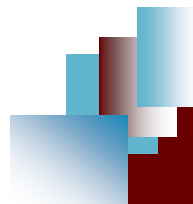




San Carlos Park/East Mullock Drainage District-Habitat Restoration Project

- Nora Demers
- Presentation at the Estero Bay Watershed Public Symposium
- Sept 28, 2009



East Mullock Drainage District (yellow)



State of Florida



Lee County, Florida

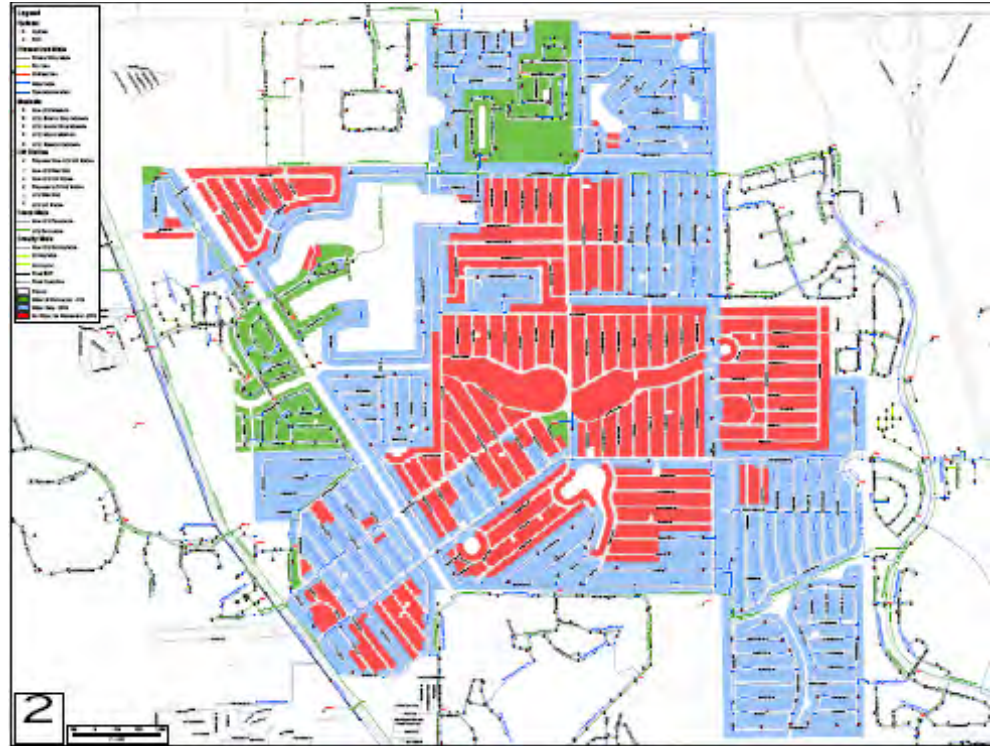


East Mullock Drainage District

Lee County Utilities overlay

showing sewer and water infrastructure for San Carlos Park, Lee County, Florida.

- Areas in green are served by municipal sewer and water, in
- blue by water, (with septic) and in
- red have well-water and septic systems.



I'm "bad" because I have a septic tank and fertilize my lawn

- I learned this at the Estero Bay Agency on Bay Management meetings where I represent the Responsible Growth Management Coalition (RGMC).
- How bad am I? How much is due to septic and how much is due to fertilizer?
- No one could tell me so I started a research program to try to distinguish

Research Stable Nitrogen isotope ratios (δN^{15})

Ratio is based on heavy and light form of N

In general – according to the literature

δN^{15} between 2.00 and 8 is from atmospheric

δN^{15} between -4.00 and 4.00 is from fertilizer

δN^{15} between 18.00 and 22.00 is from humans

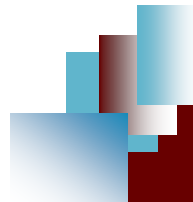
Sampling revealed (expected) cumulative enrichment due to septic





What can we do?

- Install expensive central sewer but that will not address fertilizer issue OR
- Try to improve underfunded East Mullock Drainage District
- Need citizen support to raise taxes to support any improvements

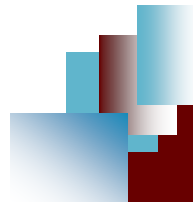




Straw ballot for interest in taxing

- Conducted before any idea of what cost would be (2006)
- Resistance by Residents including Civic Association
- Unknown costs are difficult to support

- 44% of those who voted were *willing* to have taxes increased even with unknown costs.



Boyle Engineering report on what needs done

- Lee County contracted –dollars from General Fund were used for the study
- Study cost \$180,000 (which is 3 years of income for the EMDD)!
 - Results indicated about \$4 million to restore and improve district to blueprinted design (1960's design was pre-stormwater regulations)

Mullock Creek Basin Restoration - Homeowner Florida Friendly Yards

Charlotte Harbor National Estuary
Program



Southwest Florida Regional Planning
Council



April 2007-November 2008-
demonstration yard

Florida Friendly Landscaping Classes

for San Carlos Park

Class are free,
fun and filled
with surprises,
maybe even
door prizes!



Class Dates:

ONE CLASS LEFT-
ENROLL NOW!

Saturday, January 19 & 26,
start time at 9am

All classes will be held at [Karl Drews Community Center](#)

To register, please call 461-7440
or go online at www.leeparks.org



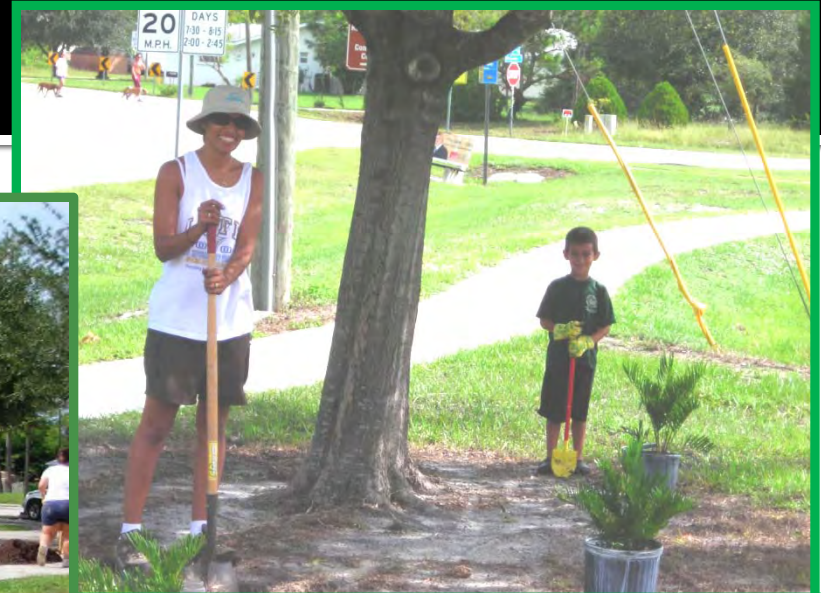
Thank You Sponsors!

- Three 2-day workshops to learn and then plan our Florida Friendly Yards were implemented
- 43 residents participated
- 33 yards received a \$60 coupon for Native plants and a yard sign

Classes at Drew Center



Demonstration yard at the Drew House planted 9-22-07



Planting volunteers



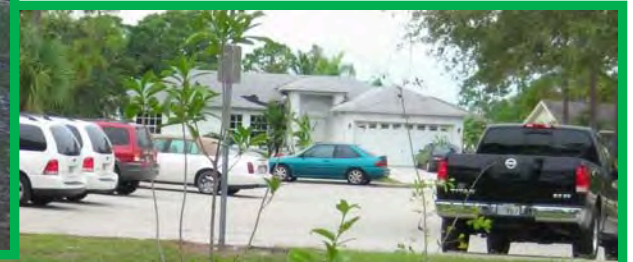
MULLOCK CREEK BASIN FLORIDA-FRIENDLY DEMONSTRATION YARD

The Florida Coastal Management Program funded this project with a grant from the NOAA Office of Ocean and Coastal Resource Management awarded under the Coastal Zone Management Act.

Thank you local partners:



Lee County
Parks & Recreation



Drew House Formal yard 9-22-07



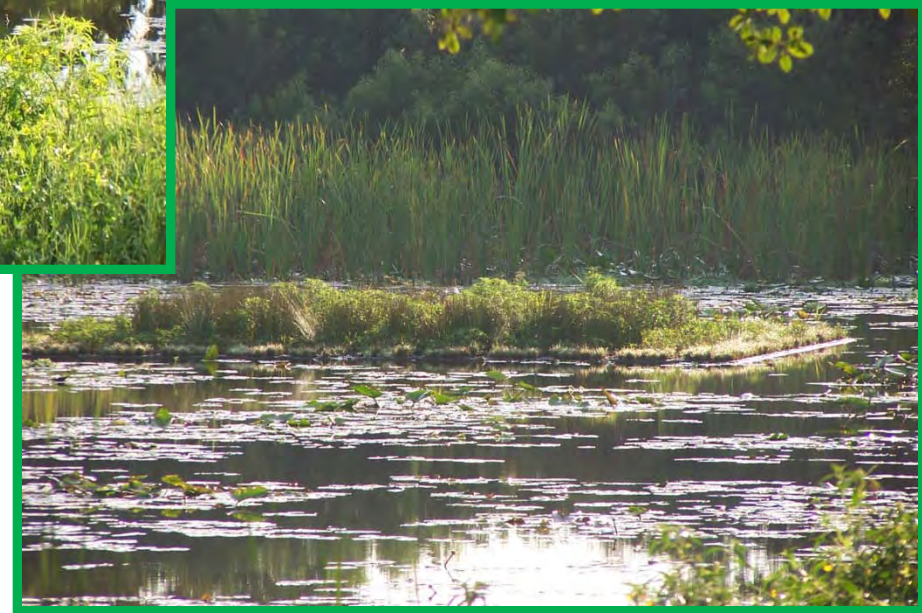
Demonstration Garden Sept. 09



Littoral Islands installed by Lee DNR July, 2009



Littoral Islands Sept. 2009



SFWMD new water structure 2009





MULLOCK CREEK SHORELINE STABILIZATION DEMONSTRATION PROJECT

help convert an
invasive exotic
infested storm water
canal into a restored
shoreline for native
plants and animals

Project Sponsored By:

E Mullock Drainage
District and....



Refreshments Provided

MULLOCK CREEK SHORELINE STABILIZATION DEMONSTRATION PROJECT

Habitat Preparation

July 23 & 24 2009

8:00 am to Noon

Planting July 26 & 27, 2009

8:00 am to Noon

Help convert an invasive-exotic infested storm water canal into a restored shoreline for native plants and animals.

For More Information

CONTACT:

Dr. Nora Demers: 239-590-7211 or 246-4537
for instructions to site e-mail ndemers@fgcu.edu



A GREAT CHANCE FOR YOU TO MAKE A DIFFERENCE!



- Shoreline Stabilization- East Mullock Drainage District
- Habitat Restoration Project- Demers
- SHORESUX installed May-July, 2009
- Plants installed June-October, 2009

Demers household

DePew Household

Wayne household

Property line

This region already planted with Florida friendly plants

Steep incline:

NOT TO SCALE

this region 'riparian' zone newly planted with native plants- approx. 16 feet elevation by 12 feet across – about 240' long

wall

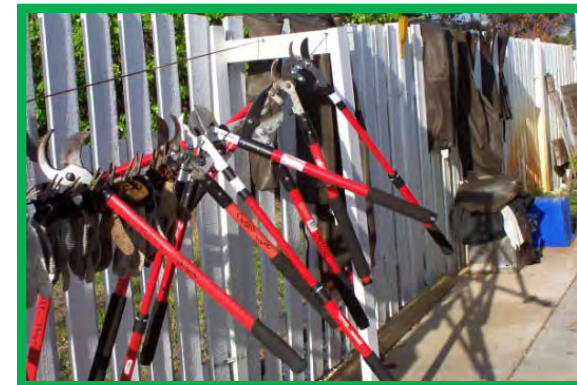
(9) 6 foot SHORESUX bags filled with corn stalks

(6) 5 foot bags filled with melaleuca under (5) 5 foot bags filled with melaleuca

(5) 5 foot bags filled with landscape hay

(4) 25 foot bags filled with landscape hay

Mullock Creek Habitat Shoreline Stabilization



Habitat Restoration- trash removal



Mullock Creek Habitat Shoreline Stabilization

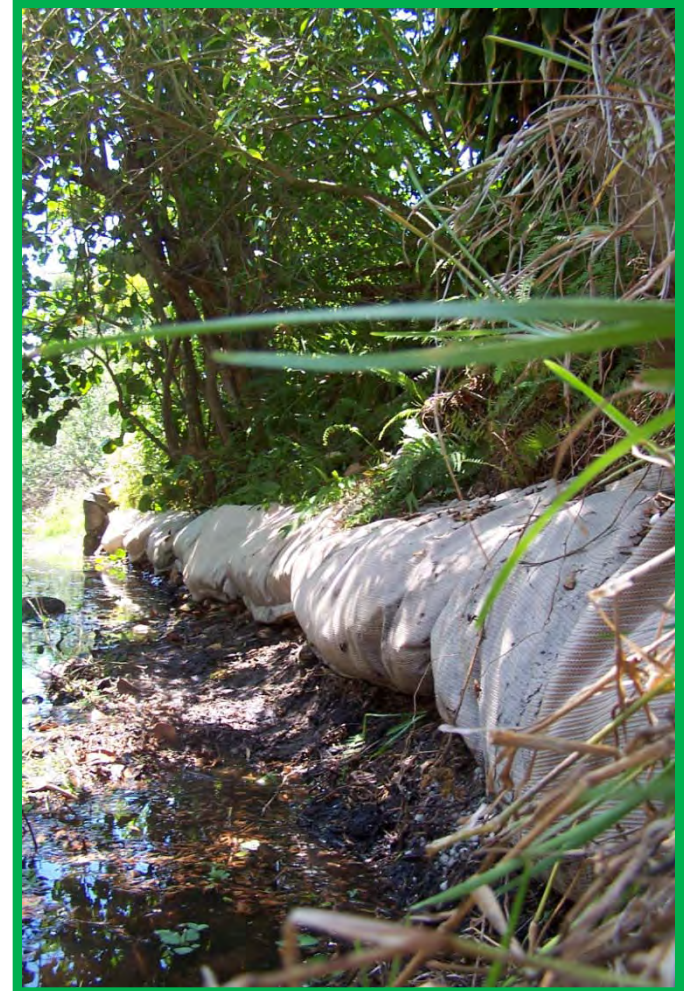


April 21, 2009
SHORESUX Installation

Mullock Creek Habitat Shoreline Stabilization



54' Corn-stalk filled SHORESIX installed
April, 2009



Mullock Creek Habitat restoration pre-exotic removal



Exotics for removing



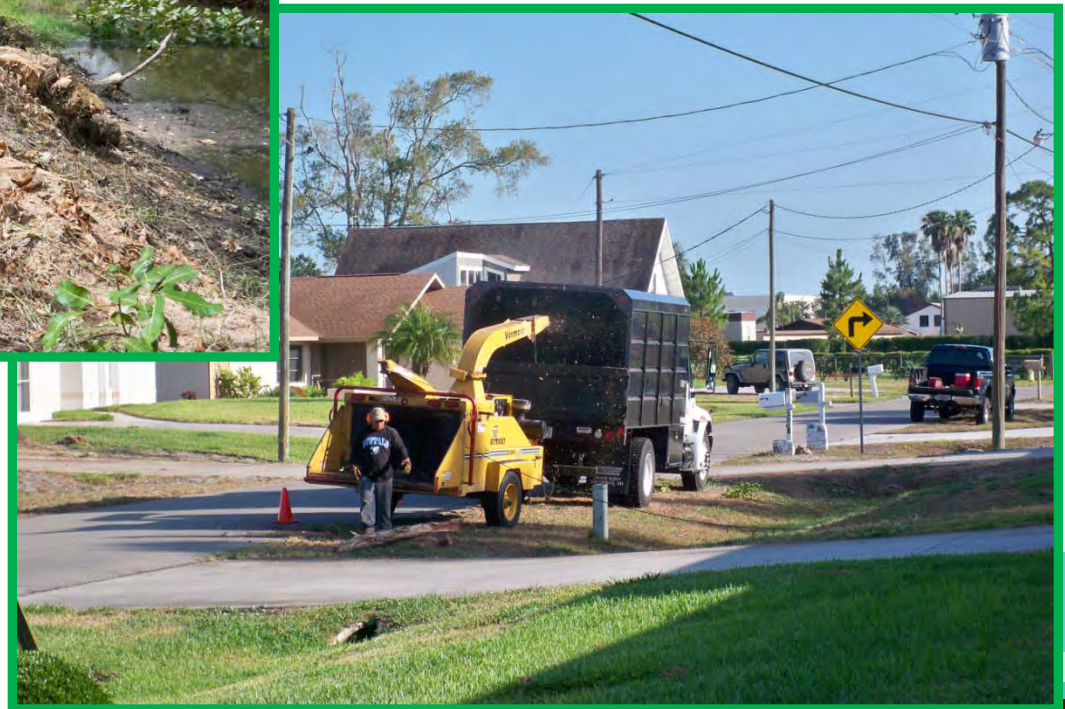
Exotic removal funded by EMDD



About \$8000 to
clear exotics
from canal
behind 3 lots



Look at the size of those trunks!



Exotics removed (*Melaleuca* and Brazilian pepper)



Air potato and exotic removal cont'

Over 35 students and
350 Service learning
hours contributed from
FGCU Colloquium
students



Installing SHORESOX and native plants transplanted from FGCU



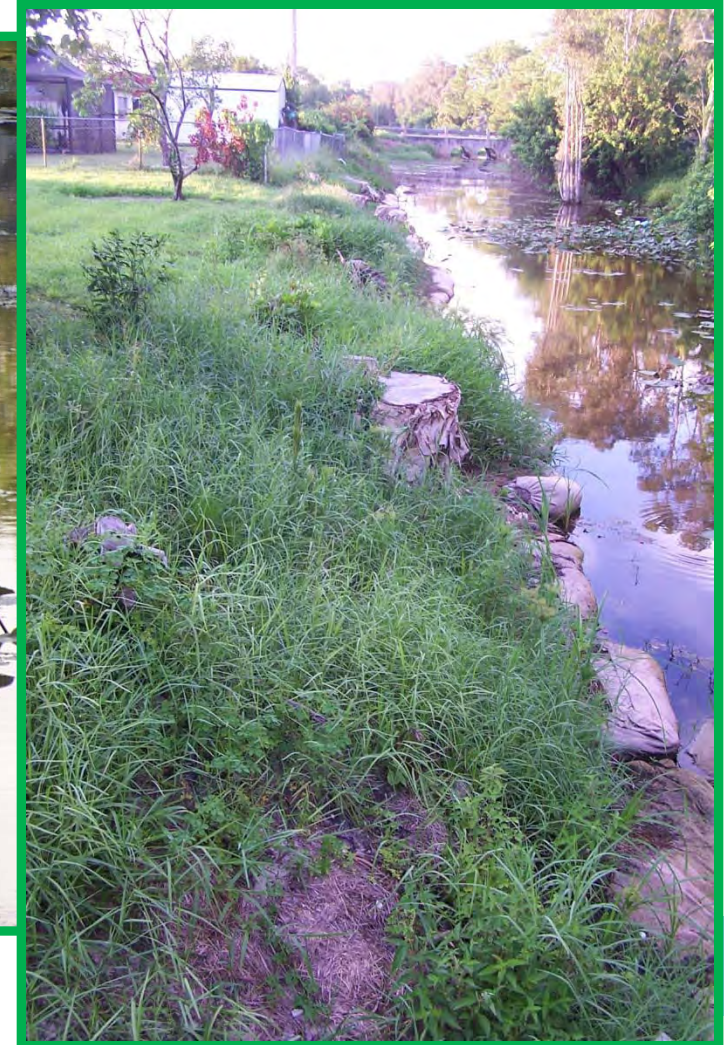
Native plantings from FGCU Arts Complex



Work Day June 2009- pumping muck etc



September, 2009 plant growth- note lack of (most) air potatoes!



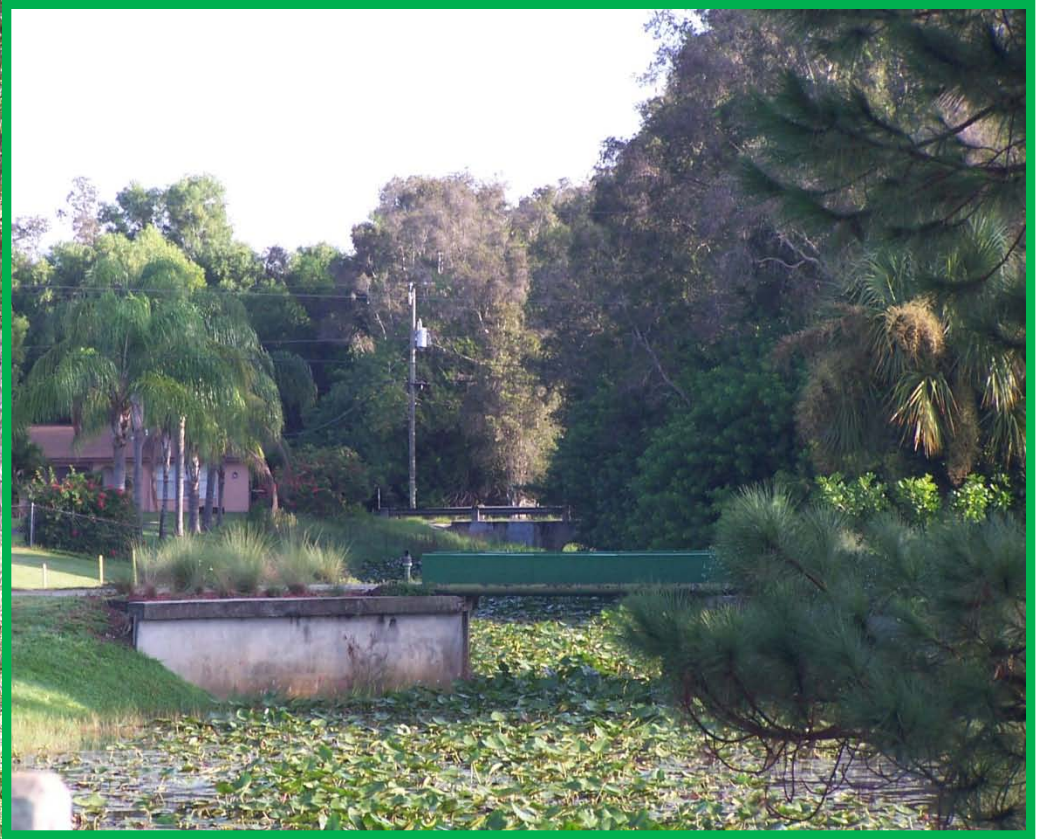


October, 2009 Planting

Trees (donated from DOF) and native plants purchased from local nursery (\$450)



Next project?



Need community buy in for projects by their yards and possible tax increase to fund projects to improve habitat! Your suggestions are appreciated.

