

# Little Manatee River Watershed Land/Water Linkage Project Staff Report



A Joint Project Sponsored by the Southwest Florida Water Management District and the Hillsborough County Planning and Growth Management Department, with the cooperation and assistance of the South County Roundtable .



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**\*Maps are taken directly from the Little Manatee Watershed Management Plan Atlas**

## EXECUTIVE SUMMARY

### LITTLE MANATEE LAND WATER LINKAGE STRATEGY

**GOAL OF THE PROJECT:** This report concludes a 12 month effort from February 2001 to January 2002 to improve the management of land and water resources in the Little Manatee River Basin in southern Hillsborough County. The sponsoring agencies set out to implement a strategy that would accomplish three things:

- Improve linkages between land planning and water management
- Improve linkages between the efforts of the regional water resource agency (SWFWMD) and the County's planning efforts
- Provide a link between affected citizens and their local government and their regional water resource agency in addressing land and water issues.

**STAKEHOLDER PROCESS:** As Phase 1 of the project, a citizen based task force of residents in the watershed met during the project to establish their vision, issues, and action projects to addresses the issues. They published the vision, issues and action projects in the Pre-strategy Report from the Little Manatee Land Water Linkage Task Force. With the Task Force report in hand, staff took the lead role from the Community in Phase 2. Staff reviewed the Pre-Strategy report proposals. It believed that it had received an excellent range of proposals and recommendations for its consideration in developing strategies to link land and water management.

**STRATEGIES FOR LAND-WATER LINKAGE:** Three strategies formulated by staff encompass the themes of water, land and environment. **The Strategy For Excellent Water Management** recognizes that a well managed river system of excellent quality is critical to sustaining the desired lifestyles in the Little Manatee River Watershed. The action program for this strategy covers critical themes of surface water regulation, stormwater recharge, flood protection and natural stormwater system functions. Methods and techniques to manage water resources and protect the long-term viability of the water, natural systems, and land resources, were considered. Specific projects proposed as a result of the planning phase include:

*Timing and Priority of Action Plans for Excellent Water Management*

| Action Plan Priority | Responsible Agency  | Actions/Detailed Action #                        |
|----------------------|---------------------|--|
| FY-02/03 1.          | Hillsborough County | <b>BASIN STORMWATER MAINTENANCE PLAN-#1</b>      |
| FY-02/03 2.          | Hillsborough County | <b>SEPTIC TANK AND DISCHARGE INVENTORY-#2</b>    |
| FY-03/04 3.          | Hillsborough County | <b>STORMWATER MANAGEMENT ON PRIVATE LANDS-#3</b> |
| FY04-05 4.           | Hillsborough County | <b>LITTLE MANATEE STORM WATER TRUST FUND-#4</b>  |

**The Strategy for Sustainable Natural Systems** recognizes that an integrated, inclusive approach to sustainable natural systems is necessary. The action program for this strategy to link land and water management includes specific projects such as Marsh Creek restoration, better monitoring of the flow and water quality health of the river, and elimination of invasive species to restore natural habitats, along with joint

programs between SWFWMD and Hillsborough and Manatee County for long term projects in the preservation of the natural systems. Public involvement and input and continued inter-jurisdictional cooperation and decision making based on reliable information are also of interest.

*Timing and Priority of Action Plans for A Sustainable Natural System*

| Action Plan Priority | Responsible Agency  | Actions  |
|----------------------|---------------------|--|
| FY-02/03 1.          | SWFWMD              | <b>MARSH CREEK RESTORATION-#5</b>                              |
| FY-02/03 2.          | SWFWMD              | <b>CWM PLAN COORDINATION-#6</b>                                |
| FY-02/03 3.          | SWFWMD              | <b>WATER QUALITY MONITORING AND DATA REPORTING -#7</b>         |
| FY-02/03 4.          | Hillsborough County | <b>PUBLIC AND PRIVATE NUISANCE PLANT AND ANIMAL REMOVAL-#8</b> |

**The Strategy for a Livable Community Lifestyle** presents an action program to support the desire to improve the quality of life in the Little Manatee River Watershed. A definitive message emanating from the Task Force was the desire for the County to better address community codes enforcement issues. Citizen support for linking land and water management depends on making those affected by development a vital part of growth management. This can take numerous forms, including but not limited to, creation of comprehensive community plans crafted in partnership among public and private interests, and intended to guide future development. The action program for this strategy identifies a reformulation of activities to reset the direction of growth through revisions to plans, policies and regulations, along with increased opportunities for bay access and greenways and trails development to support ecotourism.

*Timing and Priority of Action Plans for A Livable Community Lifestyle*

| Action Plan Priority | Responsible Agency  | Actions  |
|----------------------|---------------------|--|
| FY-02/03 1.          | Hillsborough County | <b>CODES AND SOLID WASTE ENFORCEMENT-#9</b>        |
| FY-02/03 2.          | Hillsborough County | <b>SOUTH COUNTY COMMUNITY PLAN-#10</b>             |
| FY-03/04- 3.         | Hillsborough County | <b>RIVER AND BAY ACCESS-#11</b>                    |
| FY-03/04 4.          | Hillsborough County | <b>GREENWAYS AND TRAILS MASTER PLAN UPDATE-#12</b> |

This final step assigns the action programs to the agencies in a coordinated fashion that reflects their roles, as well as appropriate timing and priorities. Implementation will require commitments by the governing Boards and Commissions involved. The Implementation Program provides the timing, sequence and agency assignment of the Action Plans for linking land and water management.

**ACKNOWLEDGMENTS**

Alafia River Basin Board

Preparation of this report was aided through financial assistance and technical assistance received from the Southwest Florida Water Management District using the Cooperative Funding Program of the Alafia River Basin Board. The Southwest Florida Water Management District and the Board of County Commissioners of Hillsborough County, through its Planning and Growth Management Department, are the sponsoring agencies for this project.

The Little Manatee River Watershed Land & Water Linkage Task Force

The sponsoring agencies would like to thank the citizen volunteers of the Little Manatee River Land & Water Linkage Task Force. The Task Force was composed of stakeholders that represented a variety of watershed interests. A list of the volunteers that comprised the Task Force are:

- Paul Allen, Wimauma, - DEP District 4 Parks and State Lands
- Ken Alvarez, Osprey, - DEP District 4 Parks and State Lands
- John Bowers, Tampa, - Hillsborough County City-County Planning Commission
- Bill Casey, Sun City, - Caloosa Shell Corporation
- Wade Clark, Ruskin - Ruskin Community Development Foundation
- Pat Council, Ruskin - Citrus, cattle and sod operations
- Dolly Cummings, Ruskin – Camp Bayou Outdoor Learning Center (non-profit community project)
- Bill Durrance, Wimauma – Tidewater Citrus, Inc.
- Al Eisenmenger, Riverview - Hillsborough County City-County Planning Commission
- Charlie Feldschau, Sun City Center - Apollo Beach Power Squadron and C-BUG
- Peggy Fosse, Sun City - Audubon Society (Eagle Chapter)
- Burt Fosse, Sun City – Taxpayer
- Peg Knowles, Ruskin – Taxpayer
- Robin Knowles, Ruskin – Taxpayer
- Sandra Miller, Sun City Center, Audubon Society (Eagle Chapter)
- Gus Muench, Ruskin – Commercial Crabber and Oyster Reef Designs, Inc.

- Mike Peterson, Apollo Beach, Real Estate and South County Roundtable.
- Aristotle Shinas, Bradenton – Manatee County Planning Department
- Mariella Smith, Ruskin – Cockroach Bay Aquatic Preserve Management Advisory Team (CAPMAT). Member of SWFWMD’s Environmental Advisory Committee.
- Bob Wilhelm, Thonotosassa - FDEP Little Manatee River State Park, Florida Park Service
- Greg Williams, Mulberry - IMC Agrico

The Agency Team

An interagency group was established to guide and complete the study. The County Planning and Growth Management Department took responsibility for managing the study, with Nancy Rubin and Dan Blood representing the Department. Nancy Rubin acted as Project Manager.

The Southwest Florida Water Management District’s Trisha Neasman, SWFWMD’s Project Manager, represented the SWFWMD Board in the formulation of this study. Ms. Neasman contributed resource management and technical guidance throughout the study.

Facilitator

Jim Stansbury, President of SRBD South, Inc. of Bradenton, Florida provided professional facilitation and other consulting services throughout the study.

## **STUDY PURPOSE**

### The Challenge

This report concludes a 12 month effort from February 2001 to January 2002 to improve the management of land and water resources in the Little Manatee River Basin in southern Hillsborough County. The sponsoring agencies set out to implement a strategy that would accomplish three things:

- Improve linkages between land planning and water management
- Improve linkages between the efforts of the regional water resource agency (SWFWMD) and the County's planning efforts
- Provide a link between affected citizens and their local government and their regional water resource agency in addressing land and water issues.

The two sponsoring agencies have distinct but interwoven areas of responsibility within the Little Manatee River watershed. SWFWMD has four Areas of Responsibility (AOR's) that frame every policy it establishes and every action it takes – Water Supply, Water Quality, Flood Protection and Natural Systems. Through the development of Comprehensive Watershed Management (CWM) Plans for each river basin/watershed, SWFWMD now looks at the broadest possible picture for the management of the resources under their responsibility rather than addressing them on a project-by-project bases. Through the CWM plan, developed through an agency team from various disciplines, issues are identified and prioritized and implementation strategies/ actions are outlined. Implementation and monitoring of the effectiveness of the actions is carried out through the agency teams.

Hillsborough County sees the opportunity to tie into the comprehensive Watershed Management Plans by adding its own distinct "Area of Responsibility" – Growth Management. Growth Management consists of the land use planning, zoning, stormwater management and related capital improvements that guide where, when and how development occurs.

These five areas of responsibility – water supply, water quality, flood protection, natural systems and growth management – represent significant links between a watershed's land and water resources. A key component of developing effective programs and projects associated with these five areas of responsibility is the ability of public agencies to include the values and interests of citizens and stakeholders.

The Little Manatee River  
Focus

This effort is a continuation of the land-water “Linkage” studies conducted in the rural northwest part of the County in 1996 and the Alafia Watershed in 2000. Those studies brought together citizens, stakeholders and agencies and produced over 70 projects to implement citizen priorities within the Northwest and Alafia portions of the County. The citizens in the watershed had many interests, including the effects of the phosphate industry, specifically radon and the Mulberry Plant at Piney Point, and the Florida Power and Light Plant in Manatee County on the river. These led citizens in the watershed to desire to have a more proactive role in the decision making process on the issues that affect their quality of life. The Land & Water Linkage process is an effort to bring land planning into a watershed context. This process, first developed in the Northwest project, was the logical avenue through which to address citizen desires in the Little Manatee River Watershed. The Study Area, including maps, is described in detail in Chapter 3.

Roles and  
Responsibilities

In sponsoring the study the agencies wished to achieve a high degree of community participation and interaction. Using the Northwest and Alafia Link projects as a template and the expertise of the Project Facilitator, the project staff agreed on both an overall process to keep roles and responsibilities clear; a sequence for collaborative problem-solving, and an organizational approach that would guide the development of the strategies. These processes are illustrated by Figures 1, 2 and 3 respectively. Figure 1 illustrates the need to respect distinct roles while adopting collaborative approaches. In this study, the Boards and Commissions would protect the process while reserving their right to accept, modify or reject any recommendations. The community stakeholders would define their values and influence objectives that fit local aspirations. The staff and experts would support the process, while being accountable for providing relevant information and applying sound knowledge. This phase culminated in a Pre-Strategy Report, containing the Task Force’s recommendations.

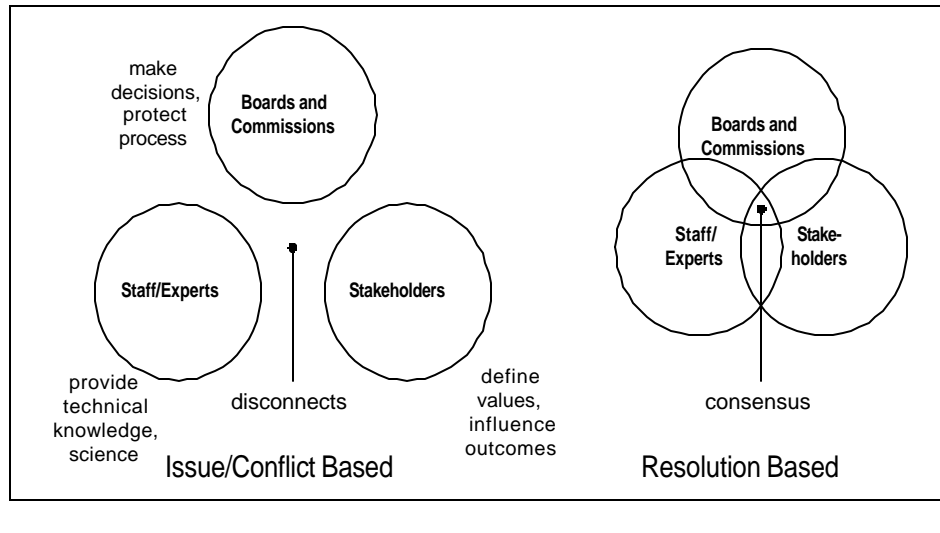


Figure 1 Respecting Roles and Responsibilities in Seeking Consensus

Two Phases

A two-phased approach was developed to guide collaborative problem solving. The Project Facilitator's use of PIBEO (Public Input Before Expert Output) was adopted. Figure 2 illustrates this approach. In Phase 1, the community took the lead, with the staff offering information, advice and other support as requested. Community efforts used Task Force workshops, and general public forums, with sufficient time to accomplish worthwhile work. Further details of this interactive process are included in the Pre-Strategy Report, a separate document from which Chapter 4 of this report is excerpted. In Phase 2, staff agency Team took the lead, developing the strategies and actions that would be submitted to the Boards and Commissions for review and decision. Before completing its Final Report, the Agency Team met with the Task Force to review a complete draft of its proposed report.

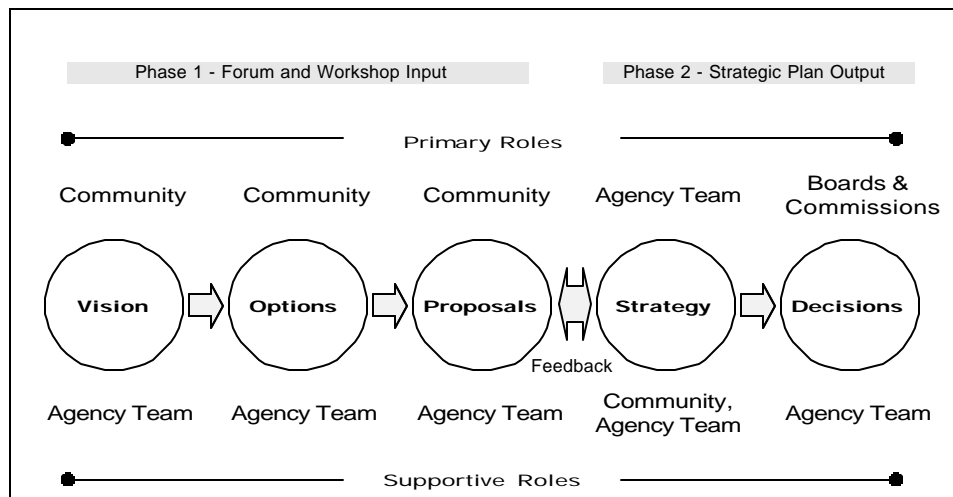


Figure 2 Public Input Before Expert Output and Board/Commission Decisions

## Integrated Action

Figure 3 illustrates the desire for the sponsoring agencies to move beyond justification of their existing procedures and rules. The links sought in this study require a strategy for interagency actions, in which each step outside of traditional regulatory or policy roles to get at the heart of land and water management problems in the Little Manatee River Basin. In some cases, agencies need to collaborate on a particular action. Overall, however, a coordinated effort by all is needed.

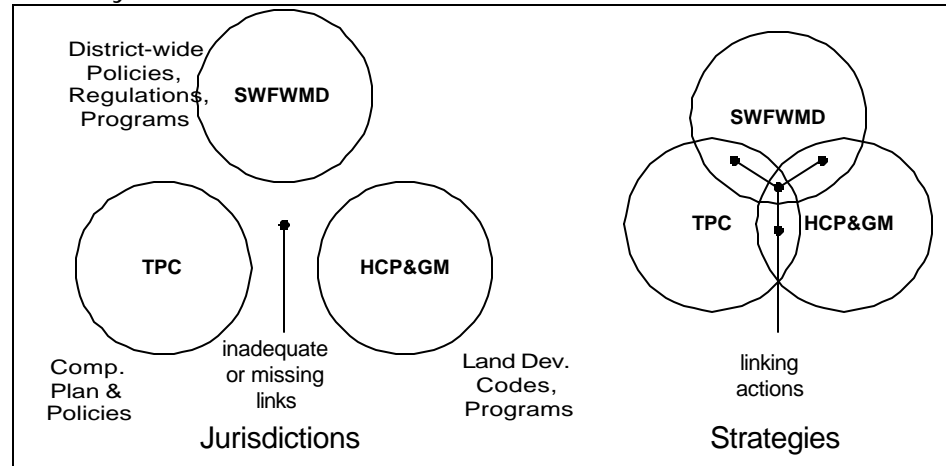


Figure 3 *Linking Actions Across Jurisdictions*

## The Study Content

Discussions at the beginning of this project focused an effort to define the specifics of this study. The study was not intended to create a vision for all aspects of life in the Little Manatee River Watershed or to encourage competition between scientific expertise and citizen goals. Furthermore, the study was not designed to make decisions on specific local development proposals or to implement new regulatory measures or rules, create community plans, or search for single answers to every community problem in the study area.

In contrast, the expected outcomes of the study were laid out in the beginning of the effort. The study did have intentions to create a community vision for the future of the Little Manatee River Watershed's natural environment, and to blend that vision with the science of resource management. The study needed to produce outcomes leading to better decision-making by the sponsoring agencies. Such decisions could improve regulations and policies, be useful in guiding future Community Plan preparation, and widen the range of potential water management solutions to typical land use problems.

In the following chapters of this report are the general facts of the physical and natural environment in the area, citizen recommendations and the methods used by the Task Force to analyze all the information available. The report concludes with a formulation of the strategies recommended for consideration by the governing bodies to bring this report to an action stage. The Appendices provide a glossary of terms used in this report, as well as endnotes.

## STUDY AREA CHARACTERISTICS<sup>1</sup>

### The Southwest Florida Water Management District

The Southwest Florida Water Management District (SWFWMD) encompasses sixteen counties, in whole or in part, on the west-central coast of Florida, from Charlotte County on the south to Levy County on the north. It also extends from the Gulf of Mexico east to Polk and Highlands counties. The District contains 98 local governments spread over approximately 10,000 square miles, with the total population in 1990 exceeding 3.3 million

### Little Manatee River Watershed

The Little Manatee River Basin covers an area of 222 square miles within the southern part of Hillsborough County and the northern portion of Manatee County. The headwaters of the Little Manatee River originates east of Fort Lonesome. The watershed is bordered by the Alafia River Watershed to the north, the Manatee River Watershed to the south and by the Peace River to the east.

The Little Manatee River Basin includes the areas of the City of Palmetto and the unincorporated communities of Ruskin, Sun City Center, Wimauma, Parrish and Terra Ceia. The primary land use in the watershed is agriculture, including pasture and rangeland, row crop, citrus and fish farming. Urban land uses in the watershed are found north of the river and west of US 301. These land uses include residential, commercial and a small amount of light industry. The phosphate industry, specifically IMC-Agrico, has extensive land holdings in the eastern half of the watershed. Phosphate mining and processing is the primary activity in this area. Florida Power & Light's Manatee Power Plant is located in the south central portion of the watershed. The 4400 acre reservoir, associated with the power plant, stores water pumped out of the river and circulated to the plant for cooling purposes. Pumping occurs only when the river level is high. Most of the cooling pond's water comes from rainfall.

Since a portion of the watershed is in Manatee County, many land use decisions and activities that effect the Little Manatee River within Hillsborough County are outside the jurisdiction of Hillsborough County. Therefore, continued intergovernmental coordination and cooperation needs to occur through SWFWMD's Little Manatee River CWM Plan implementation in order to ensure the protection of the Little Manatee River and its resources.

## General Location Information Map

## Drainage Sub-Basins Map

## Distribution of 1995 Land Use/Cover Map

## Distribution of Water Management Data Base Monitoring Sites Map

## Distribution of FEMA 100-Year Flood Zones Map

## Distribution of Conservation Lands Map

Distribution of Natural Systems – 1995 Map

## TASK FORCE PROPOSALS

The following goals, proposed community action ideas, and other recommendations are excerpted in their entirety from Chapters 6 and 7 of the Task Force's Pre-Strategy Report of December 13, 2001. That report is available as a separate document. The Task Force proposals and material in Chapter 4 were edited by the Task Force at its January 22, 2002 meeting and differ in wording and language from the original Prestrategy Report of December 13, 2001. It was agreed on by the Task Force and staff that the amended language represented the final text, and should be reflected in the staff report.

A goal is a generally stated desired achievement. It tries to answer "what do we want" type questions, not "how do we do it" type questions. Individual authors prepared specific goal ideas, and received peer review from others. A subsequent review and discussion led to a summary supported by the entire group. Since peer review criticism was to include proposed improvements, the absence of peer review comments indicates the reviewers were satisfied or supportive.

### Water Supply Goals

1. *To recycle water for home irrigation/golf courses.*
2. *To provide incentives for water conservation efforts, and funds from grants.*
3. *To achieve a target of no increased use of water from households*
4. *To prohibit drawing of additional water from the Little Manatee River.*
5. *To save run-off water by not letting it flow to the Bay without being captured.*
6. *To achieve better water supply through less damage to the environment.*
- 7.

### WATER QUALITY GOALS

1. *To have SWFWMD enforce and more fully meet its mandates set forth in the Clean Waters Act. There is overwhelming support for SWFWMD taking action because of the public's interest in results. There are no endless rounds of paperwork, meetings, discussions, etc. in lieu of taking action on the ground. To disallow unregulated, unrestricted development leading to slum areas (they do exist today).*

2. *Code Enforcement issues are a serious concern in Southern Hillsborough County.*
3. *To develop incentives for people to treat past stormwater problems – that are too big for the County alone to address.*
4. *To add monitoring stations on key tributaries emptying into the Little Manatee River.*
5. *To perpetuate clean water in the river. This in turn will have positive impacts on natural ecosystems.*
6. *To create a system for capturing and filtering natural runoff before it enters major elements of the river system and Bay.*
7. *To enforce existing laws pertaining to environmental dumping, and implementing new laws as needed. No unreasonable laws or regulations that cannot be enforced should be created.*
8. *To undertake a manageable cleanup program for the river and its tributaries.*
9. *To avoid major drains on taxpayer dollars to implement and maintain – just reasonable costs.*
10. *To develop a plan to improve water quality within the basin, including critically-important coordination among all agencies. There must be no degradation of the environment due to a lack of coordination.*
11. *To determine a quality target for Little Manatee River water chemistry and identify sources of contamination so that they can be restricted. Avoid restrictions that have little scientific basis.*
12. *To retrofit existing stormwater drainage system problems for detention and retention. May require new stormwater taxing, and use of vacant properties to take advantage of rural setting.*
13. *To inspect, test and enforce standards for existing septic systems.*
14. *To reduce trash along roadways.*
15. *To add more monitoring stations along river.*
16. *To support agriculture rather than opposing it. Healthy agriculture preserves open space and remains a positive part of our desirable rural lifestyle.*
17. *To attain a level of water quality that would support shellfish.*

#### FLOOD PROTECTION GOALS

1. *To exclude future housing from flood prone areas.*
2. *To reject costly projects to correct flooding problems.*
3. *To maintain a totally comprehensive set of ditches and retention facilities with respect to existing topography, without imposing invasive practices on private owners.*
4. *To locate all new structures above the 100 year flood plain, with less loss of life and property.*
5. *To ensure that all new roads are planned to provide proper drainage.*
6. *To avoid increases in the need for Red Cross Disaster Service; as well as higher insurance premiums, and taxes.*

#### NATURAL SYSTEMS GOALS

1. *To protect and enhance habitat for birds and animals.*
2. *To develop quiet restful hiking and canoeing trails in natural areas.*

3. *To return imperiled populations of wildlife to a non-imperiled state. Such species in this watershed include the Florida Scrub Jay, Gopher Tortoise and Bald Eagle.*
4. *To disallow large sports venues from displacing natural areas.*
5. *To eliminate invasive exotics from natural systems.*
6. *To preserve permanent, representative samples of all natural systems in the watershed, large enough to preserve all constituent species in each of those systems.*
7. *To continue the preservation of prime natural ecosystems, and reclamation of historical natural waterways.*
8. *To sell “quality growth” in a preserved, rural character.*
9. *To prevent continual degradation of public lands, and therefore in community as well.*
10. *To achieve concurrent intelligent human population growth which has the lowest net water usage.*
11. *To disallow high density mobile home developments (or similar housing) on septic tanks which create high sewage loads and contamination of the aquifer.*
12. *To maintain healthy shellfish and seahorses in the sea grass at Cockroach Bay.*
13. *To eradicate non-native plants and animals (like feral pigs).*
14. *To provide opportunities for low-impact recreation and appreciation of natural systems through ecotourism.*
15. *To stop vagrants from living in natural areas such as Marsh Creek and other locations.*

GROWTH MANAGEMENT GOALS

1. *To strive for the Little Manatee area becoming the model for restrained growth.*
2. *To develop a network of trails (hiking, horse and bicycling) throughout the watershed and beyond.*
3. *To encourage environmental easements for agricultural land so that such land is not lost to development.*
4. *To mandate plantings of trees, flowers and other natural buffers to screen houses from the community and each other.*
5. *To limit the number of houses per acre outside of the Urban Service Area.*
6. *To foster well-landscaped alternatives to “cookie-cutter” housing.*

7. *To achieve orderly residential development that minimizes the need for infrastructure, i.e. roads, water supply, electrical distribution, sewage and stormwater facilities.*
8. *To discourage scattered residential developments.*
9. *To implement a dramatic cleanup of the rural roads and streets, without burdening locals businesses and landowners who do not create the trash.*
10. *To ensure a stronger connection between land uses and water supply.*
11. *To foster people visiting Ruskin area as a destination because they find something different and special that is not the same as Brandon or Tampa.*
12. *To encourage family-style and locally-owned small shops and restaurants in keeping with the area's atmosphere.*
13. *To embrace cultural diversity.*
14. *To encourage land owners in the rural area to sell building lots of 2 ½ to 5 acres rather than small lots. A lesser concentration of people results in less pollution and a higher quality of life*
15. *To use impact fees and concurrency rules.*

**Community Action Ideas**

Community action ideas suggest possible ways of attaining goals. They are not required to be scientifically or technically sound, but do serve to stimulate strategies and approaches to problem-solving by those having the scientific, technical and planning expertise. The participants developed and refined specific action ideas to implement their goals and achieve their vision. Each idea was reviewed by at least one other person. These action ideas do not exhaust the range of possibilities, and the Task Force welcomes additional ideas and refinements from the supporting agencies. The following tables (shown as tables in Pre-Strategy Report) group the proposed actions by Area of Responsibility (AOR). Within each AOR, ideas are ranked for priority.

## 1. Water Supply

|                                    |   |
|------------------------------------|---|
| <b>1. Project/Action Suggested</b> | <b>To use private mined phosphate lands as reservoirs</b>   |
| By Whom                            | SWFWMD, Tampa Bay Water.  |
| How Accomplished                   | <ul style="list-style-type: none"> <li>Use existing "Pits" to store water</li> </ul>  |
| Peer Comments                      | Yes   |
| <b>2. Project/Action Suggested</b> | <b>Undertake a project to increase the recharge of groundwater supply through less emphasis on good drainage and more emphasis on retention</b> |
| By Whom                            | Hillsborough County Public Works  |
| How Accomplished                   | Retain stormwater through underground storage, properly filtered reservoirs   |
| Peer Comments                      |   |

## 2. Water Quality

|                                    |   |
|------------------------------------|---|
| <b>3. Project/Action Suggested</b> | <b>Ideas for funding stormwater treatment and management on private lands.</b>  |
| By Whom                            | State, EPC, Hillsborough County, SWFWMD.  |
| How Accomplished                   | <ul style="list-style-type: none"> <li>Search for ways of addressing older, existing problems (new developments are covered by statutes).</li> <li>Also conduct two studies of water quality and sediment biology. Consider as trust fund.</li> </ul> |
| Peer Comments                      |   |
| <b>4. Project/Action Suggested</b> | <b>Do a better job of communicating water quality data as the river improves, to make people more aware of positive results.</b>  |
| By Whom                            | Ask media to have a report column   |
| How Accomplished                   |   |
| Peer Comments                      | Already collected on a frequent and regular basis. Publish in local media in order to develop a consciousness among the people about the watershed.   |

|                                    |  |
|------------------------------------|--|
| <b>5. Project/Action Suggested</b> | <b>Agricultural runoff treatment incentives.</b>   |
| By Whom                            | Agricultural Extension Service, Hillsborough County Planning & Growth Management, Environmental Protection Council, and SWFWMD.  |
| How Accomplished                   | <ul style="list-style-type: none"> <li>EPC to identify specific problem areas. EPC and P&amp;GM to provide pre-engineered template for treatment.</li> <li>Then, waive permitting fees and allow landowners to sell excess dirt offsite to offset cost.</li> </ul> |
| Peer Comments                      | I agree.   |
| <b>6. Project/Action</b>           | <b>Enforce Existing codes regarding wells and septic tanks, with follow-ups.</b>   |

|                                    |  |
|------------------------------------|--|
| <b>Suggested</b>                   |  |
| By Whom                            | Hillsborough County code enforcement and BOCC  |
| How Accomplished                   | <ul style="list-style-type: none"> <li>Do not allow “grandfathering” of intolerable and blatantly illegal and unpermitted wells and septic tanks.</li> <li>Look especially at high-density mobile home areas.</li> </ul>   |
| Peer Comments                      | Good idea. Yes.  |
| <b>7. Project/Action Suggested</b> | <b>Testing of spawning oysters from Hillsborough County tributaries</b>  |
| By Whom                            | Independent researcher/group   |
| How Accomplished                   | <ul style="list-style-type: none"> <li>Conduct a comparable measurable study linking storm water runoff negative and positive impacts on shellfish(oysters) between the Hillsborough River area(City of Tampa) and the Little Manatee River(Ruskin area).</li> </ul> |
| Peer Comments                      | Results will indicate quality of LMR stormwater  |
| <b>8. Project/Action Suggested</b> | <b>Revegetate wide roadside drainage swales to filter run-off. Sarasota and other communities to the south do this.</b>  |
| By Whom                            | FDOT   |
| How Accomplished                   |  |
| Peer Comments                      |  |

### 3. Flood Protection:

|                                     |  |
|-------------------------------------|--|
| <b>9. Project/Action Suggested</b>  | <b>Maintain drainage ditches on a yearly schedule to keep the recent example of massive flooding during a typical storm event from recurring.</b>  |
| By Whom                             | Hillsborough County Public Works   |
| How Accomplished                    | Same as retention pond schedules   |
| Peer Comments                       |  |
| <b>10. Project/Action Suggested</b> | <b>Purchase and/or swap property that is regularly flooded.</b>  |
| By Whom                             | Property Appraiser, BOCC, FEMA, Red Cross, SWFWMD, residents and other land funding agencies and organizations.  |
| How Accomplished                    | <ul style="list-style-type: none"> <li>Determine housing in areas routinely flooded.</li> <li>Rather than spending federal monies to make these homes flood resistant, remove residents (through purchase or land exchange with higher elevations).</li> <li>Restore property to what must historically been wetland.</li> </ul> |
| Peer Comments                       | Cut out federal funding program. Stop repetitive flooding.   |



#### 4. Natural Systems:

|                              |   |
|------------------------------|---|
| 11. Project/Action Suggested | <b>Create a class to train professional plant specialists. Also, coordinate the greenways system.</b>   |
| By Whom                      | South County Career Center, Hillsborough County School District, BOCC, DEP, Pepper Patrol and Hillsborough County NNI Task Force.   |
| How Accomplished             | <ul style="list-style-type: none"> <li>• Create curriculum with plenty of field work through collaboration with regulatory agencies and school curriculum developers.</li> <li>• Promote to high school students.</li> <li>• Include specific specialties, such as trimming mangroves, removing non native invasive plants.</li> <li>• Students should volunteer some hours to assist homeowners unable to pay.</li> </ul>      |
| Peer Comments                |   |
| 12. Project/Action Suggested | <b>Management of non-native and invasive plants.</b>  |
| By Whom                      | Volunteer Groups, BOCC, Agricultural Extension Service, Hillsborough County Parks and Recreation  |
| How Accomplished             | <ul style="list-style-type: none"> <li>• Fund chemicals to kill Brazilian Pepper, Meleluca, lead tree, and Australian Pine as examples.</li> <li>• Allow volunteer groups (e.g. Pepper Patrol) and County prisoners to spray invasive species on private land at the owners request.</li> <li>• Create incentives for private land owners to remove exotics by providing chemicals and coordinating volunteer labor.</li> </ul> |
| Peer Comments                | Bee keepers will disagree.  |
| 13. Project/Action Suggested | <b>Provide options for landowner removal of invasive plants and animals.</b>  |
| By Whom                      | Hillsborough County Non-Native Task Force (recently funded), Pepper Patrol, Hillsborough County Maintenance Unit, volunteers and homeowners.  |
| How Accomplished             | <ul style="list-style-type: none"> <li>• Create volunteer group, including County workers, to cut and mulch invasive plants on request.</li> <li>• Develop database of volunteers and days to schedule.</li> <li>• Work out logistics of getting to needy homeowners who cannot afford eradication costs.</li> <li>• Apply for grants.</li> </ul>   |
| Peer Comments                |   |
| 14. Project/Action Suggested | <b>Coordinated greenway system.</b>   |
| By Whom                      | Hillsborough County Greenways, State level Greenways, SWFWMD, ELAPP, BOCC,  |

|                  |  |
|------------------|--|
|                  | local community groups and ecotourism groups.  |
| How Accomplished | <ul style="list-style-type: none"> <li>• Inventory public lands.</li> <li>• Determine greenway corridors needed to connect.</li> <li>• Develop plan to maintain and regulate greenways to ensure safety and species richness/diversity.</li> </ul> |
| Peer Comments    |  |

#### 4. Growth Management:

|                                     |  |
|-------------------------------------|--|
| <b>15. Project/Action Suggested</b> | <b>Marsh Creek Restoration.</b>  |
| By Whom                             | Hillsborough County Planning & Growth Mgmt, Parks and Recreation, and BOCC.  |
| How Accomplished                    | <ul style="list-style-type: none"> <li>• Determine boundaries of County land.</li> <li>• Remove exotic, invasive species.</li> <li>• Restore native habitat.</li> <li>• Establish interconnected, passive nature preserve.</li> </ul>  |
| Peer Comments                       |  |
| <b>16. Project/Action Suggested</b> | <b>Mark and maintain the channel in the river from the mouth to the Lightfoot Slough.</b>  |
| By Whom                             | Hillsborough County Parks and Recreation, U. S. Coast Guard and BOCC.  |
| How Accomplished                    |  |
| Peer Comments                       |  |
| <b>17. Project/Action Suggested</b> | <b>Selected improvement to boat ramps on Tampa Bay (see also specific projects #18, 19 and 20).</b>  |
| By Whom                             | County, State and Federal agencies, with public.   |
| How Accomplished                    | <ul style="list-style-type: none"> <li>• First, upgrade and maintain selected existing boat ramps on the Little Manatee River.</li> <li>• Then develop new facilities elsewhere on Tampa Bay, not on the Little Manatee River. Examples are Piney Point and Skyway Bridge.</li> <li>• Boating public involved in picking sites with development and maintenance by agencies. Avoid seagrass and marine life impacts.</li> <li>• Educate the public.</li> </ul> |
| Peer Comments                       |  |
| <b>18. Project/Action Suggested</b> | <b>Improve Bay Access</b>  |
| By Whom                             | Hillsborough County Parks and Recreation   |

|                                     |   |
|-------------------------------------|---|
| How Accomplished                    | <ul style="list-style-type: none"> <li>• Create a channel from E. G. Simmons Park to deepwater, to reduce pressure on Cockroach bay boat ramp.</li> <li>• This new ramp should be available 24 hours/day.</li> </ul>  |
| Peer Comments                       |   |
| <b>19. Project/Action Suggested</b> | <b>Upgrade boat ramp safety and parking facilities at Cockroach Bay.</b>  |
| By Whom                             | Hillsborough County Parks and Recreation, BOCC, C-BUG and SWMIP.  |
| How Accomplished                    | <ul style="list-style-type: none"> <li>• Create larger, safer boat ramp. Build a secure parking area to eliminate vandalism.</li> <li>• Build parking area big enough to accommodate 50-60 trailers.</li> <li>• Mitigate the environmental impacts on the County ELAPP land near the new ramp.</li> </ul> |
| Peer Comments                       | People need access. but not at the expense of the natural systems in the aquatic preserve.  |
| <b>20. Project/Action Suggested</b> | <b>Create a ramp at the end of the Skyway Bridge in order to reduce seagrass impacts.</b>   |
| By Whom                             | Hillsborough and Manatee County, and DOT.   |
| How Accomplished                    | <ul style="list-style-type: none"> <li>• Ascertain jurisdiction. Create new facility that will reduce access pressures on the Little Manatee River/Tampa Bay area and provide Manatee protection.</li> </ul>  |
| Peer Comments                       | May not be enough room for this, and conflicts in jurisdiction. Let's let the agencies sort this out. It would also divert boaters from having to come into the watershed from Lakeland.  |
| <b>21. Project/Action Suggested</b> | <b>Preserving agriculture.</b>  |
| By Whom                             | Federal, State, County agencies and SWFWMD.   |
| How Accomplished                    | Buy development rights.<br>Earmark funds necessary to achieve goal.   |
| Peer Comments                       | Good idea. Excellent.   |
| <b>22. Project/Action Suggested</b> | <b>Ecotourism and ELAPP</b>   |
| By Whom                             | Hillsborough County Parks and Recreation  |
| How Accomplished                    | <ul style="list-style-type: none"> <li>• Create parking and access to County lands for hiking. Build low-impact trails through ELAPP land and habitat creation projects. Allow citizens access to hiking trails.</li> </ul>   |
| Peer Comments                       | People need access, good trails.  |
| <b>23. Project/Action Suggested</b> | <b>Encourage large lot sizes in rural area.</b>   |
| By Whom                             | Hillsborough County Planning and Growth Management (Zoning)*, citizens  |

|                                     |  |
|-------------------------------------|--|
| How Accomplished                    | <ul style="list-style-type: none"> <li>• Citizen involvement should be equal to that of government.</li> <li>• Create 2 ½ to 5 acre lot sizes. These larger lots broken out of large acreages are not encouraged today.</li> <li>• This attitude and current governmental approach has to be changed.</li> </ul> |
| Peer Comments                       | Good idea. Let people live where they want. We agree – large lots 2 ½ to 5 acres minimum.  |
| <b>24. Project/Action Suggested</b> | <b>Provide strategically-placed dumpsters to reduce litter.</b>  |
| By Whom                             | Hillsborough County  |
| How Accomplished                    | <ul style="list-style-type: none"> <li>• Provide these dumpsters in sites easy to get to, and free of charge.</li> </ul>   |
| Peer Comments                       |  |

## OTHER RECOMMENDATIONS

### 1. Additional Proposals

The Task Force offers the following additional recommendations for consideration by the sponsoring agencies.

1. Look into ways of cooperating with our neighbors to ensure that efforts in Hillsborough County and Manatee County are in the best interests of the entire watershed.
2. Explore the possibilities of establishing greenways that are compatible at the County's boundaries.
3. Increase funds through innovative grant seeking and perhaps interagency partnerships.
4. Do not take any actions that would decrease water quality or supply, increase risk of flooding, increase trash or decrease wildlife populations, reduce river and bay access by people.
5. Look into the possibilities of mitigation banking.

# 5

## FROM COMMUNITY INPUT TO EXPERT OUTPUT

In accordance with the process model from the first chapter of this report, staff took the lead role from the Community in Phase 2. This section explains the procedures used by staff, using the citizen workshops and its own professional expertise. Staff reviewed the Pre-Strategy report proposals. It believed that it had received an excellent range of proposals and recommendations for its consideration in developing strategies to link land and water management.

### Organizational Culture

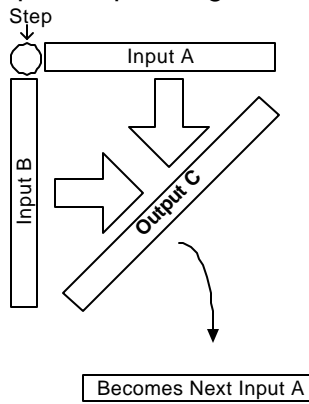
Each agency has a set of existing programs, policies, regulations and/or codes that it applies within its jurisdiction. These planning and management tools reflect distinct organizational vocabularies that are not readily integrated. One agency's "strategy" is another's "goal" or "policy." Some agencies are issue-oriented, basing most of their actions on the need to resolve them. Others are driven more by legislative requirements, or internally generated resource management models.

These cultural differences offer the comfort of a known home base for staff, with well-understood procedures and rules. However, they can also impede the progress of solving the community's problems in a truly collaborative fashion. The community does not generally care about such distinctions among agencies, except when they get in the way of coordinated action.

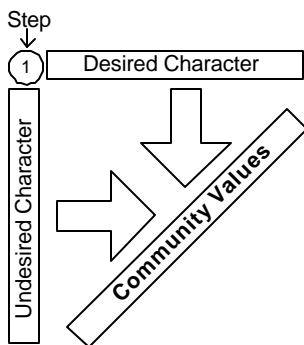
### Input/Output Diagrams

The Northwest Hillsborough Land Water Linkage Project in 1996 developed a vocabulary of planning and resource management elements to provide a bridge between the language of the community, and that of the study sponsors. A series of diagrams were developed to capture the values and other factors received in the Pre-Strategy Report. The diagrams are based upon the concept that two different inputs, when considered in tandem, lead to a third output. That output flows as input to the next step. The basic model is illustrated at the left and was utilized for the Little Manatee River Links project.

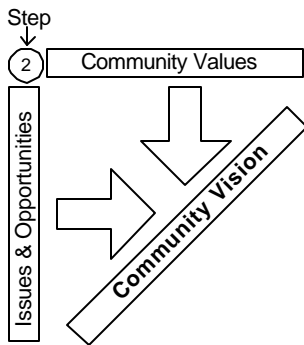
## Input/Output Diagrams



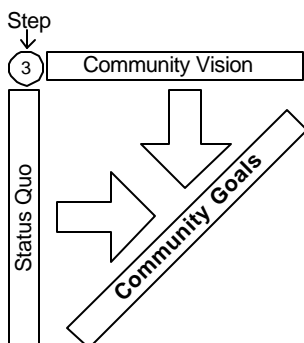
The first four Input/Output (I/O) diagrams capture the process that is implicit in the Pre-Strategy Report, illustrating how the Task Force was able to move from initial assessments of what it liked and disliked to its eventual proposals for agency consideration.



In Step 1, the Task Force's photographic assessment of two inputs, Desirable and Undesirable Characteristics, allowed it to establish a set of Community Values.



In Step 2, these Community Values, when combined with identified issues and opportunities for solutions, led to a Community Vision for 10-15 years ahead.

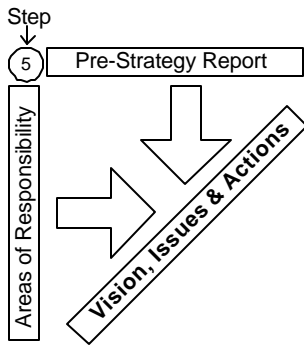


In Step 3, the Vision, when compared back to the situation as it exists today, produced a set of goals that the task force identified as desired outcomes.

Generating Outcomes and Objectives

Staff continued with additional I/O diagrams to move from the Task Force's proposals to the Commitments to Implement that are recommended in this report.

Staff continued with an additional five steps illustrated with similar I/O diagrams. The team moved from the Task Force's proposals to the Commitments to Implement, fulfilling its role as established for Phase 2. It started with a review of the Pre-Strategy Report's Community Proposals.



Step 5 began by reviewing the Pre-Strategy Report, examining its many water, environment, land use, design, education and property rights themes. The community vision, issues and recommendations are shown in tabular form in Tables 1. arrayed under five Areas of Responsibility. The first four, Natural Systems, Water Supply, Flood Protection, and Water Quality represent the areas of responsibility of the Southwest Florida Water Management District. The fifth, Growth Management, represents Hillsborough County responsibilities (under the distinct mandates of the Planning and Growth Management Department and The Hillsborough County City-County Planning Commission).

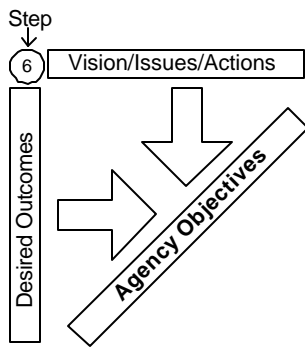
**Vision** The Vision section is used in this analysis to reflect what future conditions and desires were expressed as expectations for the study area and community in the future. The Natural Systems vision includes a balancing of water, environment and human uses of land with an expectation of protected sustainable systems of wetlands, habitat, surface water and groundwater resources. The Water Supply vision sees the need for an adequate supply of water for human needs while at the same time avoiding the stresses to the aquifer and natural systems, by way of a managed approach to water quantity and quality. The Flood Protection vision reduces flood damage through educated use of surface water systems in relation to the land, with a clear understanding of the risk involved in threatening the limits of the natural functions of watersheds and surface water systems.

The Water Quality vision recognizes the need for clean water in all the functions of life and recreational enjoyment. The Growth Management vision is generally described as one that provides for balanced and sustainable growth patterns with quality suburban/rural development (in design and function) in urbanizing and low intensity development within an agricultural and open space setting in the rural areas. Natural systems limits are not being threatened and property rights, as well as a respect for land development, places the environment on an equal basis with other land priorities.

**Issues** The **Issues** section contains subjects that are generally in debate or under review in the Little Manatee River Basin. They represent several sets of physical conditions in the environment as well as major themes where land and water come together in a joint focus:

- Water as represented by the bay and river and its tributaries as resources are threatened in terms of water quality, and must be protected;
- Sensitive environmental lands are affected by human activity which is impacting wildlife populations and recreation opportunities (quality and quantity).
- Local agencies and citizens need to effectively take advantage of the increased opportunities available through SWFWMD's Comprehensive Watershed Management Plan and Hillsborough County's Watershed Master Plans to improve intergovernmental coordination and to influence agency decisions to act and control the water and natural resources in the long term;
- Citizen involvement in development-related decisions has not been optimized. While citizens are typically the ones most affected by development in their community, their voices are often not heard until late in the process of development approval.

**Actions** The **Actions** section organizes the recommendations of the Task Force and citizen forums into groups for further analysis and discussion. These represent ideas and tools that should be considered in the improvement of existing policies, programs and rules, or the creation of new approaches. They represent several levels of government, and are intended to encompass groundwater and surface water policy, which is largely under the purview of the State, the Water Management District and other regional agencies, and land use policy and regulation which is under the jurisdiction of cities and counties, and institutional jurisdictions, which range from taxing powers to shared control over environmental problems. Environmental issues such as water quality and water pollution may even find mandates in the federal jurisdiction.



In Step 6, using the Northwest Links project as a template, staff developed a set of Desired Outcomes, merging its own professional opinions and expertise with the community input from Step 5. In keeping with the Northwest Links process, the five areas of responsibility were aggregated into three goals: Water, Land, and Natural Systems.

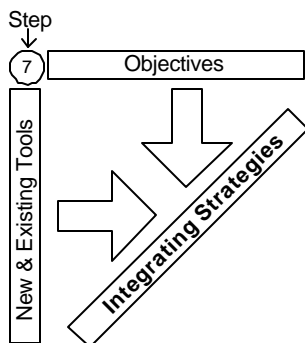
The result of this step was a set of specific Objectives, presented in Table 2. Desired Outcome statements appearing on the left hand side of the table blend staff's professional views with those expressed by the citizens about the key issues in the study.

Table 2 also arrays two goals taken from the Water Management District Water Management Plan and one generalized land use goal from the Future of Hillsborough Comprehensive Plan Land Use Element.

The main body of the table is a more defined set of Objectives. These objectives are milestones which are specific enough to be realized in a short time period by an implementing stakeholder such as the Water Management District or the County Planning and Growth Management Department. The Objectives were formulated to reflect desirable, measurable and achievable milestones which are indicated by pursuing the associated goals and outcomes.

Different numbers, types and styles of Objectives could have been made at this point in the analysis. In keeping with the Northwest Links process, the staff team kept its focus to fifteen Objectives derived from five desired Outcomes and three long range Goals.

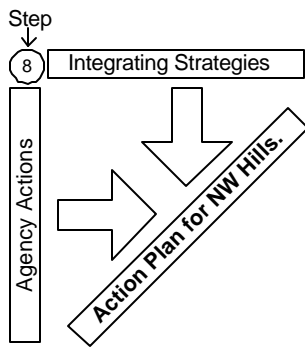
### From Objectives to Strategies and Actions



The next step in the analysis first tested for gaps, inclusions, emphasis, or variations among the many Tools available to the agencies. There is a rather vast array of programs, projects, techniques or activities which could be utilized to reach the Agency Objectives from Step 6.

Staff concluded this step by formulating a set of Integrating Strategies that would cut across agency boundaries, and create the stronger links sought by this study.

Step 8 blended the Integrating Strategies with a set of Agency Actions. The concept, first established through the Northwest Links project, was that each agency involved in the study, as well as others, would need, and be expected to, act in concert.



The result of this step was an Action Plan for the Little Manatee River Watershed in Hillsborough County.

Tables 3-5 provide staff's formulation of this Action Plan. The Integrating Strategies from Step 7, each of which is integrative of all agencies, are at the top of each table. The Actions needed to carry out an Integrating Strategy are also listed.

Table 1 Community Vision, Issues and Actions ( Areas of Responsibility)

| <b>Area of Responsibility</b> → | <b>NATURAL SYSTEMS</b>                    | <b>WATER SUPPLY</b>                         | <b>FLOOD PROTECTION</b>                         | <b>WATER QUALITY</b>   | <b>GROWTH MANAGEMENT</b>                               |
|---------------------------------|---|---|---|--|--|
| <b>VISION</b>                   | No property flooding.                     | Water use compatible with the environment   | Natural environment in balance                  | Clean water  | Better planned and designed developments & communities |
|                                 | Increased Recreational Opportunities      | Balance of water and environment            | People's land use not threatened                | Reduced pollution from septic tanks                                  | Development balanced with natural resources            |
|                                 | Protected wetlands and river              | Adequate supply of water                    | Water resources in balance                      | Reduced non-point source pollution from agricultural and residential | Agricultural uses encouraged and incentives provided   |
|                                 | Protected habitat.                        | Minimized impact on ecosystem               | Regional stormwater system                      |  | Green space along roads                                |
|                                 | Wildlife corridors.                       | Protect groundwater & surface water quality | Retain stormwater onsite                        | Protection of River water resource                                   | Rural development/settings                             |
|                                 | Natural/reserved areas                    | Surface water under control                 | Protection from flooding                        | Maximize water quality   | More xeriscaping                                       |
|                                 | Connected systems                         |   | Use natural solutions                           |  | No development in the floodplain                       |
|                                 | Water use compatible with the environment |   | Protect floodplains                             |  | Ecotourism-Ruskin is a special rural place             |
|                                 |   |   |   |  |  |
| <b>ISSUES</b>                   | Sustainable systems                       | Adequate supply for use                     | Altered drainage patterns                       | Land-water quality linkages  | Implications of growth on water supply                 |
|                                 | Reduced recreational quality/quantity     | Safe withdrawals & structures               | Protect water quality                           | Recreational impacts (i.e. motor boat pollution)                     | Habitat loss   |
|                                 | Protection of wildlife habitat            | Limit water export to other areas           | Flooding/emergency management                   | Stormwater run-off pollution   | Appropriate development densities                      |
|                                 | Greenways and ecotourism development      |   | Development in the Floodplain                   | Septic tank pollution  | Recreational opportunities /access to public lands     |
|                                 | Eliminate Exotics                         |   | Drainage incentives to private owners           |  |  |
|                                 | Preserve Natural Systems                  |   | Regional drainage solutions using private lands |  | Protect Ruskin's unique rural community and history    |

Table 1: Community Visions, Issues and Actions Table Continued

| Area of Responsibility → | NATURAL SYSTEMS                                  | WATER SUPPLY                           | FLOOD PROTECTION   | WATER QUALITY   | GROWTH MANAGEMENT  |
|--------------------------|--|--|--|---|--|
| ACTIONS                  | System studies & more purchase of suitable lands | Maintain stormwater/drainage systems   | Property analysis of growth and other causes of flooding   | Take actions to stop septic tank pollution in the river and bay | Plan forCommunity aesthetics/quality of existing and future development              |
|                          | Water Quality monitoring and reporting           | Trust Fund for Stormwater Improvements | Corrective actions for problem flooding areas              | Water Quality monitoring and reporting                          | Network of trails in the watershed   |
|                          | Removal of exotic plants and animals             | Use private lands to manage stormwater | Natural solutions as opposed to expensive capital projects | Protect lands adjacent to river through ELAPP                   | Clean up of roads and trash  |
|                          | River health indicators                          |  |  |   | Maintain the viability of agriculture lands through economic and business incentives |
|                          | Restoration of the Marsh Creek area              |  |  |   | Basin is a restrained growth area  |
|                          |  |  |  |   | Provide more access to Tampa Bay   |

Table 2: Agency Team Objectives

Desired Outcomes and Objectives for the Little Manatee River Basin

| LONG RANGE GOAL →  | WATER   | LAND  | NATURAL SYSTEMS  |
|--|---|---|--|
| a desired OUTCOME is: ↓  | OBJECTIVES are to: ↓  | OBJECTIVES are to: ↓  | OBJECTIVES are to: ↓   |
| SUSTAINABLE NATURAL SYSTEMS  | Establish program(s) to eliminate/reduce water quality impacts from septic tanks                                | Establish development policies at all levels to achieve consistent project design considerations related to environmental systems   | Review existing programs/policies and formulate new programs/policies to increase the acreage of protected natural lands and open space.                                       |
| PREVENTING FLOOD DAMAGE  | Use stormwater for augmentation of surface water and groundwater resources                                      | Review and change, as necessary, stormwater management standards based on current and reliable watershed, lake and floodplain information   | Develop and implement plans for managing the stormwater resource to reduce the occurrence and extent of detrimental flooding, and to reduce the impairment of natural systems. |
| QUALITY DEVELOPMENT AT APPROPRIATE LOCATIONS AND DENSITIES         | Identify water uses that can be eliminated, reduced or set at levels to prevent or reduce environmental impacts | Prepare community or sector level plans.  | Develop programs to integrate more open space/natural areas into the basin.  |
| INCREASED PUBLIC INVOLVEMENT & EDUCATION ABOUT LAND/WATER LINKAGES | Develop programs to educate the public about water conservation and water quality protection                    | Evaluate methods to increase and/or maintain meaningful public involvement in the environmental planning and protection programs and projects at the local, regional and state level. | Evaluate methods to increase and/or maintain meaningful public involvement in environmental lands, exotics control and wildlife management                                     |
| RESPECT FOR PROPERTY RIGHTS  | Promote programs of land and water management practices for private land owners.                                | Establish flexible stormwater design standards.   | Promote integrated conservation planning with agriculture and other rural stakeholders   |

Table 3 Strategy for Excellent Water Management

|              |  |
|--------------|--|
| The Strategy | A properly managed supply of excellent quality water, and prevention of flood damage, are critical to sustaining the desired lifestyles in the Little Manatee River Basin. Actions should be taken to:   |
| Actions      | <ol style="list-style-type: none"> <li>1. Take action to develop a plan for the maintenance of stormwater and drainage systems</li> <li>2. Investigate septic tank uses as a contributor to ground and surface water pollution and develop a program of policy, regulation and projects to resolve septic tank use that contributes to water quality degradation.</li> <li>3. Evaluate implementation of Community Action Ideas associated with stormwater and flood protection through the Little Manatee River Watershed Management Plans being developed by the Hillsborough County Public Works Department.</li> <li>4. Develop a program to place public funds in trust for the management of stormwater in the basin.</li> <li>5. Evaluate effectiveness of existing programs/regulations to reduce non-point source pollution and investigate new programs and modifications to existing programs and regulations to allow regional stormwater management projects on private lands.</li> <li>6. Incorporate Community Action Ideas into SWFWMD's Little Manatee River Comprehensive Watershed Management Plans and continue cooperative efforts to implement plan priorities.</li> <li>7. Evaluate Stormwater Design Standards and implication of Modifications</li> </ol> |

Table 4 Strategy For A Higher Quality, More Livable Community Lifestyle

|          |  |
|----------|--|
| Strategy | <p>Properly designed developments/communities, at appropriate densities and locations with adequate and appropriately located public facilities/services, and enhanced citizen participation are keys to realizing the desires of the community for a higher quality lifestyle. Actions should be taken to:</p>  |
| Actions  | <ol style="list-style-type: none"> <li>1. Enforce community codes for solid waste and minimum community standards to eliminate junk, trash, vagrants, illegal land uses and blight from residential and commercial areas.</li> <li>2. Provide more safe access to Tampa Bay through expansion and development of shoreline parks facilities with boat ramps and improved channel access to the Bay.</li> <li>3. Prepare Comprehensive Community or Sector level plans for communities within the Little Manatee River Watershed.</li> <li>4. Update a greenways and trails master plan for the basin.</li> <li>5. Evaluate &amp; program recommended capital improvement projects (i.e. stormwater and ELAPP) into County and other funding sources.</li> <li>6. Evaluate, for effectiveness in addressing Community Action Ideas, the proposed modifications to the Land Development Code currently being developed to address rural design, open space &amp; natural lands preservation, and alternative community design issues.</li> <li>7. Identify and implement programs to provide incentives for continued use of agricultural lands through Community Plans which include rural areas.</li> <li>8. Continue and enhance the coordination process between the District and Hillsborough and Manatee County as a means of linking the land development and conservation responsibilities of each in the Little Manatee River basin.</li> </ol> |

Table 5 Strategy For Sustainable Natural Systems

|          |  |
|----------|--|
| Strategy | An integrated, inclusive approach to sustainable natural systems is necessary to maintain, protect and improve the natural and human communities. Actions should be taken to:  |
| Actions  | <ol style="list-style-type: none"> <li>1. Develop and fund a plan for the long term restoration and use of the Marsh Creek area in Ruskin.</li> <li>2. Establish a method to monitor and report the water quality and river stage in various areas of the Little Manatee River.</li> <li>3. Establish a planned and funded set of projects to eliminate nuisance exotics in the Little Manatee River basin.</li> <li>4. Evaluate the County's adopted Greenways Master Plan for deficiencies within the Little Manatee River watershed and work to obtain funding for implementation of greenway projects within the watershed.</li> <li>5. Develop a program to improve local efforts to control and eradicate invasive non-native plant species on public and private lands.</li> <li>6. Identify and utilize alternative land acquisition methods for a regional stormwater system.</li> <li>7. Continue coordination of land and water linkage issues between Hillsborough county and Manatee County and SWFWMD through the District's Comprehensive Watershed Management Plans.</li> <li>8. Continue and enhance the County's environmental stewardship efforts, such as the River Watch program, as a means of gaining valuable information and actively involving citizens in natural resource protection.</li> </ol> |

## Summary

The three strategies formulated by staff encompass the themes of water, land and environment. The Strategy For Excellent Water recognizes that a well managed river system of excellent quality is critical to sustaining the desired lifestyles in the Little Manatee River Watershed. The action program for this strategy covers critical themes of surface water regulation, stormwater recharge, flood protection and natural stormwater system functions. Methods and techniques to manage water resources to establish natural limits and protect the long-term viability of the water, natural systems, and land resources, are considered.

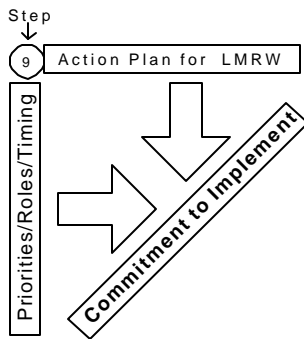
The Strategy for a Livable Community Lifestyle presents an action program to support the desire to improve the quality of life in the Little Manatee River Watershed. A definitive message emanating from the Task Force was the desire for the County to better address community codes enforcement issues. Citizen support for linking land and water management depends on making those affected by development a vital part of growth management. This can take numerous forms, including but not limited to, creation of comprehensive community plans crafted in partnership among public and private interests, and intended to guide future development. The action program for this strategy identifies a reformulation of activities to reset the direction of growth through revisions to plans, policies and regulations, along with increased opportunities for bay access and greenways and trails development to support ecotourism. Public involvement and input and continued inter-jurisdictional cooperation and decision making based on reliable information are also of interest.

The Strategy for Sustainable Natural Systems recognizes that an integrated, inclusive approach to sustainable natural systems is necessary. The action program for this strategy to link land and water management includes specific projects such as Marsh Creek restoration, better monitoring of the flow and water quality health of the river, and elimination of invasive species to restore natural habitats, along with joint programs between SWFWMD and Hillsborough and Manatee County for long term projects in the preservation of the natural systems.

Formulation of these three strategies completes all but Step 9 of the process. That Step is discussed in Chapter 6. Staff looks forward to further citizen participation and a review by all affected agencies and stakeholders as a part of the decision-making process.

## IMPLEMENTATION PROGRAM

From Actions to Roles,  
Schedules and Budgets



Step 9 represents the last task in this project to link land and water management in the Little Manatee River Basin. This final step assigns the action programs to the agencies in a coordinated fashion that reflects their roles, as well as appropriate timing and priorities. Implementation will require commitments to this direction by the governing Boards and Commissions involved.

The Implementation Program provides the timing, sequence and agency assignment of the Action Plans for linking land and water management. Several guidelines for developing the Implementation Program have been developed to give definition to the design of the implementation program.

- A three year time frame was chosen as the desirable period for accomplishing the Action Plans.
- Action Plans were placed into one-year cycles of activity and a sequence of work which would be required for a multi-year approach, knowing the constraint of limited resources for the overall program.
- Priorities were assigned based on: 1) priorities established by the Task Force for applicable Community Action Ideas; 2) projects which could be started first and scheduled within the 2002 fiscal year; 3) whether a technical sequence exists for the progression of activities, 4) recognition that future program and budget decisions by governing boards would be required; and, 4) knowledge that other discretionary preferences by the Task Force may adjust priorities, such as timing and coordination of the Action Plans among the three Strategies.
- Agencies are assigned up to three roles in the implementation process; 1) The **Responsible Agency** has primary charge to execute the provisions of the action plan. 2) The **Lead Technical Agency** is generally capable of generating and producing data, with specific expertise, and is technically accountable in supporting the Responsible Agency in carrying out the action plan. 3) The **Support Agency** assists with developing or implementing the particular action plan, but has neither the expertise nor the mandate to actually carry out the plans provisions.

## Monitoring and Evaluation

Tables 6-8 summarize the timing by year, sequence within a year, and identification of the lead agency for actions within each strategy. Each of the action plans was placed into one of three time frames (2002-2003, 2003-2004, or 2004-2005). The Action Plans are presented in the order in which they should occur. Many can be implemented simultaneously. The Action Plan number is also a reference number used in Tables 9-11. These tables offer more detailed descriptions, a synopsis of related citizen recommendations, and agency leadership needed to carry out the project. Hillsborough County's and Southwest Florida Water Management District's Responsible, Technical or Support roles are therefore identified.

The Implementation Plan will require continuing commitment and monitoring by local, state and regional agencies to achieve both vertical links (agency actions), and horizontal links (program actions in functional areas). Accomplishments and impacts will be monitored by the Responsible Agency on an ongoing basis, reporting results of pertinence to an Agency Team. In keeping with the process first established in the Northwest Links project, this review should occur on a yearly basis at a minimum. Significant impacts, both positive and negative, should be reported on a more frequent basis. A re-evaluation process, requiring attendance by both the Agency Team and the Task Force, shall occur on an annual basis, unless the interim reports reflect a need for more immediate attention. The Agency Team will then be responsible for summarizing these reviews and issuing a strategy status report for distribution to the community.

Table 6 Timing and Priority of Action Plans for Excellent Water Management

| Action Plan Priority | Responsible Agency  | Actions/Detailed Action #                        |
|----------------------|---------------------|--|
| 1                    | Hillsborough County | <b>BASIN STORMWATER MAINTENANCE PLAN-#1</b>      |
| 2                    | Hillsborough County | <b>SEPTIC TANK AND DISCHARGE INVENTORY-#2</b>    |
| 3                    | Hillsborough County | <b>STORMWATER MANAGEMENT ON PRIVATE LANDS-#3</b> |
| 4                    | Hillsborough County | <b>LITTLE MANATEE STORM WATER TRUST FUND-#4</b>  |
|                      |                     |  |

**Notes:**

number = Sequence within a year

no shading = 2002-2003 priority

light shading = 2003-2004 priority

dark shading = 2004-2005 priority

Table 7 Timing and Priority of Action Plans for A Sustainable Natural System

| Action Plan Priority | Responsible Agency  | Actions  |
|----------------------|---------------------|--|
| 1                    | SWFWMD              | <b>MARSH CREEK RESTORATION-#5</b>                              |
| 2                    | SWFWMD              | <b>CWM PLAN COORDINATION-#6</b>                                |
| 3                    | SWFWMD              | <b>WATER QUALITY MONITORING AND DATA REPORTING -#7</b>         |
| 4                    | Hillsborough County | <b>PUBLIC AND PRIVATE NUISANCE PLANT AND ANIMAL REMOVAL-#8</b> |

**Notes:**

number = Sequence within a year

no shading = 2002- 2003 priority

Light shading = 2003- 2004 priority

Dark shading = 2004 – 2005 priority

Table 8 Timing and Priority of Action Plans for A Livable Community Lifestyle

| Action Plan Priority | Responsible Agency  | Actions  |
|----------------------|---------------------|--|
| 1                    | Hillsborough County | <b>CODES AND SOLID WASTE ENFORCEMENT-#9</b>        |
| 2                    | Hillsborough County | <b>SOUTH COUNTY COMMUNITY PLAN-#10</b>             |
| 3                    | Hillsborough County | <b>RIVER AND BAY ACCESS-#11</b>                    |
| 4                    | Hillsborough County | <b>GREENWAYS AND TRAILS MASTER PLAN UPDATE-#12</b> |

**Notes:**

number = Sequence within a year

no shading = 2002-2003 priority

|                 |                    |
|-----------------|--------------------|
| light shading = | 2003-2004 priority |
|-----------------|--------------------|

|                |                     |
|----------------|---------------------|
| dark shading = | 2004 -2005 priority |
|----------------|---------------------|

## LITTLE MANATEE LAND WATER LINKAGE ACTION PLANS

*Table 9 Detailed Description of Actions for Excellent Water Management*

|                                      |   |
|--------------------------------------|---|
| <b>ACTION PLAN #1</b>                | <b>BASIN STORMWATER MAINTENANCE PLAN</b>              |
| Related Pre-Strategy Report Sections | Community Action Project #8, 9                        |
| Results Expected By                  | FY 02   |
| Responsible Agency                   | Hillsborough County Public Works-Maintenance          |
| Lead Technical Agency                | Hillsborough County Public Works-Stormwater           |
| Support Agency                       | Hillsborough County Real Estate                       |
| Expected Workload                    | Requires Review of Program by Public Works Department |
| <b>ACTION PLAN #2</b>                | <b>SEPTIC TANK AND DISCHARGE INVENTORY</b>            |
| Related Pre-Strategy Report Sections | Community Action Idea #6                              |
| Results Expected By                  | 2002  |
| Responsible Agency                   | Hillsborough County                                   |
| Lead Technical Agency                | HC Public Works-Stormwater                            |
| Support Agency                       | HC Planning and Growth Management                     |
| Expected Workload                    | Cooperative Funding project in FY 03                  |
| <b>ACTION PLAN #3</b>                | <b>STORMWATER MANAGEMENT ON PRIVATE LANDS</b>         |
| Related Pre-Strategy Report Sections | Community Action Idea #1, 3, 10                       |
| Results Expected By                  | FY03  |
| Responsible Agency                   | Planning and Growth management                        |
| Lead Technical Agency                | Public Works Department-Stormwater                    |
| Support Agency                       | Office of the County Attorney                         |
| Expected Workload                    | Concept Needs to be Implemented through CIP           |
| <b>ACTION PLAN #4</b>                | <b>LITTLE MANATEE STORMWATER TRUST FUND</b>           |
| Related Pre-Strategy Report Sections | Community Action Idea #3,5                            |
| Results Expected By                  | 2004  |
| Responsible Agency                   | Hillsborough County                                   |
| Lead Technical Agency                | HC Public Works-Stormwater                            |
| Support Agency                       | HC Planning and Growth Management                     |
| Expected Workload                    | Requires analysis by the Public Works Department      |

**Table 10: Detailed Descriptions of Actions for Sustainable Natural Systems**

|                                      |   |
|--------------------------------------|---|
| <b>ACTION PLAN #5</b>                | <b>MARSH CREEK RESTORATION</b>                                |
| Related Pre-Strategy Report Sections | Community Action Idea #15                                     |
| Results Expected By                  | 2002  |
| Responsible Agency                   | SWFWMD-SWIM   |
| Lead Technical Agency                | SWFWMD-SWIM   |
| Support Agency                       | HC Planning and Growth Management/Parks Dept.                 |
| Expected Workload                    | Being implemented through Parks with CSWM                     |
| <b>ACTION PLAN #6</b>                | <b>CWM PLAN COORDINATION</b>                                  |
| Related Pre-Strategy Report Sections | Community Action Idea Additional Recommendations              |
| Results Expected By                  | 2002  |
| Responsible Agency                   | SWFWMD  |
| Lead Technical Agency                | HC PLANNING AND GROWTH MANAGEMENT                             |
| Support Agency                       | HC PLANNING COMMISSION  |
| Expected Workload                    | Part of the PGMD Work Program                                 |
| <b>ACTION PLAN #7</b>                | <b>WATER QUALITY MONITORING AND DATA REPORTING</b>            |
| Related Pre-Strategy Report Sections | Community Action Idea #4, 7 on water quality data projects    |
| Results Expected By                  | 2002  |
| Responsible Agency                   | SWFWMD  |
| Lead Technical Agency                | SWFWMD  |
| Support Agency                       | HC Planning and Growth Management                             |
| Expected Workload                    | Coordinate with Lakes and Streams Cooperative Funding project |
| <b>ACTION PLAN #8</b>                | <b>PUBLIC AND PRIVATE NUISANCE PLANT AND ANIMAL REMOVAL</b>   |
| Related Pre-Strategy Report Sections | Community Action Idea #11, 12, 13                             |
| Results Expected By                  | 2003  |
| Responsible Agency                   | Hillsborough County   |
| Lead Technical Agency                | Hillsborough County Parks Department                          |
| Support Agency                       | HC Planning and Growth Management                             |
| Expected Workload                    | Being Coordinated with the Nuisance Plant coordinator         |

**Table 11: Detailed Descriptions for Actions for a Liveable Community Lifestyle**

|                                      |  |
|--------------------------------------|--|
| <b>ACTION PLAN #9</b>                | <b>CODES AND SOLID WASTE ENFORCEMENT</b>                                     |
| Related Pre-Strategy Report Sections | Community Action Idea #6   |
| Results Expected By                  | 2002   |
| Responsible Agency                   | HC COMMUNITY IMPROVEMENT DEPARTMENT  |
| Lead Technical Agency                | HC COMMUNITY IMPROVEMENT DEPARTMENT  |
| Support Agency                       | HC PLANNING AND GROWTH MANAGEMENT  |
| Expected Workload                    | Requires prioritization by Community Improvement and Solid Waste Departments |

|                                      |                                    |
|--------------------------------------|------------------------------------|
| <b>ACTION PLAN #10</b>               | <b>SOUTH COUNTY COMMUNITY PLAN</b> |
| Related Pre-Strategy Report Sections | Community Action Idea #21, 22, 23  |
| Results Expected By                  | 2002-2003                          |
| Responsible Agency                   | HC PLANNING AND GROWTH MANAGEMENT  |
| Lead Technical Agency                | HC PLANNING COMMISSION             |
| Support Agency                       | SWFWMD                             |
| Expected Workload                    | In PGMD Work Program               |

|                                      |  |
|--------------------------------------|--|
| <b>ACTION PLAN #11</b>               | <b>RIVER AND BAY ACCESS</b>                        |
| Related Pre-Strategy Report Sections | Community Action idea#16, 17, 18, 19, 20           |
| Results Expected By                  | 2003   |
| Responsible Agency                   | HILLSBOROUGH COUNTY PARKS AND RECREATION           |
| Lead Technical Agency                | HC PLANNING AND GROWTH MANAGEMENT                  |
| Support Agency                       | HC PUBLIC WORKS-STORMWATER                         |
| Expected Workload                    | Under review by the Parks Department for budgeting |

|                                      |   |
|--------------------------------------|---|
| <b>ACTION PLAN #12</b>               | <b>GREENWAYS AND TRAILS MASTER PLAN UPDATE</b>  |
| Related Pre-Strategy Report Sections | Community action Idea #14, 22                   |
| Results Expected By                  | 2003  |
| Responsible Agency                   | HC PLANNING AND GROWTH MANAGEMENT               |
| Lead Technical Agency                | HC PLANNING AND GROWTH MANAGEMENT               |
| Support Agency                       | HC PLANNING COMMISSION                          |
| Expected Workload                    | PGMD to make a part of the FY 2003 Work Program |

**GLOSSARY**

|   |   |
|---|---|
| <b>ACTION</b>                           | An accomplishment over a period of time.  |
| <b>ACTION PLANS</b>                     | The organization's planned efforts to achieve its strategic and operating objectives. Action Plans vary in length, but usually cover one to two year periods of activity. Action plans need to encompass every person in the organization, and address every objective. The plans usually describe the basic tasks and activities that will be carried out in fulfillment of each objective, start and completion dates, who is accountable, other resources to be allocated, and how progress will be monitored.   |
| <b>AGRICULTURAL LAND</b>                | Lands with commercially productive soils and/or in viable agricultural production   |
| <b>AGRICULTURAL RUNOFF</b>              | Byproducts of agricultural activities such as suspended solids, nutrients, animal wastes and pesticides caused by application of fertilizers and pesticides, the decomposition of organic materials such as animal wastes, plant debris, and muck soil, or by soil erosion  |
| <b>AQUIFER</b>                          | A body or rack or soil that contains sufficient saturated permeable material to conduct groundwater and to yield economically significant quantities of groundwater to wells and springs.   |
| <b>AQUIFER RECHARGE</b>                 | The replenishment of groundwater in an aquifer occurring primarily as result of infiltration of rainfall, and secondarily by the movement of water from adjacent aquifers or surface water bodies.  |
| <b>BEST MANAGEMENT PRACTICES (BMPs)</b> | Method or combination of methods determined after problem assessment, examination of alternative practices, and appropriate public participation, to be the most effective and practicable means of reducing or preventing non-point source pollution to levels compatible with water quality goals. These measures could include both structural (e.g., sediment/debris basins, wetland impoundment of agricultural runoff, etc.) and non-structural (e.g., street vacuuming, deferred grazing systems, etc.) approaches to abatement of non-point source pollution, and would vary on a regional and local basis depending on the nature of the problems, climate, physical characteristics, land use, soil types and conditions and other factors. |

|                        |   |
|------------------------|---|
| BMPs                   | Best Management Practices   |
| CIP                    | Capital Improvement Program   |
| CLUSTERING             | The practice of grouping permitted types of residential and/or non-residential uses close together rather than distributing them evenly throughout a site while remaining at/or below the appropriate gross density ceiling in order to encourage creative site planning and/or protect natural resources.  |
| COMMUNITY WATER SYSTEM | A public water system which serves at least 15 service connections used by year-round residents or regularly serves at least 25 year-round residents. (Comp. Plan)  |
| COMPETITION            | Conflict between individuals or populations that are attempting to make use of a common resource.   |
| COMPREHENSIVE PLAN     | An official document in ordinance form adopted by the local government setting forth its goals, objectives, and policies regarding the long-term development of the area within its jurisdiction. In unincorporated Hillsborough County, this refers to the text and maps adopted and amended by the Board of County Commissioners pursuant to Chapter 163.3161, et seq, FS, as amended, and it is called the Future of Hillsborough - A Comprehensive Plan for Unincorporated Hillsborough County.   |
| CONCURRENCY            | A regulation specifying that before a development order can be issued, which public facilities must be provided to a proposed development or redevelopment commensurate with adopted levels of service, when these facilities will be provided, and who will pay for these public facilities in such manner that is consistent with the intent of the state's land use legislation, Part II, Chapter 163, Florida Statutes, Chapter 75-390, Laws of Florida, as amended and implementing regulations. For additional information, please reference the Capital Improvements Element |
| CONSERVATION AREA      | Environmentally sensitive areas which include the following: <ul style="list-style-type: none"> <li>• Natural shorelines (other than those included in preservation areas);</li> <li>• Class III Waters;</li> <li>• Freshwater marshes and wet prairies;</li> <li>• Sand-pine scrub;</li> <li>• Hardwood swamps;</li> <li>• Cypress swamps;</li> <li>• Significant wildlife habitat</li> </ul>  |
| CWM                    | Comprehensive Watershed Management  |
| DENSITY, GROSS         | The number of dwelling units per gross acre. Gross acreage is the total amount of raw land, including all developable and undevelopable portions thereof  |

|                                 |  |
|---------------------------------|--|
| DESALINATION                    | To remove salts and other chemicals from sea water.  |
| DEVELOPMENT                     | The act of building, engineering, mining, or other operations in, on, or under land or the making of any material change in the use of any building or other land.   |
| DISCHARGE                       | Includes, but is not limited to, any release, spilling, leaking, seeping, pouring, emitting, emptying or dumping of any substance or material.   |
| DRAINAGE BASIN OR WATERSHED     | The area within which all surface water runoff will normally gather in a single tributary, stream, river, conduit or other water course. This area is determined by topography that forms drainage divides between watersheds.   |
| ECOLOGICAL VALUE                | THE VALUE OF FUNCTIONS PERFORMED BY ECOSYSTEMS, INCLUDING, BUT NOT LIMITED TO, WETLANDS, UPLANDS, ENVIRONMENTALLY SENSITIVE AREAS, ECOLOGICAL COMMUNITIES, AND OTHER ENVIRONMENTAL RESOURCES. THESE FUNCTIONS INCLUDE PROVIDING HABITAT FOR WILDLIFE, CORRIDORS FOR WILDLIFE MOVEMENT, FOOD- CHAIN SUPPORT, GROUNDWATER RECHARGE, WATER STORAGE AND FLOW ATTENUATION, AND WATER QUALITY ENHANCEMENT  |
| ECOSYSTEM MANAGEMENT            | An integrated, inclusive approach to the management of this state's biological and physical environment which is conducted through the use of tools such as planning, land acquisition, environmental education, regulation, and pollution prevention and which is designed to maintain, protect, and improve the state's natural, managed, and human communities.   |
| ELAPP                           | Environmental Lands Acquisition and Protection Program administered by Hillsborough County Parks and Recreation Department and funded by County- wide ad valorem tax. This program acquires land for resource protection. It also receives assistance from other programs such as SWIM, to restore sites.  |
| ENDANGERED                      | Nearing extinction; existence of the organism and its environment are in immediate jeopardy; distribution is usually restricted to highly specific habitats.   |
| ENVIRONMENTALLY SENSITIVE AREAS | Lands that, by virtue of some qualifying environmental characteristic (e.g. wildlife habitat), are regulated by either the Florida Department of Environmental Protection (FDEP), the Southwest Florida Water Management District (SWFWMD), or any other governmental agency empowered by law for such regulation. These include Conservation and Preservation Areas as defined in the Conservation and Aquifer Recharge Element (CARE) program. |
| ENVIRONMENTALLY SENSITIVE LANDS | Lands or wetlands that are designated or identified as including significant environmental attributes including water resources, habitat, wildlife, and ecosystem potential.   |

|                     |  |
|---------------------|--|
| ESTUARY             | A partially enclosed body of water where fresh water from rivers and streams mixes with salt water from the sea, or the mouth of a river entering the sea where the current of the river meets the tide and where salt and fresh waters mix.   |
| FLOODPLAIN          | An area adjacent to a lake, stream, ocean or other body of water lying outside of the ordinary banks of the water body and periodically inundated by flood flows. Areas inundated during a 100- year or other specified flood event identified by the National Flood Insurance Program as an A Zone or V Zone on Flood Insurance Rate Maps.  |
| GOAL                | The long- term end toward which programs or activities are ultimately directed. A long- term organizational target or direction of development. It states what the organization wants to accomplish or become over the next several years. Goals provide the basis for decisions about the nature, scope, and relative priorities of all projects and activities. Everything the organization does should help it move toward attainment of one or more goals. |
| GREENWAY SYSTEM     | A system of interconnected open spaces which include uses such as, but not limited to, recreation, conservation and aquifer recharge, connected via existing rights-of-way, existing and extended bike paths, nature trails, rivers and other open spaces corridors.   |
| GROUNDWATER         | Water that penetrates the earth's surface from precipitation and from infiltration by streams, ponds, and lakes.   |
| GROWTH MANAGEMENT   | A method to guide development in order to minimize adverse environmental and fiscal impacts and maximize the health, safety, and welfare benefits to the residents of the community.   |
| HABITAT             | The sum of environmental conditions in a place where a plant or animal lives. The range of environmental factors at a particular location supporting specific plant and animal communities.  |
| HAZARDOUS MATERIALS | A substance or material in a quantity or form that may pose an unreasonable risk to health and safety or to property when stored, transported or used in commerce.   |
| IMPERVIOUS SURFACE  | Surface that has been compacted or covered with a layer of material so that it is highly resistant to infiltration by water, including surfaces such as compacted sand, limerock, shell, or clay, as well as most conventionally surfaced streets, roofs, sidewalks, parking lots and other similar structures.  |
| ISSUES              | A subject in dispute or unsettled.   |

|                              |  |
|------------------------------|--|
| LAND DEVELOPMENT REGULATIONS | Ordinances enacted by governing bodies for the regulation of any aspect of development and includes any local government zoning, rezoning, subdivision, site development review, building construction or sign regulations or any other regulations controlling the development of land.   |
| LEVEL OF SERVICE             | An indicator of the extent or degree of service provided by, or proposed to be provided by a public facility based on and related to the operational characteristics of the facility. Level of service shall indicate the capacity per unit of demand for each public facility.  |
| MEAN HIGH WATER              | The average height of high waters over a defined period.   |
| MILESTONE                    | A significant date or event during execution of a project, often associated with the end of a phase or sub-phase.  |
| MISSION                      | A brief statement of what the organization believes is important, expressed in a way that everyone, both inside and outside the organization, can understand. It establishes what the organization is doing, for whom, and the philosophy under which it operates.   |
| NATIVE SPECIES               | Flora and fauna that naturally occur in Hillsborough County, not to mean naturalized or indigenous species that originate from outside the County.   |
| NATURAL PLANT COMMUNITIES    | Naturally occurring stands of native plant associations exhibiting minimal signs of anthropogenic disturbance. Specific community types can be identified by characteristic dominant plant species composition. Community types found in Hillsborough County include pine flatwoods, dry prairie, sand pine scrub, sandhill, xeric hammock, mesic hammock, hardwood swamp, cypress swamp, freshwater marsh, wet prairie, coastal marsh, mangrove swamp, coastal strand and marine grassbeds. Descriptions of these community types are provided in the Inventory and Analysis section of the Conservation and Aquifer Recharge Element (CARE). |
| NATURAL SHORELINES           | All emergent and submergent lands which are not classified as Preservation Areas, which border Class I, II, or III Waters, which are within the mean annual floodplain of said waters and whose topography has not been significantly altered by human activity.   |
| NON-POINT SOURCE POLLUTION   | Pollution that comes from many sources and cannot be traced to one specific point, such as pollution from stormwater runoff and the atmosphere.  |

|                        |  |
|------------------------|--|
| OBJECTIVE              | A measurable target that must be met on the way to attaining a goal. A specific, measurable, intermediate end that is achievable and marks progress toward a goal.   |
| OPEN SPACE             | Undeveloped lands suitable for passive recreation or natural preservation uses.  |
| PLRG                   | Pollutant Load Reduction Goal  |
| POINT SOURCE           | Any discernible and confined conveyance, including but not limited to, any pipe, ditch, channel, tunnel, conduit, well, container, rolling stocks, concentrated animal feeding operation, vessel, or other floating craft from which pollutants are or may be discharged. This term does not include return flows from irrigated agriculture.  |
| POINT-SOURCE POLLUTION | Pollution that comes from a specific source or point of origin, such as a discharge pipe or outfall.   |
| POLICY                 | The way in which programs and activities are conducted to achieve an identified goal.  |
| POLLUTANT              | Dredged spoil, solid waste, incinerator residue, filter backwash, sewage, garbage, sewage sludge, munitions, chemical wastes, biological materials, radioactive materials (except those regulated under the Atomic Energy Act of 1954, as amended (42 U.S.C. 2011 et seq.)), heat, wrecked or discharged equipment, rock, sand, and industrial, municipal, and agricultural waste discharged into water. |
| POTABLE WATER          | Water satisfactory for drinking, culinary, and domestic purposes.  |
| PRINCIPLES             | The values or criteria which will guide all strategic and operating actions undertaken by the organization.  |
| RECLAIMED WATER        | Highly treated wastewater. Reclaimed water is colorless and odorless and can be used for landscape irrigation, industrial cooling and various agricultural applications.   |
| RIVER                  | A broad, deep inland body of water with a steady, directional current, or the open water and wetlands up to the mean annual high-water mark of a naturally occurring, flowing water body of considerable volume.   |
| RIVER CORRIDOR         | The lands within 500 feet of the mean annual high water mark of a river.   |

|                              |  |
|------------------------------|--|
| RUNOFF                       | Water from rain or irrigation that flows over land. Runoff often carries pollutants such as oils, fertilizers and pesticides and is frequently a major component of non-point-source pollution.  |
| RURAL AREA                   | Country as opposed to City areas.  |
| SUSTAINABLE YIELD            | The quantity of water available for man's use without causing unacceptable adverse impacts to the water resources, associated natural systems, and existing legal uses of water (1996 WRAP). Or, The volume of groundwater that can be withdrawn from public water supply aquifers without resulting in adverse environmental impacts (e.g. saltwater intrusion), while at the same time ensuring an adequate long-term water supply under conditions of historically-precedented low rainfall, predictable increases in demand, and events causing significant interruption of the water supply.  |
| SALTWATER INTRUSION          | Inward or upward movement of saline water within a surface water or groundwater aquifer system.  |
| SIGNIFICANT WILDLIFE HABITAT | Contiguous stands of natural plant communities in Hillsborough County which have the potential to support healthy and diverse populations of wildlife and which have been identified on the Florida Game and Freshwater Fish Commission's natural systems and land use cover inventory map, and mapped as significant wildlife habitat on the County's GIS (includes both uplands and wetlands meeting minimum size and width criteria).   |
| SPECIES OF SPECIAL CONCERN   | Fauna identified in Section 39-27.03-05 Florida Administrative Code that warrants special protection, recognition or consideration because it has an inherent significant vulnerability to habitat modification, environmental alteration, human disturbance, or substantial human exploitation that in the foreseeable future, may result in its becoming a threatened species; may already meet certain criteria for designation as a threatened species but for which conclusive data is limited or lacking; may occupy such an unusually vital and essential ecological niche that should it decline significantly in numbers or distribution other species would be adversely affected to a significant degree; or has not sufficiently recovered from past population depletion. |
| STAKEHOLDER                  | Any person, group, or organization that can place a claim on an organization's attention, resources, or output, or is affected by that output.   |

|                               |   |
|-------------------------------|---|
| STATE WATER QUALITY STANDARDS | Numerical and narrative standards that limit the amount of pollutants that are allowed in Waters of the State, as defined by Chapter 17-3, Florida Administrative Code.   |
| STORMWATER                    | Surface runoff and drainage of water resulting from rainfall.   |
| STORMWATER CONVEYANCE SYSTEM  | A series of open channels and/or pipelines through which stormwater runoff is transported.  |
| STORMWATER RUNOFF             | That portion of precipitation that is not passed into the soil by infiltration, evaporated into the atmosphere, or entrapped by small surface depressions and vegetation, and that flows over the land surface during, and for a short duration following any rainfall.   |
| STRATEGIES                    | <p>Sets of integrated tasks or actions that will achieve a desired result. Strategies are needed to deal with problems that are complex, and cannot be resolved by single answers or “silver bullets.” They often cut across departmental or bureaucratic boundaries, requiring coordination of teams or other groups. Strategies may be inherent in an organization’s Action Plan. However, they are often responsive to new situations that were not contemplated in the Action Plan. Strategies to arrest a sudden decline in membership renewals, or to increase support for pending legislation, are examples of the latter.</p> <p>The results an organization wishes to achieve in the more distant future, usually over a period of 3-10 years. This horizon will depend on the nature of the organization and its work. Strategic objectives can address elements of a vision.</p> |
| STRATEGY                      | Coordinated and inter-related tasks that work together to create action. A deliberate approach or method to address a set of goals and objectives. The means by which an organization intends to accomplish a goal or objective. It summarizes a pattern across policies, programs, projects, actions, decisions, and resource allocations.   |
| STREAM                        | A narrow, shallow body of water with a steady, directional current.   |
| SURFICIAL AQUIFER             | Rainfall localized to lakes, wetlands, streams and the Gulf of Mexico   |
| SWFWMD                        | Southwest Florida Water Management District   |
| SWIM Program                  | Surface Water Improvement and Management Program  |

|                      |   |
|----------------------|---|
| THREATENED           | Nearing or endangered status; existence of organism and its environment in potential jeopardy; distribution of the organism is local in a few areas.  |
| URBAN SERVICE AREA   | Area served by infrastructure characteristic of city life.  |
| VISION               | An imagined future physical stage or set of conditions.   |
| WASTEWATER TREATMENT | Processes that help remove solids, nutrients and other pollutants from water before it is discharged or reused.   |
| WATER RECHARGE AREAS | Land or water areas through which groundwater is replenished.   |
| WATER TABLE          | The upper surface of the free groundwater in a zone of saturation except when separated by an underlying of groundwater by unsaturated material.  |
| WETLANDS             | Lands that are transitional between terrestrial (upland) and aquatic (open water) systems where the water table is usually at or near the surface, or where the land is covered by shallow water, and such lands are predominantly characterized by hydrophytic vegetation. The presence of hydric soils as determined by the U. S. Soil Conservation Service (SCS), and other indicators of regular or periodic inundation, shall be used as evidence of the presence of a wetland area. The existence and extent of these shall be determined by the jurisdictional limits defined by Chapter 17-4, Florida Administrative Code and implemented by the Florida Department of Environmental Protection, or as defined within Chapter 40D-4 Florida Administrative Code and implemented by the Southwest Florida Water Management District (SWFWMD), or as defined within the Wetlands Rule, Ch. 1-11, and implemented by the Environmental Protection Commission of Hillsborough County (EPC). |
| WILDLIFE             | Any member of the animal kingdom, with the exception of man, including but not limited to any mammal, fish, bird, amphibian, reptile, mollusk, crustacean, arthropod, or other invertebrate and excluding domestic animals.   |
| WILDLIFE CORRIDORS   | Contiguous stands of significant wildlife habitat that facilitate the natural migratory patterns, as well as other habitat requirements (e.g. breeding, feeding), of wildlife.  |
| WRAP                 | Water Resources Assessment Project – Developed for all WUCAs to identify “safe yield”.  |
| WUCA                 | Water Use Caution Area - A critical ground water supply problem area.   |
| ZONING               | In general the demarcation of an area by ordinance (text and map) into zones and the establishment of regulations to govern the uses within those zones (commercial, industrial, residential, type of residential) and the location, bulk, height, shape, use, and coverage of structures within each zone.   |

**ENDNOTES**

1. Material which characterizes the natural environment and science-based features were taken in whole or in part with modification from the Southwest Florida Water Management District document Draft Comprehensive Watershed Management Plan, 2001
2. Maps used in Chapter 3 were taken from the Little Manatee River Basin Comprehensive Watershed Management Plan Map Atlas, 2001.
3. Reference and credit is also given to the Cockroach Bay Management Plan which was a source document and resource for natural environment, geography and science based features of the watershed.