SARASOTA COUNTY GOVERNMENT

Community Services – Neighborhood Services

INTEROFFICE MEMORANDUM

TO: Sarasota County Commission

THROUGH: Randall H. Reid, County Administrator

FROM: John McCarthy, Community Services

DATE: July 10, 2012

SUBJECT: South Venice Community Plan – CIP Project #83132

Recommended Motion*(s)* or Action*(s)*:

To consider the proposed South Venice Neighborhood Grant Game Plan and Budget (Attachment A) related to the expenditure of funds for water quality projects in the amount of $313,682.00.

Summary:

In July 2011 staff identified a balance of $313,682.00 in the South Venice Community Plan – CIP Project #83132. The balance was due to the fact that two of the projects approved by the community and the Board in 2003 were not able to be complete because of Florida Department of Transportation and Department of Environmental Protection policies. The Board authorized staff to seek additional input from the community as to how they would like the remaining funds spent.

On October 3, 2011, staff held an open house at the South Venice Civic Association to obtain input from the community. On October 17, the community came together again to vote on the projects which were identified during the open house. The community overwhelming supported the water quality projects.

Over the past several months the community has been putting together their plan of action which is the South Venice Neighborhood Grant Game Plan and Budget (Attachment A). County staff from Storm-water and Operations and Maintenance have reviewed the plan and met on site with community representatives and determined that the proposed projects can be handled through existing County contracts.

Attached please find a power point presentation prepared by the community for review at the meeting.

Funding:

Funding for this plan is available in CIP Project #83132 through the Capital Improvements fund ($313,682.00).

Attachments: A – South Venice Neighborhood Grant Game Plan and Budget (Attachment A)
B – South Venice Water Quality Initiative Power Point

ATTACHMENT "A"

South Venice Neighborhood Grant Game Plan and Budget

South Venice Waterway Restoration will be divided into three parts:

1. Restoration of Alligator Creek and drainage waterways into the creek and Lemon Bay
2. Lake and pond restoration
3. Swale and Home Owner Yard Restoration

South Venice Waterway Restoration will include Alligator Creek, within the boundaries of South Venice; approximately 21 lakes and ponds; drainage waterways (Siesta, Datura, Canal 28-372, and others) that empty into Alligator Creek and Lemon Bay; as well as nearly 200 miles of swales and home owner yards. South Venice Waterway Restoration is a major undertaking that will involve the cooperation of South Venice citizens, South Venice Civic Association (SVCA), South Venice Beach Trust (SVBT), Sarasota County, Southwest Florida Water Management District (SWFMD), State of Florida, federal government, as well as foundations, conservation organizations, for profit and not for profit corporations.

Additional projects defined by the citizens of South Venice as high priorities are noted below. These include:

1. WiFi
2. Paths and bikeways
3. Canoe/kayak/rowing facility

2012 Time Table and Funding Sources

South Venice Waterway Restoration will require many years to complete. In 2012, the goals are to inventory the South Venice waterways, continue work on Siesta Waterway, and complete construction of Datura Waterways restoration, restore selected ponds and improve drainage into Alligator Creek as funded by Sarasota County, develop draft manuals, and encourage pilot tests and demonstrations of conservation and recreation features i.e. gardens -- natural, produce, and butterfly; swale restoration pilot tests and shelter, benches, and tables; and begin walking trail construction. All actions and funding noted below will be fully discussed by South Venice citizens and approved by SVCA Board.

1. Alligator Creek and waterways
    a. Alligator Creek drainage area demonstration
        i. Alligator Creek Stormwater Improvements --Pipes and ditch maintenance for three Lakes East of US 41(Funding Source: Sarasota County/SWFWMD Expenditure - $500,000 estimate)
        ii. Additional funding for trail and creek restoration may be available -(Funding Source: Sarasota County Neighborhood Funds/SWFWMD/Others)
    b. Siesta Waterway restoration including increasing stream flow; four (4) phase bank restoration from Shamrock to Alligator Creek
        i. The Grove Tree and Bank Clearing (Funding Source: Sarasota County Neighborhood Funds/others) Cost: $2,500
        ii. The Grove Tree and Bank Landscaping (Funding Source: Sarasota County Neighborhood Funds/others) Cost: $2,500-5,500
        iii. Trees along Siesta Waterway (Baffin to end of Quincy) Fifty to 75 trees- bald cypress, black olive, gumbo-limbo, live oak, and sweet gum are options, to be planted along bank. Mix native

Florida trees will be used. (Funding Source: Sarasota County Neighborhood Funds/others) Cost: $15,600

iv. Trail Construction along Siesta Waterway (Baffin to end of Quincy) (Funding Source: Sarasota County Neighborhood Funds/SWFWMD/others) Distance 5,200 feet estimate Cost: $4,000-5,000

v. Phase 1: Seminole to End of Quincy Bank Clearing and Planting(Funding Source: Sarasota County Neighborhood Funds/SWFWMD/others) Distance 3,300 feet estimate Cost: $54,000-100,000

vi. Phase 2: Baffin to Seminole Bank Clearing and Planting -(Funding Source: Sarasota County Neighborhood Funds/SWFWMD/Others) Distance 1,900 feet Cost: $25,000-50,000

vii. Phase 3: End of Quincy to Sunset Bank Clearing and Planting , (Funding Source: Sarasota County Neighborhood Funds/SWFWMD-/Others) Distance 800 feet estimate Cost: $7-15,000

viii. Phase 4: Sunset to Shamrock Bank Clearing and Planting (Funding Source: Sarasota County Neighborhood Funds/SWFWMD-/Others) (Funding Source: Sarasota County Neighborhood Funds/SWFWMD/others) Distance 2,700 feet estimate Cost: $20,000-35,000

xi. **Siesta Waterway Restoration - Environmental Assessment**

Task 1 - In-stream Water Quality Monitoring (Cost -- $2 -3,000)

The Consultant will establish and conduct a 1 year, monthly water quality monitoring program for the following constituents:

Constituent	Units	Type of Analysis
Total Kjeldahl Nitrogen	mg/l	Laboratory
Nitrate + Nitrite	mg/l	Laboratory
Ammonia Nitrogen	mg/l	Laboratory
Unionized Ammonia	mg/l	Laboratory
Total Nitrogen	mg/l	Laboratory
Orthophosphorous	mg/l	Laboratory
Total Phosphorous	mg/l	Laboratory
Chlorophyll (a)	mg/m^3	Laboratory
Water Temperature	^0C	*in situ*
pH	units	*in situ*
Dissolved Oxygen	mg/l	*in situ*
Conductivity	µmho/cm	*in situ*
Fecal Coliform	mpn/100ml	Laboratory
Total Alkalinity as CaCO3	mg/l	Laboratory
*Instantaneous stream velocity	ft/s	*in situ*

* Should there be no instantaneous stream velocity at the sampling location resulting in no streamflow, no water quality samples shall be collected

All samples will be collected by certified technicians, who are also qualified to perform the *in situ* analyses. All samples shall be collected in compliance with the requirements of Chapter 62-160 F.A.C. All laboratory analyses shall be performed by a NELAC certified laboratory. Monthly monitoring laboratory reports shall be submitted to the County within ten (10) days of receipt of the results.

Task 2 – Field Biological Assessment (Cost $1- 2,500) Using biological assessment criteria specified by the State of Florida as part of their water impairment protocols, the consultant will perform a biological field assessment and written report for the approximate 1.5 miles of the Siesta Waterway in South Venice between Baffin Road and Sunset Drive.

Task 3 – Sediment Analyses (Costs $ 2 – 3,000) The Consultant will take three (3) samples of bottom muck sediments within the Siesta Waterway and have them tested for the following constituents:

Constituent	Units	Type of Analysis
Total Kjeldahl Nitrogen	mg/l	Laboratory
Nitrate + Nitrite	mg/l	Laboratory
Ammonia Nitrogen	mg/l	Laboratory
Unionized Ammonia	mg/l	Laboratory
Total Nitrogen	mg/l	Laboratory
Orthophosphorous	mg/l	Laboratory
Total Phosphorous	mg/l	Laboratory
pH	units	*in situ*
Conductivity	µmho/cm	*in situ*
Fecal Coliform	mpn/100ml	Laboratory
Total Alkalinity as $CaCO_3$	mg/l	Laboratory

All samples will be collected by certified technicians, who are also qualified to perform the *in situ* analyses. All samples shall be collected in compliance with the requirements of Chapter 62-160 F.A.C. All laboratory analyses shall be performed by a NELAC certified laboratory. Monitoring laboratory reports shall be submitted to the County within ten (10) days of receipt of the results.

ix.

2. Datura Waterway – Baffin to Seminole Bank Stabilization (Funding Source: Sarasota County/SWFWMD Expenditure - $800,000 estimate)
3. Secondary Waterways – inventory and map and then set priority for restoration and begin pilot tests (Funding Source: Neighborhood Sarasota County Funds with matching from SWFMD, Charlotte Harbor NEP, and others) Cost: $2,500-4,500
4. Manuals – Develop manuals for waterway development and swale planting. Cost: $1,500
5. Lake and pond restoration
    a. Ponds and lakes restoration complete inventory and set priorities (Funding Source: some funds available from Sarasota County Alligator Creek drainage project noted above. Additional funding will be sought.)
        i. Shasta Lake Bank Restoration Pilot SVCA will work with residents and the County to create a new model for lake bank vegetation using ground cover plants recommended in the County's Living On the Water's Edge brochure (i.e. perennial peanut and sunshine mimosa) that do not require irrigation or fertilizer, instead of turf. This could be a revolutionary model for retrofitting existing lake banks as well as establishing banks for new storm water lakes. (Funding Source: Sarasota County/SWFWMD-, others) Cost: $5,000-25,000)
        ii. Serpula Lake Bank Restoration Pilot (Funding Source: Sarasota County/SWFWMD-, others) Cost: $5,000-25,000)

iii. Lake Mohegan Bank Restoration Pilot (Funding Source: Sarasota County/SWFWMD-, others) Cost: $5,000-25,000)
iv. And 18 others (Dolphin Lake for example)

6. Swale Restoration pilot tests on a few small areas along South Venice's nearly 200 miles of swales and encourage home owners to utilize Florida friendly landscaping. (Fund Source: to be determined) Pilot Costs: $500-1,500.
7. Yard Restoration is underway by residents of South Venice. Dozens of home owners are reducing or eliminating grass on their properties and planting Florida native/friendly plants. Descriptions of selected examples will appear in the SVCA's Wave during 2012-2013.
8. WIFI
    a. SVCA is investigating WiFi opportunities. An example is Kissimmee, Florida which has a downtown hotzone that includes Kissimmee City Hall, Kissimmee Police Department, Osceola County Courthouse, Community House, Kissimmee Lakefront Park, Amtrak and Greyhound stations and numerous restaurants along Broadway and northern tip of Lake Tohopekaliga. See Appendix for full description. Timeframe FY 2013-14. Cost: $0-$25,000
9. Paths and bikeways,
    a. SVCA is working with Sarasota County Ribbons to develop bike trails. See above for description of walking trails along Siesta Waterway. Pilots will be developed in FY 2012 at a minimal cost.
10. Canoe/kayak/rowing facility
    a. Sarasota County is developing a reputation as a "sports destination." SVCA is reviewing the development of canoe/kayak facilities at Sarasota County's Casperson Park and Venice's Legacy Park near train station. Rowing facilities for pre-college rowers is being investigated. Shamrock Park , Lemon Bay Preserve, and SVCA facilities are being considered as potential rowing facilities – storage, locker rooms for example. Timeframe FY2013-16.

ATTACHMENT "A"

SOUTH VENICE WATERWAY RESTORATION
COMMUNITY REQUESTED PROJECTS

PROJECT	ESTIMATED COSTS	FUNDING SOURCES
SIESTA WATERWAY RESTORATION		
PRIORITY #1		
-Water Quality Monitoring	$ 2,000.00	SC/SWFWMD/Other*
-Field Biological Assessment	$ 2,500.00	□ □ □
-Sediment Analyses	$ 3,000.00	□ □ □
SUB-TOTAL	**$ 7,500.00**	
PRIORITY #2		
-Grove Tree & Bank Clearing	$ 2,500.00	SC/SWFWMD/Other*
-Grove Tree & Bank Landscaping	$ 2,500.00	□ □ □
-Trees	$ 15,600.00	□ □ □
-Trails	$ 4,000.00	□ □ □
-Phase 1: Bank Clearing & Planting	$ 54,000.00	□ □ □
-Phase 2: Bank Clearing & Planting	$ 25,000.00	□ □ □
-Phase 3: Bank Clearing & Planting	$ 7,000.00	□ □ □
-Phase 4: Bank Clearing & Planting	$ 20,000.00	□ □ □
SUB-TOTAL	**$ 130,600.00**	
PRIORITY #3 LAKE & POND RESTORATION		
-Shasta Lake Bank Restoration	$ 5,000.00	□ □ □
-Serpula Lake Bank Restoration	$ 5,000.00	□ □ □
-Lake Mohegan Bank Restoration	$ 5,000.00	□ □ □
SUB-TOTAL	**$ 15,000.00**	
Secondary Waterways □ Inventory Map	$ 2,500.00	□ □ □
SUB-TOTAL	**$ 2,500.00**	
Manuals	$ 1,500.00	SC/SV BET/SWFWMD*
SUB-TOTAL	**$ 1,500.00**	
Swale Restoration Pilot	$ 500.00	□ □ □
SUB-TOTAL	**$ 500.00**	
WiFi	$ - 0 -	
Pilot Project: Paths & Bikeways Signage	$ 300.00	□ □ □
SUB-TOTAL	**$ 300.00**	
TOTAL	**$157,900.00**	
FY 2012 Sarasota County Projects:		
Alligator Stromwater Improvements	$ 500,000.00	□ □ □
Datura Waterways	$800,000.00	□ □ □
TOTAL ESTIMATED COST	$157,900.00	□ □ □
NS FUNDS IN CIP 83132309	$313,682.62	
REMAINING FUNDS IF GRANTS ARE RECEIVED	**$155,782.62**	

*SC □ Sarasota County, SWFWMD □ Southwest Florida Water Management, SVBET □ South Venice Beach Endowment Trust

ATTACHMENT "A"

Appendix
Funded Expenditures

Siesta Waterway Restoration Stream Clearing Pilot (Sarasota County $2,999 grant awarded and project completed February 2012)

Objective(s): The primary objective of the Siesta restorative waterway project is to apply Sarasota County's environmental sustainability initiatives to the South Venice neighborhood by conducting a pilot project in a portion of the Lemon Bay Watershed that falls within this area. We propose a waterway restorative approach to creek maintenance along the Siesta waterway as a pilot study for more environmentally sustainable, cost-effective and attractive alternative to the current maintenance practices in place. Additional secondary objectives include: beautification of one area of the neighborhood by restoring the quality of one stream that crosses a significant portion of the neighborhood, the promotion of more environmental sustainability awareness within the community, and encouragement of other similar sustainability initiatives in the future.

Project description:

Geographic Location: Siesta waterway running from approximately 200 yards north of Seminole Road to where the waterway enters a culvert near Shamrock Drive.

Facts: The Siesta waterway bank has been maintained (mowed) by Sarasota County at least since 1978. Considerable organic material has entered the waterway resulting in a high concentration of blue green alga to the exclusion of other life forms. The Sarasota County Fertilizer and Landscape Management Code forbids organic material from being placed in waterways (i.e. waterways) via mowing [Ordinance No. 2007-062 Sec. 54-1031]. The maintenance methods used in this Siesta waterway project will meet the requirements of the above ordinance.

Approach: This project builds on one resident's efforts to clear and restore a section of the Siesta waterway near his home. By extending this effort within the neighborhood, we will provide a pilot test of an alternative approach to maintenance of common areas around waterways that meets the Sarasota County Fertilizer and Landscape Management code's goals. This alternative approach will include hand removal of existing exotic and invasive vegetation in the waterway and the installation of mulch and organic material to create a healthy substrate for stimulation growth of native seed cover plants. In addition, we expect to remove algae and algae-ridden muck in the bottom of this public waterway and restore a healthier sandy bottom that will foster aquatic life. Mowing should become unnecessary once the restoration is completed.

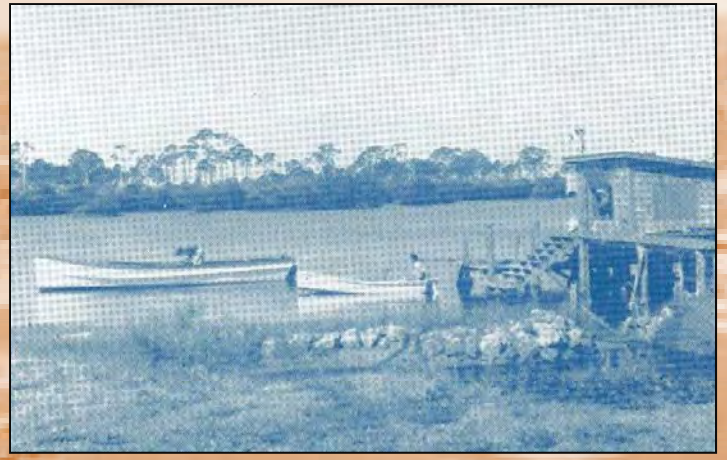
Sarasota County's South Venice Neighborhood Capital Improvement Fund (Sarasota County allocation of $313,682.62)

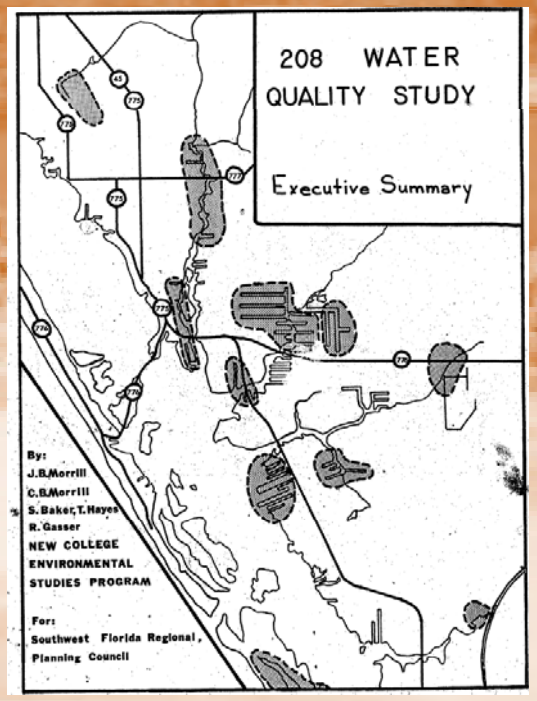
These funds will be leveraged with other funding sources to fund waterway improvements and other neighborhood priorities

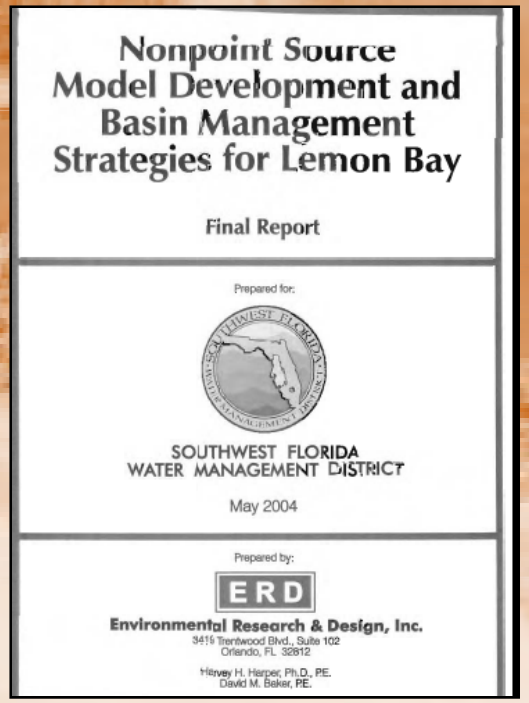
South Venice Water Quality Initiative

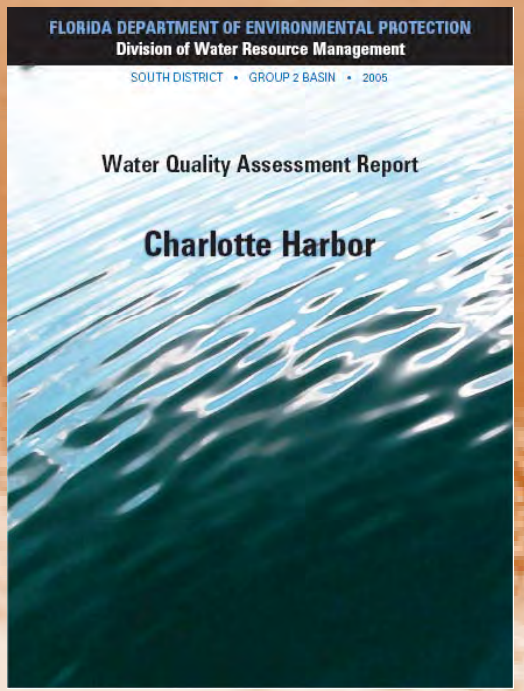
- Formation of South Venice Water Quality Task Force
- Raised level of water quality dialogue to gain common understanding of history, science and economics
- Broadened community reach to entire watershed
  (connected through Lemon Bay League - Manasota Key, Englewood, South Gulf Cove, West Charlotte County, Rotunda)
- Case study in replicable County-community collaboration
- Development of potential economic opportunities for passive and cost-effective water management
- Only the beginning …

South Venice Water Quality Initiative
Lots of History & Science









South Venice Water Quality Initiative Lessons Learned so Far

- Acceptable nutrient levels in Alligator Creek
- Fecal Coliform levels in Alligator Creek inconclusive
- High Chlorophyll levels in upper Lemon Bay may be due to poor tide circulation
- South Venice swales effective in reducing stormwater pollution
- Passive, nature-based technologies available for swale and drainage ditch maintenance and restoration as well as on-site wastewater management need to be explored
- We need to be proactive

Location


Venice Gardens
Briarwood Rd
Sunset Beach Dr
Englewood Rd
E Seminole Dr
Valencia Rd
Jacaranda Blvd
Siesta Waterway
E Baffin Dr
Queen Rd
South Venice
Secor Rd
Shamrock Dr
S Venice Blvd
S Tami

South Venice Water Quality Initiative
Typical Swale – Before Treatment

South Venice Water Quality Initiative
Swale – Passive Treatment

South Venice Water Quality Initiative
Typical Swale – Before Treatment

South Venice Water Quality Initiative
Current County Maintenance

South Venice Water Quality Initiative
Current County Maintenance

South Venice Water Quality Initiative
Current County Maintenance

South Venice Water Quality Initiative
Current County Maintenance

South Venice Water Quality Initiative
Alternative Restoration Maintenance

South Venice Water Quality Initiative
Current County Maintenance

South Venice Water Quality Initiative
Alternative Restoration Maintenance

South Venice Water Quality Initiative
Alternative Restoration Maintenance

South Venice Water Quality Initiative
Alternative Restoration Maintenance

South Venice Water Quality Initiative
Community Maintenance Restoration

South Venice Water Quality Initiative
Alternative Restoration Maintenance

South Venice Water Quality Initiative
Community Maintenance Restoration

South Venice Water Quality Initiative
Community Maintenance Restoration

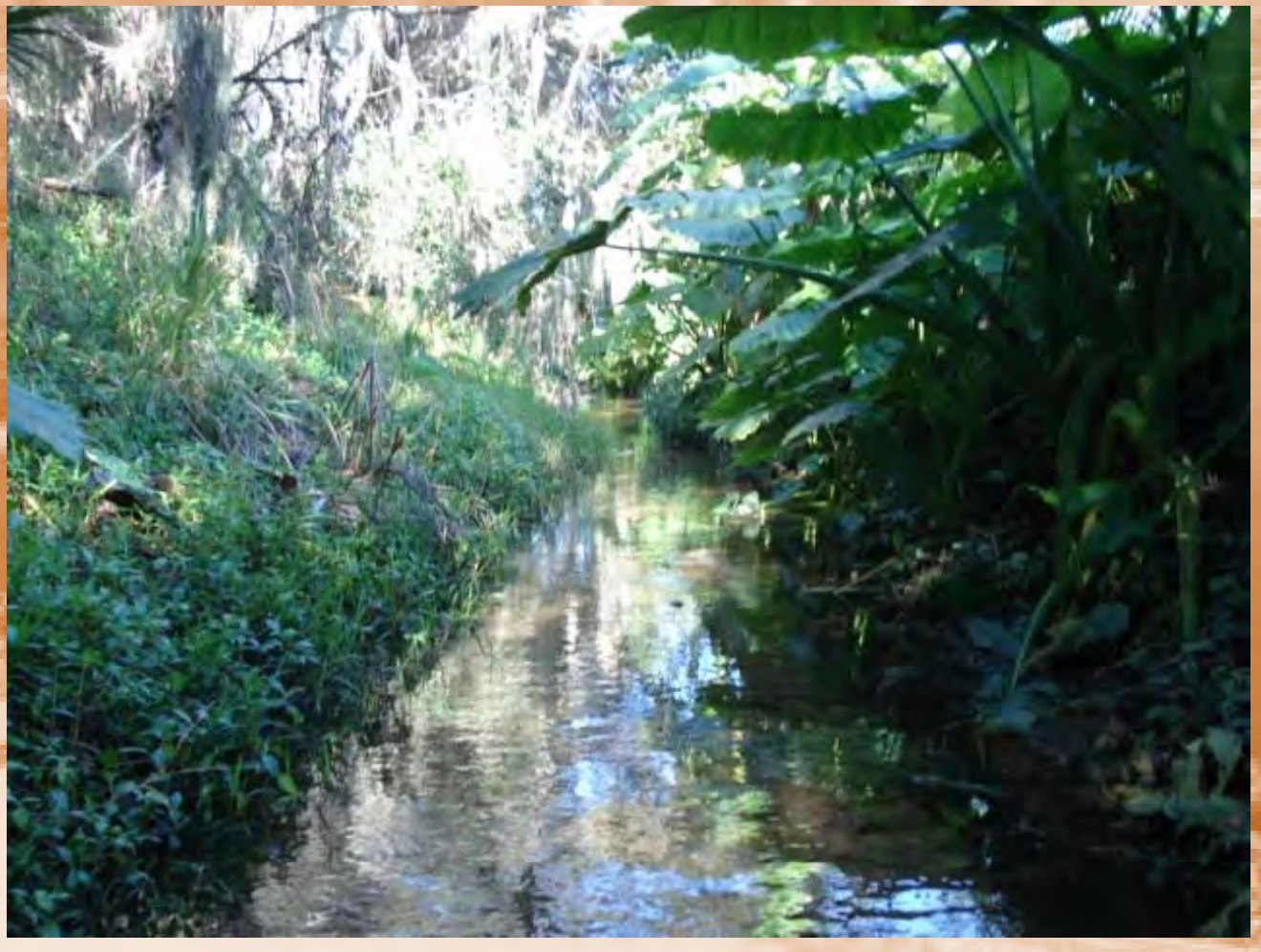
South Venice Water Quality Initiative
Community Maintenance Restoration

South Venice Water Quality Initiative
Community Maintenance Restoration

South Venice Water Quality Initiative
Community Maintenance Restoration

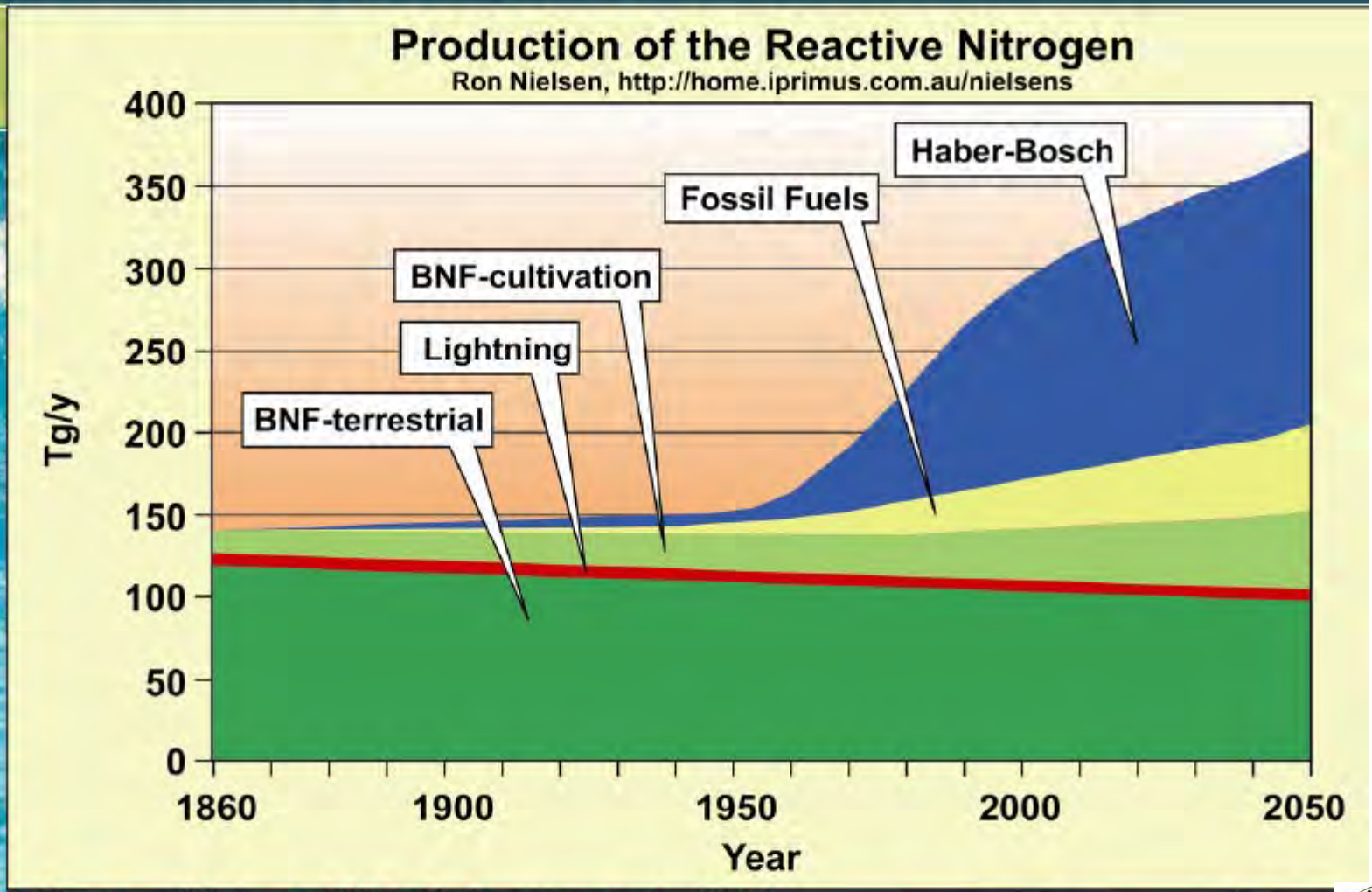
South Venice Water Quality Initiative
A Tangible Water Quality Issue?

South Venice Water Quality Initiative
Alternative Restoration Maintenance



South Venice Water Quality Initiative
Community Maintenance Restoration

Globally, these "new" reactive N sources are increasing rapidly!



Source: Nielsen, 2005; Galloway, et. al., 2004

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HAZEN AND SAWYER
Environmental Engineers & Scientists
FLORIDA DEPARTMENT OF HEALTH
NITROGEN AND ONSITE SEWAGE TREATMENT
The Florida Onsite Sewage Nitrogen Reduction Strategies (FOSNRS) Project
Presentation for the Manasota Key Utilities Committee
Englewood, Florida
March 29th, 2011
UF UNIVERSITY of FLORIDA
SCHOOL OF MINES 1874 COLORADO
AET
OTIS ENVIRONMENTAL CONSULTANTS
1

Stage 1 Media (nitrification)

Zeo-Pure clinoptilolite

Expanded polystyrene

Expanded clay

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Environmental Engineers & Scientists

45

Stage 2 Media (denitrification)

Lignocellulosics

Elemental sulfur

Expanded clay

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Environmental Engineers & Scientists

FOSNRS Summary

- Multi-prong project underway to reduce nitrogen from Florida's Onsite Sewage Treatment and Disposal Systems
- Integrated tasks of:
  - Treatment technology evaluation including new passive systems
  - Full-scale field testing of treatment technologies
  - Monitoring of nitrogen fate and transport in subsurface
  - Modeling and planning tools to support regulatory decision making
- Successful results would allow OSTDS to achieve nutrient removal similar to wastewater treatment plants and play a role in nitrogen reduction in sensitive watersheds.

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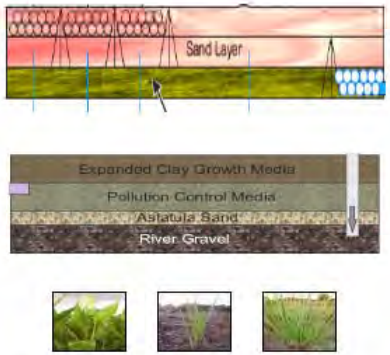
South Venice Water Quality Initiative

Passive Technologies for On-Site Wastewater Disposal Systems

Onsite Sewage Treatment and Disposal Systems Evaluation for Nutrient Removal



Interim Report
Submitted to Florida Department of Environmental Protection

Submitted by

Dr. Ni-Bin Chang, Dr. Marty Wanielista, Dr. Ammarin Daranpob
Fahim Hossain, Zhemin Xuan, Junna Miao, Sha Liu,
Zachary Marimon, Shalimar Debusk

Stormwater Management Academy
University of Central Florida

February 2, 2010

This project was funded by an Urban Nonpoint Source Research Grant from the Bureau of Watershed Restoration, Florida Department of Environmental Protection.

Research from: University of Central Florida

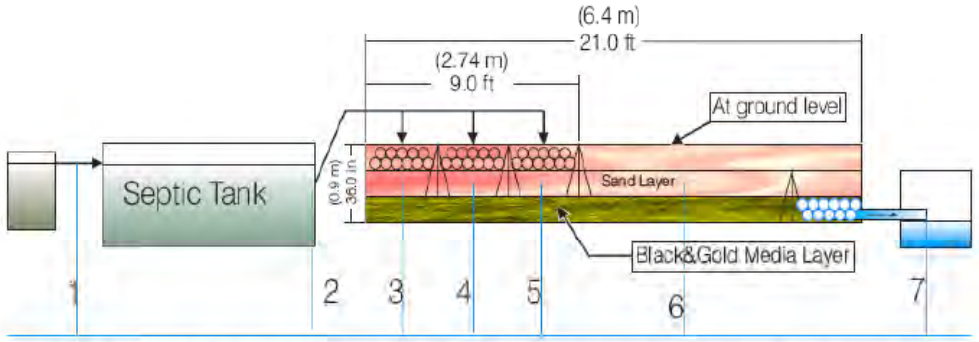


Figure 2 Schematic of the B&G Drain Field (Wanielista et al., 2008). Numbers refer to sampling points in the treatment train.

South Venice Water Quality Initiative

Other Emerging Technologies for Nitrogen Management

Effectiveness of Reactive Barriers for Reducing N-Loading to the Coastal Zone

A Final Report Submitted to

The NOAA/UNH Cooperative Institute for Coastal and Estuarine Environmental Technology (CICEET)

Submitted by

Dr. Joseph Vallino,
Dr. Ken Foreman
Ecosystems Center
Marine Biological Laboratory
Woods Hole, MA 02543

February 26, 2008

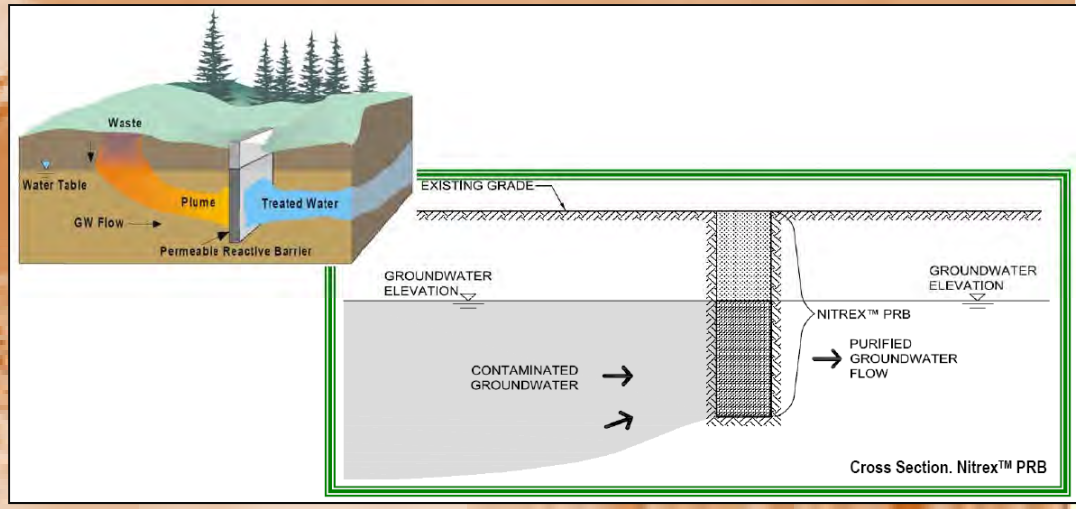
CICEET

This project was funded by a grant from NOAA/UNH Cooperative Institute for Coastal and Estuarine Environmental Technology, NOAA Grant Number(s) NA04NOS190109

University of New Hampshire

NOAA

National Research: Nitrex

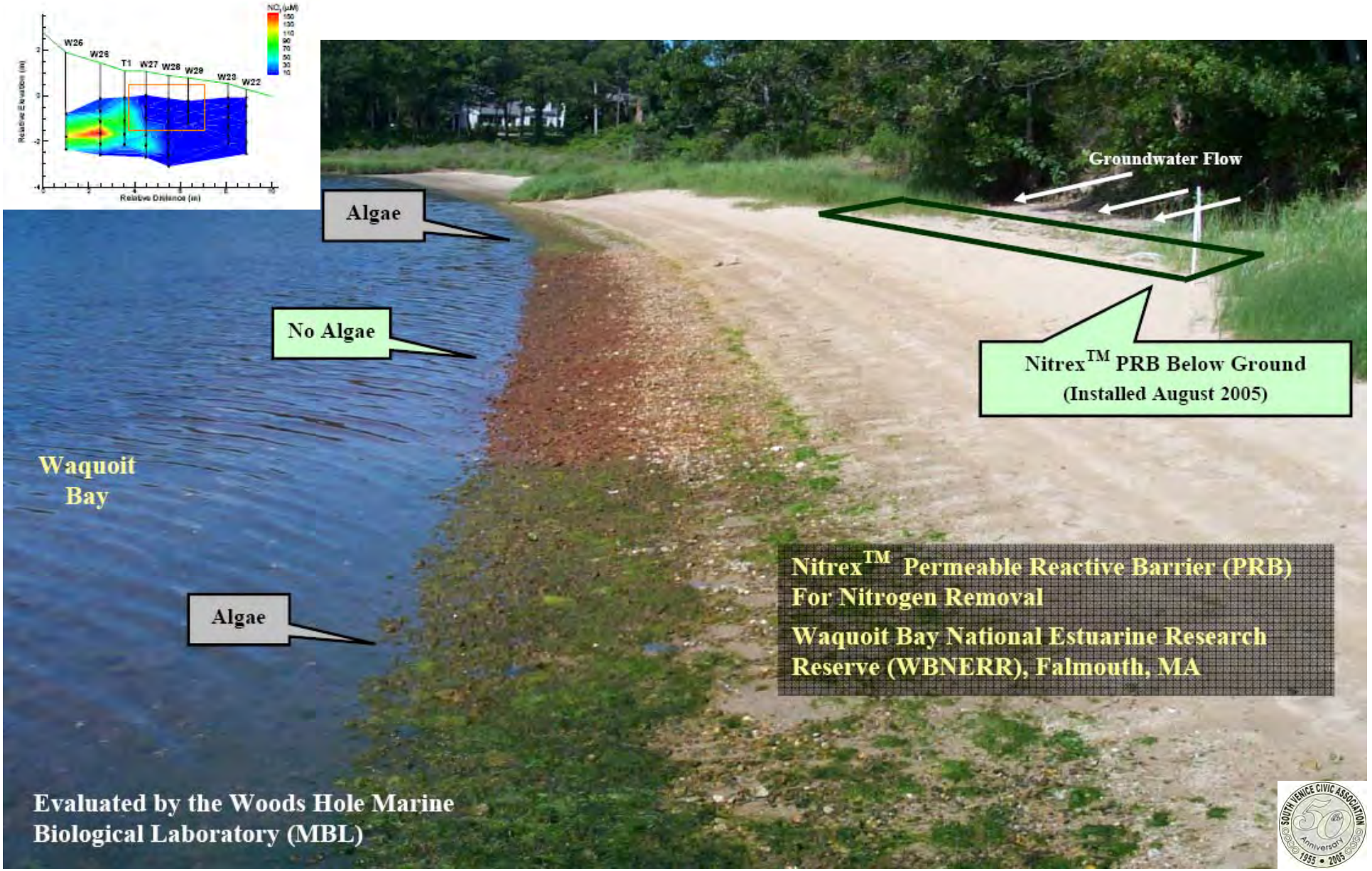


South Venice Civic Association 50th Anniversary 1955 • 2005

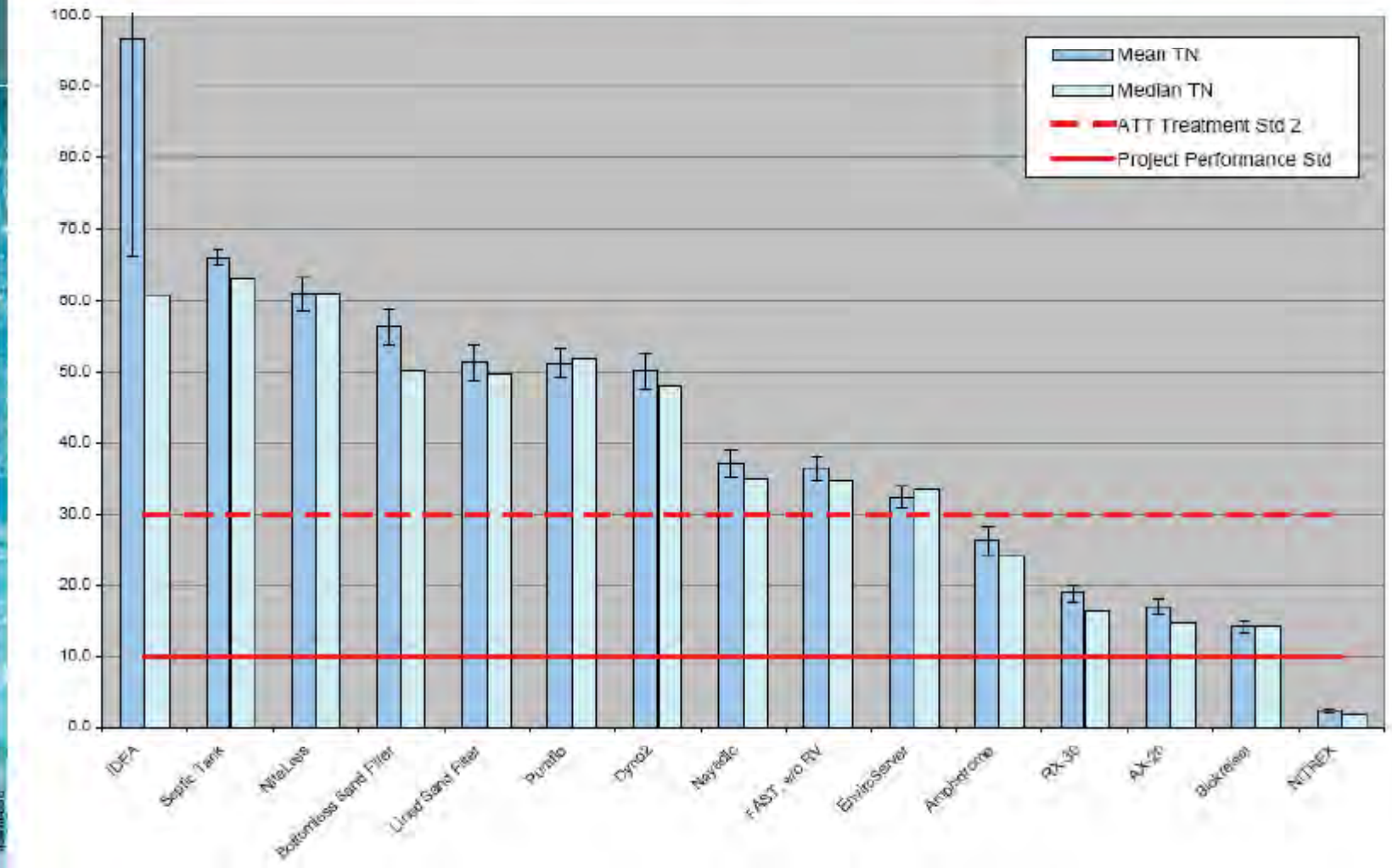
South Venice Water Quality Initiative

Other Emerging Technologies for Nitrogen Management

Emerging Technologies - Nitrex



Performance of N-Reduction Systems
(La Pine National Demonstration Project)



South Venice Water Quality Initiative Recommended Next Steps

- **Assess existing baseline water quality and biology** in South Venice waterways and ponds
- **Assess improved water quality and biology in recently enhanced Siesta Waterway** (thanks to Sarasota County neighborhood grant , Sierra Club, and South Venice residents, and especially private contractor, Rick Eaton)
- Develop **pilot projects using passive technologies to improve water quality and biology of South Venice waterways** and ponds and evaluate for cost effectiveness
- Develop **pilot projects using passive processes for maintenance of swales and waterways** and evaluate for cost effectiveness
- Develop a **homeowner handbook for application of passive processes to restore yards and swales**