

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: October 8, 2015

SUBJECT: Monthly Governing Board Update for September 2015

WildPine Ecological Laboratory

Construction Monitoring

The lab has been performing the permit required monitoring of the dewatering work at the Little Oaks/River Oaks sewer construction project. Lab personnel visit the construction project to take samples for turbidity at 6 sampling locations including the discharge, pond, C-18 background, and 3 outfall sites. Due to the close proximity to the Loxahatchee River, SFWMD's permit requires monthly testing for chlorides and conductivity as well. At right, Mike prepares to take a sample at the discharge site. Mike performed 148 turbidity, 16 chloride, and 14 conductivity analyses in September.



Riverkeeper Project

Staff sampled and performed water quality analyses for 43 sites in September. Pictured at left, Betsy (driving) and volunteer Jennifer are on the Riverkeeper boat sampling in the Intracoastal Waterway. The most striking finding from this month's sampling was elevated phosphorus levels detected throughout the watershed, likely a result of heavy rainfall. Fifty-six percent of sites monitored this month for phosphorus were 'poor' when scored to the EPA/DEP water quality criteria. Station 88 (the Parcel 19/Lakewood/Sonoma site) showed the highest phosphorus concentrations (0.3 mg/L). While still very high, the September results were lower than historical levels. The weekly bacteria sampling project captured high bacteria results at all but 2 of the sites following two days of heavy rains. Bacteria counts returned to "good" the following week.



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JERFSA Environmental Service

September means school is back in session and once again the WildPine Lab has partnered with Jupiter High School Environmental Academy to teach students about the District's research and monitoring projects on the Loxahatchee River. Once per month, lab staff work with students on the JERFSA pontoon boat to conduct water quality testing on the river. Students get hands-on field experience using portable water quality equipment that scientists use, as well as several methods to collect water quality samples. We use the data collected on these trips to supplement our Riverkeeper Project.

Hydrologic and Datasonde Monitoring

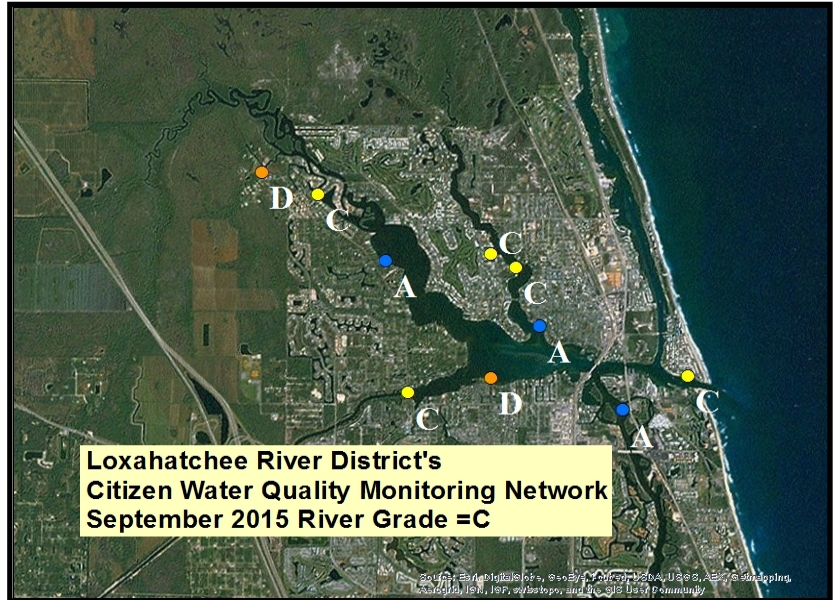
Total rainfall in September was 10.2", which was above the historical monthly average of 8.6". Heavy rain events on September 16th & 17th brought over 2" of rain resulting in high flows of 391cfs at Lainhart Dam and 460cfs at S-46 on the 17th. This month marks the first opening of S-46 for flood control since last March. S-46 flowed for 13 days with a very modest average flow (when open) of only 94cfs. The average daily flow over Lainhart was 223cfs. These rains and increased flows drove the daily minimum salinity down to the single digits at Pennock Point and North Bay, though daily maximum salinities remained above 31ppt. These observations demonstrate that while the higher freshwater flows reduce the salinity at our downstream stations during outgoing tide, the substantial flows of marine water during incoming tide clearly overcome the freshwater flows at the observed flow rates. The increase in flow from the rain events also brought higher dissolved oxygen values and lowered pH at the Kitching Creek site.

Oyster Recruitment Monitoring

The late summer/fall oyster spawning continues. Oyster spat monitoring indicated nearly all shells on the shell strings had spat present. The most active spat settlement occurred in the downstream sites of both the NW and SW Forks with density of 2.7 spat/shell and 3.1 spat/shell respectively. The upstream sites of both forks each had density of 1.8 spat/shell. This difference in spat counts at the upstream and downstream sites may be related to the increase in river flows.

Volunteer Water Quality Monitoring

In September the overall volunteer water quality grade scored a “C” for the first time all year. The increased freshwater flows and associated runoff from the three forks and tributaries are likely responsible for the degradation in water quality. The salinity, pH, and visibility at most of the sites steadily decreased out of their optimal ranges at some of the sites. Sampling during incoming versus outgoing tide accounted for some of the variation in results.



Information Technology

New Email Address

To simplify our email address, staff added the @LRECD.ORG domain to all email accounts, while maintaining receipt of email from all previous address formats.

Customer Service

Payment Processing

We closed out the 3rd Quarter billing with staff processing 2,500 payments totaling \$312,000 for the month of September. 40% of those payments came through our digital payments tool where customers paid through their bank's online bill pay service or through our website. We recently went live with the 3rd and final payment provider so we now capture all online bill payments digitally, rather than receiving paper checks from the various banks.

Billing Preparation

In preparation for our October 7 billing, we were busy finalizing and testing our new bill formats, researching our commercial customer water accounts changes, performing QA/QC on our customer data, and testing and implementing our customer service and billing database system updates.