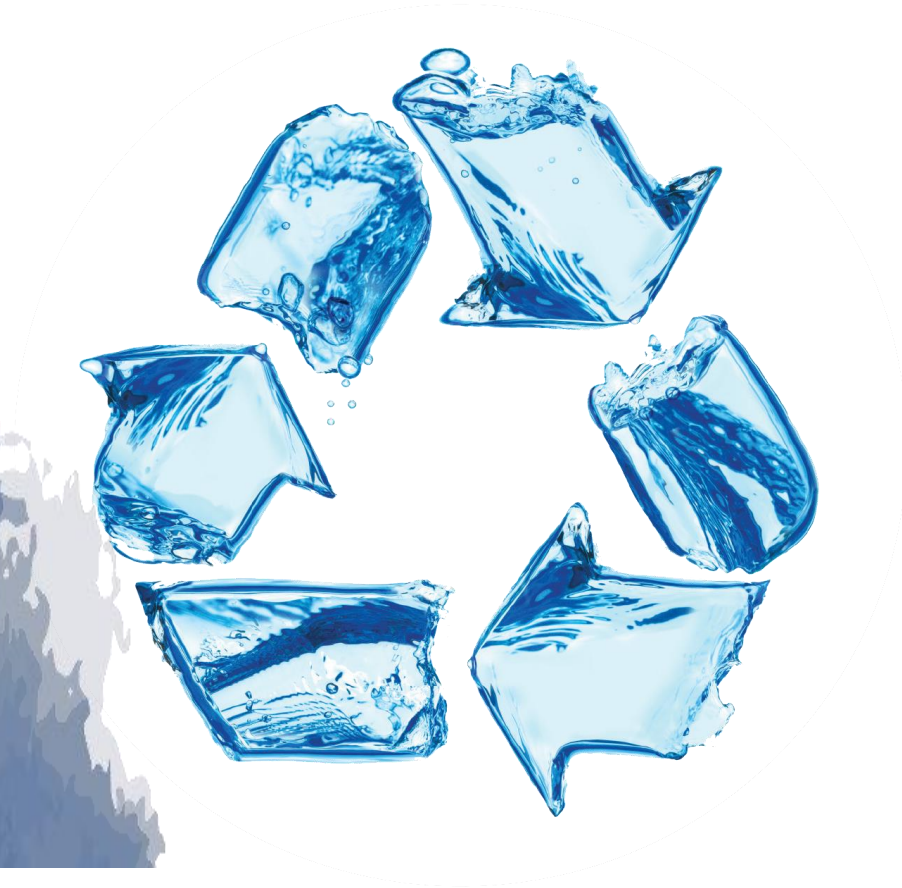


# Tribes and Water Reuse

- What is water reuse?
- Why is it important?
- What are some examples?
- How to get started
- Tell us what you need

**[Presenter's name and title]**  
**[date]**



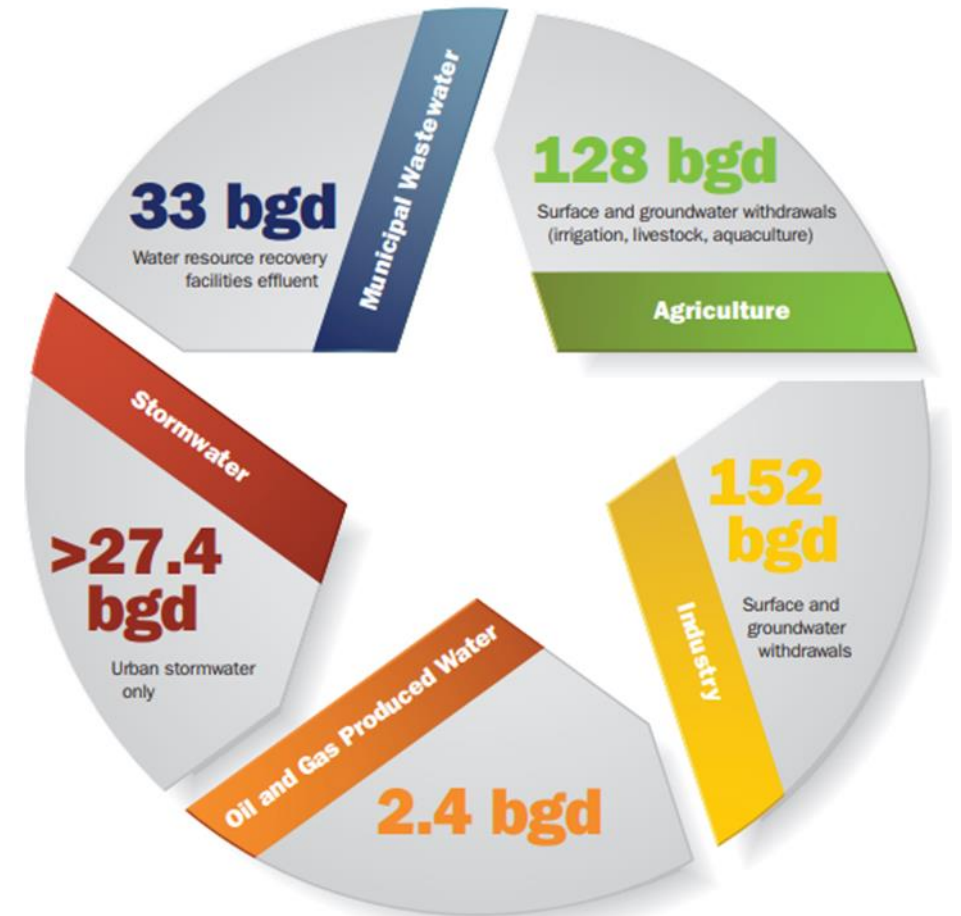
# What is Water Reuse Anyway?



# Untapped Potential: Sources of Water and Potential for Reuse

There is a clear potential to reclaim more of the nation's water.

- Nearly 350 Billion Gallons a Day is discharged from various sources.
- Over 280 BGD of that is potentially available for reuse.
- **But less than 10% of that amount being recycled now.**



Source: [www.epa.gov/sites/production/files/2019-09/documents/water-reuse-action-plan-draft-2019.pdf](http://www.epa.gov/sites/production/files/2019-09/documents/water-reuse-action-plan-draft-2019.pdf). Figure imagery by naihei/Shutterstock.com.



# National Water Reuse Action Plan 2020

**EPA and partners developed the Water Reuse Action Plan (WRAP) to:**

- **Increase water reuse.**
- **Ensure sustainability, security, and resilience of water resources.**
- **Encourage an integrated, holistic approach for water systems.**
- **Developed 37 actions with implementation plans.**



# **WRAP Action 2.2.15:**

## **Conduct Outreach and Training with Tribes to Build Water Reuse Capacity.**

- **Ask Tribes about water reuse interest/needs**
- **Work with Tribes to identify opportunities**
- **Provide introductory training for Tribes on Reuse opportunities, implementation considerations**
  - **Technical – Managerial – Financial. (July 2020)**
- **Assess interest in pursuing reuse, support needs**





## **Why Reuse Water?**

- Increase your water supply to better meets your water needs.
- Increase your control over your own water supply.
- Increase your control over your water quality.
- Make your water system more resilient to future stresses.
- Increase flood control by capturing stormwater.
- Increase your community's understanding of importance of water resources.

# Sources of Water for Recycling

## Sources include

- Stormwater (including onsite rainwater)
- Municipal Wastewater
- Agricultural runoff and return flows
- Industrial cooling water
- Industrial processing water and wastewater



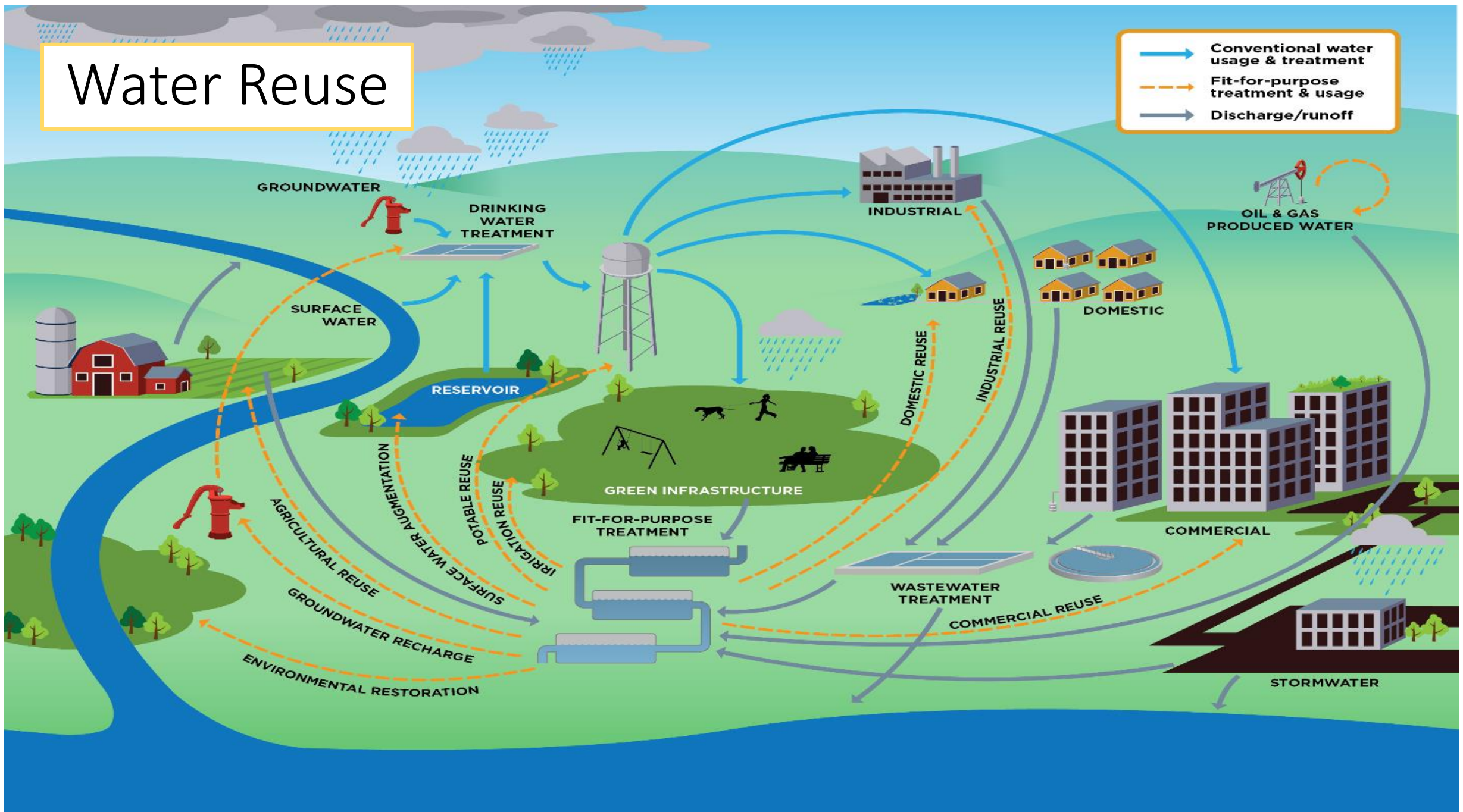
# Recycled Water Uses

## Uses include

- Drinking water
- Toilet flushing
- Agriculture irrigation and livestock watering
- Landscape irrigation
- Groundwater storage and recharge
- Saltwater intrusion barriers
- Environmental restoration
- Road dust control
- Industrial processes for power plants and factories
- Concrete mixing



# Water Reuse



# Keys to Safe Water Reuse?

- The water to be reused should meet “Fit-for-Purpose Specifications”
  - treated correctly for the use, and
  - tested to verify that it meets water quality requirements for then use.
- Potable reuse generally requires more treatment
- Must ensure
  - Public health, and
  - Environmental protection



# Water Reuse Training for Tribes

- Live training webinar July 15, 2020
- Will be posted online
- Coming Summer 2015
- More training if needed

## Keys to Success: Water Recycling in Tribal Communities

Bruce Macler, Dave Smith  
USEPA Region 9  
John Flores, San Pasqual Band of  
Mission Indians



Select a few examples to highlight tribal reuse





# Reclaiming Wastewater and Stormwater For Landscape Irrigation

- **Shakopee Mdewakanton Sioux, MN**
  - Treatment Plant upgraded 2005, includes advanced treatment and large “green roof”
- **Water Reuse Solution**
  - Irrigates landscapes, wetlands, golf course
  - Provides enhanced habitat for wildlife
  - Green roof reduces stormwater runoff
  - Considering aquifer recharge



# Reclaimed wastewater reused for landscape irrigation



- **Chicken Ranch Rancheria in California**
  - Tribe wanted to replace its wastewater treatment system.
- **Reuse Solution**
  - New Water Reclamation Facility treats wastewater to tertiary standards
  - Reclaimed water piped through 20,000 feet of drip irrigation tubing to water existing landscape





## Stormwater reused for livestock

- Setting: Morro Bay Watershed, CA (date)
  - University livestock facility needs dry season supply, but groundwater pumping could reduce nearby creek flow and harm fish habitat.
- Water Reuse Solution:
  - Collect rainwater from livestock enclosure roof in rainy season and store 296,000 gallons in tanks.
  - Using solar pump, provide livestock drinking water in dry season
  - Protects Creek fish habitat quality





# Reclaimed Wastewater used for gardens, toilets & firefighting

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- **Santa Ynez Chumash Tribe, CA**
  - Tribe needs water for new casino; supply limited
- **Reuse Solution:**
  - Treat wastewater for toilet flushing, cooling tower, and landscape irrigation.
  - Membrane-based facility treats 67,000 gpd gallons/day
  - Also used for fighting wildfires.

Photo: Santa Ynez Chumash Tribe's Casino using recycled water in gardens and toilets. Also used for fire fighting.





# Recycled Water for Dust Suppression

- **Tule River Reservation, CA**
  - Wastewater plant upgrade 2009
  - Enables disconnection of failing septic tanks
- **Recycling Solution**
  - Use treated effluent for dust suppression on roads





# Reclaimed wastewater for wetlands and groundwater recharge

- **Lacey, WA**
  - Upgraded wastewater treatment needed
- **Reuse Solution-**
  - Reclaimed Water Facility treats wastewater, routes through 5 constructed wetland ponds
  - Provides wetland habitat and polishes water quality
  - Water from the ponds sent to recharge basins to refill aquifer



**Example:** Example of [stormwater or reclaimed wastewater] reused for [name the use]

- Setting: [location and Tribe's name]. [Add information on issue]
- Solution using water reuse: [describe water reuse project or system]

[include photo]

# Steps To Plan and Implement Reuse?

Carefully weigh benefits and limitations of water reuse.

Make a plan - How can your current water system incorporate reuse? Do you need a new system? Where will the treated water be reused?

Get funding (Many sources are available).

Design/construct system (including distribution elements), using proven technology

Train staff to ensure they can operate the system safely.

Ensure that monitoring and operations protocols are followed.



# Tribal Interest In Water Reuse?

- Which type(s) of reuse interest your tribe?
- Where do you need help moving to reuse?
  - planning, design, construction, funding, operations?
- What training do your managers and staff need?
- Do you have examples of water reuse that could be shared with other Tribes?
- How can we best help you?



# US EPA Regional Contact for Water Reuse for Tribes

- [Name]
- [Title and/or Office]
- [Email]
- [Phone number]



**Thank You.**

**Any Questions?**