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## **Final Report**

GEC Project No. 22805104C

# **AN ECONOMIC ANALYSIS OF THE DISTRICT'S WATERWAYS IN ST. LUCIE COUNTY**

Submitted to

**Florida Inland Navigation District**  
Jupiter, Florida

Submitted by

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# EXECUTIVE SUMMARY

## INTRODUCTION AND SUMMARY OF FINDINGS

The purpose of this report is twofold: (1) to identify and quantify the total economic impact of the waterways operated, maintained, or within the boundaries of the Florida Inland Navigation District (the District) in St. Lucie County; and (2) to estimate the influence of the waterways on property values in the county. For the purpose of this report, the District's waterways include the Intracoastal Waterway and all waterways that are physically connected to it. The expected impacts to the St. Lucie County economy and to property values for three waterway conditions were evaluated: (1) existing conditions; (2) cessation of maintenance of the waterways (resulting in vessel draft restrictions of three feet MLW on the waterways); and (3) increased maintenance of the waterways (resulting in vessel draft restrictions of 10 feet MLW).

The results of the analysis are summarized below:

- Impacts of the waterways under existing conditions:
  - \$193.2 million in business volume
  - \$66.6 million in personal income
  - 2,359 jobs
  - \$155 to \$188 million in property values
  
- Expected impacts of the waterways assuming a cessation of waterways maintenance:
  - Decrease of \$119.6 million in business volume
  - Decrease of \$40.0 million in personal income
  - Decrease of 1,426 jobs
  - Decrease of \$57.5 million in property values
  
- Expected impacts of the waterways assuming an increase in waterways maintenance:
  - Increase of \$27.7 million in business volume
  - Increase of \$8.2 million in personal income
  - Increase of 303 jobs
  - Increase of \$2.3 million in property values

## **Background**

With reduced federal funding, the local sponsors of the nation's inland navigation systems are being required to shoulder a larger portion of the maintenance costs. For example, studies have shown that maintenance of the Atlantic Intracoastal Waterway Project in Florida requires expenditures of \$7.8 million each year while federal funding remains at \$3.2 million per year. The District has made a decision not to allow the waterways to deteriorate by deferring maintenance projects and has elected to fund this budgetary shortfall. This investment by the District may total up to \$230 million over the 50-year planning period of the waterway. With such a large potential investment, the District needs to educate the general public as well as federal, state, and local public officials of the economic importance of expending these monies to meet the needs of the waterways.



**In order to maintain navigation on the waterways within the District's 11-county area, investment by the District may total \$7.8 million annually**

The Atlantic Intracoastal Waterway is a 1,391-mile federally and locally maintained channel between Trenton, New Jersey, and Miami, Florida. The Florida segment, which was completed in 1965, is 370 miles long and follows coastal rivers and lagoons past numerous tourism-oriented communities.

The waterway from the Florida/Georgia border to Miami was constructed and is maintained by the Jacksonville District Corps of Engineers in cooperation with the Florida Inland Navigation

District, the local sponsor for the waterway. Continued maintenance dredging is required because the channel is subject to sedimentation from upland erosion and coastal sediment migration through ocean inlets. A Long Range Dredged Material Management Plan for meeting dredged material management requirements over the next 50 years has been developed and is presently being implemented.

**The District's waterways are primarily used by recreational boaters, many of which are home ported in other states**



### **The Intracoastal Waterway in St. Lucie County**

The Intracoastal Waterway extends about 22 miles through St. Lucie County. The waterway enters the county at mile marker 959 in the vicinity of the Town of Lakewood Park and extends the entire length through the Indian River. The shorelines of the waterway in the northern third of the county are sparsely populated. Proceeding from the north, Fort Pierce is the first major population center that is encountered on the waterway. A bascule bridge and fixed span bridge connect Fort Pierce with Fort Pierce Shores and Hutchinson Island. The Fort Pierce Inlet, located across the waterway from the City of Fort Pierce, is the only outlet to the Atlantic Ocean in the county. South of Fort Pierce, the shorelines are sparsely populated to Port St. Lucie, which is located on the southern boundary of the county.

## **THE ECONOMIC IMPACT OF MARINE RELATED BUSINESS IN ST. LUCIE COUNTY**

In general terms, there are two types of economic impacts or benefits associated with an inland navigation system, National Economic Development (NED) benefits and Regional Economic Development (RED) benefits. Inland waterway systems have historically been evaluated to determine economic feasibility based on NED benefits, which are economic benefits to the nation and not a particular region. The purpose of this analysis is to estimate the regional benefits generated by the waterways in St. Lucie County.

Regional benefits can be classified as direct, indirect, induced, and total. The direct impacts of the waterways are the goods and services purchased from marine related businesses in St. Lucie County. Direct impacts include the initial round of spending and employment generated by business activity that is directly dependent on the waterways. Indirect impacts consist of the goods and services purchased by marine related businesses in St. Lucie County. These impacts are the additional “rounds” of spending that result from the initial sales by waterway-impacted businesses. Induced impacts consist of increased household purchases of goods and services (such as food, clothing, and housing) by employees of businesses directly and indirectly impacted by the waterways. In short, navigation on the waterways results in dollars being pumped into the region that generate primary and secondary economic benefits to the area, benefits which include increased business activity (sales), personal income (wages), and employment (jobs).

Many techniques have been developed to estimate the types and levels of regional economic impacts. These models are based on the understanding of a regional economy as an interdependent entity. IMPLAN is a regional impact model that enables the evaluation of the economic impact of specific activities such as construction or operation of public works projects and retail, wholesale, manufacturing, and service sales within an economy. IMPLAN was used in this analysis to estimate the regional economic impacts of the waterway.

### **Identifying and Quantifying Current Marine Related Business Volume**

A database of 125 marine related businesses in St. Lucie County was developed from various sources. These businesses were surveyed by mail and telephone to obtain information on their marine related business patterns and practices. A total of 66 completed surveys was obtained, resulting in a response rate of 53 percent.

### **Characteristics of Marine Related Business**

Selected findings of the marine related business survey are presented below:

- About 48 percent of the businesses are located on or adjacent to the waterway.

- 39.6 percent are dependent on being on or adjacent to the waterway.
- The three most prominent lines of business are services, retail trade, and manufacturing.
- 95 percent of the respondents' business volume is marine or water related.
- Most marine industry firms employ less than four people and have annual revenues of less than \$500,000.
- 69.8 percent of the firms believe their revenue would decrease if vessel drafts were restricted to three feet.
- 38 percent of the firms believe their revenue would increase if vessel drafts were 10 feet.



**Public and private marinas on the waterways are some of the 125 firms in the county that conduct a total of \$186 million in marine related business annually**

The 125 businesses in the database were aggregated to 20 similar business types, which were classified as generating a commercial benefit or a recreational benefit. For the purpose of this analysis, commercial benefits are defined as those that result in an increase in economic activity to the nation, while recreational benefits are classified as those that only benefit the local economy. Commercial business types were assumed to consist of boat charters/rentals. The remaining business types were classified as recreational.

The total marine-related business activity in St. Lucie County, as calculated from the survey responses, is estimated at \$186.4 million, including \$184.9 million that are expected to generate commercial benefits and \$1.5 million that are expected to generate recreational benefits.

The \$186.4 million in business activity was distributed by type of activity as follows:

- \$4.5 million in construction activity
- \$2.9 million in transportation services
- \$30.8 million in retail trade
- \$5.5 million in used boat sales
- \$79.2 million in manufacturing activities
- \$1.4 million in wholesale trade
- \$60.4 million in service activities

The location of the 125 businesses in the county are presented in Figure 1, color-coded by business activity. Businesses conducting more than one type of activity were classified according to their predominate activity.

#### **Current Purchases of Non-Marine Related Items**

To estimate the economic impacts of non-marine related items purchased from businesses not located on the waterways, 324 recreational boaters and fishermen were interviewed on the waterways throughout St. Lucie County. A summary of purchasing patterns of recreational boaters that were interviewed is presented below:

- Survey respondents purchased an average of \$85.51 per outing at establishments not located on the waterways.
- Larger boats that are not trailered tend to spend more money at establishments on the waterways.
- Smaller vessels spend almost all their expenditures at establishments not located on the waterways.
- Total annual expenditures on non-marine items at establishments not located on the waterways include \$12.6 million for gasoline and \$9.0 million for food, drinks, and ice.

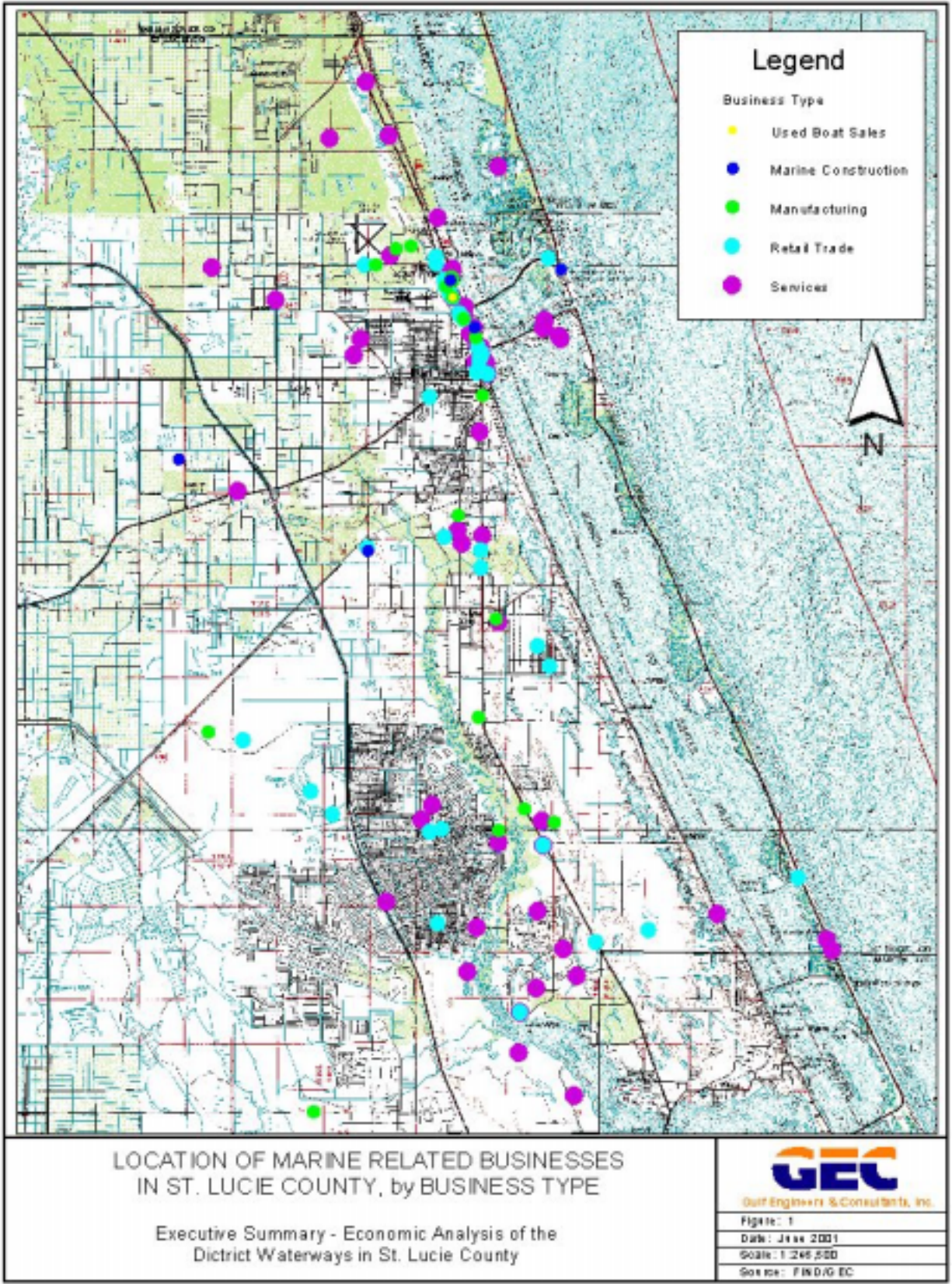


Figure 1

## **Characteristics of Recreational Boaters**

Highlights of the results of the interviews of the 324 recreational boaters are presented below:

- The primary local residence of boaters:
  - St. Lucie County - 74 percent
  - Indian River County - 9 percent
  - Brevard County - 3 percent
  - Martin County - 3 percent
  - Other - 11 percent
- The primary permanent residence of the boaters:
  - Florida - 96 percent
  - New York - 1 percent
  - Other - 3 percent
- There was an average of 3.0 persons per boat; the most common occurrence was two persons per boat.
- 25 percent owned a second boat, and 3.1 percent owned two other boats.
- 71 percent of boaters used an outboard boat, 14 percent used an inboard, and 7 percent used “other boat” types.
- Of the boaters that owned more than one boat, the boats that were not being used on the day of the interview were typically “other boat” types (personal watercraft), followed by outboard boats.
- The length of boats owned by the boaters ranged between 6 feet and 45 feet, with most being between 16 and 26 feet.
- 46 percent of the boaters were on half-day trips, 46 percent were on full-day trips, and 8 percent were on multi-day trips.
- The three primary purposes of the boating trips were fishing, pleasure boating, and skiing.
- 54 percent of the boaters intended to stay on inland waters.
- 46 percent of boaters intended to access offshore waters.
- 89 percent of all boats are stored at home on a trailer, and 6 percent are stored at some type of commercial storage facility.

- Boaters that store their boat at a commercial storage facility pay an average of \$1,465 per year.
- Boaters annually spend an average of \$983 on maintenance and \$557 on boat insurance premiums.
- 7 percent of the people interviewed had incurred damage to their boat while using the waterway in the past year.
- The most frequent type of damage was unspecified damage, followed by damage to the hull, and damage to the propeller.
- The most frequent cause of damage was an unknown source or object in the water, followed by hitting a submerged or floating object, and grounding the vessel.

### **Current Economic Impact of Marine Related Activities**

The retail sales of the 125 marine related businesses in St. Lucie County generate a total of \$183.4 million in local business volume, \$62.4 million in personal income (wages), and 2,186 jobs. The greatest impacts are generated by service type activities.

The \$21.6 million in retail purchases (\$12.6 million for gasoline sales and \$9.0 million for food, drinks, and ice) by recreational boaters from establishments not located on the waterways were estimated to generate economic impacts of \$9.8 million in business volume, \$4.2 million in personal income, and 173 jobs.



**Recreational boating, including purchases made at non-water related businesses, contributes a total of \$193 million in sales, \$66 million in income, and 2,359 jobs to the local economy**

*The current total economic impact of the waterways (marine related businesses and the purchase of non-marine related items) consists of \$193.2 million in business volume, \$66.6 million in personal income, and 2,359 jobs (Table 1).*

**Table 1. Summary of Total Economic Impacts Attributable to the Waterways**

| Activity                   | Recreational Economic Impacts |          |         |               | Commercial Economic Impacts |          |         |             | Total Economic Impacts |          |         |                 |
|----------------------------|-------------------------------|----------|---------|---------------|-----------------------------|----------|---------|-------------|------------------------|----------|---------|-----------------|
|                            | Direct                        | Indirect | Induced | Total         | Direct                      | Indirect | Induced | Total       | Direct                 | Indirect | Induced | Total           |
| Business Volume (Millions) | 121.41                        | 32.84    | 36.63   | <b>190.89</b> | 1.49                        | 0.42     | 0.48    | <b>2.39</b> | \$122.90               | \$33.26  | \$37.11 | <b>\$193.28</b> |
| Personal Income (Millions) | 39.80                         | 12.31    | 13.70   | <b>65.81</b>  | 0.54                        | 0.15     | 0.18    | <b>0.87</b> | \$40.34                | \$12.46  | \$13.88 | <b>\$66.68</b>  |
| Employment                 | 1,328                         | 435      | 534     | <b>2,297</b>  | 49                          | 6        | 7       | <b>62</b>   | 1,377                  | 441      | 541     | <b>2,359</b>    |

**Economic Impact of a Cessation of Waterways Maintenance**

If maintenance of the waterways in St. Lucie County was to cease, it is believed that shoaling would eventually result in an effective vessel draft limitation of three feet. This in turn would result in a reduction of marine related business generated by vessels drafting in excess of three feet.

Based on the responses of businesses surveyed for this analysis, an average of 50.9 percent of marine related business activity would be lost if vessel drafts were limited to three feet MLW. The largest impacts are expected in the services sector, followed by manufacturing, the retail trade sector, and construction.

The total economic impact expected to be generated with three-foot vessel draft restrictions on the waterways (marine related businesses and the purchases of non-marine related items) is presented in Table 2. The total impact includes \$73.6 million in business volume, \$26.6 million in personal income, and 933 jobs. *This is a reduction of \$119.6 million in business volume, \$40.0 million in personal income, and 1,426 jobs compared to existing conditions on the waterways.*

**Table 2. Summary of Total Economic Impacts Attributable to the Waterways Assuming Vessel Draft Restrictions of Three Feet**

| Activity                   | Recreational Economic Impacts |          |         |              | Commercial Economic Impacts |          |         |             | Total Economic Impacts |          |         |                |
|----------------------------|-------------------------------|----------|---------|--------------|-----------------------------|----------|---------|-------------|------------------------|----------|---------|----------------|
|                            | Direct                        | Indirect | Induced | Total        | Direct                      | Indirect | Induced | Total       | Direct                 | Indirect | Induced | Total          |
| Business Volume (Millions) | 47.56                         | 11.21    | 14.88   | <b>73.65</b> | 0.00                        | 0.00     | 0.00    | <b>0.00</b> | \$47.56                | \$11.21  | \$14.88 | <b>\$73.65</b> |
| Personal Income (Millions) | 17.03                         | 4.06     | 5.60    | <b>26.69</b> | 0.00                        | 0.00     | 0.00    | <b>0.00</b> | \$17.03                | \$4.06   | \$5.60  | <b>\$26.69</b> |
| Employment                 | 571                           | 144      | 218     | <b>933</b>   | 0                           | 0        | 0       | <b>0</b>    | 571                    | 144      | 218     | <b>933</b>     |

**Economic Impact of an Increase in Waterways Maintenance**

The full implementation of the District’s Dredge Material Management Plan would result in a higher state of maintenance of the waterways and an increase in vessel draft restrictions to 10 feet MLW. This increase in draft allowance would permit deeper draft vessels to fully utilize the waterways in St. Lucie County.

According to marine related businesses surveyed for this analysis, increasing vessel drafts on the waterways to 10 feet MLW would result in an overall average increase in business volume of

11.6 percent, from the current level of \$186.4 million to \$208.1 million (a \$21.7 million increase).

The increase is expected to be distributed as:

- \$840,000 in construction activity
- \$1.0 million in transportation services
- \$4.4 million in retail trade
- \$526,000 in used boat sales
- \$4.8 million in manufacturing
- \$375,000 in wholesale trade
- \$9.6 million in services activities.

This higher maintenance scenario should not significantly impact the sale of non-marine related items by businesses that are not located on the waterways. These impacts should be equivalent to those under current waterways conditions.

The combined total impacts (marine related businesses and purchases of non-marine related items) under this scenario are presented in Table 3. Total impacts include \$221.0 million in business volume, \$74.9 million in personal income, and 2,662 jobs. *This is an increase of \$27.7 million in business volume, \$8.2 million in personal income, and 303 jobs compared to existing conditions on the waterways.*

**Table 3. Summary of Total Economic Impacts Attributable to the Waterways Assuming Vessel Draft Restrictions of 10 Feet**

| Activity                    | Recreational Economic Impacts |          |         |                 | Commercial Economic Impacts |          |         |                | Total Economic Impacts |          |         |                 |
|-----------------------------|-------------------------------|----------|---------|-----------------|-----------------------------|----------|---------|----------------|------------------------|----------|---------|-----------------|
|                             | Direct                        | Indirect | Induced | Total           | Direct                      | Indirect | Induced | Total          | Direct                 | Indirect | Induced | Total           |
| Business Volume (Millions)  | \$121.41                      | \$32.84  | \$36.63 | <b>\$190.89</b> | \$18.98                     | \$6.07   | \$5.06  | <b>\$30.11</b> | \$140.39               | \$38.91  | \$41.69 | <b>\$221.00</b> |
| Personnel Income (Millions) | \$39.80                       | \$12.31  | \$13.70 | <b>\$65.81</b>  | \$5.05                      | \$2.17   | \$1.88  | <b>\$9.11</b>  | \$44.86                | \$14.48  | \$15.58 | <b>\$74.92</b>  |
| Employment                  | 1,328                         | 435      | 534     | <b>2,297</b>    | 214                         | 77       | 74      | <b>365</b>     | 1,542                  | 512      | 608     | <b>2,662</b>    |

## THE IMPACT OF THE WATERWAYS ON PROPERTY VALUES IN ST. LUCIE COUNTY

### Current Impact of the Waterways on Property Values

This analysis evaluates the waterways' impact on the value of single-family residential property, condominiums, manufactured housing, and commercial property.

#### Single-Family Residential Property

The impact of the waterways in St. Lucie County on single-family property values was estimated by comparing values of properties located on the Indian and St. Lucie rivers to values of similar properties that have no access to the waterways.

Table 4 illustrates the type of residential property, the average appraised value, and the average building size for the residential parcels used in this analysis. These parcels are located on or near the Indian River, which encompasses the Intracoastal Waterway, and the St. Lucie River, which merges with the Indian River in Martin County near the St. Lucie Inlet. The data indicates that the waterways have had a positive influence on residential property values in St. Lucie County. Therefore, we can assume that if the waterways did not exist, existing properties on the waterways would exhibit the same characteristics (in terms of size and value) of neighboring properties that were developed without waterway access.



**Residential homesites on the Indian River have an average appraised value of \$172,292**

**Table 4. Characteristics of Residential Properties in St. Lucie County in Subdivisions Containing Properties Adjacent to the Intracoastal Waterway**

| Type of Property            | Number of Parcels | Average Total Appraised Value | Average Building Size (Square Feet) |
|-----------------------------|-------------------|-------------------------------|-------------------------------------|
| <b>Indian River Area</b>    |                   |                               |                                     |
| Non-Canal (dry parcel)      | 468               | \$88,424                      | 2,377                               |
| Indian River – ICW          | 745               | \$172,292                     | 3,297                               |
| <b>St. Lucie River Area</b> |                   |                               |                                     |
| Non-Canal (dry parcel)      | 5,095             | \$70,746                      | 2,302                               |
| St. Lucie River & Canals    | 631               | \$163,257                     | 2,909                               |
| <b>Total</b>                | <b>6,939</b>      |                               |                                     |

Two methods were used to estimate the impact of the waterways on single-family residential property values. The first method assumed that if the waterways did not exist, the land adjacent to the waterways would have been developed as homesites of similar size and value as existing homes that do not have waterway access. Under this methodology, lot sizes and homes would have been smaller than they currently are, which would have led to more lots and homes being developed in the same amount of space. If the waterways did not exist, the 1,376 homesites on the Indian and St. Lucie rivers would have been developed as 1,486 smaller, less valuable homesites. As a result, the total aggregate market value of residential property would be \$147.5 million less than its current level.

The second methodology assumes that the number and size of houses would be the same as they currently are, but the value of these houses, on a per-square-foot basis, would decrease to reflect current values of neighboring non-waterway property. The current average per-square-foot value varies from \$42.25 for existing dry parcels near the Indian River to \$62.54 for properties on the Indian River, \$34.91 for dry parcels near the St. Lucie River, and \$70.49 for parcels on the St. Lucie River. Adjusting existing waterway property values to reflect the impact of the waterways indicates the waterways result in an increase of \$115.1 million in single-family residential property values, including an increase of \$49.8 million for properties on the Indian River and \$65.3 million for properties on the St. Lucie River.

### **Other Residential Property**

#### **Condominiums**

In order to estimate the impact of the waterway on condominium values, similar condominium developments removed from the waterway must be identified for comparison to developments on the waterway. A sufficient sample of similar condominium developments in the county could not be identified. Therefore, an accurate assessment of the impact of the waterway on the value of condominiums cannot be estimated. However, a review of the impact of the waterways on single-family residential property values in the county should give an idea of the magnitude of the impact of the waterways. The waterways were estimated to account for 40 to 50 percent of the total current value of single-family residential properties. The impact of the waterways on condominium values should be similar to the impact of the waterways on single-family residential property, although to a lesser degree. Each single-family property has direct access to and view of the waterway and the ability to dock a boat in their backyard, amenities that all condominiums in a development do not enjoy. Therefore, it was assumed that the maximum impact to condominium values would be equal to the lower end of the range of expected impact to single-family residential

property values (40 percent of their value). Under this assumption, the waterways would have been responsible for, at most, \$7.2 million of the \$18 million in assessed value of the 394 condominiums on the waterways. This is only a rough estimate; the data needed to make a more accurate assessment of the impact is currently unavailable.

### **Manufactured Housing Developments**

Nettles Island is a major manufactured housing development, containing approximately 1,229 homes, located on a man-made island in the Indian River. Each home has an average appraised value of \$120.89 per square foot. The impact of the waterways on these property values was estimated by comparing their value to other manufactured housing in the county. There are 2,268 additional manufactured housing units in the county that have an average appraised value of \$55.35 per square foot. The value per square foot of manufactured housing on Nettles Island is approximately 118 percent higher than manufactured housing removed from the waterway. If this additional per square foot value is assumed to be generated by the waterway, the total current impact of the waterway can be estimated as the difference between the appraised value of homes on Nettles Island (\$120.89) and the value of all other manufactured homes in the county (\$55.35), or \$65.54 per square foot. Applying this value to the total square feet of housing on Nettles Island results in a total impact of \$33.6 million. However, it could also be argued that the impact of the waterway is the entire value of the island (\$62 million), because it is unlikely that the island would have been created without the initial dredging of the waterways.

### **Commercial Property**

The current impact of the waterways on commercial property values was assumed to be the difference between the value of the property under its current use and the value of the same property if the waterways did not exist. Without the waterways, the land occupied by the marinas and the Oceanographic Institute would have been developed for other uses, most probably residential use. To determine the difference in property values due to a change in use, the value of commercial parcels on the waterway should be compared to the value of single-family residences near the waterway. However, the quantity of land currently occupied by marinas and the Oceanographic Institute are unknown, and these data are needed to compare commercial property values to residential values.

The port is located in a light industrial and warehouse area. If the waterways did not exist, property at the port would probably remain in similar use, with only a slight reduction in value.

Other commercial businesses benefiting from the waterway are restaurants and hotels. These businesses derive a portion of their revenue from waterborne traffic or their proximity

to the waterway. Since these businesses are not heavily dependent on the waterways, the waterways should not have a significant impact on their operations. Therefore, if the waterways did not exist, the value of the property should not be significantly impacted.

### **Total Current Impacts to Property Values**

*It is estimated that the waterways in St. Lucie County have resulted in a total increase in property values of between \$155 million and \$188 million.* This total includes an increase of between \$115.1 million and \$147.4 million in residential property values, \$7.2 million in condominium values, and \$33.6 million in manufactured housing. Because of the lack of data on the quantity of land associated with each commercial property, the impact of the waterways on commercial property cannot be readily determined.

### **Changes in Property Values Due to a Cessation of Waterways Maintenance**

If vessel drafts were restricted to three feet MLW, the value of property on the waterways would decrease. In order to estimate the impacts of reduced waterway depths, property values of parcels with access to waterways with varying vessel drafts must be compared to each other. For the purpose of this analysis, it is assumed that properties on the Intracoastal Waterway have access to a channel at least six feet deep. However, the vessel draft restrictions of canals connecting to the Intracoastal Waterway were assumed to vary. A comparison of the difference between property values on restricted draft waterways and property values on the Intracoastal Waterway can illustrate part of the expected change in property values if vessel drafts were restricted to three feet MLW on the Intracoastal Waterway.

### **Single-Family Residential Property**

A comparison of property types in the county did not identify areas that were suitable for comparing differences in property values resulting from varying vessel draft restrictions. Two areas with varying vessel draft restrictions were identified; however, they did not provide a sufficient sample of housing, nor did they provide a clear comparison between parcels with six-foot vessel draft restrictions and parcels with three-foot vessel draft restrictions. From these limited data, no difference in property values for deep-draft versus shallow-draft vessel access can be identified. This is not to say that there would be no impact to property values if the waterways were not maintained, only that the impact could not be estimated based on available data in the county.

Analysis conducted in neighboring counties has indicated that if maintenance of the waterways were to cease, the value of properties on the waterways could lose half of the value premium that they currently have over dry parcels. Since sufficient data are not available in St. Lucie County to determine the impact, the experience in neighboring counties will be used as a proxy for

what could be expected in St. Lucie County. If the relationship exhibited in neighboring counties would occur in St. Lucie County if maintenance on the waterways were to cease, properties on the waterways would lose half of the premium they now have over properties without waterway access. Properties on the Indian River are currently valued 48 percent higher than neighboring properties without waterway access, and properties on the St. Lucie River are valued 101 percent higher than neighboring properties without waterway access. If maintenance of the waterway were to cease, parcels on the Indian River would only be worth 24 percent more than neighboring parcels without waterway access, and parcels on St. Lucie River would only be worth 50.5 percent more than neighboring dry properties.

Applying these adjusted premiums to the per-square-foot market values of dry parcels results in a reduction of \$10.14 per-square-foot from the current value for properties on the Indian River and a reduction of \$17.78 per-square-foot for properties on the St. Lucie River. The total reduction in property values resulting from decreased waterway maintenance was estimated by applying the expected decrease in per-square-foot market value to the current total square feet of building area. As a result, property values on the Indian River are expected to decrease by \$24.9 million, and property values on the St. Lucie River are expected to decrease by \$32.6 million, for a total of \$57.5 million.

**Table 5. Adjustment of Market Value Per Square Foot of Building Area**

| Property Type              | Market Value Per Square Foot | Adjusted Premium Over Dry Parcels | Adjusted Market Values Per Square Foot | Difference Per Square Foot |
|----------------------------|------------------------------|-----------------------------------|--|----------------------------|
| <b>Indian River Area</b>   |                              |                                   |  |                            |
| Non-Canal (dry parcel)     | \$42.25                      | --                                | --                                     | --                         |
| Indian River – ICW         | \$62.54                      | 0.24                              | \$52.40                                | \$10.14                    |
| <b>St. Lucie Area</b>      |                              |                                   |  |                            |
| Non-Canal (dry parcel)     | \$34.91                      | --                                | --                                     | --                         |
| St. Lucie River and Canals | \$70.49                      | 0.51                              | \$52.71                                | \$17.78                    |

**Other Residential Property**

**Condominiums**

The impact of a cessation of waterway maintenance on condominium values is expected to be relatively smaller than the impact to single-family residences. Condominiums are located along the waterway primarily for the scenic value rather than to allow direct boating access to

the waterways. If cessation of waterway maintenance results in three-foot vessel draft restrictions, condominium values would be expected to decline somewhat because of a reduction in the scenic value due to a reduction in the size of vessels on the waterways. However, the scarcity of condominium developments in the county precludes estimating this decline through direct comparison between condominiums on the Intracoastal Waterway and condominiums on restricted draft waterways.

### **Manufactured Housing**

Similar to condominium values, the impact of a cessation of waterway maintenance on manufactured housing unit values is expected to be relatively smaller than the impact to single-family residences. However, the inability to identify a sizable sample of manufactured housing units on draft restricted canals in the county precludes making a direct comparison between units on the waterways and units on draft restricted canals. Therefore, an estimate of the magnitude of this impact cannot be made.

Although the impact to condominium and manufactured housing unit values of not maintaining the waterway cannot be estimated, the impact is assumed to be minimal compared to the impact to single-family property values, due to the overall value of single-family residential property compared to condominium and manufactured housing values.

### **Commercial Property**

The appraised value of commercial property is determined in part by the income the property generates. As part of this analysis, the change in marine business revenue for various business types was estimated assuming a cessation of waterways maintenance. The estimate is based on a survey of marine related businesses. If maintenance of the waterways ceased and, as a result, vessel drafts were restricted to three feet, marinas indicated that only 22 percent of existing business volume would be retained, and the Oceanographic Institute indicated that they would not be able to effectively operate. The loss in business activity would result from deeper draft vessels not being able to access their facilities. The existing landside property value of marinas is appraised at \$7.8 million, and the Oceanographic Institute is appraised at \$11.3 million. Under the assumption that appraised commercial property values are directly impacted by business revenue, the significant reduction in business revenue expected at marinas should reduce the appraised value to \$1.7 million. Such a reduction in property value assumes that the property remains in its current use. However, since these businesses are not likely to continue operating after such a drastic reduction in income, the property will probably convert to other uses, namely residential use. The same could be said of the Oceanographic Institute. If they were unable to operate their research vessels, they would have to

relocate, and the land they currently occupy could be used for other purposes. Because of the lack of data on the quantity of land encompassed by these businesses, the expected impact of reduced maintenance of the waterways cannot be estimated.

Decreasing draft restrictions should only have a minimal impact on property values at restaurants or hotels.

### **Total Impact to Property Values of a Cessation of Waterways Maintenance**

*In summary, if maintenance of the waterways were to cease and vessel drafts were restricted to three feet MLW, it is estimated that single-family residential property values along the waterways would decrease by up to \$57.5 million.* Due to the lack of sufficient data, the impact to condominiums, manufactured housing, and commercial property cannot be accurately estimated, although any impact to these assets should be minimal in light of their total appraised value compared to single-family residential property values.

### **Change in Property Values Due to Increased Waterways Maintenance**

#### **Single-Family Residential Property**

In order to evaluate the impact of increased waterways maintenance on property values, existing homogenous subdivisions with access to 10-foot deep water must be identified. A review of waterways in St. Lucie County located several single-family residences on the St. Lucie Inlet with deepwater access. However, these few residences do not provide an adequate sized sample for determining the impact of deeper drafts on property values. Furthermore, these residences are isolated on the north side of Route A1A in a busy commercial area and would not appeal to owners of deep draft pleasure boats.

Therefore, it is not possible to estimate the impact of a higher state of maintenance on property values based on comparison of residential parcels within St. Lucie County. This does not mean that certain property values would not increase if vessel draft restrictions were increased, but there is no method of estimating what that increase would be using the available data. However, it should be noted that although the impact cannot be estimated, it is assumed that any impact would not significantly increase the total value of property in the county. A deeper channel would only benefit owners of mega yachts and commercial vessels. Because of the cost of these vessels, there are only a limited number of people who can afford them; therefore, only a limited number of properties could potentially be impacted.

## **Other Residential Property**

### **Condominiums**

As with single-family residential property, due to the lack of existing 10-foot deep waterways in the county, there is no basis for estimating an increase in condominium values if vessel draft restrictions were increased to 10 feet. Some condominium units with boat slips may experience an increase in value; however, there is no data available indicating this increase would be significant on a county-wide basis.

### **Manufactured Housing Developments**

As with all other residential property, the absence of 10-foot deep waterways in the county makes it impossible to estimate an increase in manufactured housing values if vessel draft restrictions were increased to 10 feet. However, it is unlikely that property values would be impacted by deeper vessel draft restrictions unless the entire island was redeveloped to meet the needs of mega yacht owners.

### **Commercial Property**

Increasing the vessel draft restriction to 10 feet MLW on the waterway would allow larger vessels to access commercial facilities and should result in an increase in income generated by marinas. The income method of assessing property tax, used by Property Appraiser's Offices as an alternative assessment method, results in property values increasing in conjunction with business revenue. The survey of marina owners conducted as part of this analysis indicated that these businesses expect an estimated increase in revenue of 30 percent if vessels drafting up to 10 feet could access their facility. It was assumed that a proportional increase in property values would also occur. Marinas are currently valued at \$7.8 million. An increase of 30 percent in property values, resulting from an increase in business volumes, would produce a \$2.3 million increase in property values.

The other commercial property on the waterways should not be impacted by increasing the vessel draft restrictions to 10 feet. The Oceanographic Institute and the port mainly use the inlet, which is sufficient to meet their needs, and increasing the depth of the remainder of the waterways in the county would have little or no impact on their operations. Nor should deepening the waterways significantly impact the operations at restaurants or hotels in the county.

### **Total Impact to Property Values of Increased Waterways Maintenance**

*If maintenance of the waterways were to increase and vessel draft restrictions were increased to 10 feet MLW, the expected increase in property values would be minimal.* There is no

evidence that the value of residential property would significantly increase, while commercial property values are expected to increase by \$2.3 million.

## **Summary**

### **Current Impacts**

*The current impacts of the waterways in St. Lucie County include \$193.2 million in business volume, \$66.6 million in personal income, 2,359 jobs, and between \$155 million and \$188 million in property values.*

### **Impacts of a Cessation of Waterways Maintenance**

*If maintenance of the waterway ceases and vessel drafts are restricted to three feet MLW, there is expected to be a reduction of \$119.6 million in businesses volume, \$40.0 million in personal income, 1,426 jobs, and up to \$57.5 million in property values.*

### **Impacts of Increased Waterways Maintenance**

*If maintenance of the waterway increased and vessel drafts were increased to 10 feet MLW, there is expected to be an increase of \$27.7 million in business volume, \$8.2 million in personal income, 303 jobs, and \$2.3 million in property values from current conditions.*

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