

FLORIDA KEYS AQUEDUCT AUTHORITY

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Key West, FL

 **89°F**
Thunder

[Hour-by-hour](#) | [10-day](#)

The Weather Channel

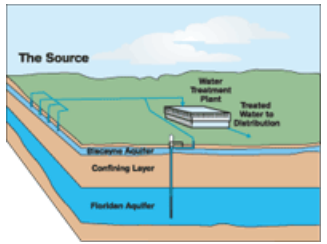
weather.com

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Where Does Our Water Come From?



The freshwater Biscayne Aquifer is the primary groundwater supply source for the Florida Keys Aqueduct Authority. Our wellfield is located within an environmentally protected pine rockland forest west of Florida City on the mainland. The location of the wellfield near Everglades National Park, along with restrictions enforced by state and local regulatory agencies, contribute to the unusually high quality of the raw water. The FCAA wellfield contains some of the highest quality groundwater in the country, meeting and exceeding all regulatory drinking water standards prior to treatment. Strong laws and regulations protect our wellfield from potential contaminating land uses. The J. Robert Dean Water Treatment Plant is staffed by state licensed personnel and it is home to one of our two nationally certified water testing laboratories.



The water taken from the ground at our well field is classified as very hard due to the relatively high concentration of calcium in the water. We use a process called lime softening to reduce the calcium hardness. Lime softening is achieved by the addition of excess calcium. This allows the water to become supersaturated with calcium, thereby causing the calcium to sink to the bottom of the treatment unit leaving softened water for use by our customers. Softened water does not deposit as much calcium scale on household plumbing fixtures and cooking utensils and allows shampoo, laundry detergent and other soaps to lather better.

The softened water is then piped to "dual media filters": layers of anthracite and fine sand, a copy of the process that Mother Nature uses to filter water. We then add a disinfectant to prevent any bacteria growth the water could pick up on its journey from Florida City to Key West. Chlorine and ammonia are combined in the water to form Chloramines, a long-lasting disinfectant without the objectionable taste and odor of regular chlorine. We then add Fluoride, which is recommended for drinking water by the American Dental Association to prevent cavities and strengthen bones.



Our water is pumped to the Keys through a 130 mile long transmission main at a maximum pressure of 250 pounds per square inch. Our pipe begins with a diameter of 36", narrowing to 24" and ending with an 18" diameter. We use 800 horsepower electric motors at the water plant to pump water south. In case of an emergency or power outage we have two 1,000 horsepower diesel pumps and forty-five thousand gallons of fuel in storage. As an example, the diesel pumps were run for 28 days continuously after Hurricane Andrew. High pressure is required to move the water over long distances. The FCAA has booster pump stations in Key Largo, Long Key, Marathon, Ramrod Key and Stock Island to maintain desired pressures in the water main.



In the event of emergency or pipeline disruption, the FCAA uses its storage facilities located throughout the Keys to keep customers in water. The current storage capacity of our system is 45 million gallons. Also, the FCAA has two seawater desalination plants, located on Stock Island and in Marathon. The desalination facilities produce freshwater from ocean saltwater and are an emergency source of 3 million gallons per day of potable water for the Lower and Middle Keys. Our desalinated water recently won a statewide drinking water contest, and represented the state of Florida in the national competition in Washington DC.

The dry season, from December to May, coincides with the Florida Keys' busiest season. When demand rises, the FCAA may blend up to 4 percent of our daily water supply from the deeper, brackish Floridan Aquifer. The temporary change does not affect water quality and customers

should not notice any change in taste or clarity.

As part of our efforts to ensure that our future water supply will meet anticipated greater demand, we built a new brackish water reverse osmosis desalination plant at the site of our Florida City water treatment plant. The new facility adds up to 6 million gallons per day to our supply while ensuring the long term viability of the Biscayne Aquifer. Construction of the new plant was completed in 2009.

We work every day to make sure that every time you turn on your water faucet you receive safe and refreshing water. Water quality, water supply and superior customer service are our priorities.

Tours of our facilities, including the FCAA water treatment and desalination plants, are available upon request. If you are interested in taking a tour, please contact Julie Cheon at 305.295.2150 or jcheon@fcaa.com. We're proud of our team, our facilities and our water services and we know you will be too!

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