



Dona Bay Watershed Management Plan

January 2007 (Revised April 2007)

This watershed management plan was created to provide a strategy for protecting natural systems, ensuring good water quality, providing adequate water for human water needs, and protecting residents within the watershed's boundaries from flooding.

The successful implementation of this plan would include the framework for restoring the biology of Dona Bay that may include water supply project(s). The link between the watershed and estuary, as well between natural system and water supply development in this CWM Plan, provides an in-depth understanding of the hydrology, how it has changed, and what effects these changes have on natural systems.

Full Plan:

[Dona Bay WMP](#) (3.90 MB)

Technical Memos:

[Chapter 3](#) (9.02 MB) [Chapter 4](#) (8.34 MB)

[Chapter 5](#) (1.16 MB) [Chapter 6](#) (7.39 MB)

Table of Contents

EXECUTIVE SUMMARY

CHAPTER 1 – INTRODUCTION

- 1.1 COMPREHENSIVE WATERSHED MANAGEMENT (CWM)
- 1.2 STAKEHOLDER PARTNERSHIPS
- 1.3 AREAS OF RESPONSIBILITY AND OBJECTIVES
 - 1.3.1 Natural Systems
 - 1.3.2 Water Quality
 - 1.3.3 Flood Protection
 - 1.3.4 Water Supply
- 1.4 DONA BAY CWM SCOPE

CHAPTER 2 – WATERSHED DESCRIPTION

- 2.1 LOCATION
- 2.2 CLIMATE

- 2.3 PHYSIOGRAPHY AND SOILS
- 2.4 HYDROGEOLOGY
- 2.5 LAND USE
- 2.6 HISTORICAL PERSPECTIVE
- 2.7 NATURAL ENVIRONMENT AND ECOSYSTEMS

CHAPTER 3 – NATURAL SYSTEMS

- 3.1 INTRODUCTION
- 3.2 OVERVIEW OF NATURAL SYSTEMS ISSUES
- 3.3 NATURAL SYSTEMS ISSUES & PRIORITY ACTIONS
- 3.4 POTENTIAL RESPONSES TO HYDROLOGIC RESTORATION
 - 3.4.1 Seagrass Meadows
 - 3.4.2 Oyster Reefs

CHAPTER 4 – WATER SUPPLY

4.1 INTRODUCTION

4.1.1 Hydrologic Setting

4.1.1.1 Historical Perspective

4.1.1.2 Hydrologic Alterations

4.1.1.3 Ground Water Aquifers

4.1.2 Overview of Sarasota County’s Current Water Sources

4.1.2.1 Manatee County

4.1.2.2 University Wellfield

4.1.2.3 Carlton Wellfield and Treatment Plant

4.1.2.4 Jacaranda Wellfield and Treatment Plant

4.1.2.5 Peace River Manasota Regional Water Supply Authority

4.1.3 Regional Coordination of Future Water Supply

4.1.4 Irrigation

4.1.4.1 Demand Management/Water Conservation

4.1.4.2 Reclaimed Water

4.1.4.3 Surface Waters

4.1.4.4 Ground Water

4.2 STUDIES, REPORTS AND DATA

4.2.1 Previous Studies and Reports

4.2.2 Available Data

4.3 REGULATORY FRAMEWORK

4.3.1 Applicable Legislation

4.3.2 State of Florida Regulations

4.3.2.1 Department of Environmental Protection

4.3.2.2 Southwest Florida Water Management District

4.3.3 Sarasota County Regulations

4.4 OTHER RESOURCE INITIATIVES & ISSUES

4.4.1 Water Planning Alliance

4.4.2 SWFWMD Potential Water Supply Funding Sources

4.4.3 Issue: Constraints on Ground Water Supplies

4.4.4 Issue: Linking Land and Water Planning

4.4.5 Issue: Protection of the Water Supply Watershed

4.5 WATER QUALITY ISSUES

4.5.1 Inorganic Contaminants

4.5.2 Volatile Organic Contaminants

4.5.3 Synthetic Organic Contaminants

4.5.4 Radionuclides

4.5.5 Microbiological Contaminants

4.5.6 Secondary Drinking Water Standards

4.5.7 Other Potential Sources of Water Pollution

4.6 IDENTIFICATION OF WATER SUPPLY PROJECTS

4.7 DRAFT WATER SUPPLY WATERSHED PROTECTION PLAN

CHAPTER 5 – WATER QUALITY

5.1 INTRODUCTION

5.1.1 Overview of Dona Bay and its Watershed

5.2 RECENT AND ONGOING MONITORING PROGRAMS

5.3 OVERVIEW OF WATER QUALITY CONDITIONS

5.4 WATER QUALITY ISSUES AND PRIORITY ACTIONS

5.5 POTENTIAL RESPONSES TO HYDROLOGIC RESTORATION

5.5.1 Development of Salinity vs. Flow Data Sets, and Comparison to “Target” Salinity Values for Dona Bay

5.5.2 Development of Potential Pollutant Load Reduction Estimates for Dona and Roberts Bays

CHAPTER 6 – FLOOD PROTECTION

6.1 INTRODUCTION

6.2 BACKGROUND

6.2.1 Watershed History of Changes

6.2.2 Existing Flooding

6.3 STUDIES, REPORTS AND DATA

6.3.1 Previous Studies and Reports

6.3.2 Current Studies

6.3.3 Future and On-going Work

6.3.4 Information and Additional Data

6.4 REGULATORY FRAMEWORK

6.5 FLOOD PROTECTION ISSUES

6.5.1 Complete Detailed Flood Studies

6.5.2 Update Flood Studies

6.5.3 Implementation of Stormwater Improvement Projects

6.5.4 Primary Drainage System Maintenance

6.5.5 Secondary Drainage System Maintenance

REFERENCES

Technical Memorandums

CHAPTER 3 – NATURAL SYSTEMS (9.02 MB)

- TM 4.1.1.1 - Data Collection and Review (PBSJ)
 - GIS Mapping of Shoreline
 - Draft Monitoring Plan
- TM 4.1.1.2 - Data Collection and Review (BRA)
- TM 4.1.2 - Development of Natural System Water Budget
- TM 4.1.3.1 - Data Analysis (PBSJ)
- TM 4.1.3.2 - Data Analysis (BRA)
- TM 4.1.4 - Evaluation of Restoration/
Enhancement Value
- TM 4.1.5 - Alternative Impact Analysis (BRA)
- Mote Marine - Salinity Targets for Watershed Management in Dona and Roberts Bays and Their Tributaries

CHAPTER 4 – WATER SUPPLY (8.34 MB)

- TM 4.2.1 - Water Quality Analysis and Water Treatment Options Analysis
- TM 4.2.2 - Water Quantity | Water Budget Approach
- TM 4.2.3 - Water Quantity | Flow Diversion Approach
- TM 4.2.4.1 - Evaluation OF Surface Storage (Venice Minerals Site)
- TM 4.2.4.2 - Evaluation of Surface Storage (Albritton Site)
- TM 4.2.4.3 - Evaluation OF Subsurface Storage
- TM 4.2.5 - Determination of Surface Water Treatment Plant Location
- TM 4.2.7 - Development of Phasing Plan
- TM 4.2.8 - Water Supply Watershed Protection Plan (DRAFT)

CHAPTER 5 – WATER QUALITY (1.16 MB)

- TM 4.3.1 - Data Collection and Review
- TM 4.3.2 - Data Analysis
- TM 4.3.3 - Alternative Impact Analysis

CHAPTER 6 – FLOOD PROTECTION (7.39 MB)

- TM 4.4.1 - Inclusion of Watershed Connections
- TM 4.4.2 - Continue Model Validation
- TM 4.4.3 - Regional Stormwater Feasibility Study
- TM 4.4.4 - Development of SCS Soil Conservation Plan Overlay for Pinelands Area
- TM 4.4.5 - Alternative Impact Analysis