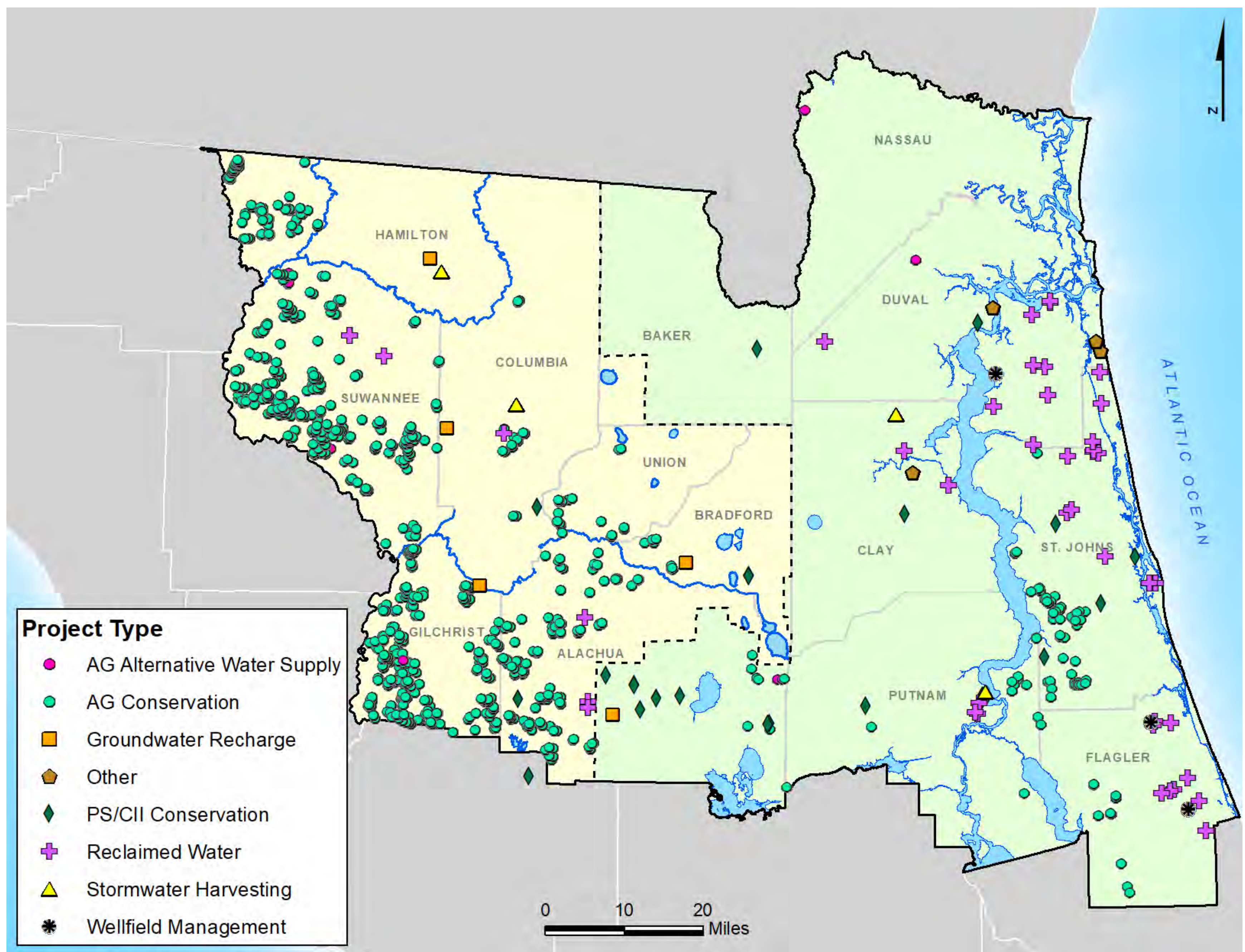


# COMPLETE PROJECTS FROM NFRWSP



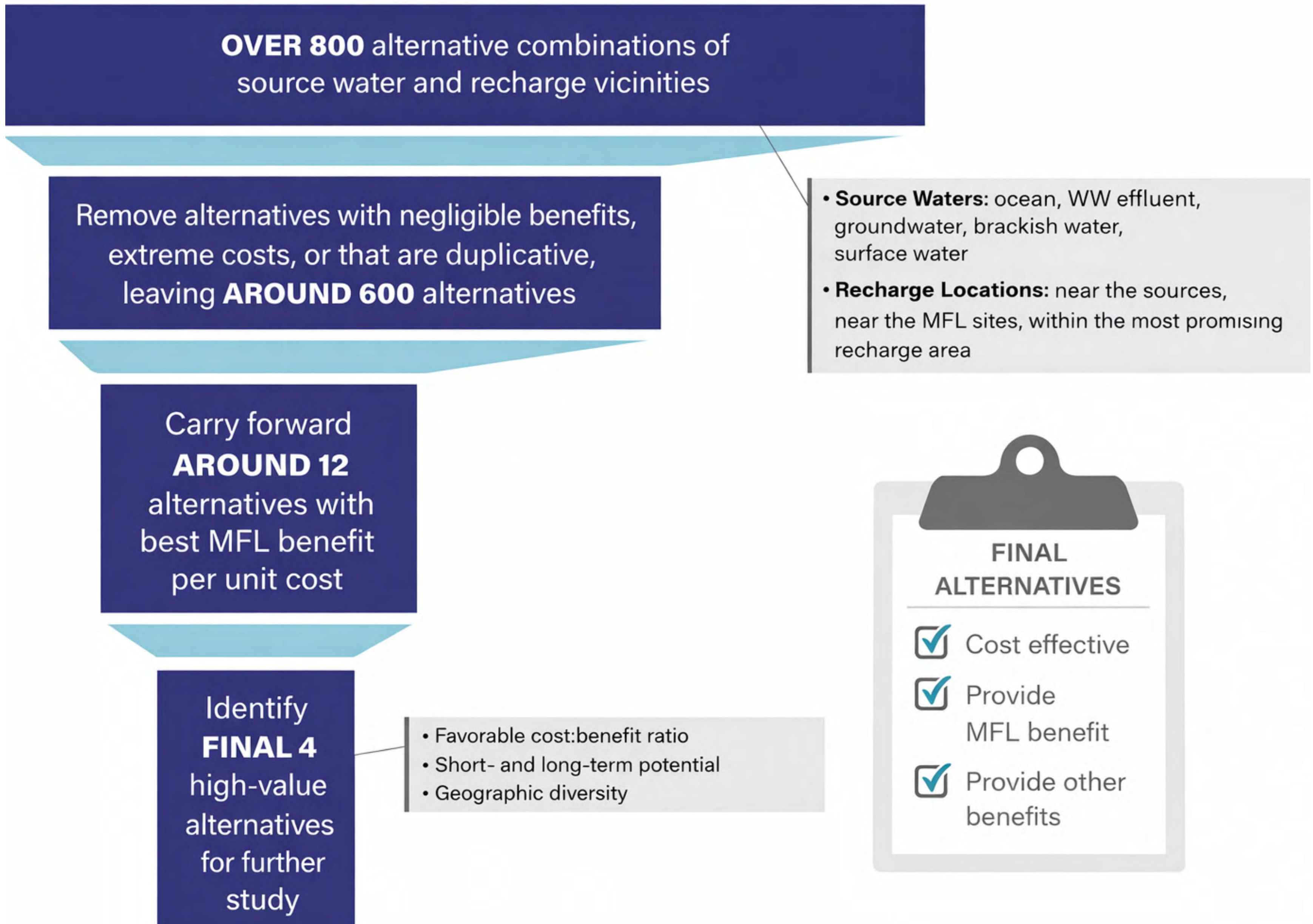
TYPE	NUMBER OF PROJECTS	ESTIMATED BENEFIT (MGD)	ESTIMATED TOTAL COST (\$M)
Reclaimed Water	42	40.0	\$89.80
Agricultural Conservation	1,188	25.2	\$25.90
Groundwater Recharge	5	10.6	\$5.60
Stormwater Harvesting	4	8.1	\$4.30
Wellfield Management	3	2.8	\$3.30
Public Supply/ Commercial Industrial Conservation (PS/CII)	27	2.0	\$9.70
Agricultural Alternative Water Supply	21	0.3	\$4.50
Other	4	0.0	\$2.70
<b>TOTAL</b>	<b>1,294</b>	<b>89.1</b>	<b>\$146.00</b>



# PROJECT OPTIONS

## North Florida Regional Water Supply Plan Project Conceptualization Study

### Three Tiered Screening Process for Alternative Recharge Concepts



## Alternatives Recommended for Further Study

SOURCE	VOLUME (MGD)	CAPITAL COST ESTIMATE (\$M)	FULL MFL GOALS MET? <sup>1</sup>
Water First North Florida	40	830	Yes
Gainesville Regional Utilities (GRU) Reclaimed Water	3	90	No
North Fork Black Creek	4.2 avg	210	No
Lower Suwannee at Branford	8.9 avg	340	No

1. Full MFL goals could be met based on current modeling and careful selection/design of recharge sites and methods. MFL benefits for WFNF assumes 90% recharge efficiency for RIBs. MFL benefits for GRU Reclaimed Water assume an 80% recharge efficiency for recharge wetlands. MFL benefits for the remaining alternatives assume a 100% recharge efficiency for recharge wells.

## Comparative Results for Ocean Desalination Alternatives

SOURCE <sup>1</sup>	VOLUME (MGD)	CAPITAL COST ESTIMATE (\$M)	FULL MFL GOALS MET? <sup>2</sup>
Desalination—Coquina	40	2,800	Yes
Desalination—Gulf Coast	40	3,000	Yes
Pumping Replacement	182	12,000	No

1. Desalination alternatives are shown for comparative purposes, but not recommended for further study at this time.

2. Full MFL goals could be met based on current modeling and careful selection/design of recharge sites and methods.

# CHALLENGES WITH DESALINATION



## **Q: Could desalination replace this project?**

**A:** Ocean desalination was evaluated by a consultant, but it was determined to be far more expensive and less effective than the proposed Water First North Florida project.

- Calculated cost estimates developed as part of the alternatives analysis:
  - ~\$3 billion to utilize seawater in lieu of reclaimed water from JEA to recharge the aquifer; up to ~\$12 billion to utilize seawater as a replacement for groundwater as a potable water source for the four largest utilities in the northern planning area of SJRWMD.
- Fully replacing northeast Florida's potable water would require producing 182 million gallons per day of fresh water. Requiring:
  - An intake capacity of 363 million gallons per day
  - Disposal of 182 million gallons per day of concentrate management (brine)
  - Reduces MFL impacts by only ~40% (it does not fully resolve the problem)
- Very high energy requirements, potentially requiring additional energy sources beyond current utility capacity, which could increase costs for consumers.
- Extensive modifications to existing water treatment and transmission systems would be needed.
- Notably, there are few seawater desalination plants in the U.S. (13 as of 2018 according to the Congressional Research Service), largely due to the costs for not just initial construction, but operation of these systems. The largest seawater desalination plant in the country is in California, producing just 50 million gallons of water a day.