



Pure Water San Diego

Program

Losing the IPR/DPR Label:
It's All About Surface Water Augmentation



Potable Reuse Terminology

Finished water
Groundwater Replenishment
DPR light
Water Reclamation
Direct Potable Reuse
Purified Water
Drinking Water
Advanced Treatment
Advanced Treatment
Indirect Potable Reuse
Potable Reuse
Recycled Water
Reclaimed Water
Direct - Direct Potable Reuse
Surface Water Augmentation
Potable Water
Tap-to-Tap

Indirect Potable Reuse

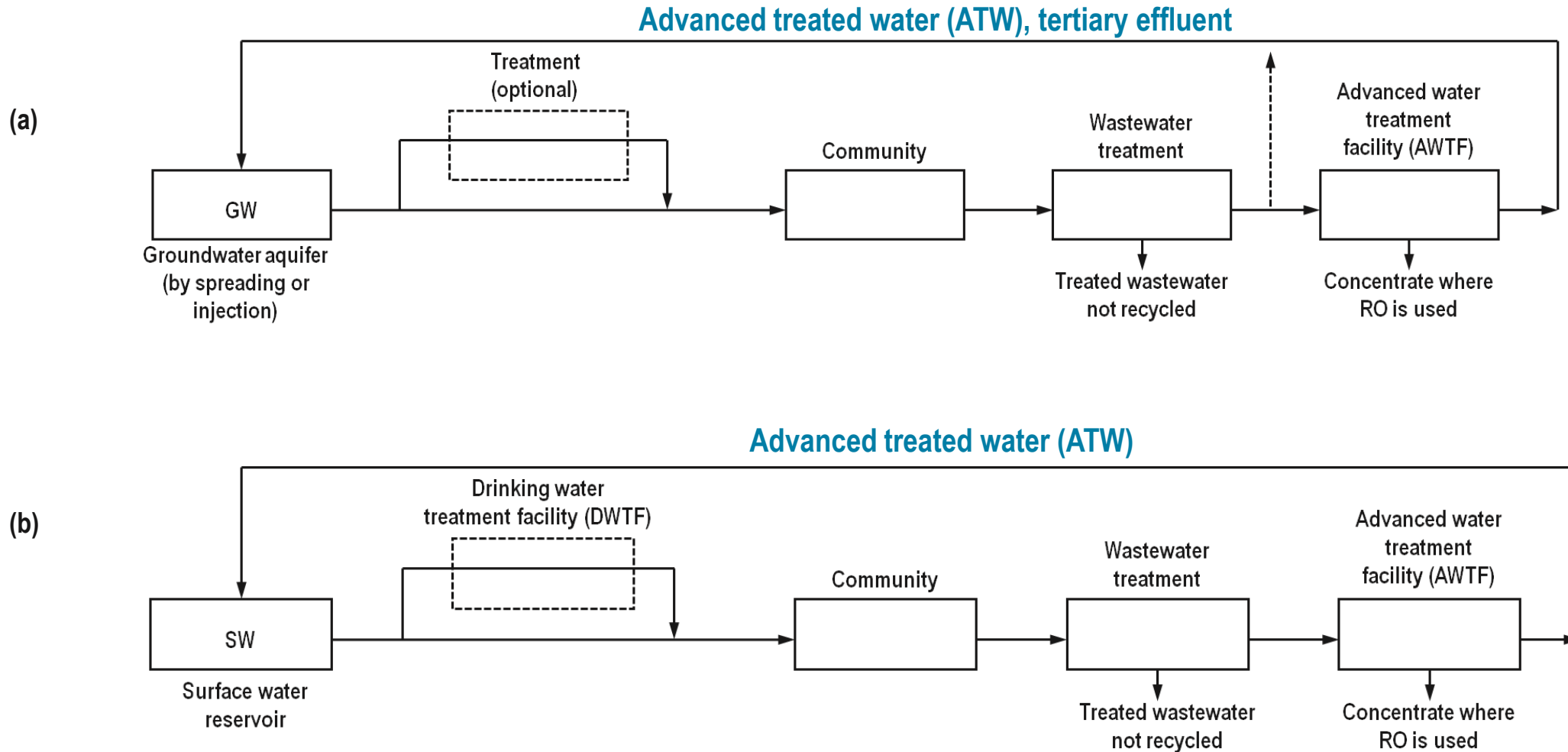


Figure 1. Flow diagrams for IPR: (a) with a groundwater aquifer as an environmental buffer; and (b) with a surface water reservoir as an environmental buffer (Tchobanoglous et al., 2015).

Direct Potable Reuse

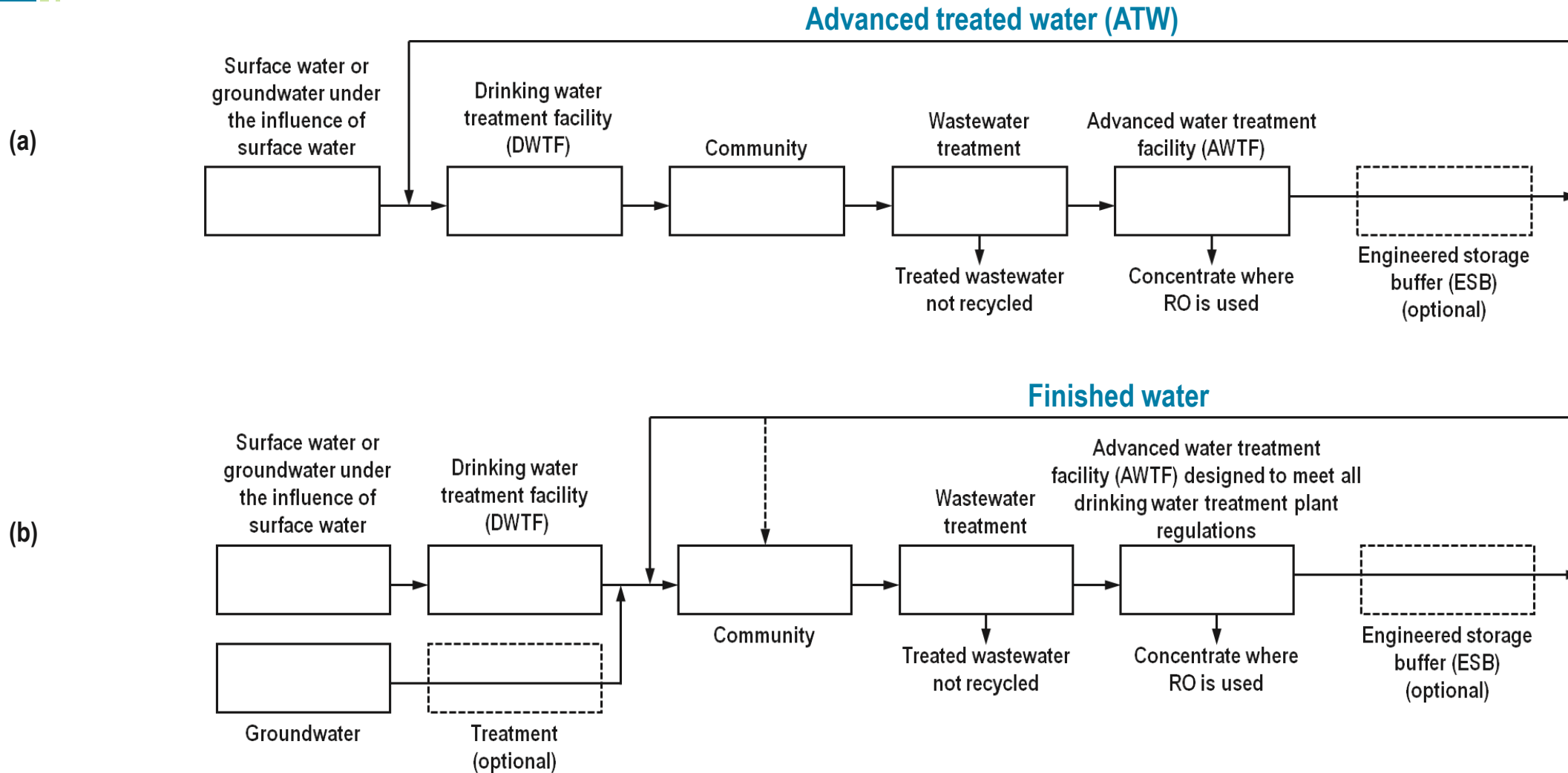
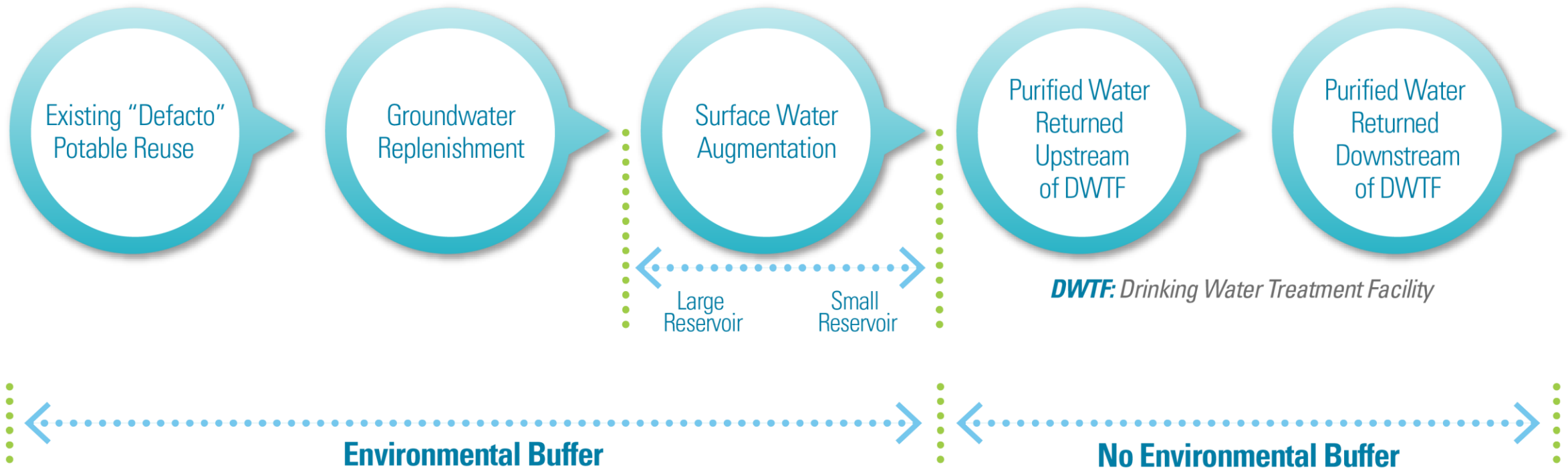


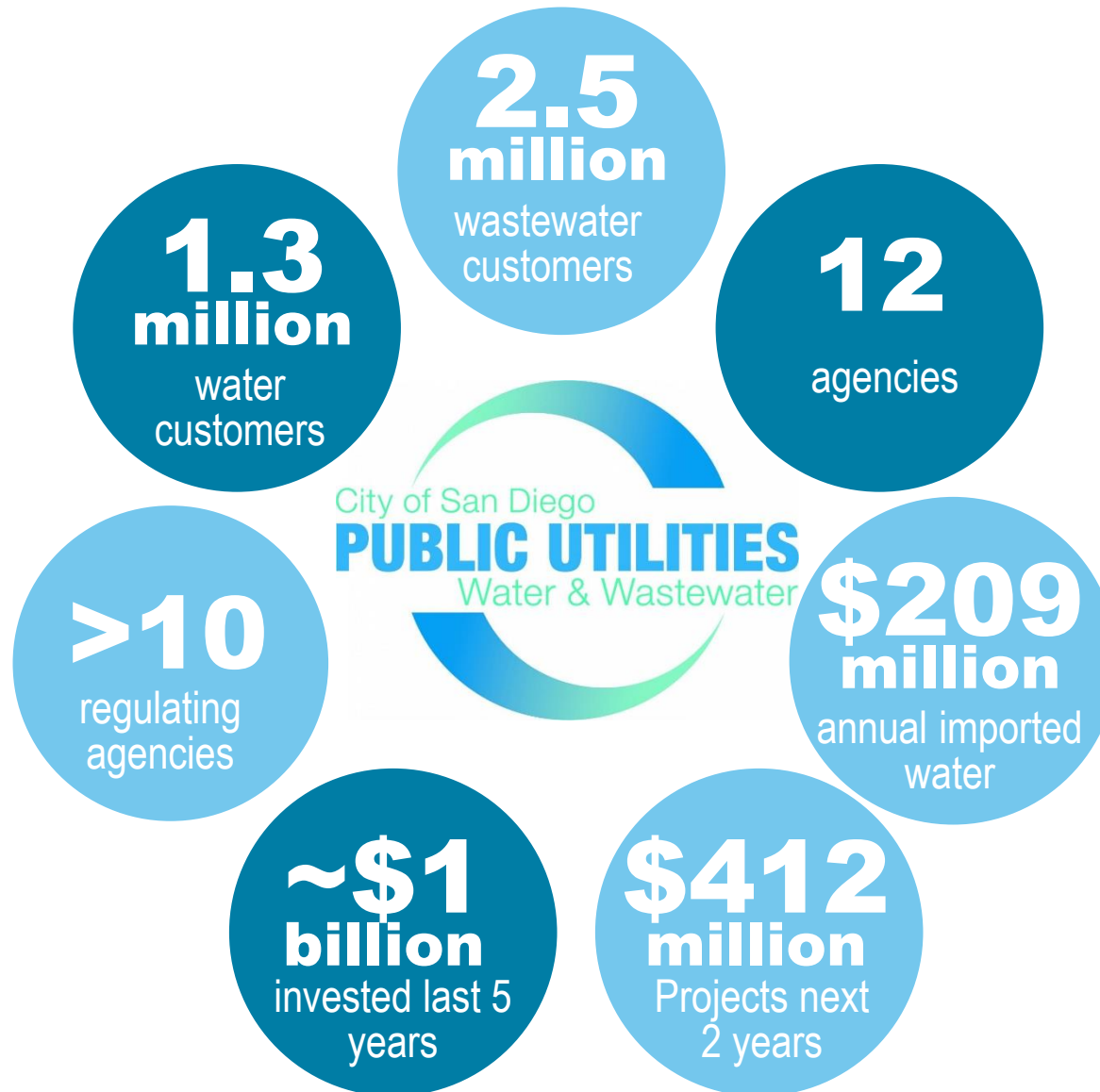
Figure 2.1: Flow diagrams for DPR: (a) with ATW introduced upstream of a DWTF; and (b) finished water introduced into the drinking water supply distribution system downstream of a DWTF. (Tchobanoglous et al., 2015).

Potable Reuse Continuum

Where Do We Draw the
IPR/DPR Line?



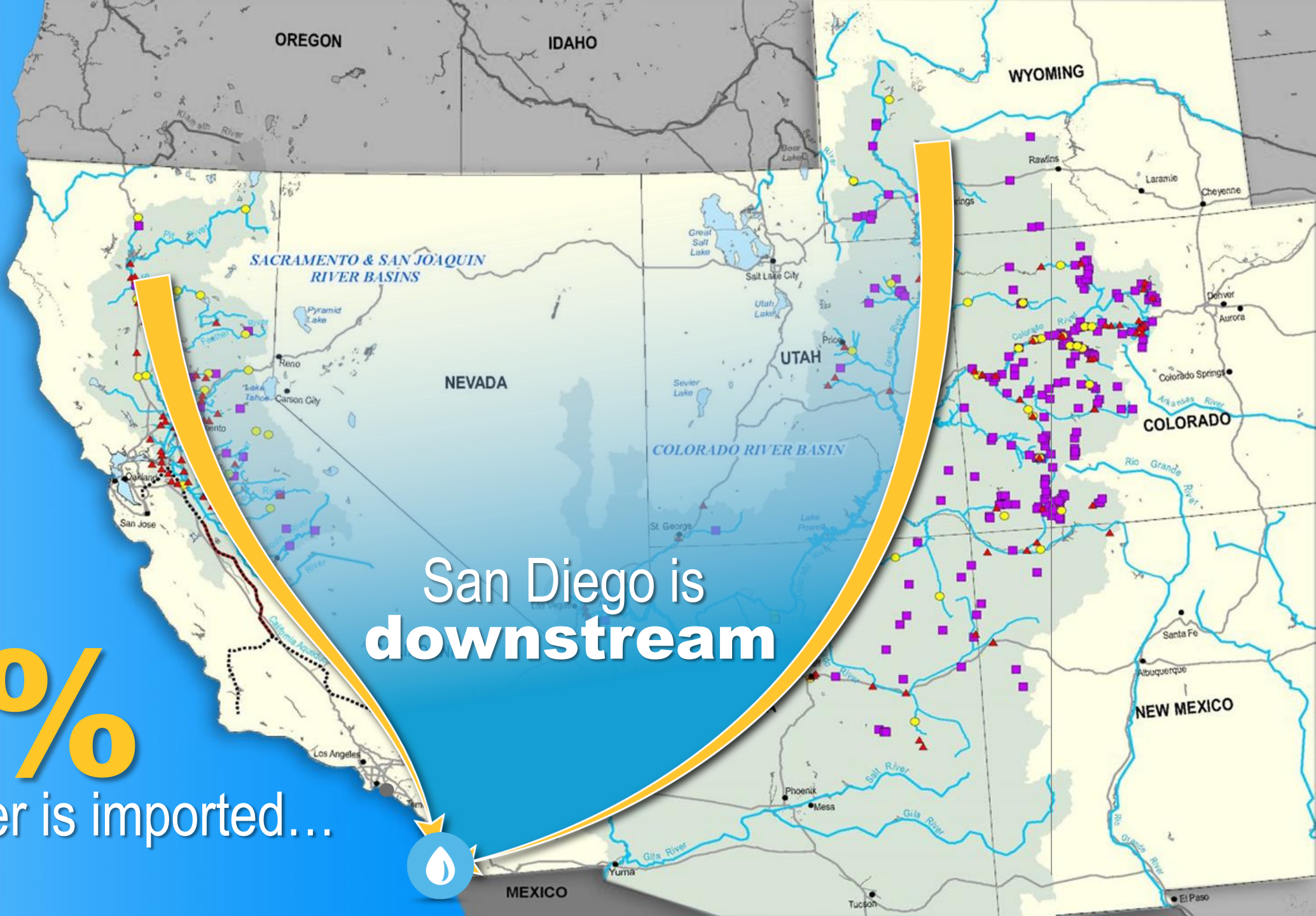
San Diego PUD: The Numbers



85%

of our water is imported...

San Diego is
downstream

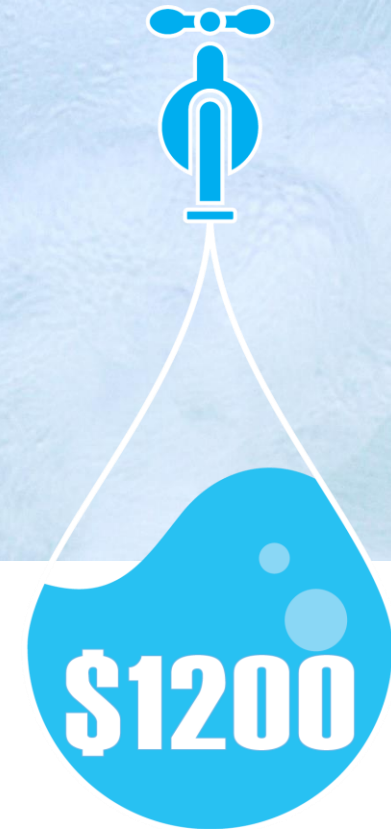


San Diego's Water Challenges

Imported water cost per acre-foot



2000



2016

- Limited local & imported supplies
- Population growth
- Bay Delta constraints
- Natural disaster risk
- Rising imported water costs
- Recurring drought

What is Being Done?

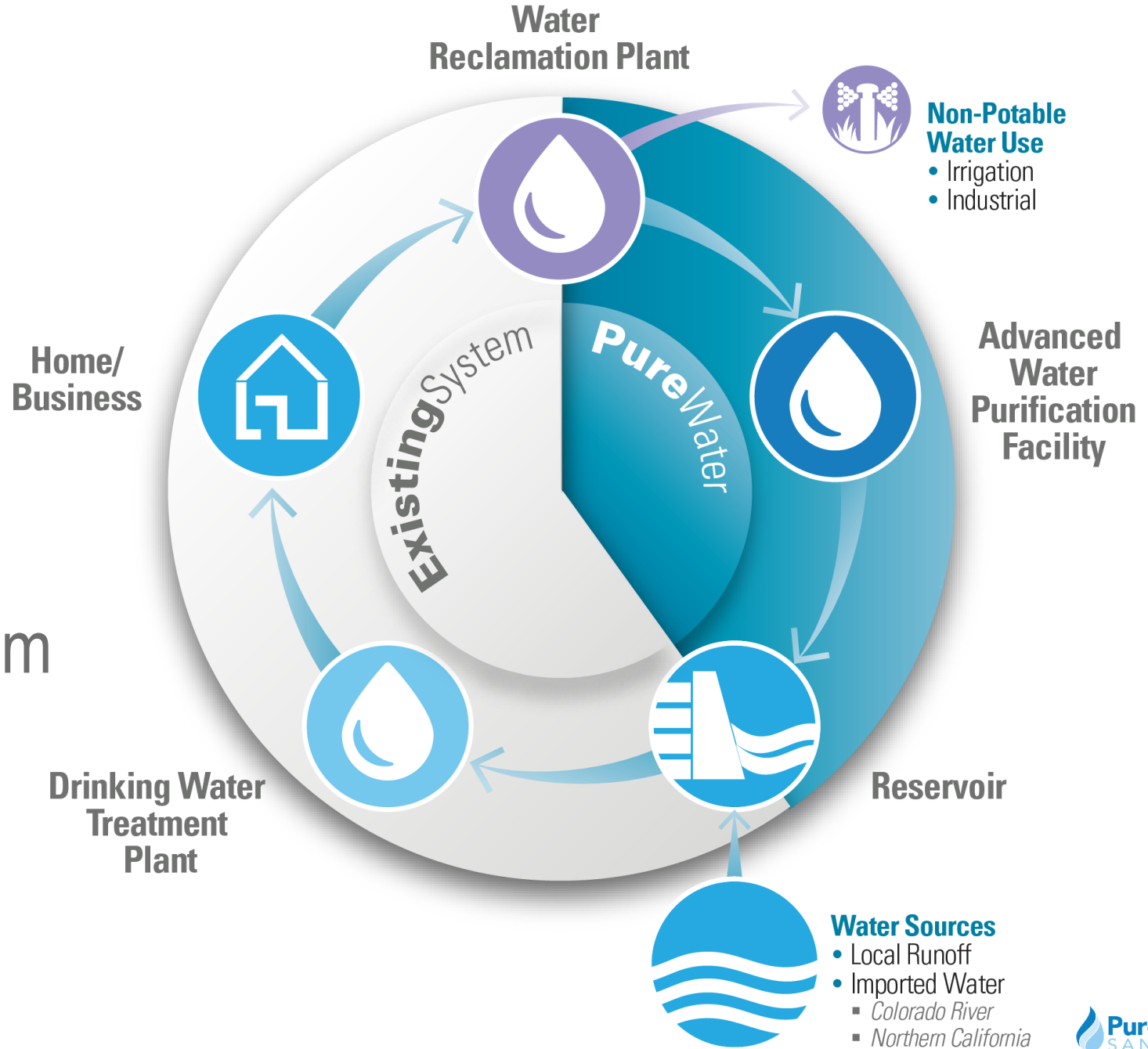
Multi-faceted Approach:

- Conservation
- Recycled Water
- Groundwater Development
- Desalination
- **Pure Water Program**



Existing System...

Completes Our
Water-Cycle System



Overall Program Goals

Original Program Goals

	Output	Location
Phase 1	15 mgd by 2023	North City
Phase 2	Additional 15 mgd by 2027	South Bay
Phase 3	Additional 53 mgd by 2035	Central Area
Total	83 mgd	

Accelerated Program Goals

	Output	Location
Phase 1	30 mgd by 2021	North City
Phase 2	Additional 53 mgd by 2035	Central Area South Bay (as needed)
Total	83 mgd	

Pure Water
will produce
1/3
of your water
locally

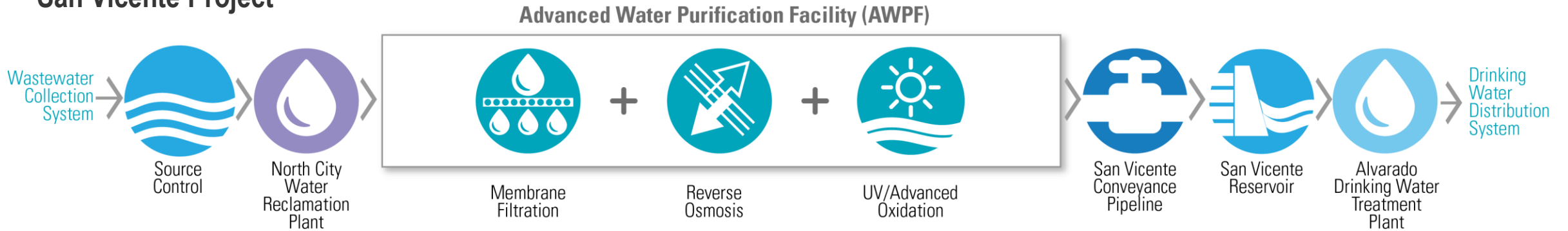
Phase 2

- 2035 Completion
- 53 mgd
- Central Area AWPf to San Vicente or Lake Murray
- South Bay AWPf to Lower Otay Reservoir (if needed)

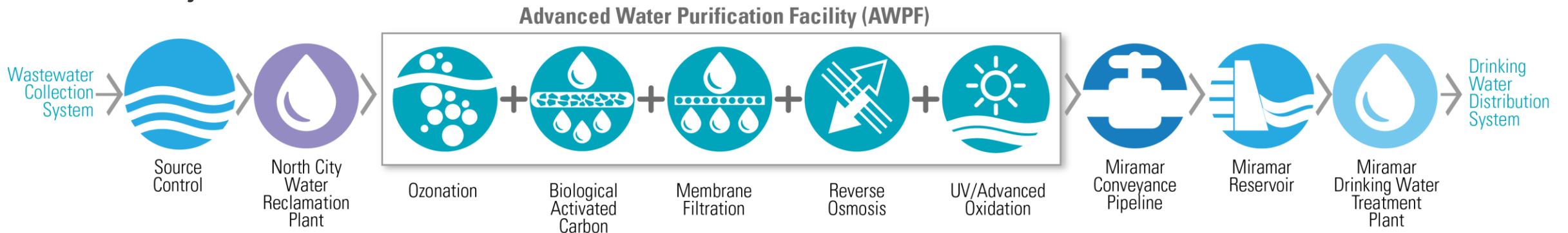


Equal Public Health Protection

San Vicente Project



Miramar Project



Gradual Loss of Environmental Buffer

- Means to compensate for loss of some or all of the environmental buffer could include:
 - *More robust multiple treatment barriers*
 - *Enhanced monitoring for CECs or surrogates*
 - *Real-time or near real-time monitoring capability*
 - *Short-term storage of product water to provide time for monitoring results prior to use as a potable supply*
 - *Alternative water supply source or means to quickly correct failure*

Award Winning Public Outreach



Questions



Pure Water San Diego



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