

# Integrating Science and Resource Management in Tampa Bay, Florida

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## Preface

Tampa Bay is recognized internationally for its remarkable progress towards recovery since it was pronounced “dead” in the late 1970s. Due to significant efforts by local governments, industries and private citizens throughout the watershed, water clarity in Tampa Bay is now equal to what it was in 1950, when population in the watershed was less than one-quarter of what it is today. Seagrass extent has increased by more than 8,000 acres since the mid-1980s, and fish and wildlife populations are increasing.

Central to this successful turn-around has been the Tampa Bay resource management community’s long-term commitment to development and implementation of strong science-based management strategies. Research institutions and agencies, including Eckerd College, the Florida Wildlife Commission Fish and Wildlife Research Institute, Mote Marine Laboratory, National Oceanic and Atmospheric Administration, the Southwest Florida Water Management District, University of South Florida, U.S. Environmental Protection Agency, U.S. Geological Survey, local and State governments, and private companies contribute significantly to the scientific basis of our understanding of Tampa Bay’s structure and ecological function. Resource management agencies, including the Tampa Bay Regional Planning Council’s Agency on Bay Management, the Southwest Florida Water Management District’s Surface Water Improvement and Management Program, and the Tampa Bay Estuary Program, depend upon this scientific basis to develop and implement regional adaptive management programs.

The importance of integrating science with management has become fully recognized by scientists and managers throughout the region, State and Nation. Scientific studies conducted in Tampa Bay over the past 10–15 years are increasingly diverse and complex, and resource management programs reflect our increased knowledge of geology, hydrology and hydrodynamics, ecology and restoration techniques. However, a synthesis of this research and its integration into resource management has not been prepared for Tampa Bay since the mid-1980s.

The need for an up-to-date synthesis of Tampa Bay science and management has resulted in the production of this document. The U.S. Geological Survey recently completed a 5-year Tampa Bay Integrated Science Study, and the Tampa Bay Estuary Program updated the Comprehensive Conservation and Management Plan for Tampa Bay in 2006. These efforts build upon results of the many research and management studies and programs summarized here.

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## Conversion Factors

Inch/Pound to SI

Multiply	By	To obtain
	Length	
inch (in.)	2.54	centimeter (cm)
foot (ft)	0.3048	meter (m)
mile (mi)	1.609	kilometer (km)
mile per hour (mph)	1.609	kilometer per hour (kmh)
	Area	
acre	0.4047	hectare (ha)
acre per year (acre/yr)	0.4047	hectare per year (ha/yr)
square mile (mi <sup>2</sup> )	2.59	square kilometer (km <sup>2</sup> )
	Volume	
gallon (gal)	3.785	liter (L)
	Flow	
million gallons per day (Mgal/d)	0.04381	cubic meters per second (m <sup>3</sup> /s)
	Mass	
tons per year (tons/yr)	0.9072	megagram per year (mg/yr)

Temperature in degrees Fahrenheit (°F) can be converted to degrees Celsius (°C) as follows:  $^{\circ}\text{C} = (^{\circ}\text{F} - 32)/1.8$

Vertical coordinate information is referenced to the North American Vertical Datum of 1988 (NAVD 88).

Horizontal coordinate information is referenced to the North American Datum of 1983 (NAD 83).

Tide and water depth measurements are given in metric units (meters).

## Abbreviations and Acronyms

BRACE	Bay Regional Atmospheric Chemistry Experiment Study
COC	contaminant of concern
DDT	dichlorodiphenyltrichloroethane
EDS	effects dataset
EPCHC	Environmental Protection Commission of Hillsborough County
DO	dissolved oxygen
FDACS	Florida Department of Agriculture and Consumer Services
FDEP	Florida Department of Environmental Protection
FWRI	Florida Fish and Wildlife Conservation Commission Fish and Wildlife Research Institute
FGFWFC	Florida Game and Freshwater Fish Commission
FOCC	Florida Oceans and Coastal Council
>	greater than
IPCC	Intergovernmental Panel on Climate Change
<	less than
$\mu\text{E m}^{-2} \text{s}^{-1}$	microEinsteins, the unit used for photosynthetically active radiation (PAR)
$\mu\text{g/L}$	microgram per liter
$\mu$	micron
$\text{mg/L}$	milligram per liter
Ma	million years ago
ng	nanogram
NASA	National Aeronautics and Space Administration
N	nitrogen
NOAA	National Oceanic and Atmospheric Administration
NRC	National Research Council
NEDS	no-effects dataset
ppt	parts per thousand
‰	per mil
PCP	pharmaceutical and personal care products
P	phosphorus
PAR	photosynthetically active radiation
PCB	polychlorinated biphenyl
PAH	polycyclic aromatic hydrocarbon
PEL	probable effects level
SWFWMD	Southwest Florida Water Management District
SHARQ	submersible habitat for analyzing reef quality
TBBI	Tampa Bay Benthic Index
TBEP	Tampa Bay Estuary Program
TBNEP	Tampa Bay National Estuary Program
TBNMC	Tampa Bay Nitrogen Management Consortium
TBRPC	Tampa Bay Regional Planning Council
TBTTRT	Tampa Bay Tidal Tributary Research Team
TAC	Technical Advisory Committee (of the TBEP)
ka	thousand years ago
TEL	threshold effects level
TMDL	total maximum daily load
USEPA	U.S. Environmental Protection Agency
USF	University of South Florida
USGS	U.S. Geological Survey

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