H-1322.2

SUBSTITUTE HOUSE BILL 1381

State of Washington 68th Legislature 2023 Regular Session

By House Environment & Energy (originally sponsored by Representatives Dye, Lekanoff, and Pollet)

AN ACT Relating to salmon-safe communities; adding a new section to chapter 90.48 RCW; and creating a new section.

BE IT ENACTED BY THE LEGISLATURE OF THE STATE OF WASHINGTON:

NEW SECTION. **Sec. 1.** (1) The legislature acknowledges the scientific consensus that there is a well-documented problem of urban heat islands. The buildings, roads, and infrastructure that make up urban environments make cities hotter than surrounding rural areas. The impervious surfaces used for roofs, streets, sidewalks, and parking lots can get much hotter than vegetated areas, causing surface temperatures in cities to be several degrees hotter in the midday than in rural areas. At night, these same materials release heat more slowly, keeping urban air temperatures higher than overnight temperatures in most rural areas.

(2) Cities tend to have fewer trees and less vegetation resulting in a deficit of shade to keep areas cool. Cities also have more industrial heat sources, including cars and air conditioners. Cities tend to have many more extremely hot days each year, on average, than nearby rural areas. According to one recent study, over the past 10 years, cities had an average of at least eight more days over 90 degrees Fahrenheit each summer, compared to nearby rural areas. The difference between urban and surrounding rural temperatures is also

widening; temperatures have been rising in urban areas faster than in the surrounding rural areas since 1970.

(3) The legislature finds that the phenomenon of urban heat island impact is detrimental to several significant and long-standing state policy goals, including the promotion of human health, energy conservation, and the preservation of water quality that sustains salmon. It is well understood that higher urban summer temperatures pose serious human health risks, and these health risks are inequitably distributed. Hotter urban summers can lead to increased energy demands to cool buildings, which runs counter to long-standing state policy of promoting energy conservation. Studies have also documented the impact of urban heat island on the temperature of streams. Streams draining through urban heat islands tend to be hotter than rural and forested streams because of warmer urban air and ground temperatures, paved surfaces, and decreased riparian canopy. Urban infrastructure routes runoff over hot impervious surfaces and through storm drains directly into streams and can lead to rapid, dramatic increases in temperature, which can be lethal to aquatic life.

(4) The legislature recognizes that this problem poses a threat that impacts the environment of our state. The Pacific Northwest, with its reputation for rain, is not immune to the urban heat island effect. Seattle is among the top 10 cities for most intense urban heat island effect, with greater than four degrees Fahrenheit difference between the city and nearby rural areas. Portland, Oregon was among the top 10 cities with the most intense summer nighttime urban heat island over the past 10 years.

(5) Therefore, the legislature intends with this act to conduct a pilot study of the effect of the urban heat island effect on the temperature of Puget Sound lowland streams in urban areas, and to map and make public the results of the monitoring and analysis.

NEW SECTION. **Sec. 2.** A new section is added to chapter 90.48 RCW to read as follows:

The department, in collaboration with the department of fish and wildlife and the department of natural resources, must evaluate the urban heat island effect and other factors influencing water temperatures in Puget Sound lowland streams in urban areas. This evaluation must include:

(1) By June 30, 2025, the department, in collaboration with the department of fish and wildlife and the department of natural resources, must collect, synthesize, assess usability, and identify gaps of available data needed to conduct a:

(a) Broad scale synthesis in urban areas of riparian habitat, land cover, water temperatures, air temperature, and tree canopy; and

(b) Pilot effectiveness monitoring study focused on comparing water temperatures of Puget Sound lowland streams relative to the land cover and tree canopy in urban areas draining to those streams.

(2) By June 30, 2025, the department, in collaboration with the department of fish and wildlife and the department of natural resources, must design and propose a coordinated pilot scale monitoring study focused on assessing and mapping water temperatures in urban areas, to be carried out between July 2025 and July 2029, and propose any resources needed to produce the broad scale synthesis described in subsection (3) of this section.

(3) Subject to the availability of amounts appropriated for this specific purpose, by June 30, 2027, the department, in collaboration with the department of fish and wildlife and the department of natural resources, must produce a report that synthesizes available data on riparian habitat, land cover, water temperatures, air temperature, and tree canopy on a broad scale. The synthesis report should include relevant existing agency data, maps, or analyses related to high-resolution change detection, tree canopy, temperature, and riparian habitat.

(4) Subject to the availability of amounts appropriated for this specific purpose, by June 30, 2027, the department, in collaboration with the department of fish and wildlife and the department of natural resources, must produce a publicly available website to display the riparian habitat, land cover, water temperatures, air temperature, tree canopy, and urban heat monitoring and mapping data. Data must be published in data viewers or web maps and must be made accessible and usable by the public. Data must also be compatible with the department of health's environmental health disparities map.

(5) Subject to the availability of amounts appropriated for this specific purpose, between July 2025 and July 2029, the department, in collaboration with the department of fish and wildlife and the department of natural resources, must carry out a pilot scale monitoring study focused on addressing water temperatures in urban areas of Puget Sound lowlands including factors such as land cover,

air temperature, tree canopy, habitat, and the urban heat island effect.

(6) By June 30, 2030, the department, in collaboration with the department of fish and wildlife and the department of natural resources, must produce a report to the governor's office and the appropriate committees of the legislature on the findings of the pilot scale monitoring study investigating urban water temperatures and factors such as land cover, air temperature, tree canopy, habitat, and the urban heat island effect, that have significant correlation to reduced or elevated water temperatures.

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