



2019 Manatee Protection Plan Implementation Report



City of Jacksonville
Planning and Development Department
November 2019

Executive Summary

This is a Summary of the **2019** Manatee Protection Plan Implementation Report that reflects on the City of Jacksonville's efforts towards protecting manatees in Duval County. The third revision to the Duval County Manatee Protection Plan (MPP) was adopted by the Jacksonville City Council in 2014 and requires an annual report of the progress on implementation of the MPP. The MPP is a comprehensive planning document that addresses the long-term protection of the Florida manatee through law enforcement, education, boat facility siting, and habitat protection initiatives on a county-wide basis. The purpose of revising the MPP was to collect and evaluate updated information on manatee use and boat activity in the City of Jacksonville (COJ) and provide guidance targeted at reduction of human-related threats to manatees and manatee habitat. The MPP attempts to balance boater access to Jacksonville waterways with impact to manatees from boat traffic, and is intended to increase the predictability of permitting outcomes for boat facility development.

The **2019** MPP Implementation Report is a compilation of the efforts of a wide variety of agencies that reflect the effort expended to protect manatees in Duval County waters. The report is divided into five (5) sections: Meeting Minutes, Law Enforcement Reports, Education, Awareness and Environmental Reports.

The Meeting Minutes subsection report is an assemblage of the appropriate minutes of the Jacksonville (Duval County) Waterways Committee and the Jacksonville Marine Transportation Exchange (JAXMTX) Harbor Safety Committee. This section serves as a good review of the activities of the year and demonstrates the importance that manatee protection has within the City and JAXPORT.

The Law Enforcement Report subsection includes quarterly reports from Jacksonville Sheriff's Office Law Enforcement Task Force, Florida Fish and Wildlife Commission (FWC) Law Enforcement, and Multi-Agency Deployments. The City has improved communication and coordination between federal and state Law Enforcement agencies since the development of a L.E. Task Force in December of 2009 that has fostered improved efforts in manatee protection. The involvement of the City's Waterways Coordinator, a former JSO marine officer, has been very helpful in a variety of ways. His efforts have resulted in the buy-in of all law enforcement agencies and improved the coordinated multi agency deployment weekends.

The Manatee Education Report contains the extensive effort made on behalf of manatee protection within the City of Jacksonville. Included is the COJ's Park Naturalist Education Program, presentations made by Jacksonville University faculty on manatees, and the FWC Northeast Lab outreach programs. The City also completed a 30 second public service announcement, which will be sent to local television stations for broadcast **again in the beginning of manatee season 2020. JU also participated in the JAXZOO Manatee Festival in February which involved over 1000 people in attendance.**

The Awareness subsection contains the Updated Boat Facility Inventory, a list of DEP Dock permits, Manatee Mortality Information, along with Aerial Sighting Maps. It should be noted that three (3) flights/year are funded by the City of Jacksonville.

In summary, the MPP Implementation Report offers an up to date review of manatee protection efforts in the City of Jacksonville (Duval County).

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Implementation Summary (Section 8.8 MPP)

MPP Policies and Tasks	Action Items	Progress in 2018-2019	Tasks for 2019-2020
The comprehensive plan will be amended to incorporate the revised MPP	Submit Comprehensive Plan amendment to Department of Economic Development and FWC	Comprehensive Plan changes approved by City Council. Requested an additional 6 months extension from DEO due to downtown DRI request.	Resolved downtown DRI marina request and send Comp changes to DEO March 2018. COMPLETED
COJ will incorporate the use of the revised MPP in their Planning and Development Department reviews for development	Distribution of revised MPP within COJ once approved	The Planning and Development Department has created a GIS boat facility layer for use by the zoning, land use and developmental services sections.	Continue to use the GIS layer.
Keep the Jacksonville Waterways Commission up to date on manatee related issues	COJ will attend monthly meetings and provide updates on manatee related issues	The City's consultant, JU has attended monthly meetings. See Waterways Commission meeting minutes	JU's 2019-2020 contract has this task identified
Report updated information, manatee mortality, and status of implementing the recommendations in the MPP	Draft and submit an annual MPP Implementation Report	Submitting 1st required report.	Continue to collect and summarize data for 2020 report
COJ will actively engage with the shipping/Port industry	Representatives of COJ will be members of JMTX and the Port Safety Committee, attend meetings and assist with implementing manatee awareness initiatives	City Waterways Coordinator attends quarterly meetings	Continue to attend JMTX meetings
COJ will actively engage USCG and Special Events Office	Representatives of COJ will monitor and track special events in the waterways and assist with implementing manatee awareness initiatives	City Waterways Coordinator has worked closely with USCG - they now attend the LE Task Force meetings.	Have Waterways Coordinator summarize and report on special events in Duval County.

MPP Policies and Tasks	Action Items	Progress in 2018-2019	Tasks for 2019-2020
COJ will create awareness within the County regarding manatee protection issues	COJ will inspect and replace manatee educational signs that are their responsibility, develop a maintenance plan and a database of locations	Sign database completed. Working with other agencies for sign and buoy replacement	Continue to report and work with other agencies for sign and buoy replacement
Manatee education Section	COJ will develop policies or incentives to increase educational signs at private marinas and multi-family docks where signs are not required by permit	New Comp plan policies will help address this issue.	Continue to develop incentives for educational signage
Manatee education Section	COJ will work with FWC-ISM, and FWRI to update the Boating and Angling Guide	Guide is completed and being handed out	Continue to distribute the guides
Manatee education Section	COJ will maintain and document manatee sightings reported through the COJ hotline	The City does not have a hotline. JU does. Info reported by JU	Continue to have JU document calls to the hotline
Manatee education Section	COJ will produce multimedia information such as PSAs, billboards, social media and on a website to promote information and awareness	PSA has been developed	PSA has been given to Public Information Office to promote manatee awareness
Manatee education Section	COJ or representatives will present manatee awareness programs to local schools, community groups, boating groups and clubs	Information collected from Park Naturalist. Waterways Coordinator also promotes awareness	Continue to provide manatee info through the Parks Department

MPP Policies and Tasks	Action Items	Progress in 2018-2019	Tasks for 2019-2020
Law enforcement section	COJ will coordinate with USCG when special manatee messages are needed in the “Notice to Mariners”	On-going	On-going
COJ will facilitate improved law enforcement participation in manatee protection, including improved coordination between multiple agencies	Implementation of the MPP Law Enforcement Plan and the action items within it	Plan has been implemented. Efforts are being documented	Continue to implement plan
Law enforcement Section	JSO commits to a minimum of 25 deployments for only manatee speed zone enforcement	JSO continues deployments to manatee speed zone enforcement	Continue to collect quarterly reports from JSO
Law enforcement section	A minimum of six coordinated, multi-agency weekend deployments from April to October specifically for manatee speed zone enforcement	Completed in 2015. Efforts reported in yearly implementation report	Six deployments have been scheduled for this year.
COJ will keep the MPP current, with the best available data and wildlife protection practices	Review the MPP periodically in conjunction with FWC and USFWS to determine whether revisions are needed; Requires COJ analysis and compilation of information from the annual reports	Continue to update manatee data through JU contract. Submit yearly implementation reports	Continue to update manatee data through JU contract.
Implementation section	Complete a Manatee Speed Zone Compliance Study	The City is now revising this study protocol suggestions provided by FWC	Work to complete study in 2019-2020.
Implementation section	Develop a Boat Activity Study Protocol between Recreational and Shipping traffic, and complete the Study	The City will send to FWC for approval	Work to complete study when funded.

MPP Policies and Tasks	Action Items	Progress in 2018-2019	Tasks for 2019-2020
Implementation section	Marine Facility Inventory Update	Completed through JU contract	In JU contract for this year.
Implementation section	Maintain an up-to-date record of the location and status of foraging habitat, warm water discharges and freshwater sources	On-going	On-going

Manatee Data Report

Aerial Sightings: A synoptic survey of northeast Florida was conducted on February 28th (SJR) and 29th (ICW) 2019. Only one animal was sighted in the area of Pottsburg Creek near University Blvd. South. An additional survey was conducted in May. Subsequent surveys in 2018 occurred in May, and August. Past synoptic surveys identified few animals in the area: On February 1st 2017 a synoptic survey reported 6 animals sighted in the area. Other surveys in 2017 occurred in May, and September. In 2016, a synoptic survey on February 12th reported no manatee sightings. Other surveys in 2016 took place in in March, April, May, June, August and September. Similarly in 2015, a synoptic survey on February 16th reported no manatees sighted in the area with subsequent surveys occurring in April, June, August, October and November.

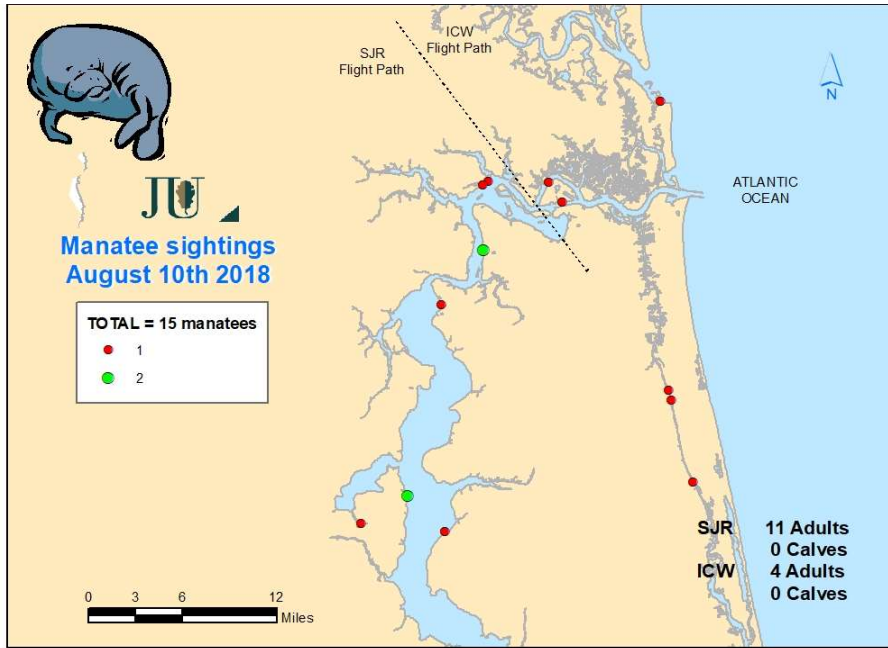
The Single Highest Day Count (SHDC) of manatees represents the highest number of animals counted on a single survey day throughout the year. For the Lower St. Johns River (LSJR), **the SHDC for 2019 was 54 animals per survey in May, compared to May 2018 (23 animals per survey) which was the lowest number ever reported. This was partly due to animals arriving late into the area, but also not staying, because of a lack of food resources. Severe drought in early 2017 followed by storms and hurricanes later in the year and through 2019, negatively impacted the grass beds, likely causing manatees to travel more for food outside the study area.** In contrast, the SHDC for 2017 was 90 animals per survey (May) – which was also lower than 2016 and again probably due to a severe drought earlier in the year. In 2016, the SHDC was 217 animals per survey (May) – the highest count on recorded. In 2015 the SHDC was 155 animals per survey this time in June, and in 2014 it was 176 (June); 2013 it was 143 (July), and in 2012 it was 177 (May).

The past three years include anomalous weather conditions. Manatee numbers in May increase in 2019 (28 animals/survey, 2 surveys), compared to 2018 (11 animals/survey, 3 surveys). These number were unusually low. In 2017, the mean number of manatees was 33 manatee per survey (3 surveys), again lower than in previous years. Compared this to 2016, the mean number of manatees 102 (8 surveys) and in 2015 averaged 57 (6 surveys). It is important to note that beginning in 2012 there was a shift in the emphasis of data collection towards assisting the law enforcement effort to protect manatees and educate boaters. As a result, sampling frequency was significantly reduced and focuses on those months when manatee presence in the area is considered to be at its highest. To more accurately reflect the shift in sampling frequency and focus, manatee data in this report was separated into these two time periods (1994-2012 and 2013-2018).

In the Intracoastal Waterway (ICW) the mean number of manatees per survey in 2019 increased to 6 compared to 2 manatee per survey in both 2017 and 2018. Slightly more manatees were observed in the past with 9 manatees per survey (May 2016), 5 manatees per survey (June 2015 and May 2014), 9 (April and July 2013). The time period from 2013-2019 has a survey frequency (4 surveys/year; s.d. ± 2 ; range 2-6) and returned a general mean of 6 manatees per survey (s.d ± 3 ; range 2-9 animals).

Seasons were generally classified as follows with each map indicating the specific date when a particular aerial survey was conducted: Winter - December – February; spring – March – May; summer - June – August; fall - September – November.

MAP SERIES A – Manatee aerial sightings, Duval Co., FL. (fall, 2018)

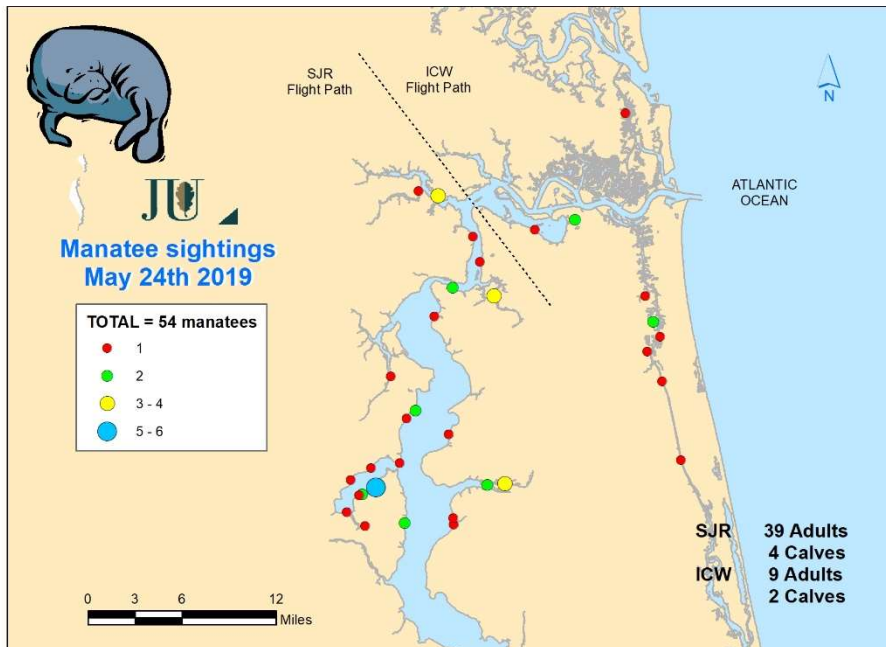


The information contained in this email and the manatee sighting maps are the results of aerial surveys conducted by Jacksonville University under an agreement with COJ. The manatee sightings represent the known minimum number of animals and their location at the time of the flight. The numbers may be higher and the animals change locations frequently. The information is an indication of the number and the location of manatees and subject to change daily.

MAP SERIES A – Manatee aerial sightings, Duval Co., FL. (winter, 2018-2019)

On February 28th and 29th 2019, one animal was observed resting in Pottsburg Creek, near University Boulevard South, during the Northeast Synoptic Survey.

MAP SERIES A – Manatee aerial sightings, Duval Co., FL. (spring, 2019)



The information contained in this email and the manatee sighting maps are the results of aerial surveys conducted by Jacksonville University under an agreement with COJ. The manatee sightings represent the known minimum number of animals and their location at the time of the flight. The numbers may be higher and the animals change locations frequently. The information is an indication of the number and the location of manatees and subject to change daily.

Habitat: Line transect data from 2004-2011, and **2015-2018 indicated that there was a significant long term decline in the grass bed total cover percentage at sites sampled in Duval County (SJRWMD 2019). There has been a limited recovery of grass beds which still remain below historic levels of the late 1990's.** Additional observations made during aerial surveys in 2015 and 2016 indicated that SAV returned to some areas previously reported to be devoid of grasses. Manatee were observed feeding in those areas. However, recent observations indicate that there are many bare areas with no manatees. Furthermore, recent storms and the resulting turbidity has hindered the recovery of this habitat. **In 2017 and 2018 most grass beds sampled in Duval County were bare.** In the past, aerial observation indicated that there had been a visible decline in the grass beds since 2005. Toxic algae blooms seen in the St. Johns River from 2013-2019 do not seem to have harmed any manatees.

JEA District # 2 Outfall and North Side Generating Station (NSGS): No manatees were observed at the JEA District # 2 site during aerial surveys conducted by Jacksonville University from spring to fall of 2013 to **2019.** However, manatees continue to be seen in the vicinity of the JEA District # 2 waste water treatment outfall's manatee exclusion barrier by JEA's contractor and others.

Since 2011, JEA has been monitoring manatees at its District #2 outfall and NSGS from October to March. JEA reported sightings over time at District #2 as follows: 190 observations (2011/12); 49 (2012/13); and 46 (2013/14); and 6 (2015/16). JEA reported that monitoring stopped for a period of time at the District#2 outfall after a fence was installed around the outfall. Limited aerial surveys by JU have not observed animals congregating there since (2014/15). JEA reported that the numbers of manatees sighted at JEA NSGS increased over time as follows: 52 observations (2012/13); 60 (2013/14); 87 (2014/15); and 198 individuals were observed, 372 times in (2015/16).

The lower frequency of aerial survey effort, especially during cold weather, was insufficient to document manatees at this site during the years 2009-2019. However, boat and land surveys by independent contractors indicated that manatees consistently make use of the site.

NAS Mayport: Mayport NAS initiated manatee awareness and reporting program in spring 2011. Signs were posted at intervals along Mayport basin, and a data log kept of sightings and actions. **As of September 2019, 30 animals were sighted (range 0-12/month). In 2018, 48 animals were sighted (range 0-19/month).** In 2017, 59 animals were sighted (range 0-18/month). In 2016, 152 animals were sighted (range 0-48/month), and in 2015, 130 animals (range 0-44/month). Lower numbers were observed during 2013/14 with a mean of 65 (range 0-16), and during 2011/12 with a mean of 35 animals (0-13/month). **Typically, the highest counts were recorded in May and June.**

Duval Manatee Rescues: **In 2019, a manatee was rescued because of acute watercraft impact likely from a large slow moving vessel (July 3rd), however, the animal died during transport to the rehab facilities. In 2018, on March 18th a manatee (Vilanzo) was captured suffering from cold stress, rehabbed at Jacksonville Zoo, and successfully released on May 15th at Oak Harbor boat ramp (ICW).** Also, on March 22nd 2018, a male manatee was rescued from Miller Creek, it was stuck in the mud and cold stressed. **In 2017, on February 7th 2017, a male manatee was rescued from Ortega River. On March 31st a female manatee was rescued from Pablo Creek, both manatees exhibited symptoms of cold stress. Furthermore, three manatees were assisted and released on 1st June (Pablo Creek), 2nd July (intake canal JEA NSGS), and a calf on September 11th near Wayland Street opposite Talleyrand docks. On December 16th a female calf was rescued in the San Pablo River, she was beached by herself and cold stressed. In 2016, two manatee rescues were performed at JEA's NSGS. "Stokes" was rescued on Jan 27th, and another animal on March 7th, both animals were taken to Sea World of Florida due to cold stress related issues. On November 30th a female manatee was rescued from a storm drain near Davinci Ave. also transported to Sea World. There were no reported assists or rescues as of September 2015. In 2014, six manatee rescues occurred during cold weather from (JEA District #2 outfall, Green Field Creek, Mill Cove, San Carlos Creek, and Cut Creek).**

MANATEE MORTALITY

Mortality Calendars

2013

	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	TOTALS
Natural deaths	0	0	0	0	0	0	0	0	0	0	0	0	0
watercraft deaths	0	0	0	0	0	2	0	0	2	0	0	0	4
prenatal	0	0	0	0	2	1	0	0	0	0	0	0	3
other human	0	0	0	0	0	0	0	0	0	0	0	0	0
cold stress	3	1	1	0	0	0	0	0	0	0	0	1	7
undetermined	1	1	1	0	0	1	0	0	0	0	0	1	4
total deaths	4	2	2	0	2	4	0	0	2	0	0	2	18

2014

	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	TOTALS
Natural deaths	0	0	0	0	0	0	0	0	0	0	0	0	0
watercraft deaths	0	0	0	0	0	0	0	0	0	0	0	0	0
prenatal	0	0	0	0	0	1	0	0	0	0	2	0	3
other human	0	0	0	0	0	0	0	0	0	0	0	0	0
cold stress	1	1	0	0	0	0	0	0	0	0	0	3	5
undetermined	0	0	1	1	0	0	2	0	0	0	0	0	4
total deaths	1	1	1	1	0	1	2	0	0	0	0	0	12

2015

	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	TOTALS
Natural deaths	0	0	0	0	0	0	0	0	0	0	0	0	0
watercraft deaths	0	0	0	0	0	0	0	0	1	0	0	0	1
prenatal	0	0	0	1	1	0	0	1	0	0	0	0	3
other human	0	0	0	0	0	0	0	0	0	0	0	0	0
cold stress	2	0	0	0	0	0	0	0	0	0	0	0	2
undetermined	0	0	0	0	0	1	1	0	0	0	0	0	2
total deaths	2	0	0	1	1	1	1	1	1	0	0	0	8

2016

	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	TOTALS
Natural deaths	0	0	0	0	0	0	1	1	0	0	0	0	2
watercraft deaths	1	0	0	0	0	0	0	0	0	0	0	0	1
prenatal	0	0	0	0	0	0	0	0	0	0	0	0	0
other human	0	0	0	0	0	0	1	0	0	0	0	0	1
cold stress	1	1	1	0	0	0	0	0	0	0	0	0	3
undetermined	0	0	2	0	0	2	1	0	0	0	0	0	5
total deaths	2	1	3	0	0	2	3	1	0	0	0	0	12

2017

	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	TOTALS
Natural deaths	0	0	0	0	1	0	0	0	0	0	0	0	1
watercraft deaths	0	1	0	0	0	2	1	1	0	0	0	0	5
prenatal	0	0	0	0	1	1	1	1	1	0	0	0	5
other human	0	0	0	0	0	0	0	0	0	0	0	0	0
cold stress	1	0	0	0	0	0	0	0	0	0	0	2	3
undetermined	0	0	0	0	2	1	1	0	0	1	0	0	5
total deaths	1	1	0	0	4	4	3	2	1	1	0	2	19

FWC, FWRI 2017.

Mortality Calendars cont.

2018

	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	TOTALS
Natural deaths	0	0	0	0	0	0	0	0	0	0	0	0	0
watercraft deaths	0	0	0	0	0	0	0	0	0	0	0	0	0
prenatal	0	0	0	0	0	0	0	0	1	0	0	0	1
other human	0	0	0	0	0	0	0	0	1	0	0	0	1
cold stress	2	2	0	0	0	0	0	0	0	0	0	2	6
undetermined	0	0	0	1	1	0	0	0	0	1	0	0	3
total deaths	2	2	0	1	1	0	0	0	2	1	0	2	11

FWC, FWRI 2019.

2019

	Jan	Feb	Mar	Apr	May	June	July	Aug	Sept	Oct	Nov	Dec	TOTALS
Natural deaths	0	0	0	0	0	0	0	0	0	0			0
watercraft deaths	0	0	0	1	0	2	1	0	0	0			4
prenatal	0	0	0	0	0	0	0	0	0	0			0
other human	0	0	0	0	0	0	0	0	0	0			0
cold stress	0	0	0	0	0	0	0	0	0	0			0
undetermined	0	0	0	0	1	0	0	0	0	0			1
total deaths	0	0	0	1	1	2	1	0	0	0			5

FWC, FWRI 2019 preliminary data.

Manatee Mortality

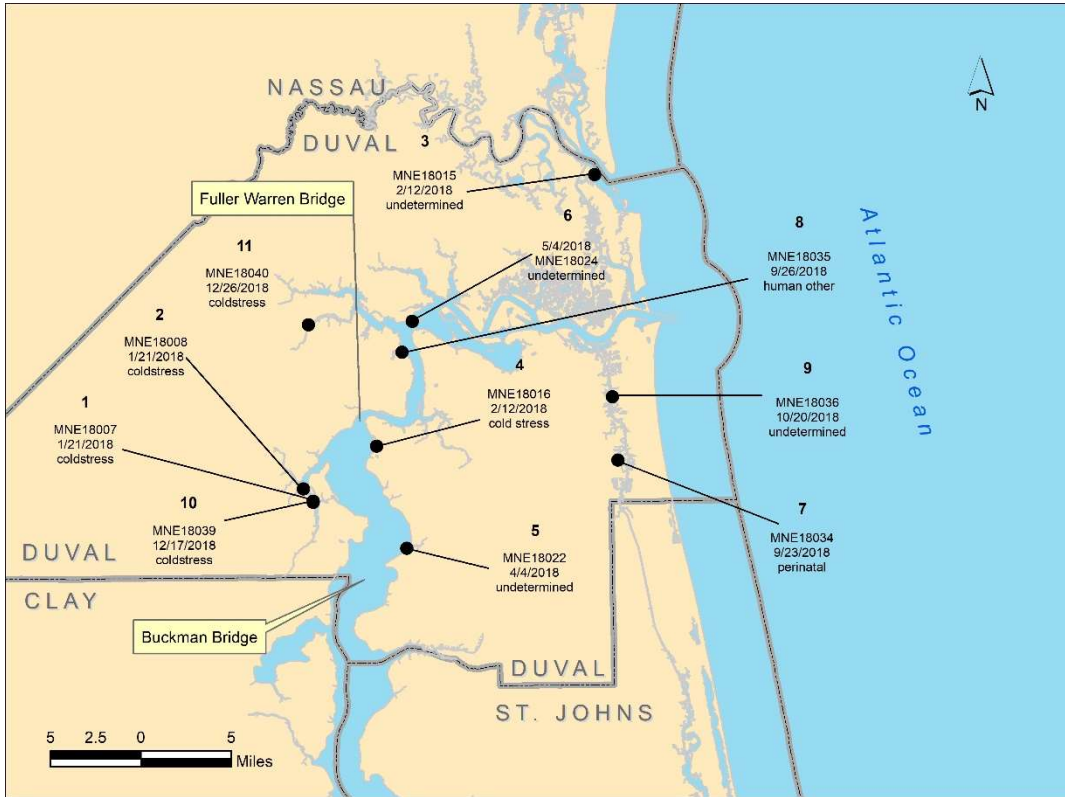
Manatee Mortality: The five year running average of water craft mortalities showed a decreasing trend since 2012 (6), 2013 (5), 2014 (3), 2015 (3), 2016 (2), 2017 (2), 2018 (1) and as of September 2019 (2) (FWRI 2019). Furthermore, no large vessel caused deaths were reported from 2013 to 2019. From 2009 to 2013, more watercraft deaths were documented towards the mouth of the river, rather than a more county wide spread as in prior years. Manatee deaths seem to have occurred in an area extending from Downtown to the mouth of the St. Johns River. Recently in the last two years there have been a few more deaths south of downtown, particularly in the Ortega River area. In 2019, the number of deaths was over all lower, but this may have been due to unusually less manatees in the area (Map Series B).

Manatee deaths from all causes 2018, Duval Co., FL.

Count	Date	Manatee field ID	Sex	Total Length	Mortality category
1	1/21/2018	MNE18007	M	290	5-Natural-Cold Stress
2	1/21/2018	MNE18008	F	275	5-Natural-Cold Stress
3	2/12/2018	MNE18015	M	231	8-Undetermined
4	2/12/2018	MNE18016	F	247	5-Natural-Cold Stress
5	4/4/2018	MNE18022	F	147	8-Undetermined
6	5/4/2018	MNE18024	F	262	8-Undetermined
7	9/23/2018	MNE18034	M	134	Perinatal (=< 150)
8	9/26/2018	MNE18035	M	316	3-Human, Other
9	10/20/2018	MNE18036	M	288	8-Undetermined
10	12/17/2018	MNE18039	M	269	5-Natural-Cold Stress
11	12/26/2018	MNE18040	F	195	5-Natural-Cold Stress

Source data: FWC, FWRI 2019.

SERIES B – Manatee mortality, Duval Co., FL. 2018.



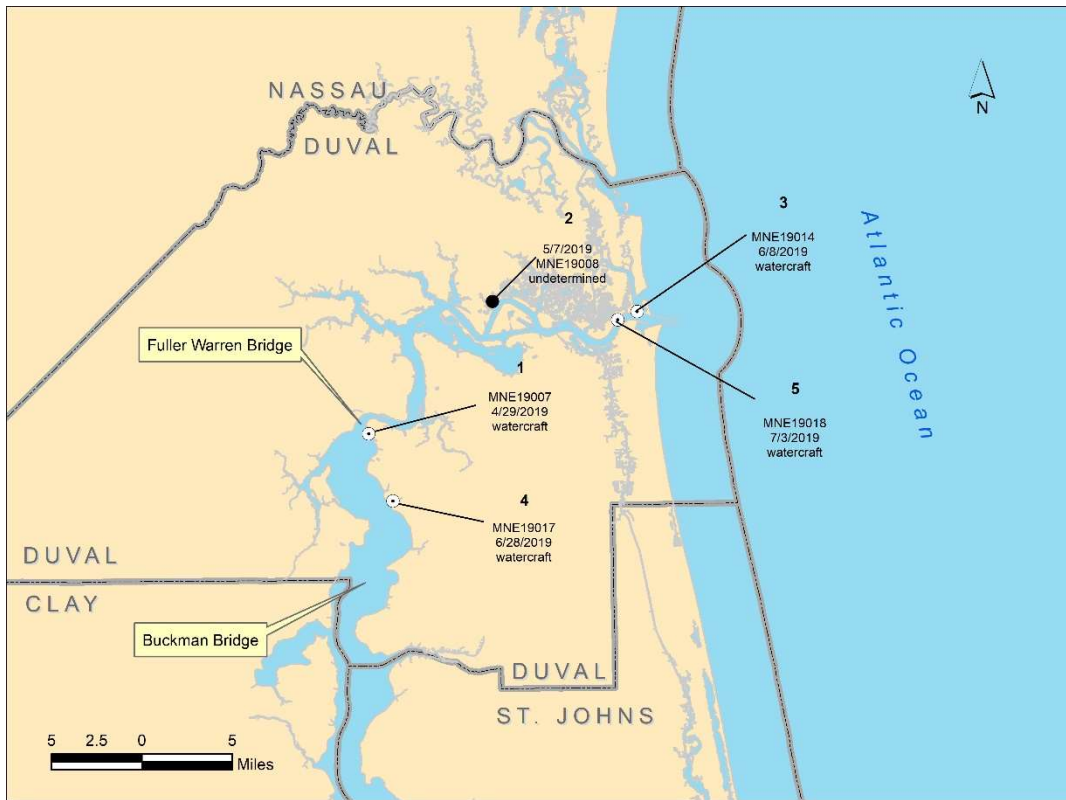
FWC, FWRI 2019.

Manatee deaths from all causes 2019, Duval Co., FL.

Count	Date	Manatee field ID	Sex	Total Length	Mortality category
1	4/29/2019	MNE19007	M	329	1-Watercraft
2	5/7/2019	MNE19008	F	286	8-Undetermined
3	6/8/2019	MNE19014	M	253	1-Watercraft
4	6/28/2019	MNE19017	M	333	1-Watercraft
5	7/3/2019	MNE19018	F	297	1-Watercraft

Source: FWC, FWRI 2019 preliminary.

SERIES B – Manatee mortality, Duval Co., FL. As of September 2019.



FWC, FWRI 2019 preliminary.

Dots surrounded with a white border are watercraft mortalities.

Marine Facility Inventory Summary

Boat Launch Facilities Signage Inventory:

An inventory of signage was completed and there were no changes to report since the previous year. A couple of vandalized signs were attended to including a manatee kiosk sign at Oak Harbor boat ramp that was cleaned, and a manatee informational sign at Goodby's Creek boat ramp that was removed and has not been replaced yet. The database of all local manatee, boating safety signage, and information kiosks at boat ramps in Duval County is current and up to date. Methods: Researchers visited all facilities to record and verify information.

Marine Facilities Inventory:

This inventory includes **187** commercial and multi-family marinas and docks, which were checked over the boating season (June-September). Changes in the number of wet and dry slips from the previous year are highlighted. There was a reduction in the number of wet slips from 4,186 in 2014 to 4,125 in 2015 (change -61); the number of wet slips decreased in 2016/17 to 3,882 (change -243). Dry slips decreased from 2,562 in 2014 to 2,510 in 2015 (change -52), with a single slip decrease in 2016/17 (2,509). There was a total of 69 ramps and 782 parking spaces in 2015. Notes were made about slips that exist only as developments rights, and some reductions are where marinas closed or self-reported a reduction of slips.

Methods: Researchers placed phone calls to individual facilities to obtain information about the occupancy and capacity changes if any. Subsequent to that, researchers visited a subsample of these facilities to verify information.

In addition, 82 single family homes dock permits were issued in Duval County as compared to 64 (2016/17), 65 (2015/16), 59 (2015) and 71 (2014).

No.	Type	Facility name	Wet slips 2015	Dry slips 2015	Wet Slips 2016	Dry Slips 2016	No. of Ramps	No. of Lanes	Paved	Parking Spaces	Additional Notes
1	M	Clark's Fish Camp	10	0	15	0	0	0		0	
2	M	The Marina at Julington Creek	91	226	99	226	0	0		55	
3	M	Mandarin Holiday Marina and Fish Camp	160	0	160	0	1	1	YES	20	
4	M	Beatrice A. Gamble Julington Pier 3	84	8	84	25	0	0		40	
5	M	Bull Bay Pier/ Wiley E. Andreu	84	15	84	0	0	0		30	
6	MF	Old Bull Bay*	6	0	n/a	n/a	0	0		n/a	*contact unavailable
7	MF	Tala Cay HOA	2	0	2	0	0	0		0	
8	MF	Plummers Cove HOA	12	0	14	0	0	0		0	
9	M	Florida's Tackle and Gun Club	32	12	23	16	1	1	YES	0	
10	MF	The Cove at St. John's*	13	0	n/a	n/a	0	0		n/a	*contact unavailable
11	MF	La Terraza	4	0	6	0	0	0		0	
12	M/C	NFL Yacht Sales/ Mandarin Marina/ GCYC	5	208	5	208	1	1	YES	10	
13	M	Epping Forest Yacht Club	73	0	73	0	0	0		0	
14	OT	6006 of Jacksonville Inc*	7	0	7	0	0	0		0	*empty lot with boat lift
15	MF	Club Condominiums	8	0	n/a	n/a	0	0		n/a	contact unavailable
16	M	The Rudder Club of Jacksonville	35	65	35	65	1	1	YES	30	
17	M	NAS/ Jax Marina	152	248	95	248	1	1	YES	40	
18	M	Florida Yacht Club	93	50	80	35	1	1	YES	30	
19	MF	Venitian on the Ortega	43	0	43	0	0	0		0	
20	MF	Confederate Point Apts	10	0	10	0	0	0		0	
21	MF	Preserve at Cedar River/Cedar Cove Apts	4	0	10	0	1	1	YES	0	
22	OT	2509 Blanding Blvd LLC	4	0	4	0	0	0		0	
23	MF	Coastal Creek Condo fka Cedar Shores	24	0	24	0	0	0		0	
24	M	Lighthouse Marine/ Florcal Marina	23	16	20	20	0	0		20	* previously Cedar River Moorings
25	M	Cedar Creek Landing Condos	15	0	7	20	1	1	YES	0	
26	MF	Canterbury Gardens (Londontowne) Apts	0	0	0	0	0	0		0	

C = Commercial; M = Marina; MF = Multifamily; OT= Other; R=Ramp; SBT=Ship/Barge/Tug; T=Transitory

No.	Type	Facility name	Wet slips 2015	Dry slips 2015	Wet Slips 2016	Dry Slips 2016	No. of Ramps	No. of Lanes	Paved	Parking Spaces	Additional Notes
27	MF	Chuck's Boat Yard (Klehm Estate)*	30	0	n/	n/a	0	0		n/a	*owner deceased, property unoccupied
28	OT	Lakeshore Dry Storage	0	200	0	200	0	0		0	
29	M	Lambs Yacht Center	250	0	248	0	0	0		0	
30	M	Cedar Point Marina	23	0	70	0	0	0		0	
31	M	Huckins Yacht Club	38	0	38	0	0	0		0	
32	M	Sadler Point Marina	66	30	66	30	0	0		35	
33	M	Ortega Yacht Club Marina	99	0	99	0	0	0		0	
34	M	Lakeside Ortega Prtnshp/ Jowens Marina	24	0	24	0	0	0		0	
35	M	Ortega Landing Marina	192	0	192	0	0	0		0	
36	MF	Commander Apt	6	0	6	0	0	0		0	
37	OT	Jerry Stozier Ferguson Estate	12	0	12	0	0	0		0	
38	M	River City Brewing Co	60	0	58	0	0	0		0	
39	M	Berkman Plaza and Marina	54	0	54	0	0	0		0	
40	M	Shipyards*	240	0	240	0	0	0		0	*Development rights/ not constructed
41	M	Metropolitan Park and Marina	78	0	78	0	0	0		0	
42	MF	Colonial Point Condos	14	0	14	0	0	0		0	
43	MF	Carlton at Oak Landing	0	0	0	0	0	0		0	
44	MF	Magnolia Shores Homeowners	7	0	7	0	0	0		0	
45	MF	River Hills Condo	21	0	21	0	0	0		0	
46	OT	Jones College	7	0	7	0	0	0		0	
47	M	Arlington Marina/ MoBro Marine inc	30	135	30	135	0	0		0	
48	MF	St Johns Riverview Homes Condo Assoc	6	0	6	0	0	0		0	
49	MF	Arlington by the River Condo	17	0	17	0	0	0		0	
50	OT	JU Row Cnt and Marine Sci Docl	8	0	8	0	2	2		0	
51	M	Pirates Point Yacht Club & Marina	14	0	14	0	0	0		0	
52	M	William Dye Marina (DyemanticYachts)	44	6	44	6	0	0		0	
53	OT	Fire Station #38 (COJ)	12	0	12	0	0	0		0	
54	M	Seafarers Marina	75	0	75	0	0	0		0	
55	M	Edwards Marina (Fisherman's Marina)	23	0	23	0	0	0		0	
56	MF	Eleanor Garrison	8	0	8	0	0	0		0	
57	MF	Loretta Courson	5	0	5	0	1	1	YES	0	
58	MF	Trout River Drive Apts (Strong)	0	7	0	7	1	1	YES	0	
59	MF	Sibbald Road Trust	5	0	5	0	0	0		0	
60	M	Dames Pt Marina (Shafnacker)	23	20	25	0	1	2	NO	0	
61	M	Dames Pt Yacht Club (Nicholas Crk Dev)	6	0	6*	n/a	0	0		0	* tug and barg slips, unable to confirm
62	OT	Safe Harbor Haven (Boys Home)	59	36	59	36	1	0		0	
63	M	Brown's Creek Fish Camp	0	25	0	25	1	1	YES	0	
64	M	Clapboard Creek Marina	30	20	30	20	0	0		0	
65	M	Clapboard Creek Fish Camp	0	30	0	33	1	1	YES	0	
66	M	Mariner Point Yacht Club	50	0	50	0	0	0		0	
67	MF	Harbour North Park Assoc	6	0	6	0	1	1	YES	0	
68	OT	Riverfront RV Park	6	0	6	0	1	1	?	0	
69	M	Sandollar Marina*	12	0	12	0	0	0		0	* marina is closed
70	M	Fort George Harbor Yacht Club	10	128	10	135	0	0		0	
71	OT	Mayport Harbor OPS	16	0	16	0	1	1	YES	0	
72	OT	JPA/ St John's Bar Pilot Assoc	2	0	2	0	0	0		0	
73	M	Morningstar Marinas	10	200	10	200	0	0		0	
74	OT	JPA/ Mayport Tavern	7	0	7	0	0	0		0	
75	OT	JPA/ Mayport Yacht Basin	4	0	4	0	0	0		0	
76	MF	Spanish Point Civic Assoc	0	0	0	0	1	1	YES	0	
77	M	Queens Harbour Yacht and Country Club	60	0	46	0	0	0		0	
78	MF	Harbortown fka Pablo Creek Marina	150	0	150	0	0	0		0	
79	MF	Seven Pines Island Marina Assoc	20	0	20	0	0	0		0	
80	MF	Sunset Point Homeowners Assoc	5	0	5	0	0	0		0	
81	M	Palm Cove Marina	375	438	221	432	1	1	YES	0	
82	M	Beach Marine	350	350	350	350	0	0		0	
83	M	Moorings Condo Assoc	81	0	81	0	0	0		0	
84	MF	Waterside fka Lighthouse Grille/ Cove	24	0	24	0	0	0		0	
85	M	Marina San Pablo	46	0	46	0	0	0		0	
86	R	Hood Landing Boat Ramp	0	0	0	0	1	1	Yes	12	
87	R	Madarin Park Boat Ramp	0	0	0	0	1	2	YES	15	
88	R	Duval County Dock Park	0	0	0	0	1	1	YES	5	
89	R	Goodby's Lake Boat Ramp	0	0	0	0	1	3	YES	43	
90	T	Hooters (Jax has additional names)	8	0	8	0	0	0		0	
91	T	Timuquana Country Club	0	0	10	0	0	0		0	
92	R	Wayne B Stevens Boat Ramp	0	0	0	0	3	5	YES	49	
93	R	Lighthouse Boat Ramp COJ	0	0	0	0	2	2	YES	16	
94	R	St Johns Marina at Riverwalk Founntn	0	0	0	0	1	2	YES	15	
95	T	COJ @ Friendship Founntn	1	0	1	0	0	0		0	
96	T	COJ @ Jax Landing	1	0	1	0	0	0		0	
97	T	COJ @ Crowne Plaza	1	0	1	0	0	0		0	

C = Commercial; M = Marina; MF = Multifamily; OT= Other; R=Ramp; SBT=Ship/Barge/Tug; T=Transitory

No.	Type	Facility name	Wet slips 2015	Dry slips 2015	Wet Slips 2016	Dry Slips 2016	No. of Ramps	No. of Lanes	Paved	Parking Spaces	Additional Notes
98	T	COJ@ Liberty St	1	0	1	0	0	0		0	
99	T	COJ @ Wyndham	1	0	1	0	0	0		0	
100	T	COJ @ Metropolitan Park	1	0	1	0	0	0		0	
101	R	Beach Blvd Boat Ramp(Pottsburg Crk)	0	0	0	0	1	1	YES	12	
102	R	Arlington Road Boat Ramp	0	0	0	0	1	2	YES	13	
103	R	Arlington Lions Club Park Boat Ramp	0	0	0	0	1	1	YES	61	
104	T	Reddie Pointe Preserve	6	0	6	0	0	0		0	
105	R	Lonnie Wurn Boat Ramp	0	0	0	0	1	1	YES	9	
106	R	Dunn Creek Bridge	0	0	0	0	1	1	NO	5	
107	R	Drummond Point	0	0	0	0	1	1	NO	5	
108	T	Jackies Restaurant (Seafood)	35	0	35	0	0	0		0	
109	R	Bert Maxwell Boat Ramp	0	0	0	0	2	4	YES	45	
110	R	T K Stokes Boatramp	0	0	0	0	1	1	YES	30	
111	R	Harborview Boatramp	0	0	0	0	2	2	YES	7	
112	R	Charles Reese Boatramp	0	0	0	0	1	1	YES	6	
113	R	Dinsmore Boat Ramp	0	0	0	0	1	2	YES	16	
114	R	Brown's Creek Bridge	0	0	0	0	1	1		10	
115	R/MF	St Johns Landing Estates	0	0	0	0	1	1	YES	0	
116	R/MF	St Johns Landing Homeowners Assco	0	0	0	0	1	1	YES	6	
117	R	Palms Fish Camp/COJ	0	0	0	0	1	1	YES	20	
118	R	Fulton Boat Ramp	0	0	0	0	1	1	YES	7	
119	T	Ft Caroline National Memorial Dock	3	0	3	0	0	0		0	
120	R	Gate Petroleum Co	0	0	0	0	1	1	NO	2	
121	R	Pirates Cove Fish Camp	0	0	0	0	1	1	NO	10	
122	R	Joe Carlucci-Sisters Creek Park	0	0	0	0	1	2	YES	47	
123	R	Sisters Creek Marina	0	0	0	0	1	4	YES	94	
124	T	Fort George Island Ferry (North port)	1	0	1	0	0	0		0	
125	T	Singleton's Seafood Shack	2	0	2	0	0	0		0	
126	R	Michael B Scanlan Boat Ramp	0	0	0	0	2	8		75	
127	R	Alimacani Boat Ramp	0	0	0	0	1	1	NO	10	
128	R	Ribault Club @ Ft George	0	0	0	0	1	1		6	
129	T	Kingsley Plantation	4	0	4	0	0	0		0	
130	R	Simpson Creek Park	0	0	0	0	1	1	NO	2	
131	R	Big Talbot Island SP	0	0	0	0	1	1	YES	37	
132	R	Oak Harbor Boat Ramp	0	0	0	0	1	1	YES	28	
133	R	Intracoastal Waterways Boat Ramp	0	0	0	0	2	4	YES	37	
134	C	Weeks Marine	0	0	0	0	1	1	YES	0	
135	C	All Wet Sports/Suzanne Paul	0	25	0	25	0	0		0	
136	SBT	River Cruises	2	0	2	0	0	0		0	
137	SBT	JEA Park (old JEAS site)	2	0	2	0	0	0		0	
138	SBT	Riverfront Dev Group	4	0	4	0	0	0		0	
139	SBT	Commodore Point Prop/N FL Shipyard	1	0	1	0	0	0		0	
140	SBT	Hill Street LLC	5	0	5	0	0	0		0	
141	SBT	Hal Jones Contractor Inc	0	0	0	0	0	0		0	
142	SBT	Cross State Towing Co	3	0	3	0	1	1	YES	0	
143	SBT	1163 Tallyrand Inc/Crowley Liner Serv	18	0	18	0	0	0		0	
144	SBT	JPA Talleyrand Marine Terminal	6	0	6	0	0	0		0	
145	SBT	Standard Oil Co (Chevron)	1	0	1	0	0	0		0	
146	SBT	Coastal Fuels Terminal	1	0	1	0	0	0		0	
147	SBT	JEA/Kennedy Generating Station	6	0	6	0	0	0		0	
148	SBT	Keystone Terminal	1	0	1	0	0	0		0	
149	SBT	White Sprngs AgChem(GA Sthn/FL Rlway)	2	0	2	0	0	0		0	
150	SBT	Support Terminal	1	0	1	0	0	0		0	
151	SBT	NuStar Energy	5	0	5	0	0	0		0	
152	SBT	US Gypsum Company	1	0	1	0	0	0		0	
153	SBT	Southern Belle Frozen Foods	1	0	1	0	0	0		0	
154	C	Trout River Pier 68 Marina	6	0	6	0	0	0		0	
155	SBT	Gate Concrete Co	2	0	2	0	1	0		0	
156	SBT	US Navy Fuel Depot	1	0	1	0	0	1	YES	0	
157	SBT	BP Oil	1	0	1	0	0	0		0	
158	SBT	Amerada Hess Fuel Oil Inc	1	0	1	0	0	0		0	
159	C	One Dock Builders	8	0	8	0	0	0		0	
160	SBT	JaxPort-Ed Austin Marine Terminal	1	0	1	0	0	0		0	
161	SBT	TraPac Terminal	2	0	2	0	0	0		0	
162	SBT	JaxPort Bulk Terminal	7	0	7	0	0	0		0	
163	SBT	Jax Port Authority	4	0	4	0	0	0		0	
164	SBT	JPA/Blount Island	8	0	8	0	0	0		0	
165	SBT	B P B Acquisitions (Formerly Celotex)	1	0	1	0	0	0		0	
166	SBT	ESI of Florida LLC	11	0	11	0	0	0		0	
167	SBT	Terminal Services	4	0	4	0	0	0		0	
168	C	Kenneth Vogelsong	2	0	2	0	0	0		0	

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No.	Type	Facility name	Wet slips 2015	Dry slips 2015	Wet Slips 2016	Dry Slips 2016	No. of Ramps	No. of Lanes	Paved	Parking Spaces	Additional Notes
169	SBT	JEA North Generating Station Dock	1	0	1	0	0	0		0	
170	SBT	Jax Port Authority - 4916	2	0	2	0	3	0		0	
171	C	Florida East Coast Shrimp Producers	9	6	9	6	0	0	YES	0	
172	C	M & M Shrimp Dock Inc	2	0	2	0	0	0		0	
173	SBT	U.S. Marine Corp	3	0	3	0	0	0		0	
174	C/SBT	Atlantic Dry Dock Corp	10	6	10	6	0	0		0	
175	C	St Johns Boat Co	6	0	6	0	0	0		0	
176	SBT	Mayport Naval Station	34	0	34	0	0	0		0	
177	SBT	JPA/Mayport Ferry Slip	1	0	1	0	0	0		0	
178	SBT	JPA/Formerly LA Cruise	1	0	1	0	0	0		0	
179	C	JPA/Roland Ice Co	8	0	8	0	0	0		0	
180	C	JPA/Gilmer Pier	7	0	7	0	0	0		0	
181	C	JPA/Hornblower Marine/Ferry Maint Yrd	1	0	1	0	0	0		0	
182	C	JPA/Formerly Atlantic Seafood Co	0	0	0	0	0	0		0	
183	C	JPA/Mat Roland Seafood	0	0	0	0	0	0		0	
184	C	Miss Becky Seafood/Safe Harbor Mrkt	20	0	20	0	0	0		0	
185	C	Rebecca Pack	4	0	4	0	0	0		0	
186	SBT	U.S. Coast Guard - Mayport	6	0	6	0	0	0		0	
187	SBT	Moody Land Co/Bellinger Shipyard	12	0	12	0	0	0		0	

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Figure 63. Table of Marine Facilities in Jacksonville (Duval County) Florida 2018.

Development slips specific to the downtown DRI:

The number of slips in downtown Jacksonville was increased by 175 slips from 789 to 964, and supporting justifications for these slips were provided by letters outlining the City’s commitments, and the regulatory agencies authorizations for the slip increase (MPP Implementation Report 2017). This sub-inventory includes tracking of development slips specific to the downtown DRI area. Note that 194 slips have actually been constructed.

There was no change to this information as of 2019.

FACILITY	ADDRESS/LOCATION	NUMBER OF SLIPS ALLOCATED	NUMBER OF SLIPS CONSTRUCTED
River City Brewing	835 Museum Cir	62	62
Berkman Plaza	400 E. Bay St.	54	54
Shipyards	750 E. bay St	400	
Metro Park	1410 Gator Bowl Blvd.	78	78
Aetna Site	Prudential Dr	128	
St. Johns/The Strand	Riverplace BLVD.	75	
The District	801 Broadcast Pl	125	
COJ	Along the Riverwalk	50	
TOTAL		972	194

Waterways Commission Meeting Summaries

The Jacksonville Waterways Commission was established in 1984 to study and make recommendations to the City Council with respect to the improvement, development and protection of the St. Johns River and all tidal waters in Duval County. The Commission is charged to formulate an overall plan for dealing with any problems that exist the St. Johns River and Duval County tidal waters and devise methods of developing future uses of those waterways.

The Commission serves as the Duval County committee to review rules proposed by the Florida Fish and Wildlife Conservation Commission governing speed and operation of motorboats to protect manatees. And acts as a coordinating agency and specialized advisor for governmental units and for programs and activities affecting the improvement, development and protection of the St. Johns River and all tidal waters in Duval County.

DATE	DISCUSSION
October 10, 2018	<p>In the St. Johns River Status Report on Water Quality and Manatees, Dr. Quinton White remarked on the impending consequences of Hurricane Michael in the Florida Panhandle. He surmised that there would be massive flooding because the storm would be making landfall in the midst of high tide.</p> <p>On local matters, Dr. White reported that water temperatures in the river are warm. Salinity in the river remains low, a factor that he attributes to an influx of fresh water. He reported that rainfall totals in September were below normal by 5 inches after a very wet summer.</p> <p>In an update on the status of artificial reefs, Dr. White reported that the artificial reefs deployed in the St. Johns River (San Marco), are recovering from Hurricane Irma. He noted that the Holt reef is yielding slightly more fish than the CAA (Conservation Association of America) reef but the difference is not significant.</p> <p>Dr. White reported that the shark research vessel Oearch has been operating off the coast of Nova Scotia. Jacksonville University students have been a part of the operation. The Oearch was able to tag six great white sharks. The vessel is expected to return to Brunswick, GA in late October.</p> <p>On the status of manatees, Dr. Gerard Pinto reported that there are not many manatee in the area now. He reported that there were two manatee deaths in September: a perinatal death at Pablo Creek and a human-related fatality in the Talleyrand area. There have been a total of eight (8) non-watercraft related deaths reported this year.</p>
November 14, 2018	<p>In the St. Johns River Status Report on Water Quality and Manatees, Dr. Quinton White reported that the river's water temperature was much higher than normal. He explained that nightly low temperatures are what drive the river's water temperature. Dr. White reported that rainfall has been two inches above normal for this time of year and that salinity was increasing. Dr. White explained that the river's grass beds were now gone due to increased rainfall. Considerable rainfall causes turbidity that prevents light from penetrating to the</p>

vegetation. Dr. White explained that the loss of submerged vegetation is bad for fishing because if there are no grass beds, then there is no nursery area for shrimp, fish and other species that are all a part of the food chain.

Dr. White reported that the George Holt artificial reef has been impacted by considerable sediment. The biennial inspection to monitor the artificial reef will be January 2019. The Holt and CCA artificial reefs are deployed in the St. Johns River south of the Fuller Warren and north of the Buckman Bridges.

In his monthly update on the status of manatees, Dr. Gerard Pinto reported on an undetermined manatee fatality discovered in the IntraCoastal Waterway on October 20, 2018. There have been nine (9) manatee deaths reported this year. At this point last year, there had been nineteen (19) reported so this year is a great improvement.

December 12, 2018

In the St. Johns River Status Report on Water Quality and Manatees, Dr. Quinton White reported that it was a quiet time with regards to water quality issues. We were 6 inches above average rainfall and more rain is expected. The salinity level in the river is relatively low. The water temperature was mild and warmer for this time of the year. Dr. White reiterated that it was night temperatures that determined the water's temperature during the day. Inspections of the river's artificial reefs are planned for January 2019.

Dr. White reported that at a meeting of the Mayport Waterfronts Partnership on the previous day (December 11, 2018), Reynolds, Smith and Hills was awarded a contract to design and construct new docks at Mayport.

The Chair, Council Member Boyer, suggested that the U.S. Army Corps of Engineers be invited to the next Waterways Commission meeting to explain the permitting process and timeline for the design and construction of docks.

With regard to the permitting process for the design and construction of new docks, Commissioner Lindsey Brock reported that the existing Special Pragmatic General Permit (SPGP) agreement between the Florida Department of Environmental Protection and the Army Corps of Engineers expired in May 2018. A new SPGP is currently being crafted. Commissioner Brock believes that it is an internal process but will have more information to report back to and update the Commission after attending a webinar on the issues.

Dr. White reported on a forthcoming forum at Jacksonville University on hurricanes and sea level rise. One of the forum hosts is SECORA (Southeast Coastal Ocean Observing Regional Association). The other co-hosts are Jacksonville University Marine Science Research Institute and the St. Johns Riverkeeper. The forum is schedule for January 15, 2019.

Dr. Gerard Pinto reported that there were no new manatee fatalities to report. There have been 9 (nine) manatee deaths for the year. The high number of manatee fatalities reported statewide is linked to red tide. There were 772 fatalities statewide this year, 538 reported fatalities last year.

Dr. Pinto noted that the 2018 Manatee Protection Plan Implementation Report had been distributed to the Waterways Commissioners. Dr. Pinto implored the Commissioners to read the report carefully and be prepared to vote on whether or not to recommend approval of the report at the next Waterways Commission meeting.

January 9, 2019

Dr. Gerard Pinto fielded questions on the 2018 Manatee Protection Implementation Plan that had previously been distributed for the Commissioners' review. In response to a question about the time frame for Manatee Protection Implementation Plans, Dr. Pinto explained that in 2020, the City is expected to revisit and, if necessary, revise the Plan.

In the St. Johns River Status Report on Water Quality and Manatees, Dr. White reported that there has been excessive runoff in the river this year, the result of considerable rainfall throughout the year. He explained that we have had a warm winter and that water temperatures have been warm. Salinity is abnormally low and tides are running higher than normal. There has not been a lot of marine activity to report.

Dr. White reported that negotiations are currently underway for efforts to acquire JTA property in Mayport, near the ferry, for dockage area to berth the Oearch shark tracking research vessel. The research vessel will be in Mayport in February.

There will be a forum at Jacksonville University on January 19, 2019 that will focus on hurricanes and sea level rise. The forum will be hosted by SECOORA (Southeast Coastal Ocean Observing Regional Association, part of the NOAA system), St. Johns Riverkeeper and Jacksonville University.

In his report on the status of manatees in the river and tributaries, Dr. Pinto reported that there have been two manatee fatalities since his last report. One was in the Ortega River basin, the cause linked to cold stress. The other was in the Ribault River, also the result of cold stress. At the end of 2018, there had been eleven (11) manatee fatalities reported for the year. None of the eleven manatee fatalities reported in 2018 were the result of watercraft related issues. Statewide, the total number of manatee fatalities was 823; 121 were watercraft-related. 211 manatee fatalities statewide were attributed to red tide.

Dr. Pinto indicated that the state's manatee population is increasing. He explained the variables involved with aerial surveys in counting manatees.

The Chair, Council Member Lori Boyer, said that she was interested in knowing what were the criteria in the State of Florida's mandate to thirteen counties to have a manatee protection plan in place. Dr. White explained that the counties were identified as the jurisdictions that had had the most manatee fatalities reported in the State. Originally, there were only 12 counties identified. Duval County was subsequently added to the list because of the high number of watercraft-related fatalities in Duval County. The manatee protection plans were crafted by the State of Florida in the 1970s. Dr. White explained that while the status of manatees has changed from endangered species to threatened species, the protective mechanisms for manatees remain intact. He added that boaters have increasingly been adhering to manatee protective measures such as signage in no-wake zones that have resulted in a reduction of the number and frequency of watercraft-related fatalities.

Dr. White said that there is no correlation between the construction of additional marina slips and manatee fatalities. Marinas, he explained, are like parking lots; parking lots do not cause automobile accidents.

February 13, 2019

On the St. Johns River Status Report on Water Quality and Manatees, Dr. Quinton White, Jacksonville University, reported that a warming trend of the river's temperature continues. He reiterated that in evaluating the river's water temperature it is best assessed by looking at the nighttime lows rather than the daylight's highs. Dr. White reported that the salinity in the river remains somewhat low; he attributed the low level of salinity to an excessive rainfall pattern. Increased turbidity in the river is attributed to Hurricane Irma.

Dr. White reported that the inshore artificial reefs in the St. Johns River in the San Marco area are still being monitored by JU and Jacksonville Sheriff's Office divers. Dr. White reported that both the CCA and Holt artificial reefs have barnacles, but show the impact of fresh water. The Holt reef is heavily silted.

Dr. White reported that the shark tracking research vessel Ocearch has been off the Jacksonville coast, since February 10th. Sharks are being tracked further offshore. The ocean's water temperature is ideal for great white sharks.

In his report on the status of manatees, Dr. Gerard Pinto commented that this is a quiet time for manatees. He reported that there had been an aerial survey of manatees at the end of January, but the numbers are not available yet. It appears that there are fewer manatees in our area than there were last year. There have been no reports of manatee fatalities this year, and that is good news.

March 13, 2019

The Commission next heard the remarks of Drs. Quinto White and Gerard Pinto of Jacksonville University on the monthly St. Johns River Report on Water Quality and Manatees.

Dr. White reported that this has been an interesting year with the river. Currently, the rainfall has been less than normal; the water level has been higher than normal. He reported that salinity is below expectations. Water temperatures are rising nicely and are currently in the mid-60s. We did not have the extensive cold weather this year that we had the previous year. We look for water temperature nearing 68 for manatees to survive and manatees are returning. Fishing remains slow in the stem of the river. Dolphins are back in the river.

Dr. White explained that northeast Florida and southeast Georgia are the calving grounds for right whales. Last year, because of the exceedingly cold weather, there were no right whale calves reported being born; this year, there have been reports of seven calves being born.

Dr. White reported that *Ocearch*, the shark tracking research vessel, has just returned from an expedition off the coasts of Jacksonville, Georgia and South Carolina. Four great white and four Tiger sharks were caught; four of the great white sharks were tagged, one of the Tiger sharks was tagged.

Dr. White reported that legislation is currently moving through the City Council concerning Mayport, *Ocearch* and the City of Jacksonville, authorizing of a lease between Jacksonville University and the City for the property in Mayport currently being used by JTA's ferry operations. Dr. White said that he has met with the U.S. Army Corps of Engineers to try and expedite the permitting process to eventually berth *Ocearch* at the new docks that are going to be constructed in Mayport.

Dr. Pinto indicated that since it is still early in the year, there is not much to report on the manatee front. The numbers are in for the state sponsored synoptic survey of manatees. There are an estimated 5,733 manatees in Florida which is slightly less than last year's count. Most of the manatees counted are on Florida's west coast. Dr. Pinto explained that the lesser number of manatees counted on the east coast can be attributed to the bad weather encountered at the time of the survey. Dr. Pinto noted that there have been no manatee fatalities in Jacksonville to report this year.

April 10, 2019

Dr. White said that a JU marine science graduate student several years ago did research on oyster beds in Sisters Creek, Clapboard Creek and Pumpkin Hill Creek on the Northside and found that success of oyster beds is heavily dependent on a number of factors, including water salinity, wave action, level of active use, etc.

The St. Johns River is warming and has passed the 70 degree threshold that generally signals the return of manatees and better fishing conditions. Salinity remains low and

the water level remains higher than normal, which he attributes largely to the continuing impact of Hurricane Irma and the huge amount of fresh water is deposited in the area from that storm. Rainfall has declined in recent weeks from normal levels for this time of year. The river reefs continue to show impacts from Hurricane Irma as well; additional sampling is planned for May and June. Dr. White reported that use of boat ramps has been very high this spring but virtually none of those people are fishing – the rest are pleasure boating. He reported that an IA Angler fishing tournament will be held between Memorial Day and the Fourth of July encouraging fishermen to fish the river reefs, photograph their catch and post the pictures to social media as a means of finding out what species of fish are using the reefs. Despite distributing numerous flyers to fishermen asking for information about their experience around the reefs, Dr. White has yet to receive any responses to those flyers. He reported that meetings are ongoing to design the docks and upland facilities at Mayport for use by the Ocearch research vessel that will be homeported there. City Council recently approved the ordinance authorizing the lease for the dock and facilities by JU for Ocearch. Dr. White also reported that Florida's Secretary of the Department of Environmental Protection would be in Jacksonville at the end of the week to give Jacksonville University an award for environmental stewardship. That will occur on JU's Charter Day, a celebration of the university's founding in April of 1934, during which students will perform a variety of community service projects throughout the city.

Dr. Gerry Pinto of JU's Marine Science Research Institute said that there has been no manatee activity yet this month, but the water temperature is reaching a level that should indicate their return very soon. Manatee Media Day will be held on April 19th to inform boaters about the manatees' return and to advise caution on the water. There have been no manatee deaths thus far this year. Commissioner Birtalan said that he is an avid fisherman and after the last dredging a couple of years ago in his community's canals off Mill Cove, within 6 months he began seeing fish species that had never been seen in those waters before (snook, flounder, tarpon, etc.) and the quality of the oyster beds improved tremendously over the next couple of years. He suggested that a public investment in eco-restoration in creeks and canal systems would produce great water quality improvements. Chairwoman Boyer suggested to Dr. White that one way to publicize the location and availability of the in-shore reefs would be to get Mayor Curry, an avid fisherman, to fish the reefs and publicize them via his Twitter account.

May 15, 2019

Dr. White stated that the algae is not looking good and will get worse before it gets better due to months of impact from Irma and the water coming from Southern Florida that is triggering the algae to bloom. Salinity has returned to normal numbers since Irma. Water is warming up to the 80s. Currently trying to get the NOAA Port System back on at Jacksonville University, so they can measure the salinity and temperature of the water. In the San Marco area, it is being seen that the salinity numbers are increasing, which is typical to pre-Irma. Rainfall is lower than normal at 12.5 inches since the beginning of the year. Low rainfall will be the one thing that can slow down the algae bloom. Dr. White highlighted concerns about the phosphorus levels when the water begins to heat up. Mr. Pringle asked what is being done to correct the issues with nutrients coming down stream. Dr. White deferred to the resolution that was being presented later on in the Committee.

Dr. Gerry Pinto of JU's Marine Science Research Institute said that manatees

are back in town with many sightings from the public quite regularly. There have been two manatee mortalities, one via watercraft on April 29th reported near the Landing. The other one was reported at the JEA San Carlos Creek area with an undetermined cause of death. Mr. Adkinson asked what size watercraft caused the death of the manatee. Dr. Pinto said that information is not normally given in the report.

June 12, 2019

Dr. White said that the city is below average rain fall by 4.5 inches and the water temperature is slightly warmer than the average. Dr. White said that there has been a lot of spotty rain this season. Major algae problems are continuing, due to a lot of nutrients coming from the south. The salinity is back to a normal level.

Dr. Pinto stated that there a third of the normal number of manatees seen in the area currently and are most likely farther south. The current count is 54 manatees. No new mortalities of manatees since last meeting, standing at a total of 2 mortalities.

July 25, 2019

No meeting

August 28, 2019

Dr. Pinto gave an update on manatee mortalities. Since the last meeting there have been two more watercraft mortalities. This brings the total to 4 watercraft and 1 undetermined for the year. Dr. White talked about the wide range of the salinity in the St. John's River. The City is currently in a wet period, with 7 inches of raining falling in the month of August. The annual rain fall amount is a little low this year. Dr. White emphasized the uncertainty of the hurricane models of Dorian. He said to prepare now and that Jacksonville University was currently pulling out all boats from the water and with the new moon on August 30th there will be the highest high tides of the year. Dr. White highlighted the Jacksonville Environmental Summit which will be on September 13th. At this event Dr. Pinto will be releasing the "State of the River", which is a report of the last 13 years of data on the river and updates.

The Proposal for the continuation of the annual JU contract with the City for the Manatee Protection Project was discussed by Jody McDaniel from the Planning Department and by Dr. White of JU. The Proposal lists the Tasks to be covered by the one year extension of the existing contract between the City and JU. Of the 9 Tasks covered in the Proposal, Task 8 includes extra work that will require an additional \$90,000 to do a Boater Speed Zone Compliance Study, which is required by the Manatee Protection Plan, as approved by the State of Florida. The base contract is for \$90,000 which covers maintaining a database, reporting to the commission the findings, monitoring manatees, and education efforts. With the addition of Task 8, the total cost to the City for all 9 Tasks is \$180,000. An ordinance to approve the contract extension and the additional Task 8 will need to be drafted. The Commission voted 7-0 to recommend approval of the contract extension with

JU for the Manatee Protection Project, including the addition of Task 8, the Boater Speed Zone Compliance Study.”

September 11, 2019 **Dr. White spoke about Hurricane Dorian and the possibility of more hurricanes on the horizon. The salinity levels remain low. Water temperature remains high which can help fuel hurricanes if they end up moving in this direction.**

Dr. Pinto had no new news to report in terms of manatees. He just reminded the commission that there have been 5 mortalities overall for the year. He also shared that on Friday there will be the Environmental Summit at UNF.

October 9, 2019 Dr. White said that water has remained warm at 81 degrees. He highlighted the issues of storm waters to the range of salinity. Dr. Pinto had to leave early, so Dr. White covered the manatee portion with an update that no manatees have died since the last meeting leaving the total at 5 for this year.

Note that manatee mortalities reported at waterways meetings are considered to be preliminary data at that time. Designations of the causes of mortality are subject to change pending finalized necropsy reports.

Law Report Summary

Good coordination and communication with the law enforcement agencies responsible for enforcing manatee speed zones within the county is an essential element of manatee protection. Although the City has minimal data to compare to previous years, the continued tracking of law enforcement efforts will allow the City to provide better analysis in future implementation reports.

The L.E. Task Force has become a valuable method for all law enforcement agencies to communicate and coordinate efforts. All federal, state, and local agencies are committed to assisting the City in boating compliance. The meetings are well attended. All agencies attended the JSO Media Awareness Day.

MEDIA ADVISORY

Annual Boating Safety & Manatee Enforcement News Conference

Who: Members of the local media are invited to join the Jacksonville Sheriff's Office; the Florida Fish and Wildlife Conservation Commission; Dock Master for the City of Jacksonville, Jim Suber; and representatives from local organizations

What: A news conference to discuss boating safety and the joint enforcement effort

When: Friday, April 19, 2019 at 10 a.m.

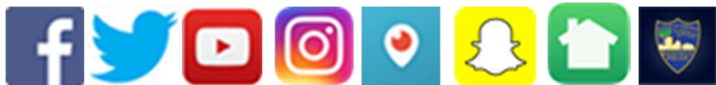
Where: Jacksonville Fire and Rescue/Jacksonville Sheriff's Office Dock at Metropolitan Park, 1408 Gator Bowl Boulevard, Jacksonville, FL 32202

Why: To kickoff boating season

For information on the Manatee Mortality Statistics, please visit <http://myfwc.com/research/manatee>.

For more information on Boating Under the Influence (BUI), please visit <http://uscgboating.org/recreational-boaters/boating-under-the-influence.php>.

Connect with us: jaxsheriff.org



The Mission of the Jacksonville Sheriff's Office is: "To Serve and Protect in Partnership with Our Community."

A. Jacksonville Sheriff's Office

In 2017, JSO spent 3,297 hours patrolling manatee zones. This represented an increase of 1,746 hrs. (+89%) from the previous year. In addition, JSO issued 2 citations (-82% or 9 less than in 2016), and 537 warnings (+65%, or 211 more than in 2016). The Marine Unity had 2 patrol officers on duty, (1 less than in 2016).

FOCUS AREA	# of times in area	Citations	Warnings	Manatee Related Incidents¹
Julington Creek	63	1	13	0
County Line - Buckman Brg	97	0	0	0
Buckman Brg - Fuller Warren Brg	128	0	10	0
Goodbys Creek	36	0	6	0
Ortega River	55	0	9	0
Fuller Warren Brg - Main Street Brg	370	0	81	0
Main Street Brg - Hart Brg	448	0	203	3
Hart Brg - Matthews Brg /Arlington River	400	1	22	0
Matthews Brg - Reddie Pt	571	0	124	2
Trout River	113	0	4	0
Reddie Pt - Blount Island	312	0	5	0
Blount Island - ICW	289	0	22	0
ICW North	86	0	22	0
ICW South*	178	0	11	0
ICW - Jetties	151	0	5	0
TOTAL	3,297	2	537	5

JSO 2017 Sept.

*Signage missing, unable to enforce zone
 JSO Marine Unit had 2 officers on duty.

In 2018, JSO spent 6,634 hours patrolling manatee zones. This represented an increase of 3,337 hrs. (+101%) from the previous year. In addition, JSO issued 41 citations (+1,950%, 39 more than in 2017), and 1,543 warnings (+187%, or 1,006 more than in 2017). The Marine Unity had 8 patrol officers on duty, (6 more than in 2017).

FOCUS AREA	# of patrols	Citations	Warnings	Manatee related Incidents
Julington Creek	114	0	23	0
County Line - Buckman Bridge	130	0	12	0
buckman Bridge - Fuller Warren Bridge	301	0	52	6
Goodbys Creek	116	0	44	1
Ortega River	176	1	62	5
Fuller Warrant Bridge - Main St Bridge	621	19	208	21
Main St Bridge - Hart Bridge	797	10	236	14
Hart Bridge - Matthews Bridge and Arlington River	958	3	225	9
Matthews Bridge - Reddie Point	1,100	2	185	7
Trout River	283	0	37	0
Reddie Point - Blount Island	533	0	55	0
Blount Island - ICW	529	1	77	3
ICW North	273	3	118	5
ICW South	291	2	67	17
ICW- Jetties	412	0	142	19
TOTAL	6,634	41	1,543	107

JSO 2018 Sept.

In 2019, JSO spent 4,958 hours patrolling manatee zones. This represented a decrease of 1,676 hrs. (-25%) from the previous year. In addition, JSO issued 22 citations (-46 %, 19 less than in 2018), and 839 warnings (-46%, or 704 less than in 2018). The Marine Unity had 8 patrol officers on duty, (same as in 2018).

FOCUS AREA	# of patrols	Citations	Warnings	Manatee related Incidents
Julington Creek	76	2	20	0
County Line - Buckman Bridge	113	0	4	0
buckman Bridge - Fuller Warren Bridge	228	0	17	0
Goodbys Creek	63	0	3	0
Ortega River	164	0	35	0
Fuller Warrant Bridge - Main St Bridge	459	6	156	1
Main St Bridge - Hart Bridge	523	2	143	1
Hart Bridge - Matthews Bridge and Arlington River	584	0	87	0
Matthews Bridge - Reddie Point	714	2	64	1
Trout River	250	0	31	0
Reddie Point - Blount Island	401	0	41	1
Blount Island - ICW	317	0	28	0
ICW North	331	2	75	2
ICW South	403	8	117	0
ICW- Jetties	332	0	18	0
TOTAL	4,958	22	839	6

JSO 2019 Sept.

In 2019, patrol effort on the water decreased by about 25% from 2018 (still 8 officers like in 2018), but remained relatively high compared to 2017 and prior years. In summary, from 2015 to 2018, JSO hours on the water patrolling manatee zones increased from 1,692 to 6,634 Hrs. (+292 % or +4,942 Hrs.); citations issued increased from 7 to 41 (+486% or +34); and warnings increased from 16 to 1,543 (+9,544 % or 1,527 warnings). In addition, the number of available officers increased from 3 in 2015 to 8 in 2018 (+300%). Moreover, specific manatee related incidents increased from 1 in 2015 to 107 in 2018 (+2,040%).

YEAR	# of patrols	Citations	Warnings	Manatee related Incidents	Officers
2014	105	5	41	0	-
2015	1,692	7	16	1	-
2016	1,551	11	326	2	3
2017	3,297	2	537	5	2
2018	6,634	41	1,543	107	8
2019	4,958	22	839	6	8

B. Florida Fish and Wildlife Commission

The City of Jacksonville began to receive quarterly reports from FWC in November 2014. In the 2014-2015 year, FWC gave 161 citations for the Duval County area. FWC cited more boats in the ICW and the downtown area.

FWC 2015	# of times in area	Citations	Warnings
FOCUS AREA			
Julington Creek		15	
County Line - Buckman Brg			
Buckman Brg - Fuller Warren Brg		2	
Goodbys Creek			
Ortega River		5	
Fuller Warren Brg - Main Street Brg		22	
Main Street Brg - Hart Brg		7	
Hart Brg - Matthews Brg / Arlington River		12	
Matthews Brg - Reddie Pt		5	
Trout River			
Reddie Pt - Blount Island		1	
Blount Island - ICW			
ICW North		20	
ICW South		32	
ICW - Jetties		12	
In St. Johns River		23	
not marked location		5	
TOTAL		161	

FDLE 2015.

In the 2015-2016 year, FWC gave 68 citations for the Duval County area. FWC cited more boats in the ICW, downtown area, and Julington Creek. There were significantly less citations issued than the previous year, with 93 fewer citations issued as compared to 2015.

FWC 2016	# of times in area	Citations	Warnings
FOCUS AREA			
Julington Creek		11	
County Line - Buckman Brg			
Buckman Brg - Fuller Warren Brg			
Goodbys Creek			
Ortega River		1	
Fuller Warren Brg - Main Street Brg		39	
Main Street Brg - Hart Brg			
Hart Brg - Matthews Brg /Arlington River			
Matthews Brg - Reddie Pt		2	
Trout River			
Reddie Pt - Blount Island			
Blount Island - ICW			
ICW North		7	
ICW South		6	
ICW - Jetties		2	
In St. Johns River			
not marked location			
TOTAL		68	

FDLE 2016.

In the 2016-2017 year, FWC gave 27 citations for the Duval County area. FWC cited more boats in the downtown area. There were significantly less citations issued than the previous year, with 41 fewer citations issued as compared to 2016.

FWC 2017			
FOCUS AREA	# of times in area	Citations	Warnings
Julington Creek		1	
County Line - Buckman Brg			
Buckman Brg - Fuller Warren Brg		1	
Goodbys Creek			
Ortega River		1	
Fuller Warren Brg - Main Street Brg		11	
Main Street Brg - Hart Brg		5+2	
Hart Brg - Matthews Brg /Arlington River		2	
Matthews Brg - Reddie Pt			
Trout River			
Reddie Pt - Blount Island			
Blount Island - ICW		1	
ICW North		2	
ICW South		1	
ICW - Jetties			
In St. Johns River			
not marked location			
TOTAL		27	

FDLE 2017.

From 2015 to 2017, citations issued by FWC decreased from 161 to 27 (-83%).

In the 2017-2018 year, FWC gave 5 citations for the Duval County area. There was significantly less than issued the previous year (22 fewer citations than in 2016).

FWC 2018			
FOCUS AREA	# of times in area	Citations	Warnings
Julington Creek			
County Line - Buckman Brg			
Buckman Brg - Fuller Warren Brg			
Goodbys Creek			
Ortega River		1	
Fuller Warren Brg - Main Street Brg			
Main Street Brg - Hart Brg		2	
Hart Brg - Matthews Brg /Arlington River			
Matthews Brg - Reddie Pt			
Trout River			
Reddie Pt - Blount Island			
Blount Island - ICW			
ICW North		2	
ICW South			
ICW - Jetties			
In St. Johns River			
not marked location			
TOTAL		5	

FDLE 2018.

No data was provided for 2019.

C. US Coast Guard

The City of Jacksonville received 2 multi-agency reports from the USCG. The USCG has been willing and active in manatee protection efforts, but the problem is the constant turnover of personnel assigned to Sector Jacksonville. The USCG has been attending the L.E. Task Force meetings.

FOCUS AREA	# of times in area	Citations	Warnings
Julington Creek			
County Line - Buckman Brg			
Buckman Brg - Fuller Warren Brg			
Goodbys Creek			
Ortega River			
Fuller Warren Brg - Main Street Brg	6	1	
Main Street Brg - Hart Brg			
Hart Brg - Matthews Brg / Arlington River			
Matthews Brg - Reddie Pt			
Trout River			
Reddie Pt - Blount Island			
Blount Island - ICW			
ICW North	13		
ICW South	10		
ICW - Jetties	14	5	
TOTAL	43	6	

USCG 2016.

FOCUS AREA	# of times in area	Citations	Warnings
Julington Creek	11		0
County Line - Buckman Brg	20		0
Buckman Brg - Fuller Warren Brg	28		0
Goodbys Creek	0		0
Ortega River	12		0
Fuller Warren Brg - Main Street Brg	36		3
Main Street Brg - Hart Brg	36		0
Hart Brg - Matthews Brg and Arlington River	38		0
Matthews Brg - Reddie Pt	50		0
Trout River	17		0
Reddie Pt - Blount Island	50		0
Blount Island - ICW	77		0
ICW North	91		10
ICW South	88		9
ICW - Jetties*	88		19
TOTAL	642		41

*zone still not enforceable due to lack of signage

USCG 2017.

USCG significantly increased hours of operation in the area from 43 hrs. (2016) to 642 hrs. (2017). There was an increase in the warnings given from 6 (2016) to 41 (2017). The area of the ICW near the Jetties remains unenforceable due to a lack of signage. No report was received for 2018, 2019.

D. Multi agency deployments

Six multi-agency deployments were held in 2015. A combined 259 hours of law enforcement presence was reported during the 6 deployment weekends. A total of 16 citations and 12 warnings were given.

Multi agency USCG / JSO 2015

FOCUS AREA	# of times in area	Citations	Warnings
Julington Creek	7	4	2
County Line - Buckman Brg	12		
Buckman Brg - Fuller Warren Brg	23		
Goodbys Creek	6		
Ortega River	6		
Fuller Warren Brg - Main Street Brg	24		2
Main Street Brg - Hart Brg	36		5
Hart Brg - Matthews Brg / Arlington River	32		
Matthews Brg - Reddie Pt	47	1	1
Trout River	8		
Reddie Pt - Blount Island	14		
Blount Island - ICW	14	1	
ICW North	4	2	
ICW South	16	8	1
ICW - Jetties	10		1
TOTAL	259	16	12

USCG / JSO 2015.

In 2016, six multi-agency deployments were held. A combined 244 hours of law enforcement presence was reported during the 6 deployment weekends. A total of 1 citations and 52 warnings were given.

Multi agency USCG / JSO 2016

FOCUS AREA	# of times in area	Citations	Warnings
Julington Creek	3	0	1
County Line - Buckman Brg	7	0	0
Buckman Brg - Fuller Warren Brg	16	0	0
Goodbys Creek	1	0	0
Ortega River	1	0	0
Fuller Warren Brg - Main Street Brg	27	0	8
Main Street Brg - Hart Brg	36	0	9
Hart Brg - Matthews Brg /Arlington River	34	0	6
Matthews Brg - Reddie Pt	42	1	12
Trout River	9	0	0
Reddie Pt - Blount Island	17	0	1
Blount Island - ICW	16	0	3
ICW North	12	0	5
ICW South	12	0	7
ICW - Jetties	11	0	0
TOTAL	244	1	52

USCG / JSO 2016.

In 2017, five multi-agency deployments were held. A combined 240 hours of law enforcement presence was reported during the 5 deployment weekends. A total of 3 citations and 112 warnings were given.

Multi agency USCG / JSO 2017

FOCUS AREA	# of times in area	Citations	Warnings
Julington Creek	9	0	4
County Line - Buckman Brg	10	0	0
Buckman Brg - Fuller Warren Brg	15	0	0
Goodbys Creek	6	0	0
Ortega River	2	0	2
Fuller Warren Brg - Main Street Brg	22	1	8
Main Street Brg - Hart Brg	33	0	66
Hart Brg - Matthews Brg /Arlington River	34	1	5
Matthews Brg - Reddie Pt	54	1	12
Trout River	9	0	0
Reddie Pt - Blount Island	16	0	2
Blount Island - ICW	15	0	0
ICW North	9	0	6
ICW South	8	0	4
ICW - Jetties	9	0	1
TOTAL	240	3	112

USCG / JSO 2017.

From 2015 to 2017, total hours on the water patrolling manatee zones have decreased from 259 to 240 (-7%); citations have decreased from 16 to 3 (-81%); however, warnings issued have increased from 12 to 112 (+89%). There was no report for 2018, 2019.

EDUCATION SUMMARY

Manatee education for both students and adults continues to be an important objective of Duval County's Manatee Protection Program. Education and outreach includes the development and distribution of the Boating and Angling Guides, community manatee educational talks, participation in community festivals and other events, and transmitting information to the public via the PSA on local T.V. **The stations that have the video for their PSA rotation include WJXT4, Fox30, CBS47, and CW17. The PSA is aired when there is available space/time determined by the T.V. stations.**

Florida Fish and Wildlife Commission - Public Outreach

A total of 10,490 people were involved in the FWC Community Outreach programs and events. The events ranged from School based education programs to Zoo summer camps and festivals. Specifically, FWC reported 2,490 attendees (not including ~8,000 Right Whale Festival and ~15,000 Jacksonville Boat Show).

City of Jacksonville Parks Naturalist - Nature Walks and Talks

From October 2018-September 2019, a total of 491 people attended 120 hrs. of walk and talks discussions (n=46) by the Parks Department Naturalist.

From October 2017-September 2018, a total of 932 people attended 213 hrs. of walk and talks discussions (n=85) by the Parks Department Naturalist. From October 2016-September 2017, a total of 716 people attended 149 hrs. of walk and talks discussions by the Parks Department Naturalist. Furthermore, large events in March (World of Nations at Metro Park with 23,000 people) and August (Outdoor Safety Fair at Avenues Mall with 5,000 people) were not included in the outreach figures for 2017. In 2015/16, a total of 1,151 people attended 76 walk and talks discussions; and in 2014/15, 919 people attended 84 talks. These lectures were held at 11 different parks throughout Jacksonville. This number is less than the previous year (2013/14) when 1,281 attended 74 park naturalist talks at 13 different locations.

Jacksonville University - Public Outreach

In 2019, 4,895 people (excluding digital media, TV, Radio and Times Union newspaper) attended JU manatee education talks for a variety of schools and community groups compared to 2018 (3,389), and 2017/2016 (3,081 and 1,179, respectively).

In addition, 1,000 people attended the Aqua Jax Festival at MOSH, and Earth Day. About 5,484 people attended the Jacksonville Science Festival (MOSH). Moreover, attendance at the Right Whale Festival was 5000 (Jacksonville Beach or **Fernandina Beach**); Manatee Festival 3000 (Jacksonville Zoological Gardens); and Science on the St. Johns 385 (Jacksonville University's Marine Science Research Institute).

Public Service Announcement (PSA)

Clear Channel reported that The Manatee PSA was conducted as a digital PSA program. The program ran for May-June 2019 (July-September spots sold out-unavailable). Clear Channel provided 23,078 eight-second digital spots:

<u>Impressions (# 8 sec. spots)</u>	<u>Value</u>
May: 12,142	\$ 520.54
June: 7,002	\$ 468.69
<u>Total: 23,078</u>	<u>\$ 989.23</u>

2018: The message was displayed beginning in April, and through the boating season until September. The PSA was shown at 3 locations each month, and shared time with other not-for-profits. Following is a breakdown of “impressions” aired. Each impression is defined as the number of eight-second “spots”.

<u>Impressions (# 8 sec. spots)</u>	<u>Value</u>
April: 11,095	\$ 475.50
May: 12,833	\$ 549.99
June: 7,002	\$ 300.09
July: 39,793	\$1,705.41
Aug: 8,660	\$ 371.14
Sept: 5,234	\$ 224.31
Total: 84,617	\$3,626.44

AWARENESS SUMMARY

- **Created PSA was aired 84,617 times in 2018, and 23,078 times in 2019.**
- **JSO held Media Day to stress safe boating and to be aware of manatees in the area.**
- **Dr. White does a monthly newspaper column with FTU and has discussed manatees.**
- **Dr. Pinto conducted 3 manatee aerial surveys.**
- **From October 2018 to September 2019, 24 single family dock permits were issued in Duval County as compared to 82 in (2017/18), 71 in (2016/17), 65 (2015/16), 59 (2014/15) and 71 (2013/14) for the same months.**

A total of **three (3)** manatee sighting flights were conducted over the county to determine movement patterns of manatees, this including one State Synoptic Aerial Survey. The information is provided to stake holders including law enforcement (Federal, State and County). Stake holders included the Jacksonville Marine Transportation Exchange Network (JMTX), Jacksonville Port, P1 boat race that typically runs a race in June in the waters south of downtown, and the media (Florida Time Union, First Coast News and Others). In addition, local FWC Marine Mammal Recovery Unit personnel and Sea to Shore Alliance staff are notified about the latest manatee sightings report and map. **In 2018/2019, the number of manatee observations was lower than usual due to major storms/hurricanes developing from as far back as 2017 - deleterious effects on submerged vegetation food supply. Additionally, there were fewer survey flights than previous years. In 2019, there was a high of 54 animals compared to 23 animals (2018) and 90 manatees in 2017 (2-3 surveys/year). This was lower than in 2016 when the Single highest day count was 217 animals per survey (May 2016) – which was the highest count to date, and generated media interest worldwide (6 surveys/year). In 2016, the mean number of manatees in Duval County was 102 manatees per survey, and in 2015 it was 57 manatees per survey. For comparison, there was a mean of 28 manatees/survey in 2019, 11 manatees/survey (2018), and 33 manatees/survey (2017).**

Just like in Lee County, Florida (**Semeyn, et al. 2011**) the manatee count and distribution information in the form of maps is disseminated to local, state and federal law enforcement, maritime industry groups, the port, and the media so that efforts can be focused on raising public awareness through education.

Table of Educational presentations by JU (2018-19).

Speaker	Date	Address	Time	Organization	POC	Number	Ages	Topic					
2018 OCTOBER													
Dr. Pinto	10/2/2018	Duval	12:00-13:00	JU Beta Beta Beta	Beta Beta Beta - Maya Fisher	15	Adults	Panel discussion, manatee research, St. John River					
Dr. Pinto	10/5/2018	Duval	09:00-12:00	Christ the King visit to JU	RK-Emily Flore	80	Middle Schoolers	Manatees and St. Johns River					
2018 NOVEMBER													
2018 DECEMBER													
2019 JANUARY													
Dr. White	1/9/2019	Duval	7:00-9:00	Wild Amelia	Laurie DeGorgio	40	Adults	Manatees and Endangered Species					
Dr. Pinto	1/22/2019	Duval	10-11:30	Amelia Island Mens Club	Keith Thompson	40	Adults	Manatees/ SJR Report/ Dolphins/Aquaculture/Summer Camp					
Dr. Pinto	1/24/2019	Duval	11:00-12:15	St. Marks Episcopal School	Ms. Jennie Busey	30	Middle Schoolers 6th Graders	Manatees/St. Johns River					
Dr. Pinto	1/31/2019	Duval	11:00	FSCJ South Campus	Dr. Doreen Sterling	2	Aministrators	Manatees/River Report					
2019 FEBRUARY													
Dr. Pinto	2/2/2019	Duval	08:30-4:30	Jax AquaFest	Elizabeth Valnoha	1,149	Various	St. Johns River Report/Manatees					
Dr. Pinto	2/2/2019	Duval	08:30-4:30	Jax AquaFest	Elizabeth Valnoha	1,149	Various	Manatees/St. Johns River					
Dr. Pinto/Dr. White	2/2/2019	Duval	14:00-15:00	Jax AquaFest - Talk	Elizabeth Valnoha	15	Various	Manatees in Duval Co.					
Dr. Pinto/Dr. White	2/16/2019	Duval	09:00-14:00	Manatee Festival at Jax Zoo	ZOO JAX - Liam Major Gate attendance was 7,241	200-1000+	All ages	Manatees in Duval Co.					
2019 MARCH													
Dr. White	3/5/2019	Duval	6:00-8:00	World Affairs Council	Trina Mederve	40	Adults	Marine Conservation/Manatees and Beyond					
Dr. Pinto	3/18/2019	Duval	8:30-12:00	Iowa State/NC State Universities Urban Biodiversity	Jan Thompson/Gerorge Hess	16	Adults	Manatees/SJR/Urban Biodiversity					
Dr. Pinto	3/27/2018	Duval	10:00-12:00	University Christian School	Emily Flore River Keeper	25 + 2	Juniors/Seniors	Manatees/SJR					
Dr. Pinto	3/29/2019	Duval	10:00-11:00	University Christian School	Emily Flore RK, Home School Grp	6+4	Young	Manatees/SJR					
Dr. Pinto	3/29/2019	Duval	11:00-12:00	University Christian School	Emily Flore RK, Home School Grp	25+4	Midschoolers	Manatees/SJR					
Dr. Pinto	3/2/2019	Duval	08:30-16:00	Jacksonville Science Festival - Jax Beach3/2 /FSCJ 3/7, 3/8	Nadia Hionides	175-1000+	All ages	Montorship					
2019 APRIL													
Dr. Pinto	4/9/2019	Duval	13:00-14:00	Water Policy Working Group	River Keeper Org	3	Adults	Manatees/St. Johns River					
Dr. Pinto	4/17/2019	Clay	10:00-13:30	Fleming Island HS	Amy Stalker _ AP Geogaphy	22		Manatees/St. Johns River/Aquaculture					
Dr. Pinto	4/17/2019	Clay	10:00-13:31	Fleming Island HS	Amy Stalker _ AP Geogaphy	24		Manatees/St. Johns River/Aquaculture					
Dr. Pinto	4/17/2019	Clay	10:00-13:32	Fleming Island HS	Amy Stalker _ AP Geogaphy	24		Manatees/St. Johns River/Aquaculture					
Dr. Pinto	4/19/2019	Duval	10:00-12:00	Manatee Day Press Conference	Law Enforcement Agencies etc.	TV	All ages	Metro Park./River/Enforcement stop					
2019 MAY													
Dr. Pinto	5/6/2019	Duval	10-11:30	WILMAS - zoology Museum	Jeanine Garrett	20+3	4's	Zoology Museum - Manatees					
Dr. Pinto	5/10/2019	Duval	9:00-10:15 AM	WILMAS-Boat/Manatees Grp 1	Jeanine Garrett	10+5	4's	MSRI Boat Manatees					
Dr. Pinto	5/10/2019	Duval	10:30-11:30	WILMAS-Boat/Manatees Grp 2	Jeanine Garrett	10+5	4's	RR Manatees					
Dr. White	5/18/2019	Duval	10:00-4:00	Wild Amelia Festival	Kathy Russell	350-400	Various	Manatee and other Wildlife in NE fl					
2019 JUNE													
Dr. Pinto	6/13/2019	Duval	10-12	Camp Hope	Emily Flore _River Keeper	30+3	5th Graders	Manatees/SJR					
Dr. Pinto	6/19/2019	Duval	3-4:30	MSRI Camp	Self	18	High Scholers	Manatees/SJR Manatee videos and algae video					
2019 JULY													
Dr. Pinto	7/1/2019	Duval	10-1:30	Marine Science Camp from Fernandina	Kathy Rusty	20	MS and HS	Larkin Trip/Manatees/SJR Manatee videos and algae video					
2019 AUGUST													
2019 SEPTEMBER													
Dr. Pinto	9/12/2019	Duval	3-4pm	SJR REPORT	Steve Patterson TU	100-150,000+	Various	SJR Report, Manatees, Grass beds					
Dr. Pinto	9/19/2019	Duval		Water Policy Working Group	River Keeper org	10		sjrreport biosolids					
Dr. Pinto	9/27/2019	Duval		CBS 47 Action News Jax	Elizabeth Pace	TV		manatee compliance study					
2019 OCTOBER													
Dr. Pinto	10/11/2019	Duval	9-1030	Grace Episcopal	Emily Flore _River Keeper	28	2	Manatees and St. Johns River					
Dr. Pinto	10/17/2019	Duval	9-1030	Water Policy Working Group	River Keeper org	10		sjrreport biosolids, tributaries, kyaks and recreational use nur					
Dr. Pinto	10/21/2019	Duval	9435-1045	Scott Wilson City Council President	River Keeper org/Jimmy Orth, Lisa Rinaman, and	3		River Report					
Dr. Pinto	10/24/2019	Duval	1000-1200	Elizabeth Ross Home School Group	MSRI, Emily Flore _River Keeper	5	4	Manatees, River Report, River, Ocean					