

Loxahatchee River District

Water Reclamation | Environmental Education | River Restoration

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D. Albrey Arrington, Ph.D., Executive Director

MEMORANDUM

TO: Albrey Arrington, Ph.D., Executive Director

FROM: Bud Howard, Director of Information Services

DATE: January 15, 2016

SUBJECT: Monthly Governing Board Update for December 2015

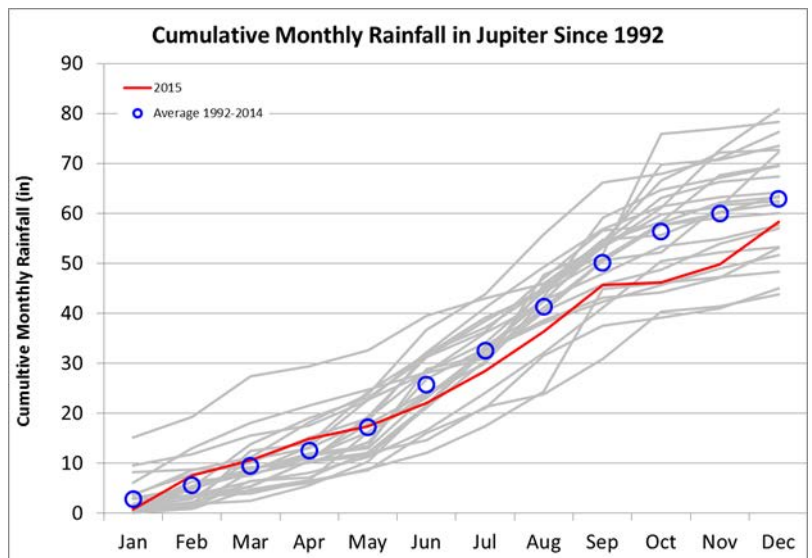
WildPine Ecological Laboratory

Hydrologic and Datasonde Monitoring

As the year closes, rainfall for 2015 in the watershed can be generalized as a wetter than normal dry season, and a drier than normal wet season. Total annual rainfall measured at LRD was 65.7" while the average from multiple stations across the watershed near the historical average at 58.4" (see figure).

Total rainfall for the month of December measured at the LRD was 9.1" with a single daily total of 2.0" occurring on December 2. This *far* exceeds the average monthly total of 3.2" typically measured at LRD and is the highest monthly total since at least 1992.

These rains resulted in substantially increased flows through the water control structures. Lainhart Dam had a mean daily flow of 196 cfs, versus the typical December flows of roughly 60 cfs. The daily maximum flow of 293 cfs occurred on December 14. Given the significant rains, the SFWMD released water through the S-46 flood control structure for 18 days at an average of 155 cfs, and a maximum daily flow of 407 cfs on December 5.



Along with greater than normal rainfall and flow came lower than normal salinities throughout the river. The Inlet and site 72 (in the SW Fork) experienced salinities as low as 13 and 0.5ppt, respectively, which drove monthly average salinities more than 2 standard deviations below the historical mean.

Gordon M. Boggie
Board Member

Dr. Matt H. Rostock
Board Member

Stephen B. Rockoff
Chairman

Harvey M. Silverman
Board Member

James D. Snyder
Board Member

Riverkeeper Project

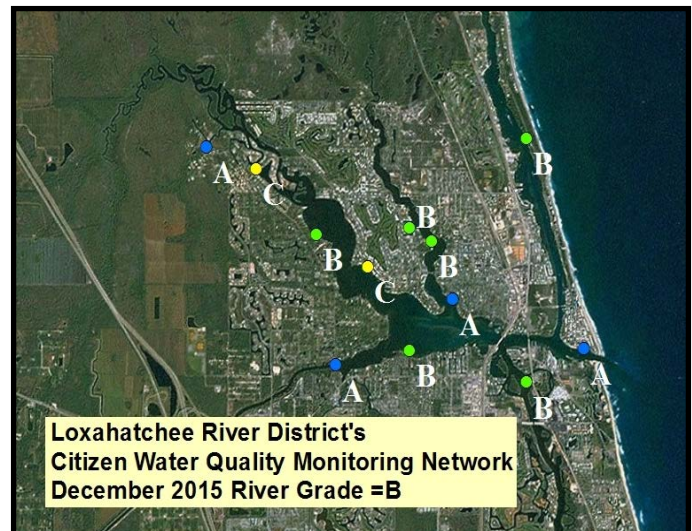
In December, staff collected water samples from 19 sites and tested the samples for over 20 parameters. Water clarity was fairly poor, likely because of the freshwater influx to the system from heavy rains (further described below). Total phosphorus (TP) at Station 88 (Parcel 19/Lakewood/Sonoma) was 0.2 mg/L, well over the DEP-EPA numeric nutrient criteria (NNC) of 0.12 mg/L. Additionally, Station 100 (Cypress Creek) had an elevated TP concentration of 0.15 mg/L, just over the NNC. As part of our new partnership with the Town of Jupiter to study the Jones and Sims Creek drainage basins, staff sampled ten stations and tested for fecal and enterococci bacteria. Seven of those stations had poor fecal coliforms and/or enterococcus levels. One site in particular, the canal behind Jupiter High School, had fecal coliform concentrations of 50,000 cfu/100 ml, far exceeding the water quality standard of 800. This high result is likely associated with the heavy rains, coupled with the dog waste and trash observed adjacent to the JHS canal. We will continue sampling to improve our understanding of water quality in those basins.

Oyster Recruitment Monitoring

Our oyster settlement monitoring indicates the fall spawning has come to a close with settlement activity decreasing substantially from last month. Average oyster settlement in the Southwest Fork was only 1 spat/shell and was split almost evenly between the upstream and downstream sites (1.1 and 0.9 spat/shell respectively.) Oyster settlement in the Northwest Fork was higher at the downstream site of the Northwest Fork (2.5 spat/shell) and no settlement observed at the upstream site. Mean temperature at both sites was 24.3°C (75.7°F), the temperature at which we often observe minimal to no oyster settlement activity. Additionally, salinity at both forks momentarily dropped to < 1 ppt with a period mean salinity of 19.6 ppt and 24.0 ppt in the Northwest and Southwest Forks.

Volunteer Water Quality Monitoring

The volunteer water quality grade for December was downgraded to a “B”. The abundance of freshwater into the system lowered the pH and water clarity values into the “poor” to “fair” ranges.



Information Technology

Help Desk Technician Hiring

In December we conducted interviews and made a selection for our new Help Desk Technician position. Joel Weiner joined the District on January 8 and brings a solid foundation with a degree in Information Management Technology and experience working in a help desk position at a company with more than 300 workstations at multiple locations. Joel will serve as the District's first point of contact for resolving computer, phone and access control issues; and provide training opportunities and guidance to all District staff.



New Server Migration & Folder Organization

Joe continues the coordinating and migration of user data files, as well as refinements to the directory structure on our new server. Because of extensive integration of systems, staff is working through testing and repair of linked systems as they systematically work through the migration.

Telemetry via Cellular

Through some solid ingenuity, staff are merging disparate technologies to provide lift station telemetry over cellular signal (versus traditional radio), which may provide a communications solution to stations that lack line-of-sight or where antennas are prohibited. Preliminary testing shows encouraging results.

Customer Service

Payment Processing

During December, staff closed out the 4th Quarter Billing by sending out past due notices and made preparations for our 1st Quarter 2016 billing. Staff processed nearly 2,600 payments totaling over \$339,000, with more than half of those payments (1,496) processed very efficiently with our Digital Payments Tool. Staff have been making excellent progress researching accounts and improving the quality of data in our customer service database.