

# Memorandum



**Date:** February 10, 2014

**To:** Honorable Chairwoman Rebeca Sosa  
and Members, Board of County Commissioners

**From:** Carlos A. Gimenez  
Mayor

A handwritten signature in blue ink, appearing to read "Carlos A. Gimenez".

**Subject:** Response to Requests for Information during the January 14, 2014 Land Use and Development Committee Meeting Regarding Item 2A / 140012

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The attached report responds to requests made at the January 14, 2014, meeting of the Land Use and Development Committee (LUDC) during the discussion of Item 2A / 140012 regarding proposed revisions to the Manatee Protection Plan. The item was deferred and is tentatively scheduled for consideration at the February 13, 2014 LUDC meeting.

Please do not hesitate to contact Lee Hefty, Assistant Director, Department of Regulatory and Economic Resources, Division of Environmental Resources Management, should you have any further questions.

Attachment

c: Robert A. Cuevas, Jr., County Attorney  
Jack Osterholt, Deputy Mayor/Director, Regulatory and Economic Resources  
Charles Anderson, Commission Auditor

**Response to Requests for Information during the January 14, 2014 Land Use and Development Committee Meeting Regarding Item 2A / 140012**

**1. Commissioner Diaz asked for the number of manatees in Miami-Dade County as compared to the number in Broward and Monroe Counties.**

Response:

Table 1.1. Manatee counts from State-wide Synoptic Surveys

YEAR	Monroe-East (FL. Keys)	Monroe- West (Mainland)	Miami-Dade	Broward *	Palm Beach
1991	14	175	112	129	309
1992	18	114	86	184	283
1995	36	193	254	448	481
1996	44	154	178	478	743
1997	61	280	147	122	290
1998	27	90	114	130	156
1999	53	261	219	158	192
2000	37	186	198	425	402
2001	28	118	116	304	446
2002	7	29	61	48	92
2003	98	470	392	1272	1395
2004	40	80	125	49	37
2005	60	244	159	261	381
2006	34	249	133	360	486
2007	45	189	59	90	130
2009	64	181	79	554	588
2010	32	110	101	805	503
2011	62	119	257	628	262

Data from “Synoptic Surveys” (aerial counts of manatees conducted during a specific 1 to 2 day period state-wide) compare the observed number of manatees between counties. The counts can be affected by factors such as water temperature, water clarity, amount of sunshine or cloudiness and the type of aircraft used (fixed wing, helicopter). However, as the surveys are conducted state-wide on the same day (or 2 days), they provide the best information on the relative density (numbers) of manatees.

On average, Miami-Dade County has the second lowest number of manatees seen during the annual surveys in the 4-county area. Data for Monroe County is presented by ‘regions’ designated by the State as Monroe-East (Florida Keys) and Monroe-West (Mainland Monroe on the southwestern corner of peninsular Florida). Monroe-County-East (Florida Keys) has the lowest number. 65% to 80% of the total manatees counted in Monroe County were from the Monroe-West (Mainland) region. Monroe County is not one of the 13 counties required to develop manatee protection plans. Miami-Dade shows a slightly decreasing trend in the manatees observed over time, while Palm Beach, Broward and Monroe counties indicate an increasing trend over time.

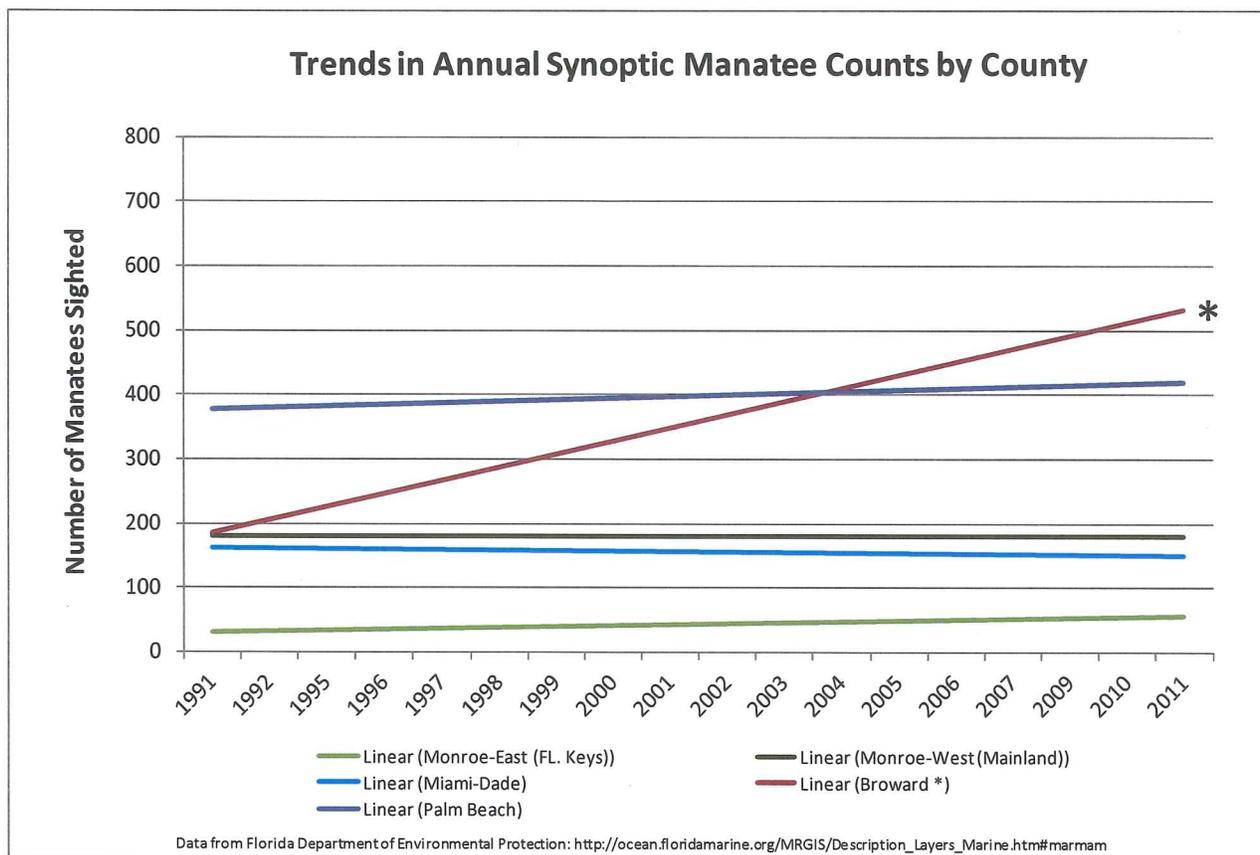


Figure 1.1. Trend In Annual Synoptic Manatee Counts by County.

\* Although the data for number of manatees in Broward County appears to show an increase over time, Broward County staff indicate that the apparent relative increase is mainly due to changes in synoptic survey methods. They report that pre-2005 survey methods likely resulted in significant underestimations of the counts.

2. **Commissioner Diaz asked for the number of manatees killed in Miami-Dade County as compared to the number in Broward and Monroe Counties (in reference to a speaker’s statement that manatee deaths caused by watercraft in Miami-Dade County are less than 1% of total statewide manatee deaths over the past 7 years).**

Response:

Figure 2.1 shows the number of vessel-related manatee deaths each year for the period of 1974 to 2013. Figure 2.1 also shows the long-term trend (line) for the number of deaths each year, with a continuing increase in the number of vessel related deaths over time.

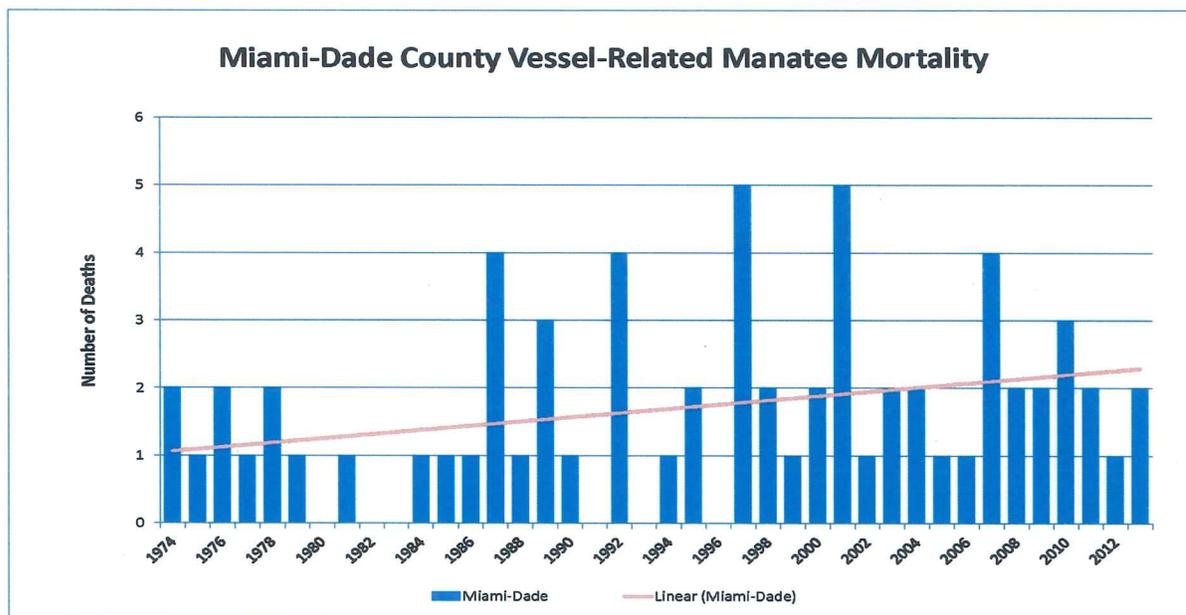


Figure 2.1. Manatee Deaths in Miami-Dade County by year, 1974-2013.

In Table 2.1, the state-wide total manatee deaths would include all causes such as cold stress and red tides, which are responsible for the majority of manatee deaths. Data for the past 7 years for the state-wide total deaths, state-wide vessel related deaths, Miami-Dade vessels deaths, and the Miami River region vessel deaths is presented below. The ‘State-Wide Deaths Vessel-related’ provides the best comparison for determining how the Miami-Dade vessel deaths compare to the State-wide values. While the vessel-related deaths in Miami-Dade were less than 1% of all manatee deaths (including red-tide, cold stress, all human related and ‘non-determined’ causes), the vessel-related deaths in Miami-Dade County accounted for 2.8% of the State-wide vessel-related deaths over the past 7 years, and the vessel-related deaths within the Miami-River region accounted for 1.6% of the State-wide vessel-related deaths.

Table 2.1 Manatee Deaths State-Wide and within the 4-County Area Over the Last 7 Years

Year	State-Wide Deaths		Vessel-Related Deaths				State-Wide Vessel related as % of Total	% of State-Wide Vessel-Related Deaths			
	Total (all Causes)	Vessel-Related	Monroe	Miami-Dade	Broward	Palm Beach		Monroe	Miami-Dade	Broward	Palm Beach
2007	317	73	3	4	1	0	23.0%	4.1%	5.5%	1.4%	0.0%
2008	337	90	2	2	3	6	26.7%	2.2%	2.2%	3.3%	6.7%
2009	429	97	3	2	3	4	22.6%	3.1%	2.1%	3.1%	4.1%
2010	766	83	1	3	4	2	10.8%	1.2%	3.6%	4.8%	2.4%
2011	453	88	5	2	2	3	19.4%	5.7%	2.3%	2.3%	3.4%
2012	392	70	0	1	3	2	17.9%	0.0%	1.4%	4.3%	2.9%
2013	829	72	3	2	2	3	8.7%	4.2%	2.8%	2.8%	4.2%

	Monroe	Miami-Dade	Broward	Palm Beach
Vessel Deaths as % of State-Wide Total Deaths (all causes)	0.5%	0.5%	0.5%	0.6%
Vessel Deaths as % of State-Wide Vessel-Related Deaths	3.0%	2.8%	3.1%	3.5%
Miami River Region Vessel Deaths as % of State-Wide Vessel-Related Deaths		1.6%		

3. **Commissioner Diaz asked about the number of boats registered and boats per capita in Miami-Dade, Broward and Monroe Counties.**

Response:

Vessel registrations within the 4-county region are provided in Table 3.1 below. Miami-Dade has the highest number of vehicle registrations, with 60,572 vessels registered in 2012 (the most recent data available from the Florida Department of Highway Safety and Motor Vehicles). Broward's numbers were approximately 75% of Miami-Dade, Monroe was less than 50% of Miami-Dade, and Palm Beach was approximately 70% of Miami-Dade's registrations. Figure 3.1 below illustrates the trend in the number of vessel registrations in each county over time. Miami-Dade shows an increasing trend, while Monroe, Broward and Palm Beach show decreasing trends.

Table 3.1. Vessel Registrations by County

Year	Miami-Dade	Broward	Monroe	Palm Beach
2000	55871	41900	26690	40109
2001	57848	47984	29204	42292
2002	57992	47994	29607	43632
2003	57965	49041	29734	44391
2004	57256	49470	29500	44560
2005	58894	51105	29990	45350
2006	60763	51375	29392	44964
2007	62324	50823	28235	44416
2008	58880	51057	29988	45294
2009	63161	45373	26330	42517
2010	61357	42967	26181	41158
2011	60458	42687	26252	39512
2012	60572	42131	26461	38363

Data source: Florida Department of Highway Safety and Motor Vehicles

Figure 3.1 Trend in Vessel Registrations (2000-2012)

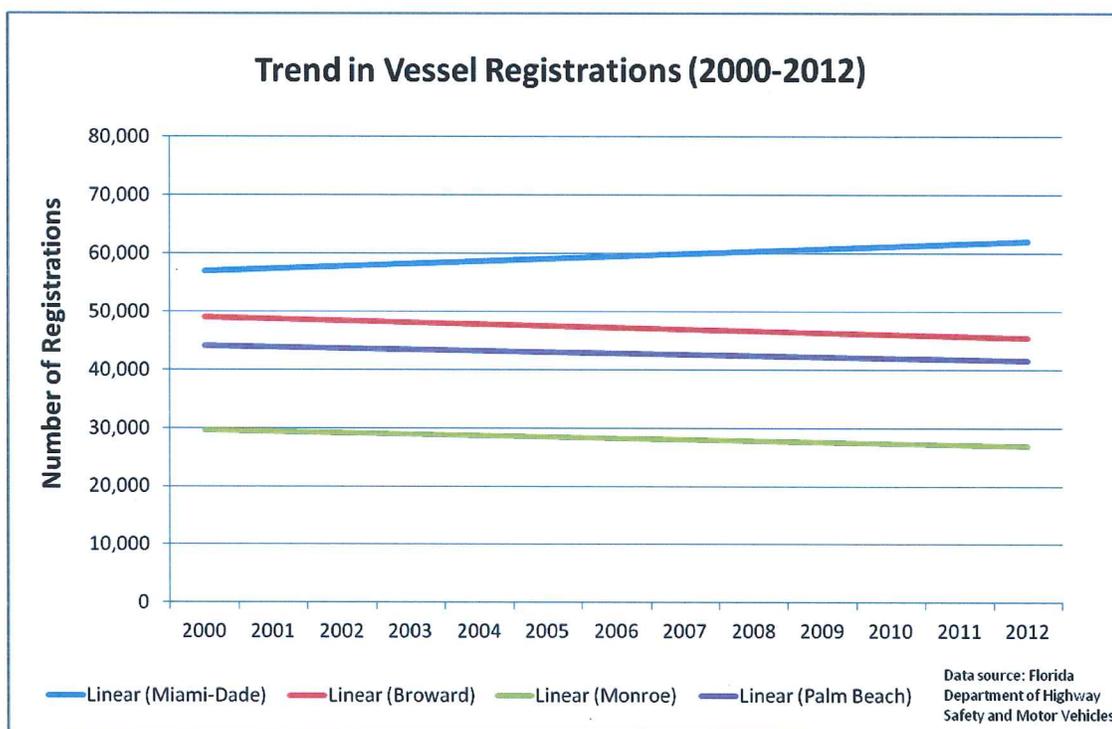


Table 3.2 below presents the 2012 human population of each county and the number of vessel registrations per 1,000 residents. Miami-Dade and Broward have equivalent numbers of registrations per capita, and Palm Beach slightly higher, although the actual number of registrations was 22,209 (37%) fewer than in Miami-Dade. Similarly, although Monroe County registrations per capita was 15 times higher than Miami-Dade, the number of vessel registrations was 34,111 (56%) fewer than Miami-Dade.

Table 3.2. Per-capita vessel registrations by County

	<b>Monroe</b>	<b>Miami-Dade</b>	<b>Broward</b>	<b>Palm Beach</b>
<b>County Population</b>	74,809	2,591,035	1,815,137	1,320,134
<b>2012 Vessel Registrations</b>	26,461	60,572	42,131	38,363
<b>Vessel Registrations per 1,000 Residents</b>	353.7	23.4	23.2	29.1

**4. Commissioner Diaz asked about regulations or restrictions on homeowners’ rights to moor boats at their properties.**

Response:

Regulations affecting the mooring of vessels at single family residential properties are generally implemented through the issuance of permits for construction of a dock at a subject property. Section 24-48 of the Miami-Dade County Code requires that a Class I coastal construction permit from the Department of Regulatory and Economic Resources, Division of Environmental Resources Management (DERM), be obtained prior to performing any work, in, on, over or upon tidal waters or coastal wetlands anywhere in Miami-Dade County. This typically involves evaluating the size, shape and location of the proposed boat dock to ensure there is adequate water depth for the mooring of vessels and to ensure that the proposed project minimizes environmental, aesthetic, and navigational impacts. In addition, as part of this process, consent from the owner of the property where the work will occur (including the submerged lands) and confirmation from the appropriate municipal zoning authority that the proposed project does not violate any zoning regulations applicable to the area are also required prior to issuance of the permit,

Much of the tidally submerged lands in Miami-Dade County, including the Miami River, are owned by the State of Florida. Therefore, proprietary approval from the state is necessary prior to issuance of a Class I permit for a dock on state-owned lands. Miami-Dade County has been delegated the authority by FDEP to grant consent for the use of State- owned submerged lands if the project is consistent with certain standards. During the application process, staff review the project to determine if proprietary authorization may be granted by DERM on the State’s behalf or if the applicant must apply directly to FDEP. Florida Statutes describe single family docks as structures which provide reasonable ingress and egress for an upland property owner. If a property owner were to lease boat slips on state lands behind their single family residence, the

State would consider this a revenue generating facility requiring a lease with the State. However, rules specific to the Biscayne Bay Aquatic Preserve, which includes the Miami River, prohibit further use, sale, lease or transfer of the sovereign lands except for private docks. There are no explicit rules regarding the use of a single family dock for occasional visitors.

The County's existing approved Manatee Protection Plan specifically states, "It is not the intent to impose any additional restrictions on single family docks. Single family docks shall continue to be constructed according to the existing DERM coastal construction guidelines." Therefore, boat docks at single family residential properties are not further limited by the Manatee Protection Plan, but are expected to comply with all existing regulations for construction and use. If an applicant for a single family residential dock were to specifically request authorization to construct boat slips in order to lease them to others, DERM would require the applicant to obtain approval from the State (i.e. the owner of the submerged lands), prior to issuance of a DERM Class I permit. Once construction of a single family residential dock is complete, DERM does not verify or enforce matters related to ownership of the vessels moored at the dock. Any complaint relating to the subsequent leasing of single family dock slips on state-owned lands would not be enforced by DERM, but would be referred to the state for any follow up action.

**5. Commissioner Jordan asked for the number of manatee deaths in Palm Beach and Broward Counties "related to like water areas, like conditions to the Miami River ... warm water area places that manatees gather."**

Response:

The comparison of "Warm Water Aggregation" areas between counties is difficult, because conditions relating to these areas, such as size, surroundings, and the level of attraction can be very site specific. The State of Florida database identifies "Aggregation Areas" for each county as listed in Table 5.1 below. Miami-Dade County has four (4) aggregation areas, Broward County has two (2) and Palm Beach County has one (1). There are no aggregation areas identified for Monroe County.

The factors that make an area an 'aggregation area' vary between the counties. For example, the Palm Beach and Broward County aggregation areas are 'warm water refuges' associated with power plant cooling water discharges. Miami-Dade's aggregation areas are associated with groundwater (warmer and possibly fresher than surface water) and fresh water inputs associated with discharges from specific canals. Additionally, vessel traffic varies in intensity and type (large vessel, recreational vessel) within each region. Miami-Dade has aggregation areas that are open to all vessels (i.e., Miami River/Port of Miami), as well as aggregation areas where the State of Florida has imposed access limitations (i.e. a portion of the Coral Gables Waterway is a 'No-Entry / Residents Only' zone). These factors can also affect the probability and relative numbers of vessel related manatee deaths within each region.

Table 5.1 State of Florida designated Aggregation Areas in the 4-county region.

**DESIGNATED AGGREGATION AREAS**

**Miami-Dade Aggregation areas:**

Black Creek                      Little River  
 Coral Gables Waterway      Miami River

**Broward Aggregation Areas**

Fort Lauderdale Power Plant  
  
 Port Everglades Power Plant

**Palm Beach Aggregation Area**

Riveria Beach Power Plant

**Monroe**

No aggregation areas identified

Table 5.2 Manatee counts in designated Aggregation Areas during Synoptic surveys

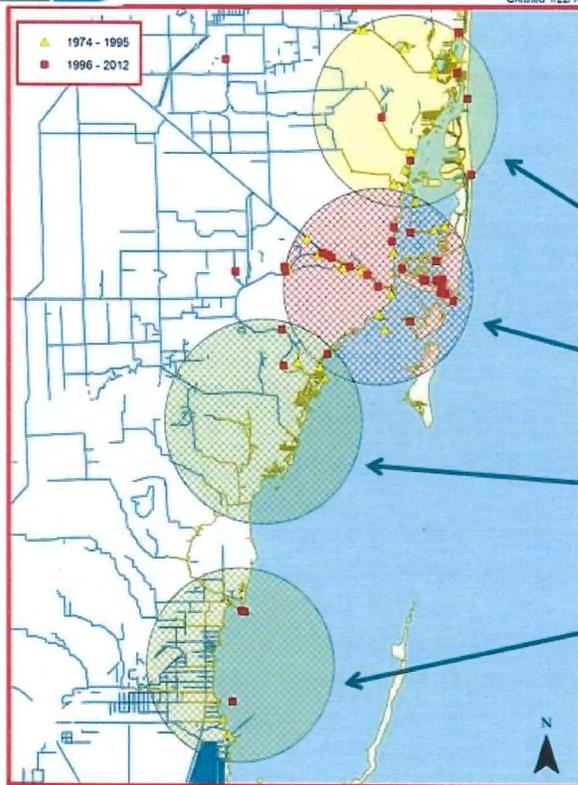
<b>YEAR</b>	<b>Miami-Dade</b>	<b>Broward</b>	<b>Palm Beach</b>
1991	59	109	182
1992	62	175	245
1995	156	433	238
1996	133	424	512
1997	80	103	176
1998	59	130	77
1999	140	117	88
2000	156	391	301
2001	69	292	362
2002	22	43	39
2003	209	1160	782
2004	31	37	13
2005	77	228	293
2006	85	334	383
2007	25	73	72
2009	65	474	357
2010	43	789	368
2011	61	389	262

The vessel-related deaths within regions of Miami-Dade are presented in Figure 5.1. Spatial analysis of vessel-related mortality indicates that more than 60% of all carcasses associated with this cause of death from 1995 to present were recovered within a 5-mile radius of the lower Miami River, as compared to 38% prior to 1995. The region with the second highest relative amount of manatee carcasses from vessel collisions is the area within 5 miles of Haulover Inlet; however, percentages improved from 41% prior to 1995 to approximately 18% after. Approximately 11% of manatee carcasses have been recovered within 5 miles of Coral Gables. Approximately 7% have been recovered within 5 miles of south Biscayne Bay canals.



**Miami-Dade County Manatee Mortalities**  
Human Related: Watercraft

Created 1/22/14



**Miami-Dade County Manatee Mortality by Region**  
Human Related: Watercraft

County Wide Totals:		Deaths	
1974-1995:		29	
1996-2012:		36	
		Total	% of Overall
<b>Haulover Inlet</b>			
1974-1995:	11	37.9%	
1996-2012:	6	16.7%	
<b>Miami River/Port</b>			
1974-1995:	13	44.8%	
1996-2012:	22	61.1%	
<b>Coral Gables</b>			
1974-1995:	3	10.3%	
1996-2012:	3	8.3%	
<b>South Bay</b>			
1974-1995:	2	6.9%	
1996-2012:	3	8.3%	

Figure 5.1 Vessel-related deaths by region within Miami-Dade County

Relative to the comparison by ‘aggregation’ areas, Table 5.3 below presents the vessel-related deaths by aggregation area for Miami-Dade, Broward and Palm Beach Counties. Figure 5.2 presents the total vessel-related deaths by identified aggregation area within each county.

Table 5.3 Vessel-related deaths by aggregation area within each County, and the Total deaths for all aggregation areas within each County.

AGGREGATION AREA	Vessel Related Deaths 1974-2013	Totals by County
Miami-Dade: Little River	18	Miami-Dade 64
Miami-Dade: Miami River	35	
Miami-Dade: Coral Gables WW	6	
Miami-Dade: Black Creek	5	
Broward: Port. Everglades PP	44	Broward 60
Broward: Ft. Lauderdale PP	16	
Palm Beach: -Riviera Beach PP	19	Palm Beach 19

Miami-Dade had the highest number of deaths in aggregation areas, followed by Broward, and Palm Beach Counties. Considering that Miami-Dade had the lowest number of manatees counted in the aggregation areas (~2,790 from 1991-2011, compared to 6,445 in Broward and 7,176 in Palm Beach), the high number of deaths can have a greater impact in Miami-Dade due to the lower overall number of manatees documented in these areas.

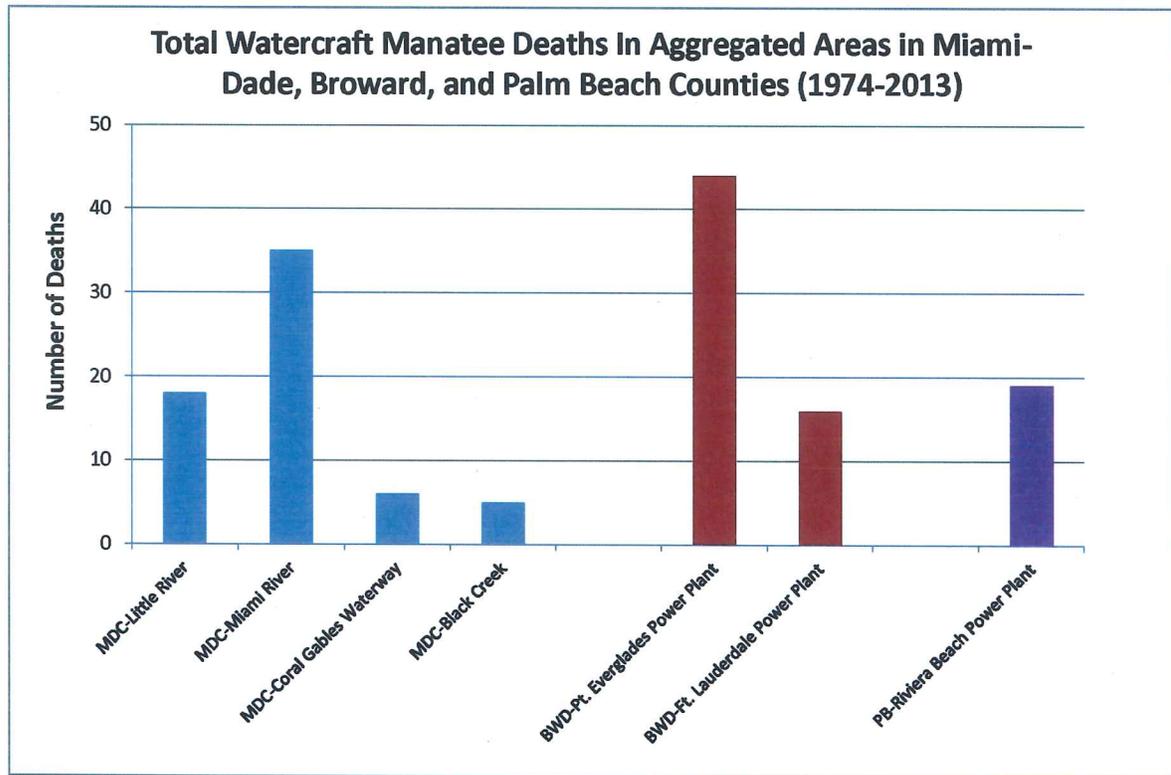


Figure 5.2. Number of vessel-related deaths by aggregation area as identified in the Florida Fish & Wildlife Conservation Commission manatee mortality database.