

# COMMUNITY PLAYBOOK FOR HEALTHY WATERWAYS

An Initiative of Gulf Coast Community Foundation

Jon Thaxton, Gulf Coast Community Foundation

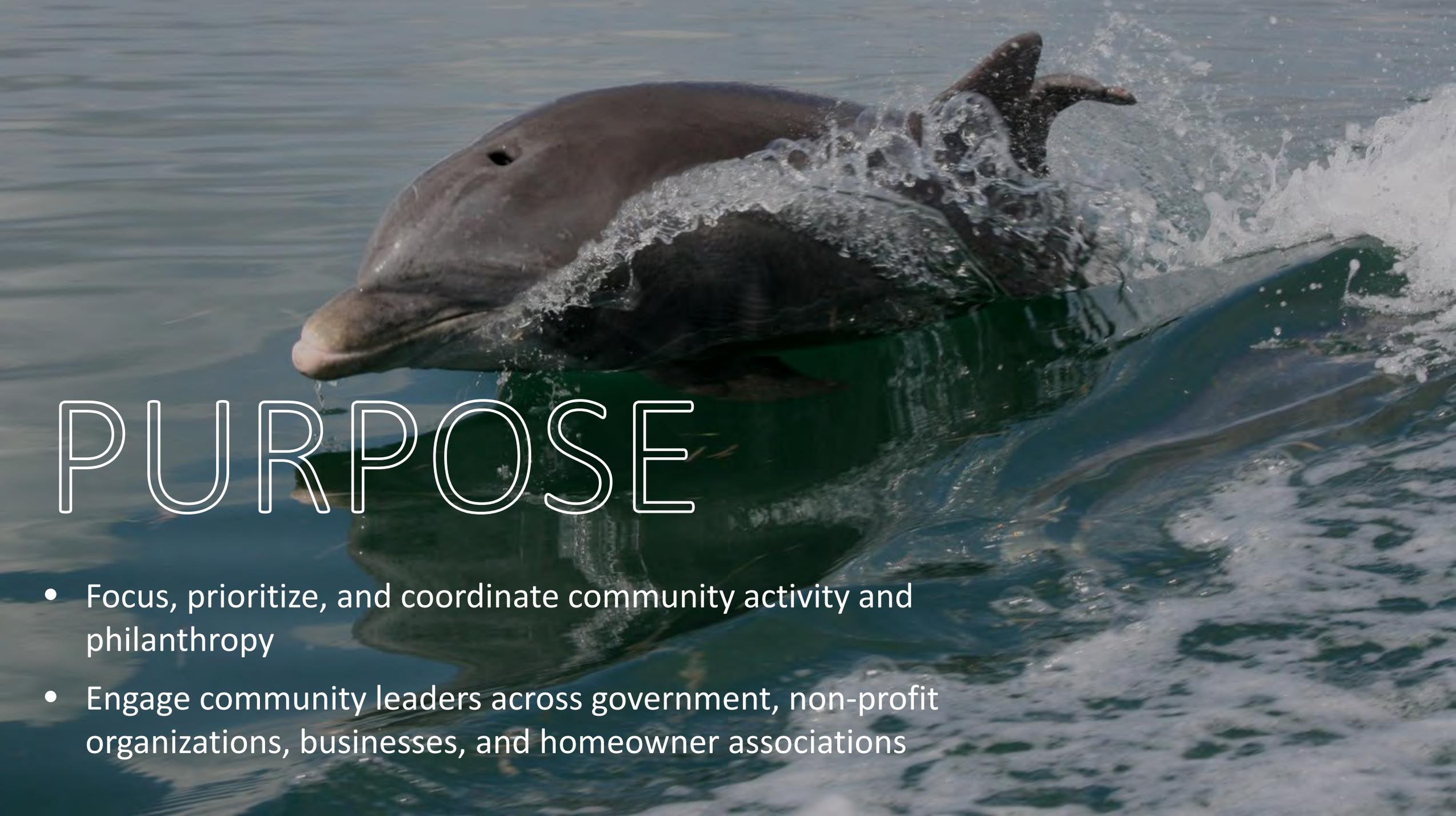
Jennifer Shafer, Shafer Consulting



**GULF COAST  
COMMUNITY  
FOUNDATION**



OUR WAY OF LIFE



# PURPOSE

- Focus, prioritize, and coordinate community activity and philanthropy
- Engage community leaders across government, non-profit organizations, businesses, and homeowner associations

# GOALS

**Goal 1: Reduce**  
anthropogenic-based nutrient loading in natural systems

- Fertilizer
- Biosolids
- Wastewater
- Septic Systems
- Engine emissions

**Goal 2: Remove** excess anthropogenic-based nutrients from natural systems

- Land conservation
- Species restoration
- Green infrastructure
- Stormwater BMPs

**Goal 3: Build capacity and resilience of ecosystems and human systems to sustain G1-2.**

- Education
- Incentives
- Partnerships
- Better data
- Public policy





# Site Map



WHY WE NEED THIS | OVERVIEW OF TOPICS | HOW TO GET STARTED

## 1: CENTRAL WASTEWATER

- 1: TREATMENT
- 2: REUSE
- 3: SPILLS
- 4: REPORTING
- 5: EDUCATION

## 2: SEPTIC SYSTEMS

- 1: LOADS
- 2: EFFECTIVENESS
- 3: LOCATIONS
- 4: MAINTENANCE
- 5: EDUCATION

## 3: BIOSOLIDS

- 1: LOADS
- 2: DISPOSAL
- 3: REGULATIONS

## 4: FERTILIZER

- 1: LOADS
- 2: REPORTING
- 3: REGULATIONS
- 4: HOA'S
- 5: GOLF COURSES
- 6: AGRICULTURE
- 7: COMPOST

## 5: ATMOSPHERIC DEPOSITION

- 1: LOADS
- 2: EDUCATION

## 6: STORMWATER DESIGN

- 1: LOADS
- 2: EFFECTIVENESS
- 3. REGULATIONS
- 4. MAINTENANCE

## 7: STORMWATER PARTNERSHIPS

- 1: HOW-TO GUIDES
- 2: COST-SHARING
- 3. RECOGNITION
- 4. DEMONSTRATIONS

## 8: HABITAT & WILDLIFE

- 1: WETLANDS
- 2: WILDLIFE
- 3. LAND CONSERVATION
- 4. FORESTATION

## 9: COORDINATION

- 1: CONSORTIUM
- 2: PLANNING
- 3. FUNDING
- 4. DATA SHARING
- 5. NETWORKING
- 6. EDUCATION
- 7. POLICY

## 10: MONITORING

- 1: MONITORING
- 2: GAPS

## END NOTES

- > LIST OF ALL ACTIVITIES
- > NUTRIENTS 101
- > REFERENCES
- > CREDITS

10 Topics | 43 ACTIVITIES

# Actionable information to support first steps

- Importance
- Overview
- Approach
- Resources
- Status
- Performance Measures
- Experts or Leads
- Cost
- Related Activities



SCIENCE



POLICY



EDUCATION

**25 GULF COAST COMMUNITY FOUNDATION**

INTRO REDUCE REMOVE SUSTAIN SITE MAP

## 1.1 Inventory WWTF treatment and capacity and prioritize upgrades to advanced wastewater treatment

**WASTEWATER**

**SCIENCE**

**REDUCE**

**Key Message:** Upgrading secondary treatment of wastewater to advanced standards is an important and cost-effective strategy for reducing nutrient loading in surface waters. An inventory of treatment and disposal capacity of Wastewater Treatment Facilities throughout Sarasota County can help assess and prioritize the cost-benefits of investments in upgraded technology.

**Importance**

The majority of wastewater collection, treatment, and disposal is handled by public utility operations at regional wastewater treatment facilities (WWTFs), augmented by a number of small-volume privately owned WWTFs. Level of treatment varies. Minimum state standards require secondary treatment of wastewater (removal of solid and particulate matter and disinfection) before disposal. These processes do not effectively reduce nitrogen and phosphorus in effluent, which can add excess nutrients to the watershed when emergency discharges occur directly to water bodies or indirectly through reuse irrigation water. Advanced Wastewater Treatment (AWT) provides a third level of treatment to substantially lower nitrogen and phosphorus concentrations.

An inventory of WWTF treatment and disposal capacity of WWTFs throughout Sarasota County can help determine cost-benefits and prioritize upgrades to meet current and future needs, to minimize the frequency of emergency discharges, and to minimize nutrient loads from direct and indirect discharge to sensitive water bodies. For example, the Bee Ridge WWTF in Sarasota County produces secondary-treated wastewater with an annual average of 18 mg/L of total nitrogen and 3 mg/L of total phosphorus. Advanced wastewater treatment (AWT) would reduce the average annual concentrations of TN to 3 mg/L and TP to 1 mg/L or less. Particularly for areas that redistribute reclaimed water for irrigation, upgrading WWTFs to AWT is an important and cost-effective strategy for reducing nutrient pollution in our watersheds and for meeting regulatory criteria for nutrients in water bodies.

**Other Wastewater Activities**

- 1.2 Understand and manage nutrient loads to areas irrigated with non-advanced wastewater
- 1.3 Invest in infrastructure to minimize wastewater spills, emergency releases, and overflows
- 1.4 Improve FDEP public reporting of wastewater discharges
- 1.5 Deliver targeted education and incentives to the public to reduce sewage spills and overflows



## Playbook Chapter 1: Central wastewater collection, treatment & disposal

### Activity 1.1 Conversion of Central Wastewater Facilities to Advanced Wastewater Treatment

#### Overview

- 6 major WTFs in Sarasota County generated 750 k pounds of total nitrogen in 2018
- Reuse irrigation water spread 582 k pounds directly onto landscapes

#### Approach

- Conversion of Bee Ridge WTF to AWT would reduce annual TN 80%
- Return on Investment (ROI) estimated at \$30/pound of TN reduced

# Our Process





Conservation Foundation of the Gulf Coast

# Local Catalysts

Gulf Coast Community  
Foundation

Severe Red Tide



**Stakeholder driven**

Hand Selected

Common Goal

Trusted Facilitators



# Early communication

Connect with agencies

Offer support

Receive input



## Community leaders:

- Policymakers
- Nonprofit CEOs
- Foundations
- HOA Boards

# Targeting



## Lessons Learned

Pick a trusted and experienced community navigator to lead.

Define the goal, take an open-minded approach.

Limit geographic scope.

Target leaders not citizens.

Identify solutions by science not popularity.



# COMMUNITY PLAYBOOK

## FOR HEALTHY WATERWAYS

Take action to reduce and remove nutrient pollution

PLAYBOOK CHAPTERS



# Community Progress

Greater coordination

Filling Data Gaps

Ordinance Updates

New Tools and Guides

New Projects

# Steering Committee

**Chair Jon Thaxton** – Gulf Coast Community Foundation | [jthaxton@gulfcoastcf.org](mailto:jthaxton@gulfcoastcf.org)

Mark Alderson – Sarasota Bay Estuary Program

Lee Hayes Byron, MA – UF/IFAS Extension Sarasota County

Stevie Freeman-Montes, MA – City of Sarasota

Sandy Gilbert – Solutions to Avoid Red Tide

Jennifer Hecker – Coastal & Heartland National Estuary Partnership

Christine Johnson, MBA – Conservation Foundation of the Gulf Coast

Alan Jones – Jones Potato Farm and Argus Foundation

John Ryan – Sarasota County Stormwater Environmental Utility

Darcy Young, MA – Sarasota Bay Estuary Program

## **Facilitation, Research, Writing, Design**

Jennifer Shafer, PhD - Shafer Consulting | [jennifer@shafer-consulting.com](mailto:jennifer@shafer-consulting.com)

David Shafer, PhD - Shafer Consulting

Stephen Suau, PE - Progressive Water Resources