



# Economic Analysis of the District Waterways 2023 Update Final Report Palm Beach

**The Balmoral Group**  
165 Lincoln Ave  
Winter Park, FL 32789



Prepared by:



The Balmoral Group  
Web - [www.balmoralgroup.us](http://www.balmoralgroup.us)

Head Office  
165 Lincoln Avenue  
Winter Park  
Florida, 32789, USA  
Phone 407 629 2185

Sydney Office  
Suite 1, Level 10  
70 Phillip St  
Sydney, NSW, 2000, Australia  
Phone +61 2 9051 2490

Report Authors – Valerie Seidel, Cortney Cortez

Contact  
Valerie Seidel  
President  
407-629-2185  
[vseidel@balmoralgroup.us](mailto:vseidel@balmoralgroup.us)

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Florida Inland Navigational District

Tallahassee Office  
113 S Monroe Street  
Tallahassee  
Florida, 32301, USA  
Phone 850 201 7165

Brisbane Office  
Level 14, 167 Eagle St  
Brisbane NSW 4000  
+61 432 862 714  
Phone +1 407 629 2185

## Executive Summary

The Atlantic Intracoastal Waterway extends over 50 miles in Palm Beach County, entering near Jupiter, FL and extending through Boca Raton. The Florida Inland Navigation District (District) is the state sponsor for Federal navigation projects along the Atlantic Intracoastal Waterway (“the Waterways”). More than \$104 million has been invested in Palm Beach County’s Waterways in the past 34 years, generating significant economic impact.

This report provides an estimate of the economic impact of the Florida Inland Navigation District (District)’s navigation projects in Palm Beach County as of March 2023. Continued investments and ongoing operations of the waterway benefit the public, marine businesses and recreational users, the twelve-member counties, and other government agencies. To estimate total benefits, a series of impacts were evaluated:

1. Spending by recreational boaters and their effects on local businesses and wage creation
2. Spending by tourists, both Floridians and out-of-state visitors
3. Proximity effects of the Waterways on real estate
4. Spending in specialty sectors which include yacht services, boat building, waterway maintenance activities and commercial fish landings.

The indirect and induced economic impacts generated from each of the spending effects were estimated using IMPLAN, an econometric modelling application that generates regional economic impact multipliers. **Table 1** provides a summary of the economic impacts:

**Table 1. Estimated Economic Impacts of District Waterways in Palm Beach County**

Impact Type	Employment	Labor Income	Value Added (in Millions \$)	Output
Local recreational boaters	4,735	\$165	\$330	\$488
Floridian Tourists	1,169	\$43	\$78	\$118
Out-of-state Tourists	17,887	\$666	\$1,158	\$1,756
Specialty Sectors	532	\$37	\$50	\$123
<b>Total Annual Impacts</b>	<b>24,323</b>	<b>\$911</b>	<b>\$1,616</b>	<b>\$2,485</b>
<b>Property Value Impacts, annualized**</b>				<b>\$132</b>
<b>Estimated Annual Economic Impacts including Property Amenity Values</b>				<b>\$2,617</b>

\*The total contribution of the Waterways to 2022 property values of \$2.2 billion, was annualized at 6% discount rate and this annual value is \$132 million (not annualized). Source: TBG Work Product, published FWC data, and Palm Beach County Property Appraiser data

Property amenity values are estimated at \$37.4 billion, out of the county’s total reported Just Value of \$404.4 billion, broken down as shown in **Table 2**. Premiums extend to tributaries that connect to the ICW; more than 5900 single family homes are located on tributaries, and over 80,000 multi-family units.

**Table 2. Estimated Property Value Premiums**

	Waterfront to ICW	Non-Waterfront	Tributary frontage/ Access to ICW
<b>Premium % of Market Value</b>	40%	4 – 23%	32%
<b>Estimated Premium (in Millions \$)</b>	\$7,837	\$9,167	\$5,735

Source: TBG Work Product

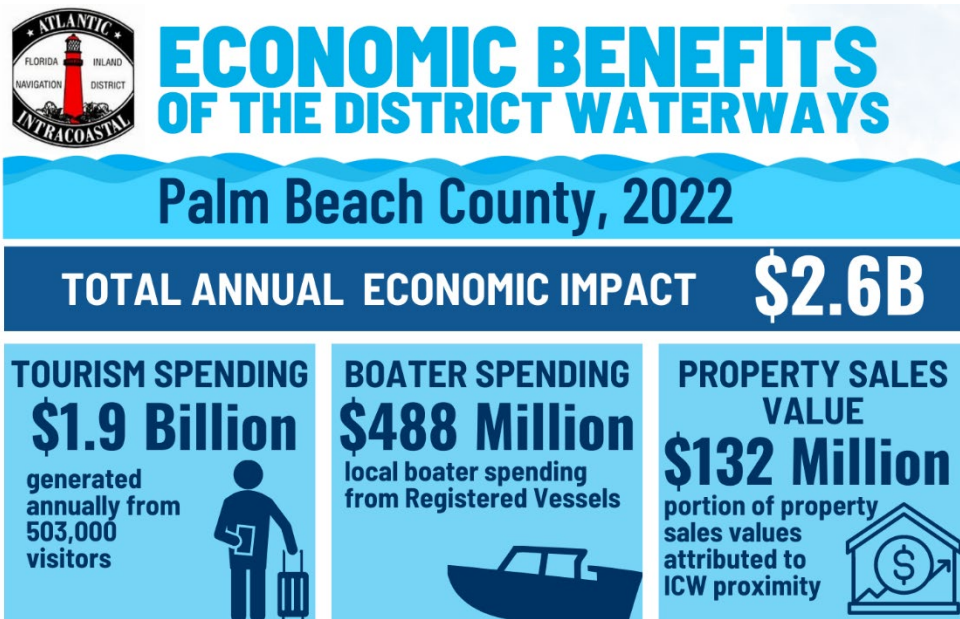
The economic benefits of district activities include the generation of tax revenues for local, state and federal governments. **Table 3** provides a breakdown of calculated tax impacts totalling about \$400 million in annual revenues.

**Table 3. Estimated Tax Revenues of District Waterways in Palm Beach County**

Impact Type	State & Local	Federal	Total
	(In millions \$)		
<b>Local recreational boaters</b>	\$39.47	\$49.93	\$89.39
<b>Floridian Tourists</b>	\$7.85	\$10.70	\$18.55
<b>Out-of-state Tourists</b>	\$118.93	\$163.61	\$282.55
<b>Specialized Sectors</b>	\$2.27	\$7.28	\$9.55
<b>Total Annual Impacts</b>	<b>\$168.52</b>	<b>\$231.52</b>	<b>\$400.04</b>

Source: TBG Work Product, IMPLAN

Finally, a series of benchmarks to assist local marine resource managers were compiled. The metrics capture trends in the number of boat registrations, available boat slips, etc. to understand whether marine assets can be better utilized or where resource allocation may be improved. The metrics are provided in the final section of the report, and provide a baseline for evaluation of trends going forward.



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## Introduction

The Balmoral Group was retained to estimate the economic impact of District investments in Palm Beach County. The District operates four main programs:

- the Long Range Dredged Material Management, which provides a permanent infrastructure of land for perpetual management of the Waterways;
- the Waterways Assistance Program, which provides cost share resources for various improvements such as public access, public safety, and inlet management;
- the Cooperative Assistance Program, which leverages Federal, State and Regional resources to implement Waterways improvements, and
- A Public Information Program.

To ensure continued public support and investment, the District requires accurate, current estimates quantifying the economic value of the District's continued maintenance and investment in the Waterways. The information is used to explain the importance of investment and operations to the public, marine businesses and recreational users, and other government agencies. To achieve its objectives, the report contained herein includes the following sections:

- I. Surveys and interviews of the commercial businesses and recreational users of the Waterways and a determination of the direct impact of these concerns;
- II. Specific economic impacts of specialty sectors, including the high-end yacht servicing market;
- III. The value of properties influenced by the Waterways, and the specific amenity value of proximity to the Waterway;
- IV. The total economic impact of the Waterways, including indirect and induced impacts associated with sales, income, employment, and taxes, using an input-output model;
- V. The generation of tax revenues for local, state and federal governments;
- VI. The changes to the District's economic impact under an increased maintenance scenario; and
- VII. Metrics that have been identified as meaningful for tracking the impact of marine industry activity.

## I. Direct impacts of commercial businesses and recreational users of the Waterways

### Recreational Users

To estimate the spending of recreational users of the Waterways, and their impact on commercial businesses through spending, surveys were conducted of Florida boat owners and visitors to Florida who indicated that they used a boat in Palm Beach County during the prior 12-month period.

#### Local/Florida Boat Owners

The survey of local boat owners relied on boater registration data. The survey data obtained from Florida-registered recreational boaters was used to estimate spending. Spending varied by boat size, with the highest average spending reported by owners of the largest boats, exceeding 40'<sup>1</sup>. **Table 4** shows a breakdown of reported annual expenditures by boat size.

**Table 4. Florida Recreational Boater Spending Categories by Boat Size, Palm Beach County**

	Less than 16'	16' to less than 26'	26' or greater
<b>Overall annual expenditure</b>	\$15,004	\$20,124	\$20,705
<b>Share of total expenditure</b>	13%	56%	31%
<b>Annual Costs:</b>			
<b>Storage</b>	\$346	\$507	\$3,647
<b>Maintenance</b>	\$595	\$1,334	\$7,717
<b>Insurance</b>	\$357	\$612	\$2,599
<b>Trip Costs on the ICW:</b>			
<b>Gas/Fuel</b>	\$2,942	\$3,282	\$11,850
<b>Food</b>	\$3,086	\$3,577	\$3,433
<b>Bait</b>	\$1,489	\$1,647	\$1,009
<b>Other</b>	\$237	\$245	\$1,345
<b>Trip Costs off the ICW:</b>			
<b>Gas/Fuel</b>	\$2,276	\$2,520	\$12,292
<b>Food</b>	\$2,030	\$2,251	\$2,262
<b>Bait</b>	\$991	\$1,115	\$1,298
<b>Other</b>	\$188	\$195	\$437

<sup>1</sup> A high degree of correlation existed between storage and maintenance costs, indicating some respondents may have answered the questions as related, rather than independent costs. Both coefficients were statistically significant at the 1% and 5% level, respectively, and considered valid.



## Tourism

Tourists who use the Waterways also contribute to the economic impact of the maintenance of the Waterways. A 2017 survey of more than 6,000 visitors to Florida from across the US found that 12% identified Palm Beach County as a destination they had visited at least once in the last 12 months to participate in saltwater boating activities.<sup>2</sup> Visit Florida provided data indicating that in 2022 (the most recent data available), 137.6 million tourists visited Florida, with 8.1 million visitors to Palm beach County. Of those, 6% would generate an estimate of 502,961 Waterway-specific visitors. Given that in Palm Beach County the vast majority of access to saltwater is via the Intracoastal Waterway, this number was used as a proxy for tourists that were Waterway users.

The average visitor respondent reported spending approximately \$2,692 annually. Visitors who indicated saltwater boating activities as their primary activity spent \$572 over the average tourist. Because the DEP survey captured all outdoor recreational activity, only the marginal expenditure of \$572 can be attributed solely to saltwater boating. The share of expenditures on fuel, food and other categories is shown in **Table 5**.

**Table 5. Breakdown of Tourist Spending on Recreational Boating, Palm Beach County**

Item	All FL visitors	Out of state visitors
Food, Restaurants	\$92	\$887
Transportation & Lodging	\$101	\$828
Fees & Recurring expenses	\$222	\$523
Specialized Gear or Equipment	\$185	\$482
<b>Total</b>	<b>\$601</b>	<b>\$2,719</b>

Source: TBG Work Product, Surveys, FDEP

Total spending from tourists’ activities aggregates to \$150 million annually. Based on tourist tax revenue data from Florida Department of Revenue, this approximates just under 20% of total tourism revenue in the County.

## II. Specialty Sectors

Recreational boaters are by far the greatest users of the Waterways, and the spending by local (Palm Beach County) and visiting boaters accounts for a substantial portion of the economic impact. There are other sectors that are not accounted for through either source, either because they are outside the normal regional input-output multipliers accounted for in regional flows, or because the entities generating the impact are not captured by traditional survey methods for locals or tourists. For purposes of economic impact modeling these are referred to as “hidden sectors.”

<sup>2</sup> DEP/Balmoral Group. 2017 Survey of Florida Outdoor Recreation

In the case of Palm Beach County, there are at least two sources of hidden sector economic impacts:

- The luxury yacht market that produces substantial employment and value added to the local economy, but generates half of its revenue from foreign customers and is located in the Foreign Trade Zone. As a result, the customer base would not have been participants in the recreational boater survey, and its revenues are not included in state reports compiling sales by county.
- The dredging expenses themselves are outside the normal trade flows that would be generated by recreational boater spending.
- Commercial Spending

## Luxury Yachts

The luxury yacht market is epitomized by local businesses such as Safe Harbor Rybovich, which provides premium service to yachts. Its customer base is 50% foreign, about 15% Florida residents, and about 35% other U.S. residents. Rybovich services yachts of all lengths but its primary focus is on yachts in the 150-175-foot length range. Current facilities allow for servicing of multiple boats up to 390 feet long (**Figure 1**).

**Figure 1. Aerial View of the Safe Harbor Rybovich Yacht Marina**



Source: Rybovich Boat Co.

Under current conditions, Rybovich services about 250 boats annually. Servicing on large yachts includes annual maintenance which generally takes 7-10 days, 5-year service which takes 3-4 weeks, and damage repairs or major retrofits which can take 6 months and cost \$500,000-\$750,000. Yacht crews stay onsite

during the service, and are provided with luxury amenities including a premium gym, pool, spa, internet gaming rooms, coffee shops, pool bars and cabanas. 600 crew are on property during peak times. Larger boats require larger crews: a 225' boat will have 22-25 crew members while a 390' boat will have 60.

Rybovich employs about 225 staff at a given time, with an additional 400 contractors on site. Due to the customized nature of its work, there are few competitors, with Georgia, Rhode Island and Virginia providers cited as primary domestic competition. While direct competition is sparse, several smaller outfits complement Rybovich's offerings for the lower end of the yacht sizes. There are over 300 people employed in the yacht servicing industries supporting an estimated output of \$83 million.

### Expenditures by Florida Inland Navigation District and Army Corps of Engineers

Dredging and other maintenance expenses for the Intracoastal Waterway occur sporadically and are federally and state funded. Local support and coordination are managed by the District, which also implements a Dredged Material Management Plan. While local efforts would be embedded in regional trade flows, federal transfers to the private sector on a sporadic basis would not be picked up by recreational boating activity.<sup>3</sup> Accordingly, for Palm Beach County, \$510,643 in annualized average costs of dredging from FIND and the US Army Corps of Engineers (USACE); additionally, FIND supports \$2.4 million in annualized average expenditures for funding additional waterway related projects such as new boat ramps, dock extensions and marina expansions from FIND were used as input values. Over the past 34 years, a total of \$16 million has been spent by FIND and USACE on dredging projects; an additional \$81 million has been funded for projects such as new boat ramps, docks, etc. In addition to the ICW-related dredging, data from Taylor Engineering shows that \$34 million has funded dredging for the Palm Beach Harbor.

### Commercial Fishing

Commercial fisheries impact the economic sector differently than any of the listed categories. Using the value of all Commercial Landings in Palm Beach County in 2022, the industry contributes spending of \$2.5 million. Top species landed in Palm Beach County include King Mackerel, Spiny Lobster, and Swordfish.

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<sup>3</sup> Activities relating to the Ports sector, which includes support for transportation and harbor activities, was manually removed from multiplier effects on recreational boating so as not to improperly attribute Port of Palm Beach cargo support revenues to recreational boating activities.

### III. Property Values

Property values associated with the Intracoastal Waterways were compiled for contextual analysis. Market values for the more than 850 Palm Beach County properties directly fronting the ICW total more than \$2.9 billion, of which nearly \$2.7 billion was generated by residences fronting the ICW in 2022. Commercial properties add another \$19.5 billion. **Table 6** provides a breakdown of the property values of properties fronting the ICW by property type.

**Table 6. ICW-Fronting Property Value by Property Type, Palm Beach County**

DOR Category	Count	Average Just Value (In dollars)	Total Just Value (In Millions \$)
<b>Commercial</b>	1	\$19,542,581	\$19.5
<b>Government</b>	8	\$7,601,374	\$60.8
<b>Industrial/ Institutional</b>	0	0	\$0
<b>Miscellaneous/Vacant</b>	26	\$4,325,566	\$112.5
<b>Residential – Multifamily/Condo</b>	575	\$972,743	\$559.3
<b>Residential - Single Family</b>	249	\$8,660,398	\$2,156
<b>Totals</b>	859	\$3,386,012	\$2,909

Source: Palm Beach County Property Appraiser, Florida Department of Revenue

#### Amenity Values of the Waterways

The premium associated with proximity to the ICW is substantial. Properties have value regardless of their location. Economic valuations that assess the value of specific attributes – in this case, proximity to the Waterways - are known as hedonic models. Hedonic modeling involves using regression analysis to hold constant variables that affect housing prices – such as number of bedrooms or bathrooms, square footage, whether a property has a swimming pool, etc. In doing so, it is possible to statistically measure the value of “amenities,” such as proximity to beach access, a popular park, or “disamenities,” such as a landfill.

The value of proximity to the ICW can be quantified by comparing the value of properties close to the ICW with properties that are not in proximity. Palm Beach County records show that residential properties overall average \$723,000 in market value, based on sales during the past 24 months. By comparison, properties that are within one mile of the ICW average \$2,107,000. Removing beach premium reduces nearby property values to \$1,093,000. **Table 7** provides details.

**Table 7. Single Family Residential Property Sales in 2022 and ICW proximity, Palm Beach County**

Distance	Count	Average Sale Price	Total Property Sales, in millions \$
<b>Palm Beach County overall</b>	55,307	\$722,901	\$39,981
<b>Within 1 Mile of the Intracoastal Beach Front</b>	7,397	\$2,106,938	\$15,585
<b>Within 1 mile, not Beachfront</b>	101	\$23,848,306	\$2,409
<b>Within 500 Meters of the Beach</b>	7,296	\$1,805,968	\$13,176
<b>W/in 1 mile, not in Proximity to Beach</b>	910	\$7,129,311	\$6,488
	4,094	\$1,092,531	\$4,473

Source: TBG Work Product, Palm Beach County Property Appraiser, Florida Department of Revenue

Published research by The Balmoral Group and others has found that proximity to waterways adds a premium to property values at distances of up to 1,500 meters (0.93 miles or 4,921 feet). Hedonic modeling found that the real estate premium value enjoyed by Palm Beach County that is specifically attributable to ICW frontage or proximity totaled \$23 billion for single family residences in 2022.

The coefficient for frontage location, on the Intracoastal Waterway, accounts for more than 40% market value for properties fronting the Waterways and 18% of values for properties within 1500 meters of the Waterways. This is significant, as Palm Beach County boasts some of the most expensive properties in the country. Few counties rival Palm Beach for this level of real estate value.

Of the total \$37 billion in property values over the 24-month period covering calendar years 2021 and 2022, approximately \$23 billion in value related to waterfront homes. Of the \$23 billion, about \$7.8 billion in value was attributable solely to ICW frontage, holding other factors constant such as size, number of bedrooms/bathrooms/garages and age.

Palm Beach County boasts more than 80,000 residences along the Waterways that are not single-family units. Using similar share of sales price as indicative of proximity premiums, the amenity value attributable to Waterway proximity for condominiums totals \$2.3 billion for waterfront and an additional \$12 billion for near-Waterway properties, resulting in a total \$37 billion premium associated with the Waterways.

The effects of this premium on the County can be calculated by extrapolating the ICW waterfront coefficient to the entire set of ICW-waterfront properties. **Table 8** provides a breakdown of the premium associated with current waterfront properties that is attributable solely to the Waterways.



**Table 8. Amenity Value of Palm Beach Waterways – in millions of \$**

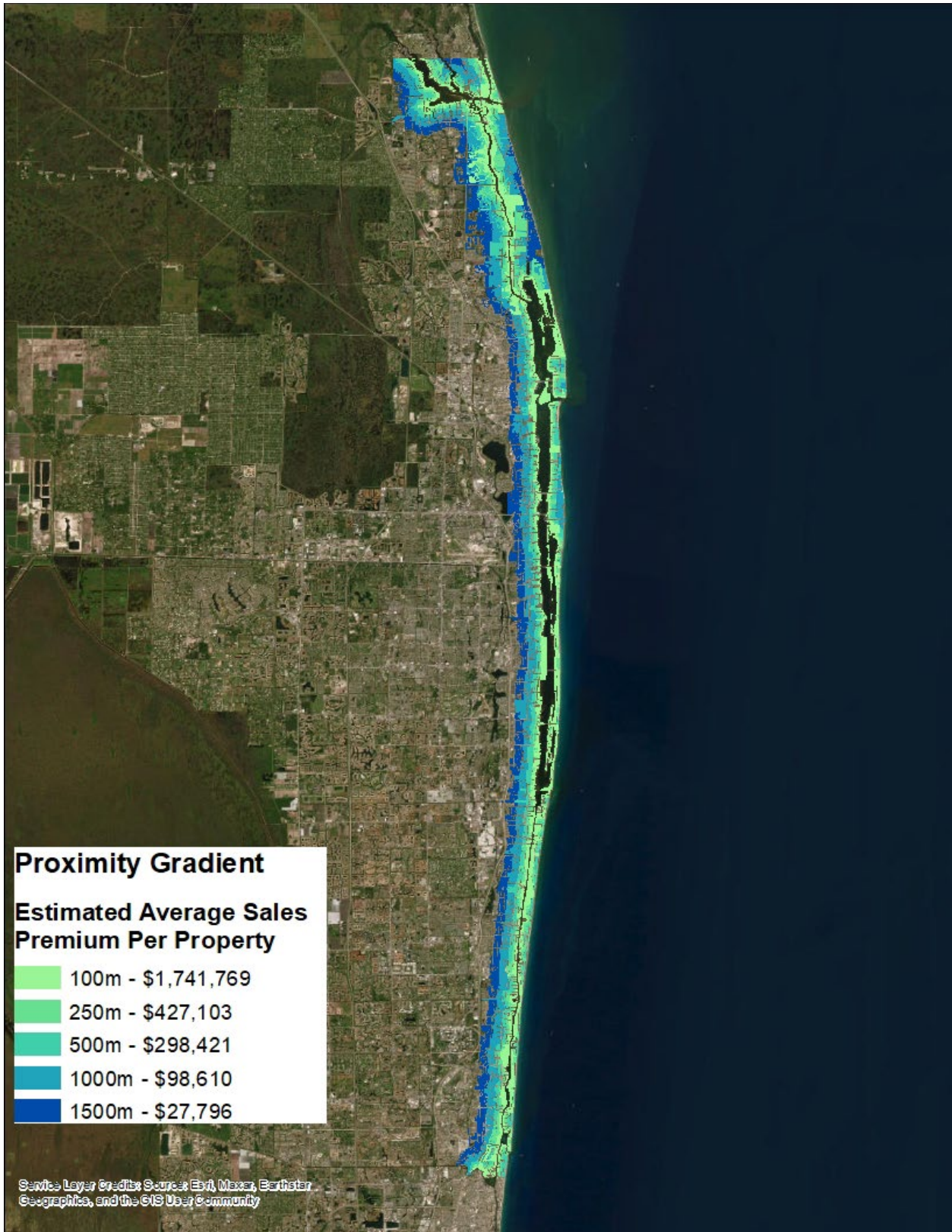
	Water front to ICW	100m (Non-water front)	250m	500m	1000m	1500m	Canal/ Tributary Front/ Access to ICW
<b>Premium % of Sales Price</b>	40%	23%	21%	18%	13%	4%	32%
<b>Waterway Amenity Value Single Family Residences</b>	\$7,837	\$1,345	\$2,851	\$2,918	\$1,748	\$305	\$5,735
<b>Waterway Amenity Value Multi-Family/Condos</b>	\$2,307	\$4,946	\$2,561	\$2,448	\$1,965	\$436	\$0
<b>Total Waterway Amenity Value</b>	\$10,145	\$6,291	\$5,412	\$5,366	\$3,712	\$741	\$5,735

Source: TBG Work Product, Palm Beach County Property Appraiser, Florida Department of Revenue

Figure 2 illustrates the proximity effect on property values for a selected stretch of the waterway. The legend shows the decline in property values that is reflected in each successive distance gradient from the Waterway.



Figure 2. Average Premium for All Parcels Within 1,500m of the ICW, Palm Beach County



Source: TBG Work Product, Palm Beach County Property Appraiser, Florida Department of Revenue

## IV. Total Economic Impact of the Waterways in Palm Beach County

To estimate the overall economic impacts associated with the Waterways, The Balmoral Group used IMPLAN®, an econometric modelling application that generates regional economic impact multipliers. **Figure 3** describes how economic impact models, such as IMPLAN®, translates the investment in the Waterways (including maintenance dredging) into business spending, employment, earnings, and taxes. To improve the level of public acceptance and appreciation of the I-O model output, The Balmoral Group understands the importance of explaining how economic impact multipliers are selected and applied.

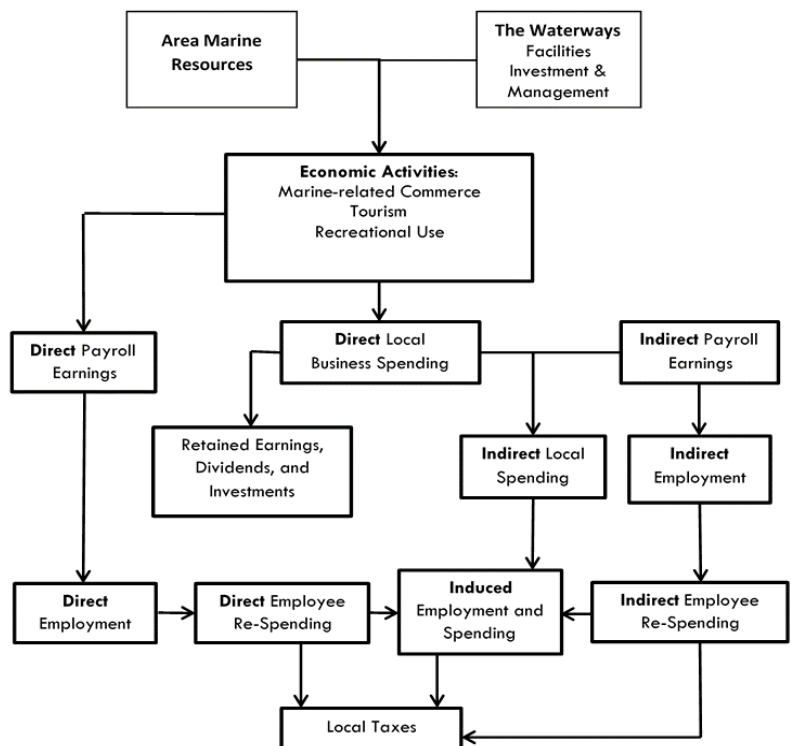
IMPLAN® estimates the flows of supply and demand between and within counties by industry sector, and converts this estimate of cash flows to economic impacts – measured through jobs, revenues, and personal income. An important element of input-output modeling is understanding these flows, and using appropriate data to determine how much of a boat dealer’s stock, for example, was purchased from within the dealer’s county, versus from an adjacent county, or from elsewhere in the region or state. The local purchases generate indirect and induced impacts, while those that leave the area (which is defined by the scope of the analysis – in this case, regional or county) do not. The IMPLAN software calculates the specific margins based on data prepared by the Bureau of Economic Analysis.<sup>4</sup>

The spending associated with recreational boaters and tourists provide direct inputs for IMPLAN modeling, as do the hidden sectors of luxury yacht services and maintenance dredging.

Four IMPLAN models were prepared for the baseline analysis:

1. Recreational boater spending by Palm Beach County residents;
2. Tourist spending by In-State Visitors to Palm Beach County;
3. Tourist spending by Out-of-State Visitors to Palm Beach County; and
4. Business revenues generated by Boat and Ship Building, Dredging Expenditures, Grant Funded Projects, and commercial fishing.

**Figure 3. Input-Output Model for Waterways Economic Impacts**



<sup>4</sup> The Bureau of Economic Analysis falls within the U.S. Department of Commerce.

Regional economic impacts generated by all five are summarized in **Table 9**. In addition to the \$2.5 billion in annual impacts, the estimated impact on property values totals \$132 million annualized. Combined, the impact of the Waterways can be estimated at \$2.6 billion.

**Table 9. Estimated Regional Economic Impacts of the Waterways in Palm Beach County, by Source**

Impact Type	Employment	Direct Effect	Indirect Effect	Induced Effect	Output
			(in Millions \$)		
Local recreational boaters	4,735	\$386	\$102	\$0	\$488
Floridian Tourists	1,169	\$78	\$20	\$20	\$118
Out-of-state Tourists	17,887	\$1,148	\$296	\$311	\$1,756
Specialized sectors	532	\$85	\$24	\$13	\$123
<b>Total Annual Impacts</b>	<b>24,323</b>	<b>\$1,697</b>	<b>\$443</b>	<b>\$345</b>	<b>\$2,485</b>

\*The total contribution of the Waterways to 2022 property values of \$2.2 billion, was annualized at 6% discount rate and this annual value is \$132 million. Source: TBG Work Product from Surveys, FWC data and Palm Beach County Property Appraiser data

**Table 10** shows a breakdown of the spending categories that generate this impact.

**Table 10. Spending by Impact Type**

Impact Type	Total Spending (in Millions \$)
Local recreational boaters	\$471
Floridian Tourists	\$93.6
Out-of-state Tourists	\$1,367
Specialized Sectors	\$85
<b>Total</b>	<b>\$2,016</b>

Source: TBG Work Product

The overall economic impacts are generated by four categories:

1. Local boaters
2. Tourists from Florida
3. Out-of-State tourists
4. Specialized sectors

Each is addressed in turn.

### Recreational Boaters Registered in Palm Beach County

Local boaters generate \$471 million in spending, with total economic contribution of \$488 million, as shown in **Table 11**

**Table 11. Estimated Economic Impacts of Waterways from Resident Boaters – in millions \$**

Impact Type	Employment	Labor Income	Value Added	Output
Direct Effect	4,046	\$131	\$269	\$386
Indirect Effect	689	\$34	\$60	\$102
<b>Total Effect</b>	<b>4,735</b>	<b>\$165</b>	<b>\$330</b>	<b>\$488</b>

Source: TBG Work Product, IMPLAN

Table 12 provides a breakdown of total spending by boat size.

**Table 12. Total Spending from Resident Boaters**

Categories by Size	Total Spending
Boats Less than 16'	\$ 100,315,690
Boats 16' to 26'	\$ 208,995,396
Boats 26' and more	\$ 161,408,876
<b>Total</b>	<b>\$ 470,719,962</b>

Source: TBG Work Product, IMPLAN

### Tourist Spending by In-State Visitors to Palm Beach County

Visitors to Palm Beach County from across the State generate annual spending of \$93.6 million, with total impacts of more than \$118 billion as shown in Table 13.

**Table 13. Estimated Economic Impacts of Waterways, Florida Visitors, Palm Beach County**

Impact Type	Employment	Labor Income	Value Added	Output
Direct Effect	888	\$30	\$54	\$78
Indirect Effect	136	\$7	\$12	\$20
Induced Effect	145	\$7	\$12	\$20
<b>Total Effects</b>	<b>1,169</b>	<b>\$43</b>	<b>\$78</b>	<b>\$118</b>

Source: TBG Work Product, IMPLAN

### Out-of-State Tourists

Tourists from out-of-state generate annual spending of about \$1.4 billion.

To avoid overstating the impact of the Waterways from tourists, regional impacts of heavy freight were adjusted. The Port of Palm Beach includes significant freight and cargo handling which tend to impact industry rather than recreational activity and affect the regional input-output calculations. The coefficients for harbor services were adjusted to remove the direct employment and revenues of the Port itself.

After adjusting the model to reflect spending that leaves the area, known as leakage, the direct effects of out-of-state tourists total about \$1.1 billion. Including indirect and induced effects, the total economic

impact of the Waterways from out-of-state tourists aggregates to total impacts of \$1.8 billion as shown in **Table 14**. The total impacts generate about \$0.69 for each \$1.00 in spending (Overall output of about \$2.016 billion versus spending of approximately \$1.4 billion).

**Table 14. Estimated Economic Impacts of Waterways, Out-of-State Visitors, Palm Beach County**

Impact Type	Employment	Labor Income	Value Added	Output
<b>Direct Effect</b>	13,672	\$460	\$796	\$1,148
<b>Indirect Effect</b>	1,984	\$101	\$176	\$296
<b>Induced Effect</b>	2,232	\$105	\$186	\$311
<b>Total Effects</b>	<b>17,887</b>	<b>\$666</b>	<b>\$1,158</b>	<b>\$1,756</b>

Source: TBG Work Product, IMPLAN

### Specialty Sectors

Business revenues generated by luxury yacht services, dredging costs, and commercial fishing including upgrades to marinas and boat ramps directly total \$83 million including 327 jobs. Cumulative impacts total \$121 million and additional employment effects add up to 526 additional jobs. The breakdown is provided in **Table 16**, with individual impacts discussed within this section.

**Table 15. Estimated Economic Impacts of Waterways in Palm Beach County, Specialized Businesses**

Impact Type	Employment	Labor Income	Value Added	Output
			in millions \$	
<b>Direct Effect</b>	327	\$23	\$25	\$83
<b>Indirect Effect</b>	120	\$10	\$14	\$24
<b>Induced Effect</b>	80	\$5	\$8	\$14
<b>Total Effects</b>	<b>526</b>	<b>\$37</b>	<b>\$48</b>	<b>\$121</b>

Source: TBG Work Product, IMPLAN

### Luxury Yacht Services

Business revenues generated by luxury yacht services directly total \$82 million including 504 jobs. Cumulative impacts total \$119 million and additional employment effects add up to 504 additional jobs. Due to the specialized nature of the employment and the higher wage this demands, the labor income effects per employee are nearly twice that of tourism employment. The breakdown is provided in **Table 16**.



**Table 16. Estimated Economic Impacts of Waterways in Palm Beach County, Yacht Services**

Impact Type	Employment	Labor Income	Value Added in millions \$	Output
Direct Effect	310	\$22.32	\$24.57	\$82.14
Indirect Effect	118	\$9.63	\$14.05	\$23.89
Induced Effect	77	\$4.49	\$8.20	\$13.17
<b>Total Effects</b>	<b>504</b>	<b>\$36.45</b>	<b>\$46.82</b>	<b>\$119.20</b>

Source: TBG Work Product, IMPLAN

### Waterway Maintenance

Dredging costs total approximately \$510,643 annually including 5 jobs. Cumulative impacts total \$790,183. The breakdown is provided in **Table 16**.

**Table 17. Estimated Economic Impacts of Waterways in Palm Beach County, Maintenance Dredging**

Impact Type	Employment	Labor Income	Value Added	Output
Direct Effect	5	\$405,992	\$376,860	\$510,643
Indirect Effect	1	\$41,611	\$52,686	\$89,892
Induced Effect	1	\$64,693	\$118,047	\$189,648
<b>Total Effects</b>	<b>6</b>	<b>\$512,296</b>	<b>\$547,592</b>	<b>\$790,183</b>

Source: TBG Work Product, IMPLAN

### Commercial Fishing

Commercial fisheries impact economic sector differently than any of the listed categories. Using the value of all Commercial Landings in Palm Beach County in 2022, the industry contributes spending of \$1.1 million; however, the vast majority of these expenditures leaves the County. This number is close to that of the ex-vessel values of landings. **Table 18** provides a detailed breakout, showing that direct effects of the spending total about \$753,469.

**Table 18. Estimated Economic Impacts of Waterways in Palm Beach County, Commercial Fishing**

Impact Type	Employment	Labor Income	Value Added	Output
Direct Effect	12.2	\$244,002	\$381,468	\$753,469
Indirect Effect	1.4	\$60,780	\$89,199	\$186,075
Induced Effect	1.7	\$62,219	\$110,373	\$195,387
<b>Total Effects</b>	<b>15.3</b>	<b>\$367,001</b>	<b>\$581,039</b>	<b>\$1,134,929</b>

Source: TBG Work Product, IMPLAN



## V. Tax Revenues

The economic benefits of District maintenance include the generation of tax revenues for local, state and federal governments. **Table 19** and **Table 20** provide a breakdown of calculated tax impacts based on the five different sectors used in this report, showing contribution to various public revenue streams annually from navigable waterways in Palm Beach County. Overall, about \$400 million in annual revenues are generated.

**Table 19. State and Local Tax Revenues from District Waterways, Palm Beach County- in millions \$**

Description	Employee Compensation	Tax on Production and Imports	Households	Corporations	Total Annual Impacts
Local Recreational Boaters	\$0.21	\$37.21	\$1.42	\$0.63	\$39.47
In-State Visitors	\$0.05	\$7.38	\$0.31	\$0.11	\$7.85
Out-of-State Visitors	\$0.71	\$111.83	\$4.81	\$1.58	\$118.93
Specialized Sectors	\$0.01	\$2.20	\$0.03	\$0.03	\$2.27
<b>Total Annual Impacts</b>	<b>\$0.96</b>	<b>\$158.62</b>	<b>\$6.57</b>	<b>\$2.36</b>	<b>\$168.52</b>

Source: TBG Work Product, IMPLAN. \*Note: no local income tax hence \$0.

**Table 20. Federal Tax Revenues from District Waterways, Palm Beach County – in millions \$**

Description	Employee Compensation	Proprietor Income	Tax on Production and Imports	Households	Corporations	Total Annual Impacts
Local Recreational Boaters	\$20.54	\$1.18	\$3.83	\$19.04	\$5.32	\$49.93
In-State Visitors	\$4.54	\$0.26	\$0.76	\$4.19	\$0.96	\$10.70
Out-of-State Visitors	\$70.32	\$3.83	\$11.52	\$64.63	\$13.31	\$163.61
Specialized Sectors	\$4.24	\$0.10	(\$0.54)	\$3.33	\$0.15	\$7.28
<b>Total Annual Impacts</b>	<b>\$99.64</b>	<b>\$5.37</b>	<b>\$15.57</b>	<b>\$91.19</b>	<b>\$19.75</b>	<b>\$231.52</b>

Source: TBG Work Product, IMPLAN

## VI. Changes to the District’s Economic Impact under Increased Maintenance

The economic impact under current conditions assumes continued maintenance of the Waterways, but as funding sources shift over time, other scenarios are possible. Under an increased maintenance scenario, the District’s Dredge Material Management Plan for the Intracoastal Waterway is fully implemented and drafts are accommodated on a continuous basis that accommodate larger boats. With full implementation, drafts are accommodated on a continuous basis that accommodate larger boats. The increase in draft allowance would permit deeper draft vessels to fully utilize the waterways in Palm Beach County.

As an estimate of initial changes in business activity, the improvements in business specific to Palm Beach County that occurred after the cut near Riviera Beach was applied.<sup>5</sup> Specifically, a specialty marina providing custom services

*The increased business volume under the higher state of maintenance is estimated at \$23 million annually, including \$8 million in personal income and 227 jobs in Palm Beach County.*

with a focus on the larger boats that could be accommodated after the cut saw its average nights per yacht in service increase from 56 to 64, with an accordant increase in revenue. This 14% improvement that was generated by the cut is a lower bound of probable total improvements, as additional revenue was likely previously foregone by delays in towing boats from the Port, anchoring for 24 hours, and managing to a 45-minute window daily of sufficient slack water. The improvement benefited only a short stretch of operators.

As a proxy for initial changes in business activity, we can assume that if optimal drafts were maintained for the length of the county, business revenues derived from large boats would likely increase by a comparable amount. Using spending data from the surveys and increasing spending by 14%, the revised spending totals \$184 million, an increase of \$22 million. The total impact after estimating indirect and induced effects is about \$23 million. **Table 21** shows the results by boat size in economic impact.

**Table 21. Estimated Annual Economic Impacts of Higher Maintenance Scenario**

High Maintenance	Employment Effects with High Maintenance	Labor Income Effects with High Maintenance	Value Added Effects with High Maintenance	Output Effects with High Maintenance
<b>Direct Effects</b>	194	\$6	\$13	\$19
<b>Indirect Effects</b>	33	\$2	\$3	\$5
<b>Total Effects</b>	227	\$8	\$16	\$23

Source: TBG Work Product, IMPLAN

<sup>5</sup> A purpose-specific “cut” was completed in Riviera Beach near Peanut Island in Palm Beach County to increase a route for deep draft yachts.

## VII. Metrics

Florida Tax Watch, an independent nonpartisan nonprofit research entity, identified nine key performance indicators to gauge the health of the marine industries in Palm Beach County. The Balmoral Group was asked to assist with compilation of the metrics in the course of the data collection effort for the economic analysis. The following nine metrics were identified:

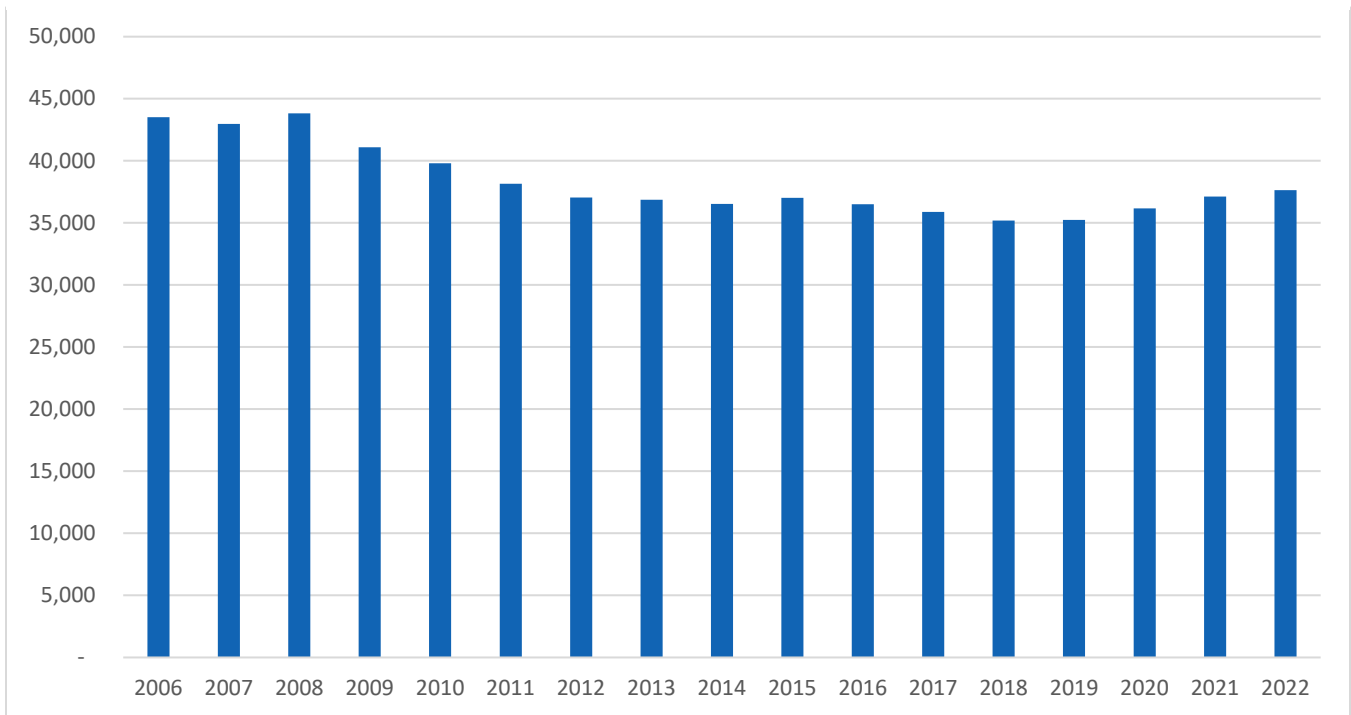
1. Boat registrations in Palm Beach County
2. Inventory of local businesses establishments engaged in marine activities, including marinas, boating, fishing, tours and water sports
3. Taxable sales from marine industry establishments
4. Boat Show attendance/sponsors/exhibitors/sales and comparisons with other boat shows adjusted for differences in market size (annual events)
5. Inventory of local marinas, including number of slips by size category
6. Inventory of boat ramps and available parking for vehicles and trailers and
7. Inventory of boat racks and storage capacity.

Each is addressed in turn.

## Boat Registrations

Boat registration data were received from the Florida Department of Highway Safety and Motor Vehicles' (FHSMV) registration database. The Department pulled all registration records from Palm Beach County up till 2022. There are 38,750 records in the database. **Figure 4** visualizes the vessel registrations in the county, annually.

**Figure 4. Palm Beach County Total Vessel Registrations**



Source: FHSMV

The registrations reflect 97% Pleasure Vessels, and 3% Exempt, Commercial or other Vessels, as shown in **Table 22** with vessel types heavily weighted toward open motorboats. A breakdown of counts by length categories used later in the analysis are shown in **Table 23**.

**Table 22. Breakdown of Palm Beach County Registration Types**

Year	Pleasure	Dealer/Commercial	Total	Annual Change
2006	43,504	1,460	44,964	
2007	42,968	1,448	44,416	-1.2%
2008	43,822	1,472	45,294	2.0%
2009	41,102	1,415	42,517	-6.1%
2010	39,795	1,363	41,158	-3.2%
2011	38,159	1,353	39,512	-4.0%
2012	37,051	1,312	38,363	-2.9%
2013	36,852	1,290	38,142	-0.6%
2014	36,530	1,250	37,780	-0.9%
2015	37,028	1,248	38,276	1.3%
2016	36,493	1,257	37,750	-1.4%
2017	35,880	1,229	37,109	-1.7%
2018	35,191	1,160	36,351	-2.0%
2019	35,245	1,113	36,358	0.0%
2020	36,161	1,161	37,322	2.7%
2021	37,131	1,171	38,302	2.6%
2022	37,638	1,112	38,750	1.2%

Source: FLHSMV

**Table 23. Breakdown of Palm Beach County Vessel Lengths**

Length Group	Pleasure Vessels	Commercial/ Govt/ Other	Total
Under 16'	11,627	165	11,792
16' to 26'	18,694	495	19,189
26' to 40'	6,101	243	6,344
40' to 65'	820	40	860
Greater than 65'	160	11	171
Canoes	236	-	236
Dealers		158	158
<b>Total</b>	<b>37,638</b>	<b>1,112</b>	<b>38,750</b>

Source: FLHSMV

## Business Establishments in Marine Activities

An inventory was prepared of local business establishments engaged in marine activities, including marinas, boating, fishing, tours and water sports. Additionally, employment was estimated for the marine industry and related businesses (manufacturers, repair and service, retailers, and related businesses) located in Palm Beach County.

**Table 24** provides a summary by North American Industry Classification System (NAICS) code of employment and number of establishments in Palm Beach County. Business level data was obtained from the Florida Department of Economic Opportunity for Quarter 2, 2022. The data was sifted through for other businesses that might have been overlooked due to their NAICS code being unobvious such as “Other Household Goods Repair and Maintenance” which included businesses involved in fiberglass work, boatyard maintenance, boat detailing, etc. that was revealed upon reviewing the database. The business level data also provided insight into marine businesses proximity to the waterway. below provides the list.

**Table 24. Local Business Establishments Engaged in Marine Activities, Palm Beach County**

2-Digit NAICS	Description	Businesses	Employment	Total Annual Wages	Avg. Per Employee
11	Agriculture, Fishing, and Hunting	16	35	\$1,787,196	\$51,063
23	Construction	30	193	\$10,342,056	\$53,586
31-33	<i>Manufacturing</i>	47	409	\$24,880,836	\$76,867
42	Wholesale Trade	39	163	\$13,233,156	\$81,185
44-45	<i>Retail Trade</i>	128	596	\$31,649,124	\$89,256
48	Transportation and warehousing	73	603	\$43,267,040	\$71,753
51	Information	**	**	**	**
52	Finance and investing	**	**	**	**
53	Real Estate and Rental and Leasing	9	37	\$2,024,196	\$54,708
54	Professional, Scientific, and Technical Services	32	90	\$6,992,920	\$77,699
55	Management of Companies	**	**	**	**
56	Administrative and Support and Waste Management and Remediation Services	18	15	\$723,372	\$48,225
61	Educational Services	**	**	**	**
71	Arts, Entertainment, and Recreation	79	1090	\$57,222,492	\$52,498
72	Accommodation/Food Services	7	202	\$8,359,932	\$41,386
81	Other Services (Except Public Administration)	81	305	\$14,777,820	\$48,452
99	Unclassified	**	**	**	**
	<b>Total</b>	<b>574</b>	<b>3,792</b>	<b>\$219,122,732</b>	<b>\$57,786</b>

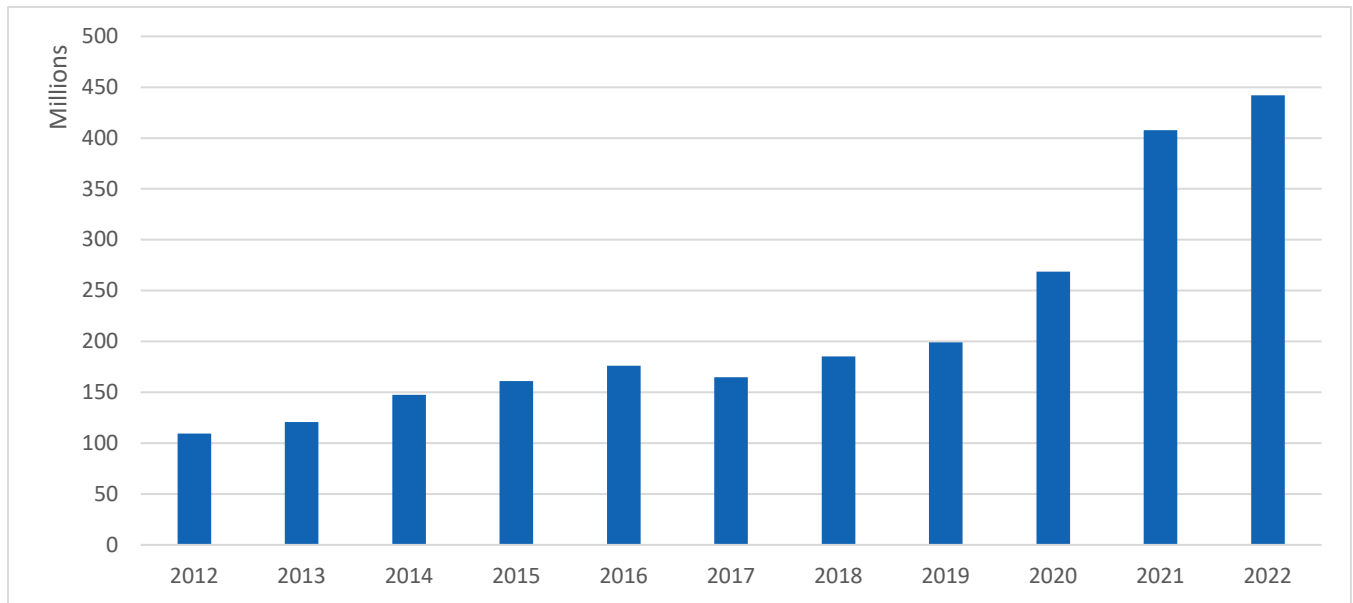
Source: QCEW. Note, the data are obtained from the Florida Department of Economic Opportunity, which compiles the QCEW data quarterly and reports annual averages.



## Taxable Sales from Marine Industry Establishments

Taxable sales were compiled for Palm Beach county boat dealerships (Kind Code 28), as reported by the Florida Department of Revenue. **Figure 5** reflects record boat dealership sales in 2022, which shows exponential growth in sales since 2017 in which sales were exceeding \$150 million; sales are now nearly \$450 million annually.

**Figure 5. Reported Sales, Palm Beach County Boat Dealers**



Source: Florida Department of Revenue

Businesses located directly on the water are presumed to be reliant on their location as a primary driver of their revenues and are of particular importance for generating economic impact.

## Commercial Fish Landings

Landings data for Palm Beach County were obtained from Florida Fish & Wildlife Commission and are provided in **Table 25**.

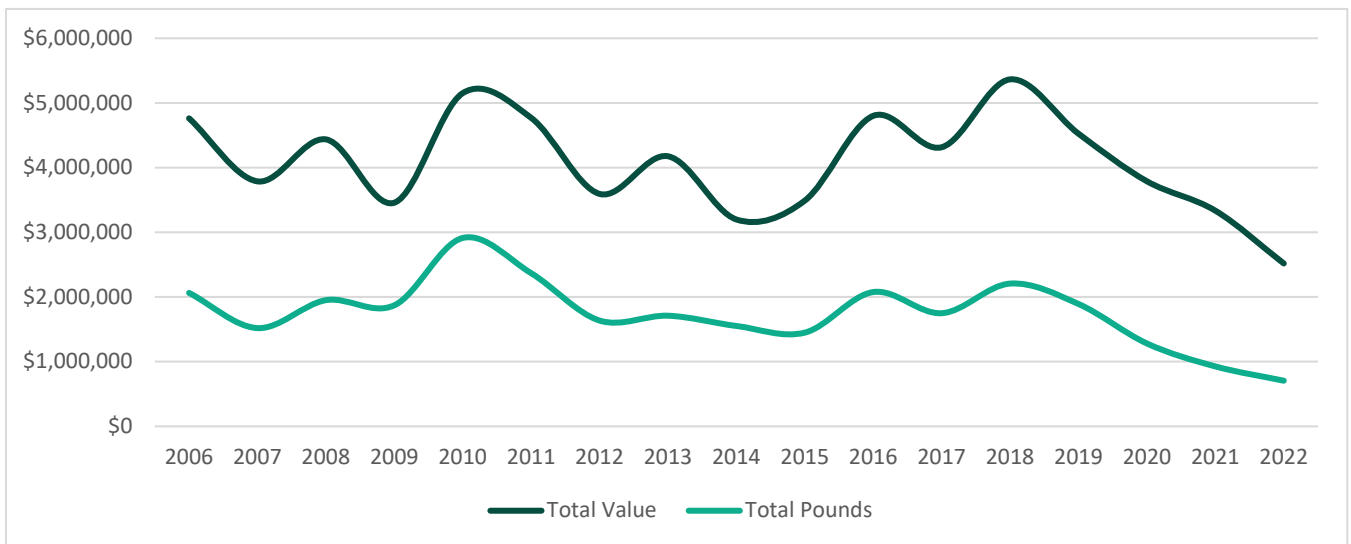
**Table 25. Commercial Fish Landings, Palm Beach County**

Year	Total Value	Total Pounds	Average Price
2006	\$4,762,589	2,063,701	\$2.31
2007	\$3,787,602	1,519,080	\$2.49
2008	\$4,436,986	1,951,195	\$2.27
2009	\$3,458,091	1,871,422	\$1.85
2010	\$5,151,950	2,913,201	\$1.77
2011	\$4,769,713	2,368,185	\$2.01
2012	\$3,593,774	1,635,386	\$2.20
2013	\$4,175,690	1,710,433	\$2.44
2014	\$3,198,293	1,551,948	\$2.06
2015	\$3,490,623	1,449,112	\$2.41
2016	\$4,800,983	2,076,602	\$2.31
2017	\$4,315,293	1,749,344	\$2.47
2018	\$5,364,818	2,207,252	\$2.43
2019	\$4,524,581	1,891,939	\$2.39
2020	\$3,788,906	1,281,073	\$2.96
2021	\$3,334,418	926,681	\$3.60
2022	\$2,518,151	705,526	\$3.57

Source: FWC

**Figure 6** provides a graphic representation of the trends in landings versus value; since 2018, both total value and total pounds landed have declined significantly. However, commercial fish landings exceed \$2.5 million. King Mackerel, Florida Spiny Lobster and Sword fish are the top three species landed in Palm Beach County totaling \$853,000, \$549,000 and \$326,000 caught in 2022 respectively.

**Figure 6. Commercial Fish Landings, by Weight and Value, Palm Beach County**



Source: FWC

## Boat Show Attendance

Media reports indicate that boat show attendance for the Palm Beach International Boat Show was over 55,000 in 2022. Over \$1.05 billion in economic impact was reported, from the numerous industries that support and are supported by the attendees of the show. Over 800 boats were displayed with a total value of over \$1.2 billion.

## Inventory of Boat Ramps and Marinas

An inventory of boat ramps and marinas in Palm Beach county and statewide was obtained from the Florida Boating Access Facilities Inventory and Economic Study (2016).<sup>6</sup> **Table 26** provides a summary of access facilities by use type. **Figure 7** displays a map of all oat ramps and marine facilities in Palm Beach County.

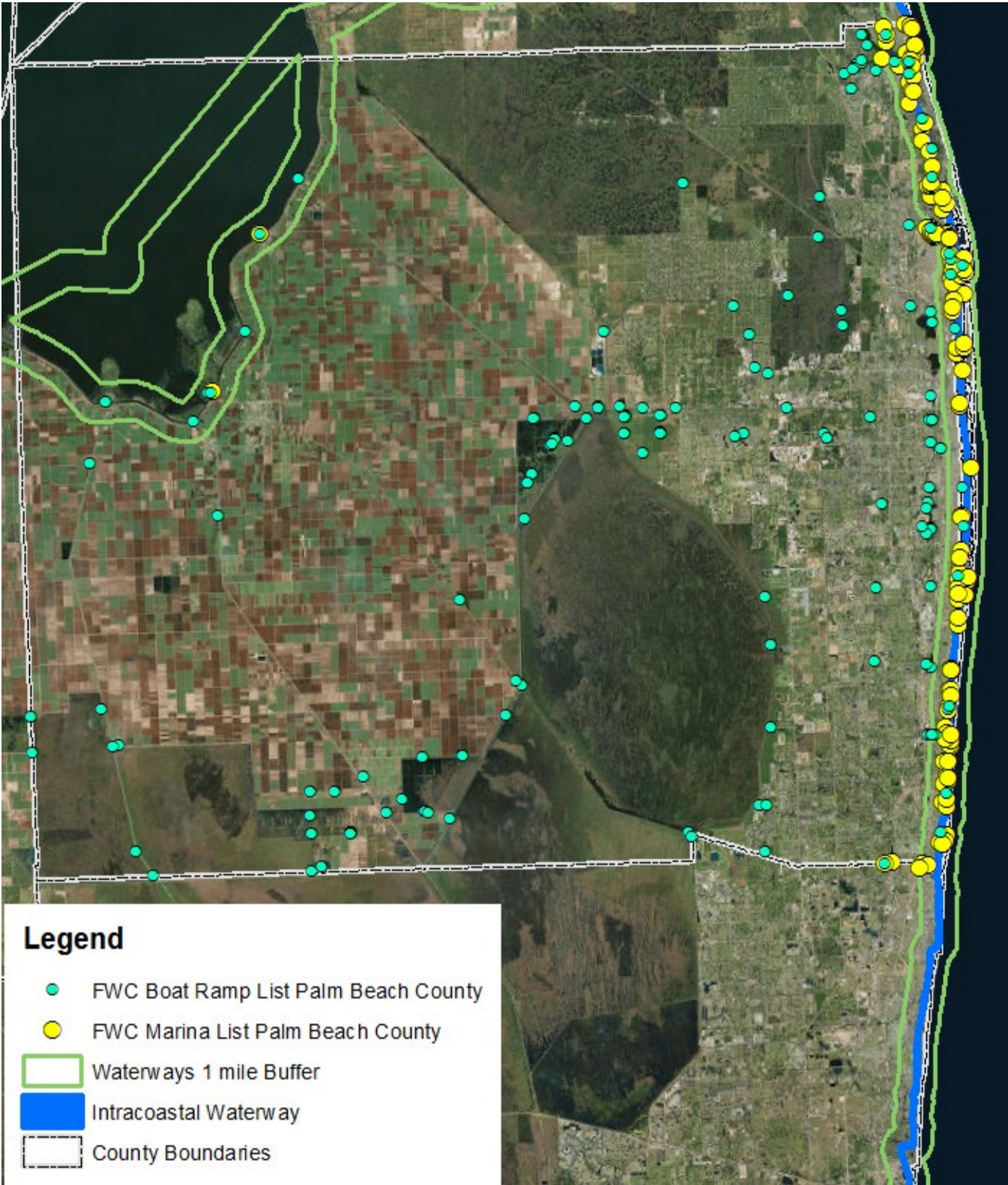
**Table 26. Access Facility by Use Type, All of Palm Beach County**

Type	Facility Access Use Type	Boat Ramp Count	Marina Count	Total Access Facilities
<b>Business Only</b>	Commercial - Business Use Only	1	4	<b>5</b>
<b>Public</b>	Commercial - Public Use	2	43	<b>44</b>
<b>Public</b>	Government - Public Use	45	1	<b>45</b>
<b>Business Only</b>	Government - Business Use Only	82	1	<b>82</b>
<b>Private</b>	Club - Private	1	4	<b>5</b>
<b>Private</b>	Residence - Private	13	2	<b>15</b>
<b>Private</b>	Community Association for Residents - Private	14	100	<b>111</b>
<b>Business Only</b>	Undetermined	1	9	<b>10</b>
<b>Totals</b>		<b>159</b>	<b>164</b>	<b>317*</b>

Source: FWC Boat Ramp Inventory Database, May 2017

<sup>6</sup> The marina inventory database was updated in 2016 although it appears that the data are identical to the 2009 data in the original study. Boat Ramp inventory database was updated May 2017.

Figure 7. Boat Ramps and Marina facilities, Palm Beach County



Source: FWC Boat Ramp Inventory Database, May 2017

## Inventory of Marinas

Palm Beach County has the fifth highest number of marina facilities in the state, and the sixth largest number of slips. All except two marina facilities have direct access to the Intracoastal Waterway. The two without direct ICW access are located along the Okeechobee Waterway. **Table 27** provides a summary of marina facilities with wetslips, and **Table 28** provides a count of marina facilities with wet slips disaggregated by the type of water access.

**Table 27. Detailed Description of Marina Facilities with Wetslips- Palm Beach County**

Use Type	Marina Facility Type	Count	Wet Slips	Rental Slips	Marina Operations Slips
<b>Business Only</b>	Boat Dealer/Repair/Storage	4	17	-	-
<b>Private</b>	Apartment/Multi Family/MH Park	1	-	-	-
<b>Private</b>	Condominium	97	1,304	294	367
<b>Private</b>	Dockominium	1	70	-	-
<b>Private</b>	Other	18	219	190	13
<b>Private</b>	Private Club	4	206	190	16
<b>Private</b>	Private Residential	1	22	22	-
<b>Private</b>	Public owned/Government/Military	2	55	55	-
<b>Public</b>	Commercial Marina	27	1,607	1,188	17
<b>Public</b>	Hotel/Motel/Resort/Camp/RV Park	9	86	69	9
<b>Totals</b>		<b>164</b>	<b>3,586</b>	<b>2,008</b>	<b>422</b>

Source: FWC. Note: Marina Operations Slips is the number of wet slips reserved for marina operations (including marina-owned rental and charter boats).

**Table 28. Count of Marina Facilities with Wetslips by Water Access Type, Palm Beach County**

Water Access	Count
<b>Canal</b>	8
<b>Harbor/Bay/Lagoon</b>	46
<b>Intracoastal Waterway</b>	50
<b>Lake</b>	11
<b>River/Creek/Bayou</b>	49
<b>Total</b>	<b>164</b>

Source: FWC

**Table 29** provides an inventory of marina facilities with dry stack storage. Number of Racks (inside/outside) is the number of racks for boats in the inside of dry stack buildings/outside stacks.



**Table 29. Marina Facilities with Drystack Storage, Palm Beach County**

Marina Facility Type	Count	# of Racks (Inside)	# of Racks (Outside)	# of Additional Planned (Inside)
Apartment/Multi Family/MH Park	0	0	0	0
Boat Dealer/Repair/Storage	0	0	0	0
Commercial Marina	8	931	899	200
Condominium	1	300	0	0
Dockominium	0	0	0	0
Hotel/Motel/Resort/Camp/RV Park	0	0	0	0
Other	1	0	275	0
Private Club	0	0	0	0
Private Residential	0	0	0	0
Public owned/Government/Military	0	0	0	0
<b>Totals</b>	<b>10</b>	<b>1231</b>	<b>1174</b>	<b>200</b>

Source: FWC

### Inventory of Boat Ramps

An inventory of local boat ramps in Palm Beach County was conducted to identify ramps and available parking for vehicles and trailers. **Table 30** and **Table 31** provides the results for all boat ramps within Palm Beach County and a breakdown of parking spaces available. An inventory of ramp type and parking available for ramps within 1 mile of the ICW is summarized in **Table 32**.

**Table 30. Inventory of Boat Ramps for All of Palm Beach County**

Use Type	Description: Ramp Use Type	Count	Trailer	Handicap Trailer	Vehicle	Handicap Vehicle
<b>Business Only</b>	Commercially Owned for Business Use Only	1	-	-	-	-
<b>Business Only</b>	Government Owned for Gov't Business Only	1	22	-	-	-
<b>Business Only</b>	Undetermined	1	-	-	-	-
<b>Private</b>	Community Association for Residents Only	45	41	1	-	-
<b>Private</b>	Private Club	13	-	-	-	-
<b>Private</b>	Single Family Residence	14	-	-	-	-
<b>Public</b>	Commercially Owned for General Public Use	2	54	1	48	-
<b>Public</b>	Government Owned for General Public Use	82	1,306	10	552	38
<b>Total</b>		<b>159</b>	<b>1,423</b>	<b>12</b>	<b>600</b>	<b>38</b>

Source: FWC \*hand launch dataset includes kayak launches



**Table 31. Boat Ramps on Waterways on or connecting to ICW , Palm Beach County**

Use Type	Description: Ramp Use Type	Count	Trailer	Handicap Trailer	Vehicle	Handicap Vehicle
<b>Business Only</b>	Government Owned for Gov't Business Only	18	6	-	-	-
<b>Private</b>	Community Association for Residents Only	11	31	-	-	-
<b>Private</b>	Single Family Residence	13	-	-	-	-
<b>Public</b>	Commercially Owned for General Public Use	2	54	1	48	-
<b>Public</b>	Government Owned for General Public Use	34	1,206	10	416	29
<b>Total</b>		<b>78</b>	<b>1,297</b>	<b>11</b>	<b>464</b>	<b>29</b>

Source: TBG Work Product, FWC \*hand launch dataset includes kayak launches

**Table 32. Inventory of Boat Ramps within 1 Mile of Intracoastal, Palm Beach County**

Use Type	Description: Ramp Use Type	Count	Trailer	Handicap Trailer	Vehicle	Handicap Vehicle
<b>Business Only</b>	Government Owned for Gov't Business Only	2	-	-	-	-
<b>Private</b>	Community Association for Residents Only	1	-	-	-	-
<b>Private</b>	Single Family Residence	1	-	-	-	-
<b>Public</b>	Commercially Owned for General Public Use	1	49	1	48	-
<b>Public</b>	Government Owned for General Public Use	22	1,044	8	325	20
<b>Total</b>		<b>27</b>	<b>1,093</b>	<b>9</b>	<b>373</b>	<b>20</b>

Source: TBG Work Product, FWC \*hand launch dataset includes kayak launches

**Table 33** shows an inventory of total ramp lanes for Boat Ramps either on Waterway or Connecting to Waterway.

**Table 33. Total Ramp Lanes by Use Type and Distance to ICW, Palm Beach County**

Use Type	Description: Ramp Use Type	Connecting to ICW	Within 1 mile of ICW	All of Palm Beach County
<b>Business Only</b>	Commercial - Business Use Only	-	-	1
<b>Business Only</b>	Government - Business Use Only	18	2	86
<b>Business Only</b>	Undetermined	-	-	1
<b>Private</b>	Community Association for Residents - Private	11	1	14
<b>Private</b>	Club - Private	-	-	1
<b>Private</b>	Residence -Private	13	1	13
<b>Public</b>	Commercial - Public Use	5	4	5
<b>Public</b>	Government - Public Use	85	64	103
<b>Total</b>		<b>132</b>	<b>72</b>	<b>224</b>

Source: FWC

## VIII. Bibliography

- Florida Department of Economic Opportunity, 2022. *Quarterly Census of Employment and Wages, Florida Establishments in Palm Beach County, Quarter 2*. Received February, 2023.
- Florida Department of Environmental Protection, The Balmoral Group. 2017 Survey of Florida Outdoor Recreation, Working Paper.
- Florida Department of Environmental Protection, The Balmoral Group. 2017 Survey of Florida Outdoor Recreation, Working Paper.
- Florida Department of Highway Safety and Motor Vehicles, 2022. *Database of Registered Boat Owners in Palm Beach County*. Received January, 2023.
- Florida Fish and Wildlife Conservation Commission, 2016. *FWC Florida Boat Ramp Inventory*. Retrieved from <http://geodata.myfwc.com/datasets/fwc-florida-boat-ramp-inventory?geometry=-98.499%2C24.371%2C-84.964%2C31.169>
- Florida Fish and Wildlife Conservation Commission, 2022. *Commercial Landings Data*. Retrieved from <http://myfwc.com/research/saltwater/fishstats/commercial-fisheries/landings-in-florida/>
- Florida Fish and Wildlife Conservation Commission-Fish and Wildlife Research Institute, 2022. *Marinas in Florida – March 2016*. Received October, 2016.
- Florida Oceans & Coastal Resources Council. 2007. “Investing in Florida’s Coastal & Oceans Future: Annual Science Research Plan – FY 2007 - 2008.” Florida Department of Environmental Protection.
- Florida Oceans & Coastal Resources Council. 2007. “Investing in Florida’s Coastal & Oceans Future: Annual Science Research Plan – FY 2007 - 2008.” Florida Department of Environmental Protection.
- GEC. 2011a. “Economic Evaluation of the Deepening of Portions of the Intracoastal Waterway in Palm Beach and Broward Counties.” Prepared for Florida Inland Navigation District.
- GEC. 2011b. “Update of the Economic Benefits of the District’s Waterways in Palm Beach County.” Prepared for Florida Inland Navigation District.
- Hazen & Sawyer. 2005. “Biscayne Bay Economic Study. Task 3 Report – Final Biscayne Bay Economic Baseline and Trend Report.” Prepared for South Florida Water Management District.
- Howie, Bob. 2017. “V3 Reference Manual.” Retrieved from [http://oldsupport.implan.com/index.php?view=document&alias=31-v3-reference-manual-2&category\\_slug=internal-docs&layout=default&option=com\\_docman&Itemid=1764](http://oldsupport.implan.com/index.php?view=document&alias=31-v3-reference-manual-2&category_slug=internal-docs&layout=default&option=com_docman&Itemid=1764)
- SAJ USACE, 2023. IWW Dredging History Dataset 1990-2023. Received via Email, 2023. U.S. Army Corps of Engineers, Jacksonville District.

- SAJ USACE, 2023. IWW Dredging History Dataset 1990-2023. Received via Email, 2023. U.S. Army Corps of Engineers, Jacksonville District.
- Schmit, ToddM., and Becca B.R. Jablonski and David Kay. 2013. “A Practitioner’s Guide to Conducting an Economic Impact Assessment of Regional Food Hubs using IMPLAN: a step-by-step approach.” Doi: 10.9752/ms145.09-2013.
- Taylor Engineering, Inc., 2018. Florida Inland Navigation District Intracoastal Waterway Review of Dredging Program Efficiencies. September 2018.  
[http://cms5.revize.com/revize/floridainland/dredging\\_and\\_land\\_management/dredged\\_material\\_management\\_areas/docs/FINAL%20FIND%20Dredging%20Efficiency%20Report%20\(09-19-18\).pdf](http://cms5.revize.com/revize/floridainland/dredging_and_land_management/dredged_material_management_areas/docs/FINAL%20FIND%20Dredging%20Efficiency%20Report%20(09-19-18).pdf)
- The Balmoral Group. 2014. “Economic Impact of the St. Johns River and Water Quality on Property Values.” Prepared for St. Johns River Water Management District.
- Thomas J. Murray & Associates, Inc. 2015. “Economic Impact of Dania Cutoff Canal Dredging.” Prepared for Florida Inland Navigation District.
- Thomas J. Murray & Associates, Inc. 2022. “Economic Impact of 40th Palm Beach International Boat Show.” Prepared for Marine Industries Association of Palm Beach