Urban Ecology and Racism: Taking Up a Challenge from the Scientists

Here at Friends of Sausal Creek, we are not exempt from the current and long overdue challenge to examine the racism embedded in our political, economic and social structures. We have been aided in taking on this responsibility by a recent article in the journal, *Science*, entitled "The Ecological and Evolutionary Consequences of Systemic Racism in Urban Environments," [C. J. Schell et al., Science 10.1126/science.aay4497 (2020)] . The article is directed to scientists and thus involves some highly technical terms. We would like to summarize it for our readers, present the gist of its findings, and consider them in light of our work in the Sausal Creek Watershed.

Urban ecology is the scientific study of the relation of living organisms with each other and their surroundings in the context of an urban environment. If urban ecology tries to use urban ecosystems to promote sustainability, conservation, and innovation, it must highlight how systems of racial oppression impact that work. Until now, urban ecology models have attempted to establish links between social and ecological networks. It has done this by showing how different urban habitat types correlate with demographic information like neighborhood wealth, housing densities, and impervious surface cover (paved-over areas). These authors claim that social inequities have not been included as key drivers of ecological and evolutionary change. They review the reigning paradigm that examines the socio-ecological effects of wealth, which they call the "luxury effect." Strong positive correlations have been made between household wealth and critical urban ecology components, such as biodiversity and higher tree cover rates. By contrast, urban heat islands—resulting from lack of tree and vegetation cover—predominate in low-income neighborhoods.

These scientists want to push the field of urban ecology beyond this standard analysis. As necessary as the luxury effect has been to highlight specific issues, it is not sufficient to predict other urban ecological patterns. They claim that neighborhood racial composition can be a stronger predictor of these patterns. They call for incorporating an awareness of structural racism into biological models to improve their predictive value. Doing this will allow us to estimate better the true effect of urbanization on evolutionary and ecological change. One example they offer is the residential segregation that has resulted from decades of redlining. This policy segregated urban residential neighborhoods, principally by race, and was used to formally suppress capital wealth gains of Black Americans. The authors show how the ecological legacy of redlining persists when those neighborhoods to which Black Americans were relegated have an average of 21% less tree canopy than the neighborhoods of those "preserved" for whites. Another area of study is those discriminatory policies that increased Black Americans' proximity to polluting industries, waste facilities, and major roadways. These lead to heightened exposure to intensified heat effects and compromised neighborhood air quality and respiratory health.

What the authors show is remarkably descriptive of our neighborhoods within the Sausal Creek Watershed— regarding both wealth and to race. Consider the chart below. Using 2017 census data, we can compare average household wealth and percentage of non-white residents in the neighborhoods that make up the Sausal Creek watershed. We see a glaring correlation- the

higher the median income, the more white residents, the lower the income, the more nonwhite residents.

The Oakland neighborhoods within the Sausal Creek Watershed

The Oakland neighborhoods that comprise the Sausal Creek Watershed

Neighborhood	Median Household Income	Non White Residents				Tree Canopy	Impervious Surface
North Kennedy	$ 51,013	89%					
South Kennedy	$ 50,000	75%					
Fruitvale Station	$ 42,226	96%	**Flat Lands**				
St. Elizabeth	$ 36,693	93%	**Primarily City**				
Hawthorne	$ 37,348	92%	**Council**			Tree Canopy	Impervious Surface
Patten	$ 45,469	96%	**District #5**			12%	70%
Sausal Creek	$ 46,547	84%					
School	$ 37,946	89%	Relative to other City districts			lowest	highest
Lower Diamond	$ 56,417	72%					
Upper Diamond	$ 75,768	61%					
Glenview	$ 111,195	45%					
Oakmore Highlands	$ 140,589	43%	**Hills**				
Montclair	$ 170,851	35%	**Primarily City**			Tree Canopy	Impervious Surface
Piedmont Pines	$ 159,470	29%	**Council**			48%	34%
Joaquin Miller Park	$ 165,445	21%					
Shepherd Canyon	$ 157,923	35%	Relative to other City districts			highest	lowest
Woodminister	$ 152,128	48%					

Wealth & Racial data from City-Data.com (2017 census data). Tree Canopy and Impervious Surface data from *American Forests Community ReLeaf — Oakland Urban Tree Canopy Assessment, 2015*

For these scientists, all this leads to the need to place justice at the center of urban ecology and conservation. According to them, "White-led environmental movements have long marginalized issues of racial justice when crafting policy and legislation." If those who hold power in environmental governance—judges, elected officials, planners, and scientists—worked in solidarity with communities of color impacted by environmental injustices, things would be different. Urban organisms, ecosystems, and human communities would move toward regeneration. These urban ecologists and evolutionary biologists claim a responsibility to implement anti-racist strategies that challenge oppressive systems in how they do their work.

Their call to hold themselves responsible and to incorporate environmental justice centered on overcoming racism becomes a challenge to the Friends of Sausal Creek community. Our efforts to preserve the watershed, encourage biodiversity, and involve the community must also be centered on racial justice. Our initial efforts to attend to this challenge can be seen in our Walkable Watershed Plan. The creek that is at the center of our work flows through diverse

neighborhoods: from the lush wooded areas and open spaces of the wealthy districts in the hills to the stark heat islands of Fruitvale's flatlands. The challenge is before us: how do we embrace those anti-racist strategies and confront those systems of oppression as we carry out our mission?

Barry Stenger

For FOSC's statement on the Black Lives Matter movement, [click here](#).