

Peace River Basin Resource Management Plan



Florida Department of Environmental Protection

March 2007

PEACE RIVER BASIN RESOURCE MANAGEMENT PLAN

TABLE OF CONTENTS

Page No.

Executive Summary
1.0 Introduction
2.0 Geographic Overview of Peace River Basin
3.0 Cumulative Impacts to Water Resources 3.1 Loss of Streams and Floodplains (Impact 1) 3.2 Loss of Wetlands (Impacts 11, 12) 3.3 Alteration of Drainage Patterns (Impacts 7, 19) 3.4 Fisheries (Impacts 13, 16, 18) 3.5 Reduced Base Flow (Impacts 4, 5, 6, 14, 17) 3.6 Reduction in Aquifer Levels (Impacts 10, 22) 3.7 Mineralization (Impacts 2, 3, 15, 21) 3.8 Water Quality (Impacts 8, 9) 3.9 Water Supply (Impact 20) 36
4.0 Buffer Areas and 100-Year Floodplain384.1 Environmental Benefits384.2 Legal Issues404.3 Economic Impacts41
5.0 Addressing Cumulative Impacts – Recommendations435.1 Summary of Recommendations435.2 Recommendations – Detail44
6.0 Peace River Basin Resource Management Plan Implementation
7.0 References
Acknowledgements

LIST OF FIGURES

Eiguro 1 1	Horse Creek Comparison of Man Daily Flow for Three Time Pariods		
Figure 1.1 Figure 1.2	Horse Creek – Comparison of Mean Daily Flow for Three Time Periods Peace at Arcadia – Comparison of Mean Daily Flow for Three Time Periods		
Figure 1.3	Charlie Creek – Comparison of Mean Daily Flow for Three Time Periods		
Figure 1.4	Karst Features of the Upper Peace Basin		
riguic 1.4	Marst reatures of the Opper reace basin		
Figure 2.1	Peace River at Bartow Sub-Basin		
Figure 2.2	Peace River at Bartow Sub-Basin, 1940s Aerial		
Figure 2.3	Peace River at Bartow Sub-Basin, 2004 Aerial		
Figure 2.4	Peace River at Zolfo Springs Sub-Basin		
Figure 2.5	Peace River at Zolfo Springs Sub-Basin, 1940s Aerial		
Figure 2.6	Peace River at Zolfo Springs Sub-Basin, 2004 Aerial		
Figure 2.7	Kissengen Spring: 1947		
Figure 2.8	Kissengen Spring: June 2006		
Figure 2.9	Payne Creek Sub-Basin		
Figure 2.10	Peace River at Arcadia Sub-Basin		
Figure 2.11	Charlie Creek Sub-Basin		
Figure 2.12	Horse Creek Sub-Basin		
Figure 2.13	Coastal Lower Peace River Sub-Basin		
Figure 2.14	Coastal Lower Peace River Sub-Basin, 1940s Aerial		
Figure 2.15	Coastal Lower Peace River Sub-Basin, 2004 Aerial		
Figure 2.16	Joshua Creek Sub-Basin		
Figure 2.17	Shell Creek Sub-Basin		
Figure 3.1	East of the Peace River between Bartow and Fort Meade Comparison		
Figure 3.2	1941: North Lake Hancock/Unimpacted South-Central Saddle Creek		
Figure 3.3	1952: North Lake Hancock/Channelized South-Central Saddle Creek/Mining		
Figure 3.4	1958: North Lake Hancock/Channelized South-Central Saddle Creek/Saddle		
S	Creek/Mining/Turbidity Plume		
Figure 3.5	1968: North Lake Hancock/Channelized South-Central Saddle Creek/Mining/		
O	State Road 540		
Figure 3.6	1968: Channelized North-Central Saddle Creek/Mining		
Figure 3.7	1968: Channelized Northern Saddle Creek/Mining in Lower Tenoroc Mine		
Figure 3.8	Six Mile Creek Wetlands Comparison		
Figure 3.9	Bear Creek Wetlands Comparison		
Figure 3.10	Payne Creek Wetlands Comparison		
Figure 3.11	South Fort Meade Wetlands Comparison		
Figure 3.12	Hardee Wetlands Comparison		
Figure 3.13	Early 1900s Phosphate Dredge on Upper Peace River		
Figure 3.14	1890s Phosphate Mine in Fort Meade		
Figure 3.15	Mandatory and Nonmandatory Clay Settling Areas		
Figure 3.16	Central Florida Phosphate Gypsum Stacks		
Figure 3.17	SWFWMD/SWUCA/Peace River Basin Boundaries Comparison		

Figure 4.1	Peace River Tributary Floodplain
Figure 4.2	Peace River Floodplain
Figure 5.1	Integrated Habitat Network
Figure 5.2	Nonmandatory Phosphate Zellars-Williams Parcels
Figure 5.3	Mandatory Phosphate Mines by Mine
Figure 5.4	Mandatory Phosphate Mines by Company
Figure 5.5	Southwest District Group 3 TMDL Waters: Upper Peace River
Figure 5.6	Tenoroc Fish Management Area: Proposed and Existing Habitat and Land Use

LIST OF TABLES

		Page No.
Table 1.1	Developed land uses (acres and %) of major sources of stress by sub-basin during 1940s and 1999	9
Table 3.1	Identified impacts to water resources of the Peace River basin in relation to sources of stress	
Table 3.2	Loss of miles of streams and associated floodplains from 1940s through 1999	18
Table 3.3	Land use (acres and %) within the Peace River basin: 1940s to 1999	
Table 3.4	Estimated ground water use (million gallons per day) by stressors in several counties within the Peace River watershed in 1998 and 1999.	
Table 3.5	Estimated ground water use (million gallons per day) by sub-basin for four time periods	27
Table 5.1	Summary of recommendations	