

D R A F T

APPENDIX F

**INFORMATION SOURCE SUMMARY FOR DR/GR
ENVIRONMENTALLY SENSITIVE NATURAL RESOURCES
AND ENVIRONMENTAL ISSUES
IDENTIFIED IN LEE COUNTY COMPREHENSIVE PLAN**

DRAFT

APPENDIX F

Information Source Summary for

**DR/GR
Environmentally Sensitive Natural Resources
and
Environmental Issues Identified in
Lee County Comprehensive Plan**

<u>Environmental Feature</u>	<u>Information Sources</u>
Environmentally Sensitive Areas	Addressed in Estero Bay State of the Bay Report (2000) (no maps).
Vegetation and Wildlife	
Vegetation communities	Addressed in 951 Report (for a portion of the DR/GR), Lower Charlotte Harbor Reconnaissance, Closing the Gaps (get most recent version from Florida Fish and Wildlife Conservation Commission), Bonita Springs Report (for a portion of the DR/GR), "How Much is Enough?" Florida panther study, and Estero Bay State of the Bay Report (2000 and 2004). Most maps are based on remote sensing data. Some verification through low-level helicopter flyovers or field surveys was conducted for the 951 Report, Bonita Springs Report, and "Closing the Gaps" report. This verification is important for the DR/GR area because pine flatwoods are easily misidentified as cypress forests when only remote sensing data are used. More field verification of vegetation communities for the DR/GR would be useful.
Environmentally sensitive coastal planning areas	Addressed in Estero Bay State of the Bay Report (2000) (no maps). Discussed in Water Quality/Data Analysis Report.
Wetlands	Addressed in 951 Report (for a portion of the DR/GR), Lower Charlotte Harbor Reconnaissance, Closing the Gaps (get most recent version from Florida Fish and Wildlife Conservation Commission), Bonita Springs Report (for a portion of the DR/GR), "How Much is Enough?" Florida panther study, Multi-species Recovery Plan, and Estero Bay State of the Bay Report (2000 and 2004). Most maps are based on remote sensing data. Some verification through low-level helicopter flyovers or field surveys was conducted for the 951 Report, Bonita Springs Report, and "Closing the Gaps" report. The 951 report is the only document that includes wetland boundaries

DRAFT

	<p>delineated in accordance with state and federal rules. These boundaries area more accurate than those based upon remote sensing.</p>
Wetland mitigation banks	<p>Included on Fig. 26 of Lower Charlotte Harbor Reconnaissance – shown as “Lands in Conservation” – not called out specifically as mitigation banks. All mitigation banks within Lee County are included in the Florida Department of Environmental Protection (http://www.dep.state.fl.us/water/wetlands/docs/mitigation/mitbanks.html). Mitigation Service Areas for each mitigation bank are also included in map form.</p>
Issues: invasive/exotic species	<p>Addressed in narrative form in Bonita Springs document, Estero Bay State of the Bay Report (2000), Multi-species Recovery Plan, “Closing the Gaps” Report, and Lower Charlotte Harbor Reconnaissance. A more extensive vegetation survey and corresponding map showing areas that are infested with exotic plant species would be useful.</p>

Important Native Plant Communities	<p>Best narrative descriptions of the ecological importance of all native plant communities listed below are in the Multi-species Recovery Plan (Section 3) and the “Closing the Gaps” Report.</p>
Rare and unique uplands	<p>Addressed in 951 Report (for a portion of the DR/GR), Estero Bay State of the Bay Report (2000 and 2004), Lower Charlotte Harbor Reconnaissance, Closing the Gaps (get most recent version from Florida Fish and Wildlife Conservation Commission), Bonita Springs Report (for a portion of the DR/GR), “How Much is Enough?” Florida panther study, and the Multi-species Recovery Plan. Most maps are based on remote sensing data. Some verification through low-level helicopter flyovers or field surveys was conducted for the 951 Report, Bonita Springs Report, and “Closing the Gaps” report. Some verification through low-level helicopter flyovers or field surveys was conducted for the 951 Report, Bonita Springs Report, and “Closing the Gaps” report. This verification is important for the DR/GR area because pine flatwoods are easily misidentified as cypress forests when only remote sensing data are used. More field verification of vegetation communities for the DR/GR would be useful.</p>
Native vegetation communities	<p>Addressed in 951 Report (for a portion of the DR/GR), Estero Bay State of the Bay Report (2000 and 2004), Lower Charlotte Harbor</p>

DRAFT

	Reconnaissance, Closing the Gaps (get most recent version from Florida Fish and Wildlife Conservation Commission), Bonita Springs Report (for a portion of the DR/GR), “How Much is Enough?” Florida panther study, and the Multi-species Recovery Plan. Most maps are based on remote sensing data. Some verification through low-level helicopter flyovers or field surveys was conducted for the 951 Report, Bonita Springs Report, and “Closing the Gaps” report. Some verification through low-level helicopter flyovers or field surveys was conducted for the 951 Report, Bonita Springs Report, and “Closing the Gaps” report.
Coastal and interior hammocks	Addressed in Multi-species Recovery Plan, “Closing the Gaps” Report, and the Estero Bay State of the Bay Report (2000 and 2004).
Rare and unique habitats <ul style="list-style-type: none"> - Mangroves - Cypress heads 	Addressed in Multi-species Recovery Plan, “Closing the Gaps” Report, the Estero Bay State of the Bay Report (2000 and 2004), and Lower Charlotte Harbor Reconnaissance and Bonita Springs DR/GR Report.
Biodiversity “hot spots”	Addressed most fully in “Closing the Gaps” Report.

Important Wildlife Habitat	
Native Wildlife Habitat	Addressed in 951 Report (for a portion of the DR/GR), Estero Bay State of the Bay Report (2000 – narrative only), Lower Charlotte Harbor Reconnaissance, Closing the Gaps Report (get most recent version from Florida Fish and Wildlife Conservation Commission), Bonita Springs Report (for a portion of the DR/GR), “How Much is Enough?” Florida panther study, and the Multi-species Recovery Plan.
Migratory bird wintering areas	Addressed in narrative form in Multi-species Recovery Plan, “Closing the Gaps” Report, and the Estero Bay State of the Bay Report (2000)
Critical Habitat for Listed Species – endangered, threatened, species of special concern	All species listed below are addressed in the Multi-species Recovery Plan, “Closing the Gaps” Report, 951 Report (for a portion of the DR/GR), and the Estero Bay State of the Bay Report (2000 and 2004).
Florida panther	“How Much is Enough?” Florida panther study.
Wood stork	See “Critical Habitat for Listed Species” above.
Fish/fishery resources	See “Critical Habitat for Listed Species” above.
Bears	See “Critical Habitat for Listed Species” above.
Red-cockaded woodpecker	See “Critical Habitat for Listed Species” above.
Gopher tortoise	See “Critical Habitat for Listed Species” above.
Southern bald eagle	See “Critical Habitat for Listed Species” above.
Manatee	See “Critical Habitat for Listed Species” above.
Others	See “Critical Habitat for Listed Species” above.

DRAFT

Important Plant Habitats	
Endangered plant species habitat	Addressed in the Multi-species Recovery Plan, "Closing the Gaps" Report, 951 Report (for a portion of the DR/GR), and the Estero Bay State of the Bay Report (2000 and 2004) and Bonita Springs DR/GR Report. Florida Natural Areas Inventory Database includes additional information regarding endangered plant species.

Important Water Resources	
Natural waterways/water bodies	Discussed in Rawl Groundwater and Mining Report. Addressed in Estero Bay State of the Bay Report (2000 and 2004), Lower Charlotte Harbor Reconnaissance, Water Quality/Data Analysis Report and Bonita Springs DR/GR Report. Discussed in South Lee County Watershed Plan.
Riparian Areas/Riparian Systems	Narrative description included in the Estero Bay State of the Bay Report (2000), Many data points in the Water Quality/Data Analysis Report are located within these areas. Discussed in South Lee County Watershed Plan.
Flow-ways existing and historic	Discussed in Rawl Groundwater and Mining Report. Discussed in Bonita Springs DR/GR Report. Addressed briefly in Lower Charlotte Harbor Reconnaissance. Discussed in South Lee County Watershed Plan.
Sloughs	Discussed in Bonita Springs DR/GR Report. Addressed briefly in Lower Charlotte Harbor Reconnaissance. Discussed in South Lee County Watershed Plan.
Storm and flood hazard areas	Discussed in South Lee County Watershed Plan.
Natural lakes	Not specifically discussed.
Estero Bay Estuary	Discussed in Bonita Springs DR/GR Report. Addressed in Estero Bay State of the Bay Report (2000 and 2004), Lower Charlotte Harbor Reconnaissance, Water Quality/Data Analysis Report. Discussed in South Lee County Watershed Plan.
Aquatic preserves/Outstanding Florida Waters Estero Bay	Discussed in Bonita Springs DR/GR Report Addressed in Estero Bay State of the Bay Report (2000 and 2004), Lower Charlotte Harbor Reconnaissance, Water Quality/Data Analysis Report. Discussed in South Lee County Watershed Plan.
Aquifers	Discussed in Rawl Groundwater and Mining Report and the Montgomery Report. Addressed in Water Quality/Data Analysis Report. Discussed in Bonita Springs DR/GR Report.

DRAFT

Aquifer recharge areas	Discussed in Rawl Groundwater and Mining Report and the Montgomery Report. Addressed in Bonita Springs DR/GR Report.
Watersheds	Discussed in Rawl Groundwater and Mining Report and the Montgomery Report. Addressed in Estero Bay State of the Bay Report (2000), Water Quality/Data Analysis Report, Lower Charlotte Harbor Reconnaissance. Discussed in Bonita Springs DR/GR Report. Discussed in South Lee County Watershed Plan.
Drainage basins	Discussed in Rawl Groundwater and Mining Report and the Montgomery Report. Addressed in Estero Bay State of the Bay Report (2000), Water Quality/Data Analysis Report, Lower Charlotte Harbor Reconnaissance. Discussed in Bonita Springs DR/GR Report. Discussed in South Lee County Watershed Plan.
Floodplains	Discussed in South Lee County Watershed Plan and the Montgomery Report.
Wellfield protection areas	Discussed in Bonita Springs DR/GR Report.
Wellfields	Discussed in Rawl Groundwater and Mining Report and the Montgomery Report. Mentioned in Water Quality/Data Analysis Report. Discussed in Bonita Springs DR/GR Report.
Water quality	Discussed in Rawl Groundwater and Mining Report and the Montgomery Report. Addressed in Estero Bay State of the Bay Report (2000 and 2004), Water Quality/Data Analysis Report, Lower Charlotte Harbor Reconnaissance. Discussed in Bonita Springs DR/GR Report. Discussed in South Lee County Watershed Plan.
Surface water	Discussed in Rawl Groundwater and Mining Report and the Montgomery Report. Addressed in Estero Bay State of the Bay Report (2000 and 2004), Water Quality/Data Analysis Report, Lower Charlotte Harbor Reconnaissance. Discussed in Bonita Springs DR/GR Report. Discussed in South Lee County Watershed Plan.
Groundwater	Discussed in Rawl Groundwater and Mining Report and the Montgomery Report.. Addressed in Water Quality/Data Analysis Report. Discussed in Bonita Springs DR/GR Report.
Impaired areas	Addressed in Estero Bay State of the Bay Report (2000 and 2004), Water Quality/Data Analysis Report, Lower Charlotte Harbor Reconnaissance. Discussed in South Lee County Watershed Plan. Discussed in Bonita Springs DR/GR Report.
Federal 303d classification	Addressed in Estero Bay State of the Bay Report (2000 and 2004), Water Quality/Data Analysis Report, Lower Charlotte Harbor Reconnaissance.
State water classifications	Addressed in Estero Bay State of the Bay

DRAFT

	Report (2000 and 2004), Water Quality/Data Analysis Report, Lower Charlotte Harbor Reconnaissance. Discussed in Bonita Springs DR/GR Report.
Water quantity/water supply (existing and projected water budget)	Discussed in Rawl Groundwater and Mining Report and the Montgomery Report. Discussed conceptually in Estero Bay State of the Bay Report (2000 and 2004). No quantitative data regarding water budgets are included. Discussed in Bonita Springs DR/GR Report.
Issue: Flooding	Best discussion in SW Florida Feasibility Study, also included in Estero Bay State of the Bay Report (2000 and 2004). Addressed in Bonita Springs DR/GR Report. Discussed in South Lee County Watershed Plan.
Greenway/Blueways	Addressed in Lower Charlotte Harbor Reconnaissance Report (greenways only).
Conservation Lands Under Public Ownership – e.g. CARL, CREW, SOR, 2020 Conservation Program, community based land trusts	Addressed in Lower Charlotte Harbor Reconnaissance Report, Multi-species Recovery Plan, and Estero Bay State of the Bay Report (2000). Discussed in Bonita Springs DR/GR Report. Discussed in South Lee County Watershed Plan.
Proposed Acquisition Lands	In general, discussed in Bonita Springs DR/GR Report and South Lee County Watershed Plan.
CARL, CREW, SOR, 2020 Conservation Program	Addressed in Lower Charlotte Harbor Reconnaissance Report and Estero Bay State of the Bay Report (2000).
Florida Communities Trust	Mentioned in Lee Comprehensive Plan. Not specifically mentioned by name in other documents although acquisition and management of sensitive lands was discussed.
Airport mitigation lands	Addressed in narrative form only in the Multi-species Recovery Plan.
Mining Resources	Discussed in Rawl Groundwater and Mining Report. Mention of mining is made in Estero Bay State of the Bay Report (2000) and Lower Charlotte Harbor Reconnaissance Report as a land use category. No in-depth discussions mining resources nor of impact of mining activities on environmental resources.