



AQUARIUM OF THE BAY

Conservation Critical Issue:

FRESHWATER FLOWS

WHY AND WHERE DO FRESHWATER FLOWS MATTER?

The San Francisco Bay Delta watershed consists of the Sacramento and San Joaquin rivers and their tributaries. Snow and rain from California's mountains flow into the Bay at rates that can exceed 400,000 cubic feet per second.



In many places, these natural freshwater flow patterns have been changed due to people distributing water to various activities, from drinking water to agricultural uses. Major pipelines and canals transport water from where it is normally abundant (in the mountains and the Delta) to the coastal cities of the Bay Area, Southern California, and Central Valley farmlands. Our diversion and storage of water has reduced the annual amount of freshwater flows into the Bay by 50% on average, and much more in some years.



Map of the watershed from The Bay Institute; *'Gone with the Flow'*

WHAT ARE FRESHWATER FLOWS?

Freshwater flows are rainfall and snowmelt that run into surface streams and groundwater, downstream to major rivers, and eventually to the sea. All plants, animals, and people depend on freshwater. In the San Francisco Bay Area, each ecosystem, and many species found nowhere else in the world, have evolved in response to the amount of natural freshwater flow available at various times of the year.



WHY IS THIS ISSUE CRITICAL TO THE SAN FRANCISCO BAY WATERSHED?

The San Francisco Bay Delta ecosystem is the largest estuary on the West Coast of the Americas, fed by the water flowing over about 40% of California's land mass. The mixture of freshwater from the watershed with saltwater from the ocean is a major reason that estuaries are such productive, diverse, and dynamic ecosystems. They create vital habitats and nurseries for a wide range of organisms, including fish, birds, shrimp, and crabs.

The competition for fresh water among different sectors of the economy and natural environment can be a source of major political, legal, and financial conflicts. Over 25 million people depend on freshwater for food, manufacturing, power generation, tourism, recreation, and simple every day uses. We also need a healthy Bay to maintain those activities as well as the environment; the alteration of freshwater flows causes harm to Bay ecosystems, and has put some of our native species at risk of extinction.

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TAKE ACTION: WHAT WE'RE DOING

Every day, Aquarium of the Bay is working to protect freshwater flows and watershed health. We:

- Provide exhibits and up-to-date programs focused on watershed literacy principles for the San Francisco Bay Area to our staff, guests, and tens-of-thousands of local students annually.
- Support the science-based policy work of The Bay Institute, a leader on water issues in California.
- Partner with many other watershed organizations.

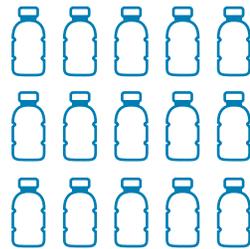
TAKE ACTION: HOW YOU CAN HELP

Individually and collectively there are many opportunities to support a healthier watershed:

- **Reduce your water use-** invest in more efficient water-using appliances, reduce or eliminate your outdoor landscape water use, and be conscious of this finite resource whenever turning on the tap.
- **Eat fewer animal products (meat and dairy)-** it takes water to produce the food we eat, and animal products generally require more water. For instance, a hamburger requires over 600 gallons of water, whereas a salad takes about 30 gallons to produce.
- **Support policies at the local, state, and federal level-** specifically policies that promote water conservation, water recycling, and management of surface water and groundwater so everyone benefits, including the people and ecosystems that depend on freshwater flows.
- **Learn about California water issues-** like The Bay Institute's effort to increase freshwater flows and improve water quality in rivers, the Delta, and the Bay.
- **Don't pollute-** anything entering a storm drain eventually runs into the ocean. Did you know that washing a car in a driveway or on a city street (with soaps and oils washing to the storm drain) can pollute the Bay? Use a car wash instead.



THE "WATER FOOTPRINT" FOR AN AVERAGE CALIFORNIAN IS



1500 gallons



per person



per day

ROUGHLY DOUBLE THE GLOBAL AVERAGE.



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