



SAN DIEGO  
COASTKEEPER

# Happy *Earth* Hour

The Future of Water in San Diego



# Last time on Happy Earth Hour....



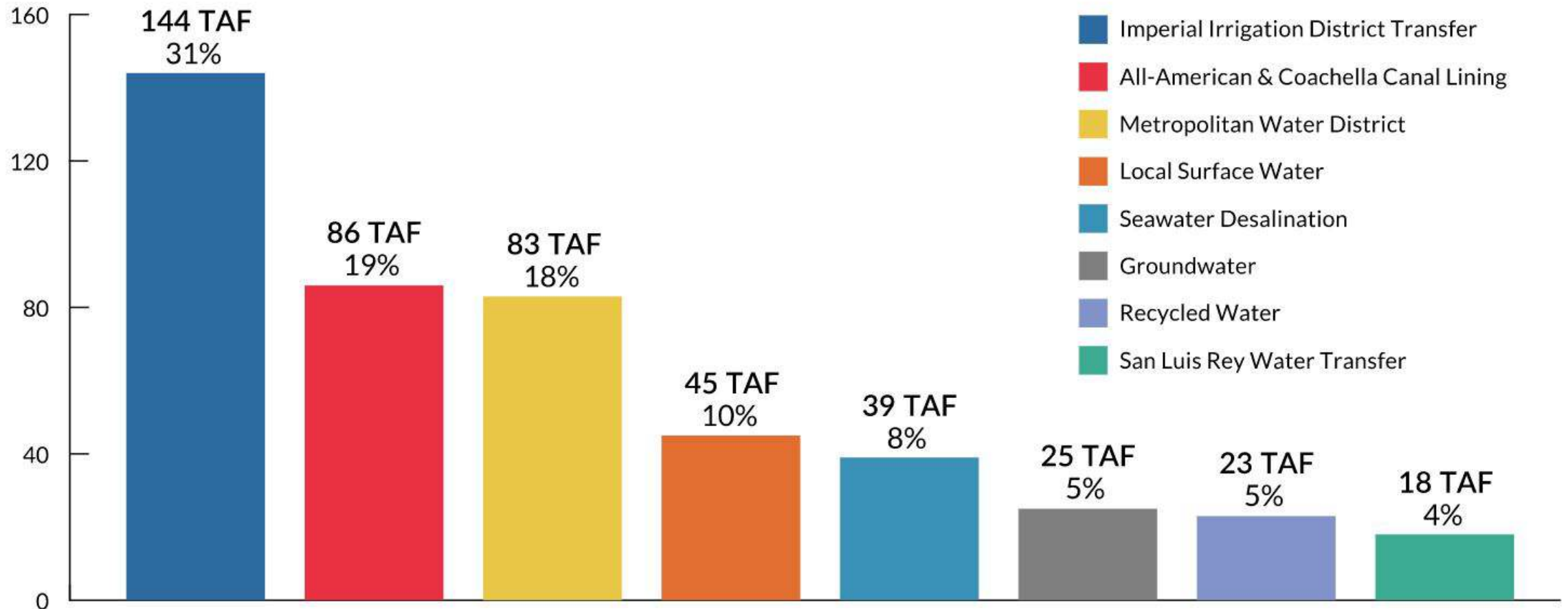
# Last time on Happy Earth Hour....

- Climate change is water change.
- San Diegan's will disproportionately be affected by drought and heavy/erratic rainy seasons.
- We need to find new ways of supplying, managing, and disposing of our water.

# SDCWA Supply Sources

## WATER AUTHORITY SERVICE AREA FISCAL YEAR 2020 DEMAND AND SUPPLY

Total Demand = 463 TAF



(TAF=Thousand Acre-Feet)



# Water Supply and Climate Change

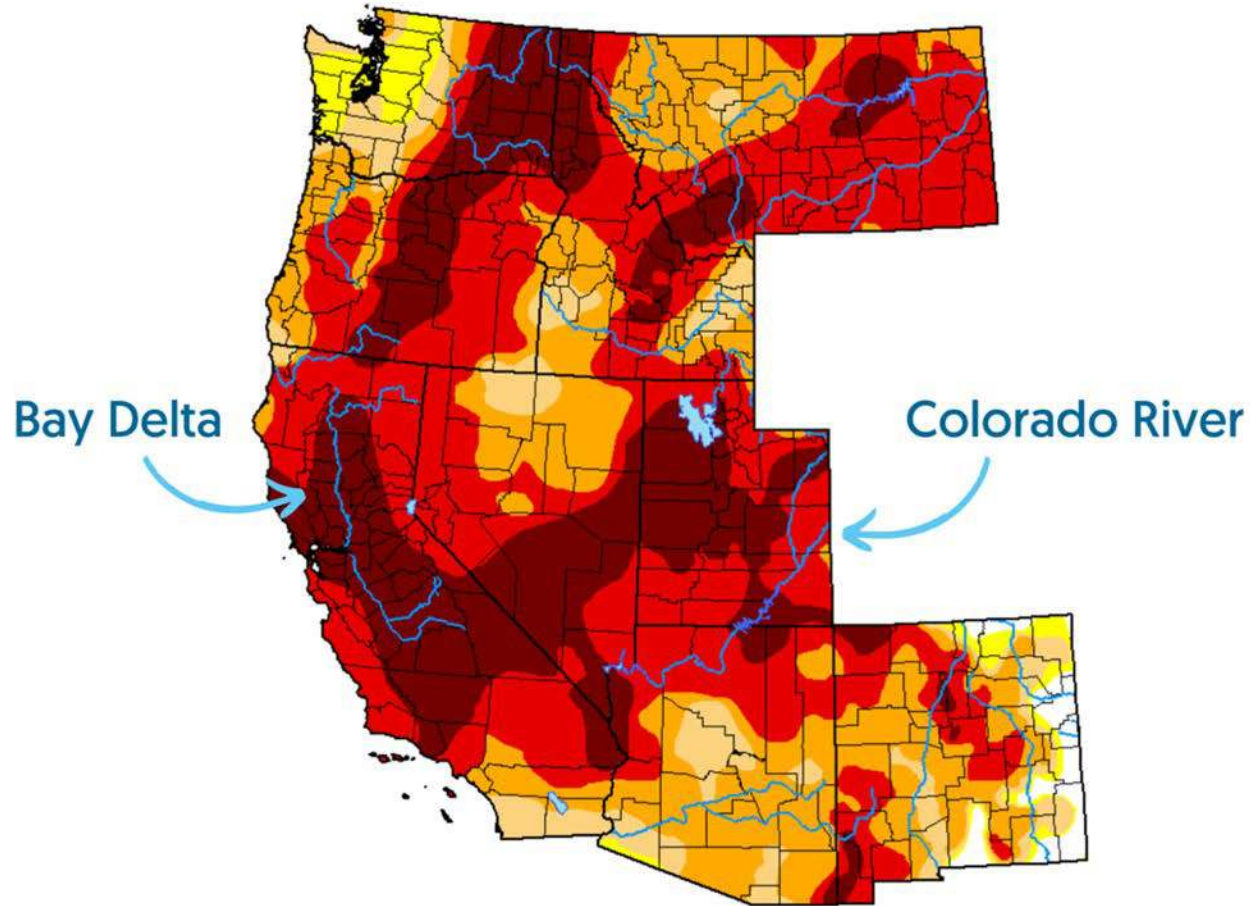
**By 2070-2100:**

- **10-20% reduction in Colorado River Supplies**
- **Sierra snowpack to decline 50%, “optimistically”, and could be considerably more.**



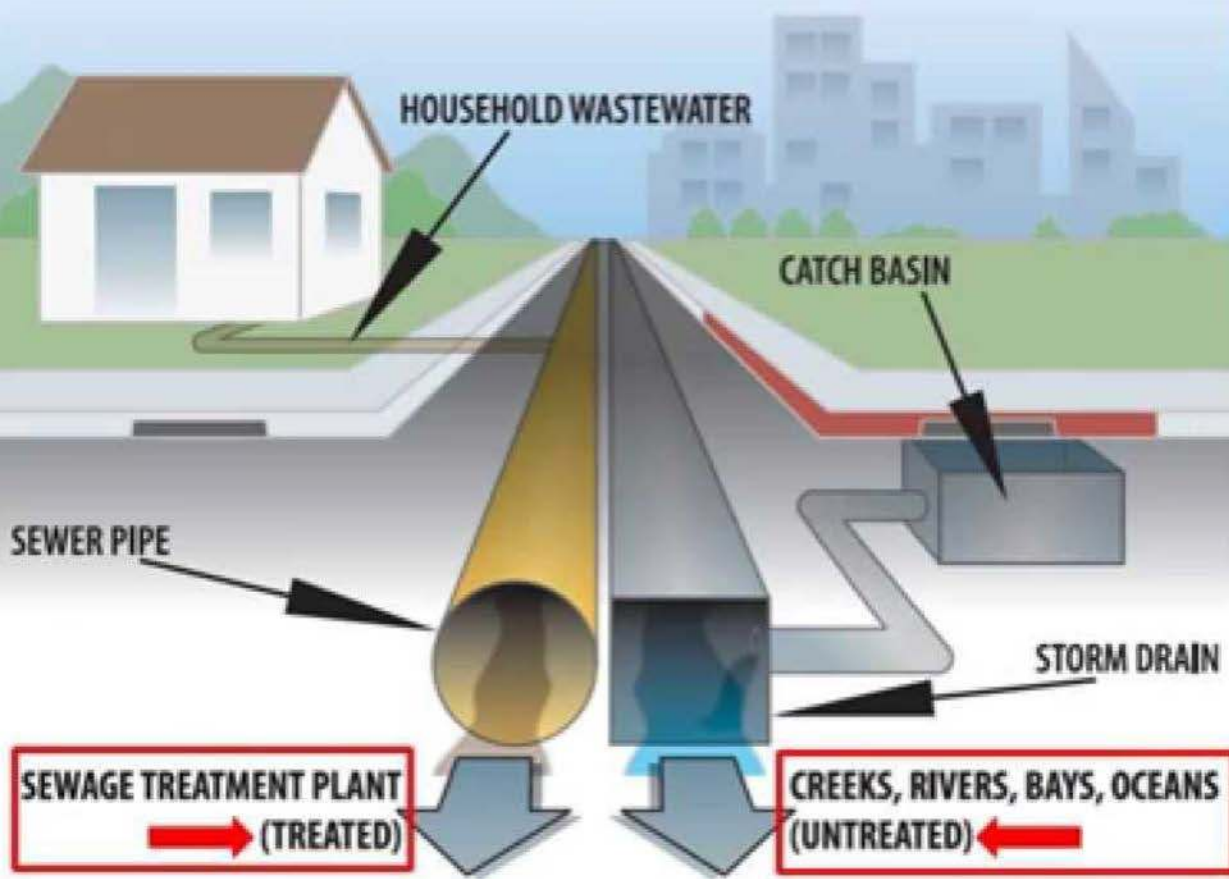


# Current Drought



- Fueled by climate change, the entire western U.S. is in the worst drought in modern history (1200ish years).
- Colorado River Reservoirs (Lake Mead and Lake Powell) are at their lowest levels ever since construction.
  - Triggered first ever mandatory cuts to AZ, NV, and MX (and potentially CA later this year)
- State Water Project announced 0% allocation for first time ever.
  - (now at 5% - still terrible)
- California uses 19% of its electricity for water transport and use.
  - Negative feedback loop!

## TWO UNDERGROUND SYSTEMS



# Wastewater & Stormwater Management

- Two separate systems
- Wastewater (Sanitary sewer)
  - Showers, toilets, sinks, laundry, etc.; Partially treated
- Stormwater (MS4)
  - Untreated and flows to our creeks, rivers, bays, and ocean!

# Wastewater Management

We are at the “end of the line”, so San Diego only partially treats sewage before dumping it into the ocean via an outfall.

High levels of nutrients found in wastewater can cause harmful algal blooms (HABs).







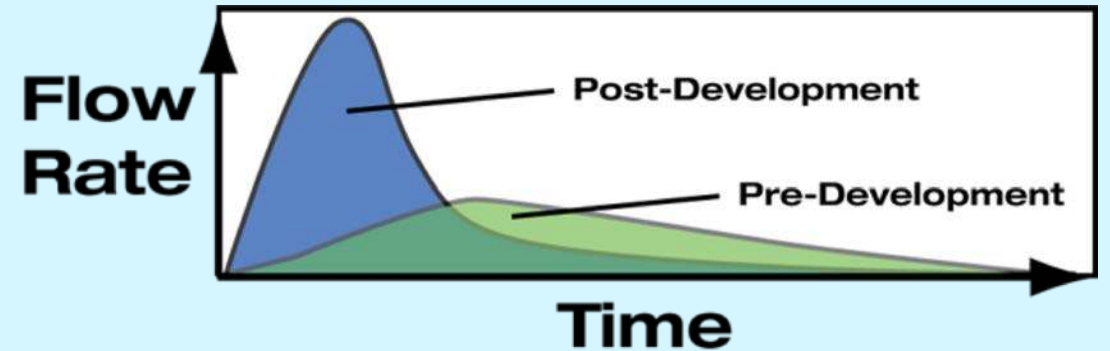
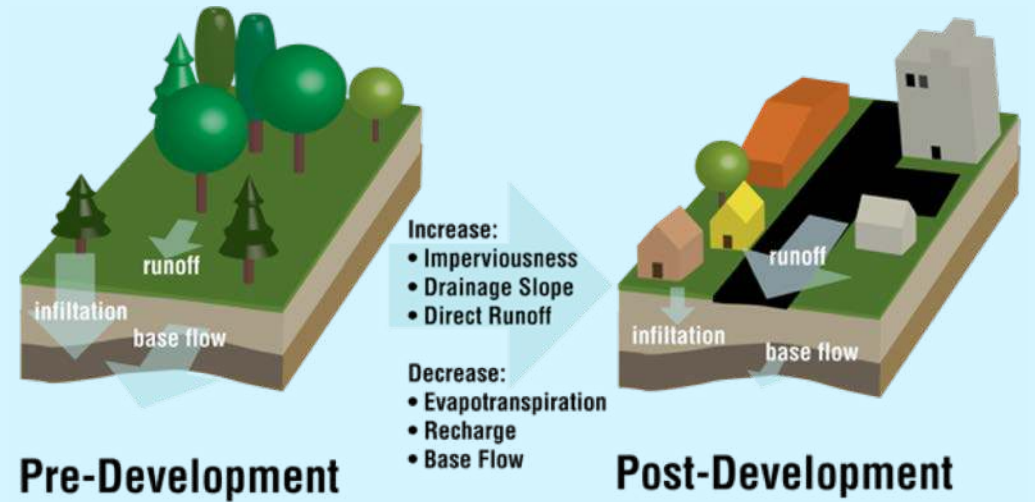
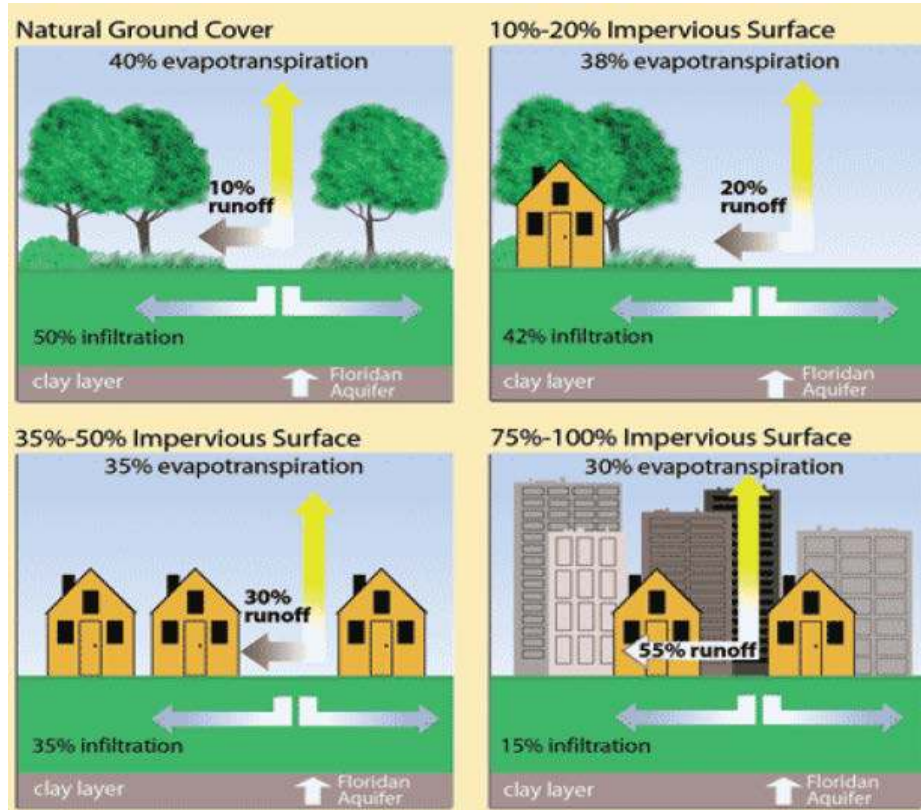
## Stormwater Management

- Urban runoff is the greatest threat to water quality in our region.
- 72-hour rule



# Urbanization

Increased hard, urban surfaces





# Stormwater in urban areas can lead to...

- Erosion
- Flooding
- Pollution
- Changes to the landscape in stream and riparian areas
- Loss of biodiversity

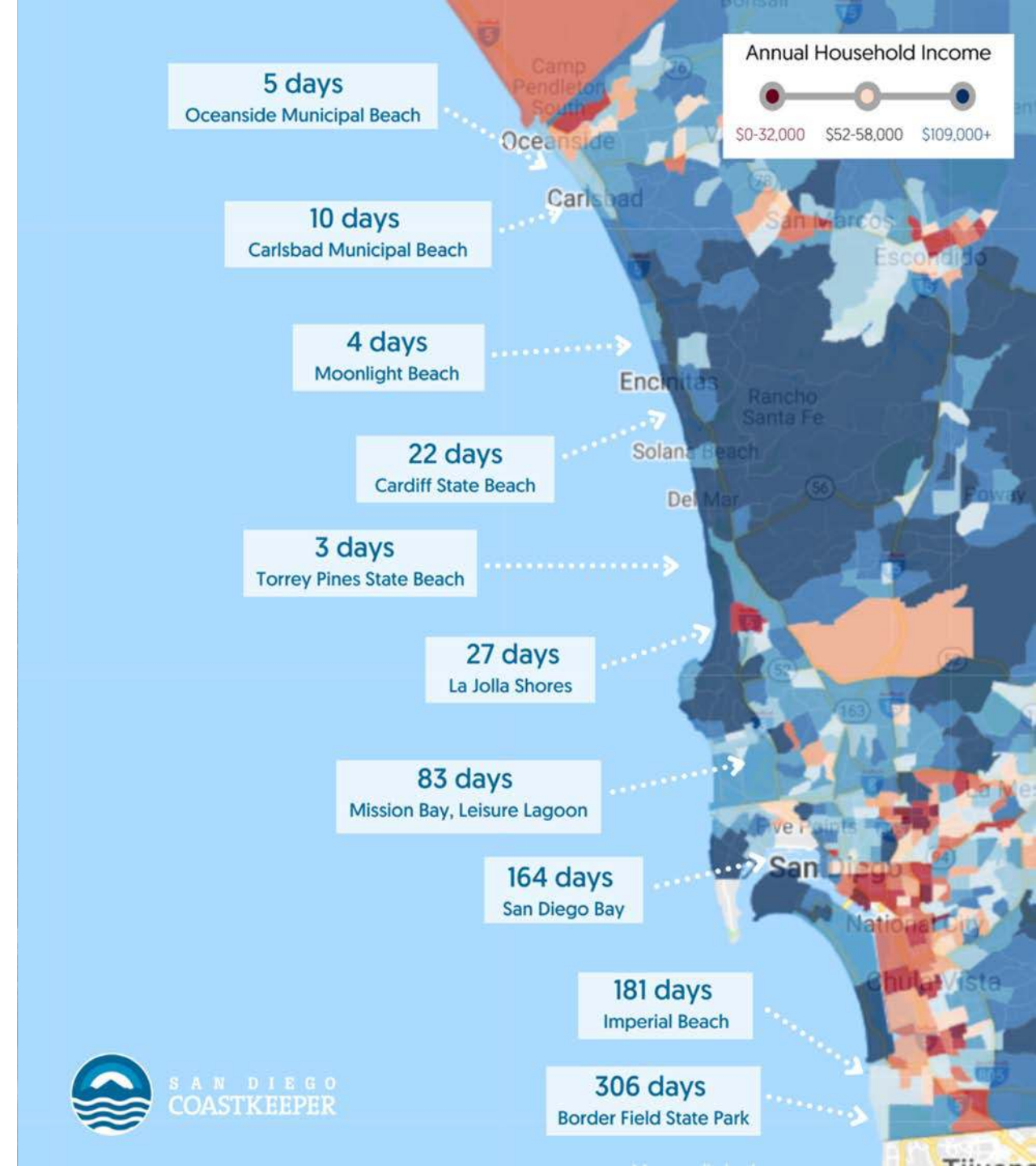




# 2020 Beach Advisories and Closures

High levels of bacteria, rainfall, and other factors can cause beaches to close.

San Diego County issued at least **51 days** of county-wide beach advisories in addition to site-specific advisories and closures.





# Exfiltration



— Stormwater Conveyance

— Sewer Main





The background of the slide is a close-up, high-angle shot of water with numerous small, concentric ripples. The water is a light, clear blue, and the lighting is soft, creating a calm and clean aesthetic. The text is overlaid on this background.

**How can San Diego  
improve water  
management?**



# SDCWA: What if we add another straw to the Colorado River?



# Environmentalists:







## Regional Conveyance System (RCS)

- SDCWA uses the Colorado River Aqueduct (CRA) to transport water to San Diego.
  - Owned by the Met and costs money to use.
- SDCWA proposed to spend **\$5-6 billion** to add another redundant straw in the glass.



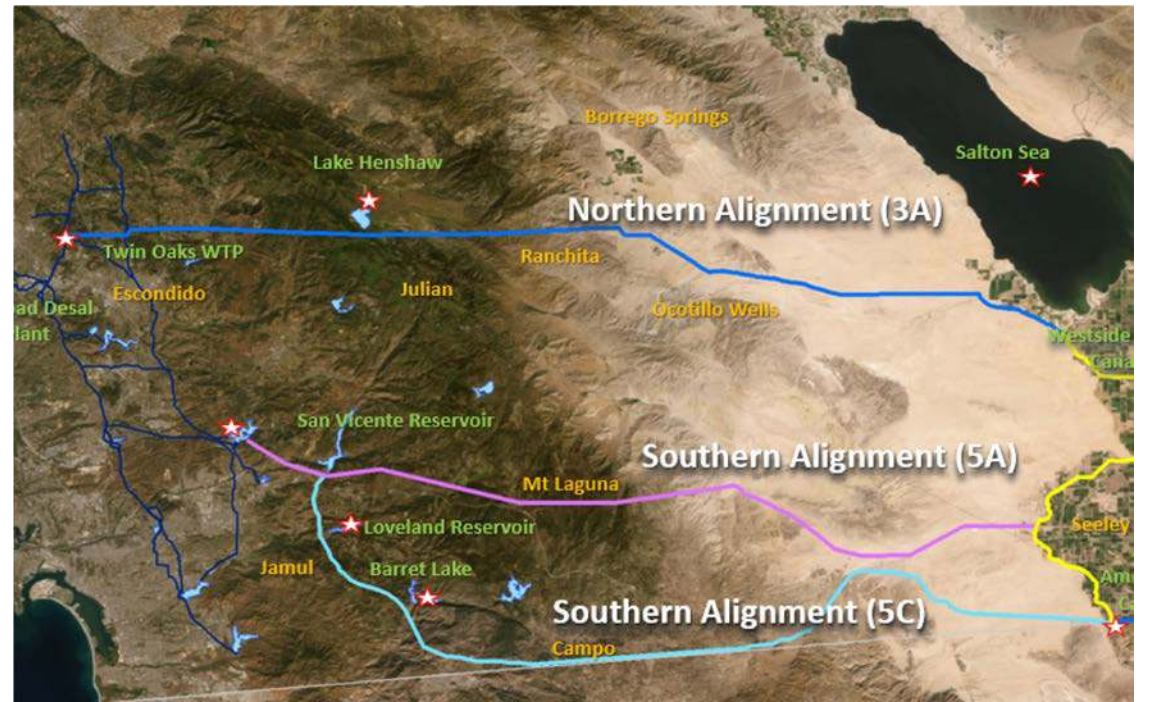
# Stop the Regional Conveyance System Pipeline



# A “Boondoggle”

**Definition:** a wasteful and worthless project undertaken for political, corporate, or personal gain, typically a government project funded by taxpayer.

- It is redundant.
- Will cost taxpayers at least \$6 billion.
- A 40% increase in energy demands.
- Up to 132 miles of canals/tunnels with 47 miles of tunnels through Cuyamaca mountains, state parks, national forest, and across 6 active fault lines.

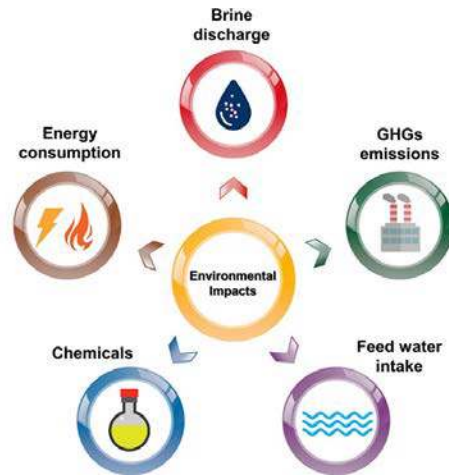
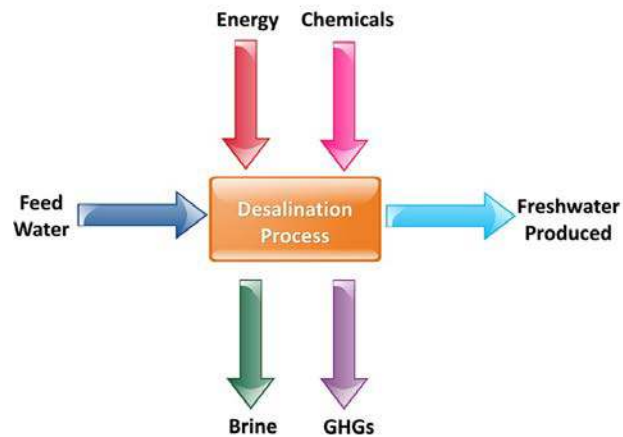




# But what about desalination?



# Local Supplies



## Carlsbad Desalination Plant

- Extremely energy intensive
- Most expensive source of water
  - Privately-owned
- Environmentally destructive
- Not equitable

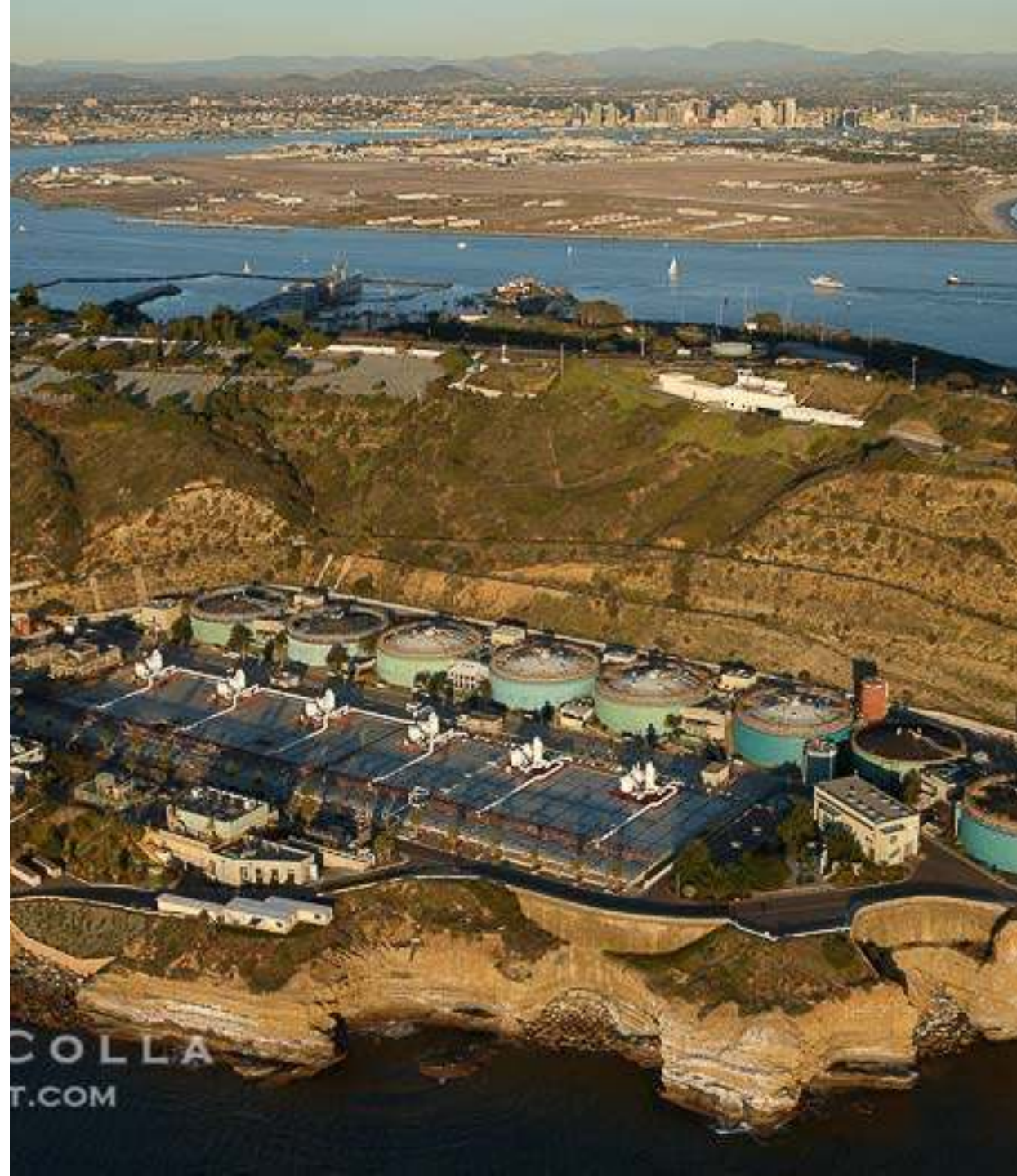


# What if we treat wastewater as an asset instead of a liability?



# Local Supplies – Wastewater Recycling/Pure Water

- History of piping partially treated sewage to ocean
- Pure Water Agreement
- Recycled water will account for 50% of City of San Diego's water supply by 2035.
- Pure Water Oceanside
- The East County Advanced Water Purification Project





# Investing in a Climate Resilient San Diego

Multi-benefit solutions that address:

- Water pollution
- Public health
- Flooding
- Disproportionate impacts

And increase access to:

- Low-carbon water supplies
- Urban green spaces
- Green jobs



Liability



Asset

# What is Green Infrastructure?

From restoring our wetlands, to rewilding our bays and rivers, rebuilding healthy soils, and replacing pavement with plants - green infrastructure plays a critical role in the health of our watersheds and communities.

## Healthy landscapes and living soil

- Filter out pollution
- Reduce flooding
- Soak up rainwater
- Reduce heat and wildfire risk
- Absorb and sequester carbon from the atmosphere





# Mimicking the Natural Water Cycle



Figure 2-10. Conceptual schematic of GI and associated benefits.

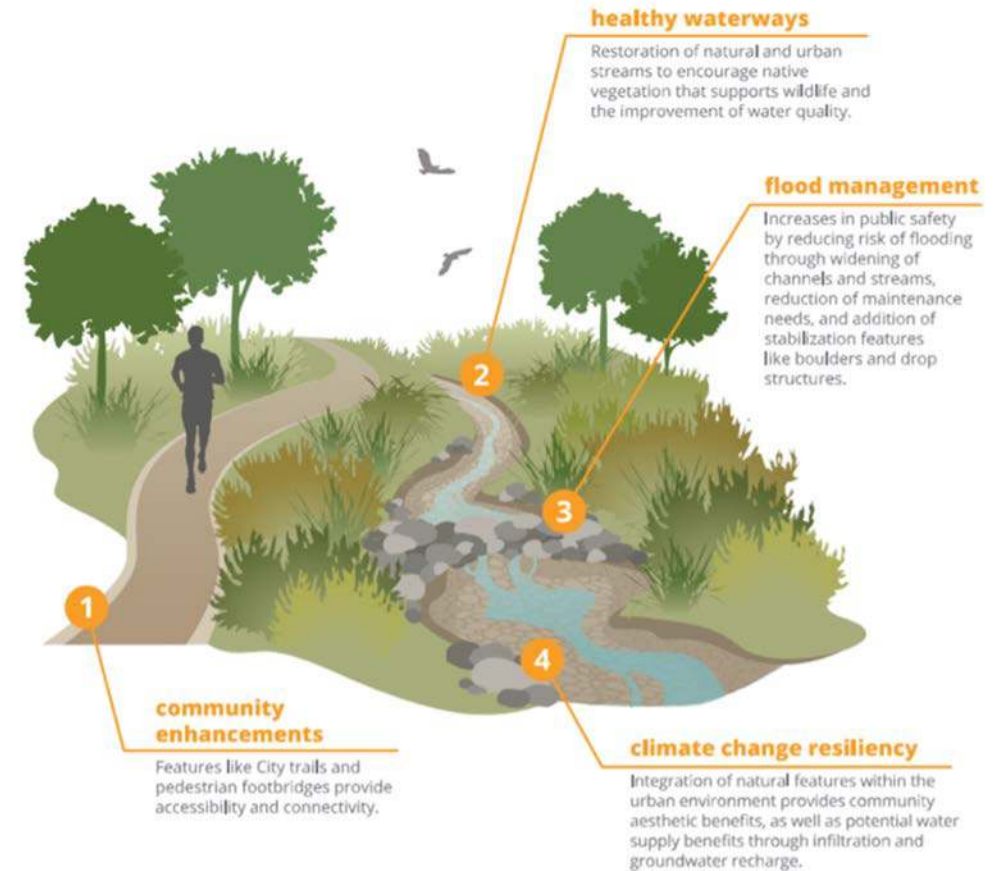


Figure 2-17. Conceptual schematic of stream revitalization.

# Green Infrastructure is for Everyone!

- Local, regional, and individual options
- Water conservation and stewardship
- Improve soil health and water absorption
- Drought-friendly landscaping
  - Native plants
  - Drip irrigation
  - “Showers to flowers”, “Laundry to landscape”
- Rainwater capture (rain barrels, cisterns)

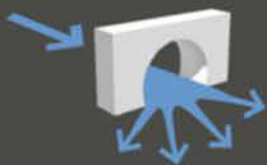




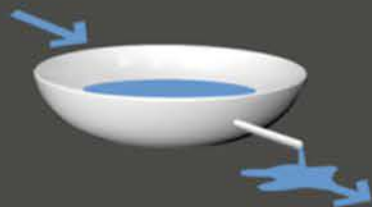


mechanical

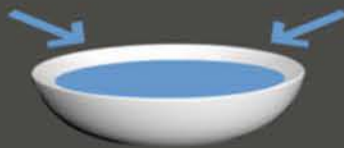
biological



flow control



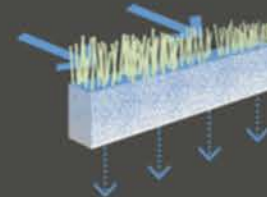
detention



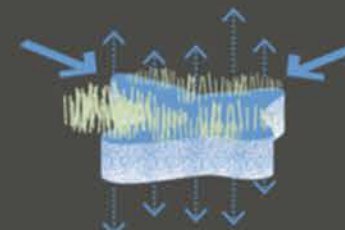
retention



filtration



infiltration



treatment

slow —————> spread —————>

**flow control:** The regulation of stormwater runoff flow rates.

**detention:** The temporary storage of stormwater runoff in underground vaults, ponds, or depressed areas to allow for metered discharge that reduce peak flow rates.

**retention:** The storage of stormwater runoff on site to allow for sedimentation of suspended solids.

**filtration:** The sequestration of sediment from stormwater runoff through a porous media such as sand, a fibrous root system, or a man-made filter.

**infiltration:** The vertical movement of stormwater runoff through soil, recharging groundwater.

**treatment:** Processes that utilize phytoremediation or bacterial colonies to metabolize contaminants in stormwater runoff.

# What About Stormwater?

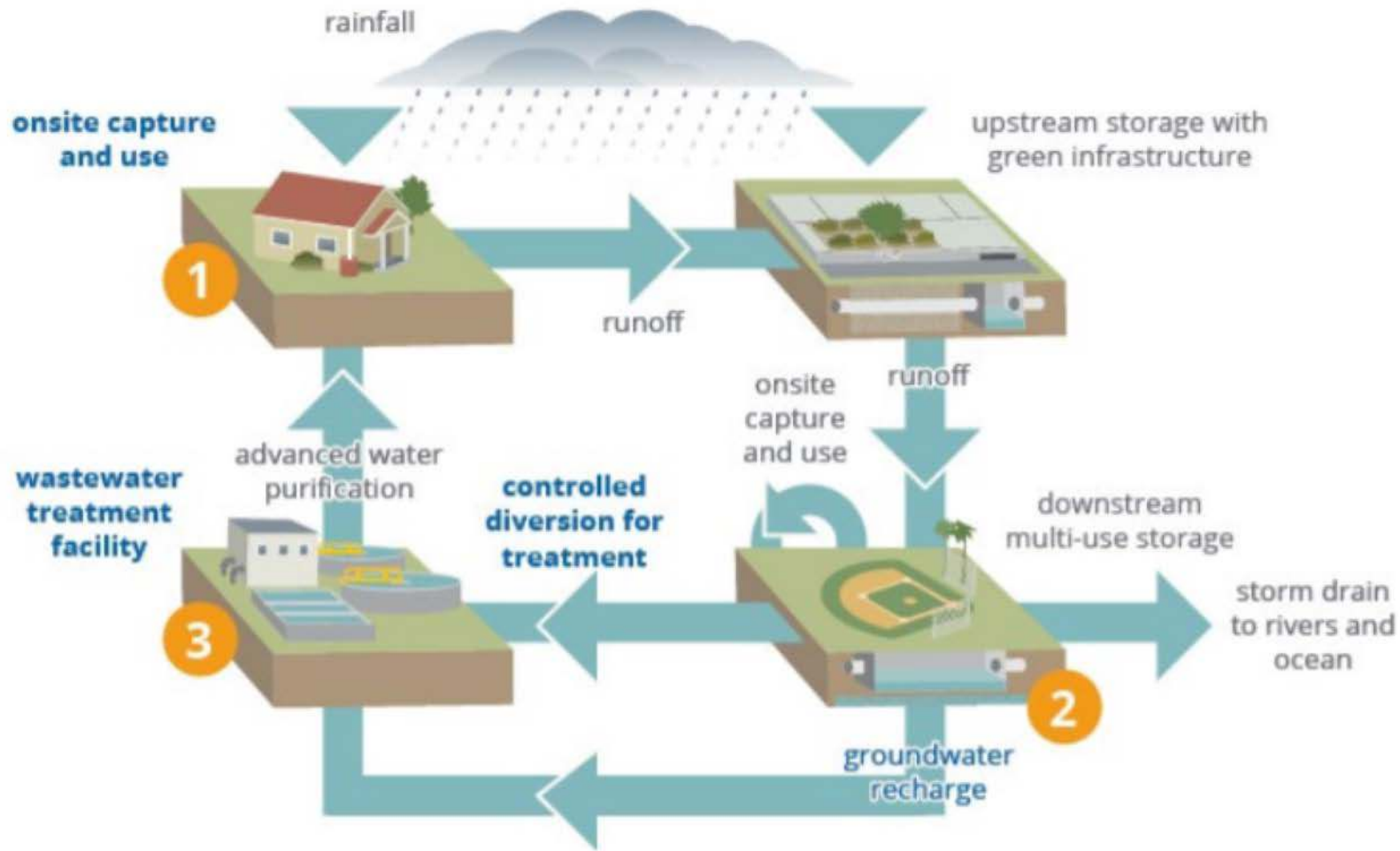


Figure 2-19. Conceptual schematic of stormwater harvesting technologies that are being evaluated by SWD and PUD.





# Stormwater Capture and Wastewater Recycling

- Tetra Tech Report was commissioned by the City of San Diego in 2016.
- Stormwater capture could potentially provide 22% of our water supply.
- “Integrated water management” could save us \$750 million over the next 20 years.

# Stormwater Infrastructure Funding

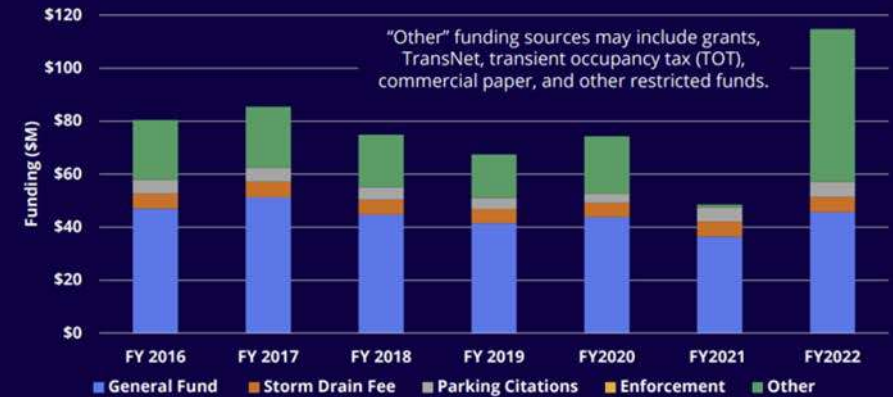
City currently charges far less than any other major western city, and it has led to an almost \$2 billion shortfall.

The City of San Diego is continuing to explore including a funding measure on the November 2022 ballot.



## Stormwater Funding has Failed to Keep Pace

Less than 1/3 of average annual funding need (\$335M per year)



"San Diego's Infrastructure Deficit is Really a Stormwater Deficit"  
- Voice of San Diego





# Take Action



**BE A VOICE FOR SAN DIEGO'S WATER**



**SIGN UP FOR OUR NEWSLETTER**



**LEARN MORE AT [SDCOASTKEEPER.ORG](https://SDCOASTKEEPER.ORG)**

# Contact Us



## Website

[sdcoastkeeper.org](http://sdcoastkeeper.org)

## Email

[patrick@sdcoastkeeper.org](mailto:patrick@sdcoastkeeper.org)

[lucero@sdcoastkeeper.org](mailto:lucero@sdcoastkeeper.org)

## Contact Number

714-855-8340

## Facebook

[@SanDiegoCoastkeeper](https://www.facebook.com/SanDiegoCoastkeeper)

## Instagram

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