
Google
Water Stewardship
Eddie Corwin, June 23, 2022
A view of our planet from Google Earth ©2020 Landsat/Copernicus

At Google, we build technology that helps people do more for the planet

Accelerate carbon free and circular

Decouple business growth from growth of carbon intensity and material use

Empower with technology

Tackle major sustainability problems and drive net positive impact using Google technologies, platforms, products, and services.

Benefit people and places

Share benefits with communities of our facilities, users, partners, and suppliers

In 2021, Google released is water stewardship strategy, which includes a goal to replenish more water than we consume by 2030 and support water security and ecosystems in the communities where we operate.

Water stewardship

Three key areas of activity

Advance responsible water use at Google

Enhance our stewardship of water resources across Google office campuses and data centers

Benefit watersheds and communities

Collaborate to replenish our water use and improve watershed health while supporting ecosystems and water-stressed communities

Support water security with technology

Share technology and tools that enable everyone to predict, prevent, and recover from water stress

≋ Advance responsible water use at Google

Advance responsible water use at Google

Data Centers

In Georgia, we treat up to 30% of the sewer authority's water for cooling towers

In Belgium used industrial canal water for cooling

In Finland used seawater for cooling

Ireland used chilled air to cool servers rather than water.

Offices

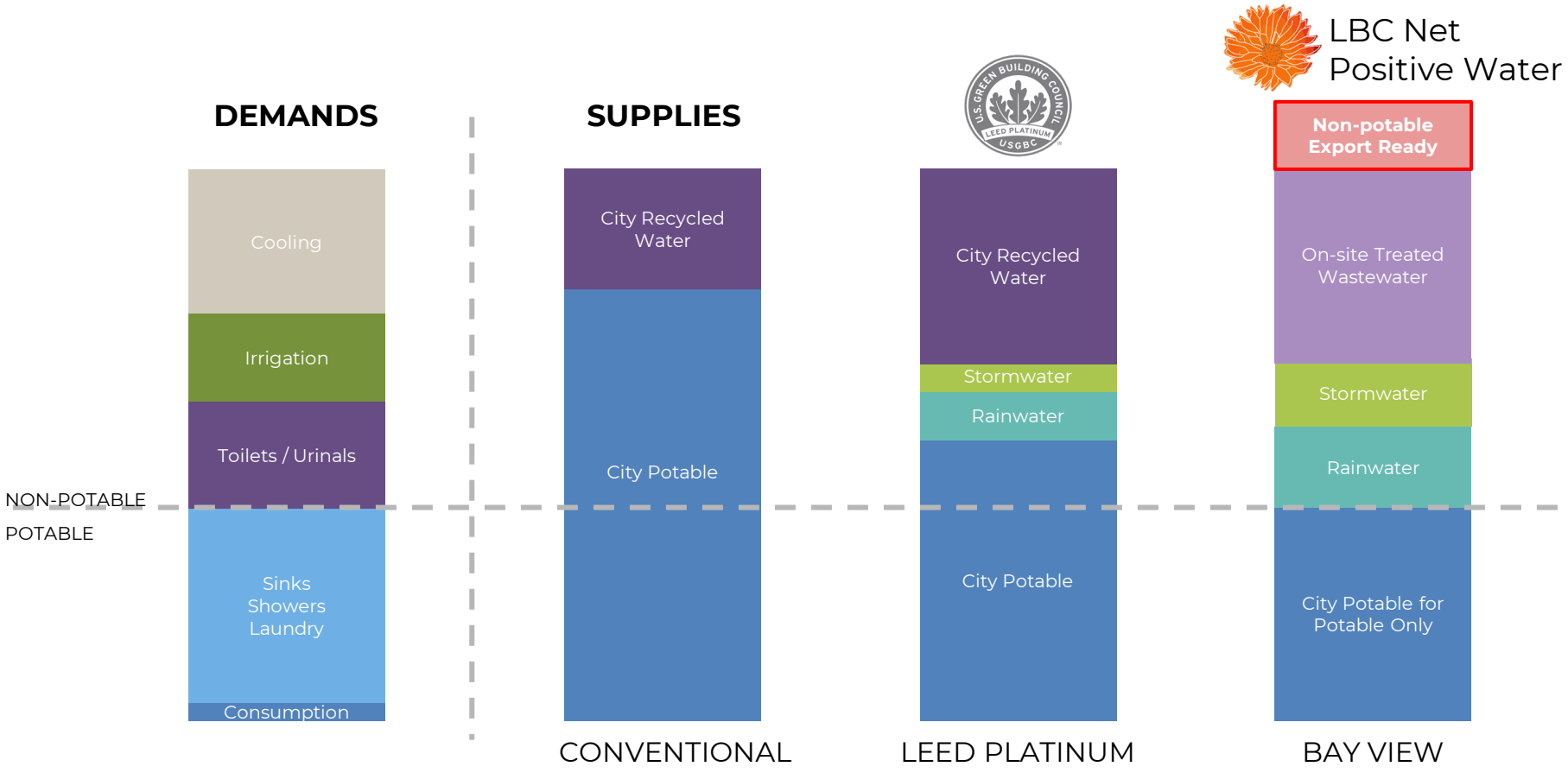
We achieved the **Alliance for Water Stewardship Standards certification** for our Mountain View, Los Angeles, and Dublin, Ireland campuses.

Landscape conversions to native and pollinator friendly species to support our ecology program

100% recycled water in Los Angeles Cooling Tower

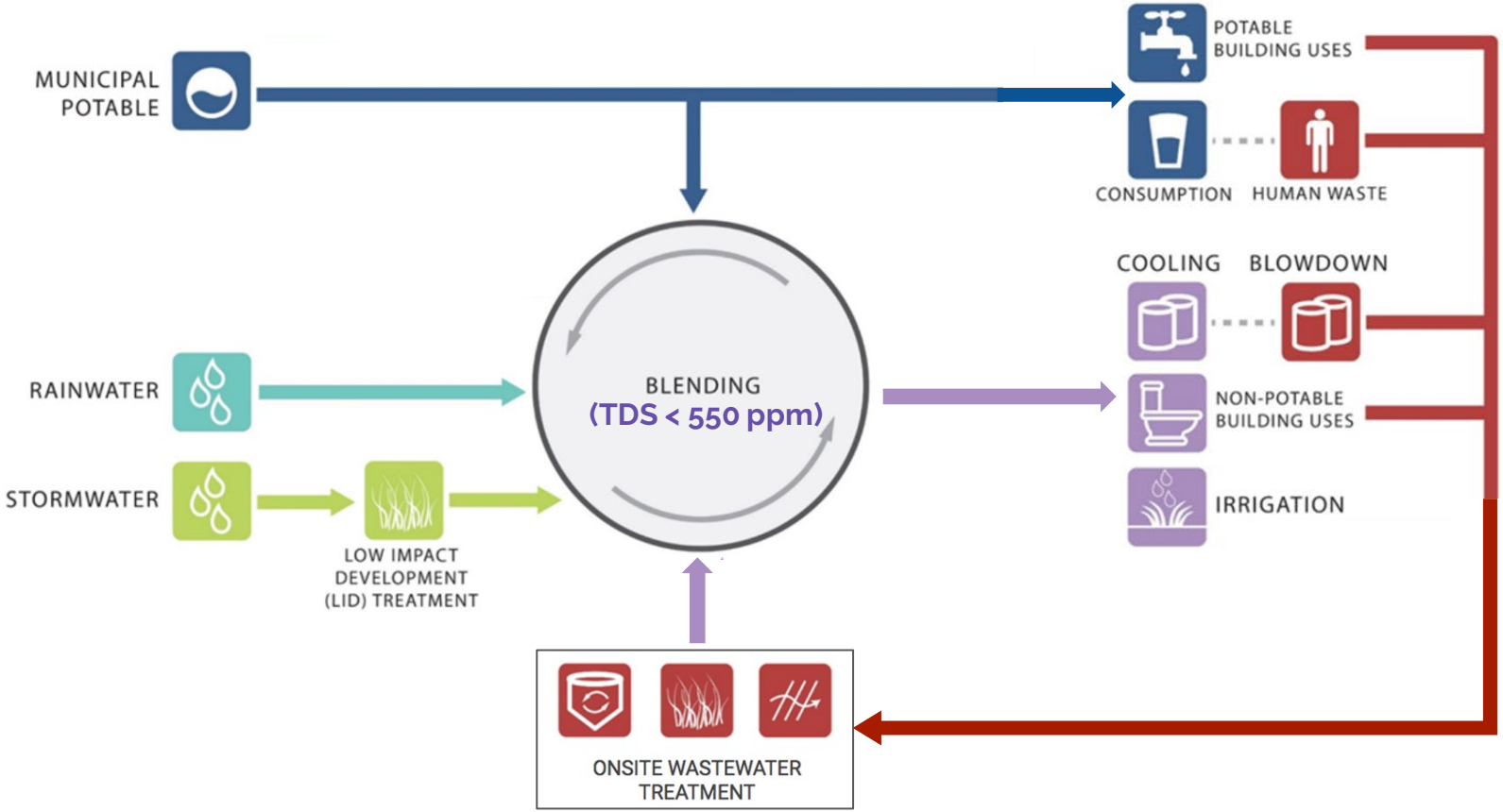
Rainwater collection for toilet flushing in Dublin, Ireland

Project Highlight: Bay View


LBC Net Positive Water
DEMANDS
SUPPLIES
Non-potable Export Ready
Cooling
Irrigation
Toilets / Urinals
Sinks Showers Laundry
Consumption
City Recycled Water
City Potable
City Recycled Water
Stormwater
Rainwater
City Potable
On-site Treated Wastewater
Stormwater
Rainwater
City Potable for Potable Only
NON-POTABLE
POTABLE
CONVENTIONAL
LEED PLATINUM
BAY VIEW

Geo-energy piles eliminate 60% of energy demands and 90% of water demands of the cooling system… 5M gallons/year!

On-site treatment and reuse allows for further reduction of potable demands, and enables us to provide recycled water to neighbors in the future.



Benefit watersheds and communities

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Replenishment projects

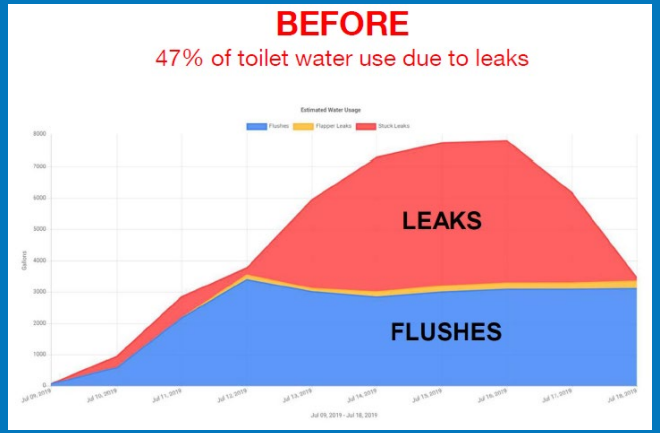
Provide volumetric water benefits by increasing the amount of water in the watershed, compensating for the water we consume. Examples include wetland restoration, rainwater harvesting, and stormwater management.

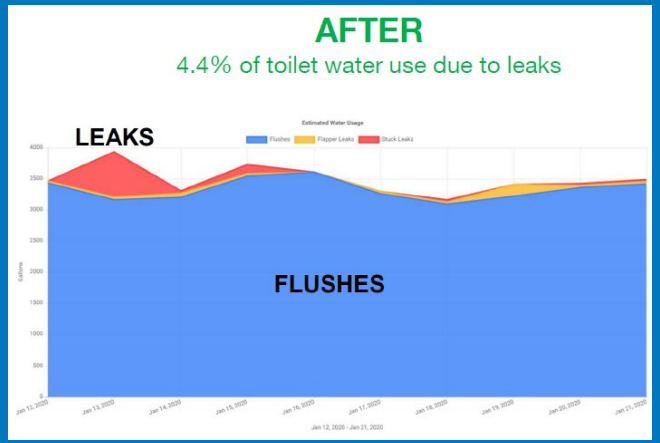
Watershed health projects

Address local water challenges such as quantity, quality, and access to water and sanitation. Examples include access to water, access to sanitation, and best agricultural management practices.

Project Highlight: CRIT System Conservation

Project Highlight:
Toilet Leak Detection





Other replenish & watershed health Projects

Invasive Species Removal in the San Gabriel Mountains

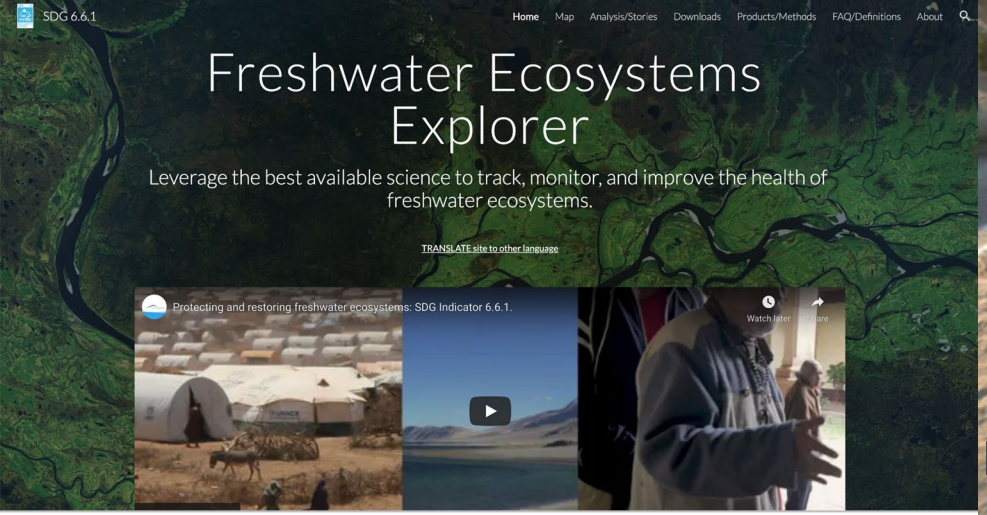
Spreckles Wetland & Fisher Creek restoration

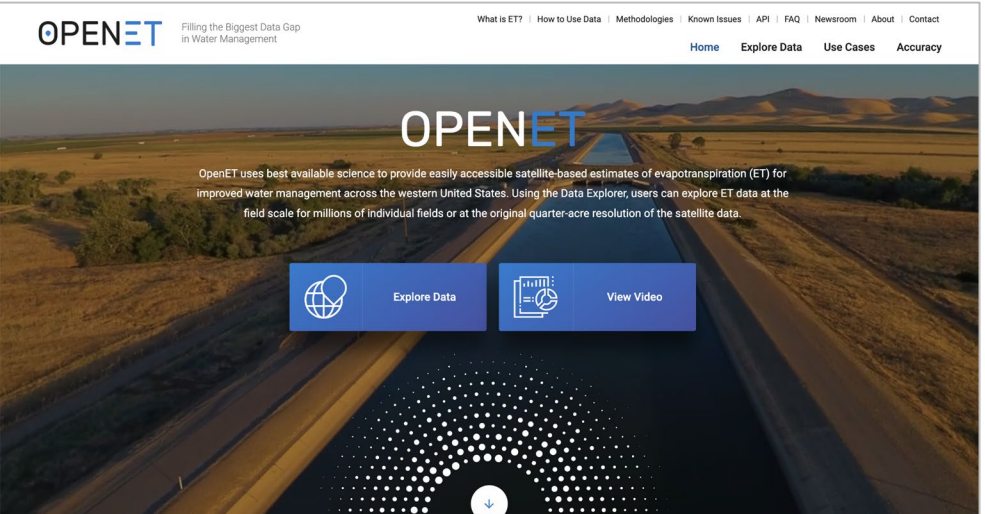
Distributed Stormwater Capture in Dublin, Ireland

Well restoration, wake the lake & wash stations in India

Desalter water treatment improvements in Torrance, CA

Support water security with technology





Our initiatives

We are building tools to make water data and technology universally accessible, enabling effective water stewardship and improving the resilience of watersheds and ecosystems.

Google

Project Highlight: Project EEager

EarthEngine Automated Geospatial Element Recognition

Why Beavers?

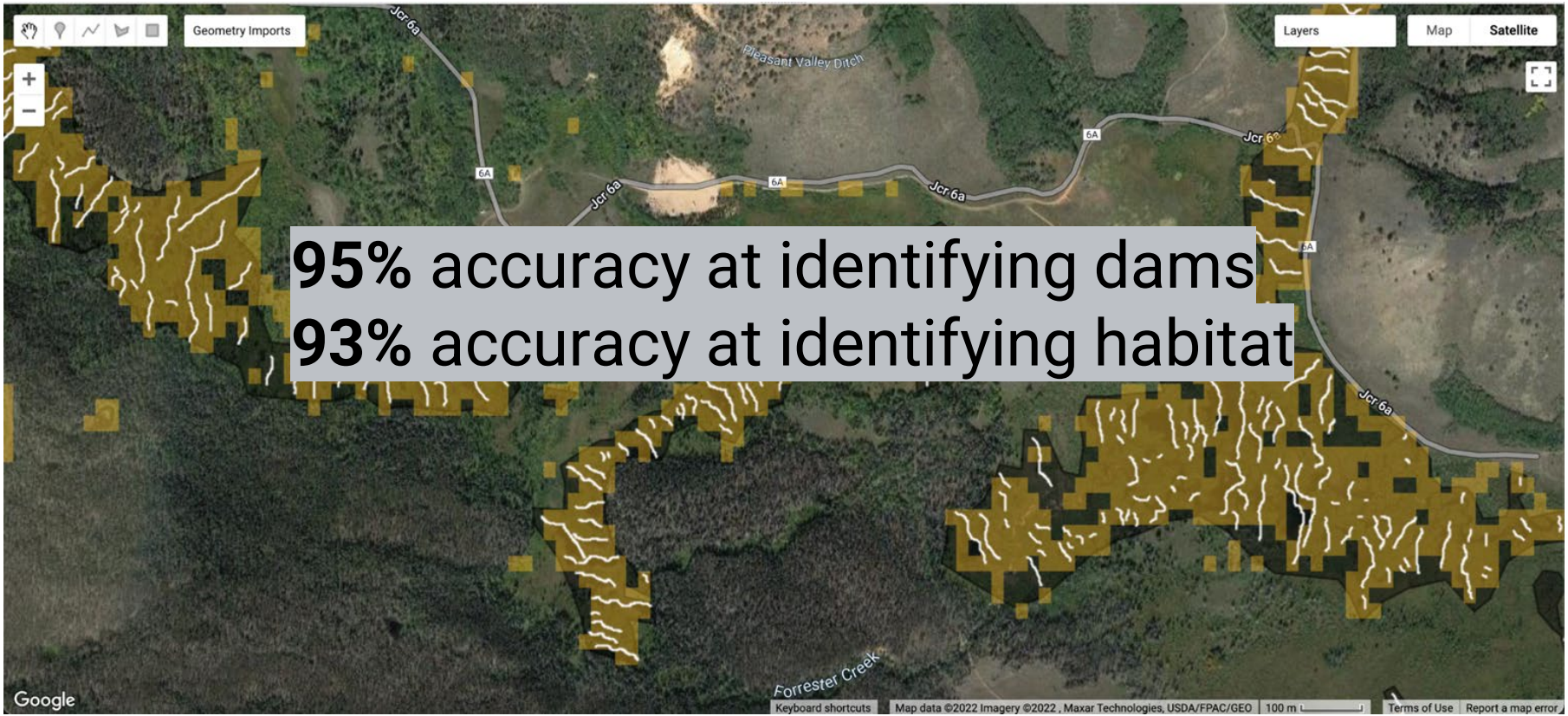
Water Supply: Beaver complexes story and release water slowly, similar to a melting snowpack. A typical beaver pond can store about 0.4 AF of surface and groundwater. We have room for thousands of beaver ponds, especially in the Sierra.

Water Quality: Beaver ponds can greatly reduce the sediment & nutrient load of a stream. The amount of sediment trapped behind a dam will connect an incised stream to its floodplains in a few years.

Fire: Not only are beaver ponds be used as a source of water water during a firefight, the riparian corridor is so well wetted that is does not burn, even during a mega fire. These locations act as effective fire breaks, refuge during a fire, and allow the site to rebound much quicker after a fire. Sediment flows post-fire are also captured in the ponds.

Ecology: Animals love beaver ponds. They are some the best and highest quality habitat for terrestrial and freshwater aquatic animals. The best fishing holes you will find are beaver ponds.

My Hypothesis: Beaver relocation and conflict management will be one of the most cost effective and impactful strategies for achieving out replenish goals.



95% accuracy at identifying dams

93% accuracy at identifying habitat


Thank you!
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