ECONOMIC IMPACTS ON ST. LUCIE COUNTY OF A WORLD CLASS RECREATIONAL MARINE COMPLEX FOR MEGAYACHTS

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November 2, 2002

EXECUTIVE SUMMARY

ECONOMIC IMPACTS ON ST. LUCIE COUNTY OF A WORLD CLASS RECREATIONAL MARINE COMPLEX FOR MEGAYACHTS

- St. Lucie County is in the process of updating its Comprehensive Land Use Plan to incorporate the findings of its updated Master Plan for the Port of Fort Pierce, which was adopted recently by The Board of County Commissioners.

- In conjunction with updating the Master Plan and its Comprehensive Plan, the County issued a Request for Qualifications ("RFQ") RFQ 02-053 soliciting interest from qualified firms to lease and develop an 87 acre site at the Port.

- The Master Plan envisions this area developed with a world class marina and shipyard focused on the mega-yacht trade. Mega-yachts are boats over 75-feet in length

- This study analyzes the economic impacts of Master Plan. The County forwarded two replies to its RFQ along with addition communication from the responders to serve as the basis for this analysis.

- The shipyard and marina complex of the Master Plan as articulated in the two replies to the RFQ would have a large and positive economic impact on St. Lucie County. The forecast of impacts is displayed in the table below. The marine complex will support more than 750 jobs and generate over $30,000,000 in annual economic output and spending.

Summary of Economic Impacts

Summary of Impacts	Output	Employment
Marina	$6,520,007	228
Shipyard	$25,507,500	537
	========	========
Total	$32,127,507	765

- Finally, catering to the clientele of the mega-yacht trade will enhance the visibility and status of the area's economy

ECONOMIC IMPACTS OF A WORLD CLASS RECREATIONAL MARINE COMPLEX CONSISTING OF A SHIPYARD AND MARINA ON St. LUCIE COUNTY

1.0 Introduction

1.1 Assignment

St. Lucie County retained Fishkind & Associates, Inc. to analyze the economic and fiscal impacts of its updated Master Plan for the Port of Fort Pierce. Economic impacts refer to the effects of the Master Plan on the area's jobs and economic output.

1.2 Background

The Board of County Commissioners of St. Lucie County ("Board") recently adopted an updated Master Plan for the Port of Fort Pierce, Shaping the Seaport 2002 Master Plan for Port of Fort Pierce.[1] The Board is in the process of updating its Comprehensive Land Use Plan ("Comp Plan") to incorporate the updated Master Plan. These activities are mandated under Florida law that requires all 14 of Florida's deepwater seaports to prepare and to regularly update a master plan and to coordinate the master plan with the Comp Plan of the local government.[2]

The Port of Fort Pierce comprises approximately 163 acres, of which all but 34.65 acres are owned privately. Today 87.6 acres of the Port are undeveloped. The 1989 Fort Pierce Port Plan was based on the assumption that the County would acquire the undeveloped land for diverse marine-related uses. Opportunities were reviewed for expanding cargo operations, initiating cruise operations and industrial uses. However, very little development has occurred.

The text for the goals, objectives and policies for the Proposed Deepwater Port Master Plan Component for the Coastal Management Element of the St. Lucie County Comprehensive Plan is as follows:

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[1] FAU/FIU Joint Center (March 12, 2002). Shaping the Seaport 2002 Master Plan for Port of Fort Pierce.

[2] F.A.C. Section 9J-5.012(5)(a)

*A revised vision for the Port of Fort Pierce was established in 1996 through a non-binding public referendum and charrette process, which shifted the intended general uses from exclusively cargo as per the 1989 Port Master Plan to a mix of recreational, commercial and industrial uses. Since that time and through additional public workshops this vision has been further refined to focus the industrial component of the mixed use port on marine industries, **specifically the megayacht industry**, and for such uses to serve as the anchor tenant at the Port of Fort Pierce.* [Emphasis added]

In conjunction with updating the Master Plan the Board issued RFQ 02-053 soliciting interest in leasing 87 acres of the undeveloped property at the Port for use as a state-of-the-art shipyard and world-class mega-yacht marina. The County forwarded two responses it received from very well qualified and financially capable groups interested in developing the shipyard and mega-yacht marina at the Port.

The replies to the RFQ demonstrate that the concept of a mega-yacht marina and shipyard at the Port is feasible. Therefore, the analysis presented here examines the economic and fiscal impacts of the marine facilities outlined in the two replies to the RFQ.

2.0 Size, Scope, and Feasibility of the Proposed Mega-Yacht Marina and Shipyard

2.1 Proposals for the Mega-Yacht Marina and Shipyard

As noted above, the County solicited interest in the development and operation of a mega-yacht marina and shipyard at the Port in RFQ 02-053. Two responses were provided for the basis of this study.

(1) World Port, L.L.C. a joint venture between the Burger Boat Company and Lurssen Yachts and

(2) An L.L.C. formed by Haskel Company, Parsons Brinckerhoff, and Maritime Trust Company.

Both groups are highly qualified and eminently capable of designing, constructing, operating and maintaining the mega-yacht marina and shipyard. Both proposals are quite similar in size and scope of the proposed facilities. These are summarized in Table 1.

Table 1. Size and Scope of Proposed Mega-Yacht Facilities Marina and Shipyard at Port of Fort Pierce

Category	World Port	Haskell et al
Marina		
Acres	50	40
Slips	40	50
Size	100'-450'	80'-300'
Shipyard		
Acres	27	25
Lift #1	1,600 DWT	1,600 DWT
Lift #2	300 DWT	300 DWT
Land berths	30	30
Amenities		
Acreage	10	15

Both proposals include a world-class mega-yacht marina and shipyard. World Port would develop a marina that could accommodate the very largest vessels and would include 40 slips on approximately 50 acres of the Port site. Haskell proposes to focus on ships ranging from 80-to-300 feet accommodating them in 50 slips developed on about 40 acres of the site.

The shipyard component of the two proposals is consistent with their projected marina operation. World Port envisions handling vessels ranging in size from 100-to-450 feet at the shipyard and provides the necessary lifts (1,600 deadweight tons 'DWT') and building as well as extensive land berths. Hakell's shipyard also focuses on mega-yachts, but it is sized to accommodate vessels from 80-to-300 feet. Both shipyards are designed as state-of-the-art facilities providing the full range of construction, refit and repair services.

Finally, each proposal includes 10-to-15 acres for recreation, lodging, and restaurant uses. These would be geared to complement the marina and shipyard.

Neither proposal provided further details or employment projections. However, in subsequent communication with the County Haskell estimates that its complex would have total employment of 400.

Finally, only the World Port proposal provided a cost estimate, $50,000,000 for their project. Again, however, both World Port and Haskel, subsequently updated their cost estimates that now stand at $100,000,000 for the marina complex and shipyard

2.2 Commercial feasibility

The fact that two such qualified and respected groups responded to the RFQ proves that the concept of a world-class mega-yacht marina and shipyard has commercial merit. Therefore, the analysis contained in this report assumes that the Master Plan is economically viable.

3.0 Economic Impact Analysis – Review of the Literature and Impact Assessment

3.1 Literature review

While our review of the literature did not identify any study that specifically addressed a world class mega-yacht marina and shipyard facility, there are a number of useful studies of recreational boating in Florida and in St Lucie County. Furthermore, there are a number of studies examining the economic impacts of seaports in Florida. These studies provide useful background information and important metrics relative to economic impacts

The most relevant of the recent studies was G.E.C.'s analysis of the economic impact of the Intracoastal Waterway in St. Lucie County.[2] In the study GEC conducted extensive surveys of recreational boaters and the supporting marine industry in St Lucie County. Using the IMPLAN input/output model GEC estimated the direct and induced economic impacts on St Lucie County's economy from the operation and use of the Intracoastal Waterway.

Table 2 presents a summary of their findings. Recreational boating activities associated with the Intracoastal Waterway contributed over $193,000,000 in total sales to St. Lucie County's economy. This activity supported 1,377 direct jobs in marine-related industries and a total of 2,359 jobs in the County.

[2] G.E.C. (June 2001) Final Report An Economic Analysis of the Districts Waterways in St. Lucie County

The study also provides a wealth of detail concerning recreational boating in the County. Most relevant for this study are the data on larger vessels. St. Lucie County has approximately 10 mega-yachts larger than 55 feet registered in the County.[1] As expected, the larger vessels are used more often and their expenditures per day are much higher than is true for smaller boats.[2]

Table 2. Summary of Economic Impacts of the Intracoastal Waterway in St. Lucie County

Category	Amount
Direct Jobs	1,377
Induced Jobs	982
	========
Total Jobs	2,359
Direct Output	$123
Induced Output	$70
	========
Total Output	$193

GEC developed a profile for marine related businesses in St. Lucie County. Most of them are located along the waterway or adjacent to it. The largest class provides various types of services to boaters, followed by retail trade and manufacturing. These businesses report that 95% of their sales are related to maritime use.

The GEC study provides important perspective on the impact that may occur from the Master Plan. First, the study provides a sense of scale. Second, the GEC study demonstrates that the County has an important, viable, marine-based industry already. Therefore, an expansion of the direct business related to maritime activities, such as that anticipated under the Master Plan, has the local infrastructure and industry-base to capitalize on the downstream, or multiplier, impacts associated with new facilities.

[1] GEC, Op. Cit., page 11
[2] GEC, Op. Cit., pages 45 and 49

Most of Florida's seaports have conducted economic impact assessments recently. The most relevant of these are the ones recently generated for other near-by seaports on Florida's east coast, Everglades, Canaveral and Jacksonville. Although each of these is much larger than Fort Pierce, and each provides facilities and services not offered at Fort Pierce, the relationships between their port activities and the consequent economic impacts are useful guidelines for this report. Table 3 summarizes the economic impacts of these ports.

Table 3. Summary of Economic Impacts of Florida's East Coast Seaports

Category	Everglades	Canaveral	Jacksonville
Methodology	Input/Output	Input/Output	Input/Output
Direct Jobs	7,736	10,000	26,870
Induced Jobs	7,264	6,000	18,202
	========	========	========
Total Jobs	15,000	16,000	45,072
Direct Output ($millions)	$707	$286	$801
Induced Output ($millions)	$643	$178	$499
	========	========	========
Total Output ($millions)	$1,350	$464	$1,300

In examining their economic impacts each of the other three seaports utilized input/output methodologies. The GEC study also employed an input/output methodology. Essentially, the input/output method estimates the total impacts of an economic activity on the area's economy in three steps.

First, the direct effects of the seaports are measured. These direct effects are then analyzed to determine how much of the activity creates local spending and employment. For example, one measure of port activity is tons of cargo moved.

Some of the economic impact is localized, such as spending for labor and direct supplies. However some of the impact "leaks" out of the area in the form of outside contractors, equipment, and supplies purchased from outside the local economy. Thus, the second step involves measuring this leakage. Third, the local component of the economic activity will generate additional spending and employment in the local economy as port employees spend their earnings and as port purveyors purchase inputs and supplies locally.[5]

These seaports are very large economic engines generating thousands of jobs and millions of dollars of local economic output and expenditures. The range and scope of economic impacts varies significantly across the ports depending upon their mix of business. Table 4 provides a summary of port activities for the three large comparable ports and presents related data for the Port of Fort Pierce.

Port Everglades provides a wide range of port services including cruise ships, containers, and bulk materials, particularly petroleum products. Jacksonville is exclusively a commercial port with no cruise ship activity. The port specializes in vehicle imports and containers. By contrast, Port Canaveral has a very large cruise ship business with a much smaller commercial component. Finally, Fort Pierce is a relatively small commercial port.

Table 4. Summary of Seaport Activity for Fort Pierce, Everglades, Canaveral and Jacksonville

Category	Everglades	Canaveral	Jacksonville	Ft. Pierce
Total Trade ($Millions)	10,450	557	10,614	29
Total Tons (Millions)	23.7	4.6	18	0.1
Containers (TUFS)	621,421		698,903	-
		915		
Cruise Passengers	3,072,343	3,593,343	-	-

[5] See GEC Op. Cit. pages 2-56-57 for an excellent discussion and application of the input/output methodology.

There are a number of other studies reviewed in developing this research. Among them the most relevant were those recently prepared for the Broward County Economic Development Council in 1995 and 1997.[7] These studies conducted surveys of 720 marine-related businesses in the County of which 240 were completed and useable. Using the RIMS II input/output model the study concluded that Broward County's recreational marine industry generated total sales of more than $3 billion with 94,571 total jobs supported by the industry. There is no doubt that the recreational boating industry produces very large and important economic impacts.

Finally, of particular relevance to this study is the analysis of tourist boats in Florida.[8] Although this 1991 analysis is a bit dated, it provides direct survey-based data on the expenditures of 31 luxury vessels visiting Florida. The study results are summarized in Table 5 below. The vessels stayed an average of six months in Florida. Together they spent $7,162,000 during their stay for an average of $231,032 in 1991 dollars. Allowing for inflation this total would be $319,803 today. Based on an input/output analysis using RIMS II the study determined that these vessels supported 165 jobs on a full time equivalent basis during their stay in Florida waters.

Table 5. Summary of Results
Economic Impact of 31 Luxury Vessels Visiting Florida in 1991

Category	Direct	Total	Jobs
Expenditures	$7,162,000	$10,325,250	165
Per Vessel	$231,032	$333,073	5.32
Per Vessel $2002	$319,803	$461,050	5.32

[7] Broward Economic Development Council (June 1995 and 1997). The Economic Impact of the Recreational Marine Industry.
[8] Broward Economic Development Council (1991). The Report on Preliminary Results of the Study to Estimate Local Spending and Economic Impact of Tourist Boats in Florida.

3.2 Methodology to estimate the economic impacts of the Master Plan

As noted previously, all of the relevant studies of the economic impacts of maritime activities used some form of input/output modeling[9]. The input/output approach allows for the quantification of the total economic impacts flowing from the direct effects of a particular economic activity, such as recreational boating, or from a specific facility, like a seaport. Input/output models based on general equilibrium analysis wherein the model tracks the economic transactions among various industries that ultimately results in consumer goods and services. The approach allows for the detailed tracing on inter-industry relationships.

Fundamentally, the concept is based on the idea that in every transaction there is both a purchaser and a producer. A purchase by one merchant from a wholesaler is viewed as a sale by the wholesaler. In turn the wholesaler purchases products from various manufacturers who in turn make those sales. Each manufacturer must purchase supplies and materials. In each round of transactions there is need for labor services. The input/output model generates a matrix that captures these complex interactions with a series of mathematical formula.

There are three basic input/output models that are routinely used by analysts of maritime activities, (a) Implan, (b) RIMS II, and (c) MARAD. Each of these is described briefly below.

IMPLAN is a regional input/output model originally developed by the U.S. Department of Agriculture, Department of Interior, the Federal Emergency Management Agency, and the University of Minnesota to assist the Forest Service in its planning activities. IMPLAN is calibrated based on the 1992 U.S. input/output accounts, benchmarked to 1995 income measures expressed in 1997 dollars. The model is a 525-sector matrix that estimates multipliers summarizing the induced economic effects of a direct change in final demand, or in sales. The model estimates sales revenues, income and employment.

[9] See Leontief, Wassily (1941). The Structure of the American Economy, 1919-29. Harvard University Press: Cambridge, Massachusetts.

RIMS II is a regional economic impact model consisting of 531 industrial sectors that was developed by the U.S. Department of Commerce Bureau of Economic Analysis. The model is widely used by the Defense Department and the Congress to measure the regional impacts of national programs. Like IMPLAN, RIMS II is based on the 1992 national input/output accounts. RIMS II adjusts the national coefficients using local area data on wages and employment to create locally tailored models. RIMS II measures economic impacts in terms of employment, earnings, and output (total sales).

MARAD is a model developed by the U.S. Department of Transportation, Maritime Administration in conjunction with Strauss-Wieder, Inc. and Rutgers University. The model is distributed under the name Pro Kit, and it is specifically designed to analyze the economic impacts of seaports. The model consists of a 30-sector input/output model calibrated for 100 metropolitan areas in the U.S. Since the model is focused on seaports, it provides economic impacts for container movements, bulk transport of liquids and dry materials, auto transport, break bulk, project cargo, ferry operations, and cruise ships.

Each of these three models was evaluated for use in this study, and each has merit. The MARAD model is the most focused on seaports. Unfortunately, MARAD is not calibrated for, nor does it handle well, recreational boating activities. Furthermore, the model cannot evaluate the impacts of shipyard activities. Therefore, it was eliminated from consideration.

IMPLAN is an excellent input/output model with sufficient breadth to analyze the activities envisioned in the Master Plan. However, it is our experience that IMPLAN is awkward to use and it is not well calibrated to the specific conditions in Florida.

By contrast, RIMS II is easy to use, and it is very well calibrated to conditions in Florida. Therefore, RIMS II was used here.

3.3 Economic Impacts of the Master Plan

There are three basic steps to estimate the economic impacts of the Master Plan using RIMS II.

(1) Determine the direct economic effects by measuring the dollar volume of final sales generated by the shipyard and marina

(2) Estimate the percentage of direct sales that leak out of the local area economy and thereby do not create additional rounds of spending. Deduct this leakage from the estimates of direct sales

(3) Estimate the total economic impacts of the shipyard and marina using the RIMS II multipliers

The direct sales created by the mega-yacht marina and shipyard represent new economic activity for St. Lucie County. These spending streams create jobs, income, and additional economic output for the area. The sales for each of the two components of the Master Plan are estimated separately based on the information provided in the replies to the RFQ

Starting with the marina, the responders to the RFQ projected between 40 and 50 slips at their mega-yacht facilities. The two proposals differed in terms of the vessels that they would accommodate. However, the bulk of the mega-yacht fleet is boats under 150 feet. Boats of this size typically carry a crew of four along with an average passenger load of four. Table 6 summarizes the basic assumptions.

Table 6. Basic Assumptions for the Mega-Yacht Marina

Category	Amount
Marina Slips	45
Average Vessel Length	125
Average Passengers	4
Average Crew	4

Dockage rates vary by season of the year. A review of competitive rate quotes from comparable facilities such as Pier 66 and Bahia Mar, indicate in season rates for mega-yachts of $3 per foot with a rate of $2 per foot in the off season. Occupancy rates are very high for these facilities in season typically 95%-to-100%. Off-season occupancy rates fall to around 25%. These assumptions were used to estimate direct dockage spending for the proposed mega-yacht marina. Mega-yachts also have substantial expenditures for supplies and maintenance during the season. Spending on supplies was projected at 40% above dockage expenditures with maintenance estimated at 75% of spending on supplies. Off-season spending declines precipitously since the yachts are used much less frequently. Table 7 presents the estimates for direct expenditures for the mega-yacht marina.

Table 7. Forecast for Expenditures Generated at the Mega-Yacht Marina

Category	Nov-Apr	May-October	Total
Occupancy	95%	25%	
Ships Direct Purchases			
Per Yacht			
Dockage	$67,500	$45,000	$112,500
Supplies	$94,500	$22,500	$117,000
Maintenance/Services	$70,675	$11,250	$82,125
Passenger Spending	$36,000	$36,000	$72,000
Crew Spending	$7,200	$7,200	$14,400
	==========	==========	==========
Gross Total per yacht	$278,075	$121,950	$398,025
Less Occupancy Loss	$13,804	$91,463	$105,266
Net per yacht	$262,271	$30,488	$292,759
Total Yachts (45)	$11,802,206	$1,371,938	$13,174,144

Total direct spending is estimated at $13,174,144 or $292,759 per vessel per year. This estimate compares favorably to the estimate of $319,803[10] per vessel from the 1991 study of 31 tourist vessels described in Section 3.1.

[10] Adjusted to current dollars. The study estimated spending of $231,032 per vessel in 1991 dollars.

The next step is to estimate the new spending generated by the shipyard. Unfortunately, neither of the proposals received in response to the RFQ contained projections for the annual expenditures or revenues of the shipyard. However, both potential operators have provided estimates of $100,000,000 for their total investment for the marina complex of which $75,000,000 is estimated for the shipyard. Based on this investment total a projected level of annual spending at the shipyard of $150,000,000 was used. In order to generate a return on the investment of $75,000,000 at the shipyard substantial gross revenues are needed, as well as a reasonable profit margin on those sales. For a project of this magnitude and risk a rate of return of 20% is required. This amounts to profits of $15,000,000 per year. The estimated profit margin is projected at 10% with the resulting estimate for gross sales of $150,000,000.

The next step in the methodology involves estimating the amount of spending that quickly leaks out of the local area's economy. The St. Lucie County economy does not produce most of the inputs and supplies that will be consumed at the marina. For example, St. Lucie County has no oil wells or refineries, so 100% of the petroleum products must be imported causing this spending stream to immediately leak out of the area creating few, if any, downstream multiplier effects. Substantial leakage of direct spending is typical of most local areas in Florida. In this study it is estimated that 75% of the direct spending stream leaks quickly from the local area economy leaving 25% of the spending stream to create multiplier effects through respending locally.

Leakage at the shipyard facility is likely to be much higher. The local economy manufactures few of the inputs used in mega-yacht construction. The area has no steel mills, computer fabricators, or coatings manufacturers. Therefore, most of the large volume of spending generated by the shipyard will leak from the area's economy. This study projects that 90% of the spending stream will leak out leaving 10% for respending in the local area.

The estimates of leakage are conservative projections. In this way the economic impacts of the facilities are not overestimated. Also, as noted below, these estimates for total shipyard sales of $150,000,000 result in estimated direct employment of 300 at the shipyard and a total of 414 direct jobs for the marina and shipyard combined. This total of just over 400 direct jobs is consistent with the estimates for direct employment recently provided by Haskell.[11]

[11] FS Constructors estimates 400 direct jobs for the Haskell of a proposal.

Based on the projections for total spending and the leakage from the spending stream, the RIMS II input/output model is used to project the total economic impacts of the Master Plan in terms of economic output (total local sales) and employment. The projections are provided in Table 8. The marina operation is projected to generate over $6,500,000 in local economic output and to support more than 200 permanent jobs. The shipyard will generate local output of over $25,000,000 per year, and it will employ 300 directly and support more than 500 total jobs in St. Lucie County. The marine complex will be a substantial economic benefit to St. Lucie County supporting more than 750 jobs and creating over $30,000,000 in total annual economic output.

Table 8. Economic Impacts of the Master Plan
Mega-Yacht Marina and Shipyard at Port of Fort Pierce

Category	Direct	Induced	Total
Output (local only)			
Yachts	$3,293,536	$3,326,471	$6,620,007
Boatyard	$14,250,000	$11,257,500	$25,507,500
	========	========	========
Total	$17,543,536	$14,583,971	$32,127,507
Employment	Direct	Induced	Total
Yachts	114	115	228
Shipyard	300	237	537
	========	========	========
Total	414	352	765