#endnote-ref-4)
5. Meredith GR, Rakow DA, Eldermire ERB, Madsen CG, Shelley SP and Sachs NA (2020) “Minimum Time Dose in Nature to Positively Impact the Mental Health of College-Aged Students, and How to Measure It: A Scoping Review.” *Frontiers in Psychoogy.* 10:2942. doi: 10.3389/fpsyg.2019.02942 [↑](#endnote-ref-5)
6. Retrieved from: <https://ellisonchair.tamu.edu/health-and-well-being-benefits-of-plants/> [↑](#endnote-ref-6)
7. [Bo-Yi Yang, PhD1](https://jamanetwork.com/searchresults?author=Bo-Yi+Yang&q=Bo-Yi+Yang); [Xiao-Wen Zeng, PhD1](https://jamanetwork.com/searchresults?author=Xiao-Wen+Zeng&q=Xiao-Wen+Zeng); [Iana Markevych, PhD2,3,4](https://jamanetwork.com/searchresults?author=Iana+Markevych&q=Iana+Markevych); et al. “Association Between Greenness Surrounding Schools and Kindergartens and Attention-Deficit/Hyperactivity Disorder in Children in China,” JAMA Netw Open. 2019;2(12): e1917862. doi:10.1001/jamanetworkopen.2019.17862 [↑](#endnote-ref-7)
8. Hoffman, Shandas and Pendleton, “The Effects of Historical Housing Policies on Resident Exposure to Intra-Urban Heat: A Study of 108 US Urban Areas,” in *Climate* 2020, *8*(1), 12; <https://doi.org/10.3390/cli8010012> [↑](#endnote-ref-8)
9. Rochester information is at <https://www.treeequityscore.org/map/#11/43.1886/-77.6175> [↑](#endnote-ref-9)