

Investing In Our Future: Natural Systems

The Capital Region is unique in its geographic diversity – from the Sierra Nevada to the rich agricultural valleys and the Delta wetlands. Our natural lands provide clean air and water, biodiverse forests and rivers, and a multitude of aesthetic, recreational, economic, and cultural benefits. While policies and investments have prioritized the built environment, safeguarding our natural systems can buffer communities against flood risks, extreme heat, drought, wildfire, and other impacts of climate change, improving resilience throughout the region.

How Will Climate Change Affect Our Natural Environments?



Forests and Trees

Forests provide substantial ecosystem services and serve as critical carbon sinks. However, the stresses of drought and extreme heat, which accelerate the spread of disease and pests, have taken a deadly toll on California's forests. The extreme number of dead trees increase wildfire risk and they no longer can provide air quality, carbon sequestration, and cooling benefits.

Air and Water Quality

The Sierra Nevada – our greatest source of freshwater – is at risk. Higher temperatures, decreased snowpack, and more frequent and intense wildfires are degrading the quantity and quality of water flowing downstream, as well as the water filtration and storage capacities of natural lands. Wildfire smoke also contributes to severe air pollution and diminished economic activity across the region.



Biodiversity Loss

Warmer water temperatures in the Delta and our rivers are diminishing Chinook salmon runs and contributing to the endangerment of delta smelt. Ecosystems are vulnerable to rapid changes caused by climate change, urban development, and reduced biodiversity can trigger adverse economic impacts from lost job to decreased recreational opportunities.

Rural Communities and Recreation

Climate impacts to natural environments threaten rural economies, where many jobs are closely tied to natural resources. The loss of scenic quality and recreational value also affects the tourism and outdoor recreation industry, which Sierra communities are already experiencing due to decreasing snowpack and shorter winter ski seasons.

A Local Perspective



“Long-term, active stewardship of forest communities is critical for producing high-quality fresh water and slowing the devastating effects of air pollution. Through partnerships with agencies and private landholders, we are able to demonstrate how Maidu traditional ecology and contemporary ecological science can be woven together for the benefit of the land and all who share it.”

— Ken Holbrook, Executive Director,
Maidu Summit Conservancy



“Urban greenways are one of the best amenities in our region, providing flood control and wildlife habitat along with biking and walking trails. Our restoration work on the American River Parkway conserves these capabilities and creates harmony between natural ecosystems and our built environments.”

— Dianna Poggetto, Executive Director,
American River Parkway Foundation

The Capital Region Climate Readiness Collaborative is exploring strategies and solutions to strengthen the climate resiliency of our region. Join us to learn more!
www.climatereadiness.info



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Investing In Our Future: Taking Action for a Healthier Community

Local Solutions for a Stronger Community

An Innovative Approach to Leverage Agriculture for Habitat Conservation

The Nigiri Project is a collaborative effort between rice farmers and researchers to help restore salmon populations in the largest floodplain of the Sacramento-San Joaquin Delta: the 60,000-acre Yolo Bypass. The project seeks to optimize habitat benefits for salmon and water birds, while also maintaining farming. With more than 95% of natural floodplain wetlands eliminated by the development of farms and houses, rice fields – which are typically flooded during the off-season – make an ideal habitat solution in the winter and spring for endangered fish. The Nigiri Project reintroduces juvenile salmon to flooded, dormant rice fields in the winter. After the first year, the salmon had a five-fold weight gain in only six weeks, which was among the highest growth rates recorded in Delta salmon research.

CLIMATE CHANGE BY THE NUMBERS



Sierra Nevada forests store enough carbon to offset the emissions of **108** coal-fired power plants.



The interception of stormwater by San Francisco's entire urban forest has an annual value to the city of **\$467,000**.



There are **129 million** dead and dying trees in California.



Trees may slow their growth for up to **four years** following a severe drought.

Sources: <http://www.sierranevada.ca.gov/factsheets/10.31rimfirefactsheet.pdf>; <https://www.washingtonpost.com/news/energy-environment/wp/2015/07/30/yes-another-way-that-climate-change-makes-itself-worse>; <https://www.sciencedaily.com/releases/2016/11/161125083555.html>; https://stenvironment.org/sites/default/files/ftiers/files/sfe_uf_2008_annual_uf_report.pdf.

Become a Leader



Preserve natural lands: Restricting development to within urban boundaries allows natural lands to collect stormwater, clean the air, support trees and biodiversity,

and replenish other resources while preventing additional resource burdens and air pollution.

Implement urban

Trees provide a multitude of benefits including clean air, shading and cooling, stormwater capture and flood protection, increased property values, and crime reduction.



Invest in ecosystem

health: Restoration of natural ecosystems, such as meadows, wetlands, streams, and forests, helps provide clean air and water to both urban and rural communities. Additionally, greater investments to restore the health of California's forests are critical to reducing wildfire risk, sustaining biodiversity, and preserving the carbon storage potential of upland forests and agricultural lands.



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