

SFWMD MEETING

May 5, 2010

FPUA Water Supply Update



FPUA Water Supply Update

- History
- Existing Water Supply
- Future Plans
- Conservation
- Rates

History of Fort Pierce Water Supply

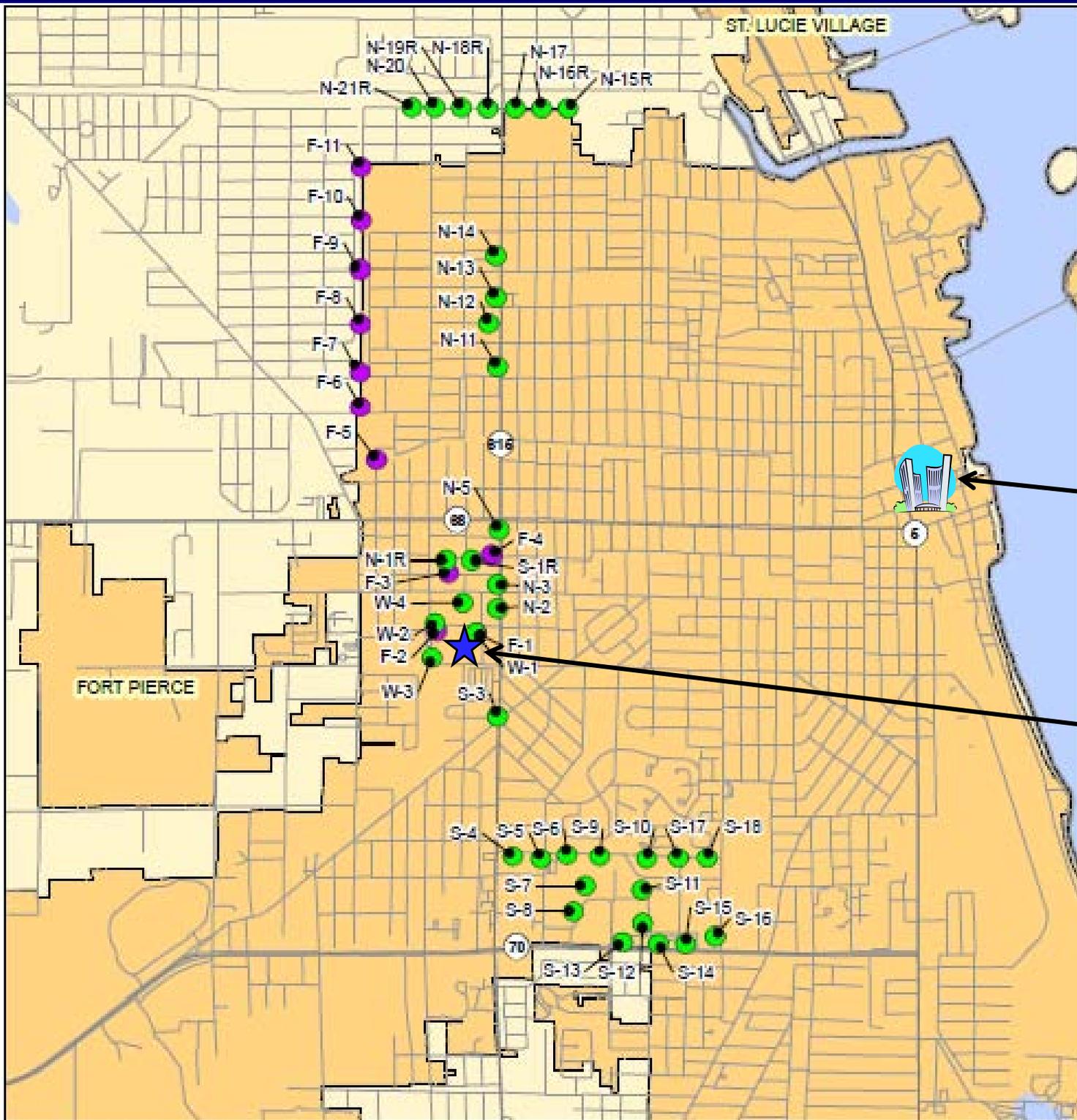
1. 1917: Artesian Well (Floridan) located downtown supplied .275 MGD
2. 1927: Intake pumps drawing water from the Savannas supplied the city
3. 1939: Drought dropped water level below intake pumps and Six Wells (Surficial) in the Savannas supplied the City
4. 1959: 1MG tank placed at 25th Street site (current WTP site) and water was fed at night to the tank and pumped out during the day to the city.
5. 1960s: Water draining in the canals to the Savannas had fecal bacteria- decision made to drill deeper wells.
6. 1963: 13 Wells drilled (100- 125' deep) along 25th Street and transmission main built to tank on 25th Street and new water treatment plant is under construction at this site.

History of Fort Pierce Water Supply (cont'd)

7. 1965: Water Treatment Plant placed into service.
 - 13 Surficial Wells (1965- 1980 total of 36 wells)
 - Lime Softening plant
 - Capacity of 10 mgd (first phase)
8. 1974 Expansion of Lime Plant to 20 mgd
9. 1980s: Faced with droughts and a SFWMD study determined that the capacity of the Surficial Aquifer in the FPUA service area is 10 – 12 mgd (long term sustainable yield)
10. 1988: First Floridan Well (F-1) drilled with a capacity of 0.7 mgd and water is blended with treated water.
11. 1991 – present: Additional Floridan wells (11 total) and RO treatment plant constructed.

Existing Water Supply

- Surficial Wellfield:
 - 8 mgd- SFWMD AADF
- Floridan Wellfield:
 - 16 mgd SFWMD AADF
- Treatment Plants:
 - 12.99 mgd FDEP firm capacity (Lime Plant)
 - 6.0 mgd FDEP firm capacity (Reverse Osmosis)



● Surficial Well

● Floridan Well

← Downtown Fort Pierce

← Water Treatment Plant

Surficial Wells

- S2, N3, N4, N5 constructed in 1963
 - N11, N12, N13, N14 constructed in 1968
 - N17, N20 constructed in 1970
-
- S4 – S16 constructed in 1980
 - W1- W4 constructed in 1983
 - S17 & S18 constructed in 1987
-
- S1R & N1R constructed in 1999
 - N15R, N16R, N19R constructed in 2005
 - N18R, N21R constructed in 2008

10 wells > 40 yrs. old

19 wells approx. 25 yrs.
old

7 rehabbed wells

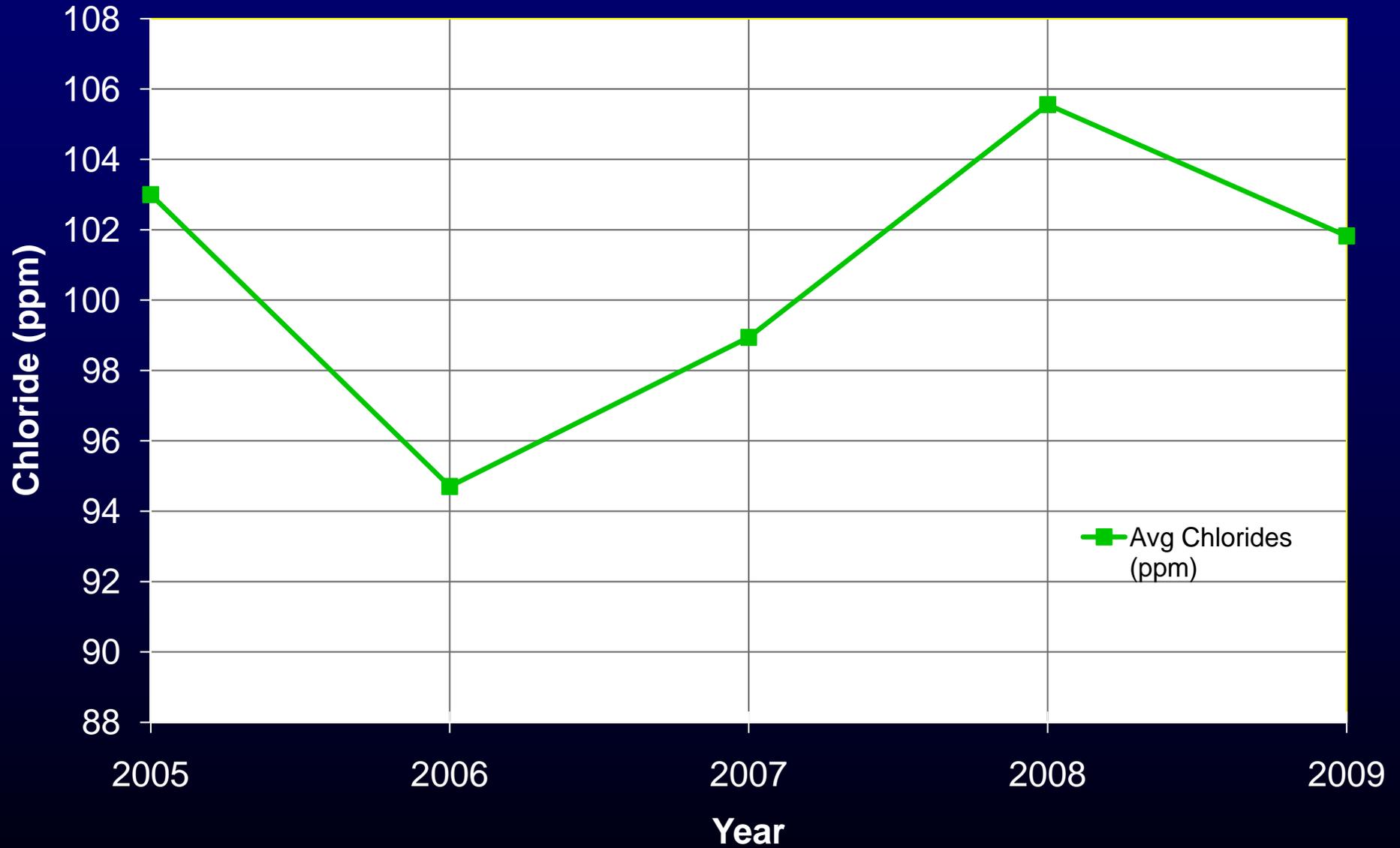
Typical South Wellfield Installation



Typical New North Wellfield Installation



Surficial Aquifer Water Quality



Floridan Wells- SFWMD Alternative Water Supply Grants \$900,000 (RO Plant/Wells)

- F1 construction in 1988
- F2 construction in 1991
- F3 & F4 construction in 1995
- F5, F6, F8, F10, F11 construction in 2001
- F7 & F9 construction in 2007

Drilled Floridan Well

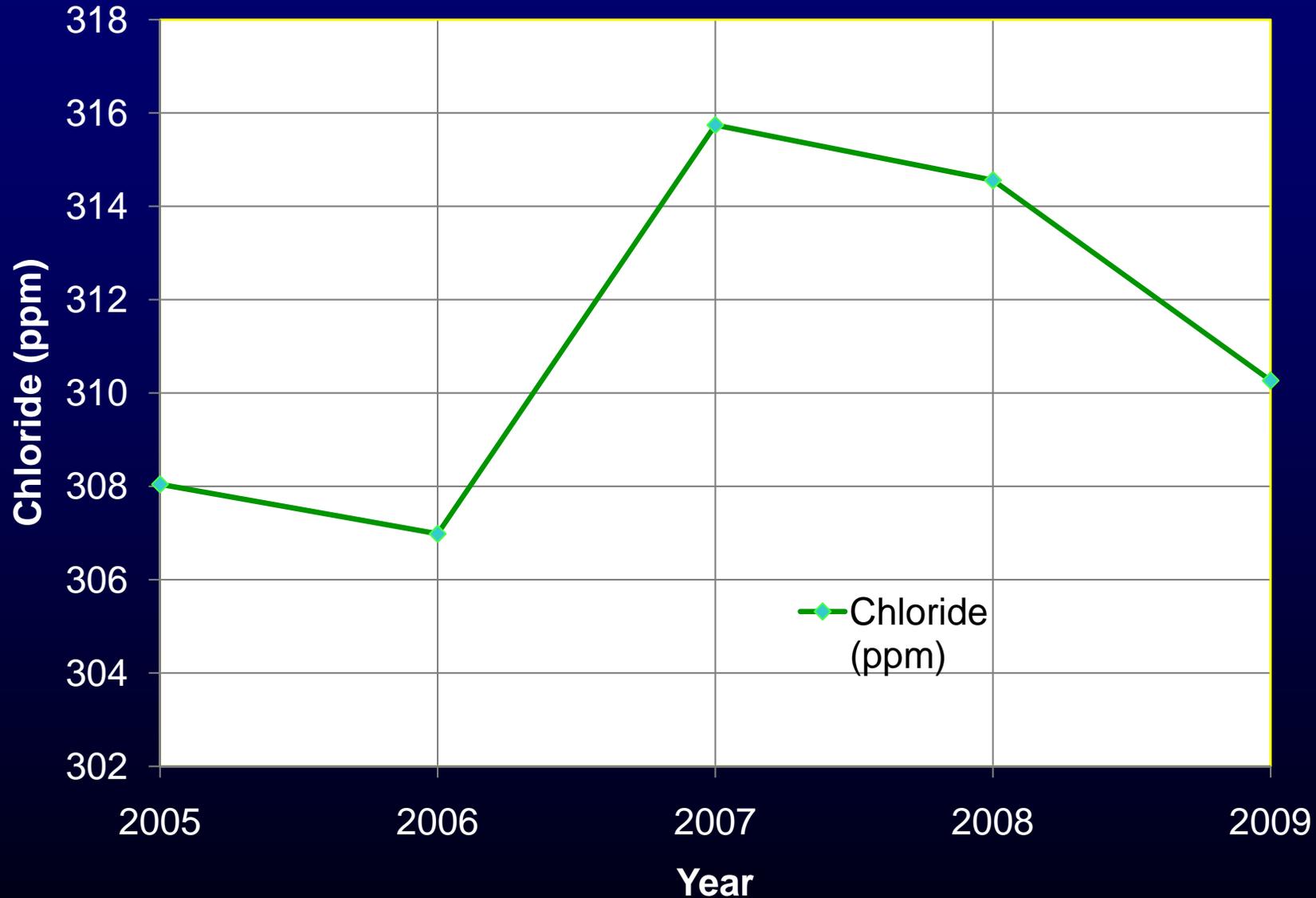
Well Head and piping



Control Cabinet



Floridan Aquifer Water Quality



Future Plans

- Surficial Wellfield:

Continue to maintain existing wells and scheduled rehab to improve flow capacity. Abandon low producing wells that have poor accessibility and locate replacement wells on lands FPUA controls or City owns.

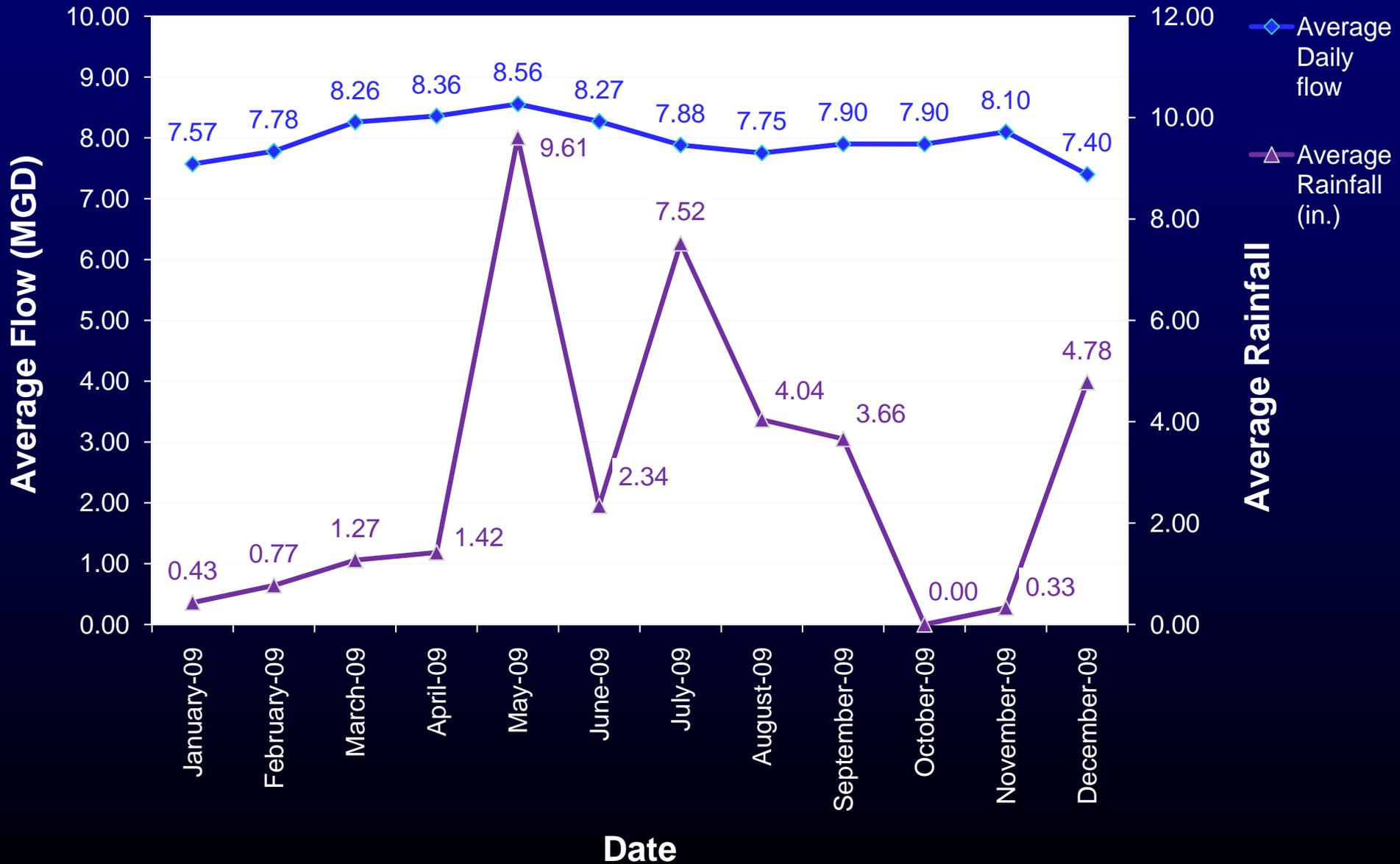
- Floridan Wellfield:

Provide emergency power to RO plant to increase firm capacity. Construct additional Floridan wells as necessary.

Conservation

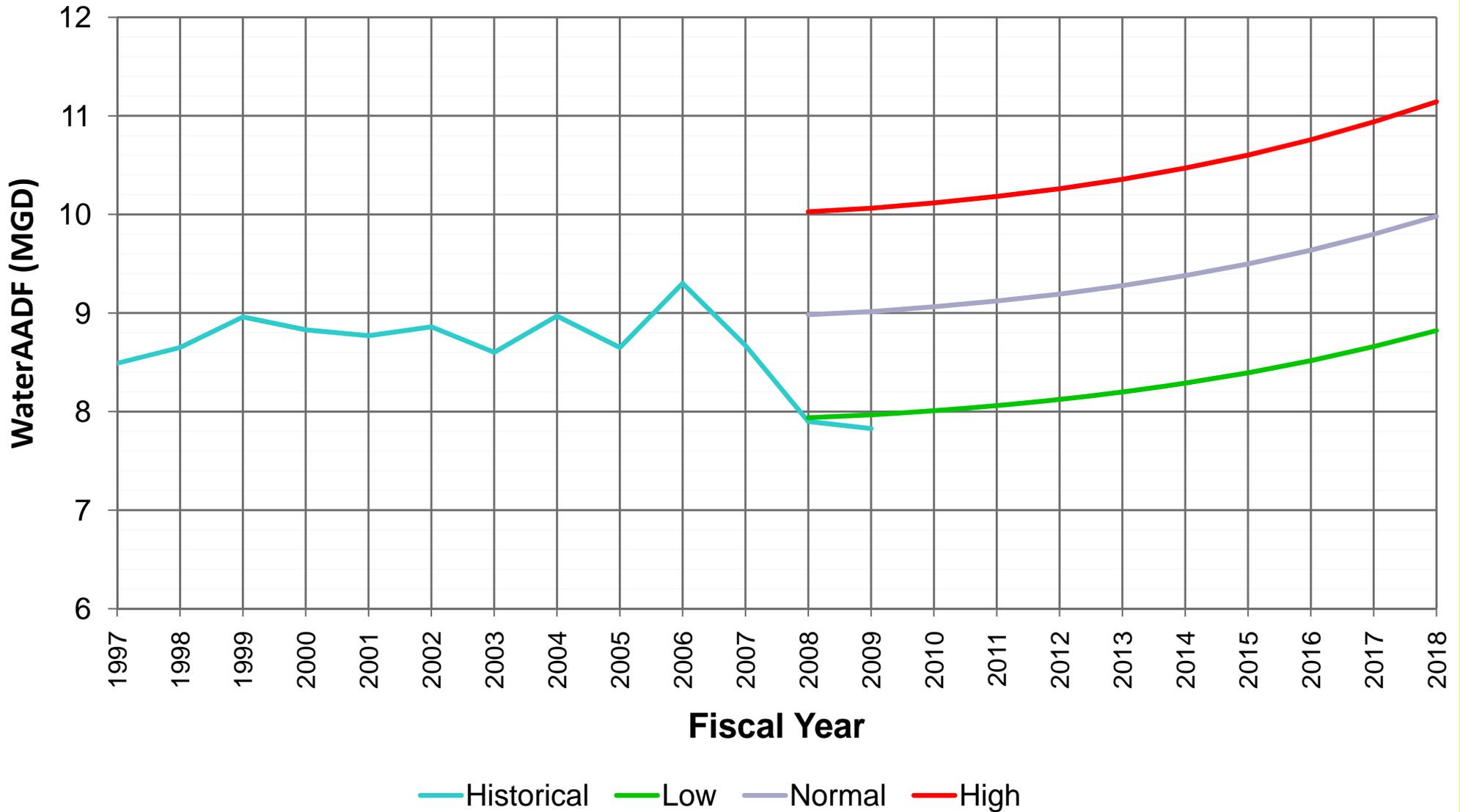
- 1988 Voluntary Water Use Restriction Program & Mandatory Water Use Restriction Policy
- Enacted Conservation rates in 1991
 - Per unit water cost rate increases as quantity thresholds increase
- Reuse water at Island Water Reclamation Plant for irrigation and process water
- Proposed Mainland Water Reclamation Plant will treat to reuse standards (cooling water for TCEC)

2009 Consumption and Rainfall



Water Treatment

WTP Annual Average Day Flow



Water Rates

(Residential)

	2009	2008	2007	2006	2005	2004	2003	2002	2001	2000
Customer Charge	\$19.95 (3,000 gal usage)	\$19.00 (3,000 gal usage)	\$18.45 (3,000 gal usage)	\$17.56 (3,000 gal usage)	\$16.40 (3,000 gal usage)	\$14.26 (3,000 gal usage)				
Rate per 1000	\$2.89	\$2.75	\$2.67	\$2.37	\$2.37	\$2.37	\$2.37	\$2.37	\$2.37	\$2.06
Avg Bill (7,000 gal/month)	\$31.51	\$30.00	\$29.13	\$27.04	\$25.88	\$25.88	\$25.88	\$25.88	\$25.88	\$22.50

Any Questions?

