Restoration in North Fork
St. Lucie River
This restoration project was conducted as part of a large mitigation package the City of Port St. Lucie negotiated to offset impacts to state lands associated with the construction of the Crosstown Parkway Extension Project over the North Fork of the St. Lucie River (NFSLR). The proposed bridge would cross the NFSLR Aquatic Preserve and Savannas Preserve State Park. Working in conjunction with the FDEP, the City of Port St. Lucie with DMC and American Consulting were able to identify areas that tidal exchange could be greatly improved by dredging and/or upland sediment removal. Three water quality improvement projects called Evans Creek, Site 5 West and River Place Upstream were constructed as part of this restoration project. The Evans Creek project was largely a dredging project in which the upstream and downstream ends of Evans Creek were deepened to improve flushing. The River Place Upstream project also involved dredging the main channel and a berm breach on a north branch of the channel to rehydrate wetlands and reconnecting a historic oxbow. The Site 5 West project was a hydrologic restoration project involving one berm breach and an oxbow reconnection.

This project is a great example of ecosystem based habitat restoration and how development can fund restoration projects that can greatly improve our natural resources.
The North Fork Restoration projects were part of a larger mitigation package that also included land acquisition, education center improvement, access improvement and stormwater retrofits.
River Place Upstream, Site 5 West and Evans Creek

The projects were identified within the NFSLR Aquatic Preserve Management Plan.

These projects improve nearly 22 acres of open water and reconnect approximately 28 acres of degraded floodplain wetlands to tidal flows of the North Fork.
Berm Breaches  *(River Place Upstream and Site 5 West)*

**FDEP Historical Background of the St. Lucie Watershed**
A flood control project was conducted from the 1920s - 40s to straighten portions of the North Fork. In the process of straightening the river, the dredged spoil was piled into berms (mounds) along the banks of the new channel. These spoil piles, which can measure up to 50 feet wide and 25 feet tall, block former riverbends and oxbows as well as isolate a large portion of the North Fork floodplain.

This phase of the project removed portions of berms in 2 locations. The width of each is approximately 60’ – 80’. The berm breach allows the floodplain to hydrate naturally with the tide.

This picture shows the removal of the berm reconnecting the floodplain to the flows of the river.
Excavation & Dredging *mechanical*
Site 5 West excavation and dredge plan

2,150 cubic yards of dredging and excavation.
Site 5 West *aerials*

*Before*

Google Earth
Image Date 4/23/2012

*After*

Google Earth
Image Date 12/9/2014
Site 5 West *aerial/offload site*
Site 5 West  before
Site 5 West *after*
River Place Upstream \textit{excavation and dredge plan}

3,600 cubic yards of dredging and excavation.
River Place Upstream *before*
River Place Upstream after
Evans Creek *dredge plan*

3,445 cubic yards of dredging.
Evans Creek before
Evans Creek after
Post Construction Monitoring 5 Years

Water Quality Sampling of River Place Upstream, Site 5 West, and Evans Creek
Conduct sampling quarterly for; dissolved oxygen, conductivity, salinity, pH, and turbidity during flood tide. The water column will be sampled at top, middle and bottom according to FDEP standards.

Quarterly Fish Sampling at River Place Upstream, Site 5 West and Evans Creek
Sample fish for 3 days per quarter using the following (but not limited to) equipment, seines, cast nets, dip nets, fyke nets, hook and line, and fish traps. Fish will be identified to species and counted. Fish will be sampled on flood tides, at various times of the day.

Semi-Annual Vegetation Survey
Survey the vegetation along the areas of construction to monitor the occurrence of any vegetative changes. Surveys will be conducted during the dry season (March) and rainy season (September) each year.

Wildlife Survey
Note all wildlife observed on-site during the quarterly water quality sampling events, including date and time observed, number of individuals and the activity of those individuals. Weather conditions and sample site name will also be noted.