

# JEA WATER PLANNING & THE H2.0<sup>®</sup> PURIFICATION PROGRAM

Florida Water & Climate Alliance Webinar  
Ryan Popko, P.E.  
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# JEA

## JEA is the largest community-owned water and electric utility in Florida



JEA's Service Area covers >900 square miles, parts of 4 counties



140 Floridan aquifer wells, 39 WTFs and >5,000 miles of water pipelines



>1,600 lift stations, >4,200 miles of sewer pipelines and 12 WRFs



Reclaimed water distributed for irrigation and other uses by 500 miles of pipelines

# JEA WATER

## Water Supply

- Currently, all of JEA's supply of drinking water comes from the aquifer
- To meet future demands, another supply is needed beyond what the aquifer can provide

## Water Supply Options



# WHAT IS JEA'S WATER PURIFICATION PROGRAM?

## Water Cycle

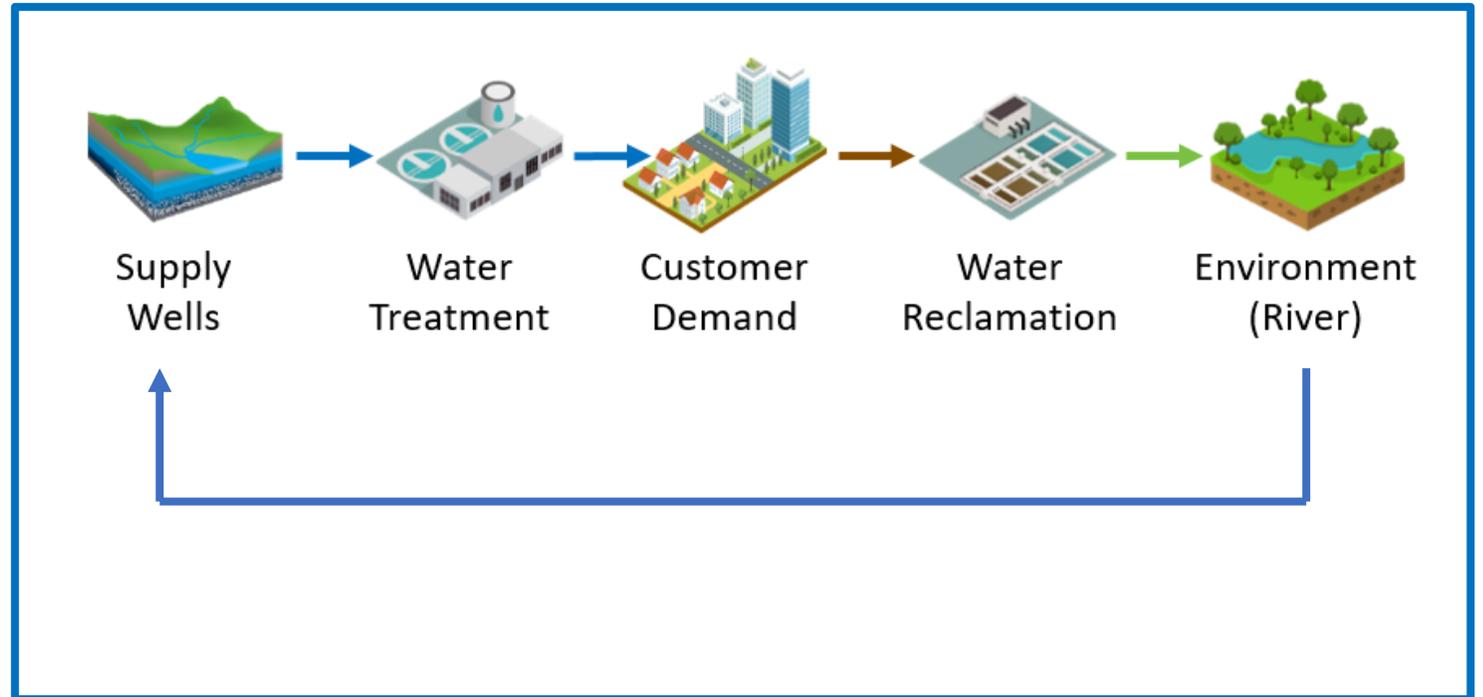
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- All water on Earth is reused
- Everyone lives “downstream”

## Water Reuse

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- Florida leads the country in the use of reclaimed water
- Reclaimed use directly conserves potable water
- Purification mimics what nature does to replenish water supplies



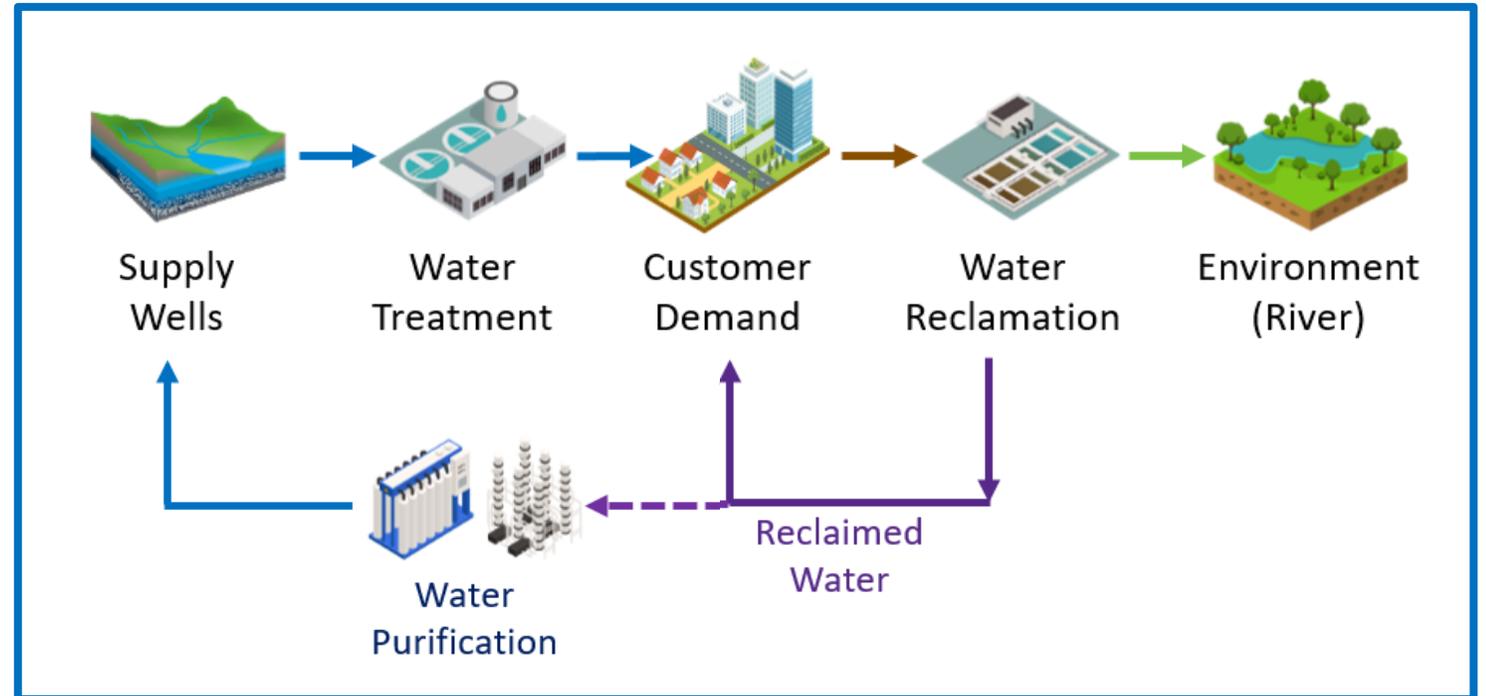
# WHAT IS JEA'S WATER PURIFICATION PROGRAM?

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## Water Reuse

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All water on Earth is reused. With purification we are mimicking what nature does to replenish the aquifer, but doing it more efficiently, in a shorter amount of time, in a smaller footprint.

# JEA'S H2.0 PURIFICATION PROGRAM

## Planning for the 3-Phase Multi-Year Program Began in 2014

2016-2019

**PHASE I**  
**Pilot Testing**



- Technology Evaluation
- Ensure Protection of Public Health
- Communications Plan Development

2019-2025

**PHASE II**  
**Demonstration**



- Optimize Performance
- Staff Training
- Visitor Center for Outreach & Education

TBD

**PHASE III**  
**Implementation**



- Expandable as Demands Increase
- Aquifer Replenishment for CUP Credit

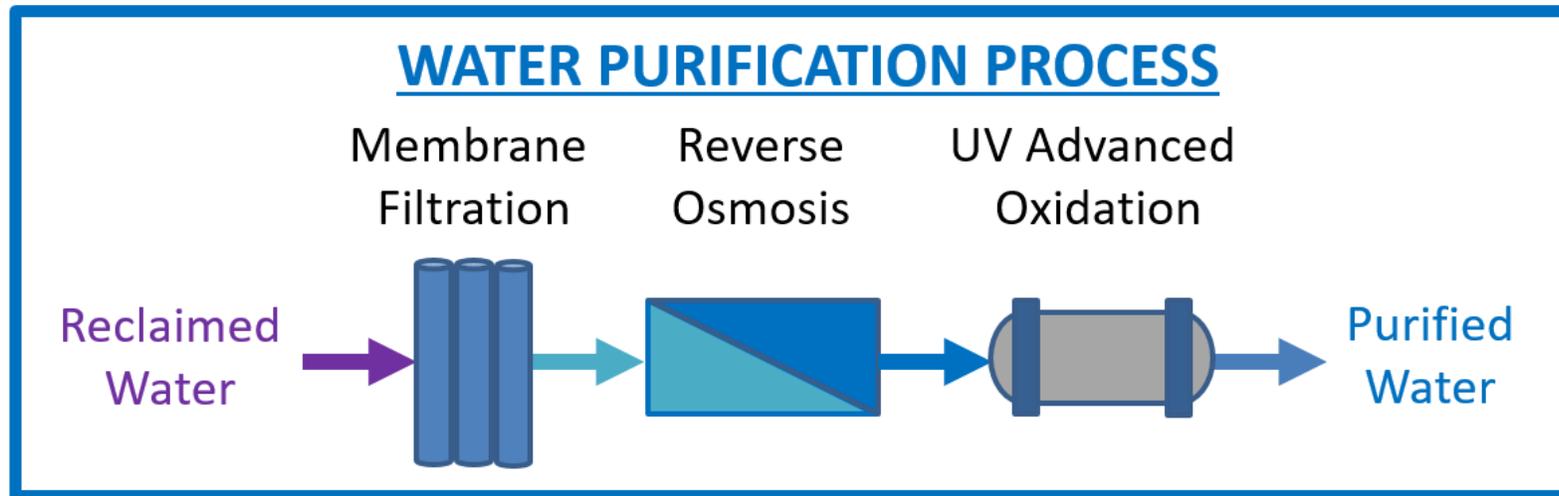
# THE WHAT AND HOW OF PURIFICATION

## What Purification is

- Further purifies reclaimed water to drinking water quality
- Purified water can be used to replenish the aquifer

## How Purification works

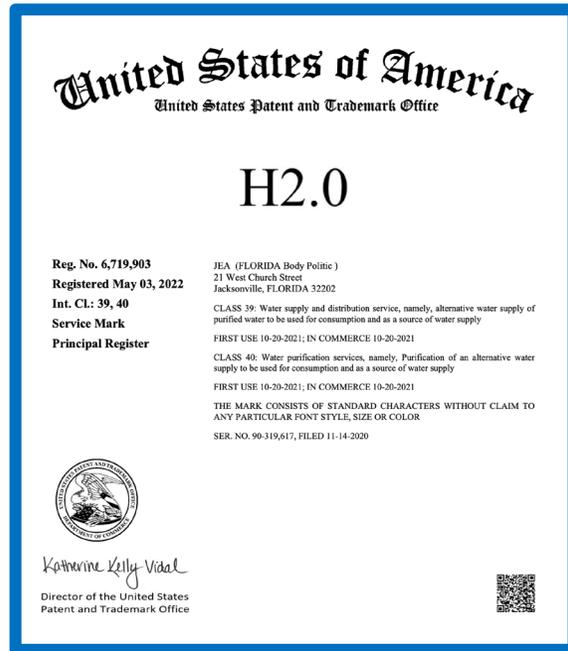
- Combination of established treatment methods
- Multi-barrier process ensure safety
- Produces pure water
- Remineralization before use



# H2.0<sup>®</sup> PURIFICATION

## Brand

- As an acknowledgement of the 2.0 version of our water (H2O) supply this program is called “H-two-point-oh”



# H2.0 PURIFICATION CENTER

## Objectives

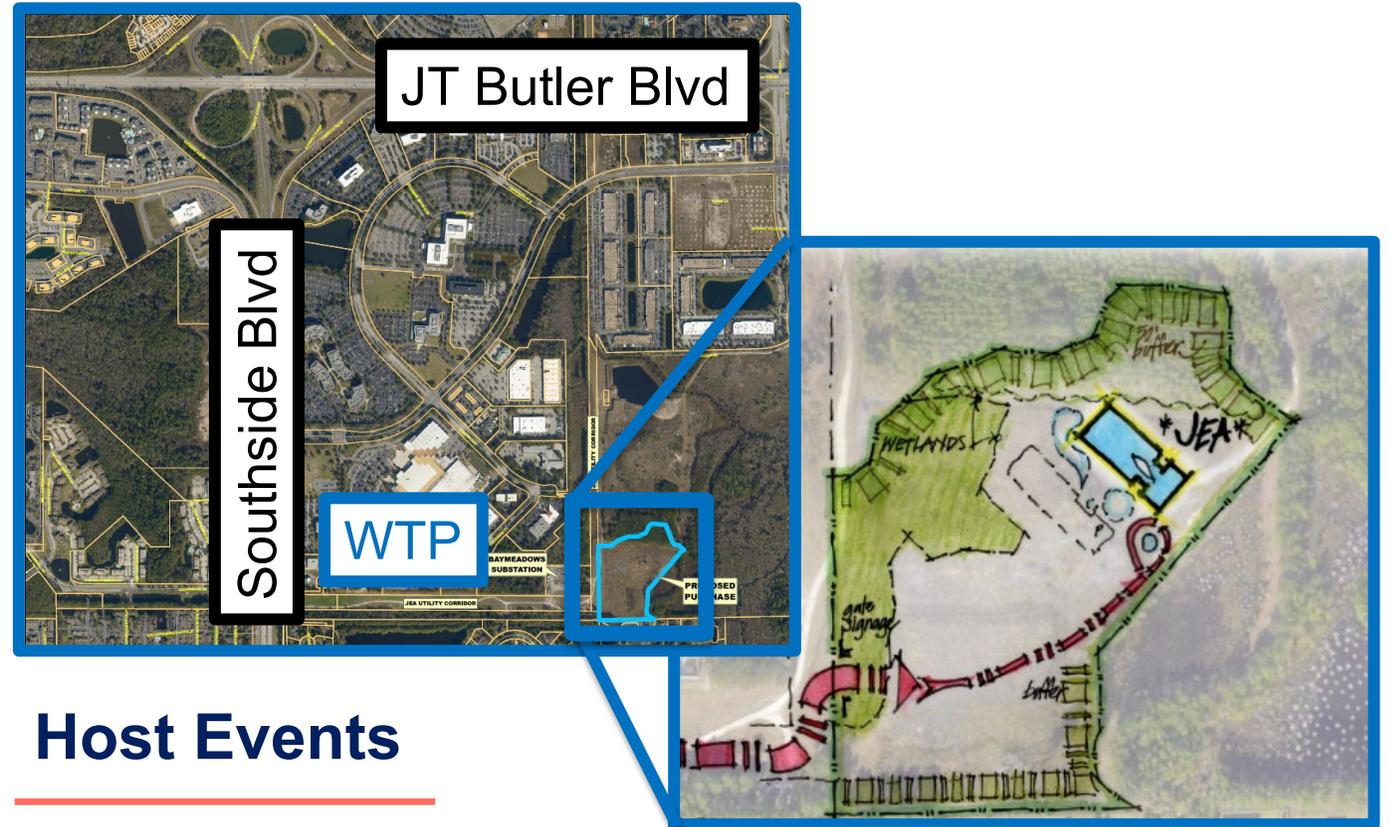
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- Protection of Public Health & Environment
- Performance Optimization
- Research, Training & Education

## Components

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- Florida Green Building – Silver
- On-Site Support Laboratory
- Training Room & Wet Lab
- Educational Exhibits
- Tasting Station



## Host Events

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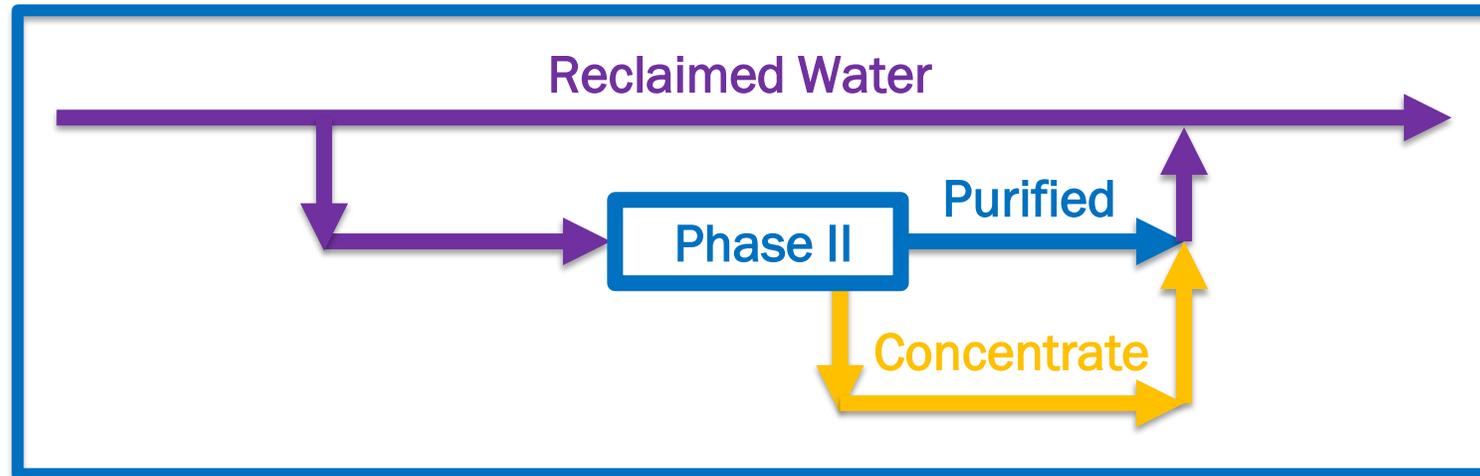
- Thousands of annual visitors
- Professional organizations & training

# H2.0 PURIFICATION CENTER

## Startup and Testing

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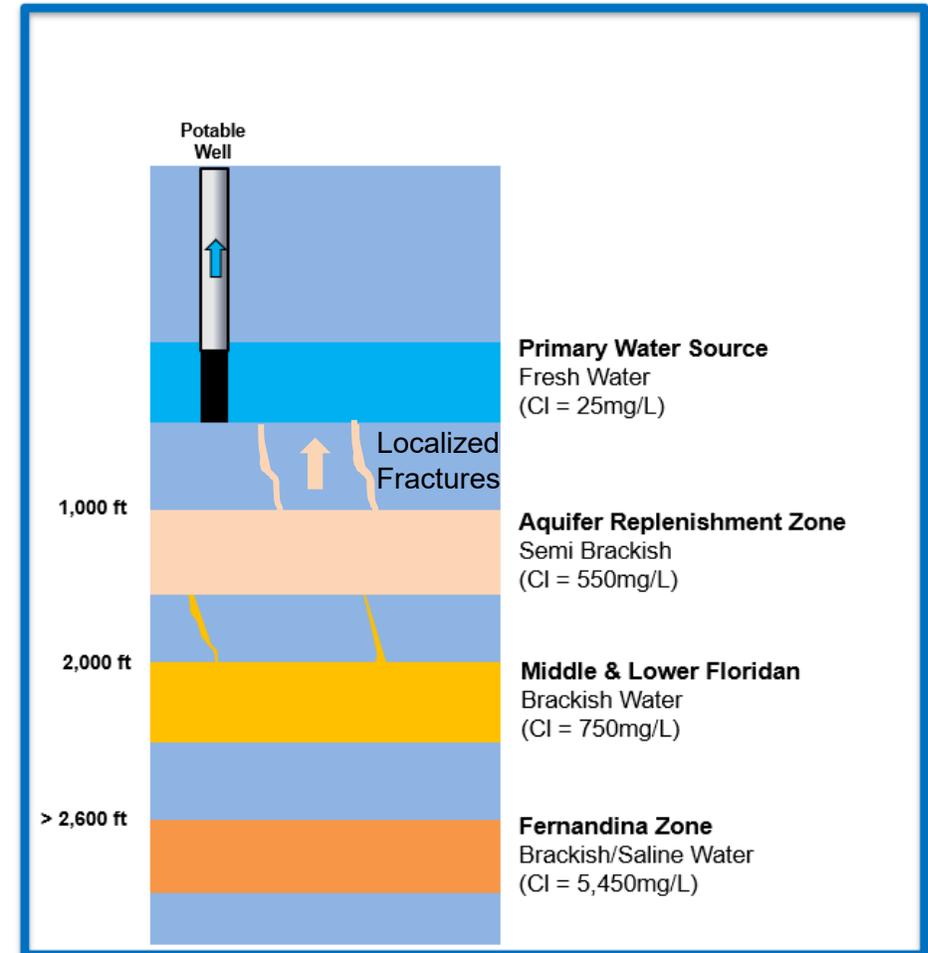
- Initial startup will blend purified water & concentrate back together, essentially reforming reclaimed water for irrigation
- Flexibility allows for startup, training, demonstration and acceptance



# AQUIFER REPLENISHMENT

## Increasing the quantity & improving the quality

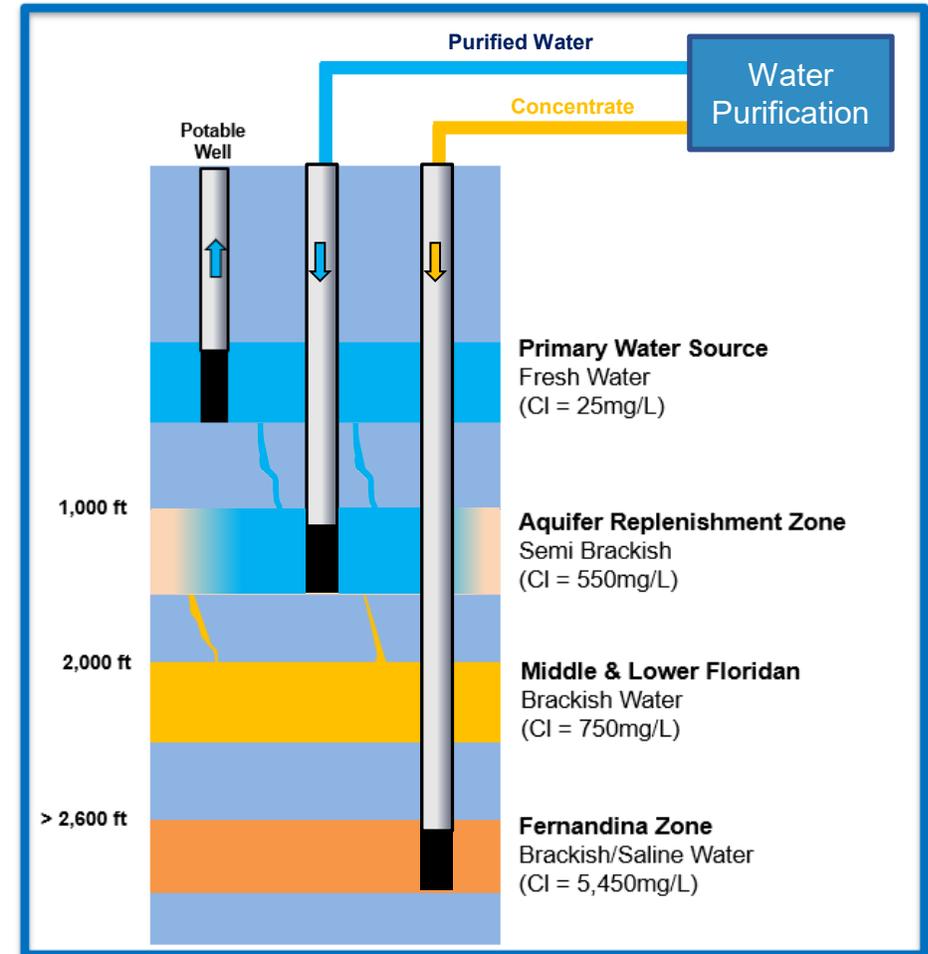
- After receiving all permits, training staff & achieving stable compliant operation, JEA can begin beneficially using the purified water through aquifer replenishment
- During aquifer replenishment, the concentrate can be conveyed to a deep well for disposal, blended into the reclaimed water system or conveyed to the sewer collection system



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# COMMUNICATION RESOURCES

## One Water Florida

“One Water Florida is an initiative to highlight the benefits of recycled water and how it will safely supply Florida’s future.”



<https://floridadep.gov/southwest/sw-permitting/campaign/one-water-florida>

### Partners



# COMMUNICATION RESOURCES

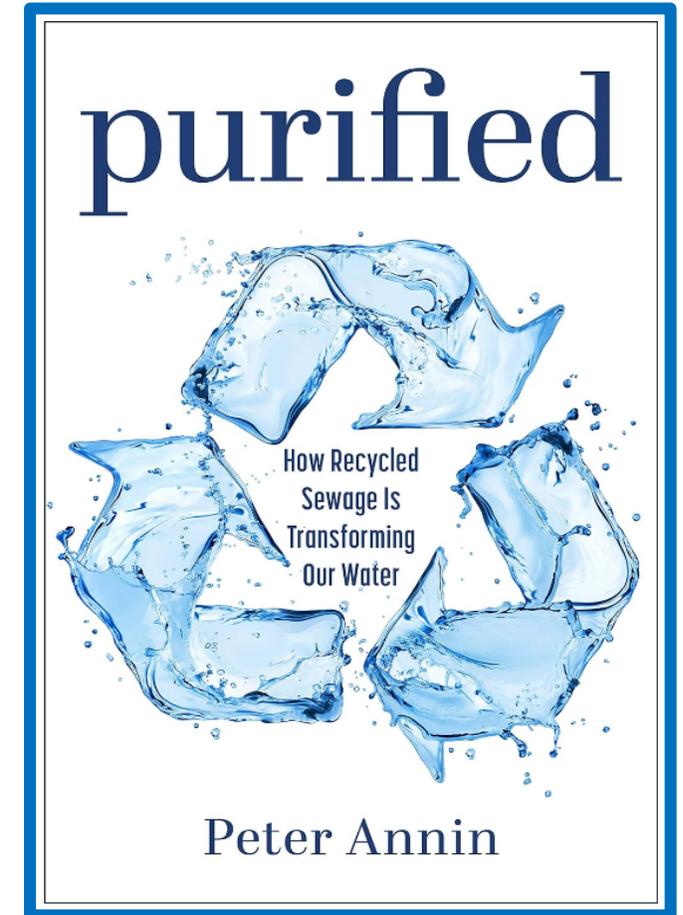
**Purified:** *How Recycled Sewage Is Transforming Our Water* by Peter Annin (October 2023)



Peter Annin is the author of *Purified: How Recycled Sewage Is Transforming Our Water*, a comprehensive exploration of the history and potential of water reuse. *Purified's* fast-paced narrative cuts through the fearmongering and misinformation to make the case that recycled water is

direly needed in the climate change era.

A veteran conflict and environmental journalist, Peter Annin spent more than a decade reporting on a wide variety of issues for *Newsweek*. Annin serves as director of the Mary Griggs Burke Center for Freshwater Innovation at Northland College in Wisconsin. He is also the author of *The Great Lakes Water Wars*.

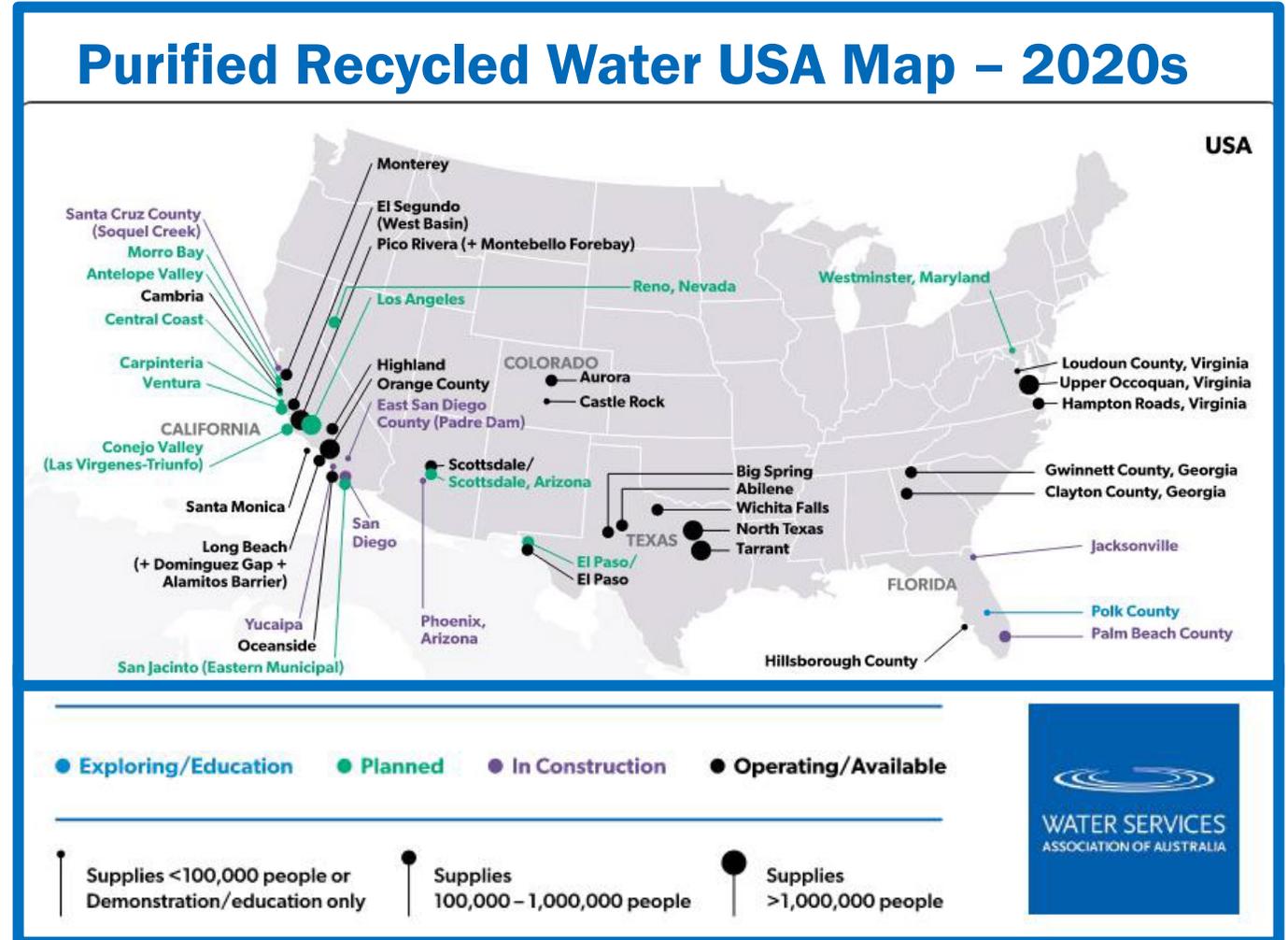


<https://islandpress.org/books/purified>

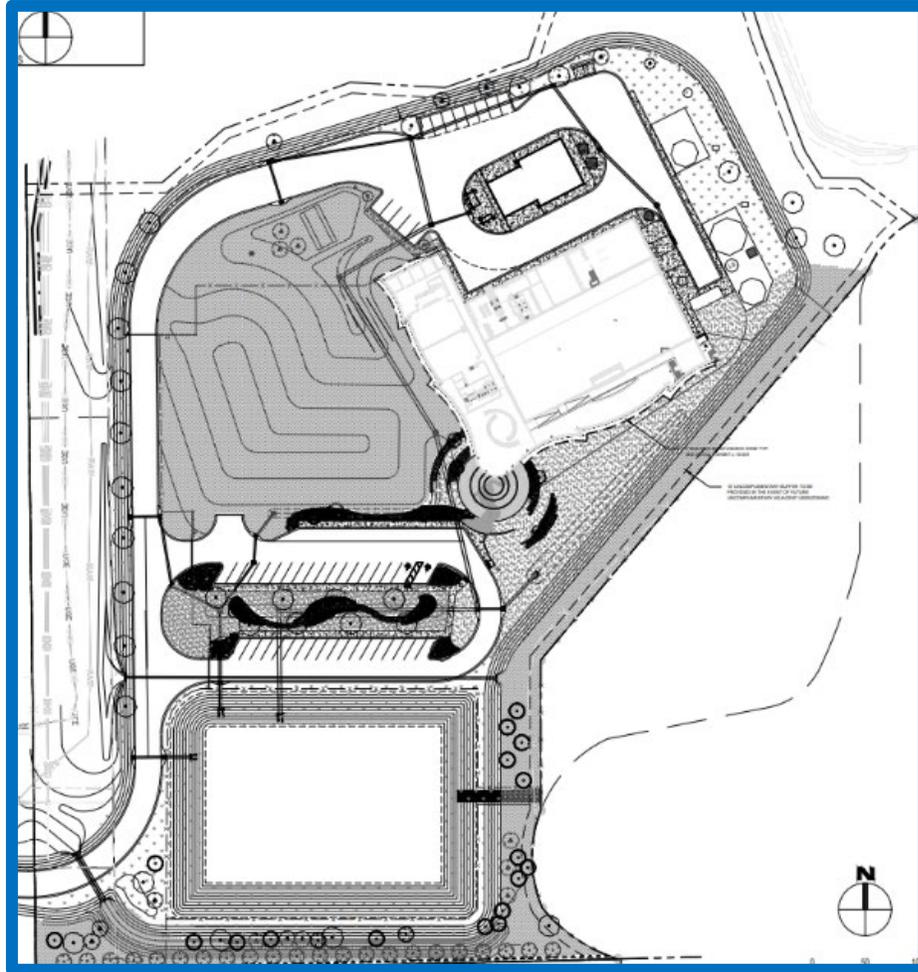
# COMMUNICATION RESOURCES

## Global Water Reuse Maps

- Water Services Association of Australia & WaterReuse Association created Global Connections Map of Purified Recycled Water for Drinking (Potable Reuse)  
<https://water360.com.au/map/>



# H2.0 PURIFICATION CENTER – CONSTRUCTION



# H2.0 PURIFICATION

[www.jeaonewater.com](http://www.jeaonewater.com)

We cannot  
create “new”  
water, but we  
can purify and  
reuse water.

The screenshot shows the H2.0 JEA website. At the top left is the H2.0 JEA logo. To the right are navigation links: Water Conservation, Solution, H2.0 In Action, and Learn More. The main heading reads "Securing Northeast Florida's water future for generations to come." Below this is a circular image of a modern building, the H2.0 Purification Center. To the right of the image are three sections of text: "What is the facility?", "Where will it be located?", and "When will it be operational?".

**H2.0 JEA** Water Conservation Solution H2.0 In Action Learn More

Securing *Northeast Florida's*  
**water future**  
for generations to come.

**What is the facility?**  
The JEA H2.0 Purification Center will serve as an interactive hub of innovation and community engagement. Here, you can see our purification process firsthand and engage in enriching educational opportunities.

**Where will it be located?**  
Located on nearly 12 acres in the heart of Jacksonville's Southside, this facility will showcase our industry-leading purification process, educate visitors, train JEA employees, and contribute to ensuring a sustainable water future for Northeast Florida.

**When will it be operational?**  
The facility is currently under construction and is anticipated to

# H2.0 PURIFICATION

## Program Benefits Summary

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# QUESTIONS?



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