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**Open-Ocean Water Level Datum Planes
For Monumented Coasts of Florida**

by

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OPEN-OCEAN WATER LEVEL DATUM PLANES FOR MONUMENTED COASTS OF FLORIDA

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INTRODUCTION

Swanson (1974) notes that tidal datum planes "... are planes of reference derived from the rise and fall of the oceanic tide". There are numerous tidal datum planes. Commonly used datums in the United States include the planes of *mean higher high water* (MHHW), *mean high water* (MHW), *mean tide level* (MTL), *mean sea level* (MSL), *mean low water* (MLW), and *mean lower low water* (MLLW). Each datum is defined for a specific purpose or to help describe some tidal phenomenon. For instance, MHW datums have been specified by cartographers in some states (e.g., Florida) as a boundary of property ownership. Low water datum planes have been used as a chart datum because it is a conservative measure of water depth and, hence, provides a factor of safety in navigation. High water tidal stages have historically been of importance because they identified when sailors should report for duty when "flood tide" conditions were favorable for ocean-going craft to leave port, safely navigate treacherous ebb tidal shoals, and put to sea. Not only do tidal datum specifications vary

geographically based on local to regional conditions for purposes of boundary delineation, cartographic planes, design of coastal structures, and land use designations, etc., but they have changed historically. Moreover, given ongoing technological advancements (e.g., computer-related capabilities including the advent of the personal computer), how we approach these data numerically becomes of concern. We do not want to mistreat our data by employing seemingly sophisticated numerical analyses, the results of which do not consider the limitations of natural systems. Common sense in these instances must prevail. Highly repetitive or convoluted numerical methods may actually introduce additional or unwanted error than a simple, more straightforward analytical approach. Some analytical methods produce significant error because they are simply not commutative (e.g., Balsillie and Moore, 1985). These concerns are of such importance that they have been treated in a separate work (Balsillie, 1998a).

The primary purpose of this work is to provide a listing of elevations of commonly utilized tidal datums for each coastal location identified by surveyed DNR (Department of

Natural Resources) Reference Monuments (now stamped with the DEP designation). In addition, certain topics are discussed that are necessary for understanding the development of the listed data.

WATER LEVEL DATUM PLANES

The first recorded effort of geodetic leveling in the United States began in 1856-57. During ensuing years surveying control increased; as chronicled by Schomaker (1981) by the first quarter of this century:

After the previous period of comparatively short intervals between adjustments, 17 years elapsed before the network was adjusted again. In the meantime, it had become more extensive and complex, and included many more sea-level connections. The General Adjustment of 1929 incorporated 75,159 km of leveling in the United States and, for the first time, 31,565 km of leveling in Canada. The U.S. and Canadian networks were connected by 24 ties between Calais, Me./Brunswick, New Brunswick; and Blaine, Wash./Colebrook, British Columbia. A fixed elevation of zero was assigned to the points on mean sea level determined at the following 26 tide stations.

<i>Father Point, Quebec</i>	<i>St. Augustine, Fla.</i>
<i>Halifax, Nova Scotia</i>	<i>Cedar Keys, Fla.</i>
<i>Yarmouth, Nova Scotia</i>	<i>Pensacola, Fla.</i>
<i>Portland, Me.</i>	<i>Biloxi, Miss.</i>
<i>Boston, Mass.</i>	<i>Galveston, Tex.</i>
<i>Perth Amboy, N.J.¹</i>	<i>San Diego, Calif.</i>
<i>Atlantic City, N.J.</i>	<i>San Pedro, Calif.</i>
<i>Baltimore, Md.</i>	<i>San Francisco, Calif.</i>
<i>Annapolis, Md.</i>	<i>Fort Stevens, Ore.</i>
<i>Old Point Comfort, Va.</i>	<i>Seattle, Wash.</i>
<i>Norfolk, Va.</i>	<i>Anacortes, Wash.</i>
<i>Brunswick, Ga.</i>	<i>Vancouver, British Columbia</i>
<i>Fernandina, Fla.</i>	<i>Prince Rupert, British Columbia</i>

¹*There was no tide station at Perth Amboy, but the elevation of a bench mark at Perth Amboy was established by leveling from the tide*

station at Sandy Hook.

The 1929 adjustment provided the basis for the definition of elevations throughout the national network as it existed in 1929, and the resulting datum is still used today.

This elevation adjustment of 1929 was referred to as the "Sea Level Datum of 1929", although it commonly became known as the "Mean Sea Level". In coastal work, however, there are two applied standard Design Water Levels (DWLs). These are defined (Galvin, 1969) as:

Mean Water Level (MWL) - the time-averaged water level in the presence of waves, and

Still Water Level (SWL) - the time-averaged water level that would exist if the waves are stopped but the astronomical tide and storm surge are maintained.

These water levels (i.e., MWL and SWL) apply for any length of time over which a field study or experiment is conducted. Mean Sea Level and other tidal datums are determined as an average of measurements made over the 19-year National Tidal Datum Epoch (i.e., the Metonic cycle; shorter series are appropriately named, e.g., Monthly Mean Sea Level, etc.). It was not until 1973 that the confusion over the Sea Level Datum or "Mean Sea Level" as it popularly came to be known and Mean Water Level was resolved by assigning the more appropriate name of "National Geodetic Vertical Datum of 1929" (NGVD) to replace "Sea Level Datum of 1929". NGVD of 1929 is additionally defined (Harris, 1981) as a fixed reference adopted as a standard geodetic datum for elevations determined by leveling. It does not take into account the changing stands of sea level. Because there are many variables affecting sea level, and because the geodetic datum represents a best fit over a broad area, the relationship between the geodetic datum and local mean sea level is not consistent from one location to another in either time or space. For this reason NGVD should not be confused with mean sea level, even though it has always been defined by a mean sea level (Schomaker, 1981).

The various North American tidal datum

planes are defined (e.g., Marmer, 1951; Swanson, 1974; U. S. Department of Commerce, 1976; Anonymous, 1978; Harris, 1981; Hicks, 1984) as follows:

Mean Higher High Water (MHHW) - the average of the higher high water heights of each tidal day observed over the National Tidal Datum Epoch.

Mean High Water (MHW) - the average of all the high water heights observed over the National Tidal Datum Epoch.

Mean Sea Level (MSL) - the arithmetic mean of hourly heights observed over the National Tidal Datum Epoch. Shorter series are specified in the name; e.g., monthly mean sea level and yearly mean sea level.

Mean Tide Level (MTL) - a plane midway between Mean High Water and Mean Low Water that may also be calculated as the arithmetic mean of Mean High Water and Mean Low Water. MTL and MSL planes approximate each other along the open coast (Swanson, 1974, p. 4).

Mean Low Water (MLW) - the average of all the low water heights observed over the National Tidal Datum Epoch.

Mean Lower Low Water (MLLW) - the average of the lower low water heights of each tidal day observed over the National Tidal Datum Epoch.

National Tidal Datum Epoch - the specific 19-year period adopted by the National Ocean Service as the official time segment over which tide observations are taken and reduced to obtain mean values for tidal datums. It is necessary for standardization because of periodic and apparent secular trends in sea level. The present National Tidal Datum Epoch is 1960 through 1978. It is reviewed annually for possible revision and must be actively considered for revision every 25 years.

That mean astronomical tide elevations exhibit cyclic seasonal variability has long been established (Marmer, 1951; Swanson, 1974; Harris, 1981) and is included in tide predictions. Marmer (1951) notes that seasonal variation in terms of monthly mean sea level for the U. S. can be as much as one foot. Based on the many

years of monthly data, researchers (Marmer, 1951; Harris, 1981) note slight variations in the seasonal cycle from year-to-year, but also recognize the periodicity in peaks and troughs over the years. For much of our coast, lower mean sea levels occur during the winter months and higher mean sea levels during the fall. Harris (1981) inspected the record to determine if storm and hurricane occurrence was in any way responsible for the seasonal change, but found "... no systematic variability". Galvin (1988) reports that seasonal mean sea level changes are not completely understood, but suggests that there appears to be two primary causes for lower winter mean tide levels for the U. S. east coast: 1) strong northwest winter winds blow the water away from shore, and 2) water contracts as it cools. He notes that winds are more important in shallow water where tide gauges are located, but that contraction becomes important in deeper waters. Swanson (1974) also notes "... seasonal changes resulting from changes in direct barometric pressure, steric levels, river discharge, and wind affect the monthly variability." Shorter-term changes occur bi-weekly and monthly; longer-term changes occur in the relative levels of land and sea that are of eustatic or isostatic origins (e.g., Embleton, 1982). It is apparent, therefore, that there is natural variability associated with any average representation of tidal datums, which, for the want of better terminology, we might term natural insensitivities associated with averages. It is important that we do not exacerbate these through improper manifestations of our own making when applying tidal datums as references (see Balsillie, 1998a).

DISCUSSION AND RESULTS

Tide gauges are usually located in water bodies connected to the oceans, such as estuaries and rivers, and may even be used to record seiches such as those occurring in the Great Lakes. Here, however, the concern is with **open ocean tides**. Open ocean tide gauges are defined **as those gauges sited directly upon the open ocean nearshore waters and subject to the influence of ocean processes, excluding those under the influence of inlet hydrodynamics** (Balsillie and others, 1987a, 1987b, 1987c). The latter constraint in the definition is included even though it is difficult to determine the extent of

influence from inlet to inlet. In fact, inlets pose such a special condition that they have received special attention elsewhere (Balsillie, 1998a), and shall be discussed in a special section in this work.

Open ocean tidal datum applications in Florida are problematic because there are a limited number of gauging stations to represent astronomical tidal phenomena. While it has been standard practice to linearly interpolate open ocean tidal datums between gauges, such an approach is not recommended should the gauges be spaced further apart than about 6.2 miles (10 kilometers; Balsillie and others, 1987a). Of the 33 currently available open ocean gauges in Florida (Table 1), only three pairs of stations meet this constraint. In fact, the average distance between Florida open ocean tide gauges is 27.4 miles (44.1 kilometers). Ostensibly, the 6.2-mile constraint is recommended since concurrently similar tidal stage datum elevations can vary significantly over segments of the coastline when this distance is exceeded. In addition, it was found that linear interpolation led to results that simply do not reflect the natural behavior of coastal processes. Hence, in 1987, a non-linear *n*th-order polynomial numerical methodology was introduced and utilized to quantitatively determine open ocean tidal datums for a significant portion of Florida's ocean-fronting coasts (Balsillie and others, 1987a, 1987b, 1987c). Results of the methodology are plotted in Figures 1, 2, and 3. The general form of the *n*th order polynomial equation is given by:

$$D = a + bX + cX^2 + \dots + iX^i \quad (1)$$

in which D is the predicted tidal datum, X is the alongshore distance measured from some origin (see Table 1), and a, b, c, d, etc., are statistically determined coefficients. Resulting equations, reassessed in 1992, are listed in Table 2. The numerical fitting procedure requires that where the prognosticating fit encounters measured data points, the vertical deviation is less than ± 0.1 ft. (0.03 m) as required pursuant to professional surveying standards (3rd Order, Class II national surveying standard). The *n*th-order polynomial approach was selected following an investigation of a variety of numerical methodologies, and selected based upon identification of the relative simplicity, success, and parsimonious nature of

the polynomial fitting procedure. Success of the fit is dependent on both the number of terms comprising the polynomial, and the number of specified decimal places lying to the right of the decimal point. Resulting correlation coefficients (closest to unity), and predicted values of elevations at gauges conforming to 3rd Order, Class II national survey standards, provide information for final selection of the desired outcome. Required support data production and analytical procedures are fully automated via computer programming. Interactive software developed by the author (Balsillie and others, 1987a) has been standardized for periodic re-evaluation of the basic data as resurveyed and new tidal station elevations become available.

It is of consequence to mention the more recent work of Cole (1997, p. 39) about linear interpolation between tide gauging stations. He states *...Such an approach is not recommended where there are intervening inlets, where either existing tide station is near an inlet, where the coastline is irregular, or where the distance between the two stations is excessive.* For the purposes of his work (estuarine interiors), Cole (1997) has adopted the use of *n*th order polynomials.

An integral part of the methodology is accurate description of alongshore distances, since the numerical fitting procedure is dependent on distance. A reference shoreline was first determined by digitizing the alongshore shoreline trace from U. S. Geological Survey 1:24,000 series quad sheets. Next, an origin for each of the coastal regions involved was selected from which distances are measured; the origins are described in Table 1. Linear segments from each Department of Natural Resources (DNR, or Department of Environmental Protection, DEP) reference monument were adjusted so that each segment normally intersected the reference shoreline, and coordinates of each intersection determined. Alongshore distances were then cumulatively assessed monument by monument. In cases where the shoreline trace abruptly shifts, such as in the vicinity of an inlet, cumulative distances of more consecutive monuments can, in certain cases, diminish. An example of the alongshore distance determination methodology is illustrated in Figure 4.

**Table 1. Tidal Datums and Ranges for Open Coast Gauges of Coastal Florida
(Updated in 1992 after Balsillie and others, 1987a, 1987b, 1987c).**

Station Name	Open Coast Gauge I. D.	State Plane Coordinates		MHH W	MHW	MTL	MLW	MLLW	MTR (Feet)	X (Miles)
		Easting (Feet)	Northing (Feet)	(Ft. NGVD)						
FLORIDA EAST COAST										
Fernandina Beach	0061	362649.81	2287406.62	3.52	3.11	0.25	-2.61	—	5.72	5.831
Little Talbot Island	0194	372355.76	2216450.20	3.60	3.30	0.55	-2.19	-2.35	5.49	19.753
Jacksonville Beach	0291	377952.02	2163090.54	3.25	2.94	0.39	-2.17	-2.33	5.11	30.150
St. Augustine Beach	0587	417053.67	2008422.56	2.73	2.48	0.15	-2.17	-2.33	4.62	60.491
Daytona Beach	1020	498405.18	1779242.33	2.52	2.27	0.19	-1.88	-2.06	4.15	106.820
Daytona Beach Shores	1120	511704.59	1749549.40	2.44	2.06	0.07	-1.89	-2.06	3.98	112.990
Patrick Air Force Base	1727	628785.91	1421930.52	2.27	2.09	0.32	-1.45	-1.61	3.54	185.030
Eau Gallie Beach	1804	619782.34	1383121.82	2.25	2.07	0.33	-1.33	-1.49	3.40	191.810
Vero Beach	2105	707153.65	1213218.30	2.01	1.89	0.19	-1.51	-1.67	3.40	227.560
Lake Worth Pier	2670	815854.41	829171.49	1.93	1.87	0.47	-0.93	-1.10	2.80	304.910
Hillsboro Inlet	2862	800981.65	700015.89	1.79	1.73	0.43	-0.87	-1.03	2.60	329.700
Lauderdale-by-the-Sea	2899	797331.41	675151.18	1.99	1.93	0.63	-0.67	-0.83	2.60	334.580
North Miami Beach	3050	789219.52	581194.67	1.77	1.71	0.46	-0.79	-0.96	2.50	352.520
Miami Beach (City Pier)	3170	785773.29	522409.95	1.76	1.67	0.42	-0.84	-1.00	2.51	363.780
NOTE: X is the shoreline distance in miles south of the center line of St. Mary's Entrance Channel (northing = 2317969.50 feet; easting = 366516.31 feet).										
FLORIDA LOWER GULF COAST										
Bay Port	7151	291286.83	1527111.33	2.31	1.88	0.70	-0.48	-0.97	2.36	4.472
Howard Park	6904	241667.70	1389244.60	1.87	1.50	0.43	-0.64	-1.19	2.14	33.555
Clearwater	6724	231561.35	1325079.09	1.62	1.29	0.33	-0.64	-1.17	1.88	46.634
Indian Rocks Beach Pier	6623	224898.87	1295432.55	1.50	1.13	0.25	-0.63	-1.15	1.76	52.650
St. Petersburg Beach	6430	261046.14	1218243.36	1.52	1.16	0.42	-0.32	-0.83	1.48	69.560
Anna Maria	6243	268746.05	1150335.15	1.52	1.20	0.45	-0.29	-0.76	1.49	83.284
Venice Airport	5858	352475.83	995445.81	1.35	1.07	0.36	-0.35	-0.84	1.42	117.918
Captiva Island, South	5383	351707.10	779777.00	1.52	1.27	0.42	-0.42	-0.94	1.69	163.464
Naples	5110	563431.54	652958.84	1.81	1.55	0.50	-0.54	-1.17	2.09	205.226
Marco Island	4967	589299.92	572441.43	1.96	1.71	0.56	-0.59	-1.20	2.30	222.015
NOTES: 1. X is the shoreline distance in miles south of an arbitrary location in Hernando County, FL, with the following coordinates: northing = 1551271.53 feet; easting = 287952.53 feet).										
2. State Plane Coordinates and distances are based on Zone 3 transformations where necessary.										
FLORIDA NORTHWEST PANHANDLE COAST										
Dauphin Island	5180	871380.81	472269.39	0.87	0.82	0.26	-0.29	-0.34	1.11	-33.347
Gulf Shores	1269	999712.52	467866.88	1.20	1.13	0.50	-0.12	-0.18	1.25	-9.228
Navarre Beach	9678	1254261.65	508373.97	1.20	1.13	0.50	-0.14	-0.21	1.27	39.737
Panama City Beach	9189	1579274.67	434604.55	1.25	1.18	0.54	-0.09	-0.14	1.27	104.489
St. Andrews Park	9141	1610651.22	414248.96	1.16	1.06	0.47	-0.12	-0.23	1.18	111.489
Mexico Beach	8995	1706517.15	346061.53	1.06	1.00	0.41	-0.17	-0.22	1.17	134.479
Cape San Blas	8942	1726862.58	244076.07	1.01	0.99	0.30	-0.38	-0.38	1.37	162.615
Alligator Point	8261	2035385.12	325491.24	1.73	1.49	0.53	-0.44	-1.02	1.93	232.302
Bald Point	8237	2050145.99	344903.70	2.09	1.76	0.62	-0.52	-0.98	2.28	238.633
NOTE: X is the shoreline distance in miles east of the Alabama/Florida border with the following coordinates: northing = 478050.00 feet; easting = 1047360.00 feet).										
GENERAL NOTES:										
1. Source of information - Bureau of Survey and Mapping, Division of State Lands, Florida Department of Environmental Protection, for the National Tidal Datum Epoch of 1960-1978.										
2. MLLW = mean lower low water; MLW = mean low water; MTL = mean tide level, which along the open coast = MSL = mean sea level; MHW = mean high water; MHHW = mean higher high water; MTR = mean range of tide (i.e., MTR = MHW - MLW).										

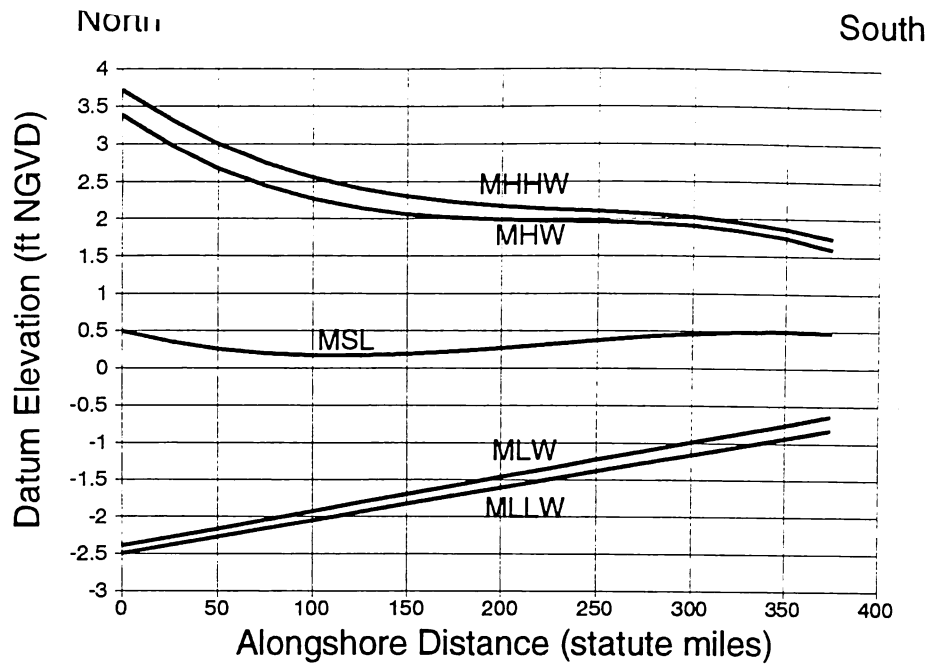


Figure 1. Relationship between open coast tidal datums and National Geodetic Vertical Datum for the Florida East Coast. Alongshore distance is measured from the center line of St. Mary's Entrance Channel proceeding south to Cape Florida. (Updated in 1992 after Balsillie and others, 1987a).

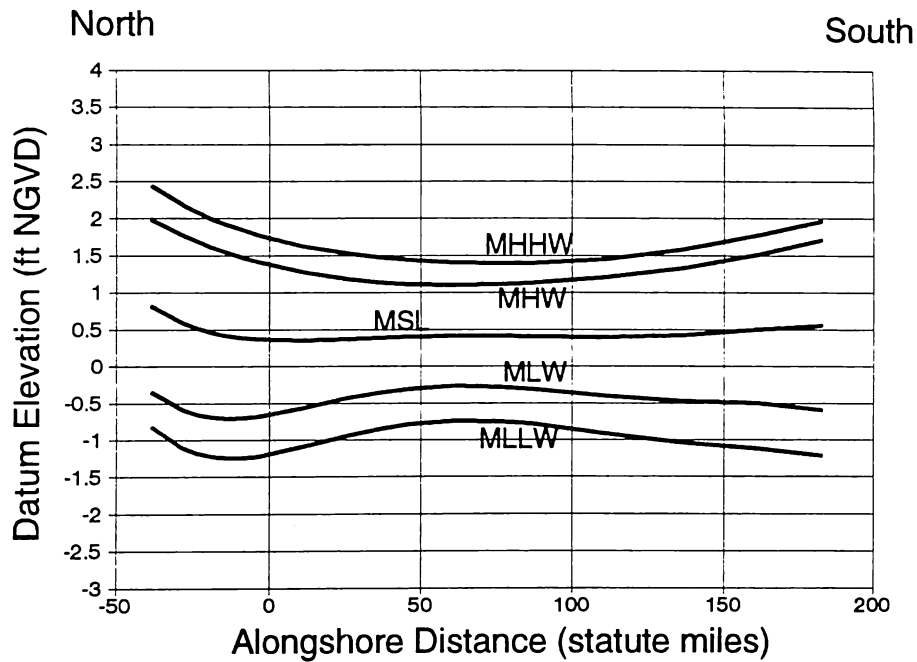


Figure 2. Relationship between open coast tidal datums and National Geodetic Vertical Datum for the Florida Lower Gulf Coast. Alongshore distance is measured from north to south with the origin located at the north end of Pinellas County (i.e., north end of Honeymoon Island) and terminating to the south at Caxambas Pass. (Updated in 1992 after Balsillie and others, 1987b).

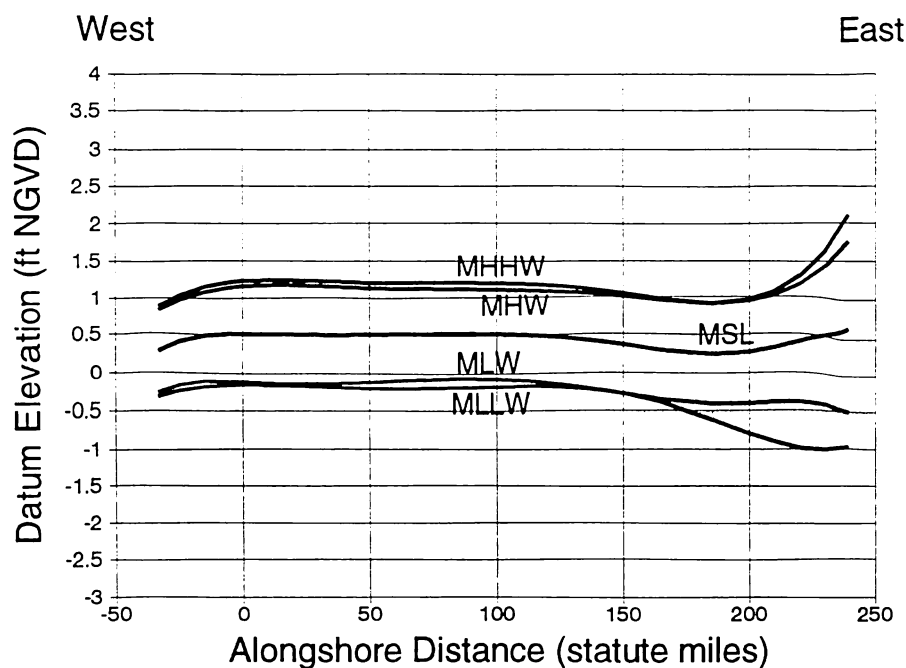


Figure 3. Relationship between open coast tidal datums and National Geodetic Vertical Datum for the Northwest Panhandle Gulf Coast of Florida. Alongshore distance is measured from the Florida-Alabama border east to Ochlockonee River Entrance. (Updated in 1992 after Balsillie and others, 1987c).

Table 2. Polynomial equations for Florida tidal datums for monumented coastlines (updated in 1992).

FLORIDA EAST COAST $\begin{aligned} \text{MHHW} &= 3.7144 - 0.017299 X + 6.5494 \times 10^{-5} X^2 - 9.0429 \times 10^{-8} X^3 \\ \text{MHW} &= 3.3755 - 0.017412 X + 7.3557 \times 10^{-5} X^2 - 1.0617 \times 10^{-7} X^3 \\ \text{MTL} &= 0.48625 - 6.356 \times 10^{-3} X + 3.67785 \times 10^{-5} X^2 - 5.3085 \times 10^{-8} X^3 \\ \text{MLW} &= -2.403 + 0.0047 X \\ \text{MLLW} &= -2.502 + 0.00447 X \end{aligned}$	
FLORIDA LOWER GULF COAST $\begin{aligned} \text{MHHW} &= 2.4407 - 0.028582 X + 3.4555 \times 10^{-4} X^2 - 2.4746 \times 10^{-6} X^3 + 9.9434 \times 10^{-9} X^4 - 1.5287 \times 10^{-11} X^5 \\ \text{MHW} &= 1.9882 - 0.022928 X + 2.1101 \times 10^{-4} X^2 - 9.1575 \times 10^{-7} X^3 + 2.254 \times 10^{-9} X^4 - 1.9328 \times 10^{-12} X^5 \\ \text{MTL} &= 0.82155 - 0.028296 X + 6.005 \times 10^{-4} X^2 - 5.5409 \times 10^{-6} X^3 - 2.308 \times 10^{-8} X^4 - 3.5267 \times 10^{-11} X^5 \\ \text{MLW} &= -0.3451 - 0.033664 X + 9.9 \times 10^{-4} X^2 - 1.0166 \times 10^{-5} X^3 + 4.3907 \times 10^{-8} X^4 - 6.8602 \times 10^{-11} X^5 \\ \text{MLLW} &= -0.81849 - 0.038294 X + 1.0896 \times 10^{-3} X^2 - 1.0806 \times 10^{-5} X^3 + 4.488 \times 10^{-8} X^4 - 6.746 \times 10^{-11} X^5 \end{aligned}$	
FLORIDA PANHANDLE GULF COAST $\begin{aligned} \text{MHHW} &= 1.2283 - 2.4678 \times 10^{-3} X - 1.4348 \times 10^{-4} X^2 + 2.4515 \times 10^{-6} X^3 - 1.6795 \times 10^{-8} X^4 + 3.8231 \times 10^{-11} X^5 \\ \text{MHW} &= 1.158 + 2.555 \times 10^{-3} X - 9.047 \times 10^{-5} X^2 + 2.4991 \times 10^{-6} X^3 - 2.5849 \times 10^{-8} X^4 + 3.004 \times 10^{-11} X^5 \\ \text{MTL} &= 0.5176 + 6.05 \times 10^{-4} X - 9.209 \times 10^{-5} X^2 + 2.513 \times 10^{-6} X^3 - 2.539 \times 10^{-8} X^4 + 1.027 \times 10^{-10} X^5 - 1.412 \times 10^{-13} X^6 \\ \text{MLW} &= -0.12284 - 1.3451 \times 10^{-3} X - 4.7182 \times 10^{-5} X^2 + 2.8895 \times 10^{-6} X^3 - 3.7052 \times 10^{-8} X^4 + 1.7531 \times 10^{-10} X^5 - 2.8244 \times 10^{-13} X^6 \\ \text{MLLW} &= -0.1688 + 5.419 \times 10^{-4} X - 8.254 \times 10^{-5} X^2 + 1.415 \times 10^{-6} X^3 - 6.835 \times 10^{-8} X^4 - 2.804 \times 10^{-12} X^5 + 4.781 \times 10^{-14} X^6 \end{aligned}$	
NOTE: X is the longshore distance in miles from the origin defined in Table 1.	

Results have been tabulated for coastal counties of Florida where coastal monumentation has sufficient systematic coverage to provide comprehensively detailed spatial distribution of results. The result is an accurate systematic description of 791.774 miles (1274.237 km) of the 1252.8 total miles (2016.1 km) of Florida's ocean fronting shorelines. Where DNR reference monuments have been installed, pursuant to s. 161.053, Florida Statutes (F. S.), they reside at approximate 1000-foot alongshore intervals no further than several hundred feet inland from the open-ocean fronting shoreline (Figure 5). Certain areas of Florida have been determined not to be subject to jurisdiction of s. 161.053, F. S. and, therefore, do not have systematic DNR coastal monumentation. These coastal reaches include the zero wave energy Big Bend coast, Monroe County including the mainland (Ten Thousand Islands, Sloughs Debouchure, and Capes of Sable) and the Florida Keys (Upper, Lower, and Distal Keys) (Balsillie and Clark, 1992), and federal property such as the northern 39.6 miles (63.6 km) of Brevard County occupied by the Kennedy Space Center and Kennedy Air Force Base. For this reason, tidal datums predictions are made for three separate Florida regions: Florida East Coast listed in Appendix 1, Florida Lower Gulf Coast listed in Appendix 2, and Panhandle Gulf Coast listed in Appendix 3.

Tidal datums, tabulated in Appendices 1, 2 and 3 are listed by DNR reference monument. Normally, tidal datum change requires significant distances even for a change of 0.01 ft., and the listing could have been abbreviated. However, considerable effort was involved in determining alongshore distances, which are of use for other purposes. DNR monuments do require relocation because of coastal construction activities, eroded monuments, etc., but do not change in location by more than 500 feet in either alongshore direction which has little (essentially insignificant) to no effect on the veracity of the vertical tidal datum elevations. Also listed for the practitioner's convenience are intersecting latitudes of DNR monuments for north-south trending coastlines, or longitudes of east-west

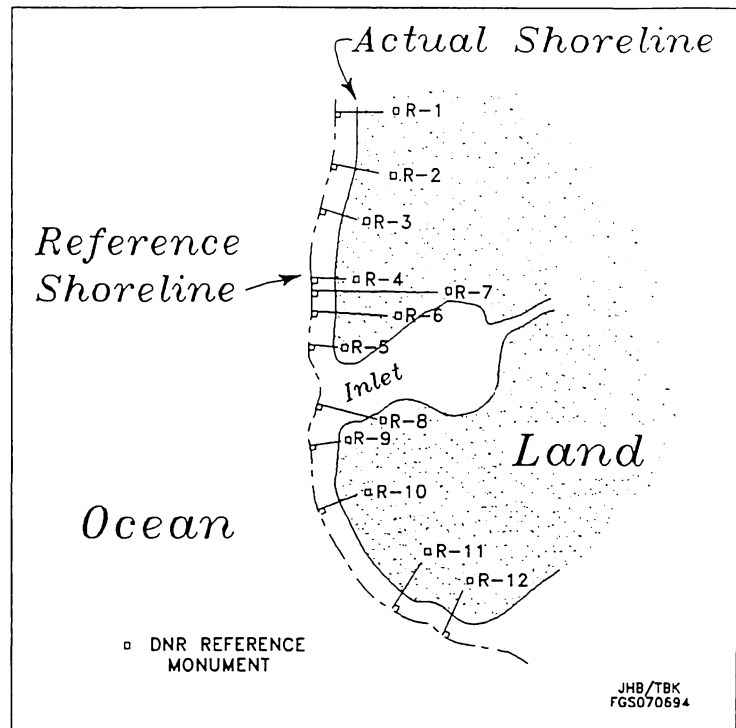


Figure 4. Illustration of methodology for determination of alongshore distances. Note that the position of the reference shoreline (segmented line) is displaced for illustrative purposes only ... it is the actual coinciding trace of the shoreline (see text for discussion).

coastlines. The locations of inlets and passes existing at the time of publication are also listed.

Profile location maps are provided on a county-by-county basis (showing every tenth monument location) for the Florida East Coast in Appendix 4, for the Florida Lower Gulf Coast in Appendix 5, and for the Florida Panhandle Gulf Coast in Appendix 6.

TIDAL DATUMS APPLICATIONS

Tidal datums provide the basic planes to which all coastal science and engineering applications are fundamentally related by required



Figure 5. Map of Florida illustrating coastal reaches for the East Coast, Lower Gulf Coast, and Panhandle Gulf Coast where continuous monumentation exists for determination of tidal datums (after Balsillie and Clark, 1992).

reference. Some common examples include beach, nearshore and coastal changes, design soffit and hydraulic force element elevations, erosion depth/scour calculations, boundary determinations (e.g., Balsillie, 1998b), etc. We shall not, here, detail how datums apply in such applications, since the subject has been discussed in detail in a separate work (Balsillie, 1998a). There is, however, one subject of immediate import regarding tidal datums use, to which we now turn.

TRANSFORMATION OF DATUMS TO SURF BASE MSL

Depending on policy changes through past decades and the purpose of surveys, shoreline positions have been expressed relative to any one of the tidal datums. For instance, on the U. S. west coast the type of tide is mixed and chart datum is MLW, while the tide for the U. S. east coast is semidiurnal and chart datum is MLLW. In Florida, except for old Spanish Land Grants, the boundary between upland private ownership and nearshore public lands is the line of approximate MHW. However, it has been clearly demonstrated that for coastal science and engineering purposes (Balsillie, 1998a) the proper datum is MSL as given by MTL to which any other datums should be transformed. The problem, therefore, becomes procedural as to how such transformation is to be accomplished.

First, it is to be realized that the primary difference between NGVD and MSL (or MTL) is sea level rise. In an historical context, the effect of sea level rise on the current metonic period has, thus far, been insignificant from a surveying perspective. Its future effect, however, remains controversial. Fairbridge (1989) has suggested crescendo events, also supported by the field data of Tanner (1992, 1993). There are certain applications where temporal specifications of sea level rise are of potential consequence. Hence, from a data management and processing viewpoint, it becomes in certain cases necessary to start with NGVD and calculate the relative date-certain sea level rise component. The result, of course, becomes the date-certain MSL (or MTL). For the 1960-1978 National Tidal Datum Epoch, the following relationship assessed in British Imperial Units, determines the date-certain MSL:

$$MSL_D = NGVD + c (D - 1969.5) \quad (2)$$

where MSL_D is the date-certain value for MSL (or MTL) for the specified year D , $c = 0.0060$ for the Florida East Coast (Balsillie and others, 1987a), $c = 0.0064$ for the Florida Lower Gulf Coast (Balsillie and others, 1987b), and $c = 0.0069$ for the Florida Panhandle Gulf Coast (Balsillie and others, 1987c).

Suppose, for example, that in 1920 a MLLW shoreline was surveyed at DNR reference monument R-100 in St. Johns County. It was determined that the 1920 MLLW shoreline was located 400 feet due east of R-100. For this case the question becomes: what is the corrected distance from the monument for the 1920 MSL (MTL) shoreline? Appendix 3 lists that for the 1960-1978 national tidal datum epoch $MLLW = -2.27$ ft. $NGVD$ and $MTL = MSL = 0.25$ ft. $NGVD$. The corrected distance, X_c , can be calculated by a general formula according to:

$$X_c = X' - \frac{[(E_{MTL}) - (E')]}{\tan \alpha_{fs}} + \frac{c(D - 1969.5)}{\tan \alpha_{fs}} \quad (3)$$

in which X' is the distance that requires correction, E_{MTL} is the current MTL elevation, E' is the current value of the datum elevation for which the distance requires correction (i.e., in this case MLLW), c is the sea level change rate coefficient depending upon the coastal region involved as listed in the previous paragraph, D is the date in years and fractions of years for the survey requiring correction, and $\tan \alpha_{fs}$ is the foreshore slope (see Table 3 for example county-wide averages). Where from another source (Balsillie and others, 1987a) the foreshore slope, $\tan \alpha_{fs}$, at R-100 in St. Johns County has an average value of 0.0466, equation (3) can be evaluated as follows:

$$X_c = 400 - \frac{[(0.25) - (-2.27)]}{0.0466} + \frac{0.006 (1920 - 1969.5)}{0.0466}$$

Table 3. Florida Foreshore Slope Statistics by County and Survey.

County	Survey Type	Survey Date	n	Average Slope	Standard Deviation
FLORIDA EAST COAST					
Nassau	Control Line	Feb 1974	81	0.0359	0.0235
Nassau	Control Line	Sep-Oct 1981	85	0.0474	0.0344
Duval	Control Line	Mar 1974	68	0.0199	0.0178
St. Johns	Control Line	Aug-Sep 1972	203	0.0523	0.0322
St. Johns	Control Line	Feb-May 1984	210	0.0339	0.0384
Flagler	Control Line	Jul-Aug 1972	99	0.1077	0.0273
Volusia	Control Line	Apr-Jun 1972	227	0.0348	0.0306
Brevard	Control Line	Sep-Nov 1972	217	0.0798	0.0413
Brevard	Control Line	Aug 1985-Mar 1986	219	0.0719	0.0347
Indian River	Control Line	Nov 1972	116	0.1163	0.0335
Indian River	Control Line	1986	119	0.1201	0.0793
St. Lucie	Control Line	Jun 1972	115	0.1012	0.0358
St. Lucie	Condition	Jan-Feb 1983	36	0.0919	0.0248
Martin	Control Line	Oct-Nov 1971	115	0.0939	0.0378
Martin	Control Line	Jan-Feb 1976	96	0.0867	0.0287
Martin	Control Line	Feb-Apr 1982	104	0.0845	0.0301
Palm Beach	Control Line	Nov 1974-Jan 1975	226	0.1011	0.0347
Palm Beach	Condition	Aug 1978	24	0.1113	0.0334
Broward	Control Line	1976-1976	127	0.1099	0.0423
Dade	Condition	Nov 1985-Feb 1986	28	0.1243	0.0328
Total n and Weighted Averages			2,515	0.0760	0.0359
FLORIDA LOWER GULF COAST					
Pinellas	Control Line	Sep-Oct 1974	185	0.0747	0.0447
Manatee	Control Line	Aug 1974	67	0.1009	0.0419
Manatee	Control Line	Aug 1986	67	0.0942	0.0377
Sarasota	Control Line	Jun-Aug 1974	181	0.0983	0.0375
Sarasota	Condition	Apr 1985	62	0.1051	0.0469
Charlotte	Control Line	May 1974	67	0.0757	0.0343
Charlotte	Control Line	Dec 1982	68	0.1127	0.0363
Lee	Control Line	Feb 1974	238	0.0843	0.0415
Lee	Control Line	May-Sep 1982	236	0.0980	0.0419
Collier	Control Line	Mar-Apr 1973	144	0.0796	0.0265
Collier	Condition	Sep 1984	40	0.0927	0.0277
Total n and Weighted Averages			1,355	0.0903	0.0389
FLORIDA NORTHWEST PANHANDLE COAST					
Franklin	Control Line	May-Jul 1973	147	0.0933	0.0349
Franklin	Control Line	Jun-Sep 1981	244	0.1155	0.0472
Franklin	Condition	Oct 1982	31	0.0769	0.0322
Gulf	Control Line	Jul-Sep 1973	161	0.1032	0.0540
Gulf	Condition	Jan 1983	45	0.0785	0.0327
Bay	Control Line	Feb 1971-Feb 1973	141	0.0707	0.0255
Walton	Control Line	Oct 1973	130	0.0991	0.0699
Walton	Control Line	May 1981	130	0.1060	0.0578
Okaloosa	Control Line	Nov-Dec 1973	49	0.0650	0.0406
Escambia	Control Line	Jan-Feb 1974	213	0.0988	0.0429
Total n and Weighted Averages			1,219	0.0970	0.0458
Grand Total n and Weighted Average			5,089	0.0848	0.0391
NOTES: n = number of profiles per survey; the reader is encouraged to seek site-specific values for slopes since they can vary in the vicinity of inlets, with changes in sediment grain size, etc. Sources of site-specific foreshore slope information include Balsillie and others (1987a, 1987b, 1987c) and Balsillie (in preparation).					

and

$$X_c = 400 - \frac{2.52}{0.0466} + \frac{-0.297}{0.0466}$$

where it is evident that sea level was 0.297 feet lower in 1920 than in 1969, and MTL is 2.52 feet above MLLW. Hence:

$$X_c = 400 \text{ ft} - 47.704 \text{ ft} = 352.296 \text{ ft}$$

and in 1920 the MTL (or MSL) shoreline was 47.7 feet closer to the monument than the MLLW shoreline, or 352.3 feet (not 400 feet) due east of R-100.

PEER REVIEW OF METHODOLOGY

Results of this effort, published in three volumes depending upon the coast of Florida studied, were initially compiled in mid-1987. It was realized that, eventually, the methodology would have to be found acceptable by the only two authorized entities so empowered to render such a decision ... National Oceanic and Atmospheric Administration, National Ocean Service (NOAA/NOS) for the Federal Government, and the Florida Department of Environmental Protection, Bureau of Survey and Mapping for the State of Florida. However, since at the time one author (TMW) was employed by the Bureau of Survey and Mapping, and another (JGC) was employed by NOAA/NOS, it was decided that it would also be prudent to seek outside independent reviews from prominent and respected surveying professionals having expertise with tidal datums. Persons selected were George M. Cole and Paul T. O'Hargan, who agreed to provide such review.

The first review comments were provided by Paul O'Hargan (Appendix 7, Attachment 1) in August of 1987 who, in part, stated:

... I have nothing to add, but my compliments, to this concept. The approach is certainly superior to interpolation, which I have always advocated as only better than an on-site tide study which, of course, is most always a near impossibility along the open

coastline.

George Cole forwarded his review comments in January of 1988 (Appendix 7, Attachment 2) which, in part, stated:

We feel that this study represents a nice approach to the determination of datums on the outside coast for a number of reasons. First, this process represents a systematic review of each existing outside datum point against other such points. Therefore, it can detect bad data points. Secondly, we feel that the curve fitting approach is more statistically sound for determining datums (on the outside coast) than linear interpolation. Thirdly, this approach sets the stage for economy in future tidal gauging programs by getting a better handle on the pattern of datum changes.

In February of 1988, we received the NOAA/NOS (Jim Hubbard) review results (Appendix 7, Attachment 3) which found the fitted polynomial *relationships between tidal datums ... to be ... a reasonable approach for outside topographic features and hydrographic conditions.*

INLETS AND ASSOCIATED ASTRONOMICAL TIDES

It has been speculated that tidal inlets can significantly affect the character of open coast tide behavior. There are, however, insufficient alongshore data crossing inlets, both upcoast and downcoast, upon which to assess the effect of inlets (termed the "shadow effect"). In addition, flow characteristics vary from inlet to inlet and a multitude of such investigations would be required to investigate the alongshore influence of inlets. There are, however, some isolated open coast tide data near inlets or within inlet throats close to the shoreline. There are more data interior to inlets. Such information for 24 Florida tidal inlets and passes are plotted in Figure 6 from which some significantly

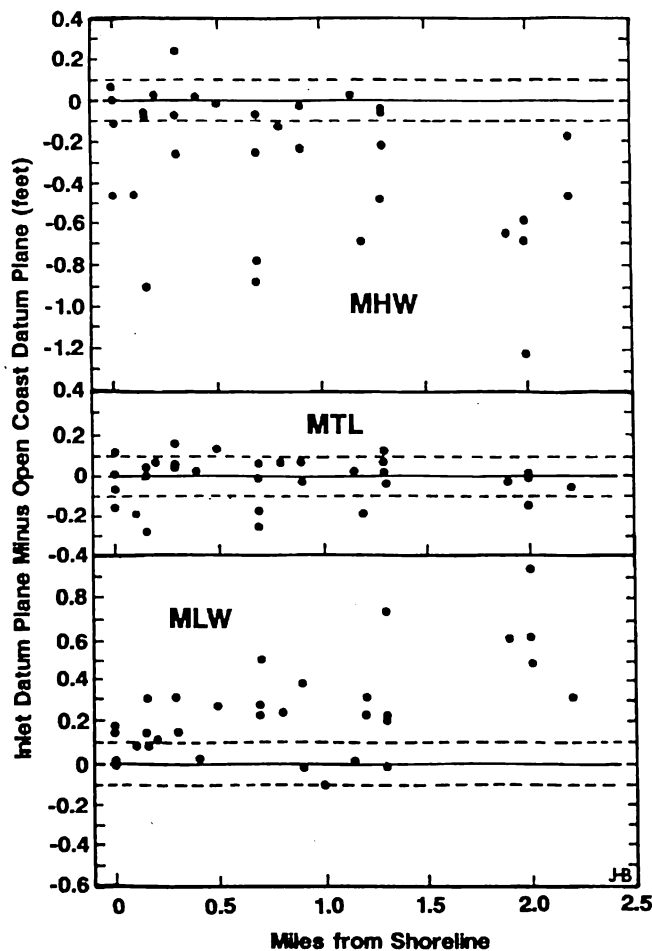


Figure 6. Departure of Florida inlet tide data and open coast tide data (measured data from DEP, Bureau of Survey and Mapping); see text for discussion.

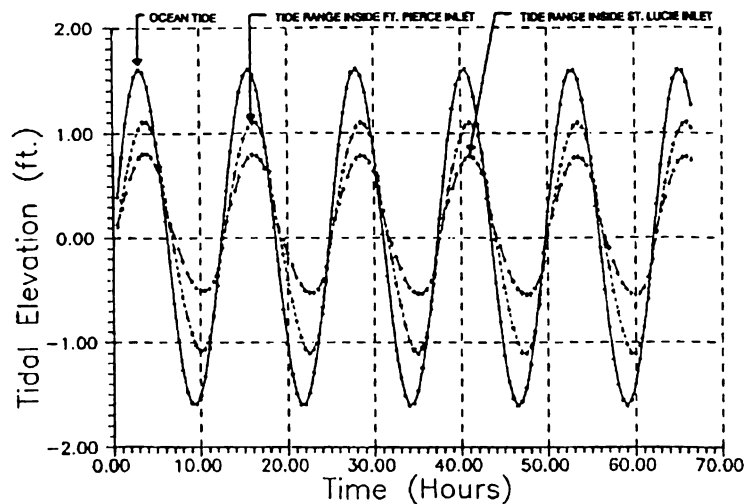


Figure 7. Open ocean and inside astronomical tides for Ft. Pierce and St. Lucie inlets, Florida (from Anonymous, 1992).

elucidating conclusions may be gleaned.

The data of Figure 6 are displayed in terms of the measured inlet tide data minus the open coast tide data of Balsillie and others (1987a, 1987b, 1987c). In this way the acceptability of the data within the dashed lines (i.e., plus and minus 0.1 ft.) can be easily assessed. Data for MHHW and MLLW plot similar to MHW and MLW data with somewhat greater variability, and are not shown.

The first conclusion to be drawn from Figure 6, is that the amplitude of the tide is attenuated by the inlet (i.e., MHW becomes lower in elevation and MLW gains elevation); this is illustrated in a different manner for two Florida inlets in Figure 7. Hence, if one were (as before) to use MHW as the reference plane for a synergistic application (e.g., storm impact, seasonal, or long-term beach changes), the amount of error introduced is potentially highly significant. It would, in addition, occur over a quite short segment of shoreline. For MHW, 39% of the data are acceptable (i.e., lie with ± 0.1 ft. of the open coast data) with 61% of the data being unacceptable. For MLW 76% of the data are unacceptable. However, for MTL almost 70% of the data are acceptable. This shift in data acceptability for MTL is not aberrant.

Rather, it is to be a moderating expectation since MTL is the plane lying halfway between MHW and MLW and should, therefore, much more closely approach open coast MTL values than any of the other extreme tidal datum planes. Therefore, depending on the application, the locally measured open coast MSL (MTL) datum plane or the open coast plane should be used for synergistic applications in the vicinity of inlets (which if used should be clearly specified). Hence, MTL (or the MSL surf base) is, once again, the proper datum plane to use for inlets. In fact, O'Brien (1931) intentionally included in his definitions for tidal characteristics (e.g., flow area, tidal prism) that

they be referenced specifically to MSL.

In addition, inlet processes can affect open up- and down-coast processes, termed the "shadow effect" of inlets. Ideally, the alongshore "shadow effect" of inlets on astronomical tides should be quantitatively assessed. Such work is, however, expensive and time consuming and is not expected to be forthcoming any time soon.

It is also of significance to note that Cole (1997, p. 38) has found that nth order polynomial equations precisely determine tidal datums within estuaries. The order of the best fit polynomial for an estuary was found to be predictable based on the length of the estuary and the travel speed of the tidal wave within the estuary.

SUMMARY

Surveying, to a significant extent, is a matter of managing error, variability, and dispersion. The methodology and results presented herein provide a standardized approach that allows all disciplines utilizing such tidal datums to be "reading from the same hymn book". The primary problem with open-coast tidal datum determinations is the wide latitude in approaches that, while leading to an outcome, also commonly lead to a result that can exceed the ± 0.1 ft. requirement using some other method. All too often, methods employed are from necessity, expeditious (in some cases even contrived) and, thereby, do not embody the most necessary ingredient of consistency. To one extent or another, misunderstanding about astronomical tide behavior occurs because practitioners do not fully understand and appreciate simultaneous synergistic hydraulic processes of quite different temporally operating natures (i.e., force elements such as waves) and the synergistic responses that are caused due to co-resulting bathymetric alterations. The approach in this work strives to incorporate as many considerations as possible yielding a unified, consistent result.

ACKNOWLEDGEMENTS

Review of this work by selected staff of the Florida Geological Survey is gratefully acknowledged, in particular those editorial

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Appendix 1.
Tidal datums, locations by DNR range monument and
latitude/longitude, and alongshore distances
for the
Florida East Coast
(updated after Balsillie and others, 1987a).

Note: Centered headers indicate the County; left-justified,
italicized names indicate location of inlets.

DNR Range Monu	Longitude = lo or Latitude = la	MHHW (feet NGVD)	MHW (feet NGVD)	MTL (feet NGVD)	MLW (feet NGVD)	MLLW (feet NGVD)	Distance (mi)
Nassau County							
<i>St. Mary's Entrance Channel</i>							
R-011	30 41 44.4178 la	3.70	3.36	.48	-2.40	-2.50	.943
R-012	30 41 35.3531 la	3.70	3.36	.48	-2.40	-2.50	1.118
R-013	30 41 23.9932 la	3.69	3.35	.48	-2.40	-2.50	1.335
R-014	30 41 14.3399 la	3.69	3.35	.48	-2.40	-2.50	1.519
R-015	30 41 4.0923 la	3.68	3.35	.48	-2.39	-2.49	1.717
R-016	30 40 53.0938 la	3.68	3.34	.47	-2.39	-2.49	1.923
R-017	30 40 44.5189 la	3.68	3.34	.47	-2.39	-2.49	2.091
R-018	30 40 34.9707 la	3.68	3.34	.47	-2.39	-2.49	2.276
R-019	30 40 27.0481 la	3.67	3.33	.47	-2.39	-2.49	2.428
R-020	30 40 17.5316 la	3.67	3.33	.47	-2.39	-2.49	2.612
R-021	30 40 8.7236 la	3.67	3.33	.47	-2.39	-2.49	2.780
R-022	30 39 58.5509 la	3.66	3.32	.47	-2.39	-2.49	2.978
R-023	30 39 48.3209 la	3.66	3.32	.47	-2.39	-2.49	3.179
R-024	30 39 39.9075 la	3.66	3.32	.47	-2.39	-2.49	3.338
R-025	30 39 30.5890 la	3.65	3.32	.46	-2.39	-2.49	3.518
R-026	30 39 21.8456 la	3.65	3.31	.46	-2.39	-2.49	3.689
R-027	30 39 13.4040 la	3.65	3.31	.46	-2.38	-2.48	3.851
R-028	30 39 2.6187 la	3.65	3.31	.46	-2.38	-2.48	4.060
R-029	30 38 53.3427 la	3.64	3.30	.46	-2.38	-2.48	4.243
R-030	30 38 43.5889 la	3.64	3.30	.46	-2.38	-2.48	4.435
R-031	30 38 33.6021 la	3.64	3.30	.46	-2.38	-2.48	4.623
R-032	30 38 24.9291 la	3.63	3.29	.46	-2.38	-2.48	4.792
R-033	30 38 14.8926 la	3.63	3.29	.46	-2.38	-2.48	4.993
R-034	30 38 5.1849 la	3.63	3.29	.45	-2.38	-2.48	5.182
R-035	30 37 55.2171 la	3.62	3.28	.45	-2.38	-2.48	5.374
R-036	30 37 46.9927 la	3.62	3.28	.45	-2.38	-2.48	5.536
R-037	30 37 37.2611 la	3.62	3.28	.45	-2.38	-2.48	5.725
R-038	30 37 27.2114 la	3.61	3.27	.45	-2.38	-2.48	5.926
R-039	30 37 16.8118 la	3.61	3.27	.45	-2.37	-2.47	6.128
R-040	30 37 6.8289 la	3.61	3.27	.45	-2.37	-2.47	6.310
R-041	30 36 59.5599 la	3.61	3.27	.45	-2.37	-2.47	6.461
R-042	30 36 48.1940 la	3.60	3.26	.45	-2.37	-2.47	6.683
R-043	30 36 39.0575 la	3.60	3.26	.44	-2.37	-2.47	6.848
R-044	30 36 31.3768 la	3.60	3.26	.44	-2.37	-2.47	7.004
R-045	30 36 21.4677 la	3.59	3.25	.44	-2.37	-2.47	7.188
R-046	30 36 11.3535 la	3.59	3.25	.44	-2.37	-2.47	7.380
R-047	30 36 2.0180 la	3.59	3.25	.44	-2.37	-2.47	7.564
R-048	30 35 52.6724 la	3.58	3.25	.44	-2.37	-2.47	7.740
R-049	30 35 42.4486 la	3.58	3.24	.44	-2.37	-2.47	7.935
R-050	30 35 33.7555 la	3.58	3.24	.44	-2.36	-2.47	8.103
R-051	30 35 24.3453 la	3.58	3.24	.44	-2.36	-2.46	8.282
R-052	30 35 14.1918 la	3.57	3.23	.43	-2.36	-2.46	8.478
R-053	30 35 5.9421 la	3.57	3.23	.43	-2.36	-2.46	8.632
R-054	30 34 56.9846 la	3.57	3.23	.43	-2.36	-2.46	8.803
R-055	30 34 47.7047 la	3.56	3.22	.43	-2.36	-2.46	8.981
R-056	30 34 36.0788 la	3.56	3.22	.43	-2.36	-2.46	9.203
R-057	30 34 26.0646 la	3.56	3.22	.43	-2.36	-2.46	9.395
R-058	30 34 16.3579 la	3.55	3.22	.43	-2.36	-2.46	9.581
R-059	30 34 6.8466 la	3.55	3.21	.43	-2.36	-2.46	9.763

DNR Range Monu	Longitude = lo or Latitude = la	MHHW (feet NGVD)	MHW (feet NGVD)	MTL (feet NGVD)	MLW (feet NGVD)	MLLW (feet NGVD)	Distance (mi)
Nassau County							
R-060	30 33 56.7167 la	3.55	3.21	.43	-2.36	-2.46	9.957
R-061	30 33 47.4816 la	3.55	3.21	.43	-2.36	-2.46	10.134
R-062	30 33 37.2038 la	3.54	3.20	.42	-2.35	-2.46	10.368
R-063	30 33 27.9326 la	3.54	3.20	.42	-2.35	-2.46	10.505
R-064	30 33 18.5506 la	3.54	3.20	.42	-2.35	-2.45	10.684
R-065	30 33 9.3350 la	3.53	3.19	.42	-2.35	-2.45	10.862
R-066	30 33 0.3914 la	3.53	3.19	.42	-2.35	-2.45	11.035
R-067	30 32 51.1420 la	3.53	3.19	.42	-2.35	-2.45	11.211
R-068	30 32 41.7004 la	3.53	3.19	.42	-2.35	-2.45	11.392
R-069	30 32 31.6069 la	3.52	3.18	.42	-2.35	-2.45	11.589
R-070	30 32 22.1514 la	3.52	3.18	.42	-2.35	-2.45	11.773
R-071	30 32 12.0951 la	3.52	3.18	.42	-2.35	-2.45	11.965
R-072	30 32 3.6993 la	3.51	3.17	.41	-2.35	-2.45	12.135
R-073	30 31 54.0387 la	3.51	3.17	.41	-2.35	-2.45	12.322
R-074	30 31 44.1627 la	3.51	3.17	.41	-2.34	-2.45	12.521
R-075	30 31 34.9875 la	3.51	3.17	.41	-2.34	-2.45	12.680
R-076	30 31 27.9625 la	3.50	3.16	.41	-2.34	-2.44	12.819
R-077	30 31 17.6538 la	3.50	3.16	.41	-2.34	-2.44	13.005
R-078	30 31 8.7669 la	3.50	3.16	.41	-2.34	-2.44	13.118
R-079	30 31 0.1777 la	3.50	3.16	.41	-2.34	-2.44	13.230
<i>Nassau Sound Entrance Channel</i>							
Duval County							
R-001	30 28 57.9254 la	3.46	3.12	.39	-2.33	-2.43	15.910
R-002	30 28 54.7153 la	3.45	3.11	.39	-2.33	-2.43	16.036
R-003	30 28 49.1016 la	3.45	3.11	.39	-2.33	-2.43	16.183
R-004	30 28 40.9609 la	3.45	3.11	.39	-2.33	-2.43	16.352
R-005	30 28 30.4292 la	3.45	3.11	.39	-2.33	-2.43	16.552
R-006	30 28 22.3197 la	3.44	3.10	.39	-2.32	-2.43	16.738
R-007	30 28 12.5238 la	3.44	3.10	.39	-2.32	-2.43	16.921
R-008	30 28 2.8947 la	3.44	3.10	.39	-2.32	-2.43	17.111
R-009	30 27 52.8413 la	3.43	3.10	.39	-2.32	-2.42	17.302
R-010	30 27 42.7243 la	3.43	3.09	.39	-2.32	-2.42	17.496
R-011	30 27 32.6113 la	3.43	3.09	.39	-2.32	-2.42	17.691
R-012	30 27 21.8968 la	3.43	3.09	.38	-2.32	-2.42	17.895
R-013	30 27 11.5395 la	3.42	3.08	.38	-2.32	-2.42	18.092
R-014	30 27 2.0578 la	3.42	3.08	.38	-2.32	-2.42	18.272
R-015	30 26 53.1384 la	3.42	3.08	.38	-2.32	-2.42	18.443
R-016	30 26 41.9743 la	3.41	3.08	.38	-2.32	-2.42	18.658
R-017	30 26 33.3235 la	3.41	3.07	.38	-2.31	-2.42	18.819
R-018	30 26 23.7871 la	3.41	3.07	.38	-2.31	-2.42	19.005
R-019	30 26 15.1435 la	3.41	3.07	.38	-2.31	-2.42	19.170
R-020	30 26 5.9075 la	3.40	3.07	.38	-2.31	-2.42	19.353
R-021	30 25 55.5995 la	3.40	3.06	.38	-2.31	-2.41	19.542
R-022	30 25 47.5124 la	3.40	3.06	.37	-2.31	-2.41	19.712
R-023	30 25 42.4041 la	3.40	3.06	.37	-2.31	-2.41	19.811
R-024	30 25 35.1254 la	3.39	3.06	.37	-2.31	-2.41	19.947
R-025	30 25 27.6054 la	3.39	3.05	.37	-2.31	-2.41	20.076
<i>Fl. George Inlet</i>							
R-026	30 24 54.4547 la	3.38	3.05	.37	-2.31	-2.41	20.722
R-027	30 24 45.5246 la	3.38	3.04	.37	-2.30	-2.41	20.876

DNR Range Monu	Longitude = lo or Latitude = la		MHHW (feet NGVD)	MHW (feet NGVD)	MTL (feet NGVD)	MLW (feet NGVD)	MLLW (feet NGVD)	Distance (mi)
Duval County								
R-028	30 24	36.6417 la	3.38	3.04	.37	-2.30	-2.41	21.055
R-029	30 24	21.6186 la	3.37	3.04	.37	-2.30	-2.41	21.355
R-030	30 24	16.7675 la	3.37	3.03	.37	-2.30	-2.41	21.473
St. John's Inlet								
R-031	30 22	53.3481 la	3.35	3.01	.36	-2.29	-2.40	23.341
R-032	30 22	43.4513 la	3.34	3.01	.36	-2.29	-2.40	23.535
R-033	30 22	34.2825 la	3.34	3.00	.36	-2.29	-2.40	23.708
R-034	30 22	24.8468 la	3.34	3.00	.35	-2.29	-2.40	23.885
R-035	30 22	14.1855 la	3.33	3.00	.35	-2.29	-2.39	24.089
R-036	30 22	5.1400 la	3.33	2.99	.35	-2.29	-2.39	24.262
R-037	30 21	57.6964 la	3.33	2.99	.35	-2.29	-2.39	24.405
R-038	30 21	45.1072 la	3.33	2.99	.35	-2.29	-2.39	24.645
R-039	30 21	36.7288 la	3.32	2.99	.35	-2.29	-2.39	24.803
R-040	30 21	27.0816 la	3.32	2.98	.35	-2.29	-2.39	24.987
R-041	30 21	18.3099 la	3.32	2.98	.35	-2.28	-2.39	25.156
R-042	30 21	7.9787 la	3.32	2.98	.35	-2.28	-2.39	25.354
R-043	30 20	59.9036 la	3.31	2.98	.35	-2.28	-2.39	25.509
R-044	30 20	50.3847 la	3.31	2.97	.35	-2.28	-2.39	25.690
R-045	30 20	41.2610 la	3.31	2.97	.35	-2.28	-2.39	25.867
R-046	30 20	31.7096 la	3.31	2.97	.34	-2.28	-2.39	26.050
R-047	30 20	21.9791 la	3.30	2.97	.34	-2.28	-2.38	26.238
R-048	30 20	11.8781 la	3.30	2.96	.34	-2.28	-2.38	26.432
R-049	30 20	2.7430 la	3.30	2.96	.34	-2.28	-2.38	26.608
R-050	30 19	53.6480 la	3.30	2.96	.34	-2.28	-2.38	26.782
R-051	30 19	44.3460 la	3.29	2.96	.34	-2.28	-2.38	26.961
R-052	30 19	33.9108 la	3.29	2.95	.34	-2.28	-2.38	27.161
R-053	30 19	24.7027 la	3.29	2.95	.34	-2.27	-2.38	27.338
R-054	30 19	15.6687 la	3.29	2.95	.34	-2.27	-2.38	27.511
R-055	30 19	6.3893 la	3.28	2.95	.34	-2.27	-2.38	27.689
R-056	30 18	57.1552 la	3.28	2.95	.34	-2.27	-2.38	27.865
R-057	30 18	48.6595 la	3.28	2.94	.34	-2.27	-2.38	28.031
R-058	30 18	38.9102 la	3.28	2.94	.33	-2.27	-2.38	28.221
R-059	30 18	29.6470 la	3.27	2.94	.33	-2.27	-2.38	28.397
R-060	30 18	20.6913 la	3.27	2.94	.33	-2.27	-2.37	28.568
R-061	30 18	10.2676 la	3.27	2.93	.33	-2.27	-2.37	28.774
R-062	30 18	1.7789 la	3.27	2.93	.33	-2.27	-2.37	28.939
R-063	30 17	51.8259 la	3.26	2.93	.33	-2.27	-2.37	29.131
R-064	30 17	43.0398 la	3.26	2.93	.33	-2.27	-2.37	29.301
R-065	30 17	33.5035 la	3.26	2.92	.33	-2.26	-2.37	29.487
R-066	30 17	23.5443 la	3.26	2.92	.33	-2.26	-2.37	29.674
R-067	30 17	14.3106 la	3.25	2.92	.33	-2.26	-2.37	29.859
R-068	30 17	4.7117 la	3.25	2.92	.33	-2.26	-2.37	30.043
R-069	30 16	54.6179 la	3.25	2.91	.33	-2.26	-2.37	30.241
R-070	30 16	44.6415 la	3.25	2.91	.33	-2.26	-2.37	30.435
R-071	30 16	35.5023 la	3.24	2.91	.32	-2.26	-2.37	30.609
R-072	30 16	26.2369 la	3.24	2.91	.32	-2.26	-2.36	30.794
R-073	30 16	16.3275 la	3.24	2.90	.32	-2.26	-2.36	30.985
R-074	30 16	7.7380 la	3.24	2.90	.32	-2.26	-2.36	31.155
R-075	30 15	58.0541 la	3.23	2.90	.32	-2.26	-2.36	31.344
R-076	30 15	48.1227 la	3.23	2.90	.32	-2.25	-2.36	31.539

DNR Range Monu	Longitude = lo or Latitude = la			MHHW (feet NGVD)	MHW (feet NGVD)	MTL (feet NGVD)	MLW (feet NGVD)	MLLW (feet NGVD)	Distance (mi)
=====									
Duval County									
R-077	30 15	38.8435	la	3.23	2.89	.32	-2.25	-2.36	31.720
R-078	30 15	30.5727	la	3.23	2.89	.32	-2.25	-2.36	31.880
R-079	30 15	20.7091	la	3.22	2.89	.32	-2.25	-2.36	32.072
R-080	30 15	9.6864	la	3.22	2.89	.32	-2.25	-2.36	32.287
St. Johns County									
R-001	30 15	9.6834	la	3.22	2.89	.32	-2.25	-2.36	32.287
R-002	30 14	59.7789	la	3.22	2.88	.32	-2.25	-2.36	32.482
R-003	30 14	50.1197	la	3.22	2.88	.32	-2.25	-2.36	32.671
R-004	30 14	40.7350	la	3.21	2.88	.32	-2.25	-2.36	32.855
T-005	30 14	30.8748	la	3.21	2.88	.31	-2.25	-2.35	33.049
R-006	30 14	21.1351	la	3.21	2.87	.31	-2.25	-2.35	33.240
R-007	30 14	11.2833	la	3.21	2.87	.31	-2.25	-2.35	33.433
R-008	30 14	1.5205	la	3.20	2.87	.31	-2.24	-2.35	33.625
R-009	30 13	51.5927	la	3.20	2.87	.31	-2.24	-2.35	33.820
R-010	30 13	41.2079	la	3.20	2.86	.31	-2.24	-2.35	34.024
R-011	30 13	31.1452	la	3.20	2.86	.31	-2.24	-2.35	34.222
R-012	30 13	20.5754	la	3.19	2.86	.31	-2.24	-2.35	34.430
R-013	30 13	10.3350	la	3.19	2.86	.31	-2.24	-2.35	34.633
R-014	30 12	59.6103	la	3.19	2.85	.31	-2.24	-2.35	34.844
R-015	30 12	49.1924	la	3.18	2.85	.31	-2.24	-2.35	35.050
R-016	30 12	39.0963	la	3.18	2.85	.31	-2.24	-2.34	35.248
R-017	30 12	29.2252	la	3.18	2.85	.30	-2.24	-2.34	35.444
R-018	30 12	19.4539	la	3.18	2.84	.30	-2.24	-2.34	35.638
R-019	30 12	9.6174	la	3.17	2.84	.30	-2.23	-2.34	35.833
R-020	30 11	59.7535	la	3.17	2.84	.30	-2.23	-2.34	36.026
R-021	30 11	49.7562	la	3.17	2.84	.30	-2.23	-2.34	36.223
R-022	30 11	39.8260	la	3.17	2.83	.30	-2.23	-2.34	36.416
R-023	30 11	29.7639	la	3.16	2.83	.30	-2.23	-2.34	36.611
R-024	30 11	20.0893	la	3.16	2.83	.30	-2.23	-2.34	36.805
R-025	30 11	10.0053	la	3.16	2.83	.30	-2.23	-2.34	37.003
R-026	30 11	0.1377	la	3.16	2.82	.30	-2.23	-2.34	37.198
R-027	30 10	50.3150	la	3.15	2.82	.30	-2.23	-2.33	37.392
R-028	30 10	40.0176	la	3.15	2.82	.30	-2.23	-2.33	37.592
R-029	30 10	30.3862	la	3.15	2.82	.30	-2.23	-2.33	37.782
R-030	30 10	20.2306	la	3.15	2.81	.29	-2.22	-2.33	37.979
R-031	30 10	10.2837	la	3.14	2.81	.29	-2.22	-2.33	38.176
U-032	30 10	0.0694	la	3.14	2.81	.29	-2.22	-2.33	38.377
T-033	30 9	50.1957	la	3.14	2.81	.29	-2.22	-2.33	38.571
R-034	30 9	40.0985	la	3.14	2.80	.29	-2.22	-2.33	38.767
T-035	30 9	30.5591	la	3.13	2.80	.29	-2.22	-2.33	38.954
R-036	30 9	20.2992	la	3.13	2.80	.29	-2.22	-2.33	39.155
R-037	30 9	10.0651	la	3.13	2.80	.29	-2.22	-2.33	39.356
R-038	30 8	59.9650	la	3.13	2.80	.29	-2.22	-2.33	39.553
R-039	30 8	49.7244	la	3.12	2.79	.29	-2.22	-2.32	39.754
T-040	30 8	39.7237	la	3.12	2.79	.29	-2.22	-2.32	39.950
T-041	30 8	29.4769	la	3.12	2.79	.29	-2.21	-2.32	40.150
R-042	30 8	19.3484	la	3.12	2.79	.29	-2.21	-2.32	40.347
R-043	30 8	9.1268	la	3.11	2.78	.29	-2.21	-2.32	40.547
R-044	30 7	59.0627	la	3.11	2.78	.28	-2.21	-2.32	40.744
R-045	30 7	49.0341	la	3.11	2.78	.28	-2.21	-2.32	40.940
R-046	30 7	39.0430	la	3.11	2.78	.28	-2.21	-2.32	41.135

DNR Range Monu	Longitude = lo or Latitude = la	MHHW (feet NGVD)	MHW (feet NGVD)	MTL (feet NGVD)	MLW (feet NGVD)	MLLW (feet NGVD)	Distance (mi)
St. Johns County							
R-147	29 50 33.9495 la	2.88	2.56	.22	-2.11	-2.23	61.528
R-148	29 50 24.6680 la	2.88	2.56	.22	-2.11	-2.23	61.707
T-149	29 50 14.8967 la	2.87	2.55	.22	-2.11	-2.23	61.894
R-150	29 50 5.0035 la	2.87	2.55	.22	-2.11	-2.22	62.084
R-151	29 49 55.0574 la	2.87	2.55	.22	-2.11	-2.22	62.274
R-152	29 49 45.3090 la	2.87	2.55	.22	-2.11	-2.22	62.461
R-153	29 49 35.3875 la	2.87	2.55	.22	-2.11	-2.22	62.651
R-154	29 49 25.5997 la	2.86	2.55	.22	-2.11	-2.22	62.838
R-155	29 49 15.7263 la	2.86	2.54	.22	-2.11	-2.22	63.027
T-156	29 49 5.7992 la	2.86	2.54	.22	-2.11	-2.22	63.217
T-157	29 48 56.5742 la	2.86	2.54	.22	-2.11	-2.22	63.393
R-158	29 48 46.0964 la	2.86	2.54	.22	-2.10	-2.22	63.593
T-159	29 48 35.7672 la	2.85	2.54	.22	-2.10	-2.22	63.791
R-160	29 48 25.1341 la	2.85	2.53	.22	-2.10	-2.22	63.998
T-161	29 48 14.6473 la	2.85	2.53	.22	-2.10	-2.22	64.201
R-162	29 48 5.6045 la	2.85	2.53	.22	-2.10	-2.21	64.376
R-163	29 47 55.7700 la	2.85	2.53	.21	-2.10	-2.21	64.567
R-164	29 47 45.9493 la	2.84	2.53	.21	-2.10	-2.21	64.758
R-165	29 47 36.0908 la	2.84	2.53	.21	-2.10	-2.21	64.947
R-166	29 47 26.3069 la	2.84	2.52	.21	-2.10	-2.21	65.137
R-167	29 47 16.4510 la	2.84	2.52	.21	-2.10	-2.21	65.327
R-168	29 47 6.9769 la	2.84	2.52	.21	-2.10	-2.21	65.517
R-169	29 46 57.1558 la	2.83	2.52	.21	-2.09	-2.21	65.708
R-170	29 46 48.4487 la	2.83	2.52	.21	-2.09	-2.21	65.898
T-171	29 46 36.6849 la	2.83	2.52	.21	-2.09	-2.21	66.112
T-172	29 46 28.1933 la	2.83	2.51	.21	-2.09	-2.21	66.281
R-173	29 46 18.0910 la	2.83	2.51	.21	-2.09	-2.20	66.480
R-174	29 46 8.3690 la	2.83	2.51	.21	-2.09	-2.20	66.674
R-175	29 45 58.8541 la	2.82	2.51	.21	-2.09	-2.20	66.865
R-176	29 45 49.1840 la	2.82	2.51	.21	-2.09	-2.20	67.057
R-177	29 45 40.1830 la	2.82	2.51	.21	-2.09	-2.20	67.239
R-178	29 45 30.7356 la	2.82	2.50	.21	-2.09	-2.20	67.430
R-179	29 45 21.0036 la	2.82	2.50	.21	-2.09	-2.20	67.624
R-180	29 45 11.9735 la	2.81	2.50	.21	-2.08	-2.20	67.806
T-181	29 45 3.1778 la	2.81	2.50	.21	-2.08	-2.20	67.983
R-182	29 44 53.6467 la	2.81	2.50	.21	-2.08	-2.20	68.176
T-183	29 44 44.2139 la	2.81	2.49	.21	-2.08	-2.20	68.365
T-184	29 44 34.4997 la	2.81	2.49	.21	-2.08	-2.20	68.560
T-185	29 44 25.6513 la	2.81	2.49	.21	-2.08	-2.19	68.742
R-186	29 44 16.0548 la	2.80	2.49	.21	-2.08	-2.19	68.937
R-187	29 44 6.7804 la	2.80	2.49	.21	-2.08	-2.19	69.126
R-188	29 43 56.8410 la	2.80	2.49	.20	-2.08	-2.19	69.327
R-189	29 43 47.2819 la	2.80	2.48	.20	-2.08	-2.19	69.523
R-190	29 43 37.8340 la	2.80	2.48	.20	-2.08	-2.19	69.714
R-191	29 43 28.6922 la	2.79	2.48	.20	-2.07	-2.19	69.906
R-192	29 43 19.5187 la	2.79	2.48	.20	-2.07	-2.19	70.098
R-193	29 43 10.3842 la	2.79	2.48	.20	-2.07	-2.19	70.291
T-194	29 43 0.8857 la	2.79	2.48	.20	-2.07	-2.19	70.492
R-195	29 42 51.8875 la	2.79	2.47	.20	-2.07	-2.19	70.684
T-196	29 42 42.5445 la	2.79	2.47	.20	-2.07	-2.19	70.874

DNR Range Monu	Longitude = lo or Latitude = la	MHHW (feet NGVD)	MHW (feet NGVD)	MTL (feet NGVD)	MLW (feet NGVD)	MLLW (feet NGVD)	Distance (mi)
St. Johns County							
<i>Matanzas Inlet</i>							
R-197	29 42 13.7044 la	2.78	2.47	.20	-2.07	-2.18	71.424
T-198	29 42 3.4584 la	2.78	2.47	.20	-2.07	-2.18	71.644
R-199	29 41 54.9795 la	2.78	2.46	.20	-2.07	-2.18	71.834
R-200	29 41 45.2570 la	2.77	2.46	.20	-2.06	-2.18	72.024
R-201	29 41 35.5489 la	2.77	2.46	.20	-2.06	-2.18	72.217
R-202	29 41 25.9302 la	2.77	2.46	.20	-2.06	-2.18	72.408
R-203	29 41 16.2938 la	2.77	2.46	.20	-2.06	-2.18	72.602
R-204	29 41 6.5854 la	2.77	2.46	.20	-2.06	-2.18	72.797
R-205	29 40 56.8255 la	2.77	2.46	.20	-2.06	-2.18	72.992
R-206	29 40 47.1845 la	2.76	2.45	.20	-2.06	-2.17	73.185
R-207	29 40 37.4309 la	2.76	2.45	.20	-2.06	-2.17	73.381
R-208	29 40 28.0304 la	2.76	2.45	.20	-2.06	-2.17	73.574
R-209	29 40 18.3283 la	2.76	2.45	.20	-2.06	-2.17	73.768
Flagler County							
R-001	29 40 13.5960 la	2.76	2.45	.20	-2.06	-2.17	73.866
R-002	NO COORDINATES la	2.76	2.45	.20	-2.05	-2.17	74.051
T-003	29 39 52.8022 la	2.75	2.44	.20	-2.05	-2.17	74.290
R-004	29 39 45.8661 la	2.75	2.44	.20	-2.05	-2.17	74.434
R-005	29 39 37.1826 la	2.75	2.44	.19	-2.05	-2.17	74.613
R-006	29 39 27.8310 la	2.75	2.44	.19	-2.05	-2.17	74.803
R-007	29 39 18.8575 la	2.75	2.44	.19	-2.05	-2.17	74.986
R-008	29 39 10.0658 la	2.75	2.44	.19	-2.05	-2.17	75.160
R-009	29 39 0.0655 la	2.74	2.44	.19	-2.05	-2.17	75.366
R-010	29 38 50.8557 la	2.74	2.43	.19	-2.05	-2.16	75.554
R-011	29 38 42.2115 la	2.74	2.43	.19	-2.05	-2.16	75.730
R-012	29 38 33.1336 la	2.74	2.43	.19	-2.05	-2.16	75.915
R-013	29 38 24.7561 la	2.74	2.43	.19	-2.05	-2.16	76.085
R-014	NO COORDINATES la	2.74	2.43	.19	-2.04	-2.16	76.260
R-015	29 38 5.9665 la	2.73	2.43	.19	-2.04	-2.16	76.465
R-016	NO COORDINATES la	2.74	2.43	.19	-2.04	-2.16	76.269
R-017	29 37 48.3639 la	2.73	2.42	.19	-2.04	-2.16	76.817
R-018	NO COORDINATES la	2.73	2.42	.19	-2.04	-2.16	76.996
R-019	NO COORDINATES la	2.73	2.42	.19	-2.04	-2.16	77.188
T-020	29 37 21.7549 la	2.73	2.42	.19	-2.04	-2.16	77.364
R-021	29 37 11.8792 la	2.72	2.42	.19	-2.04	-2.16	77.571
R-022	29 37 1.2585 la	2.72	2.42	.19	-2.04	-2.15	77.786
R-023	29 36 53.3326 la	2.72	2.41	.19	-2.04	-2.15	77.938
R-024	29 36 43.9588 la	2.72	2.41	.19	-2.04	-2.15	78.127
R-025	NO COORDINATES la	2.72	2.41	.19	-2.03	-2.15	78.360
R-026	NO COORDINATES la	2.72	2.41	.19	-2.03	-2.15	78.527
R-027	29 36 16.3187 la	2.71	2.41	.19	-2.03	-2.15	78.686
R-028	29 36 8.1651 la	2.71	2.41	.19	-2.03	-2.15	78.852
R-029	NO COORDINATES la	2.71	2.41	.19	-2.03	-2.15	79.025
R-030	NO COORDINATES la	2.71	2.41	.19	-2.03	-2.15	79.210
R-031	NO COORDINATES la	2.71	2.40	.19	-2.03	-2.15	79.372
R-032	NO COORDINATES la	2.71	2.40	.19	-2.03	-2.15	79.567
R-033	29 35 22.1215 la	2.71	2.40	.19	-2.03	-2.15	79.789
R-034	29 35 14.6989 la	2.70	2.40	.19	-2.03	-2.14	79.940
R-035	29 35 3.3310 la	2.70	2.40	.19	-2.03	-2.14	80.176

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Flagler County							
R-036	29 34 54.4455 la	2.70	2.40	.19	-2.03	-2.14	80.353
R-037	29 34 45.3955 la	2.70	2.39	.19	-2.02	-2.14	80.536
R-038	29 34 36.5551 la	2.70	2.39	.18	-2.02	-2.14	80.715
R-039	29 34 29.7301 la	2.70	2.39	.18	-2.02	-2.14	80.883
R-040	29 34 20.1876 la	2.69	2.39	.18	-2.02	-2.14	81.077
R-041	NO COORDINATES la	2.69	2.39	.18	-2.02	-2.14	81.253
R-042	29 34 1.7918 la	2.69	2.39	.18	-2.02	-2.14	81.441
R-043	29 33 53.4234 la	2.69	2.39	.18	-2.02	-2.14	81.612
T-044	29 33 43.8245 la	2.69	2.39	.18	-2.02	-2.14	81.811
R-045	29 33 34.9538 la	2.69	2.38	.18	-2.02	-2.14	81.983
R-046	29 33 24.9124 la	2.68	2.38	.18	-2.02	-2.13	82.192
R-047	29 33 15.9115 la	2.68	2.38	.18	-2.02	-2.13	82.380
R-048	29 33 7.1204 la	2.68	2.38	.18	-2.01	-2.13	82.563
R-049	29 32 58.5243 la	2.68	2.38	.18	-2.01	-2.13	82.742
R-050	29 32 49.3954 la	2.68	2.38	.18	-2.01	-2.13	82.932
R-051	29 32 41.0565 la	2.68	2.38	.18	-2.01	-2.13	83.106
R-052	29 32 32.9706 la	2.68	2.37	.18	-2.01	-2.13	83.274
R-053	29 32 28.8874 la	2.68	2.37	.18	-2.01	-2.13	83.360
R-054	29 32 21.5794 la	2.67	2.37	.18	-2.01	-2.13	83.512
R-055	29 32 12.2420 la	2.67	2.37	.18	-2.01	-2.13	83.706
R-056	NO COORDINATES la	2.67	2.37	.18	-2.01	-2.13	83.871
R-057	29 31 57.8853 la	2.67	2.37	.18	-2.01	-2.13	84.007
R-058	29 31 48.2620 la	2.67	2.37	.18	-2.01	-2.13	84.215
R-059	29 31 38.2606 la	2.67	2.37	.18	-2.01	-2.12	84.423
R-060	29 31 31.1577 la	2.67	2.36	.18	-2.01	-2.12	84.571
R-061	29 31 22.7454 la	2.66	2.36	.18	-2.00	-2.12	84.747
T-062	29 31 13.7599 la	2.66	2.36	.18	-2.00	-2.12	84.935
T-063	29 31 4.7168 la	2.66	2.36	.18	-2.00	-2.12	85.123
R-064	29 30 56.7519 la	2.66	2.36	.18	-2.00	-2.12	85.290
R-065	29 30 48.0036 la	2.66	2.36	.18	-2.00	-2.12	85.481
T-066	29 30 39.3300 la	2.66	2.36	.18	-2.00	-2.12	85.659
R-067	NO COORDINATES la	2.65	2.36	.18	-2.00	-2.12	85.830
R-068	NO COORDINATES la	2.65	2.35	.18	-2.00	-2.12	86.030
R-069	NO COORDINATES la	2.65	2.35	.18	-2.00	-2.12	86.198
R-070	29 30 3.7143 la	2.65	2.35	.18	-2.00	-2.12	86.401
R-071	NO COORDINATES la	2.65	2.35	.18	-2.00	-2.11	86.585
R-072	29 29 46.6212 la	2.65	2.35	.18	-2.00	-2.11	86.762
R-073	29 29 37.9104 la	2.65	2.35	.18	-1.99	-2.11	86.942
R-074	29 29 29.2735 la	2.64	2.35	.18	-1.99	-2.11	87.122
R-075	29 29 20.6607 la	2.64	2.35	.18	-1.99	-2.11	87.301
R-076	29 29 11.6965 la	2.64	2.34	.18	-1.99	-2.11	87.483
T-077	29 29 3.1044 la	2.64	2.34	.18	-1.99	-2.11	87.667
R-078	29 28 54.2698 la	2.64	2.34	.18	-1.99	-2.11	87.851
R-079	29 28 45.6445 la	2.64	2.34	.18	-1.99	-2.11	88.033
R-080	29 28 37.0053 la	2.64	2.34	.18	-1.99	-2.11	88.211
R-081	29 28 28.3104 la	2.63	2.34	.18	-1.99	-2.11	88.391
T-082	29 28 18.9114 la	2.63	2.34	.17	-1.99	-2.11	88.581
R-083	29 28 10.6479 la	2.63	2.34	.17	-1.99	-2.11	88.752
R-084	29 28 1.0168 la	2.63	2.33	.17	-1.98	-2.10	88.950
R-085	29 27 54.5385 la	2.63	2.33	.17	-1.98	-2.10	89.090
R-086	NO COORDINATES la	2.63	2.33	.17	-1.98	-2.10	89.272

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Flagler County							
R-087	29 27 36.8576 la	2.63	2.33	.17	-1.98	-2.10	89.451
R-088	29 27 28.9700 la	2.63	2.33	.17	-1.98	-2.10	89.619
R-089	29 27 21.4873 la	2.62	2.33	.17	-1.98	-2.10	89.772
R-090	29 27 12.6981 la	2.62	2.33	.17	-1.98	-2.10	89.953
R-091	29 27 4.1274 la	2.62	2.33	.17	-1.98	-2.10	90.129
R-092	29 26 55.3933 la	2.62	2.32	.17	-1.98	-2.10	90.309
R-093	29 26 46.5816 la	2.62	2.32	.17	-1.98	-2.10	90.490
R-094	29 26 37.8153 la	2.62	2.32	.17	-1.98	-2.10	90.669
R-095	29 26 28.6419 la	2.62	2.32	.17	-1.98	-2.10	90.847
R-096	29 26 20.7486 la	2.61	2.32	.17	-1.98	-2.10	91.010
T-097	29 26 11.9360 la	2.61	2.32	.17	-1.97	-2.09	91.194
R-098	29 26 3.2457 la	2.61	2.32	.17	-1.97	-2.09	91.379
R-099	29 25 54.5497 la	2.61	2.32	.17	-1.97	-2.09	91.559
R-100	29 25 45.8291 la	2.61	2.32	.17	-1.97	-2.09	91.739
Volusia County							
R-1	29 25 35.6162 la	2.61	2.31	.17	-1.97	-2.09	91.949
R-2	29 25 26.9863 la	2.61	2.31	.17	-1.97	-2.09	92.127
R-3	29 25 18.4068 la	2.60	2.31	.17	-1.97	-2.09	92.304
R-4	29 25 9.7171 la	2.60	2.31	.17	-1.97	-2.09	92.484
R-5	29 25 1.0260 la	2.60	2.31	.17	-1.97	-2.09	92.663
R-6	29 24 52.1331 la	2.60	2.31	.17	-1.97	-2.09	92.846
R-7	29 24 43.3086 la	2.60	2.31	.17	-1.97	-2.09	93.027
R-8	29 24 34.5274 la	2.60	2.31	.17	-1.96	-2.09	93.207
R-9	29 24 25.6476 la	2.60	2.30	.17	-1.96	-2.08	93.390
R-10	29 24 16.6898 la	2.60	2.30	.17	-1.96	-2.08	93.574
R-11	29 24 7.7690 la	2.59	2.30	.17	-1.96	-2.08	93.757
R-12	29 23 58.9895 la	2.59	2.30	.17	-1.96	-2.08	93.939
R-13	29 23 50.0292 la	2.59	2.30	.17	-1.96	-2.08	94.124
R-14	29 23 41.1250 la	2.59	2.30	.17	-1.96	-2.08	94.307
R-15	29 23 32.2830 la	2.59	2.30	.17	-1.96	-2.08	94.489
R-16	29 23 23.5427 la	2.59	2.30	.17	-1.96	-2.08	94.669
R-17	29 23 14.7203 la	2.59	2.30	.17	-1.96	-2.08	94.850
R-18	29 23 5.8137 la	2.58	2.29	.17	-1.96	-2.08	95.034
R-19	29 22 57.1770 la	2.58	2.29	.17	-1.96	-2.08	95.212
R-20	29 22 48.3821 la	2.58	2.29	.17	-1.95	-2.08	95.394
R-21	29 22 40.0282 la	2.58	2.29	.17	-1.95	-2.07	95.566
R-22	29 22 31.5832 la	2.58	2.29	.17	-1.95	-2.07	95.741
R-23	29 22 22.9347 la	2.58	2.29	.17	-1.95	-2.07	95.919
R-24	29 22 14.0598 la	2.58	2.29	.17	-1.95	-2.07	96.102
R-25	29 22 5.1502 la	2.58	2.29	.17	-1.95	-2.07	96.287
R-26	29 21 56.6706 la	2.57	2.29	.17	-1.95	-2.07	96.464
R-27	29 21 48.0036 la	2.57	2.28	.17	-1.95	-2.07	96.643
R-28	29 21 39.4189 la	2.57	2.28	.17	-1.95	-2.07	96.822
R-29	29 21 30.7291 la	2.57	2.28	.17	-1.95	-2.07	97.002
R-30	29 21 22.4996 la	2.57	2.28	.17	-1.95	-2.07	97.173
R-31	29 21 13.6422 la	2.57	2.28	.17	-1.95	-2.07	97.357
R-32	29 21 5.0899 la	2.57	2.28	.17	-1.94	-2.07	97.535
R-33	29 20 56.4752 la	2.57	2.28	.17	-1.94	-2.07	97.714
R-34	29 20 47.7322 la	2.56	2.28	.17	-1.94	-2.06	97.896
R-35	29 20 39.1644 la	2.56	2.28	.17	-1.94	-2.06	98.072
R-36	29 20 30.5424 la	2.56	2.27	.17	-1.94	-2.06	98.252

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Volusia County							
R-37	29 20 21.9279 la	2.56	2.27	.17	-1.94	-2.06	98.428
R-38	29 20 13.2484 la	2.56	2.27	.17	-1.94	-2.06	98.609
R-39	29 20 4.5353 la	2.56	2.27	.17	-1.94	-2.06	98.788
R-40	29 19 56.2888 la	2.56	2.27	.17	-1.94	-2.06	98.963
R-41	29 19 47.3186 la	2.55	2.27	.17	-1.94	-2.06	99.144
R-42	29 19 38.1845 la	2.55	2.27	.17	-1.94	-2.06	99.333
R-43	29 19 29.8321 la	2.55	2.27	.17	-1.94	-2.06	99.504
R-44	29 19 21.1410 la	2.55	2.27	.17	-1.93	-2.06	99.684
R-45	29 19 15.3314 la	2.55	2.26	.17	-1.93	-2.06	99.805
R-46	29 19 4.2194 la	2.55	2.26	.17	-1.93	-2.05	100.034
R-47	29 18 55.6809 la	2.55	2.26	.17	-1.93	-2.05	100.208
R-48	29 18 46.6861 la	2.55	2.26	.17	-1.93	-2.05	100.396
R-49	29 18 37.6685 la	2.55	2.26	.17	-1.93	-2.05	100.582
R-50	29 18 29.1301 la	2.54	2.26	.16	-1.93	-2.05	100.761
R-51	29 18 20.7782 la	2.54	2.26	.16	-1.93	-2.05	100.935
R-52	29 18 11.9084 la	2.54	2.26	.16	-1.93	-2.05	101.120
R-53	29 18 3.4457 la	2.54	2.26	.16	-1.93	-2.05	101.296
R-54	29 17 54.3887 la	2.54	2.26	.16	-1.93	-2.05	101.486
R-55	29 17 44.9626 la	2.54	2.25	.16	-1.93	-2.05	101.681
R-56	29 17 37.4274 la	2.54	2.25	.16	-1.92	-2.05	101.836
R-57	29 17 28.9814 la	2.54	2.25	.16	-1.92	-2.05	102.015
R-58	29 17 21.2500 la	2.53	2.25	.16	-1.92	-2.05	102.175
R-59	24 19 33.2555 la	2.53	2.25	.16	-1.92	-2.04	102.364
R-60	29 17 3.1451 la	2.53	2.25	.16	-1.92	-2.04	102.552
R-61	29 16 54.1621 la	2.53	2.25	.16	-1.92	-2.04	102.737
R-62	29 16 45.3543 la	2.53	2.25	.16	-1.92	-2.04	102.921
R-63	29 16 36.7157 la	2.53	2.25	.16	-1.92	-2.04	103.101
R-64	29 16 28.2864 la	2.53	2.24	.16	-1.92	-2.04	103.279
R-65	29 16 19.5222 la	2.53	2.24	.16	-1.92	-2.04	103.461
R-66	29 16 9.8763 la	2.52	2.24	.16	-1.92	-2.04	103.663
R-67	29 16 1.7955 la	2.52	2.24	.16	-1.91	-2.04	103.832
R-68	29 15 53.1223 la	2.52	2.24	.16	-1.91	-2.04	104.012
R-69	29 15 44.5418 la	2.52	2.24	.16	-1.91	-2.04	104.192
R-70	29 15 36.8110 la	2.52	2.24	.16	-1.91	-2.04	104.354
R-71	29 15 28.2253 la	2.52	2.24	.16	-1.91	-2.03	104.532
R-72	29 15 18.8490 la	2.52	2.24	.16	-1.91	-2.03	104.727
R-73	29 15 10.2771 la	2.52	2.24	.16	-1.91	-2.03	104.901
R-74	29 15 2.1072 la	2.51	2.23	.16	-1.91	-2.03	105.073
R-75	29 14 54.6755 la	2.51	2.23	.16	-1.91	-2.03	105.230
R-76	29 14 44.4034 la	2.51	2.23	.16	-1.91	-2.03	105.443
R-77	29 14 35.8961 la	2.51	2.23	.16	-1.91	-2.03	105.622
R-78	29 14 26.7487 la	2.51	2.23	.16	-1.91	-2.03	105.811
R-79	29 14 17.3950 la	2.51	2.23	.16	-1.90	-2.03	106.004
R-80	29 14 8.6419 la	2.51	2.23	.16	-1.90	-2.03	106.191
R-81	29 13 59.8661 la	2.51	2.23	.16	-1.90	-2.03	106.373
R-82	29 13 51.4820 la	2.51	2.23	.16	-1.90	-2.03	106.552
R-83	29 13 43.0354 la	2.50	2.23	.16	-1.90	-2.02	106.728
R-84	29 13 33.4858 la	2.50	2.22	.16	-1.90	-2.02	106.926
R-85	29 13 25.6596 la	2.50	2.22	.16	-1.90	-2.02	107.090
R-86	29 13 18.0101 la	2.50	2.22	.16	-1.90	-2.02	107.248
R-87	29 13 8.8316 la	2.50	2.22	.16	-1.90	-2.02	107.432

DNR Range Monu	Longitude = lo or Latitude = la	MHHW (feet NGVD)	MHW (feet NGVD)	MTL (feet NGVD)	MLW (feet NGVD)	MLLW (feet NGVD)	Distance (mi)
Volusia County							
R-88	29 12 59.9490 la	2.50	2.22	.16	-1.90	-2.02	107.620
R-89	29 12 51.0204 la	2.50	2.22	.16	-1.90	-2.02	107.804
R-90	29 12 43.3982 la	2.50	2.22	.16	-1.90	-2.02	107.962
R-91	29 12 34.6656 la	2.50	2.22	.16	-1.89	-2.02	108.143
R-92	29 12 27.5135 la	2.49	2.22	.16	-1.89	-2.02	108.292
R-93	29 12 18.8202 la	2.49	2.22	.16	-1.89	-2.02	108.473
R-94	29 12 10.0962 la	2.49	2.22	.16	-1.89	-2.02	108.656
R-95	29 12 1.2346 la	2.49	2.21	.16	-1.89	-2.02	108.842
R-96	29 11 52.6874 la	2.49	2.21	.16	-1.89	-2.01	109.022
R-97	29 11 44.4548 la	2.49	2.21	.16	-1.89	-2.01	109.194
R-98	29 11 35.4964 la	2.49	2.21	.16	-1.89	-2.01	109.383
R-99	29 11 27.1548 la	2.49	2.21	.16	-1.89	-2.01	109.559
R-100	29 11 18.5608 la	2.49	2.21	.16	-1.89	-2.01	109.736
R-101	29 11 10.8916 la	2.48	2.21	.16	-1.89	-2.01	109.899
R-102	29 11 0.9267 la	2.48	2.21	.16	-1.89	-2.01	110.105
R-103	29 10 52.5587 la	2.48	2.21	.16	-1.88	-2.01	110.283
R-104	29 10 42.7000 la	2.48	2.21	.16	-1.88	-2.01	110.483
R-105	29 10 34.1084 la	2.48	2.21	.16	-1.88	-2.01	110.667
R-106	29 10 25.0610 la	2.48	2.20	.16	-1.88	-2.01	110.855
R-107	29 10 16.9449 la	2.48	2.20	.16	-1.88	-2.01	111.034
R-108	29 10 8.0850 la	2.48	2.20	.16	-1.88	-2.00	111.214
R-109	NO COORDINATES	2.48	2.20	.16	-1.88	-2.00	111.399
R-110	29 9 50.6484 la	2.47	2.20	.16	-1.88	-2.00	111.584
R-111	29 9 42.3417 la	2.47	2.20	.16	-1.88	-2.00	111.759
R-112	29 9 34.3499 la	2.47	2.20	.16	-1.88	-2.00	111.935
R-113	29 9 26.0941 la	2.47	2.20	.16	-1.88	-2.00	112.109
R-114	29 9 17.4557 la	2.47	2.20	.16	-1.88	-2.00	112.292
R-115	29 9 4.5613 la	2.47	2.20	.16	-1.87	-2.00	112.562
R-116	29 8 59.2844 la	2.47	2.20	.16	-1.87	-2.00	112.671
R-117	29 8 51.3301 la	2.47	2.19	.16	-1.87	-2.00	112.841
R-118	NO COORDINATES	2.47	2.19	.16	-1.87	-2.00	113.015
R-119	29 8 35.2598 la	2.46	2.19	.16	-1.87	-2.00	113.189
R-120	29 8 25.4302 la	2.46	2.19	.16	-1.87	-2.00	113.396
R-121	29 8 17.8051 la	2.46	2.19	.16	-1.87	-1.99	113.557
R-122	29 8 9.4922 la	2.46	2.19	.16	-1.87	-1.99	113.731
R-123	29 8 1.8456 la	2.46	2.19	.16	-1.87	-1.99	113.898
R-124	29 7 52.3625 la	2.46	2.19	.16	-1.87	-1.99	114.096
R-125	29 7 43.8059 la	2.46	2.19	.16	-1.87	-1.99	114.284
R-126	29 7 35.1561 la	2.46	2.19	.16	-1.87	-1.99	114.465
R-127	29 7 27.2833 la	2.46	2.19	.16	-1.86	-1.99	114.640
R-128	29 7 18.8061 la	2.45	2.19	.16	-1.86	-1.99	114.817
R-129	29 7 10.7866 la	2.45	2.18	.16	-1.86	-1.99	114.997
R-130	29 7 2.3607 la	2.45	2.18	.16	-1.86	-1.99	115.182
R-131	29 6 53.2811 la	2.45	2.18	.16	-1.86	-1.99	115.372
R-132	29 6 45.1317 la	2.45	2.18	.16	-1.86	-1.99	115.558
R-133	29 6 36.7580 la	2.45	2.18	.16	-1.86	-1.98	115.732
R-134	29 6 28.5339 la	2.45	2.18	.16	-1.86	-1.98	115.913
R-135	29 6 20.5521 la	2.45	2.18	.16	-1.86	-1.98	116.091
R-136	29 6 12.4740 la	2.45	2.18	.16	-1.86	-1.98	116.270
R-137	29 6 4.3260 la	2.45	2.18	.16	-1.86	-1.98	116.446
R-138	29 5 56.8982 la	2.44	2.18	.16	-1.85	-1.98	116.619

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Volusia County								
R-139	29	5 48.4216	la	2.44	2.18	.16	-1.85	-1.98 116.790
R-140	29	5 41.7407	la	2.44	2.18	.16	-1.85	-1.98 116.943
R-141	29	5 33.8836	la	2.44	2.17	.16	-1.85	-1.98 117.120
R-142	29	5 25.8941	la	2.44	2.17	.16	-1.85	-1.98 117.307
R-143	29	5 19.4648	la	2.44	2.17	.16	-1.85	-1.98 117.486
R-144	29	5 11.6908	la	2.44	2.17	.16	-1.85	-1.98 117.668
R-145	29	5 4.7219	la	2.44	2.17	.16	-1.85	-1.98 117.838
R-146	29	4 56.8287	la	2.44	2.17	.16	-1.85	-1.97 118.020
R-147	29	4 48.8719	la	2.44	2.17	.16	-1.85	-1.97 118.201
Ponce de Leon Inlet								
R-148	29	4 41.6269	la	2.43	2.17	.16	-1.85	-1.97 118.354
R-149	29	4 14.9033	la	2.43	2.17	.16	-1.84	-1.97 118.905
R-150	29	4 10.3131	la	2.43	2.17	.16	-1.84	-1.97 119.181
R-151	29	4 4.8036	la	2.43	2.16	.16	-1.84	-1.97 119.319
R-152	29	4 1.8925	la	2.43	2.16	.16	-1.84	-1.97 119.403
R-153	29	3 52.4668	la	2.43	2.16	.16	-1.84	-1.97 119.603
R-154	29	3 44.0331	la	2.43	2.16	.16	-1.84	-1.97 119.775
R-155	29	3 34.4766	la	2.43	2.16	.16	-1.84	-1.97 119.967
R-156	29	3 25.6526	la	2.42	2.16	.16	-1.84	-1.96 120.149
R-157	29	3 16.8098	la	2.42	2.16	.16	-1.84	-1.96 120.319
R-158	29	3 8.2777	la	2.42	2.16	.16	-1.84	-1.96 120.503
R-159	29	2 59.3398	la	2.42	2.16	.16	-1.84	-1.96 120.687
R-160	29	2 50.6121	la	2.42	2.16	.16	-1.83	-1.96 120.875
R-161	29	2 42.0705	la	2.42	2.16	.16	-1.83	-1.96 121.057
R-162	29	2 33.8913	la	2.42	2.16	.16	-1.83	-1.96 121.237
R-163	29	2 24.8668	la	2.42	2.16	.16	-1.83	-1.96 121.427
R-164	29	2 16.6244	la	2.42	2.15	.16	-1.83	-1.96 121.606
R-165	29	2 8.0664	la	2.42	2.15	.16	-1.83	-1.96 121.789
R-166	29	1 58.5394	la	2.41	2.15	.16	-1.83	-1.96 121.988
R-167	29	1 50.0232	la	2.41	2.15	.16	-1.83	-1.96 122.173
R-168	29	1 42.3798	la	2.41	2.15	.16	-1.83	-1.96 122.330
R-169	29	1 33.7666	la	2.41	2.15	.16	-1.83	-1.95 122.514
R-170	29	1 24.9449	la	2.41	2.15	.16	-1.83	-1.95 122.707
R-171	29	1 16.4568	la	2.41	2.15	.16	-1.83	-1.95 122.885
R-172	29	1 8.5415	la	2.41	2.15	.16	-1.82	-1.95 123.071
R-173	29	1 0.7045	la	2.41	2.15	.16	-1.82	-1.95 123.236
R-174	29	0 52.1932	la	2.41	2.15	.16	-1.82	-1.95 123.422
R-175	29	0 44.0119	la	2.41	2.15	.16	-1.82	-1.95 123.600
R-176	29	0 36.3303	la	2.41	2.15	.16	-1.82	-1.95 123.775
R-177	29	0 27.1343	la	2.40	2.15	.16	-1.82	-1.95 123.973
R-178	29	0 19.1121	la	2.40	2.14	.16	-1.82	-1.95 124.145
R-179	29	0 10.9299	la	2.40	2.14	.16	-1.82	-1.95 124.325
R-180	29	0 2.6798	la	2.40	2.14	.16	-1.82	-1.95 124.504
R-181	28	59 54.9826	la	2.40	2.14	.16	-1.82	-1.94 124.679
R-182	28	59 45.8767	la	2.40	2.14	.16	-1.82	-1.94 124.870
R-183	28	59 37.6873	la	2.40	2.14	.16	-1.82	-1.94 125.051
R-184	28	59 27.7075	la	2.40	2.14	.16	-1.81	-1.94 125.259
R-185	28	59 21.6639	la	2.40	2.14	.16	-1.81	-1.94 125.392
R-186	28	59 13.8415	la	2.40	2.14	.16	-1.81	-1.94 125.563
R-187	28	59 5.4308	la	2.39	2.14	.16	-1.81	-1.94 125.748

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Volusia County								
R-188	28	58 57.2237	la	2.39	2.14	.16	-1.81	-1.94 125.930
R-189	28	58 48.5364	la	2.39	2.14	.16	-1.81	-1.94 126.098
R-190	28	58 40.4866	la	2.39	2.14	.16	-1.81	-1.94 126.286
R-191	28	58 36.1505	la	2.39	2.14	.16	-1.81	-1.94 126.388
R-192	28	58 25.4187	la	2.39	2.13	.16	-1.81	-1.94 126.630
R-193	28	58 17.7450	la	2.39	2.13	.16	-1.81	-1.94 126.808
R-194	28	58 9.3393	la	2.39	2.13	.16	-1.81	-1.93 126.993
R-195	28	58 2.8987	la	2.39	2.13	.16	-1.81	-1.93 127.141
R-196	28	57 54.8782	la	2.39	2.13	.16	-1.80	-1.93 127.329
R-197	28	57 47.2258	la	2.39	2.13	.16	-1.80	-1.93 127.507
R-198	28	57 38.9958	la	2.39	2.13	.16	-1.80	-1.93 127.686
R-199	28	57 31.0400	la	2.38	2.13	.16	-1.80	-1.93 127.864
R-200	28	57 22.6420	la	2.38	2.13	.16	-1.80	-1.93 128.053
R-201	28	57 14.4284	la	2.38	2.13	.16	-1.80	-1.93 128.238
R-202	28	57 6.5299	la	2.38	2.13	.16	-1.80	-1.93 128.415
R-203	28	57 0.0904	la	2.38	2.13	.16	-1.80	-1.93 128.569
R-204	28	56 50.5807	la	2.38	2.13	.16	-1.80	-1.93 128.773
R-205	28	56 43.0953	la	2.38	2.13	.16	-1.80	-1.93 128.939
R-206	28	56 34.3015	la	2.38	2.13	.16	-1.80	-1.92 129.134
R-207	28	56 26.1245	la	2.38	2.12	.16	-1.80	-1.92 129.315
R-208	28	56 17.9979	la	2.38	2.12	.16	-1.79	-1.92 129.494
R-209	28	56 9.7868	la	2.38	2.12	.16	-1.79	-1.92 129.674
R-210	28	56 1.7920	la	2.37	2.12	.16	-1.79	-1.92 129.854
R-211	28	55 53.8951	la	2.37	2.12	.16	-1.79	-1.92 130.033
R-212	28	55 45.6015	la	2.37	2.12	.17	-1.79	-1.92 130.220
R-213	28	55 37.8610	la	2.37	2.12	.17	-1.79	-1.92 130.402
R-214	28	55 29.6541	la	2.37	2.12	.17	-1.79	-1.92 130.583
R-215	28	55 21.3380	la	2.37	2.12	.17	-1.79	-1.92 130.767
R-216	28	55 12.5797	la	2.37	2.12	.17	-1.79	-1.92 130.952
R-217	28	55 4.3944	la	2.37	2.12	.17	-1.79	-1.92 131.136
R-218	28	54 56.1470	la	2.37	2.12	.17	-1.79	-1.91 131.324
R-219	28	54 48.0385	la	2.37	2.12	.17	-1.78	-1.91 131.501
R-220	28	54 40.2446	la	2.37	2.12	.17	-1.78	-1.91 131.682
R-221	28	54 32.0822	la	2.36	2.12	.17	-1.78	-1.91 131.859
R-222	28	54 25.5903	la	2.36	2.11	.17	-1.78	-1.91 132.006
R-223	28	54 18.5377	la	2.36	2.11	.17	-1.78	-1.91 132.163
R-224	28	54 11.0041	la	2.36	2.11	.17	-1.78	-1.91 132.338
R-225	28	54 2.5130	la	2.36	2.11	.17	-1.78	-1.91 132.523
R-226	28	53 54.1307	la	2.36	2.11	.17	-1.78	-1.91 132.710
R-227	28	53 46.0622	la	2.36	2.11	.17	-1.78	-1.91 132.892
R-228	28	53 37.4755	la	2.36	2.11	.17	-1.78	-1.91 133.078
R-229	28	53 29.2048	la	2.36	2.11	.17	-1.78	-1.91 133.267
R-230	28	53 20.6774	la	2.36	2.11	.17	-1.78	-1.91 133.454
R-231	28	53 12.6555	la	2.36	2.11	.17	-1.77	-1.90 133.639
R-232	28	53 4.2958	la	2.36	2.11	.17	-1.77	-1.90 133.821
R-233	28	52 56.6945	la	2.35	2.11	.17	-1.77	-1.90 133.991
R-234	28	52 48.9035	la	2.35	2.11	.17	-1.77	-1.90 134.170
Brevard County								
Cape Canaveral Inlet								
R-001T	28	24 25.8902	la	2.21	2.01	.21	-1.59	-1.73 173.739

DNR Range Monu	Longitude = lo or Latitude = la		MHHW (feet NGVD)	MHW (feet NGVD)	MTL (feet NGVD)	MLW (feet NGVD)	MLLW (feet NGVD)	Distance (mi)	
Brevard County									
R-002	28 24	17.5893	la	2.21	2.01	.21	-1.59	-1.72	173.894
R-003	28 24	7.0916	la	2.21	2.01	.21	-1.58	-1.72	174.107
R-004T	28 23	58.0665	la	2.21	2.01	.21	-1.58	-1.72	174.290
R-005	28 23	48.9905	la	2.21	2.01	.21	-1.58	-1.72	174.470
R-006T	28 23	39.7166	la	2.21	2.01	.22	-1.58	-1.72	174.655
R-007T	28 23	30.6868	la	2.21	2.01	.22	-1.58	-1.72	174.838
R-008	28 23	21.9861	la	2.21	2.01	.22	-1.58	-1.72	175.010
R-009	28 23	12.6972	la	2.21	2.01	.22	-1.58	-1.72	175.187
R-010T	28 23	3.7222	la	2.21	2.01	.22	-1.58	-1.72	175.361
R-011	28 22	54.1356	la	2.21	2.01	.22	-1.58	-1.72	175.550
R-012	28 22	44.8004	la	2.21	2.01	.22	-1.58	-1.72	175.733
R-013	28 22	35.3011	la	2.21	2.01	.22	-1.58	-1.72	175.918
R-014	28 22	26.2439	la	2.21	2.01	.22	-1.58	-1.71	176.094
R-015T	28 22	16.5507	la	2.20	2.01	.22	-1.57	-1.71	176.281
R-016	28 22	6.6611	la	2.20	2.01	.22	-1.57	-1.71	176.474
R-017T	28 21	57.4282	la	2.20	2.01	.22	-1.57	-1.71	176.654
R-018	28 21	49.3569	la	2.20	2.01	.22	-1.57	-1.71	176.819
R-019	28 21	39.6921	la	2.20	2.01	.22	-1.57	-1.71	177.005
R-020	28 21	30.1517	la	2.20	2.01	.22	-1.57	-1.71	177.190
R-021	28 21	19.9765	la	2.20	2.01	.22	-1.57	-1.71	177.386
R-022	28 21	11.7422	la	2.20	2.01	.22	-1.57	-1.71	177.545
R-023	28 21	2.7879	la	2.20	2.01	.22	-1.57	-1.71	177.710
R-024	28 20	52.5957	la	2.20	2.01	.22	-1.57	-1.71	177.903
R-025	28 20	42.9725	la	2.20	2.01	.22	-1.57	-1.71	178.087
R-026	28 20	32.8626	la	2.20	2.01	.22	-1.57	-1.71	178.282
R-027	28 20	23.3120	la	2.20	2.01	.22	-1.56	-1.70	178.473
R-028T	28 20	13.8362	la	2.20	2.01	.22	-1.56	-1.70	178.650
R-029T	28 20	4.2647	la	2.20	2.01	.22	-1.56	-1.70	178.832
R-030	28 19	54.2693	la	2.20	2.01	.22	-1.56	-1.70	179.022
R-031	28 19	44.5992	la	2.20	2.01	.22	-1.56	-1.70	179.209
R-032	28 19	34.7797	la	2.20	2.01	.22	-1.56	-1.70	179.395
R-033	28 19	25.1718	la	2.20	2.01	.22	-1.56	-1.70	179.579
R-034	28 19	17.2041	la	2.20	2.01	.22	-1.56	-1.70	179.731
R-035T	28 19	8.0011	la	2.20	2.01	.22	-1.56	-1.70	179.907
R-036	28 18	58.9857	la	2.20	2.01	.22	-1.56	-1.70	180.079
R-037T	28 18	50.3659	la	2.19	2.01	.22	-1.56	-1.70	180.244
R-038	28 18	39.7115	la	2.19	2.00	.22	-1.55	-1.70	180.448
R-039	28 18	29.9319	la	2.19	2.00	.23	-1.55	-1.69	180.635
R-040	28 18	20.4153	la	2.19	2.00	.23	-1.55	-1.69	180.814
R-041T	28 18	10.9828	la	2.19	2.00	.23	-1.55	-1.69	180.995
R-042	28 18	1.1002	la	2.19	2.00	.23	-1.55	-1.69	181.184
R-043T	28 17	51.2912	la	2.19	2.00	.23	-1.55	-1.69	181.371
R-044	28 17	41.7964	la	2.19	2.00	.23	-1.55	-1.69	181.553
R-045T	28 17	32.0150	la	2.19	2.00	.23	-1.55	-1.69	181.740
R-046	28 17	22.4895	la	2.19	2.00	.23	-1.55	-1.69	181.922
R-047	28 17	12.6385	la	2.19	2.00	.23	-1.55	-1.69	182.110
R-048	28 17	3.3278	la	2.19	2.00	.23	-1.55	-1.69	182.288
R-049	28 16	53.1159	la	2.19	2.00	.23	-1.55	-1.69	182.484
R-050T	28 16	41.7559	la	2.19	2.00	.23	-1.54	-1.69	182.704
R-051T	28 16	34.7238	la	2.19	2.00	.23	-1.54	-1.68	182.837
R-052T	28 16	25.2268	la	2.19	2.00	.23	-1.54	-1.68	183.019

DNR Range Monu	Longitude = lo or Latitude = la		MHHW (feet NGVD)	MHW (feet NGVD)	MTL (feet NGVD)	MLW (feet NGVD)	MLLW (feet NGVD)	Distance (mi)
Brevard County								
R-053T	28 16	17.1746 la	2.19	2.00	.23	-1.54	-1.68	183.173
R-054	28 16	7.3677 la	2.19	2.00	.23	-1.54	-1.68	183.359
R-055T	28 15	57.9629 la	2.19	2.00	.23	-1.54	-1.68	183.543
R-056T	28 15	48.0336 la	2.19	2.00	.23	-1.54	-1.68	183.734
R-057T	28 15	39.6909 la	2.19	2.00	.23	-1.54	-1.68	183.895
R-058T	28 15	29.9995 la	2.19	2.00	.23	-1.54	-1.68	184.081
R-059T	28 15	20.4184 la	2.18	2.00	.23	-1.54	-1.68	184.268
R-060T	28 15	10.4724 la	2.18	2.00	.23	-1.54	-1.68	184.459
R-061T	28 15	0.6950 la	2.18	2.00	.23	-1.54	-1.68	184.648
R-062T	28 14	50.9072 la	2.18	2.00	.23	-1.53	-1.68	184.837
R-063T	28 14	41.3469 la	2.18	2.00	.23	-1.53	-1.67	185.022
R-064T	28 14	31.7331 la	2.18	2.00	.23	-1.53	-1.67	185.207
R-065T	28 14	22.0837 la	2.18	2.00	.23	-1.53	-1.67	185.394
R-066	28 14	12.3017 la	2.18	2.00	.23	-1.53	-1.67	185.582
R-067T	28 14	3.7570 la	2.18	2.00	.23	-1.53	-1.67	185.747
R-068T	28 13	54.3488 la	2.18	2.00	.23	-1.53	-1.67	185.927
R-069	28 13	44.4403 la	2.18	2.00	.24	-1.53	-1.67	186.116
R-070	28 13	35.2424 la	2.18	2.00	.24	-1.53	-1.67	186.293
R-071	28 13	25.4400 la	2.18	2.00	.24	-1.53	-1.67	186.482
R-072T	28 13	16.6625 la	2.18	2.00	.24	-1.53	-1.67	186.655
R-073	28 13	6.6719 la	2.18	2.00	.24	-1.52	-1.67	186.845
R-074T	28 12	58.1822 la	2.18	2.00	.24	-1.52	-1.67	187.012
R-075	28 12	48.2449 la	2.18	2.00	.24	-1.52	-1.67	187.201
R-076T	28 12	37.5108 la	2.18	2.00	.24	-1.52	-1.66	187.408
R-077	28 12	29.9974 la	2.18	2.00	.24	-1.52	-1.66	187.553
R-078T	28 12	20.2342 la	2.18	2.00	.24	-1.52	-1.66	187.742
R-079	28 12	10.3993 la	2.18	2.00	.24	-1.52	-1.66	187.930
R-080	28 12	0.3243 la	2.18	2.00	.24	-1.52	-1.66	188.124
R-081	28 11	51.8220 la	2.18	2.00	.24	-1.52	-1.66	188.286
R-082T	28 11	42.2897 la	2.18	2.00	.24	-1.52	-1.66	188.472
R-083T	28 11	32.8924 la	2.17	2.00	.24	-1.52	-1.66	188.654
R-084	28 11	23.2558 la	2.17	2.00	.24	-1.52	-1.66	188.843
R-085	28 11	16.1362 la	2.17	2.00	.24	-1.51	-1.66	188.982
R-086T	28 11	6.5389 la	2.17	2.00	.24	-1.51	-1.66	189.170
R-087	28 10	58.0965 la	2.17	2.00	.24	-1.51	-1.66	189.335
R-088T	28 10	47.2158 la	2.17	1.99	.24	-1.51	-1.65	189.548
R-089T	28 10	38.5546 la	2.17	1.99	.24	-1.51	-1.65	189.718
R-090T	28 10	32.4809 la	2.17	1.99	.24	-1.51	-1.65	189.836
R-091T	28 10	23.9278 la	2.17	1.99	.24	-1.51	-1.65	190.005
R-092T	28 10	15.2865 la	2.17	1.99	.24	-1.51	-1.65	190.173
R-093	28 10	5.6443 la	2.17	1.99	.24	-1.51	-1.65	190.362
R-094T	28 9	55.9976 la	2.17	1.99	.24	-1.51	-1.65	190.551
R-095T	28 9	48.4518 la	2.17	1.99	.24	-1.51	-1.65	190.698
R-096	28 9	39.3746 la	2.17	1.99	.24	-1.51	-1.65	190.876
R-097	28 9	30.4160 la	2.17	1.99	.24	-1.51	-1.65	191.052
R-098	28 9	20.7443 la	2.17	1.99	.24	-1.50	-1.65	191.241
R-099	28 9	11.4444 la	2.17	1.99	.24	-1.50	-1.65	191.423
R-100	28 9	1.8369 la	2.17	1.99	.25	-1.50	-1.65	191.611
R-101	28 8	52.1899 la	2.17	1.99	.25	-1.50	-1.64	191.800
R-102	28 8	42.7320 la	2.17	1.99	.25	-1.50	-1.64	191.985
R-103	28 8	33.1089 la	2.17	1.99	.25	-1.50	-1.64	192.174

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Brevard County								
R-104T	28	8 24.3981 la	2.17	1.99	.25	-1.50	-1.64	192.345
R-105	28	8 18.1994 la	2.17	1.99	.25	-1.50	-1.64	192.466
R-106	28	8 5.3822 la	2.17	1.99	.25	-1.50	-1.64	192.718
R-107T	28	7 56.1965 la	2.17	1.99	.25	-1.50	-1.64	192.908
R-108	28	7 47.2907 la	2.17	1.99	.25	-1.50	-1.64	193.072
R-109T	28	7 38.2972 la	2.16	1.99	.25	-1.49	-1.64	193.249
R-110T	28	7 27.0926 la	2.16	1.99	.25	-1.49	-1.64	193.471
R-111	28	7 19.1390 la	2.16	1.99	.25	-1.49	-1.64	193.624
R-112	28	7 9.5113 la	2.16	1.99	.25	-1.49	-1.64	193.813
R-113T	28	7 1.1212 la	2.16	1.99	.25	-1.49	-1.63	193.979
R-114	28	6 52.2350 la	2.16	1.99	.25	-1.49	-1.63	194.156
R-115	28	6 41.3363 la	2.16	1.99	.25	-1.49	-1.63	194.373
R-116	28	6 33.9567 la	2.16	1.99	.25	-1.49	-1.63	194.515
R-117T	28	6 25.8499 la	2.16	1.99	.25	-1.49	-1.63	194.694
R-118T	28	6 15.8119 la	2.16	1.99	.25	-1.49	-1.63	194.882
R-119	28	6 6.9202 la	2.16	1.99	.25	-1.49	-1.63	195.060
R-120T	28	5 58.1179 la	2.16	1.99	.25	-1.49	-1.63	195.234
R-121T	28	5 47.6612 la	2.16	1.99	.25	-1.48	-1.63	195.440
R-122	28	5 39.9749 la	2.16	1.99	.25	-1.48	-1.63	195.591
R-123	28	5 31.1321 la	2.16	1.99	.25	-1.48	-1.63	195.769
R-124	28	5 22.0189 la	2.16	1.99	.25	-1.48	-1.63	195.964
R-125T	28	5 12.6616 la	2.16	1.99	.25	-1.48	-1.63	196.150
R-126T	28	5 3.3700 la	2.16	1.99	.25	-1.48	-1.62	196.341
R-127	28	4 54.7236 la	2.16	1.99	.25	-1.48	-1.62	196.499
R-128	28	4 46.8931 la	2.16	1.99	.25	-1.48	-1.62	196.659
R-129T	28	4 37.0483 la	2.16	1.99	.26	-1.48	-1.62	196.862
R-130	28	4 27.6789 la	2.16	1.99	.26	-1.48	-1.62	197.047
R-131T	28	4 19.4298 la	2.16	1.99	.26	-1.48	-1.62	197.218
R-132	28	4 12.1901 la	2.16	1.99	.26	-1.48	-1.62	197.367
R-133	28	4 2.2045 la	2.16	1.99	.26	-1.47	-1.62	197.572
R-134	28	3 52.7835 la	2.16	1.99	.26	-1.47	-1.62	197.768
R-135	28	3 43.8567 la	2.15	1.99	.26	-1.47	-1.62	197.951
R-136	28	3 34.3455 la	2.15	1.99	.26	-1.47	-1.62	198.142
R-137T	28	3 27.7378 la	2.15	1.99	.26	-1.47	-1.62	198.283
R-138T	28	3 16.9349 la	2.15	1.99	.26	-1.47	-1.61	198.503
R-139	28	3 6.4850 la	2.15	1.99	.26	-1.47	-1.61	198.714
R-140	28	2 59.8272 la	2.15	1.99	.26	-1.47	-1.61	198.858
R-141	28	2 50.3820 la	2.15	1.99	.26	-1.47	-1.61	199.051
R-142	28	2 43.2563 la	2.15	1.99	.26	-1.47	-1.61	199.198
R-143	28	2 34.2003 la	2.15	1.99	.26	-1.47	-1.61	199.385
R-144	28	2 25.4877 la	2.15	1.99	.26	-1.47	-1.61	199.564
R-145	28	2 17.3426 la	2.15	1.99	.26	-1.46	-1.61	199.731
R-146	28	2 11.0020 la	2.15	1.99	.26	-1.46	-1.61	199.863
R-147T	28	1 59.3969 la	2.15	1.99	.26	-1.46	-1.61	200.105
R-148	28	1 50.5831 la	2.15	1.99	.26	-1.46	-1.61	200.288
R-149	28	1 42.2023 la	2.15	1.99	.26	-1.46	-1.61	200.462
R-150	28	1 32.5775 la	2.15	1.99	.26	-1.46	-1.61	200.661
R-151	28	1 26.1059 la	2.15	1.99	.26	-1.46	-1.60	200.795
R-152	28	1 13.7336 la	2.15	1.99	.26	-1.46	-1.60	201.051
R-153	28	1 5.3770 la	2.15	1.99	.26	-1.46	-1.60	201.225
R-154	28	0 58.3894 la	2.15	1.99	.26	-1.46	-1.60	201.370

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Brevard County								
R-155	28	0 46.2436 la	2.15	1.98	.26	-1.46	-1.60	201.624
R-156	28	0 41.6801 la	2.15	1.98	.26	-1.45	-1.60	201.721
R-157T	28	0 31.0625 la	2.15	1.98	.27	-1.45	-1.60	201.941
R-158	28	0 23.8785 la	2.15	1.98	.27	-1.45	-1.60	202.090
R-159T	28	0 15.3915 la	2.15	1.98	.27	-1.45	-1.60	202.266
R-160	28	0 5.1304 la	2.15	1.98	.27	-1.45	-1.60	202.480
R-161	27	59 57.7003 la	2.15	1.98	.27	-1.45	-1.60	202.635
R-162	27	59 51.7139 la	2.15	1.98	.27	-1.45	-1.60	202.760
R-163	27	59 40.9628 la	2.15	1.98	.27	-1.45	-1.59	202.992
R-164	27	59 34.0516 la	2.14	1.98	.27	-1.45	-1.59	203.141
R-165	27	59 25.4539 la	2.14	1.98	.27	-1.45	-1.59	203.326
R-166	27	59 14.2906 la	2.14	1.98	.27	-1.45	-1.59	203.557
R-167	27	59 5.6606 la	2.14	1.98	.27	-1.45	-1.59	203.737
R-168	27	58 55.2298 la	2.14	1.98	.27	-1.44	-1.59	203.956
R-169	27	58 47.3563 la	2.14	1.98	.27	-1.44	-1.59	204.115
R-170T	27	58 38.4648 la	2.14	1.98	.27	-1.44	-1.59	204.307
R-171T	27	58 30.1019 la	2.14	1.98	.27	-1.44	-1.59	204.483
R-172	27	58 21.0008 la	2.14	1.98	.27	-1.44	-1.59	204.673
R-173	27	58 11.3808 la	2.14	1.98	.27	-1.44	-1.59	204.869
R-174	27	58 2.4378 la	2.14	1.98	.27	-1.44	-1.59	205.048
R-175T	27	57 55.6287 la	2.14	1.98	.27	-1.44	-1.58	205.197
R-176	27	57 45.5036 la	2.14	1.98	.27	-1.44	-1.58	205.412
R-177	27	57 36.4742 la	2.14	1.98	.27	-1.44	-1.58	205.605
R-178	27	57 29.1810 la	2.14	1.98	.27	-1.44	-1.58	205.761
R-179	27	57 21.3822 la	2.14	1.98	.27	-1.44	-1.58	205.927
R-180	27	57 11.5487 la	2.14	1.98	.27	-1.43	-1.58	206.138
R-181	27	57 2.2302 la	2.14	1.98	.27	-1.43	-1.58	206.338
R-182	27	56 54.2615 la	2.14	1.98	.27	-1.43	-1.58	206.510
R-183	27	56 46.0846 la	2.14	1.98	.27	-1.43	-1.58	206.686
R-184	27	56 36.7414 la	2.14	1.98	.28	-1.43	-1.58	206.888
R-185	27	56 27.7782 la	2.14	1.98	.28	-1.43	-1.58	207.075
R-186	27	56 18.9783 la	2.14	1.98	.28	-1.43	-1.58	207.270
R-187	27	56 12.7365 la	2.14	1.98	.28	-1.43	-1.57	207.404
R-188	27	56 4.2500 la	2.14	1.98	.28	-1.43	-1.57	207.580
R-189	27	55 55.7020 la	2.14	1.98	.28	-1.43	-1.57	207.771
R-190	27	55 46.4678 la	2.14	1.98	.28	-1.43	-1.57	207.959
R-191	27	55 38.3176 la	2.14	1.98	.28	-1.42	-1.57	208.140
R-192	27	55 29.5934 la	2.14	1.98	.28	-1.42	-1.57	208.329
R-193	27	55 20.7975 la	2.14	1.98	.28	-1.42	-1.57	208.528
R-194	27	55 11.8049 la	2.13	1.98	.28	-1.42	-1.57	208.712
R-195	27	55 3.0023 la	2.13	1.98	.28	-1.42	-1.57	208.902
R-196	27	54 54.1949 la	2.13	1.98	.28	-1.42	-1.57	209.090
R-197	27	54 44.7368 la	2.13	1.98	.28	-1.42	-1.57	209.284
R-198	27	54 35.9335 la	2.13	1.98	.28	-1.42	-1.57	209.475
R-199	27	54 27.8950 la	2.13	1.98	.28	-1.42	-1.56	209.647
R-200	27	54 18.2392 la	2.13	1.98	.28	-1.42	-1.56	209.854
R-201	27	54 10.6045 la	2.13	1.98	.28	-1.42	-1.56	210.008
R-202	27	54 2.2070 la	2.13	1.98	.28	-1.42	-1.56	210.197
R-203	27	53 52.3575 la	2.13	1.98	.28	-1.41	-1.56	210.408
R-204	27	53 45.7025 la	2.13	1.98	.28	-1.41	-1.56	210.552
R-205	27	53 36.8177 la	2.13	1.98	.28	-1.41	-1.56	210.748

DNR Range Monu	Longitude = lo or Latitude = la	MHHW (feet NGVD)	MHW (feet NGVD)	MTL (feet NGVD)	MLW (feet NGVD)	MLLW (feet NGVD)	Distance (mi)
Brevard County							
R-206	27 53 28.0342 la	2.13	1.98	.28	-1.41	-1.56	210.937
R-207	27 53 19.2606 la	2.13	1.98	.28	-1.41	-1.56	211.126
R-208	27 53 10.7390 la	2.13	1.98	.28	-1.41	-1.56	211.314
R-209	27 53 2.2776 la	2.13	1.98	.28	-1.41	-1.56	211.496
R-210	27 52 52.5157 la	2.13	1.98	.29	-1.41	-1.56	211.708
R-211	27 52 43.4112 la	2.13	1.98	.29	-1.41	-1.55	211.900
R-212T	27 52 37.8843 la	2.13	1.98	.29	-1.41	-1.55	212.016
R-213	27 52 32.0845 la	2.13	1.98	.29	-1.41	-1.55	212.129
R-214	27 52 23.4231 la	2.13	1.98	.29	-1.41	-1.55	212.322
R-215	27 52 14.5916 la	2.13	1.98	.29	-1.40	-1.55	212.508
R-216	27 52 5.5821 la	2.13	1.98	.29	-1.40	-1.55	212.697
R-217T	27 51 56.5972 la	2.13	1.98	.29	-1.40	-1.55	212.885
R-218	27 51 46.8441 la	2.13	1.98	.29	-1.40	-1.55	213.083
R-219	27 51 38.7137 la	2.13	1.98	.29	-1.40	-1.55	213.357
Indian River County							
Sebastian Inlet							
R-001	27 51 28.8265 la	2.13	1.98	.29	-1.40	-1.55	213.513
R-002	27 51 20.1829 la	2.13	1.98	.29	-1.40	-1.55	213.700
R-003	27 51 11.5311 la	2.13	1.98	.29	-1.40	-1.55	213.884
R-004	27 51 2.5444 la	2.13	1.98	.29	-1.40	-1.55	214.071
R-005	27 50 53.9094 la	2.13	1.98	.29	-1.40	-1.54	214.254
R-006	27 50 44.8017 la	2.12	1.98	.29	-1.40	-1.54	214.453
R-007	27 50 36.1839 la	2.12	1.98	.29	-1.39	-1.54	214.630
R-008	27 50 26.5744 la	2.12	1.98	.29	-1.39	-1.54	214.836
R-009	27 50 18.5458 la	2.12	1.98	.29	-1.39	-1.54	215.013
R-010	27 50 8.8101 la	2.12	1.98	.29	-1.39	-1.54	215.217
T-011	27 49 58.9936 la	2.12	1.98	.29	-1.39	-1.54	215.422
R-012	27 49 51.9549 la	2.12	1.98	.29	-1.39	-1.54	215.576
T-013	27 49 42.8464 la	2.12	1.98	.29	-1.39	-1.54	215.766
R-014	27 49 34.0782 la	2.12	1.98	.29	-1.39	-1.54	215.952
R-015	27 49 25.1041 la	2.12	1.98	.29	-1.39	-1.54	216.137
T-016	27 49 16.4262 la	2.12	1.98	.29	-1.39	-1.54	216.317
T-017	27 49 7.3423 la	2.12	1.98	.30	-1.39	-1.53	216.510
R-018	27 48 58.5951 la	2.12	1.98	.30	-1.38	-1.53	216.698
R-019	27 48 49.2127 la	2.12	1.98	.30	-1.38	-1.53	216.893
R-020	27 48 40.6117 la	2.12	1.98	.30	-1.38	-1.53	217.074
R-021	27 48 31.4669 la	2.12	1.98	.30	-1.38	-1.53	217.261
R-022	27 48 22.5507 la	2.12	1.98	.30	-1.38	-1.53	217.453
R-023	27 48 13.2145 la	2.12	1.98	.30	-1.38	-1.53	217.648
R-024	27 48 4.2178 la	2.12	1.98	.30	-1.38	-1.53	217.836
R-025	27 47 54.2074 la	2.12	1.98	.30	-1.38	-1.53	218.048
R-026	27 47 45.4780 la	2.12	1.98	.30	-1.38	-1.53	218.230
R-027	27 47 38.9353 la	2.12	1.98	.30	-1.38	-1.53	218.373
R-028	27 47 29.8287 la	2.12	1.98	.30	-1.38	-1.52	218.571
R-029	27 47 21.5842 la	2.12	1.98	.30	-1.37	-1.52	218.753
R-030	27 47 12.5739 la	2.12	1.98	.30	-1.37	-1.52	218.946
T-031	27 47 4.1957 la	2.12	1.97	.30	-1.37	-1.52	219.123
R-032	27 46 55.5962 la	2.12	1.97	.30	-1.37	-1.52	219.304
R-033	27 46 46.6719 la	2.12	1.97	.30	-1.37	-1.52	219.492
R-034	27 46 37.8957 la	2.12	1.97	.30	-1.37	-1.52	219.673

DNR Range Monu	Longitude = lo or Latitude = la	MHHW (feet NGVD)	MHW (feet NGVD)	MTL (feet NGVD)	MLW (feet NGVD)	MLLW (feet NGVD)	Distance (mi)
Indian River County							
R-035	27 46 28.3596 la	2.12	1.97	.30	-1.37	-1.52	219.873
T-036	27 46 20.4613 la	2.12	1.97	.30	-1.37	-1.52	220.036
R-037	27 46 11.6854 la	2.12	1.97	.30	-1.37	-1.52	220.222
T-038	27 46 2.7948 la	2.11	1.97	.30	-1.37	-1.52	220.407
R-039	27 45 53.7960 la	2.11	1.97	.30	-1.37	-1.52	220.587
R-040	27 45 44.7261 la	2.11	1.97	.30	-1.37	-1.52	220.781
R-041	27 45 35.5020 la	2.11	1.97	.30	-1.36	-1.51	220.984
R-042	27 45 27.0022 la	2.11	1.97	.31	-1.36	-1.51	221.172
R-043	27 45 17.4762 la	2.11	1.97	.31	-1.36	-1.51	221.430
R-044	27 45 9.0077 la	2.11	1.97	.31	-1.36	-1.51	221.560
T-045	27 44 59.9193 la	2.11	1.97	.31	-1.36	-1.51	221.751
T-046	27 44 51.5734 la	2.11	1.97	.31	-1.36	-1.51	221.930
R-047	27 44 42.8754 la	2.11	1.97	.31	-1.36	-1.51	222.115
R-048	27 44 34.0853 la	2.11	1.97	.31	-1.36	-1.51	222.301
R-049	27 44 25.0080 la	2.11	1.97	.31	-1.36	-1.51	222.489
R-050	27 44 15.3993 la	2.11	1.97	.31	-1.36	-1.51	222.685
R-051	27 44 5.9693 la	2.11	1.97	.31	-1.36	-1.51	222.878
R-052	27 43 56.7724 la	2.11	1.97	.31	-1.35	-1.50	223.066
R-053	27 43 46.4765 la	2.11	1.97	.31	-1.35	-1.50	223.261
R-054	27 43 37.2232 la	2.11	1.97	.31	-1.35	-1.50	223.455
R-055	27 43 27.7471 la	2.11	1.97	.31	-1.35	-1.50	223.638
R-056	27 43 18.3149 la	2.11	1.97	.31	-1.35	-1.50	223.826
R-057	27 43 9.3586 la	2.11	1.97	.31	-1.35	-1.50	224.003
R-058	27 43 0.0804 la	2.11	1.97	.31	-1.35	-1.50	224.189
T-059	27 42 50.6050 la	2.11	1.97	.31	-1.35	-1.50	224.377
T-060	27 42 39.4392 la	2.11	1.97	.31	-1.35	-1.50	224.595
R-061	27 42 30.4988 la	2.11	1.97	.31	-1.35	-1.50	224.779
R-062	27 42 21.0806 la	2.11	1.97	.31	-1.35	-1.50	224.968
R-063	27 42 11.5945 la	2.11	1.97	.31	-1.34	-1.50	225.155
R-064	27 42 1.0196 la	2.11	1.97	.31	-1.34	-1.49	225.430
R-065	27 41 52.4841 la	2.11	1.97	.31	-1.34	-1.49	225.539
R-066	27 41 42.6329 la	2.11	1.97	.31	-1.34	-1.49	225.733
T-067	27 41 33.1760 la	2.11	1.97	.32	-1.34	-1.49	225.912
R-068	27 41 24.6674 la	2.11	1.97	.32	-1.34	-1.49	226.094
R-069	27 41 14.2030 la	2.11	1.97	.32	-1.34	-1.49	226.309
R-070	27 41 4.7347 la	2.11	1.97	.32	-1.34	-1.49	226.504
R-071	27 40 53.8947 la	2.11	1.97	.32	-1.34	-1.49	226.713
T-072	27 40 44.2726 la	2.10	1.97	.32	-1.34	-1.49	226.906
R-073	27 40 35.2405 la	2.10	1.97	.32	-1.34	-1.49	227.086
R-074	27 40 25.2637 la	2.10	1.97	.32	-1.33	-1.49	227.281
R-075	27 40 13.9050 la	2.10	1.97	.32	-1.33	-1.49	227.499
R-076	27 40 5.2365 la	2.10	1.97	.32	-1.33	-1.48	227.671
R-077	27 39 55.4769 la	2.10	1.97	.32	-1.33	-1.48	227.864
R-078	27 39 46.5244 la	2.10	1.97	.32	-1.33	-1.48	228.051
T-079	27 39 37.4225 la	2.10	1.97	.32	-1.33	-1.48	228.228
R-080	27 39 26.1858 la	2.10	1.97	.32	-1.33	-1.48	228.453
R-081	27 39 16.7367 la	2.10	1.97	.32	-1.33	-1.48	228.625
R-082	27 39 7.7960 la	2.10	1.97	.32	-1.33	-1.48	228.810
R-083	27 38 58.4969 la	2.10	1.97	.32	-1.33	-1.48	228.989
R-084	27 38 48.0982 la	2.10	1.97	.32	-1.33	-1.48	229.202
R-085	27 38 40.0725 la	2.10	1.97	.32	-1.33	-1.48	229.357

DNR Range Monu	Longitude = lo or Latitude = la	MHHW (feet NGVD)	MHW (feet NGVD)	MTL (feet NGVD)	MLW (feet NGVD)	MLLW (feet NGVD)	Distance (mi)	
Indian River County								
R-086	27 38 29.6981	la	2.10	1.97	.32	-1.32	-1.48	229.572
R-087	27 38 21.6089	la	2.10	1.97	.32	-1.32	-1.48	229.728
R-088	27 38 10.6832	la	2.10	1.97	.32	-1.32	-1.47	229.950
R-089	27 38 2.7876	la	2.10	1.97	.32	-1.32	-1.47	230.101
R-090	27 37 53.6819	la	2.10	1.97	.32	-1.32	-1.47	230.268
R-091	27 37 44.0126	la	2.10	1.97	.33	-1.32	-1.47	230.449
R-092	27 37 34.5684	la	2.10	1.97	.33	-1.32	-1.47	230.650
R-093	27 37 25.4351	la	2.10	1.97	.33	-1.32	-1.47	230.835
R-094	27 37 16.0261	la	2.10	1.97	.33	-1.32	-1.47	231.030
T-095	27 37 7.2635	la	2.10	1.97	.33	-1.32	-1.47	231.213
T-096	27 36 58.8088	la	2.10	1.97	.33	-1.32	-1.47	231.395
R-097	27 36 50.3742	la	2.10	1.97	.33	-1.31	-1.47	231.588
T-098	27 36 42.9129	la	2.10	1.97	.33	-1.31	-1.47	231.747
R-099	27 36 34.5195	la	2.10	1.97	.33	-1.31	-1.47	231.959
T-100	27 36 25.0841	la	2.10	1.97	.33	-1.31	-1.46	232.150
R-101	27 36 17.6444	la	2.10	1.97	.33	-1.31	-1.46	232.346
R-102	27 36 9.4586	la	2.10	1.97	.33	-1.31	-1.46	232.539
R-103	27 36 1.6940	la	2.10	1.97	.33	-1.31	-1.46	232.705
R-104	27 35 51.7920	la	2.10	1.97	.33	-1.31	-1.46	232.928
R-105	27 35 42.8186	la	2.10	1.97	.33	-1.31	-1.46	233.103
R-106	27 35 31.4269	la	2.09	1.97	.33	-1.31	-1.46	233.333
R-107	27 35 23.6906	la	2.09	1.97	.33	-1.31	-1.46	233.485
R-108	27 35 15.1362	la	2.09	1.97	.33	-1.30	-1.46	233.641
R-109	27 35 6.2872	la	2.09	1.97	.33	-1.30	-1.46	233.817
R-110	27 34 58.2635	la	2.09	1.97	.33	-1.30	-1.46	233.980
R-111	27 34 46.3450	la	2.09	1.97	.33	-1.30	-1.46	234.187
T-112	27 34 37.8222	la	2.09	1.97	.33	-1.30	-1.45	234.374
T-113	27 34 26.6152	la	2.09	1.97	.33	-1.30	-1.45	234.593
R-114	27 34 19.7085	la	2.09	1.97	.33	-1.30	-1.45	234.723
R-115	27 34 7.0415	la	2.09	1.97	.33	-1.30	-1.45	234.974
R-116	27 33 58.2041	la	2.09	1.97	.34	-1.30	-1.45	235.145
T-117	27 33 49.9465	la	2.09	1.97	.34	-1.30	-1.45	235.320
T-118	27 33 39.0510	la	2.09	1.97	.34	-1.30	-1.45	235.533
R-119	27 33 29.6567	la	2.09	1.97	.34	-1.30	-1.45	235.710
St. Lucie County								
T-001	27 33 20.8491	la	2.09	1.97	.34	-1.29	-1.45	235.886
R-002	27 33 11.6774	la	2.09	1.97	.34	-1.29	-1.45	236.071
R-003	27 33 1.8681	la	2.09	1.97	.34	-1.29	-1.45	236.262
R-004	27 32 52.4322	la	2.09	1.97	.34	-1.29	-1.45	236.453
R-005	27 32 43.1583	la	2.09	1.97	.34	-1.29	-1.44	236.636
R-006	27 32 33.4053	la	2.09	1.97	.34	-1.29	-1.44	236.827
R-007	27 32 23.8598	la	2.09	1.97	.34	-1.29	-1.44	237.017
R-008	27 32 14.4991	la	2.09	1.97	.34	-1.29	-1.44	237.205
R-009	27 32 5.2869	la	2.09	1.97	.34	-1.29	-1.44	237.386
R-010	27 31 55.7253	la	2.09	1.97	.34	-1.29	-1.44	237.575
R-011	27 31 46.1864	la	2.09	1.97	.34	-1.29	-1.44	237.763
R-012	27 31 36.8928	la	2.09	1.97	.34	-1.28	-1.44	237.947
R-013	27 31 27.1205	la	2.09	1.97	.34	-1.28	-1.44	238.136
R-014	27 31 18.0225	la	2.09	1.97	.34	-1.28	-1.44	238.323
R-015	27 31 8.9481	la	2.09	1.97	.34	-1.28	-1.44	238.509
R-016	27 30 59.9143	la	2.09	1.97	.34	-1.28	-1.44	238.696

DNR Range Monu	Longitude = lo or Latitude = la	MHHW (feet NGVD)	MHW (feet NGVD)	MTL (feet NGVD)	MLW (feet NGVD)	MLLW (feet NGVD)	Distance (mi)	
St. Lucie County								
R-017	27 30 50.9138	la	2.09	1.97	.34	-1.28	-1.43	238.884
R-018	27 30 41.8892	la	2.09	1.97	.34	-1.28	-1.43	239.070
R-019	27 30 32.8004	la	2.09	1.97	.34	-1.28	-1.43	239.257
R-020	27 30 23.7287	la	2.09	1.97	.34	-1.28	-1.43	239.443
R-021	27 30 14.7680	la	2.09	1.97	.34	-1.28	-1.43	239.628
R-022	27 30 5.5998	la	2.09	1.97	.35	-1.28	-1.43	239.814
R-023	27 29 56.3643	la	2.08	1.97	.35	-1.27	-1.43	240.003
R-024	27 29 46.9914	la	2.08	1.97	.35	-1.27	-1.43	240.189
T-025	27 29 39.1825	la	2.08	1.97	.35	-1.27	-1.43	240.347
T-026	27 29 28.2074	la	2.08	1.97	.35	-1.27	-1.43	240.565
R-027	27 29 18.3886	la	2.08	1.97	.35	-1.27	-1.43	240.757
T-028	27 29 9.3644	la	2.08	1.97	.35	-1.27	-1.43	240.939
R-029	27 28 59.4512	la	2.08	1.97	.35	-1.27	-1.42	241.131
T-030	27 28 49.6102	la	2.08	1.97	.35	-1.27	-1.42	241.329
R-031	27 28 40.9577	la	2.08	1.97	.35	-1.27	-1.42	241.514
R-032	27 28 31.5763	la	2.08	1.97	.35	-1.27	-1.42	241.708
R-033	27 28 22.5382	la	2.08	1.96	.35	-1.27	-1.42	241.894
Ft. Pierce Inlet								
R-034	27 28 11.1533	la	2.08	1.96	.35	-1.26	-1.42	242.141
R-035	27 28 0.9764	la	2.08	1.96	.35	-1.26	-1.42	242.325
T-036	27 27 51.5808	la	2.08	1.96	.35	-1.26	-1.42	242.504
R-037	27 27 42.3495	la	2.08	1.96	.35	-1.26	-1.42	242.690
R-038	27 27 32.8652	la	2.08	1.96	.35	-1.26	-1.42	242.878
R-039	27 27 23.7523	la	2.08	1.96	.35	-1.26	-1.42	243.065
T-040	27 27 14.6086	la	2.08	1.96	.35	-1.26	-1.41	243.244
T-041	27 27 5.4277	la	2.08	1.96	.35	-1.26	-1.41	243.430
T-042	27 26 56.4557	la	2.08	1.96	.35	-1.26	-1.41	243.620
R-043	27 26 47.3447	la	2.08	1.96	.35	-1.26	-1.41	243.806
R-044	27 26 38.5435	la	2.08	1.96	.35	-1.26	-1.41	243.999
R-045	27 26 28.6552	la	2.08	1.96	.35	-1.26	-1.41	244.195
R-046	27 26 19.3292	la	2.08	1.96	.35	-1.25	-1.41	244.382
R-047	27 26 9.9450	la	2.08	1.96	.36	-1.25	-1.41	244.571
T-048	27 26 0.9043	la	2.08	1.96	.36	-1.25	-1.41	244.756
T-049	27 25 51.6180	la	2.08	1.96	.36	-1.25	-1.41	244.942
R-050	27 25 42.0072	la	2.08	1.96	.36	-1.25	-1.41	245.135
R-051	27 25 32.8167	la	2.08	1.96	.36	-1.25	-1.41	245.322
R-052	27 25 23.4206	la	2.08	1.96	.36	-1.25	-1.40	245.509
R-053	27 25 14.1437	la	2.08	1.96	.36	-1.25	-1.40	245.698
R-054	27 25 5.1476	la	2.08	1.96	.36	-1.25	-1.40	245.885
R-055	27 24 56.1643	la	2.08	1.96	.36	-1.25	-1.40	246.067
R-056	27 24 46.8968	la	2.08	1.96	.36	-1.25	-1.40	246.251
R-057	27 24 37.7368	la	2.08	1.96	.36	-1.24	-1.40	246.440
R-058	27 24 28.3981	la	2.08	1.96	.36	-1.24	-1.40	246.629
R-059	27 24 19.5155	la	2.07	1.96	.36	-1.24	-1.40	246.808
R-060	27 24 10.0448	la	2.07	1.96	.36	-1.24	-1.40	247.000
R-061	27 24 0.9657	la	2.07	1.96	.36	-1.24	-1.40	247.189
R-062	27 23 51.9529	la	2.07	1.96	.36	-1.24	-1.40	247.375
R-063	27 23 42.4214	la	2.07	1.96	.36	-1.24	-1.40	247.560
R-064	27 23 33.7593	la	2.07	1.96	.36	-1.24	-1.39	247.749
R-065	27 23 24.7237	la	2.07	1.96	.36	-1.24	-1.39	247.937

DNR Range Monu	Longitude = lo or Latitude = la		MHHW (feet NGVD)	MHW (feet NGVD)	MTL (feet NGVD)	MLW (feet NGVD)	MLLW (feet NGVD)	Distance (mi)
St. Lucie County								
R-066	27 23 15.6843	la	2.07	1.96	.36	-1.24	-1.39	248.126
R-067	27 23 6.6276	la	2.07	1.96	.36	-1.24	-1.39	248.317
R-068	27 22 58.0240	la	2.07	1.96	.36	-1.24	-1.39	248.501
R-069	27 22 49.3348	la	2.07	1.96	.36	-1.23	-1.39	248.686
R-070	27 22 40.5585	la	2.07	1.96	.36	-1.23	-1.39	248.871
R-071	27 22 31.8423	la	2.07	1.96	.36	-1.23	-1.39	249.059
R-072	27 22 22.8485	la	2.07	1.96	.36	-1.23	-1.39	249.249
R-073	27 22 13.9929	la	2.07	1.96	.37	-1.23	-1.39	249.436
R-074	27 22 5.3055	la	2.07	1.96	.37	-1.23	-1.39	249.625
R-075	27 21 56.4374	la	2.07	1.96	.37	-1.23	-1.39	249.813
R-076	27 21 47.3741	la	2.07	1.96	.37	-1.23	-1.38	250.000
R-077	27 21 38.4563	la	2.07	1.96	.37	-1.23	-1.38	250.190
R-078	27 21 29.7883	la	2.07	1.96	.37	-1.23	-1.38	250.372
R-079	27 21 20.9615	la	2.07	1.96	.37	-1.23	-1.38	250.556
R-080	27 21 11.9814	la	2.07	1.96	.37	-1.22	-1.38	250.742
R-081	27 21 2.8042	la	2.07	1.96	.37	-1.22	-1.38	251.679
R-082	27 20 54.5658	la	2.07	1.96	.37	-1.22	-1.38	251.114
R-083	27 20 45.5401	la	2.07	1.96	.37	-1.22	-1.38	251.301
R-084	27 20 36.5940	la	2.07	1.96	.37	-1.22	-1.38	251.487
R-085	27 20 27.5380	la	2.07	1.96	.37	-1.22	-1.38	251.669
R-086	27 20 10.2246	la	2.07	1.96	.37	-1.22	-1.38	252.010
R-087	27 20 8.8100	la	2.07	1.96	.37	-1.22	-1.38	252.052
R-088	27 19 59.6805	la	2.07	1.96	.37	-1.22	-1.37	252.237
R-089	27 19 50.5389	la	2.07	1.96	.37	-1.22	-1.37	252.426
R-090	27 19 41.4399	la	2.07	1.96	.37	-1.22	-1.37	252.611
R-091	27 19 32.1121	la	2.07	1.96	.37	-1.21	-1.37	252.796
R-092	27 19 22.7654	la	2.07	1.96	.37	-1.21	-1.37	252.986
R-093	27 19 13.8487	la	2.07	1.96	.37	-1.21	-1.37	253.167
R-094	27 19 4.9190	la	2.06	1.96	.37	-1.21	-1.37	253.352
R-095	27 18 55.8373	la	2.06	1.96	.37	-1.21	-1.37	253.538
R-096	27 18 46.6119	la	2.06	1.96	.37	-1.21	-1.37	253.727
R-097	27 18 37.5591	la	2.06	1.96	.37	-1.21	-1.37	253.917
R-098	27 18 28.3240	la	2.06	1.96	.37	-1.21	-1.37	254.103
R-099	27 18 19.5682	la	2.06	1.96	.38	-1.21	-1.37	254.289
R-100	27 18 10.3241	la	2.06	1.96	.38	-1.21	-1.36	254.479
R-101	27 18 1.2062	la	2.06	1.96	.38	-1.21	-1.36	254.666
R-102	27 17 52.1668	la	2.06	1.96	.38	-1.21	-1.36	254.851
R-103	27 17 43.0297	la	2.06	1.96	.38	-1.20	-1.36	255.038
R-104	27 17 33.9767	la	2.06	1.96	.38	-1.20	-1.36	255.222
R-105	27 17 24.7464	la	2.06	1.96	.38	-1.20	-1.36	255.413
T-106	27 17 16.1719	la	2.06	1.96	.38	-1.20	-1.36	255.586
R-107	27 17 6.4789	la	2.06	1.96	.38	-1.20	-1.36	255.787
T-108	27 16 56.8374	la	2.06	1.96	.38	-1.20	-1.36	255.983
R-109	27 16 48.5913	la	2.06	1.96	.38	-1.20	-1.36	256.161
R-110	27 16 39.7005	la	2.06	1.96	.38	-1.20	-1.36	256.350
R-111	27 16 30.4894	la	2.06	1.96	.38	-1.20	-1.36	256.539
R-112	27 16 21.3330	la	2.06	1.96	.38	-1.20	-1.35	256.728
R-113	27 16 12.3813	la	2.06	1.96	.38	-1.20	-1.35	256.915
R-114	27 16 3.7185	la	2.06	1.96	.38	-1.19	-1.35	257.094
R-115	27 15 54.5604	la	2.06	1.96	.38	-1.19	-1.35	257.282

DNR Range Monu	Longitude = lo or Latitude = la		MHHW (feet NGVD)	MHW (feet NGVD)	MTL (feet NGVD)	MLW (feet NGVD)	MLLW (feet NGVD)	Distance (mi)
Martin County								
R-01	27 15 45.5210	la	2.06	1.96	.38	-1.19	-1.35	257.469
R-02	27 15 37.2477	la	2.06	1.96	.38	-1.19	-1.35	257.639
R-03	27 15 28.9823	la	2.06	1.96	.38	-1.19	-1.35	257.809
R-04	27 15 20.7173	la	2.06	1.96	.38	-1.19	-1.35	257.980
R-05U	27 15 12.6634	la	2.06	1.96	.38	-1.19	-1.35	258.147
R-06	27 15 6.1616	la	2.06	1.96	.38	-1.19	-1.35	258.285
R-07	27 14 56.4210	la	2.06	1.96	.38	-1.19	-1.35	258.544
R-08	27 14 48.4088	la	2.06	1.96	.38	-1.19	-1.35	258.715
R-09	27 14 40.3874	la	2.06	1.96	.38	-1.19	-1.34	258.885
R-010U	27 14 32.4929	la	2.06	1.96	.38	-1.19	-1.34	259.055
R-011	27 14 24.3559	la	2.06	1.96	.39	-1.18	-1.34	259.226
R-012U	27 14 16.3283	la	2.06	1.96	.39	-1.18	-1.34	259.397
R-013	27 14 8.3197	la	2.06	1.96	.39	-1.18	-1.34	259.567
R-014	27 14 0.2943	la	2.06	1.95	.39	-1.18	-1.34	259.737
R-015	27 13 52.2742	la	2.05	1.95	.39	-1.18	-1.34	259.908
R-016	27 13 44.2587	la	2.05	1.95	.39	-1.18	-1.34	260.078
R-017	27 13 36.8512	la	2.05	1.95	.39	-1.18	-1.34	260.237
R-018	27 13 28.2203	la	2.05	1.95	.39	-1.18	-1.34	260.419
R-019	27 13 19.5827	la	2.05	1.95	.39	-1.18	-1.34	260.585
R-020	27 13 12.1754	la	2.05	1.95	.39	-1.18	-1.34	260.760
R-021	27 13 4.1543	la	2.05	1.95	.39	-1.18	-1.34	260.931
R-022	27 12 56.1337	la	2.05	1.95	.39	-1.18	-1.33	261.101
R-023	27 12 48.3261	la	2.05	1.95	.39	-1.18	-1.33	261.269
R-024	27 12 40.4682	la	2.05	1.95	.39	-1.17	-1.33	261.441
R-025	27 12 32.6400	la	2.05	1.95	.39	-1.17	-1.33	261.612
R-026	27 12 24.8105	la	2.05	1.95	.39	-1.17	-1.33	261.782
R-027	27 12 16.9777	la	2.05	1.95	.39	-1.17	-1.33	261.953
R-028	27 12 9.1537	la	2.05	1.95	.39	-1.17	-1.33	262.123
R-029	27 12 1.3366	la	2.05	1.95	.39	-1.17	-1.33	262.293
R-030A	27 11 53.0682	la	2.05	1.95	.39	-1.17	-1.33	262.463
R-031	27 11 44.9588	la	2.05	1.95	.39	-1.17	-1.33	262.634
R-032	27 11 36.8327	la	2.05	1.95	.39	-1.17	-1.33	262.804
R-033	27 11 29.2864	la	2.05	1.95	.39	-1.17	-1.33	262.964
R-034	27 11 20.3864	la	2.05	1.95	.39	-1.17	-1.33	263.151
R-035	27 11 11.9503	la	2.05	1.95	.39	-1.17	-1.32	263.323
R-036	27 11 3.0121	la	2.05	1.95	.39	-1.16	-1.32	263.496
R-037	27 10 54.2724	la	2.05	1.95	.39	-1.16	-1.32	263.668
R-038	27 10 43.8938	la	2.05	1.95	.39	-1.16	-1.32	263.875
R-039	27 10 36.9566	la	2.05	1.95	.39	-1.16	-1.32	264.016
R-040	27 10 29.1391	la	2.05	1.95	.40	-1.16	-1.32	264.176
R-041	27 10 20.7542	la	2.05	1.95	.40	-1.16	-1.32	264.347
R-042	27 10 12.3722	la	2.05	1.95	.40	-1.16	-1.32	264.517
St. Lucie Inlet								
R-043	27 10 0.8042	la	2.05	1.95	.40	-1.16	-1.32	264.836
R-044	27 9 49.2360	la	2.05	1.95	.40	-1.16	-1.32	265.049
R-045	27 9 37.6679	la	2.05	1.95	.40	-1.16	-1.32	265.441
R-046	27 9 29.2970	la	2.05	1.95	.40	-1.15	-1.31	265.610
R-047	27 9 21.0541	la	2.05	1.95	.40	-1.15	-1.31	265.781
R-048	27 9 13.0765	la	2.05	1.95	.40	-1.15	-1.31	265.949
R-049	27 9 4.7292	la	2.04	1.95	.40	-1.15	-1.31	266.131

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Martin County								
R-050	27	8 56.3819 la	2.04	1.95	.40	-1.15	-1.31	266.295
R-051	27	8 48.0345 la	2.04	1.95	.40	-1.15	-1.31	266.465
R-052	27	8 39.6872 la	2.04	1.95	.40	-1.15	-1.31	266.635
R-053	27	8 31.3398 la	2.04	1.95	.40	-1.15	-1.31	266.823
R-054	27	8 22.9923 la	2.04	1.95	.40	-1.15	-1.31	266.984
R-055	27	8 14.6449 la	2.04	1.95	.40	-1.15	-1.31	267.155
R-056	27	8 6.2974 la	2.04	1.95	.40	-1.15	-1.31	267.325
R-057	27	7 57.9499 la	2.04	1.95	.40	-1.15	-1.31	267.496
R-058	27	7 49.6024 la	2.04	1.95	.40	-1.14	-1.31	267.673
R-059	27	7 41.2549 la	2.04	1.95	.40	-1.14	-1.30	267.843
R-060	27	7 32.9073 la	2.04	1.95	.40	-1.14	-1.30	268.012
R-061	27	7 24.1533 la	2.04	1.95	.40	-1.14	-1.30	268.185
R-062	27	7 15.7200 la	2.04	1.95	.40	-1.14	-1.30	268.355
R-063	27	7 7.0137 la	2.04	1.95	.40	-1.14	-1.30	268.525
R-064	27	6 58.7369 la	2.04	1.95	.40	-1.14	-1.30	268.692
R-065	27	6 50.1853 la	2.04	1.95	.40	-1.14	-1.30	268.867
R-066	27	6 41.9414 la	2.04	1.95	.40	-1.14	-1.30	269.032
R-067	27	6 34.0101 la	2.04	1.95	.40	-1.14	-1.30	269.198
R-068	27	6 26.0788 la	2.04	1.95	.41	-1.14	-1.30	269.364
R-069	27	6 18.1475 la	2.04	1.95	.41	-1.14	-1.30	269.530
R-070	27	6 9.8787 la	2.04	1.95	.41	-1.14	-1.30	269.708
R-071	27	6 1.6099 la	2.04	1.95	.41	-1.13	-1.30	269.885
R-072	27	5 54.2538 la	2.04	1.95	.41	-1.13	-1.29	270.051
R-073	27	5 46.1645 la	2.04	1.95	.41	-1.13	-1.29	270.219
R-074	27	5 38.6388 la	2.04	1.95	.41	-1.13	-1.29	270.374
R-075	27	5 29.9409 la	2.04	1.95	.41	-1.13	-1.29	270.558
R-076A	27	5 21.7667 la	2.04	1.95	.41	-1.13	-1.29	270.734
R-077	27	5 14.6239 la	2.04	1.95	.41	-1.13	-1.29	270.894
R-078	27	5 6.9744 la	2.04	1.95	.41	-1.13	-1.29	271.093
R-079	27	4 58.7477 la	2.04	1.95	.41	-1.13	-1.29	271.263
R-080	27	4 50.5122 la	2.04	1.95	.41	-1.13	-1.29	271.434
R-081	27	4 42.7109 la	2.04	1.95	.41	-1.13	-1.29	271.602
R-082	27	4 34.5102 la	2.04	1.95	.41	-1.13	-1.29	271.776
R-083	27	4 26.0941 la	2.03	1.94	.41	-1.12	-1.29	271.948
R-084	27	4 15.4411 la	2.03	1.94	.41	-1.12	-1.29	272.163
R-085A	27	4 9.3682 la	2.03	1.94	.41	-1.12	-1.28	272.310
R-086	27	3 58.3817 la	2.03	1.94	.41	-1.12	-1.28	272.515
R-087	27	3 52.7748 la	2.03	1.94	.41	-1.12	-1.28	272.633
R-088	27	3 46.0761 la	2.03	1.94	.41	-1.12	-1.28	272.784
R-089	27	3 36.9846 la	2.03	1.94	.41	-1.12	-1.28	272.976
R-090	27	3 28.4538 la	2.03	1.94	.41	-1.12	-1.28	273.159
R-091	27	3 20.7674 la	2.03	1.94	.41	-1.12	-1.28	273.316
R-092	27	3 12.8313 la	2.03	1.94	.41	-1.12	-1.28	273.485
R-093	27	3 4.5672 la	2.03	1.94	.41	-1.12	-1.28	273.656
R-094	27	2 56.2344 la	2.03	1.94	.41	-1.12	-1.28	273.825
R-095	27	2 47.7957 la	2.03	1.94	.41	-1.12	-1.28	273.996
R-096	27	2 39.6089 la	2.03	1.94	.41	-1.11	-1.28	274.161
R-097	27	2 29.5416 la	2.03	1.94	.41	-1.11	-1.28	274.369
R-098	27	2 23.1248 la	2.03	1.94	.41	-1.11	-1.27	274.501
R-099	27	2 14.8765 la	2.03	1.94	.42	-1.11	-1.27	274.671
R-100	27	2 4.7605 la	2.03	1.94	.42	-1.11	-1.27	274.882

DNR Range Monu	Longitude = lo or Latitude = la		MHHW (feet NGVD)	MHW (feet NGVD)	MTL (feet NGVD)	MLW (feet NGVD)	MLLW (feet NGVD)	Distance (mi)
Martin County								
R-101	27	1 56.9175 la	2.03	1.94	.42	-1.11	-1.27	275.038
R-102	27	1 48.7953 la	2.03	1.94	.42	-1.11	-1.27	275.207
R-103	27	1 40.7474 la	2.03	1.94	.42	-1.11	-1.27	275.371
R-104	27	1 32.1366 la	2.03	1.94	.42	-1.11	-1.27	275.545
R-105	27	1 23.6945 la	2.03	1.94	.42	-1.11	-1.27	275.717
R-106	27	1 14.6383 la	2.03	1.94	.42	-1.11	-1.27	275.889
R-107	27	1 7.3371 la	2.03	1.94	.42	-1.11	-1.27	276.041
R-108	27	0 58.4881 la	2.03	1.94	.42	-1.10	-1.27	276.218
R-109	27	0 49.9716 la	2.03	1.94	.42	-1.10	-1.27	276.389
R-110	27	0 41.6296 la	2.03	1.94	.42	-1.10	-1.27	276.556
R-111	27	0 33.3331 la	2.03	1.94	.42	-1.10	-1.27	276.717
R-112	27	0 24.6525 la	2.03	1.94	.42	-1.10	-1.26	276.891
R-113	27	0 16.0367 la	2.03	1.94	.42	-1.10	-1.26	277.061
R-114	27	0 7.2646 la	2.03	1.94	.42	-1.10	-1.26	277.232
R-115	26	59 58.5662 la	2.03	1.94	.42	-1.10	-1.26	277.402
R-116	26	59 49.8902 la	2.02	1.94	.42	-1.10	-1.26	277.570
R-117	26	59 40.9847 la	2.02	1.94	.42	-1.10	-1.26	277.741
R-118	26	59 31.9675 la	2.02	1.94	.42	-1.10	-1.26	277.908
R-119	26	59 23.6726 la	2.02	1.94	.42	-1.10	-1.26	278.069
R-120	26	59 15.3378 la	2.02	1.94	.42	-1.10	-1.26	278.240
R-121	26	59 6.8313 la	2.02	1.94	.42	-1.09	-1.26	278.412
R-122	26	58 58.7175 la	2.02	1.94	.42	-1.09	-1.26	278.581
R-123	26	58 50.5411 la	2.02	1.94	.42	-1.09	-1.26	278.751
R-124	26	58 41.9106 la	2.02	1.94	.42	-1.09	-1.26	278.925
R-125	26	58 33.9886 la	2.02	1.94	.42	-1.09	-1.25	279.088
R-126	26	58 25.3724 la	2.02	1.94	.42	-1.09	-1.25	279.266
R-127	26	58 16.5670 la	2.02	1.94	.42	-1.09	-1.25	279.433
Palm Beach County								
R-001	26	58 13.5739 la	2.02	1.94	.42	-1.09	-1.25	279.492
R-002	26	58 3.9212 la	2.02	1.94	.42	-1.09	-1.25	279.680
T-003	26	57 53.5358 la	2.02	1.94	.42	-1.09	-1.25	279.885
R-004	26	57 45.9415 la	2.02	1.94	.42	-1.09	-1.25	280.037
R-005	26	57 42.4358 la	2.02	1.94	.42	-1.09	-1.25	280.117
T-006	26	57 36.3692 la	2.02	1.94	.43	-1.09	-1.25	280.231
T-007	26	57 27.3841 la	2.02	1.94	.43	-1.09	-1.25	280.407
R-008	26	57 16.5677 la	2.02	1.94	.43	-1.08	-1.25	280.625
R-009	26	57 3.9631 la	2.02	1.94	.43	-1.08	-1.25	280.879
R-010	26	56 56.1361 la	2.02	1.94	.43	-1.08	-1.25	281.036
R-011	26	56 48.1985 la	2.02	1.93	.43	-1.08	-1.25	281.191
R-012	26	56 39.6356 la	2.02	1.93	.43	-1.08	-1.24	281.379
Jupiter Inlet								
T-013	26	56 31.8771 la	2.02	1.93	.43	-1.08	-1.24	281.542
T-014	26	56 23.3522 la	2.02	1.93	.43	-1.08	-1.24	281.730
R-015	26	56 16.0944 la	2.02	1.93	.43	-1.08	-1.24	281.865
R-016	26	56 7.9561 la	2.02	1.93	.43	-1.08	-1.24	282.027
T-017	26	56 0.2620 la	2.02	1.93	.43	-1.08	-1.24	282.178
T-018	26	55 51.1291 la	2.02	1.93	.43	-1.08	-1.24	282.356
T-019	26	55 38.0204 la	2.02	1.93	.43	-1.07	-1.24	282.607
T-020	26	55 26.4027 la	2.01	1.93	.43	-1.07	-1.24	282.830
R-021	26	55 14.3268 la	2.01	1.93	.43	-1.07	-1.24	283.082

DNR Range Monu	Longitude = lo or Latitude = la		MHHW (feet NGVD)	MHW (feet NGVD)	MTL (feet NGVD)	MLW (feet NGVD)	MLLW (feet NGVD)	Distance (mi)	
Palm Beach County									
T-022	26 55	4.4865	la	2.01	1.93	.43	-1.07	-1.24	283.272
T-023	26 54	54.5732	la	2.01	1.93	.43	-1.07	-1.23	283.471
T-024	26 54	44.5246	la	2.01	1.93	.43	-1.07	-1.23	283.667
T-025	26 54	34.0851	la	2.01	1.93	.43	-1.07	-1.23	283.879
T-026	26 54	24.7606	la	2.01	1.93	.43	-1.07	-1.23	284.063
T-027	26 54	15.4655	la	2.01	1.93	.43	-1.07	-1.23	284.248
T-028	26 54	4.8298	la	2.01	1.93	.43	-1.07	-1.23	284.461
T-029	26 53	55.5346	la	2.01	1.93	.43	-1.07	-1.23	284.645
R-030	26 53	45.2233	la	2.01	1.93	.43	-1.06	-1.23	284.855
T-031	26 53	35.1985	la	2.01	1.93	.43	-1.06	-1.23	285.049
T-032	26 53	25.6555	la	2.01	1.93	.43	-1.06	-1.23	285.239
R-033	26 53	15.1070	la	2.01	1.93	.43	-1.06	-1.23	285.449
T-034	26 53	5.8355	la	2.01	1.93	.43	-1.06	-1.23	285.633
R-035	26 52	55.1455	la	2.01	1.93	.43	-1.06	-1.22	285.848
R-036	26 52	45.6166	la	2.01	1.93	.43	-1.06	-1.22	286.039
R-037	26 52	33.5053	la	2.01	1.93	.44	-1.06	-1.22	286.284
R-038	26 52	23.4026	la	2.01	1.93	.44	-1.06	-1.22	286.487
R-039	26 52	15.4290	la	2.01	1.93	.44	-1.06	-1.22	286.642
R-040	26 52	5.1658	la	2.01	1.93	.44	-1.05	-1.22	286.847
R-041	26 51	58.6794	la	2.01	1.93	.44	-1.05	-1.22	286.980
R-042	26 51	49.5046	la	2.01	1.93	.44	-1.05	-1.22	287.159
R-043	26 51	39.9071	la	2.01	1.93	.44	-1.05	-1.22	287.345
R-044	26 51	31.4479	la	2.01	1.93	.44	-1.05	-1.22	287.516
R-045	26 51	22.8343	la	2.01	1.93	.44	-1.05	-1.22	287.685
T-046	26 51	13.3064	la	2.00	1.93	.44	-1.05	-1.22	287.868
R-047	26 51	0.3374	la	2.00	1.93	.44	-1.05	-1.21	288.118
R-048	26 50	47.2620	la	2.00	1.93	.44	-1.05	-1.21	288.372
R-049	26 50	35.6291	la	2.00	1.92	.44	-1.05	-1.21	288.600
T-050	26 50	25.7961	la	2.00	1.92	.44	-1.05	-1.21	288.792
R-051	26 50	16.7231	la	2.00	1.92	.44	-1.04	-1.21	288.971
R-052	26 50	8.2888	la	2.00	1.92	.44	-1.04	-1.21	289.136
R-053	26 49	59.3912	la	2.00	1.92	.44	-1.04	-1.21	289.314
R-054	26 49	51.8299	la	2.00	1.92	.44	-1.04	-1.21	289.462
R-055	26 49	42.1525	la	2.00	1.92	.44	-1.04	-1.21	289.651
R-056	26 49	33.9038	la	2.00	1.92	.44	-1.04	-1.21	289.816
T-057	26 49	26.0429	la	2.00	1.92	.44	-1.04	-1.21	289.968
R-058	26 49	17.1549	la	2.00	1.92	.44	-1.04	-1.21	290.135
R-059	26 49	8.0237	la	2.00	1.92	.44	-1.04	-1.20	290.314
R-060	26 48	58.4014	la	2.00	1.92	.44	-1.04	-1.20	290.509
R-061	26 48	45.7514	la	2.00	1.92	.44	-1.04	-1.20	290.766
R-062	26 48	34.7200	la	2.00	1.92	.44	-1.04	-1.20	290.983
R-063	26 48	23.3459	la	2.00	1.92	.44	-1.03	-1.20	291.204
T-064	26 48	12.8751	la	2.00	1.92	.44	-1.03	-1.20	291.408
R-065	26 48	2.5924	la	2.00	1.92	.44	-1.03	-1.20	291.609
R-066	26 47	51.9704	la	2.00	1.92	.44	-1.03	-1.20	291.816
R-067	26 47	41.1100	la	2.00	1.92	.44	-1.03	-1.20	292.029
R-068	26 47	32.2052	la	2.00	1.92	.44	-1.03	-1.20	292.237
R-069	26 47	20.8482	la	2.00	1.92	.45	-1.03	-1.19	292.434
R-070	26 47	12.8470	la	1.99	1.92	.45	-1.03	-1.19	292.585
R-071	26 47	0.6096	la	1.99	1.92	.45	-1.03	-1.19	292.816
R-072	26 46	51.1294	la	1.99	1.92	.45	-1.03	-1.19	293.001

DNR Range Monu	Longitude = lo or Latitude = la		MHHW (feet NGVD)	MHW (feet NGVD)	MTL (feet NGVD)	MLW (feet NGVD)	MLLW (feet NGVD)	Distance (mi)	
Palm Beach County									
R-073	26 46	41.1770	la	1.99	1.92	.45	-1.03	-1.19	293.191
R-074	26 46	31.3564	la	1.99	1.92	.45	-1.02	-1.19	293.382
R-075	26 46	23.5104	la	1.99	1.92	.45	-1.02	-1.19	293.561
Lake Worth Inlet									
R-076	26 46	15.5867	la	1.99	1.92	.45	-1.02	-1.19	293.844
R-077	26 46	3.7974	la	1.99	1.92	.45	-1.02	-1.19	294.065
R-078	26 45	52.0950	la	1.99	1.92	.45	-1.02	-1.19	294.271
R-079	26 45	41.3580	la	1.99	1.92	.45	-1.02	-1.19	294.478
R-080	26 45	31.4174	la	1.99	1.92	.45	-1.02	-1.18	294.669
R-081	26 45	20.4357	la	1.99	1.91	.45	-1.02	-1.18	294.879
R-082	26 45	7.1839	la	1.99	1.91	.45	-1.02	-1.18	295.134
T-083	26 44	54.0401	la	1.99	1.91	.45	-1.01	-1.18	295.399
R-084	26 44	42.2419	la	1.99	1.91	.45	-1.01	-1.18	295.623
R-085	26 44	32.7501	la	1.99	1.91	.45	-1.01	-1.18	295.805
R-086	26 44	23.7297	la	1.99	1.91	.45	-1.01	-1.18	295.977
R-087	26 44	10.7024	la	1.99	1.91	.45	-1.01	-1.18	296.227
R-088	26 44	1.0377	la	1.99	1.91	.45	-1.01	-1.18	296.415
R-089	26 43	51.8799	la	1.99	1.91	.45	-1.01	-1.18	296.593
R-090	26 43	41.5099	la	1.99	1.91	.45	-1.01	-1.18	296.791
R-091	26 43	30.4406	la	1.98	1.91	.45	-1.01	-1.17	297.002
R-092	26 43	18.9897	la	1.98	1.91	.45	-1.01	-1.17	297.222
R-093	26 43	7.3755	la	1.98	1.91	.45	-1.01	-1.17	297.439
T-094	26 42	58.9246	la	1.98	1.91	.45	-1.00	-1.17	297.582
R-095	26 42	40.9500	la	1.98	1.91	.45	-1.00	-1.17	297.950
R-096	26 42	33.2000	la	1.98	1.91	.45	-1.00	-1.17	298.134
R-097	26 42	20.6103	la	1.98	1.91	.45	-1.00	-1.17	298.372
R-098	26 42	8.7525	la	1.98	1.91	.45	-1.00	-1.17	298.611
R-099	26 41	57.1965	la	1.98	1.91	.45	-1.00	-1.17	298.833
R-100	26 41	47.4153	la	1.98	1.91	.45	-1.00	-1.17	299.020
R-101	26 41	35.4715	la	1.98	1.91	.46	-1.00	-1.16	299.262
R-102	26 41	24.7599	la	1.98	1.91	.46	-1.00	-1.16	299.463
R-103	26 41	14.3322	la	1.98	1.91	.46	-.99	-1.16	299.668
R-104	26 41	2.9646	la	1.98	1.91	.46	-.99	-1.16	299.888
R-105	26 40	49.6932	la	1.98	1.91	.46	-.99	-1.16	300.141
R-106	26 40	38.3648	la	1.98	1.90	.46	-.99	-1.16	300.369
R-107	26 40	27.2395	la	1.98	1.90	.46	-.99	-1.16	300.586
R-108	26 40	19.1618	la	1.98	1.90	.46	-.99	-1.16	300.738
R-109	26 40	7.1520	la	1.98	1.90	.46	-.99	-1.16	300.968
R-110	26 39	54.1033	la	1.97	1.90	.46	-.99	-1.16	301.218
R-111	26 39	44.3390	la	1.97	1.90	.46	-.99	-1.15	301.408
T-112	26 39	33.0732	la	1.97	1.90	.46	-.99	-1.15	301.637
R-113	26 39	22.8216	la	1.97	1.90	.46	-.98	-1.15	301.834
T-114	26 39	13.1871	la	1.97	1.90	.46	-.98	-1.15	302.017
R-115	26 39	1.7272	la	1.97	1.90	.46	-.98	-1.15	302.236
R-116	26 38	52.1670	la	1.97	1.90	.46	-.98	-1.15	302.418
T-117	26 38	41.8823	la	1.97	1.90	.46	-.98	-1.15	302.616
R-118	26 38	34.6344	la	1.97	1.90	.46	-.98	-1.15	302.754
R-119	26 38	22.9592	la	1.97	1.90	.46	-.98	-1.15	302.977
R-120	26 38	12.0129	la	1.97	1.90	.46	-.98	-1.15	303.185
R-121	26 38	4.8593	la	1.97	1.90	.46	-.98	-1.15	303.322

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Palm Beach County								
R-122	26 37 55.5292	la	1.97	1.90	.46	-.98	-1.15	303.501
R-123	26 37 45.4032	la	1.97	1.90	.46	-.98	-1.14	303.694
T-124	26 37 36.5369	la	1.97	1.90	.46	-.97	-1.14	303.864
T-125	26 37 21.7842	la	1.97	1.90	.46	-.97	-1.14	304.148
R-126	26 37 11.0143	la	1.97	1.90	.46	-.97	-1.14	304.354
R-127	26 37 0.3475	la	1.97	1.90	.46	-.97	-1.14	304.558
R-128	26 36 50.1420	la	1.97	1.90	.46	-.97	-1.14	304.753
R-129	26 36 38.5814	la	1.97	1.90	.46	-.97	-1.14	304.974
R-130	26 36 25.4480	la	1.96	1.89	.46	-.97	-1.14	305.225
T-131	26 36 12.6254	la	1.96	1.89	.46	-.97	-1.14	305.470
T-132	26 36 1.3584	la	1.96	1.89	.46	-.97	-1.14	305.685
R-133	26 35 48.8463	la	1.96	1.89	.46	-.97	-1.13	305.928
R-134	26 35 37.1798	la	1.96	1.89	.46	-.96	-1.13	306.151
R-135	26 35 24.1567	la	1.96	1.89	.46	-.96	-1.13	306.401
R-136	26 35 14.5699	la	1.96	1.89	.46	-.96	-1.13	306.583
R-137	26 35 4.9187	la	1.96	1.89	.47	-.96	-1.13	306.768
R-138	26 34 58.1204	la	1.96	1.89	.47	-.96	-1.13	306.900
R-139	26 34 45.8903	la	1.96	1.89	.47	-.96	-1.13	307.135
R-140	26 34 35.3421	la	1.96	1.89	.47	-.96	-1.13	307.336
R-141	26 34 25.0085	la	1.96	1.89	.47	-.96	-1.13	307.535
R-142	26 34 14.7778	la	1.96	1.89	.47	-.96	-1.13	307.731
R-143	26 34 4.8476	la	1.96	1.89	.47	-.96	-1.13	307.922
T-144	26 33 55.4448	la	1.96	1.89	.47	-.95	-1.12	308.107
R-145	26 33 44.4303	la	1.96	1.89	.47	-.95	-1.12	308.324
R-146	26 33 34.0705	la	1.96	1.89	.47	-.95	-1.12	308.527
R-147	26 33 24.1708	la	1.96	1.89	.47	-.95	-1.12	308.725
R-148	26 33 13.0165	la	1.95	1.89	.47	-.95	-1.12	308.935
R-149	26 33 3.6184	la	1.95	1.89	.47	-.95	-1.12	309.116
R-150	26 32 56.9673	la	1.95	1.89	.47	-.95	-1.12	309.242
R-151	26 32 46.3265	la	1.95	1.89	.47	-.95	-1.12	309.442
South Lake Worth (Boynton) Inlet								
T-152	26 32 38.0506	la	1.95	1.88	.47	-.95	-1.12	309.642
R-153	26 32 25.0583	la	1.95	1.88	.47	-.95	-1.12	309.899
R-154	26 32 15.2353	la	1.95	1.88	.47	-.95	-1.12	310.090
R-155	26 32 5.1614	la	1.95	1.88	.47	-.94	-1.12	310.283
R-156	26 31 52.2210	la	1.95	1.88	.47	-.94	-1.11	310.548
R-157	26 31 42.3908	la	1.95	1.88	.47	-.94	-1.11	310.736
R-158	26 31 35.3895	la	1.95	1.88	.47	-.94	-1.11	310.873
R-159	26 31 28.5635	la	1.95	1.88	.47	-.94	-1.11	311.005
R-160	26 31 16.8827	la	1.95	1.88	.47	-.94	-1.11	311.231
R-161	26 31 8.3898	la	1.95	1.88	.47	-.94	-1.11	311.396
T-162	26 30 57.1160	la	1.95	1.88	.47	-.94	-1.11	311.614
R-163	26 30 46.5186	la	1.95	1.88	.47	-.94	-1.11	311.820
R-164	26 30 35.5504	la	1.95	1.88	.47	-.94	-1.11	312.034
R-165	26 30 25.9323	la	1.95	1.88	.47	-.94	-1.11	312.221
R-166	26 30 14.3272	la	1.94	1.88	.47	-.93	-1.11	312.443
R-167	26 30 5.3023	la	1.94	1.88	.47	-.93	-1.10	312.617
T-168	26 29 51.8162	la	1.94	1.88	.47	-.93	-1.10	312.881
R-169	26 29 41.0111	la	1.94	1.88	.47	-.93	-1.10	313.091
R-170	26 29 30.3760	la	1.94	1.88	.47	-.93	-1.10	313.291

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Palm Beach County								
R-171	26 29 19.1452	la	1.94	1.87	.47	-.93	-1.10	313.509
R-172	26 29 8.5694	la	1.94	1.87	.47	-.93	-1.10	313.713
R-173	26 28 57.8356	la	1.94	1.87	.47	-.93	-1.10	313.921
R-174	26 28 47.8783	la	1.94	1.87	.47	-.93	-1.10	314.113
R-175	26 28 34.9171	la	1.94	1.87	.47	-.93	-1.10	314.365
R-176	26 28 25.7194	la	1.94	1.87	.47	-.92	-1.10	314.542
R-177	26 28 13.5265	la	1.94	1.87	.47	-.92	-1.09	314.778
R-178	26 28 3.7447	la	1.94	1.87	.47	-.92	-1.09	314.968
R-179	26 27 52.5646	la	1.94	1.87	.47	-.92	-1.09	315.184
R-180	26 27 40.8412	la	1.94	1.87	.47	-.92	-1.09	315.410
R-181	26 27 30.6807	la	1.94	1.87	.47	-.92	-1.09	315.606
R-182	26 27 19.4559	la	1.93	1.87	.48	-.92	-1.09	315.822
T-183	26 27 9.4933	la	1.93	1.87	.48	-.92	-1.09	316.014
R-184	26 26 58.2430	la	1.93	1.87	.48	-.92	-1.09	316.230
R-185	26 26 46.8129	la	1.93	1.87	.48	-.92	-1.09	316.451
R-186	26 26 38.2332	la	1.93	1.87	.48	-.91	-1.09	316.617
T-187	26 26 29.5370	la	1.93	1.87	.48	-.91	-1.09	316.789
R-188	26 26 15.2796	la	1.93	1.87	.48	-.91	-1.08	317.060
R-189	26 26 5.1566	la	1.93	1.86	.48	-.91	-1.08	317.253
T-190	26 25 56.4486	la	1.93	1.86	.48	-.91	-1.08	317.420
R-191	26 25 44.9992	la	1.93	1.86	.48	-.91	-1.08	317.641
R-192	26 25 33.0515	la	1.93	1.86	.48	-.91	-1.08	317.870
R-193	26 25 21.1035	la	1.93	1.86	.48	-.91	-1.08	318.100
R-194	26 25 13.1498	la	1.93	1.86	.48	-.91	-1.08	318.252
R-195	26 25 6.8617	la	1.93	1.86	.48	-.91	-1.08	318.373
T-196	26 24 53.7490	la	1.93	1.86	.48	-.91	-1.08	318.626
R-197	26 24 45.2220	la	1.93	1.86	.48	-.90	-1.08	318.788
R-198	26 24 34.3034	la	1.93	1.86	.48	-.90	-1.08	318.998
R-199	26 24 23.5826	la	1.92	1.86	.48	-.90	-1.08	319.203
R-200	26 24 15.0537	la	1.92	1.86	.48	-.90	-1.07	319.366
R-201	26 24 4.1668	la	1.92	1.86	.48	-.90	-1.07	319.575
R-202	26 23 52.7558	la	1.92	1.86	.48	-.90	-1.07	319.794
T-203	26 23 41.7955	la	1.92	1.86	.48	-.90	-1.07	320.005
R-204	26 23 28.5917	la	1.92	1.86	.48	-.90	-1.07	320.272
T-205	26 23 20.6717	la	1.92	1.86	.48	-.90	-1.07	320.416
R-206	26 23 9.7424	la	1.92	1.86	.48	-.90	-1.07	320.627
T-207	26 23 1.1090	la	1.92	1.85	.48	-.90	-1.07	320.791
R-208	26 22 47.1358	la	1.92	1.85	.48	-.89	-1.07	321.058
R-209	26 22 35.4472	la	1.92	1.85	.48	-.89	-1.07	321.281
R-210	26 22 25.9019	la	1.92	1.85	.48	-.89	-1.07	321.467
T-211	26 22 17.0892	la	1.92	1.85	.48	-.89	-1.06	321.637
R-212	26 22 6.6768	la	1.92	1.85	.48	-.89	-1.06	321.836
T-213	26 21 54.3745	la	1.92	1.85	.48	-.89	-1.06	322.071
T-214	26 21 44.0272	la	1.91	1.85	.48	-.89	-1.06	322.253
T-215	26 21 34.8537	la	1.91	1.85	.48	-.89	-1.06	322.459
R-216	26 21 25.5561	la	1.91	1.85	.48	-.89	-1.06	322.638
R-217	26 21 15.9205	la	1.91	1.85	.48	-.89	-1.06	322.822
R-218	26 21 0.1788	la	1.91	1.85	.48	-.88	-1.06	323.122
R-219	26 20 49.9876	la	1.91	1.85	.48	-.88	-1.06	323.321
R-220	26 20 36.6475	la	1.91	1.85	.48	-.88	-1.06	323.580
R-221	26 20 29.4607	la	1.91	1.85	.48	-.88	-1.05	323.717

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Palm Beach County							
T-222	26 20 19.4565 la	1.91	1.84	.48	-.88	-1.05	323.909
<i>Boca Raton Inlet</i>							
R-223	26 20 5.3266 la	1.91	1.84	.48	-.88	-1.05	324.241
R-224	26 19 52.2572 la	1.91	1.84	.48	-.88	-1.05	324.495
T-225	26 19 42.0007 la	1.91	1.84	.48	-.88	-1.05	324.720
R-226	26 19 33.7047 la	1.91	1.84	.48	-.88	-1.05	324.883
R-227	26 19 23.5973 la	1.91	1.84	.48	-.88	-1.05	325.078
Broward County							
R-001	26 19 14.0495 la	1.90	1.84	.48	-.87	-1.05	325.263
R-002	26 19 4.6314 la	1.90	1.84	.48	-.87	-1.05	325.442
R-003	26 18 54.5777 la	1.90	1.84	.48	-.87	-1.05	325.636
R-004	26 18 44.4994 la	1.90	1.84	.48	-.87	-1.05	325.829
R-005	26 18 35.5890 la	1.90	1.84	.48	-.87	-1.04	326.001
R-006	26 18 25.3562 la	1.90	1.84	.48	-.87	-1.04	326.199
R-007	26 18 14.8400 la	1.90	1.84	.48	-.87	-1.04	326.400
R-008	26 18 6.1336 la	1.90	1.84	.48	-.87	-1.04	326.568
R-009	26 17 55.9277 la	1.90	1.84	.48	-.87	-1.04	326.766
R-010	26 17 45.9460 la	1.90	1.83	.48	-.87	-1.04	326.957
R-011	26 17 36.0914 la	1.90	1.83	.48	-.87	-1.04	327.146
R-012	26 17 26.2158 la	1.90	1.83	.48	-.86	-1.04	327.334
R-013	26 17 16.3086 la	1.90	1.83	.48	-.86	-1.04	327.524
R-014	26 17 6.2656 la	1.90	1.83	.48	-.86	-1.04	327.717
R-015	26 16 56.6913 la	1.90	1.83	.48	-.86	-1.04	327.901
R-016	26 16 46.6868 la	1.90	1.83	.49	-.86	-1.04	328.092
R-017	26 16 37.0145 la	1.89	1.83	.49	-.86	-1.03	328.278
R-018	26 16 27.0537 la	1.89	1.83	.49	-.86	-1.03	328.469
R-019	26 16 17.0142 la	1.89	1.83	.49	-.86	-1.03	328.661
R-020	26 16 7.0074 la	1.89	1.83	.49	-.86	-1.03	328.853
T-021	26 15 57.2794 la	1.89	1.83	.49	-.86	-1.03	329.039
T-022	26 15 43.6673 la	1.89	1.83	.49	-.86	-1.03	329.300
R-023	26 15 37.1543 la	1.89	1.83	.49	-.85	-1.03	329.424
R-024	26 15 31.2784 la	1.89	1.83	.49	-.85	-1.03	329.537
<i>Hillsboro Inlet</i>							
R-025	26 15 27.7428 la	1.89	1.83	.49	-.85	-1.03	329.610
T-026	26 15 20.1585 la	1.89	1.82	.49	-.85	-1.03	329.883
R-027	26 15 10.4726 la	1.89	1.82	.49	-.85	-1.03	330.077
R-028	26 15 0.2299 la	1.89	1.82	.49	-.85	-1.03	330.268
R-029	26 14 52.0177 la	1.89	1.82	.49	-.85	-1.02	330.451
R-030	26 14 42.2247 la	1.89	1.82	.49	-.85	-1.02	330.644
R-031	26 14 32.9303 la	1.89	1.82	.49	-.85	-1.02	330.828
R-032	26 14 21.3289 la	1.88	1.82	.49	-.85	-1.02	331.056
T-033	26 14 13.6654 la	1.88	1.82	.49	-.85	-1.02	331.205
R-034	26 14 3.4249 la	1.88	1.82	.49	-.85	-1.02	331.402
R-035	26 13 53.4338 la	1.88	1.82	.49	-.84	-1.02	331.594
R-036	26 13 42.1020 la	1.88	1.82	.49	-.84	-1.02	331.809
R-037	26 13 33.3106 la	1.88	1.82	.49	-.84	-1.02	331.978
R-038	26 13 23.9803 la	1.88	1.82	.49	-.84	-1.02	332.156
R-039	26 13 14.5352 la	1.88	1.82	.49	-.84	-1.02	332.338
R-040	26 13 4.3670 la	1.88	1.82	.49	-.84	-1.02	332.536
R-041	26 12 55.6040 la	1.88	1.81	.49	-.84	-1.01	332.706

DNR Range Monu	Longitude = lo or Latitude = la	MHHW (feet NGVD)	MHW (feet NGVD)	MTL (feet NGVD)	MLW (feet NGVD)	MLLW (feet NGVD)	Distance (mi)
Broward County							
T-042	24 19 33.2555 la	1.88	1.81	.49	-.84	-1.01	332.913
R-043	26 12 35.8317 la	1.88	1.81	.49	-.84	-1.01	333.091
R-044	26 12 27.8065 la	1.88	1.81	.49	-.84	-1.01	333.247
R-045	26 12 16.4126 la	1.88	1.81	.49	-.84	-1.01	333.470
R-046	26 12 7.4607 la	1.87	1.81	.49	-.83	-1.01	333.639
R-047	26 12 0.9834 la	1.87	1.81	.49	-.83	-1.01	333.766
R-048	26 11 48.4222 la	1.87	1.81	.49	-.83	-1.01	334.008
R-049	26 11 37.2559 la	1.87	1.81	.49	-.83	-1.01	334.221
R-050	26 11 26.1026 la	1.87	1.81	.49	-.83	-1.01	334.434
R-051	26 11 17.4861 la	1.87	1.81	.49	-.83	-1.01	334.599
T-052	26 11 6.9932 la	1.87	1.81	.49	-.83	-1.01	334.804
R-053	26 10 58.4875 la	1.87	1.81	.49	-.83	-1.00	334.967
R-054	26 10 47.6848 la	1.87	1.81	.49	-.83	-1.00	335.174
R-055	26 10 37.7843 la	1.87	1.80	.49	-.83	-1.00	335.367
R-056	26 10 28.6786 la	1.87	1.80	.49	-.83	-1.00	335.544
R-057	26 10 18.9632 la	1.87	1.80	.49	-.83	-1.00	335.731
R-058	26 10 7.7450 la	1.87	1.80	.49	-.82	-1.00	335.946
R-059	26 9 58.9791 la	1.87	1.80	.49	-.82	-1.00	336.114
R-060	26 9 49.1745 la	1.86	1.80	.49	-.82	-1.00	336.303
R-061	26 9 39.4993 la	1.86	1.80	.49	-.82	-1.00	336.493
R-062	26 9 29.4090 la	1.86	1.80	.49	-.82	-1.00	336.691
T-063	26 9 21.5452 la	1.86	1.80	.49	-.82	-1.00	336.840
R-064	26 9 9.5385 la	1.86	1.80	.49	-.82	-1.00	337.072
T-065	26 9 0.3438 la	1.86	1.80	.49	-.82	-.99	337.252
R-066	26 8 50.6306 la	1.86	1.80	.49	-.82	-.99	337.439
R-067	26 8 40.8165 la	1.86	1.80	.49	-.82	-.99	337.627
T-068	26 8 30.3792 la	1.86	1.79	.49	-.82	-.99	337.827
T-069	26 8 20.6923 la	1.86	1.79	.49	-.81	-.99	338.015
R-070	26 8 11.7140 la	1.86	1.79	.49	-.81	-.99	338.187
R-071	26 8 0.3980 la	1.86	1.79	.49	-.81	-.99	338.402
T-072	26 7 51.4039 la	1.86	1.79	.49	-.81	-.99	338.573
R-073	26 7 40.0350 la	1.85	1.79	.49	-.81	-.99	338.791
R-074	26 7 31.2888 la	1.85	1.79	.49	-.81	-.99	338.959
R-075	26 7 20.3838 la	1.85	1.79	.49	-.81	-.99	339.175
R-076	26 7 10.7766 la	1.85	1.79	.49	-.81	-.99	339.356
R-077	26 6 59.0795 la	1.85	1.79	.49	-.81	-.98	339.580
R-078	26 6 48.9804 la	1.85	1.79	.49	-.81	-.98	339.774
R-079	26 6 38.5975 la	1.85	1.79	.49	-.81	-.98	339.974
R-080	26 6 27.6693 la	1.85	1.78	.49	-.80	-.98	340.194
R-081	26 6 16.8553 la	1.85	1.78	.49	-.80	-.98	340.402
R-082	26 6 6.5283 la	1.85	1.78	.49	-.80	-.98	340.598
R-083	26 5 56.4423 la	1.85	1.78	.49	-.80	-.98	340.787
R-084	26 5 47.6258 la	1.85	1.78	.49	-.80	-.98	340.973
R-085	26 5 43.3866 la	1.84	1.78	.49	-.80	-.98	341.125
<i>Port Everglades</i>							
R-086	26 5 29.9351 la	1.84	1.78	.49	-.80	-.98	341.354
T-087	26 5 20.7369 la	1.84	1.78	.49	-.80	-.98	341.539
T-088	26 5 11.4290 la	1.84	1.78	.49	-.80	-.97	341.717
T-089	26 5 1.1014 la	1.84	1.78	.49	-.80	-.97	341.914
T-090	26 4 51.4307 la	1.84	1.78	.49	-.80	-.97	342.103

DNR Range Monu	Longitude = lo or Latitude = la		MHHW (feet NGVD)	MHW (feet NGVD)	MTL (feet NGVD)	MLW (feet NGVD)	MLLW (feet NGVD)	Distance (mi)
Broward County								
T-091	26	4 41.3051	la	1.84	1.78	.49	-.79	-.97 342.296
R-092	26	4 31.0601	la	1.84	1.77	.49	-.79	-.97 342.492
R-093	26	4 20.8108	la	1.84	1.77	.49	-.79	-.97 342.691
R-094	26	4 11.2683	la	1.84	1.77	.49	-.79	-.97 342.874
R-095	26	4 1.8546	la	1.84	1.77	.49	-.79	-.97 343.053
R-096	26	3 52.0681	la	1.84	1.77	.49	-.79	-.97 343.240
T-097	26	3 42.6557	la	1.84	1.77	.49	-.79	-.97 343.420
T-098	26	3 31.9859	la	1.83	1.77	.49	-.79	-.97 343.623
T-099	26	3 22.5863	la	1.83	1.77	.49	-.79	-.97 343.805
R-100	26	3 12.7796	la	1.83	1.77	.49	-.79	-.96 343.995
T-101	26	3 1.4770	la	1.83	1.77	.49	-.79	-.96 344.212
T-102	26	2 51.6416	la	1.83	1.77	.49	-.78	-.96 344.402
R-103	26	2 41.6048	la	1.83	1.77	.49	-.78	-.96 344.596
R-104	26	2 31.4695	la	1.83	1.76	.49	-.78	-.96 344.790
R-105	26	2 21.6996	la	1.83	1.76	.49	-.78	-.96 344.977
R-106	26	2 11.8704	la	1.83	1.76	.49	-.78	-.96 345.165
R-107	26	2 2.3283	la	1.83	1.76	.49	-.78	-.96 345.348
R-108	26	1 52.1249	la	1.83	1.76	.49	-.78	-.96 345.543
R-109	26	1 41.8423	la	1.83	1.76	.49	-.78	-.96 345.740
R-110	26	1 31.2821	la	1.82	1.76	.49	-.78	-.96 345.943
T-111	26	1 21.4425	la	1.82	1.76	.49	-.78	-.95 346.131
T-112	26	1 11.2704	la	1.82	1.76	.49	-.78	-.95 346.326
R-113	26	1 2.0517	la	1.82	1.76	.49	-.77	-.95 346.502
T-114	26	0 52.4367	la	1.82	1.76	.49	-.77	-.95 346.687
T-115	26	0 42.1297	la	1.82	1.76	.49	-.77	-.95 346.885
R-116	26	0 32.0846	la	1.82	1.75	.49	-.77	-.95 347.077
R-117	26	0 22.2957	la	1.82	1.75	.49	-.77	-.95 347.264
T-118	26	0 11.6275	la	1.82	1.75	.49	-.77	-.95 347.469
R-119	26	0 1.6585	la	1.82	1.75	.49	-.77	-.95 347.659
R-120	25	59 50.6638	la	1.82	1.75	.49	-.77	-.95 347.873
R-121	25	59 39.8788	la	1.81	1.75	.49	-.77	-.95 348.078
R-122	25	59 29.9992	la	1.81	1.75	.49	-.77	-.95 348.267
R-123	25	59 19.9418	la	1.81	1.75	.49	-.77	-.94 348.460
R-124	25	59 9.1052	la	1.81	1.75	.49	-.76	-.94 348.671
R-125	25	58 58.4938	la	1.81	1.75	.49	-.76	-.94 348.874
T-126	25	58 48.4712	la	1.81	1.74	.49	-.76	-.94 349.065
R-127	25	58 38.4328	la	1.81	1.74	.49	-.76	-.94 349.257
R-128	25	58 29.2007	la	1.81	1.74	.49	-.76	-.94 349.434
Dade County								
R-001	25	58 29.2820	la	1.81	1.74	.49	-.76	-.94 349.434
R-002	25	58 18.9889	la	1.81	1.74	.49	-.76	-.94 349.629
R-003	25	58 8.0887	la	1.81	1.74	.49	-.76	-.94 349.837
R-004	25	57 57.6356	la	1.81	1.74	.49	-.76	-.94 350.038
T-005	25	57 46.8641	la	1.80	1.74	.49	-.76	-.94 350.244
R-006	25	57 36.7570	la	1.80	1.74	.49	-.76	-.94 350.437
R-007	25	57 24.8997	la	1.80	1.74	.49	-.75	-.93 350.663
R-008	25	57 15.8347	la	1.80	1.74	.49	-.75	-.93 350.837
T-009	25	57 8.1398	la	1.80	1.74	.49	-.75	-.93 350.996
R-010	25	56 53.2085	la	1.80	1.73	.49	-.75	-.93 351.271
R-011	25	56 42.7708	la	1.80	1.73	.49	-.75	-.93 351.470
T-012	25	56 32.0139	la	1.80	1.73	.49	-.75	-.93 351.676

DNR Range Monu	Longitude = lo or Latitude = la		MHHW (feet NGVD)	MHW (feet NGVD)	MTL (feet NGVD)	MLW (feet NGVD)	MLLW (feet NGVD)	Distance (mi)
Dade County								
R-013	25 56	21.8876	la	1.80	1.73	.49	-.75	-.93 351.870
R-014	25 56	10.9087	la	1.80	1.73	.49	-.75	-.93 352.081
R-015	25 56	1.9479	la	1.79	1.73	.49	-.75	-.93 352.253
R-016	25 55	50.9947	la	1.79	1.73	.49	-.75	-.93 352.463
R-017	25 55	39.7532	la	1.79	1.73	.49	-.75	-.93 352.679
R-018	25 55	29.4183	la	1.79	1.73	.49	-.74	-.92 352.877
R-019	25 55	18.5164	la	1.79	1.72	.49	-.74	-.92 353.085
R-020	25 55	7.5870	la	1.79	1.72	.49	-.74	-.92 353.296
T-021	25 54	57.7117	la	1.79	1.72	.49	-.74	-.92 353.485
R-022	25 54	47.8520	la	1.79	1.72	.49	-.74	-.92 353.673
R-023	25 54	38.1272	la	1.79	1.72	.49	-.74	-.92 353.859
R-024	25 54	28.2449	la	1.79	1.72	.49	-.74	-.92 354.048
R-025	25 54	18.5726	la	1.79	1.72	.49	-.74	-.92 354.233
R-026	25 54	8.0956	la	1.78	1.72	.49	-.74	-.92 354.434
Baker's Haulover Inlet								
R-027	25 53	56.7150	la	1.78	1.72	.49	-.74	-.92 354.650
R-028	25 53	46.5888	la	1.78	1.72	.49	-.74	-.92 354.843
R-029	24 19	33.2555	la	1.78	1.71	.49	-.73	-.91 355.036
R-030	25 53	27.0862	la	1.78	1.71	.49	-.73	-.91 355.217
R-031	25 53	15.6773	la	1.78	1.71	.49	-.73	-.91 355.437
R-032	25 53	5.6448	la	1.78	1.71	.49	-.73	-.91 355.627
R-033	25 52	56.0444	la	1.78	1.71	.49	-.73	-.91 355.811
R-034	25 52	46.0398	la	1.78	1.71	.49	-.73	-.91 356.002
R-035	25 52	33.8589	la	1.78	1.71	.49	-.73	-.91 356.235
R-036	25 52	22.6425	la	1.77	1.71	.49	-.73	-.91 356.458
T-037	25 52	12.2388	la	1.77	1.71	.49	-.73	-.91 356.659
T-038	25 52	1.4009	la	1.77	1.70	.49	-.73	-.91 356.870
T-039	25 51	50.0681	la	1.77	1.70	.49	-.72	-.91 357.087
R-040	25 51	39.0899	la	1.77	1.70	.49	-.72	-.90 357.296
R-041	25 51	29.0473	la	1.77	1.70	.49	-.72	-.90 357.489
R-042	25 51	17.9250	la	1.77	1.70	.49	-.72	-.90 357.702
R-043	25 51	6.6057	la	1.77	1.70	.49	-.72	-.90 357.919
R-044	25 50	57.7300	la	1.77	1.70	.49	-.72	-.90 358.089
R-045	25 50	48.2368	la	1.76	1.70	.49	-.72	-.90 358.270
T-046	25 50	39.0767	la	1.76	1.70	.49	-.72	-.90 358.445
R-047	25 50	29.5256	la	1.76	1.69	.49	-.72	-.90 358.634
R-048	25 50	18.9500	la	1.76	1.69	.49	-.72	-.90 358.833
R-049	25 50	9.1011	la	1.76	1.69	.49	-.72	-.90 359.021
R-050	25 49	59.2781	la	1.76	1.69	.49	-.71	-.90 359.209
R-051	25 49	50.0615	la	1.76	1.69	.49	-.71	-.90 359.388
R-052	25 49	38.3219	la	1.76	1.69	.49	-.71	-.89 359.611
R-053	25 49	27.3761	la	1.76	1.69	.49	-.71	-.89 359.823
R-054	25 49	15.4560	la	1.76	1.69	.49	-.71	-.89 360.049
R-055	25 49	4.2208	la	1.75	1.69	.49	-.71	-.89 360.267
R-056	25 48	53.4238	la	1.75	1.68	.49	-.71	-.89 360.475
R-057	25 48	43.1827	la	1.75	1.68	.49	-.71	-.89 360.675
R-058	25 48	33.3476	la	1.75	1.68	.49	-.71	-.89 360.864
R-059	25 48	23.6039	la	1.75	1.68	.49	-.71	-.89 361.058
R-060	25 48	15.1383	la	1.75	1.68	.49	-.71	-.89 361.228
R-061	25 48	6.4045	la	1.75	1.68	.49	-.70	-.89 361.416

Appendix 2.
Tidal datums, locations by DNR range monument and
latitude/longitude, and alongshore distances
for the
Florida Lower Gulf Coast
(updated after Balsillie and others, 1987b)

Note: Centered headers indicate the County; left-justified,
italicized names indicate location of inlets.

DNR Range Monu	Longitude = lo or Latitude = la		MHHW (feet NGVD)	MHW (feet NGVD)	MTL (feet NGVD)	MLW (feet NGVD)	MLLW (feet NGVD)	Distance (mi)
Pinellas County								
Hog Island Pass								
R-001	28	4 57.7958 la	1.73	1.37	.35	-.66	-1.20	.000
R-002	28	4 52.4848 la	1.73	1.37	.35	-.66	-1.20	.160
R-003	28	4 43.5598 la	1.73	1.37	.35	-.66	-1.20	.338
R-004	28	4 34.1475 la	1.72	1.36	.35	-.66	-1.20	.507
R-005	28	4 23.9249 la	1.72	1.36	.35	-.66	-1.19	.722
R-006	28	4 15.6520 la	1.72	1.36	.35	-.66	-1.19	.887
R-007	28	4 6.9122 la	1.72	1.36	.35	-.65	-1.19	1.051
R-008	28	3 58.7231 la	1.71	1.35	.35	-.65	-1.19	1.418
R-009	28	3 50.0749 la	1.71	1.35	.35	-.65	-1.19	1.680
R-010	28	3 39.8696 la	1.71	1.35	.35	-.65	-1.19	1.876
R-011	28	3 33.0448 la	1.71	1.35	.35	-.65	-1.18	2.069
R-012	28	3 25.8966 la	1.71	1.35	.35	-.65	-1.18	2.275
R-013	28	3 24.6348 la	1.70	1.35	.35	-.65	-1.18	2.337
R-014	28	3 19.6089 la	1.70	1.34	.35	-.64	-1.18	2.488
T-015	28	3 15.7299 la	1.70	1.34	.35	-.64	-1.18	2.595
Hurricane Pass								
Willy's Cut								
R-016	28	3 2.2069 la	1.70	1.34	.35	-.64	-1.18	2.844
R-017	28	2 54.9814 la	1.70	1.34	.35	-.64	-1.18	2.919
R-018	28	2 47.8702 la	1.70	1.34	.35	-.64	-1.18	2.985
R-019	28	2 37.6385 la	1.70	1.34	.35	-.64	-1.18	3.189
R-020	28	2 27.4673 la	1.69	1.34	.35	-.64	-1.17	3.385
R-021	28	2 17.7899 la	1.69	1.33	.35	-.64	-1.17	3.570
R-022	28	2 7.9741 la	1.69	1.33	.35	-.63	-1.17	3.758
R-023	28	1 57.9153 la	1.69	1.33	.35	-.63	-1.17	3.949
R-024	28	1 47.9796 la	1.69	1.33	.35	-.63	-1.17	4.143
T-025	28	1 39.3182 la	1.69	1.33	.35	-.63	-1.17	4.324
R-026	28	1 30.5130 la	1.68	1.33	.35	-.63	-1.16	4.511
R-027	28	1 21.2722 la	1.68	1.32	.35	-.63	-1.16	4.702
T-028	28	1 14.9894 la	1.68	1.32	.35	-.63	-1.16	4.835
R-029	28	1 5.6512 la	1.68	1.32	.35	-.62	-1.16	5.016
T-030	28	0 56.9561 la	1.68	1.32	.35	-.62	-1.16	5.181
R-031	28	0 46.9798 la	1.68	1.32	.35	-.62	-1.16	5.372
Dunedin Pass								
R-032	28	0 37.1554 la	1.67	1.32	.35	-.62	-1.15	5.567
R-033	28	0 27.6975 la	1.67	1.31	.35	-.62	-1.15	5.754
R-034	28	0 17.7162 la	1.67	1.31	.35	-.62	-1.15	5.946
R-035	28	0 6.5887 la	1.67	1.31	.35	-.62	-1.15	6.152
R-036	27	59 57.4305 la	1.67	1.31	.35	-.61	-1.15	6.340
R-037	27	59 47.5506 la	1.66	1.31	.35	-.61	-1.15	6.530
R-038	27	59 37.8700 la	1.66	1.31	.35	-.61	-1.14	6.716
R-039	27	59 27.8163 la	1.66	1.30	.35	-.61	-1.14	6.908
R-040	27	59 17.5172 la	1.66	1.30	.35	-.61	-1.14	7.105
T-041	27	59 7.0091 la	1.66	1.30	.35	-.61	-1.14	7.306
R-042	27	58 57.5139 la	1.66	1.30	.35	-.60	-1.14	7.487
R-043	27	58 46.5230 la	1.65	1.30	.35	-.60	-1.14	7.699
R-044	27	58 36.5601 la	1.65	1.30	.35	-.60	-1.13	7.891
R-045	27	58 26.8862 la	1.65	1.29	.35	-.60	-1.13	8.080

DNR Range Monu	Longitude = lo or Latitude = la		MHHW (feet NGVD)	MHW (feet NGVD)	MTL (feet NGVD)	MLW (feet NGVD)	MLLW (feet NGVD)	Distance (mi)
Pinellas County								
R-046	27 58	17.0716 la	1.65	1.29	.35	-.60	-1.13	8.268
R-047	27 58	6.9013 la	1.65	1.29	.35	-.60	-1.13	8.459
R-048	27 58	0.3263 la	1.65	1.29	.35	-.59	-1.13	8.638
R-049	27 57	55.7870 la	1.64	1.29	.35	-.59	-1.13	8.758
R-050	27 57	51.7593 la	1.64	1.29	.35	-.59	-1.12	8.830
Clearwater (Little) Pass								
R-051	27 57	37.3426 la	1.64	1.29	.35	-.59	-1.12	9.108
R-052	27 57	30.5658 la	1.64	1.28	.35	-.59	-1.12	9.242
T-053	27 57	25.4776 la	1.64	1.28	.35	-.59	-1.12	9.399
R-054	27 57	16.5744 la	1.64	1.28	.35	-.59	-1.12	9.572
T-055	27 57	5.5738 la	1.64	1.28	.35	-.58	-1.12	9.758
R-056	27 56	58.3716 la	1.63	1.28	.35	-.58	-1.11	10.017
R-057	27 56	49.2391 la	1.63	1.28	.35	-.58	-1.11	10.211
R-058	27 56	40.4212 la	1.63	1.28	.35	-.58	-1.11	10.399
R-059	27 56	31.4347 la	1.63	1.27	.35	-.58	-1.11	10.587
R-060	27 56	21.5886 la	1.63	1.27	.35	-.58	-1.11	10.778
T-061	27 56	12.1827 la	1.63	1.27	.35	-.57	-1.10	10.975
R-062	27 56	3.3541 la	1.62	1.27	.35	-.57	-1.10	11.167
R-063	27 55	54.8797 la	1.62	1.27	.35	-.57	-1.10	11.336
R-064	27 55	46.3828 la	1.62	1.27	.35	-.57	-1.10	11.504
R-065	27 55	36.5146 la	1.62	1.27	.35	-.57	-1.10	11.697
R-066	27 55	26.3143 la	1.62	1.26	.35	-.57	-1.09	11.898
R-067	27 55	16.5762 la	1.62	1.26	.35	-.56	-1.09	12.087
R-068	27 55	7.6051 la	1.62	1.26	.35	-.56	-1.09	12.261
R-069	27 54	58.2911 la	1.61	1.26	.35	-.56	-1.09	12.443
R-070	27 54	48.5341 la	1.61	1.26	.35	-.56	-1.09	12.633
R-071	27 54	38.6777 la	1.61	1.26	.35	-.56	-1.09	12.826
R-072	27 54	28.2392 la	1.61	1.26	.35	-.56	-1.08	13.029
R-073	27 54	18.0246 la	1.61	1.25	.35	-.55	-1.08	13.227
R-074	27 54	7.6114 la	1.61	1.25	.35	-.55	-1.08	13.430
R-075	27 53	58.3719 la	1.61	1.25	.35	-.55	-1.08	13.607
R-076	27 53	49.3454 la	1.60	1.25	.35	-.55	-1.08	13.783
R-077	27 53	41.0861 la	1.60	1.25	.35	-.55	-1.07	13.942
R-078	27 53	31.1292 la	1.60	1.25	.35	-.55	-1.07	14.134
R-079	27 53	21.4297 la	1.60	1.25	.35	-.54	-1.07	14.322
R-080	27 53	11.4439 la	1.60	1.24	.35	-.54	-1.07	14.515
R-081	27 53	2.0937 la	1.60	1.24	.35	-.54	-1.07	14.694
R-082	27 52	52.1281 la	1.60	1.24	.35	-.54	-1.06	14.885
R-083	27 52	42.2984 la	1.59	1.24	.35	-.54	-1.06	15.074
R-084	27 52	31.8680 la	1.59	1.24	.35	-.54	-1.06	15.273
R-085	27 52	21.7515 la	1.59	1.24	.35	-.53	-1.06	15.471
R-086	27 52	11.9433 la	1.59	1.24	.35	-.53	-1.06	15.659
R-087	27 52	2.0685 la	1.59	1.24	.35	-.53	-1.05	15.850
R-088	27 51	51.9356 la	1.59	1.23	.35	-.53	-1.05	16.046
R-089	27 51	41.9605 la	1.59	1.23	.35	-.53	-1.05	16.248
R-090	27 51	34.0083 la	1.58	1.23	.35	-.52	-1.05	16.403
R-091	27 51	24.8890 la	1.58	1.23	.35	-.52	-1.05	16.582
R-092	27 51	14.7113 la	1.58	1.23	.35	-.52	-1.04	16.782
R-093	27 51	5.2538 la	1.58	1.23	.35	-.52	-1.04	16.972
R-094	27 50	56.4994 la	1.58	1.23	.35	-.52	-1.04	17.152

DNR Range Monu	Longitude = lo or Latitude = la	MHHW (feet NGVD)	MHW (feet NGVD)	MTL (feet NGVD)	MLW (feet NGVD)	MLLW (feet NGVD)	Distance (mi)
Pinellas County							
R-095	27 50 46.1829 la	1.58	1.23	.35	-.52	-1.04	17.372
T-096	27 50 36.9984 la	1.58	1.22	.36	-.51	-1.04	17.576
R-097	27 50 28.6755 la	1.58	1.22	.36	-.51	-1.03	17.744
T-098	27 50 19.9299 la	1.57	1.22	.36	-.51	-1.03	17.942
R-099	27 50 11.8526 la	1.57	1.22	.36	-.51	-1.03	18.129
T-100	27 50 2.1594 la	1.57	1.22	.36	-.51	-1.03	18.344
R-101	27 49 53.1148 la	1.57	1.22	.36	-.51	-1.03	18.540
R-102	27 49 43.9878 la	1.57	1.22	.36	-.50	-1.02	18.738
R-103	27 49 35.5660 la	1.57	1.22	.36	-.50	-1.02	18.920
T-104	27 49 26.0894 la	1.57	1.21	.36	-.50	-1.02	19.143
R-105	27 49 15.7688 la	1.56	1.21	.36	-.50	-1.02	19.357
T-106	27 49 8.2367 la	1.56	1.21	.36	-.50	-1.02	19.542
R-107	27 49 1.7052 la	1.56	1.21	.36	-.49	-1.01	19.741
R-108	27 48 54.0710 la	1.56	1.21	.36	-.49	-1.01	19.933
R-109	27 48 45.4368 la	1.56	1.21	.36	-.49	-1.01	20.140
R-110	27 48 39.6720 la	1.56	1.21	.36	-.49	-1.01	20.336
R-111	27 48 34.8309 la	1.56	1.21	.36	-.49	-1.01	20.532
R-112	27 48 27.8104 la	1.56	1.21	.36	-.49	-1.00	20.721
R-113	27 48 22.5349 la	1.55	1.20	.36	-.48	-1.00	20.903
T-114	27 48 13.0604 la	1.55	1.20	.36	-.48	-1.00	21.134
T-115	27 48 8.1286 la	1.55	1.20	.36	-.48	-1.00	21.264
R-116	27 48 2.5853 la	1.55	1.20	.36	-.48	-1.00	21.453
R-117	27 47 56.2580 la	1.55	1.20	.36	-.48	-.99	21.669
R-118	27 47 49.2120 la	1.55	1.20	.36	-.48	-.99	21.861
R-119	27 47 41.9814 la	1.55	1.20	.36	-.47	-.99	22.049
R-120	27 47 35.6822 la	1.55	1.20	.36	-.47	-.99	22.248
R-121	27 47 28.1193 la	1.55	1.20	.36	-.47	-.99	22.444
R-122	27 47 19.9491 la	1.54	1.19	.36	-.47	-.98	22.651
R-123	27 47 14.0136 la	1.54	1.19	.36	-.47	-.98	22.814
R-124	27 47 5.6960 la	1.54	1.19	.36	-.47	-.98	22.997
John's Pass							
T-125	27 47 1.1434 la	1.54	1.19	.36	-.47	-.98	23.086
R-126	27 46 53.0931 la	1.54	1.19	.36	-.46	-.98	23.243
R-127	27 46 42.0121 la	1.54	1.19	.36	-.46	-.98	23.480
R-128	27 46 33.5468 la	1.54	1.19	.36	-.46	-.97	23.683
R-129	27 46 27.3954 la	1.54	1.19	.36	-.46	-.97	23.876
R-130	27 46 19.5321 la	1.54	1.19	.37	-.46	-.97	24.091
R-131	27 46 13.3162 la	1.53	1.19	.37	-.45	-.97	24.307
R-132	27 46 3.6553 la	1.53	1.18	.37	-.45	-.97	24.527
R-133	27 45 53.2789 la	1.53	1.18	.37	-.45	-.96	24.739
R-134	27 45 43.5948 la	1.53	1.18	.37	-.45	-.96	24.936
T-135	27 45 32.1694 la	1.53	1.18	.37	-.45	-.96	25.162
R-136	27 45 23.4882 la	1.53	1.18	.37	-.45	-.96	25.336
T-137	27 45 13.5440 la	1.53	1.18	.37	-.44	-.96	25.542
R-138	27 45 3.5287 la	1.53	1.18	.37	-.44	-.95	25.741
R-139	27 44 54.3892 la	1.52	1.18	.37	-.44	-.95	25.935
R-140	27 44 45.3065 la	1.52	1.18	.37	-.44	-.95	26.128
R-141	27 44 36.3492 la	1.52	1.18	.37	-.44	-.95	26.330
R-142	27 44 28.2239 la	1.52	1.17	.37	-.44	-.95	26.546
T-143	27 44 22.3560 la	1.52	1.17	.37	-.43	-.94	26.695

DNR Range Monu	Longitude = lo or Latitude = la	MHHW (feet NGVD)	MHW (feet NGVD)	MTL (feet NGVD)	MLW (feet NGVD)	MLLW (feet NGVD)	Distance (mi)
Pinellas County							
Blind Pass							
T-144	27 44 15.8582 la	1.52	1.17	.37	-.43	-.94	26.822
R-145	27 44 10.8680 la	1.52	1.17	.37	-.43	-.94	27.002
R-146	27 44 3.2387 la	1.52	1.17	.37	-.43	-.94	27.198
R-147	27 43 57.7142 la	1.52	1.17	.37	-.43	-.94	27.344
T-148	27 43 49.4570 la	1.52	1.17	.37	-.43	-.94	27.526
R-149	27 43 41.5737 la	1.52	1.17	.37	-.43	-.94	27.723
T-150	27 43 30.9510 la	1.51	1.17	.37	-.42	-.93	27.927
T-151	27 43 21.1388 la	1.51	1.17	.37	-.42	-.93	28.129
R-152	27 43 11.8918 la	1.51	1.17	.37	-.42	-.93	28.315
R-153	27 43 2.0360 la	1.51	1.17	.37	-.42	-.93	28.511
T-154	27 42 52.1692 la	1.51	1.16	.37	-.42	-.93	28.703
T-155	27 42 42.5625 la	1.51	1.16	.37	-.42	-.92	28.891
R-156	27 42 32.5761 la	1.51	1.16	.37	-.42	-.92	29.082
R-157	27 42 22.3077 la	1.51	1.16	.37	-.41	-.92	29.277
R-158	27 42 12.1012 la	1.51	1.16	.37	-.41	-.92	29.473
R-159	27 42 2.2563 la	1.51	1.16	.37	-.41	-.92	29.661
T-160	27 41 52.0436 la	1.50	1.16	.38	-.41	-.92	29.856
R-161	27 41 42.3836 la	1.50	1.16	.38	-.41	-.91	30.038
T-162	27 41 33.2624 la	1.50	1.16	.38	-.41	-.91	30.213
R-163	27 41 23.4263 la	1.50	1.16	.38	-.41	-.91	30.402
R-164	27 41 13.5330 la	1.50	1.16	.38	-.40	-.91	30.589
R-165	27 41 4.1308 la	1.50	1.16	.38	-.40	-.91	30.767
R-166	27 40 58.6007 la	1.50	1.16	.38	-.40	-.91	30.873
Pass-a-Grille, Three Unnamed Inlets, Bunces Pass							
T-167	27 38 37.3465 la	1.49	1.15	.38	-.38	-.88	33.490
T-168	27 38 42.0208 la	1.49	1.15	.38	-.38	-.88	33.459
R-169	27 38 32.2019 la	1.49	1.14	.38	-.38	-.88	33.697
R-170	27 38 23.8833 la	1.49	1.14	.38	-.38	-.88	33.913
R-171	27 38 13.6809 la	1.48	1.14	.38	-.38	-.88	34.116
R-172	27 38 6.2020 la	1.48	1.14	.38	-.38	-.88	34.312
R-173	27 37 53.6913 la	1.48	1.14	.38	-.38	-.87	34.542
T-174	27 37 43.8978 la	1.48	1.14	.38	-.37	-.87	34.718
T-175	27 37 33.4991 la	1.48	1.14	.38	-.37	-.87	34.916
R-176	27 37 23.4633 la	1.48	1.14	.38	-.37	-.87	35.108
T-177	27 37 13.2420 la	1.48	1.14	.38	-.37	-.87	35.299
T-178	27 37 3.2595 la	1.48	1.14	.38	-.37	-.87	35.489
R-179	27 36 54.1130 la	1.48	1.14	.39	-.37	-.87	35.670
R-180	27 36 45.4289 la	1.48	1.14	.39	-.37	-.86	35.851
Egmont Channel (Tampa Bay Entrance)							
R-181	27 36 42.5656 la	1.48	1.14	.39	-.37	-.86	35.878
T-182	27 36 49.0605 la	1.48	1.14	.39	-.37	-.86	35.708
T-183	27 36 54.5871 la	1.48	1.14	.38	-.37	-.87	35.565
R-184	27 36 59.4423 la	1.48	1.14	.38	-.37	-.87	35.487
T-185	27 37 3.1694 la	1.48	1.14	.38	-.37	-.87	35.394
R-186	27 37 7.3288 la	1.48	1.14	.38	-.37	-.87	35.289
T-187	27 37 11.9973 la	1.48	1.14	.38	-.37	-.87	35.251
R-188	27 37 16.4995 la	1.48	1.14	.38	-.37	-.87	35.226
R-189	27 37 20.7845 la	1.48	1.14	.38	-.37	-.87	35.142
R-190	27 37 26.0962 la	1.48	1.14	.38	-.37	-.87	35.039

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Pinellas County								
R-191	27 37	28.6046 la	1.48	1.14	.38	-.37	-.87	34.988
R-192	27 37	34.9895 la	1.48	1.14	.38	-.37	-.87	34.919
R-193	27 37	44.4878 la	1.48	1.14	.38	-.37	-.87	34.738
Southwest Channel, Passage Key Inlet								
Manatee County								
R-001	27 32	17.3866 la	1.46	1.12	.39	-.33	-.82	41.156
R-002	27 32	16.1444 la	1.46	1.12	.39	-.33	-.82	41.156
T-003	27 32	10.8709 la	1.46	1.12	.39	-.33	-.82	41.209
R-004	27 32	1.2942 la	1.46	1.12	.39	-.33	-.82	41.390
R-005	27 31	53.9403 la	1.45	1.12	.39	-.33	-.82	41.546
R-006	27 31	45.7469 la	1.45	1.12	.39	-.33	-.82	41.751
R-007	27 31	36.3865 la	1.45	1.12	.39	-.33	-.82	41.964
R-008	27 31	29.0577 la	1.45	1.12	.40	-.33	-.82	42.145
R-009	27 31	22.0677 la	1.45	1.12	.40	-.33	-.82	42.347
R-010	27 31	15.4619 la	1.45	1.12	.40	-.33	-.82	42.530
R-011	27 31	7.6911 la	1.45	1.12	.40	-.33	-.81	42.730
R-012	27 31	0.0294 la	1.45	1.12	.40	-.32	-.81	42.941
R-013	27 30	52.5788 la	1.45	1.12	.40	-.32	-.81	43.124
R-014	27 30	45.5517 la	1.45	1.12	.40	-.32	-.81	43.310
R-015	27 30	35.5952 la	1.45	1.12	.40	-.32	-.81	43.552
R-016	27 30	28.3584 la	1.45	1.12	.40	-.32	-.81	43.719
R-017	27 30	20.2046 la	1.45	1.12	.40	-.32	-.81	43.894
R-018	27 30	12.9257 la	1.45	1.12	.40	-.32	-.81	44.075
T-019	27 30	3.3596 la	1.45	1.11	.40	-.32	-.81	44.263
R-020	27 29	55.7820 la	1.45	1.11	.40	-.32	-.80	44.449
T-021	27 29	45.2390 la	1.44	1.11	.40	-.32	-.80	44.663
R-022	27 29	36.3262 la	1.44	1.11	.40	-.32	-.80	44.848
R-023	27 29	27.9417 la	1.44	1.11	.40	-.31	-.80	45.025
R-024	27 29	18.5209 la	1.44	1.11	.40	-.31	-.80	45.215
R-025	27 29	9.4106 la	1.44	1.11	.40	-.31	-.80	45.398
R-026	27 28	58.8075 la	1.44	1.11	.40	-.31	-.80	45.625
R-027	27 28	50.8558 la	1.44	1.11	.40	-.31	-.80	45.775
R-028	27 28	41.4619 la	1.44	1.11	.40	-.31	-.80	45.968
R-029	27 28	28.3324 la	1.44	1.11	.40	-.31	-.79	46.235
T-030	27 28	20.1648 la	1.44	1.11	.40	-.31	-.79	46.411
R-031	27 28	9.6887 la	1.44	1.11	.40	-.31	-.79	46.624
R-032	27 28	0.9594 la	1.44	1.11	.40	-.31	-.79	46.793
R-033A	27 27	51.8457 la	1.44	1.11	.40	-.31	-.79	46.978
R-034	27 27	42.7586 la	1.44	1.11	.40	-.31	-.79	47.160
R-035	27 27	33.1651 la	1.44	1.11	.40	-.31	-.79	47.354
R-036	27 27	24.5138 la	1.44	1.11	.40	-.30	-.79	47.528
R-037	27 27	15.3118 la	1.44	1.11	.40	-.30	-.79	47.721
R-038	27 27	7.2113 la	1.43	1.11	.40	-.30	-.79	47.890
R-039	27 26	58.7478 la	1.43	1.11	.40	-.30	-.78	48.063
R-040	27 26	50.1768 la	1.43	1.11	.40	-.30	-.78	48.235
R-041	27 26	42.2684 la	1.43	1.11	.40	-.30	-.78	48.397
Longboat Pass								
R-042	27 26	27.5564 la	1.43	1.11	.40	-.30	-.78	48.640
R-043	27 26	21.6583 la	1.43	1.11	.40	-.30	-.78	48.777
R-044	27 26	17.4363 la	1.43	1.11	.40	-.30	-.78	48.858
R-045	27 26	6.2156 la	1.43	1.11	.40	-.30	-.78	49.180

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Manatee County								
R-046A	27 26	1.4778 la	1.43	1.11	.40	-.30	-.78	49.355
R-047	27 25	54.3195 la	1.43	1.11	.40	-.30	-.78	49.552
R-048	27 25	47.2470 la	1.43	1.10	.40	-.30	-.78	49.725
R-049	27 25	38.0998 la	1.43	1.10	.40	-.30	-.78	50.012
R-050	27 25	32.8468 la	1.43	1.10	.40	-.29	-.78	50.198
R-051	27 25	25.4126 la	1.43	1.10	.40	-.29	-.77	50.389
R-052	27 25	22.0436 la	1.43	1.10	.41	-.29	-.77	50.558
R-053	27 25	13.4717 la	1.43	1.10	.41	-.29	-.77	50.763
R-054A	27 25	6.3419 la	1.43	1.10	.41	-.29	-.77	50.938
R-055	27 25	0.9608 la	1.43	1.10	.41	-.29	-.77	51.088
R-056	27 24	53.3933 la	1.43	1.10	.41	-.29	-.77	51.269
R-057	27 24	46.3587 la	1.42	1.10	.41	-.29	-.77	51.455
R-058	27 24	39.4932 la	1.42	1.10	.41	-.29	-.77	51.627
R-059	27 24	32.6268 la	1.42	1.10	.41	-.29	-.77	51.801
T-060	27 24	24.3946 la	1.42	1.10	.41	-.29	-.77	52.000
R-061	27 24	16.5865 la	1.42	1.10	.41	-.29	-.77	52.188
R-062A	27 24	6.1700 la	1.42	1.10	.41	-.29	-.77	52.416
R-063	27 23	57.7648 la	1.42	1.10	.41	-.29	-.77	52.609
R-064	27 23	48.8461 la	1.42	1.10	.41	-.29	-.76	52.807
R-065	27 23	41.7042 la	1.42	1.10	.41	-.29	-.76	52.990
R-066	27 23	33.1384 la	1.42	1.10	.41	-.29	-.76	53.201
R-067	27 23	24.7806 la	1.42	1.10	.41	-.29	-.76	53.373
Sarasota County								
T-001	27 23	21.4398 la	1.42	1.10	.41	-.29	-.76	53.475
R-002	27 23	12.5550 la	1.42	1.10	.41	-.28	-.76	53.662
R-003A	27 23	3.8652 la	1.42	1.10	.41	-.28	-.76	53.841
R-004	27 22	54.7424 la	1.42	1.10	.41	-.28	-.76	54.027
R-005A	27 22	46.9013 la	1.42	1.10	.41	-.28	-.76	54.220
T-006	27 22	38.8661 la	1.42	1.10	.41	-.28	-.76	54.397
R-007	27 22	29.5093 la	1.42	1.10	.41	-.28	-.76	54.596
R-008	27 22	21.3656 la	1.42	1.10	.41	-.28	-.76	54.782
R-009	27 22	13.6821 la	1.42	1.10	.41	-.28	-.76	54.969
R-010	27 22	6.2392 la	1.42	1.10	.41	-.28	-.76	55.159
R-011	27 21	56.5420 la	1.42	1.10	.41	-.28	-.76	55.360
R-012	27 21	48.5111 la	1.42	1.10	.41	-.28	-.76	55.552
R-013	27 21	39.8829 la	1.42	1.10	.41	-.28	-.76	55.754
R-014	27 21	33.1491 la	1.41	1.10	.41	-.28	-.75	55.938
T-015	27 21	25.9833 la	1.41	1.10	.41	-.28	-.75	56.125
R-016	27 21	17.8680 la	1.41	1.10	.41	-.28	-.75	56.318
R-017	27 21	8.5633 la	1.41	1.10	.41	-.28	-.75	56.551
R-018	27 21	2.5588 la	1.41	1.10	.41	-.28	-.75	56.693
R-019	27 20	56.8271 la	1.41	1.10	.41	-.28	-.75	56.875
R-020	27 20	49.0442 la	1.41	1.10	.41	-.28	-.75	57.065
R-021	27 20	41.9379 la	1.41	1.10	.41	-.28	-.75	57.255
T-022	27 20	35.0987 la	1.41	1.10	.41	-.28	-.75	57.441
T-023	27 20	27.7596 la	1.41	1.10	.41	-.28	-.75	57.635
R-024	27 20	20.6520 la	1.41	1.10	.41	-.28	-.75	57.850
R-025	27 20	11.9372 la	1.41	1.10	.41	-.28	-.75	58.012
R-026	27 20	4.8220 la	1.41	1.10	.41	-.28	-.75	58.193
R-027	27 19	57.4194 la	1.41	1.10	.41	-.28	-.75	58.377
R-028	27 19	50.1955 la	1.41	1.10	.41	-.28	-.75	58.561

DNR Range Monu	Longitude = lo or Latitude = la	MHHW (feet NGVD)	MHW (feet NGVD)	MTL (feet NGVD)	MLW (feet NGVD)	MLLW (feet NGVD)	Distance (mi)
Sarasota County							
R-029 <i>New Pass</i>	27 19 44.4139 la	1.41	1.10	.41	-.28	-.75	58.732
R-030	27 19 39.1974 la	1.41	1.10	.41	-.28	-.75	58.920
R-031	27 19 30.9460 la	1.41	1.10	.41	-.27	-.75	59.004
R-032	27 19 22.4964 la	1.41	1.10	.41	-.27	-.75	59.154
R-033	27 19 15.8184 la	1.41	1.10	.41	-.27	-.75	59.324
R-034	27 19 8.1242 la	1.41	1.10	.41	-.27	-.75	59.510
R-035	27 19 1.3858 la	1.41	1.10	.41	-.27	-.75	59.699
T-036	27 18 52.9074 la	1.41	1.10	.41	-.27	-.75	59.889
R-037	27 18 46.0883 la	1.41	1.10	.41	-.27	-.75	60.078
R-038	27 18 38.5531 la	1.41	1.10	.41	-.27	-.75	60.258
R-039	27 18 29.9219 la	1.41	1.10	.41	-.27	-.75	60.446
R-040	27 18 21.2880 la	1.41	1.10	.41	-.27	-.75	60.631
R-041	27 18 12.4389 la	1.41	1.10	.41	-.27	-.75	60.817
R-042	27 18 4.5381 la	1.41	1.10	.41	-.27	-.74	60.993
R-043	27 17 55.8605 la	1.41	1.10	.41	-.27	-.74	61.184
R-044	27 17 55.1910 la	1.41	1.10	.41	-.27	-.74	61.188
<i>Big Sarasota Pass</i>							
R-045	27 16 45.6802 la	1.40	1.10	.41	-.27	-.74	62.577
T-046	27 16 36.9830 la	1.40	1.10	.41	-.27	-.74	62.738
R-047	27 16 28.2432 la	1.40	1.10	.41	-.27	-.74	62.991
R-048	27 16 23.2238 la	1.40	1.10	.41	-.27	-.74	63.172
R-049	27 16 19.0371 la	1.40	1.10	.41	-.27	-.74	63.345
R-050	27 16 12.2625 la	1.40	1.10	.41	-.27	-.74	63.555
T-051	27 16 7.4676 la	1.40	1.10	.41	-.27	-.74	63.741
R-052	27 16 2.4847 la	1.40	1.10	.41	-.27	-.74	63.930
R-053	27 15 57.8351 la	1.40	1.10	.41	-.27	-.74	64.122
R-054	27 15 51.0475 la	1.40	1.10	.41	-.27	-.74	64.323
R-055	27 15 44.0191 la	1.40	1.10	.41	-.27	-.74	64.515
R-056	27 15 38.2620 la	1.40	1.10	.41	-.27	-.74	64.726
R-057	27 15 30.4088 la	1.40	1.10	.41	-.27	-.74	64.923
R-058	27 15 22.5976 la	1.40	1.10	.41	-.27	-.74	65.104
R-059	27 15 13.1856 la	1.40	1.10	.41	-.27	-.74	65.309
R-060	27 15 4.7209 la	1.40	1.10	.41	-.27	-.74	65.500
R-061	27 14 56.5560 la	1.40	1.10	.41	-.27	-.74	65.743
R-062	27 14 43.9632 la	1.40	1.10	.41	-.27	-.74	65.979
R-063	27 14 36.0035 la	1.40	1.10	.41	-.27	-.74	66.162
R-064	27 14 28.1041 la	1.40	1.10	.41	-.27	-.74	66.345
R-065	27 14 23.5916 la	1.40	1.10	.41	-.27	-.74	66.525
R-066	27 14 15.7381 la	1.40	1.10	.41	-.27	-.74	66.688
R-067	27 14 8.8243 la	1.40	1.10	.41	-.27	-.74	66.886
R-068	27 14 0.6104 la	1.40	1.10	.41	-.27	-.74	67.075
R-069	27 13 51.7643 la	1.40	1.10	.41	-.27	-.74	67.261
R-070	27 13 42.5040 la	1.40	1.10	.41	-.27	-.74	67.453
R-071	27 13 33.7146 la	1.40	1.10	.41	-.27	-.74	67.637
R-072	27 13 25.0980 la	1.40	1.10	.41	-.27	-.74	67.831
R-073	27 13 15.6856 la	1.40	1.10	.41	-.27	-.74	68.018
R-074	27 13 6.7110 la	1.40	1.10	.41	-.27	-.74	68.204
R-075	27 12 56.8784 la	1.40	1.10	.41	-.27	-.74	68.399
R-076	27 12 47.4601 la	1.40	1.10	.41	-.27	-.74	68.592

DNR Range Monu	Longitude = lo or Latitude = la	MHHW (feet NGVD)	MHW (feet NGVD)	MTL (feet NGVD)	MLW (feet NGVD)	MLLW (feet NGVD)	Distance (mi)
Sarasota County							
R-077	27 12 38.8824 la	1.40	1.10	.41	-.27	-.74	68.779
R-078	27 12 26.9294 la	1.40	1.10	.41	-.27	-.74	69.091
<i>Midnight Pass</i>							
R-079	27 12 20.5767 la	1.40	1.10	.41	-.27	-.74	69.266
R-080	27 12 11.0946 la	1.40	1.10	.41	-.27	-.74	69.462
R-081	27 12 1.7310 la	1.39	1.10	.41	-.27	-.74	69.649
R-082	27 11 52.5549 la	1.39	1.10	.41	-.27	-.74	69.837
R-083	27 11 43.1491 la	1.39	1.10	.41	-.27	-.74	70.024
R-084	27 11 34.9758 la	1.39	1.10	.41	-.28	-.74	70.197
R-085	27 11 25.4532 la	1.39	1.10	.41	-.28	-.74	70.384
R-086	27 11 15.7942 la	1.39	1.10	.41	-.28	-.74	70.585
R-087	27 11 6.3244 la	1.39	1.10	.41	-.28	-.74	70.776
R-088	27 10 57.2396 la	1.39	1.10	.41	-.28	-.74	70.958
R-089	27 10 46.9163 la	1.39	1.10	.41	-.28	-.74	71.166
R-090	27 10 37.0001 la	1.39	1.10	.41	-.28	-.75	71.382
R-091	27 10 26.4805 la	1.39	1.10	.41	-.28	-.75	71.591
R-092	27 10 18.1618 la	1.39	1.10	.41	-.28	-.75	71.780
R-093	27 10 8.8202 la	1.39	1.10	.41	-.28	-.75	71.977
R-094	27 10 0.2494 la	1.39	1.10	.41	-.28	-.75	72.169
R-095	27 9 51.6432 la	1.39	1.10	.41	-.28	-.75	72.371
R-096	27 9 42.5413 la	1.39	1.10	.41	-.28	-.75	72.569
R-097	27 9 33.2833 la	1.39	1.10	.41	-.28	-.75	72.787
R-098	27 9 23.3108 la	1.39	1.10	.41	-.28	-.75	72.978
R-099	27 9 15.0457 la	1.39	1.10	.41	-.28	-.75	73.163
R-100	27 9 7.0827 la	1.39	1.10	.41	-.28	-.75	73.342
R-101	27 8 58.0035 la	1.39	1.10	.41	-.28	-.75	73.536
R-102	27 8 49.1903 la	1.39	1.10	.41	-.28	-.75	73.719
R-103	27 8 39.9385 la	1.39	1.10	.41	-.28	-.75	73.914
R-104	27 8 30.5625 la	1.39	1.10	.41	-.28	-.75	74.105
R-105	27 8 21.1777 la	1.39	1.10	.41	-.28	-.75	74.297
R-106	27 8 11.5294 la	1.39	1.10	.41	-.28	-.75	74.492
R-107	27 8 1.7123 la	1.39	1.10	.41	-.28	-.75	74.688
R-108	27 7 51.3156 la	1.39	1.10	.41	-.28	-.75	74.896
R-109	27 7 42.1281 la	1.39	1.10	.41	-.28	-.75	75.075
R-110	27 7 32.8734 la	1.39	1.10	.41	-.28	-.75	75.259
R-111	27 7 25.3741 la	1.39	1.10	.41	-.28	-.75	75.412
R-112	27 7 13.8711 la	1.39	1.10	.41	-.28	-.75	75.633
T-113	27 7 5.2571 la	1.39	1.10	.41	-.28	-.75	75.801
R-114	27 6 54.6618 la	1.39	1.10	.41	-.28	-.75	76.017
<i>Venice Inlet</i>							
R-115	27 6 44.0781 la	1.39	1.10	.41	-.29	-.75	76.254
R-116	27 6 38.1539 la	1.39	1.10	.41	-.29	-.75	76.429
R-117	27 6 29.6628 la	1.39	1.11	.41	-.29	-.76	76.613
R-118	27 6 21.3723 la	1.39	1.11	.41	-.29	-.76	76.789
R-119	27 6 12.0347 la	1.39	1.11	.41	-.29	-.76	76.989
R-120	27 6 2.6596 la	1.39	1.11	.41	-.29	-.76	77.168
R-121	27 5 52.4456 la	1.39	1.11	.41	-.29	-.76	77.372
T-122	27 5 42.9368 la	1.39	1.11	.41	-.29	-.76	77.554
R-123A	27 5 34.7796 la	1.39	1.11	.41	-.29	-.76	77.721
R-124	27 5 25.5686 la	1.39	1.11	.41	-.29	-.76	77.889

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Sarasota County							
R-125	27 5 16.2441 la	1.39	1.11	.41	-.29	-.76	78.087
R-126	27 5 7.7474 la	1.39	1.11	.41	-.29	-.76	78.273
T-127	27 4 58.4459 la	1.39	1.11	.41	-.29	-.76	78.458
R-128	27 4 49.0156 la	1.39	1.11	.41	-.29	-.76	78.646
R-129	27 4 39.8718 la	1.39	1.11	.41	-.29	-.76	78.829
R-130	27 4 30.4648 la	1.39	1.11	.41	-.29	-.76	79.021
T-131	27 4 21.1183 la	1.39	1.11	.41	-.29	-.76	79.211
R-132	27 4 11.8315 la	1.39	1.11	.41	-.29	-.76	79.395
R-133	27 4 2.4305 la	1.39	1.11	.41	-.29	-.76	79.589
T-134	27 3 53.1881 la	1.39	1.11	.41	-.29	-.76	79.790
R-135	27 3 43.5800 la	1.39	1.11	.41	-.29	-.76	79.976
R-136	27 3 34.2270 la	1.39	1.11	.41	-.29	-.76	80.171
T-137	27 3 25.3222 la	1.39	1.11	.41	-.30	-.77	80.363
R-138A	27 3 17.0951 la	1.39	1.11	.41	-.30	-.77	80.554
R-139	27 3 8.4241 la	1.39	1.11	.41	-.30	-.77	80.746
R-140	27 2 59.3524 la	1.39	1.11	.41	-.30	-.77	80.942
R-141	27 2 51.2851 la	1.39	1.11	.41	-.30	-.77	81.123
R-142	27 2 43.0087 la	1.39	1.11	.41	-.30	-.77	81.313
R-143	27 2 34.4790 la	1.39	1.11	.41	-.30	-.77	81.505
R-144	27 2 26.1699 la	1.39	1.11	.41	-.30	-.77	81.695
R-145	27 2 18.0672 la	1.39	1.11	.41	-.30	-.77	81.881
R-146	27 2 9.5710 la	1.39	1.11	.41	-.30	-.77	82.072
R-147	27 2 0.8455 la	1.39	1.11	.41	-.30	-.77	82.266
R-148	27 1 52.3054 la	1.39	1.11	.41	-.30	-.77	82.453
T-149	27 1 43.7372 la	1.39	1.11	.41	-.30	-.77	82.642
R-150	27 1 35.2617 la	1.39	1.12	.41	-.30	-.77	82.835
R-151	27 1 26.2696 la	1.39	1.12	.41	-.30	-.77	83.028
R-152	27 1 17.8213 la	1.39	1.12	.41	-.30	-.78	83.214
R-153	27 1 9.3720 la	1.39	1.12	.41	-.30	-.78	83.402
R-154	27 1 0.8323 la	1.39	1.12	.41	-.31	-.78	83.593
R-155	27 0 52.0635 la	1.39	1.12	.41	-.31	-.78	83.784
R-156	27 0 43.0509 la	1.39	1.12	.41	-.31	-.78	83.974
R-157	27 0 34.1693 la	1.39	1.12	.41	-.31	-.78	84.165
R-158	27 0 25.6932 la	1.39	1.12	.41	-.31	-.78	84.345
R-159	27 0 16.5368 la	1.39	1.12	.40	-.31	-.78	84.540
R-160	27 0 8.3981 la	1.39	1.12	.40	-.31	-.78	84.711
R-161	26 59 58.8524 la	1.39	1.12	.40	-.31	-.78	84.914
R-162	26 59 49.7679 la	1.39	1.12	.40	-.31	-.78	85.102
R-163	26 59 40.9715 la	1.39	1.12	.40	-.31	-.78	85.288
R-164	26 59 32.2061 la	1.39	1.12	.40	-.31	-.78	85.476
R-165	26 59 23.0874 la	1.39	1.12	.40	-.31	-.78	85.666
T-166	26 59 13.9585 la	1.39	1.12	.40	-.31	-.79	85.857
R-167	26 59 4.8942 la	1.39	1.12	.40	-.31	-.79	86.046
R-168	26 58 55.9891 la	1.39	1.12	.40	-.31	-.79	86.234
R-169	26 58 47.1691 la	1.40	1.12	.40	-.31	-.79	86.424
R-170	26 58 38.9141 la	1.40	1.12	.40	-.32	-.79	86.613
R-171	26 58 30.3861 la	1.40	1.12	.40	-.32	-.79	86.811
R-172	26 58 22.3083 la	1.40	1.12	.40	-.32	-.79	86.986
R-173	26 58 14.1108 la	1.40	1.12	.40	-.32	-.79	87.177
R-174	26 58 6.6980 la	1.40	1.12	.40	-.32	-.79	87.359
R-175	26 57 57.9866 la	1.40	1.12	.40	-.32	-.79	87.542

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Sarasota County							
R-176	26 57 49.4783 la	1.40	1.13	.40	-.32	-.79	87.734
R-177	26 57 40.9554 la	1.40	1.13	.40	-.32	-.79	87.920
R-178	26 57 32.8178 la	1.40	1.13	.40	-.32	-.80	88.105
R-179	26 57 24.5212 la	1.40	1.13	.40	-.32	-.80	88.290
R-180	26 57 16.1739 la	1.40	1.13	.40	-.32	-.80	88.476
R-181	26 57 7.9466 la	1.40	1.13	.40	-.32	-.80	88.656
R-182	26 56 59.7100 la	1.40	1.13	.40	-.32	-.80	88.835
R-183A	26 56 50.9365 la	1.40	1.13	.40	-.32	-.80	89.032
Charlotte County							
R-001	26 56 44.2070 la	1.40	1.13	.40	-.32	-.80	89.181
R-002	26 56 35.7735 la	1.40	1.13	.40	-.32	-.80	89.363
R-003	26 56 26.6768 la	1.40	1.13	.40	-.33	-.80	89.555
R-004	26 56 17.6779 la	1.40	1.13	.40	-.33	-.80	89.749
R-005	26 56 9.1448 la	1.40	1.13	.40	-.33	-.80	89.936
R-006	26 56 0.4573 la	1.40	1.13	.40	-.33	-.80	90.123
R-007	26 55 52.4626 la	1.40	1.13	.40	-.33	-.81	90.297
R-008	26 55 44.8203 la	1.40	1.13	.40	-.33	-.81	90.468
R-009	26 55 36.0145 la	1.40	1.13	.40	-.33	-.81	90.659
R-010	26 55 26.4629 la	1.40	1.13	.40	-.33	-.81	90.869
R-011	26 55 16.9488 la	1.40	1.13	.40	-.33	-.81	91.073
R-012	26 55 8.3808 la	1.40	1.13	.40	-.33	-.81	91.261
R-013	26 54 59.2222 la	1.40	1.13	.40	-.33	-.81	91.455
R-014	26 54 49.9522 la	1.40	1.13	.40	-.33	-.81	91.659
R-015	26 54 41.4878 la	1.40	1.14	.40	-.33	-.81	91.845
R-016	26 54 33.4457 la	1.40	1.14	.40	-.33	-.81	92.029
R-017	26 54 24.9731 la	1.40	1.14	.40	-.34	-.81	92.218
R-018	26 54 16.5783 la	1.40	1.14	.40	-.34	-.82	92.407
R-019	26 54 8.3818 la	1.40	1.14	.40	-.34	-.82	92.591
R-020	26 54 0.9228 la	1.40	1.14	.40	-.34	-.82	92.765
R-021	26 53 53.8123 la	1.40	1.14	.40	-.34	-.82	92.958
Stump Pass							
R-022R	26 53 39.2164 la	1.40	1.14	.40	-.34	-.82	93.428
R-023	26 53 36.5843 la	1.40	1.14	.40	-.34	-.82	93.403
R-024R	26 53 29.6984 la	1.40	1.14	.40	-.34	-.82	93.565
R-025	26 53 21.4712 la	1.40	1.14	.40	-.34	-.82	93.760
R-026	26 53 13.1015 la	1.40	1.14	.40	-.34	-.82	93.949
R-027A	26 53 6.4575 la	1.40	1.14	.40	-.34	-.82	94.112
R-028A	26 52 57.5634 la	1.41	1.14	.40	-.34	-.82	94.330
R-029	26 52 49.7903 la	1.41	1.14	.40	-.34	-.83	94.527
R-030	26 52 41.6843 la	1.41	1.14	.40	-.35	-.83	94.719
R-031	26 52 32.8320 la	1.41	1.14	.40	-.35	-.83	94.906
R-032R	26 52 25.2295 la	1.41	1.14	.40	-.35	-.83	95.124
R-033A	26 52 16.4365 la	1.41	1.14	.40	-.35	-.83	95.293
R-034	26 52 9.1007 la	1.41	1.15	.40	-.35	-.83	95.470
R-035	26 52 1.4044 la	1.41	1.15	.40	-.35	-.83	95.651
R-036	26 51 53.2232 la	1.41	1.15	.40	-.35	-.83	95.842
R-037	26 51 44.6478 la	1.41	1.15	.40	-.35	-.83	96.027
R-038	26 51 38.0566 la	1.41	1.15	.40	-.35	-.83	96.174
R-039R	26 51 31.1582 la	1.41	1.15	.40	-.35	-.84	96.356
R-040	26 51 22.2559 la	1.41	1.15	.40	-.35	-.84	96.544

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Charlotte County							
R-041	26 51 15.3011 la	1.41	1.15	.40	-.35	-.84	96.726
R-042	26 51 5.6370 la	1.41	1.15	.40	-.35	-.84	96.932
R-043	26 50 56.9378 la	1.41	1.15	.40	-.35	-.84	97.123
R-044	26 50 48.3565 la	1.41	1.15	.40	-.36	-.84	97.325
R-045	26 50 39.6887 la	1.41	1.15	.40	-.36	-.84	97.517
R-046	26 50 31.1781 la	1.41	1.15	.40	-.36	-.84	97.713
R-047R	26 50 22.5363 la	1.41	1.15	.40	-.36	-.84	97.898
R-048	26 50 14.7011 la	1.41	1.15	.40	-.36	-.84	98.093
R-049	26 50 6.2123 la	1.41	1.15	.40	-.36	-.85	98.288
R-050	26 49 59.0757 la	1.41	1.15	.40	-.36	-.85	98.467
R-051	26 49 50.1549 la	1.41	1.15	.40	-.36	-.85	98.694
R-052	26 49 41.4396 la	1.41	1.16	.40	-.36	-.85	98.901
R-053	26 49 32.2242 la	1.41	1.16	.40	-.36	-.85	99.109
R-054	26 49 22.8736 la	1.41	1.16	.40	-.36	-.85	99.303
R-055	26 49 13.6335 la	1.42	1.16	.40	-.36	-.85	99.499
R-056	26 49 4.9606 la	1.42	1.16	.40	-.37	-.85	99.706
R-057R	26 49 1.1787 la	1.42	1.16	.40	-.37	-.85	99.810
R-058R	26 48 37.8854 la	1.42	1.16	.40	-.37	-.86	100.210
R-059R	26 48 37.0526 la	1.42	1.16	.40	-.37	-.86	100.226
Gasparilla Pass							
R-060	26 48 30.6284 la	1.42	1.16	.40	-.37	-.86	100.368
R-061	26 48 20.6389 la	1.42	1.16	.40	-.37	-.86	100.576
R-062R	26 48 11.6835 la	1.42	1.16	.40	-.37	-.86	100.793
R-063R	26 48 4.4994 la	1.42	1.16	.40	-.37	-.86	100.962
R-064	26 47 54.6294 la	1.42	1.16	.40	-.37	-.86	101.165
R-065	26 47 46.5208 la	1.42	1.16	.40	-.37	-.86	101.356
R-066	26 47 38.2223 la	1.42	1.16	.40	-.37	-.86	101.543
R-067	26 47 29.4970 la	1.42	1.16	.40	-.37	-.86	101.730
R-068R	26 47 24.7634 la	1.42	1.17	.40	-.37	-.87	101.833
Lee County							
R-01	26 47 19.2093 la	1.42	1.17	.40	-.37	-.87	101.947
R-02	26 47 9.8364 la	1.42	1.17	.40	-.38	-.87	102.138
R-03	26 47 0.3779 la	1.42	1.17	.39	-.38	-.87	102.322
R-04	26 46 50.9257 la	1.42	1.17	.39	-.38	-.87	102.509
R-05	26 46 41.0363 la	1.42	1.17	.39	-.38	-.87	102.703
R-06	26 46 30.9240 la	1.42	1.17	.39	-.38	-.87	102.897
R-07	26 46 21.3784 la	1.42	1.17	.39	-.38	-.87	103.083
R-08	26 46 11.4712 la	1.42	1.17	.39	-.38	-.87	103.274
R-09	26 46 0.1230 la	1.43	1.17	.39	-.38	-.87	103.495
R-10	26 45 47.3324 la	1.43	1.17	.39	-.38	-.88	103.738
R-11	26 45 32.2844 la	1.43	1.17	.39	-.38	-.88	104.026
R-12	26 45 20.5852 la	1.43	1.17	.39	-.38	-.88	104.252
R-13	26 45 10.6632 la	1.43	1.17	.39	-.38	-.88	104.441
R-14	26 45 0.5653 la	1.43	1.17	.39	-.39	-.88	104.634
R-15	26 44 50.6122 la	1.43	1.18	.39	-.39	-.88	104.824
R-16	26 44 39.8043 la	1.43	1.18	.39	-.39	-.88	105.040
R-17	26 44 29.7918 la	1.43	1.18	.39	-.39	-.88	105.225
R-18	26 44 19.2559 la	1.43	1.18	.39	-.39	-.89	105.426
R-19	26 44 10.0474 la	1.43	1.18	.39	-.39	-.89	105.606
R-20	26 43 59.4794 la	1.43	1.18	.39	-.39	-.89	105.805

DNR Range Monu	Longitude = lo or Latitude = la	MHHW (feet NGVD)	MHW (feet NGVD)	MTL (feet NGVD)	MLW (feet NGVD)	MLLW (feet NGVD)	Distance (mi)
Lee County							
R-21	26 43 50.8652 la	1.43	1.18	.39	-.39	-.89	105.970
R-22	26 43 40.1282 la	1.43	1.18	.39	-.39	-.89	106.175
R-23	26 43 31.4890 la	1.43	1.18	.39	-.39	-.89	106.340
R-24	26 43 21.6153 la	1.43	1.18	.39	-.39	-.89	106.525
R-25	26 43 12.0670 la	1.43	1.18	.39	-.39	-.89	106.717
R-26A	26 43 5.4879 la	1.44	1.18	.39	-.39	-.89	106.954
R-27	26 42 21.8839 la	1.44	1.19	.39	-.40	-.90	107.866
Boca Grande Pass							
R-28	26 42 15.4925 la	1.44	1.19	.39	-.40	-.90	107.940
R-29	26 42 9.0944 la	1.44	1.19	.39	-.40	-.90	108.043
R-30	26 41 59.6395 la	1.44	1.19	.39	-.40	-.90	108.231
R-31	26 41 49.6365 la	1.44	1.19	.39	-.40	-.90	108.425
R-32	26 41 41.5079 la	1.44	1.19	.39	-.40	-.90	108.591
R-33	26 41 29.8963 la	1.44	1.19	.39	-.40	-.91	108.824
R-34	26 41 21.0406 la	1.44	1.19	.39	-.40	-.91	108.989
R-35	26 41 10.6878 la	1.44	1.19	.39	-.40	-.91	109.171
R-36	26 41 2.6451 la	1.44	1.19	.39	-.40	-.91	109.401
R-37	26 40 54.6011 la	1.44	1.19	.39	-.40	-.91	109.556
R-38	26 40 45.4009 la	1.44	1.19	.39	-.41	-.91	109.738
R-39	26 40 35.0806 la	1.44	1.19	.39	-.41	-.91	109.939
R-40	26 40 27.5825 la	1.45	1.20	.39	-.41	-.91	110.115
R-41	26 40 21.5122 la	1.45	1.20	.39	-.41	-.91	110.301
R-42	26 40 14.9851 la	1.45	1.20	.39	-.41	-.91	110.440
R-43	26 40 5.3211 la	1.45	1.20	.39	-.41	-.92	110.646
R-44	26 39 53.8024 la	1.45	1.20	.39	-.41	-.92	110.881
R-45	26 39 44.3214 la	1.45	1.20	.39	-.41	-.92	111.056
R-46	26 39 34.3611 la	1.45	1.20	.39	-.41	-.92	111.246
R-47	26 39 25.8107 la	1.45	1.20	.39	-.41	-.92	111.453
R-48	26 39 16.4970 la	1.45	1.20	.39	-.41	-.92	111.632
R-49	26 39 6.6593 la	1.45	1.20	.39	-.41	-.92	111.834
R-50	26 38 58.3804 la	1.45	1.20	.39	-.41	-.92	112.002
R-51	26 38 47.7557 la	1.45	1.20	.39	-.42	-.92	112.235
R-52	26 38 40.5956 la	1.45	1.21	.39	-.42	-.93	112.454
R-53	26 38 33.8796 la	1.45	1.21	.39	-.42	-.93	112.612
R-54	26 38 28.5770 la	1.45	1.21	.39	-.42	-.93	112.787
R-55	26 38 21.5214 la	1.46	1.21	.39	-.42	-.93	112.951
R-56	26 38 12.9046 la	1.46	1.21	.39	-.42	-.93	113.141
R-57	26 38 3.5342 la	1.46	1.21	.39	-.42	-.93	113.341
R-58	26 37 54.2658 la	1.46	1.21	.39	-.42	-.93	113.526
R-59	26 37 44.8973 la	1.46	1.21	.39	-.42	-.93	113.725
R-60	26 37 35.5774 la	1.46	1.21	.39	-.42	-.93	113.900
R-61	26 37 25.6210 la	1.46	1.21	.39	-.42	-.94	114.109
R-62	Not Available la	1.46	1.21	.39	-.42	-.94	114.295
R-63	Not Available la	1.46	1.21	.39	-.42	-.94	114.484
R-64	Not Available la	1.46	1.21	.39	-.42	-.94	114.740
Captiva Pass							
R-65	26 36 44.8209 la	1.46	1.22	.40	-.42	-.94	114.940
R-66	26 36 22.1075 la	1.46	1.22	.40	-.43	-.94	115.332
R-67	26 36 14.9867 la	1.47	1.22	.40	-.43	-.94	115.491
R-68	26 36 6.3890 la	1.47	1.22	.40	-.43	-.94	115.688

DNR Range Monu	Longitude = lo or Latitude = la		MHHW (feet NGVD)	MHW (feet NGVD)	MTL (feet NGVD)	MLW (feet NGVD)	MLLW (feet NGVD)	Distance (mi)
Lee County								
R-69	26 35	55.5992 la	1.47	1.22	.40	-.43	-.95	115.893
R-70	26 35	45.8128 la	1.47	1.22	.40	-.43	-.95	116.080
R-71	26 35	35.5246 la	1.47	1.22	.40	-.43	-.95	116.324
R-72	26 35	22.0693 la	1.47	1.22	.40	-.43	-.95	116.621
R-73	26 35	11.4177 la	1.47	1.22	.40	-.43	-.95	116.874
R-74A	26 35	3.9258 la	1.47	1.23	.40	-.43	-.95	117.193
R-75	26 34	59.1302 la	1.47	1.23	.40	-.43	-.95	117.308
R-76A	26 34	54.4865 la	1.48	1.23	.40	-.43	-.96	117.750
R-77	26 34	40.0340 la	1.48	1.23	.40	-.43	-.96	117.880
R-78	26 34	34.3201 la	1.48	1.23	.40	-.44	-.96	118.289
R-79	26 34	9.6420 la	1.48	1.23	.40	-.44	-.96	118.514
R-80	26 33	44.7396 la	1.48	1.23	.40	-.44	-.96	118.782
R-81A	26 33	34.9261 la	1.48	1.24	.40	-.44	-.96	119.170
R-82	26 33	20.3533 la	1.48	1.24	.40	-.44	-.96	119.268
Redfish Pass								
R-83	26 33	8.4037 la	1.48	1.24	.40	-.44	-.96	119.502
R-84	26 33	4.1961 la	1.48	1.24	.40	-.44	-.96	119.532
R-85	26 32	54.4394 la	1.48	1.24	.40	-.44	-.97	119.857
R-86	26 32	46.3970 la	1.49	1.24	.40	-.44	-.97	120.006
R-87	26 32	36.4098 la	1.49	1.24	.40	-.44	-.97	120.201
R-88	26 32	27.0267 la	1.49	1.24	.40	-.44	-.97	120.367
R-89	26 32	17.6728 la	1.49	1.24	.40	-.44	-.97	120.554
R-90	26 32	8.5050 la	1.49	1.24	.40	-.44	-.97	120.725
R-91	26 31	59.0033 la	1.49	1.24	.40	-.44	-.97	120.908
R-92	26 31	48.1015 la	1.49	1.24	.40	-.45	-.97	121.123
R-93	26 31	39.3583 la	1.49	1.25	.40	-.45	-.97	121.291
R-94	26 31	24.1079 la	1.49	1.25	.40	-.45	-.98	121.582
R-95	26 31	15.1781 la	1.49	1.25	.40	-.45	-.98	121.754
R-96	26 31	5.2247 la	1.49	1.25	.40	-.45	-.98	121.954
R-97	26 30	56.5758 la	1.50	1.25	.40	-.45	-.98	122.123
R-98	26 30	46.0653 la	1.50	1.25	.40	-.45	-.98	122.327
R-99	26 30	36.8871 la	1.50	1.25	.40	-.45	-.98	122.507
R-100	26 30	26.7523 la	1.50	1.25	.40	-.45	-.98	122.704
R-101	26 30	17.2621 la	1.50	1.25	.40	-.45	-.98	122.890
R-102	26 30	5.5242 la	1.50	1.25	.40	-.45	-.98	123.118
R-103	26 29	57.9210 la	1.50	1.25	.40	-.45	-.98	123.275
R-104	26 29	47.5978 la	1.50	1.26	.40	-.45	-.99	123.476
R-105	26 29	36.5809 la	1.50	1.26	.40	-.45	-.99	123.688
R-106	26 29	27.8363 la	1.50	1.26	.40	-.45	-.99	123.871
R-107	26 29	17.1736 la	1.51	1.26	.40	-.45	-.99	124.104
R-108	26 29	4.9279 la	1.51	1.26	.40	-.45	-.99	124.324
R-109	26 28	57.0891 la	1.51	1.26	.40	-.46	-.99	124.499
Blind Pass								
R-110	26 28	54.7880 la	1.51	1.26	.40	-.46	-.99	124.577
R-111	26 28	45.0155 la	1.51	1.26	.40	-.46	-.99	124.766
R-112	26 28	37.9335 la	1.51	1.26	.40	-.46	-.99	124.919
R-113	26 28	27.1993 la	1.51	1.26	.40	-.46	-.99	125.166
R-114	26 28	20.6028 la	1.51	1.27	.40	-.46	-.99	125.319
R-115	26 28	12.4600 la	1.51	1.27	.40	-.46	-1.00	125.561
R-116	26 28	2.9656 la	1.51	1.27	.40	-.46	-1.00	125.791

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Lee County								
R-117	26 27	57.2922 la	1.51	1.27	.40	-.46	-1.00	125.998
R-118	26 27	52.5407 la	1.52	1.27	.40	-.46	-1.00	126.204
R-119	26 27	47.7142 la	1.52	1.27	.40	-.46	-1.00	126.404
R-120	26 27	41.5886 la	1.52	1.27	.41	-.46	-1.00	126.599
R-121	26 27	37.2224 la	1.52	1.27	.41	-.46	-1.00	126.797
R-122	26 27	32.5577 la	1.52	1.27	.41	-.46	-1.00	126.982
R-123	26 27	28.1473 la	1.52	1.28	.41	-.46	-1.00	127.189
R-124	26 27	20.3900 la	1.52	1.28	.41	-.46	-1.00	127.378
R-125	26 27	14.5086 la	1.52	1.28	.41	-.46	-1.01	127.601
R-126	26 27	7.9750 la	1.52	1.28	.41	-.46	-1.01	127.790
R-127	26 27	0.7339 la	1.53	1.28	.41	-.46	-1.01	127.996
R-128	26 26	50.8394 la	1.53	1.28	.41	-.46	-1.01	128.256
R-129	26 26	44.0764 la	1.53	1.28	.41	-.47	-1.01	128.433
R-130	26 26	35.9084 la	1.53	1.28	.41	-.47	-1.01	128.650
T-131	26 26	28.1940 la	1.53	1.28	.41	-.47	-1.01	128.837
R-132	26 26	20.9584 la	1.53	1.29	.41	-.47	-1.01	129.030
R-133	26 26	14.9408 la	1.53	1.29	.41	-.47	-1.01	129.221
R-134	26 26	9.8832 la	1.53	1.29	.41	-.47	-1.01	129.410
R-135	26 26	5.3599 la	1.53	1.29	.41	-.47	-1.02	129.602
R-136	26 26	1.5938 la	1.54	1.29	.41	-.47	-1.02	129.771
T-137	26 25	56.9137 la	1.54	1.29	.41	-.47	-1.02	129.993
R-138	26 25	53.2311 la	1.54	1.29	.41	-.47	-1.02	130.155
R-139	26 25	48.6737 la	1.54	1.29	.41	-.47	-1.02	130.364
R-140	26 25	45.5266 la	1.54	1.29	.41	-.47	-1.02	130.543
R-141	26 25	41.9338 la	1.54	1.29	.41	-.47	-1.02	130.729
R-142	26 25	38.1928 la	1.54	1.30	.41	-.47	-1.02	130.928
R-143	26 25	33.9062 la	1.54	1.30	.41	-.47	-1.02	131.115
R-144	26 25	30.8520 la	1.54	1.30	.41	-.47	-1.02	131.283
R-145	26 25	27.2536 la	1.55	1.30	.41	-.47	-1.02	131.479
R-146	26 25	24.4527 la	1.55	1.30	.41	-.47	-1.02	131.675
R-147	26 25	22.2611 la	1.55	1.30	.41	-.47	-1.03	131.881
R-148	26 25	19.6182 la	1.55	1.30	.41	-.47	-1.03	132.071
R-149	26 25	19.7831 la	1.55	1.30	.41	-.47	-1.03	132.259
R-150	26 25	19.2261 la	1.55	1.30	.41	-.47	-1.03	132.440
T-151	26 25	19.9245 la	1.55	1.31	.41	-.47	-1.03	132.653
R-152	26 25	21.5587 la	1.55	1.31	.42	-.47	-1.03	132.816
R-153	26 25	23.5309 la	1.56	1.31	.42	-.47	-1.03	133.032
R-154	26 25	26.2743 la	1.56	1.31	.42	-.48	-1.03	133.213
R-155	26 25	29.4386 la	1.56	1.31	.42	-.48	-1.03	133.396
R-156	26 25	33.6823 la	1.56	1.31	.42	-.48	-1.03	133.586
R-157	26 25	37.4138 la	1.56	1.31	.42	-.48	-1.03	133.772
R-158	26 25	41.6391 la	1.56	1.31	.42	-.48	-1.03	133.961
R-159	26 25	45.5185 la	1.56	1.31	.42	-.48	-1.04	134.156
R-160	26 25	49.9960 la	1.56	1.32	.42	-.48	-1.04	134.322
R-161A	26 25	55.3975 la	1.57	1.32	.42	-.48	-1.04	134.705
R-162	26 26	5.7944 la	1.57	1.32	.42	-.48	-1.04	134.857
R-163	26 26	11.8778 la	1.57	1.32	.42	-.48	-1.04	135.084
R-164	26 26	14.9848 la	1.57	1.32	.42	-.48	-1.04	135.211
R-165	26 26	21.6193 la	1.57	1.32	.42	-.48	-1.04	135.459
R-166	26 26	27.1929 la	1.57	1.32	.42	-.48	-1.04	135.644
R-167	26 26	32.2316 la	1.57	1.32	.42	-.48	-1.04	135.830

DNR Range Monu	Longitude = lo or Latitude = la			MHHW (feet NGVD)	MHW (feet NGVD)	MTL (feet NGVD)	MLW (feet NGVD)	MLLW (feet NGVD)	Distance (mi)
Lee County									
R-168	26 26	36.6561	la	1.57	1.33	.42	-.48	-1.04	136.017
R-169	26 26	42.4474	la	1.58	1.33	.42	-.48	-1.04	136.221
R-170	26 26	50.5807	la	1.58	1.33	.42	-.48	-1.04	136.436
R-171	26 26	56.5396	la	1.58	1.33	.42	-.48	-1.05	136.616
R-172	26 26	57.7592	la	1.58	1.33	.42	-.48	-1.05	136.761
R-173	26 27	3.6142	la	1.58	1.33	.42	-.48	-1.05	136.977
R-174	26 27	9.0857	la	1.58	1.33	.42	-.48	-1.05	137.124
San Carlos (Estero) Pass									
Matanzas Pass									
R-175	26 27	49.9772	la	1.60	1.35	.43	-.49	-1.06	140.096
R-176	26 27	42.4790	la	1.60	1.35	.43	-.49	-1.06	140.249
R-177	26 27	35.5638	la	1.60	1.35	.43	-.49	-1.06	140.451
R-178	26 27	27.3606	la	1.61	1.35	.43	-.49	-1.06	140.662
R-179	26 27	21.4264	la	1.61	1.36	.43	-.49	-1.06	140.846
R-180	26 27	13.2459	la	1.61	1.36	.43	-.49	-1.06	141.051
R-181	26 27	8.0743	la	1.61	1.36	.43	-.49	-1.06	141.247
R-182	26 27	5.9611	la	1.61	1.36	.43	-.49	-1.06	141.437
R-183	26 27	2.5608	la	1.61	1.36	.44	-.49	-1.06	141.600
R-184	26 26	58.4662	la	1.61	1.36	.44	-.49	-1.06	141.803
R-185	26 26	52.7229	la	1.61	1.36	.44	-.49	-1.07	141.995
R-186A	26 26	48.9651	la	1.62	1.36	.44	-.49	-1.07	142.322
R-187A	26 26	44.0243	la	1.62	1.37	.44	-.49	-1.07	142.616
R-188	26 26	36.0212	la	1.62	1.37	.44	-.49	-1.07	142.750
R-189	26 26	31.0790	la	1.62	1.37	.44	-.49	-1.07	142.939
R-190	26 26	25.3298	la	1.62	1.37	.44	-.49	-1.07	143.130
R-191	26 26	20.4574	la	1.62	1.37	.44	-.49	-1.07	143.300
R-192	26 26	13.5095	la	1.63	1.37	.44	-.49	-1.07	143.495
R-193	26 26	7.4589	la	1.63	1.37	.44	-.49	-1.07	143.659
R-194	26 25	59.6427	la	1.63	1.38	.44	-.49	-1.07	143.901
R-195	26 25	52.9973	la	1.63	1.38	.44	-.49	-1.07	144.080
R-196	26 25	46.8221	la	1.63	1.38	.44	-.49	-1.07	144.256
R-197	26 25	40.2742	la	1.63	1.38	.44	-.49	-1.07	144.457
R-198	26 25	33.5445	la	1.63	1.38	.44	-.49	-1.07	144.633
R-199	26 25	24.3536	la	1.63	1.38	.44	-.49	-1.07	144.836
R-200	26 25	18.2773	la	1.64	1.38	.44	-.49	-1.08	145.003
R-201	26 25	8.5025	la	1.64	1.38	.45	-.49	-1.08	145.210
R-202	26 25	0.2638	la	1.64	1.39	.45	-.49	-1.08	145.378
R-203	26 24	47.1090	la	1.64	1.39	.45	-.49	-1.08	145.624
R-204	26 24	37.2857	la	1.64	1.39	.45	-.49	-1.08	145.849
R-205	26 24	32.5892	la	1.64	1.39	.45	-.49	-1.08	146.025
R-206	26 24	23.3870	la	1.65	1.39	.45	-.49	-1.08	146.251
R-207	26 24	14.6207	la	1.65	1.39	.45	-.49	-1.08	146.457
R-208	26 24	13.3691	la	1.65	1.39	.45	-.49	-1.08	146.608
R-209	26 24	12.8801	la	1.65	1.39	.45	-.49	-1.08	146.746
R-210	26 24	15.1930	la	1.65	1.40	.45	-.49	-1.08	146.856
Big Carlos Pass									
R-211	26 23	59.4198	la	1.65	1.40	.45	-.49	-1.08	147.218
R-212	26 23	54.4718	la	1.65	1.40	.45	-.49	-1.08	147.224
R-213	26 23	49.6048	la	1.65	1.40	.45	-.49	-1.08	147.203
R-214	26 23	40.6074	la	1.65	1.40	.45	-.49	-1.08	147.311
R-215	26 23	33.3078	la	1.65	1.40	.45	-.49	-1.08	147.490

DNR Range Monu	Longitude = lo or Latitude = la		MHHW (feet NGVD)	MHW (feet NGVD)	MTL (feet NGVD)	MLW (feet NGVD)	MLLW (feet NGVD)	Distance (mi)
Lee County								
T-216	26 23	26.4512 la	1.66	1.40	.45	-.49	-1.08	147.693
R-217	26 23	19.9712 la	1.66	1.40	.45	-.49	-1.08	147.874
R-218	26 23	13.0697 la	1.66	1.40	.45	-.49	-1.08	148.059
R-219	26 23	5.3042 la	1.66	1.41	.45	-.49	-1.09	148.263
R-220	26 22	58.8602 la	1.66	1.41	.45	-.49	-1.09	148.427
R-221	26 22	50.3024 la	1.66	1.41	.46	-.50	-1.09	148.615
R-222	26 22	42.9040 la	1.67	1.41	.46	-.50	-1.09	148.837
New Pass								
R-223	26 22	27.1628 la	1.67	1.41	.46	-.50	-1.09	149.150
R-224	26 22	14.6824 la	1.67	1.41	.46	-.50	-1.09	149.434
R-225	26 22	7.3998 la	1.67	1.41	.46	-.50	-1.09	149.568
Big Hickory Pass								
R-226	26 21	50.9094 la	1.67	1.42	.46	-.50	-1.09	149.873
R-227	26 21	41.9529 la	1.67	1.42	.46	-.50	-1.09	150.077
R-228	26 21	32.1315 la	1.68	1.42	.46	-.50	-1.09	150.285
R-229	26 21	26.4492 la	1.68	1.42	.46	-.50	-1.09	150.435
R-230	26 21	17.0397 la	1.68	1.42	.46	-.50	-1.09	150.634
R-231	26 21	8.6441 la	1.68	1.42	.46	-.50	-1.09	150.825
R-232	26 20	57.4132 la	1.68	1.43	.46	-.50	-1.09	151.046
R-233	26 20	49.8898 la	1.68	1.43	.46	-.50	-1.09	151.213
R-234	26 20	39.2321 la	1.69	1.43	.46	-.50	-1.09	151.433
R-235	26 20	30.7014 la	1.69	1.43	.46	-.50	-1.09	151.601
R-236	26 20	20.5033 la	1.69	1.43	.47	-.50	-1.10	151.819
R-237	26 20	11.2644 la	1.69	1.43	.47	-.50	-1.10	151.998
R-238	26 20	1.1403 la	1.69	1.43	.47	-.50	-1.10	152.216
R-239	26 19	50.6159 la	1.69	1.44	.47	-.50	-1.10	152.426
Collier County								
R-001	26 19	47.2857 la	1.69	1.44	.47	-.50	-1.10	152.492
T-002	26 19	37.9879 la	1.70	1.44	.47	-.50	-1.10	152.682
R-003	26 19	28.4619 la	1.70	1.44	.47	-.50	-1.10	152.873
R-004	26 19	18.9472 la	1.70	1.44	.47	-.50	-1.10	153.067
R-005	26 19	9.3955 la	1.70	1.44	.47	-.50	-1.10	153.257
R-006	26 19	0.1021 la	1.70	1.44	.47	-.50	-1.10	153.450
R-007	26 18	50.4732 la	1.70	1.44	.47	-.50	-1.10	153.643
T-008	26 18	40.4604 la	1.70	1.45	.47	-.50	-1.10	153.844
R-009	26 18	31.3533 la	1.71	1.45	.47	-.50	-1.10	154.029
R-010	26 18	21.7698 la	1.71	1.45	.47	-.50	-1.10	154.222
R-011	26 18	12.1379 la	1.71	1.45	.47	-.50	-1.10	154.417
R-012	26 18	2.2188 la	1.71	1.45	.47	-.50	-1.10	154.611
R-013	26 17	52.6237 la	1.71	1.45	.48	-.50	-1.10	154.804
R-014	26 17	43.0176 la	1.71	1.45	.48	-.50	-1.10	154.992
R-015	26 17	33.0668 la	1.72	1.46	.48	-.50	-1.10	155.187
R-016	26 17	22.8705 la	1.72	1.46	.48	-.50	-1.10	155.377
Wiggins Pass								
R-017	26 17	11.9111 la	1.72	1.46	.48	-.50	-1.11	155.603
R-018	26 17	2.1901 la	1.72	1.46	.48	-.50	-1.11	155.792
R-019	26 16	52.0147 la	1.72	1.46	.48	-.50	-1.11	155.987
R-020	26 16	42.0097 la	1.72	1.46	.48	-.50	-1.11	156.182
R-021	26 16	32.0370 la	1.73	1.47	.48	-.50	-1.11	156.377
R-022	26 16	21.9603 la	1.73	1.47	.48	-.50	-1.11	156.575

DNR Range Monu	Longitude = lo or Latitude = la		MHHW (feet NGVD)	MHW (feet NGVD)	MTL (feet NGVD)	MLW (feet NGVD)	MLLW (feet NGVD)	Distance (mi)
Collier County								
R-023	26	16 12.2449	la	1.73	1.47	.48	-.50	-1.11 156.769
T-024	26	16 2.6825	la	1.73	1.47	.48	-.50	-1.11 156.962
T-025	26	15 52.2038	la	1.73	1.47	.48	-.50	-1.11 157.169
T-026	26	15 42.5230	la	1.73	1.47	.48	-.50	-1.11 157.347
R-027	26	15 33.5147	la	1.74	1.47	.48	-.50	-1.11 157.530
T-028	26	15 22.2975	la	1.74	1.48	.49	-.50	-1.11 157.745
R-029	26	15 12.7968	la	1.74	1.48	.49	-.50	-1.11 157.924
R-030	26	15 2.8102	la	1.74	1.48	.49	-.50	-1.11 158.119
R-031	26	14 52.6804	la	1.74	1.48	.49	-.50	-1.11 158.316
R-032	26	14 42.8961	la	1.74	1.48	.49	-.50	-1.11 158.507
R-033	26	14 33.0756	la	1.75	1.48	.49	-.50	-1.11 158.699
R-034	26	14 23.0710	la	1.75	1.49	.49	-.50	-1.11 158.893
R-035	26	14 13.2492	la	1.75	1.49	.49	-.50	-1.11 159.083
R-036	26	14 3.4260	la	1.75	1.49	.49	-.50	-1.12 159.269
R-037	26	13 53.0753	la	1.75	1.49	.49	-.51	-1.12 159.469
R-038	26	13 43.4650	la	1.75	1.49	.49	-.51	-1.12 159.654
R-039	26	13 33.3828	la	1.75	1.49	.49	-.51	-1.12 159.846
R-040	26	13 23.4273	la	1.76	1.49	.49	-.51	-1.12 160.037
R-041	26	13 13.5519	la	1.76	1.50	.49	-.51	-1.12 160.226
Clam Pass								
R-042	26	13 3.0376	la	1.76	1.50	.49	-.51	-1.12 160.437
R-043	26	12 52.7277	la	1.76	1.50	.50	-.51	-1.12 160.630
R-044	26	12 42.9217	la	1.76	1.50	.50	-.51	-1.12 160.817
R-045	26	12 32.6141	la	1.76	1.50	.50	-.51	-1.12 161.016
T-046	26	12 21.6010	la	1.77	1.50	.50	-.51	-1.12 161.225
T-047	26	12 12.2900	la	1.77	1.51	.50	-.51	-1.12 161.403
U-048	26	12 2.4355	la	1.77	1.51	.50	-.51	-1.12 161.591
T-049	26	11 52.2586	la	1.77	1.51	.50	-.51	-1.12 161.787
T-050	26	11 41.4708	la	1.77	1.51	.50	-.51	-1.12 161.993
R-051	26	11 28.3472	la	1.78	1.51	.50	-.51	-1.12 162.246
R-052	26	11 19.6633	la	1.78	1.51	.50	-.51	-1.12 162.414
R-053	26	11 9.3287	la	1.78	1.52	.50	-.51	-1.12 162.614
T-054	26	10 58.7283	la	1.78	1.52	.50	-.51	-1.12 162.813
U-055	26	10 48.3673	la	1.78	1.52	.50	-.51	-1.13 163.012
T-056	26	10 39.2675	la	1.78	1.52	.50	-.51	-1.13 163.186
Doctor's Pass								
T-057	26	10 31.7041	la	1.78	1.52	.50	-.51	-1.13 163.331
T-058	26	10 14.2834	la	1.79	1.53	.51	-.51	-1.13 163.693
R-059	26	10 4.8213	la	1.79	1.53	.51	-.51	-1.13 163.878
R-060	26	9 54.5017	la	1.79	1.53	.51	-.51	-1.13 164.081
R-061	26	9 44.2443	la	1.79	1.53	.51	-.51	-1.13 164.279
T-062	26	9 34.1464	la	1.79	1.53	.51	-.51	-1.13 164.473
T-063	26	9 24.4137	la	1.80	1.53	.51	-.51	-1.13 164.663
R-064	26	9 15.3910	la	1.80	1.53	.51	-.51	-1.13 164.838
T-065	26	9 7.6910	la	1.80	1.54	.51	-.51	-1.13 164.986
R-066	26	8 59.7200	la	1.80	1.54	.51	-.51	-1.13 165.143
T-067	26	8 51.8411	la	1.80	1.54	.51	-.51	-1.13 165.291
R-068	26	8 43.8528	la	1.80	1.54	.51	-.51	-1.13 165.445
T-069	26	8 35.8400	la	1.80	1.54	.51	-.51	-1.13 165.599
R-070	26	8 27.9765	la	1.81	1.54	.51	-.51	-1.13 165.750
R-071	26	8 20.1192	la	1.81	1.54	.51	-.52	-1.13 165.902

DNR Range Monu	Longitude = lo or Latitude = la		MHHW (feet NGVD)	MHW (feet NGVD)	MTL (feet NGVD)	MLW (feet NGVD)	MLLW (feet NGVD)	Distance (mi)
Collier County								
R-072	26	8 12.2917	la	1.81	1.55	.51	-.52	-1.13 166.054
T-073	26	8 4.2578	la	1.81	1.55	.51	-.52	-1.13 166.207
R-074	26	7 56.3065	la	1.81	1.55	.51	-.52	-1.13 166.361
T-075	26	7 49.1898	la	1.81	1.55	.52	-.52	-1.14 166.497
R-076	26	7 40.6694	la	1.81	1.55	.52	-.52	-1.14 166.664
R-077	26	7 32.9900	la	1.82	1.55	.52	-.52	-1.14 166.813
R-078	26	7 25.4133	la	1.82	1.55	.52	-.52	-1.14 166.956
R-079	26	7 14.5375	la	1.82	1.56	.52	-.52	-1.14 167.164
U-080	26	7 3.1199	la	1.82	1.56	.52	-.52	-1.14 167.384
R-081	26	6 52.2663	la	1.82	1.56	.52	-.52	-1.14 167.619
T-082	26	6 44.0066	la	1.82	1.56	.52	-.52	-1.14 167.752
R-083	26	6 33.7462	la	1.83	1.56	.52	-.52	-1.14 167.955
R-084	26	6 24.0171	la	1.83	1.56	.52	-.52	-1.14 168.143
U-085	26	6 14.6695	la	1.83	1.57	.52	-.52	-1.14 168.320
T-086	26	6 6.0841	la	1.83	1.57	.52	-.52	-1.14 168.484
T-087	26	5 56.1797	la	1.83	1.57	.52	-.52	-1.14 168.673
R-088	26	5 46.1247	la	1.83	1.57	.52	-.52	-1.14 168.866
R-089	26	5 37.3315	la	1.83	1.57	.52	-.52	-1.14 169.019
Gordon's Pass								
R-090	26	5 28.4879	la	1.84	1.57	.52	-.52	-1.14 169.252
R-091	26	5 19.4029	la	1.84	1.58	.52	-.52	-1.14 169.419
R-092	26	5 10.6281	la	1.84	1.58	.53	-.52	-1.15 169.619
R-093	26	5 2.4151	la	1.84	1.58	.53	-.53	-1.15 169.805
R-094	26	4 54.0137	la	1.84	1.58	.53	-.53	-1.15 169.986
R-095	26	4 44.3619	la	1.84	1.58	.53	-.53	-1.15 170.173
R-096	26	4 34.2520	la	1.85	1.58	.53	-.53	-1.15 170.377
R-097	26	4 24.9828	la	1.85	1.59	.53	-.53	-1.15 170.565
T-098	26	4 16.1508	la	1.85	1.59	.53	-.53	-1.15 170.743
T-099	26	4 5.9014	la	1.85	1.59	.53	-.53	-1.15 170.948
R-100	26	3 58.1289	la	1.85	1.59	.53	-.53	-1.15 171.102
R-101	26	3 50.1008	la	1.85	1.59	.53	-.53	-1.15 171.267
R-102	26	3 42.0234	la	1.86	1.59	.53	-.53	-1.15 171.435
R-103	26	3 33.6711	la	1.86	1.60	.53	-.53	-1.15 171.610
R-104	26	3 25.2218	la	1.86	1.60	.53	-.53	-1.15 171.790
R-105	26	3 16.5005	la	1.86	1.60	.53	-.53	-1.15 171.978
R-106	26	3 7.8145	la	1.86	1.60	.53	-.53	-1.15 172.159
R-107	26	2 59.2084	la	1.86	1.60	.53	-.53	-1.16 172.343
R-108	26	2 50.0621	la	1.87	1.60	.53	-.53	-1.16 172.536
R-109	26	2 41.5194	la	1.87	1.61	.53	-.54	-1.16 172.720
R-110	26	2 32.1309	la	1.87	1.61	.53	-.54	-1.16 172.927
R-111	26	2 23.2088	la	1.87	1.61	.54	-.54	-1.16 173.120
R-112	26	2 14.8222	la	1.87	1.61	.54	-.54	-1.16 173.302
R-113	26	2 5.8685	la	1.87	1.61	.54	-.54	-1.16 173.496
R-114	26	1 57.0137	la	1.88	1.61	.54	-.54	-1.16 173.690
R-115	26	1 47.8362	la	1.88	1.62	.54	-.54	-1.16 173.876
R-116	26	1 38.8379	la	1.88	1.62	.54	-.54	-1.16 174.064
R-117	26	1 29.5987	la	1.88	1.62	.54	-.54	-1.16 174.250
R-118	26	1 20.1481	la	1.88	1.62	.54	-.54	-1.16 174.433
R-119	26	1 10.5908	la	1.88	1.62	.54	-.54	-1.17 174.625
R-120	26	1 1.2309	la	1.89	1.63	.54	-.54	-1.17 174.810

DNR Range		Longitude = lo	MHHW	MHW	MTL	MLW	MLLW	Distance
Monu		or	(feet	(feet	(feet	(feet	(feet	(mi)
		Latitude = la	NGVD)	NGVD)	NGVD)	NGVD)	NGVD)	
Collier County								
R-121	26	0 51.5815	la	1.89	1.63	.54	-.54	-1.17 174.998
R-122	26	0 44.0135	la	1.89	1.63	.54	-.55	-1.17 175.158
R-123	26	0 34.7186	la	1.89	1.63	.54	-.55	-1.17 175.350
R-124	26	0 26.1307	la	1.89	1.63	.54	-.55	-1.17 175.533
R-125	26	0 18.1916	la	1.89	1.63	.54	-.55	-1.17 175.715
R-126	26	0 10.3240	la	1.90	1.64	.54	-.55	-1.17 175.907
R-127	26	0 3.0586	la	1.90	1.64	.54	-.55	-1.17 176.116
<i>Little Marco Pass</i>								
<i>Hurricane Pass</i>								
<i>Capri Pass</i>								
<i>Big Marco Pass</i>								
T-128	25	57 29.4359	la	1.93	1.67	.55	-.57	-1.19 179.488
T-129	25	57 22.2265	la	1.93	1.67	.55	-.57	-1.19 179.623
U-130	25	57 11.7751	la	1.93	1.67	.55	-.57	-1.19 179.802
R-131	25	57 7.3451	la	1.93	1.68	.55	-.57	-1.19 179.936
R-132	25	56 59.3654	la	1.93	1.68	.55	-.57	-1.19 180.149
T-133	25	56 53.5008	la	1.93	1.68	.55	-.58	-1.20 180.329
R-134	25	56 46.7213	la	1.94	1.68	.55	-.58	-1.20 180.522
T-135	25	56 41.5333	la	1.94	1.68	.55	-.58	-1.20 180.643
T-136	25	56 30.5965	la	1.94	1.69	.55	-.58	-1.20 180.898
T-137	25	56 21.1679	la	1.94	1.69	.55	-.58	-1.20 181.105
T-138	25	56 10.1877	la	1.94	1.69	.55	-.58	-1.20 181.349
R-139	25	56 5.5914	la	1.94	1.69	.55	-.58	-1.20 181.456
R-140	25	55 57.9409	la	1.95	1.69	.55	-.59	-1.20 181.647
R-141	25	55 46.2243	la	1.95	1.70	.55	-.59	-1.20 181.848
T-142	25	55 37.0035	la	1.95	1.70	.55	-.59	-1.21 182.024
R-143	25	55 26.0882	la	1.95	1.70	.55	-.59	-1.21 182.234
R-144	25	55 15.7819	la	1.95	1.70	.55	-.59	-1.21 182.432
R-145	25	55 5.4421	la	1.95	1.70	.55	-.59	-1.21 182.633
R-146	25	54 55.2665	la	1.96	1.71	.55	-.60	-1.21 182.825
T-147	25	54 43.9463	la	1.96	1.71	.55	-.60	-1.21 183.043
T-148	25	54 38.0015	la	1.96	1.71	.55	-.60	-1.21 183.156
<i>Caxamba Pass</i>								

Appendix 3.
Tidal datums, locations by DNR range monument and
latitude/longitude, and alongshore distances
for the
Florida Panhandle Gulf Coast
(updated after Balsillie and others, 1987c)

Note: Centered headers indicate the County; left-justified,
italicized names indicate location of inlets.

DNR Range Monu	Longitude = lo or Latitude = la			MHHW (feet NGVD)	MHW (feet NGVD)	MTL (feet NGVD)	MLW (feet NGVD)	MLLW (feet NGVD)	Distance (mi)	
Escambia County										
R-001	87	31	4.6616	lo	1.23	1.16	.52	-.12	-.17	.043
R-002	87	30	54.2676	lo	1.23	1.16	.52	-.12	-.17	.179
R-003	87	30	39.3803	lo	1.23	1.16	.52	-.12	-.17	.433
R-004	87	30	30.3070	lo	1.23	1.16	.52	-.12	-.17	.583
R-005	87	30	19.1936	lo	1.23	1.16	.52	-.12	-.17	.779
R-006	87	30	6.8936	lo	1.23	1.16	.52	-.12	-.17	.979
R-007	87	29	54.3547	lo	1.23	1.16	.52	-.12	-.17	1.194
R-008	87	29	43.9542	lo	1.23	1.16	.52	-.12	-.17	1.368
R-009	87	29	31.3005	lo	1.23	1.16	.52	-.13	-.17	1.587
R-010	87	29	20.9523	lo	1.23	1.16	.52	-.13	-.17	1.761
R-011	87	29	5.6320	lo	1.23	1.16	.52	-.13	-.17	2.031
R-012	87	28	56.2507	lo	1.23	1.16	.52	-.13	-.17	2.186
R-013	87	28	42.9558	lo	1.23	1.16	.52	-.13	-.17	2.417
R-014	87	28	33.1305	lo	1.23	1.16	.52	-.13	-.17	2.579
R-015	87	28	23.6863	lo	1.23	1.16	.52	-.13	-.17	2.737
R-016	87	28	13.4570	lo	1.23	1.16	.52	-.13	-.17	2.914
R-017	87	28	0.5832	lo	1.23	1.16	.52	-.13	-.17	3.134
R-018	87	27	50.9927	lo	1.23	1.17	.52	-.13	-.17	3.292
R-019	87	27	39.5301	lo	1.24	1.17	.52	-.13	-.17	3.485
R-020	87	27	27.6073	lo	1.24	1.17	.52	-.13	-.17	3.683
R-021	87	27	16.7486	lo	1.24	1.17	.52	-.13	-.17	3.870
R-022	87	27	5.6578	lo	1.24	1.17	.52	-.13	-.17	4.057
R-023	87	26	55.6783	lo	1.24	1.17	.52	-.13	-.17	4.222
R-024	87	26	43.4419	lo	1.24	1.17	.52	-.13	-.17	4.428
R-025	87	26	30.6008	lo	1.24	1.17	.52	-.13	-.17	4.646
R-026	87	26	20.4155	lo	1.24	1.17	.52	-.13	-.17	4.814
R-027	87	26	9.3138	lo	1.24	1.17	.52	-.13	-.17	5.004
R-028	87	25	56.5977	lo	1.24	1.17	.52	-.13	-.17	5.214
R-029	87	25	44.7354	lo	1.24	1.17	.52	-.13	-.17	5.413
R-030	87	25	31.8264	lo	1.24	1.17	.52	-.13	-.17	5.639
R-031	87	25	19.9535	lo	1.24	1.17	.52	-.13	-.17	5.839
R-032	87	25	9.1527	lo	1.24	1.17	.52	-.13	-.17	6.022
R-033	87	24	57.7962	lo	1.24	1.17	.52	-.13	-.17	6.211
R-034	87	24	44.2394	lo	1.24	1.17	.52	-.13	-.17	6.453
R-035	87	24	30.3330	lo	1.24	1.17	.52	-.13	-.17	6.682
R-036	87	24	19.1323	lo	1.24	1.17	.52	-.13	-.17	6.873
R-037	87	24	9.4223	lo	1.24	1.17	.52	-.13	-.17	7.047
R-038	87	23	58.1035	lo	1.24	1.17	.52	-.13	-.17	7.244
R-039	87	23	47.3226	lo	1.24	1.17	.52	-.13	-.17	7.430
R-040	87	23	34.9920	lo	1.24	1.17	.52	-.13	-.17	7.646
R-041	87	23	23.2639	lo	1.24	1.17	.52	-.14	-.17	7.852
R-042	87	23	12.3288	lo	1.24	1.17	.52	-.14	-.17	8.043
R-043	87	22	59.9641	lo	1.24	1.17	.52	-.14	-.17	8.255
R-044	87	22	49.3928	lo	1.24	1.17	.52	-.14	-.17	8.431
R-045	87	22	37.9296	lo	1.24	1.17	.52	-.14	-.17	8.633
R-046	87	22	28.1827	lo	1.24	1.17	.52	-.14	-.17	8.793
R-047	87	22	15.7038	lo	1.24	1.17	.52	-.14	-.17	9.009
R-048	87	22	5.2495	lo	1.24	1.17	.52	-.14	-.17	9.192
R-049	87	21	53.8116	lo	1.24	1.17	.52	-.14	-.17	9.385
R-050	87	21	41.8939	lo	1.24	1.17	.52	-.14	-.17	9.588
R-051	87	21	29.6008	lo	1.24	1.17	.52	-.14	-.17	9.802

DNR Range Monu	Longitude = lo or Latitude = la			MHHW (feet NGVD)	MHW (feet NGVD)	MTL (feet NGVD)	MLW (feet NGVD)	MLLW (feet NGVD)	Distance (mi)	
Escambia County										
R-052	87	21	17.3843	lo	1.24	1.17	.52	-.14	-.17	10.021
R-053	87	21	6.9878	lo	1.24	1.17	.52	-.14	-.17	10.176
R-054	87	20	55.4674	lo	1.24	1.17	.52	-.14	-.17	10.378
R-055	87	20	43.0363	lo	1.24	1.17	.52	-.14	-.17	10.596
R-056	87	20	31.1957	lo	1.24	1.17	.52	-.14	-.17	10.788
R-057	87	20	19.6501	lo	1.24	1.17	.52	-.14	-.17	10.977
R-058	87	20	8.1952	lo	1.24	1.17	.52	-.14	-.17	11.170
R-059	87	19	56.7894	lo	1.24	1.17	.52	-.14	-.17	11.362
R-060	87	19	45.8131	lo	1.24	1.17	.52	-.14	-.17	11.547
R-061	87	19	34.7216	lo	1.24	1.17	.52	-.14	-.17	11.733
R-062	87	19	23.0411	lo	1.24	1.17	.52	-.14	-.17	11.928
R-063	87	19	11.9676	lo	1.24	1.17	.52	-.14	-.17	12.113
R-064	87	19	3.0079	lo	1.24	1.17	.52	-.14	-.17	12.255
R-065	87	18	55.8099	lo	1.24	1.17	.52	-.14	-.17	12.377
R-066A	87	18	51.3352	lo	1.24	1.17	.52	-.14	-.17	12.459
R-067	87	18	49.9064	lo	1.24	1.17	.52	-.14	-.17	12.491
Pensacola Bay Entrance										
R-068	87	17	57.8732	lo	1.24	1.17	.51	-.14	-.17	13.360
R-069	87	17	52.9388	lo	1.24	1.17	.51	-.14	-.17	13.437
R-070	87	17	41.3492	lo	1.24	1.17	.51	-.14	-.17	13.627
R-071	87	17	30.5562	lo	1.24	1.17	.51	-.14	-.17	13.805
R-072	87	17	22.0141	lo	1.24	1.17	.51	-.14	-.17	13.945
R-073	87	17	14.5729	lo	1.24	1.17	.51	-.14	-.17	14.062
R-074	87	17	5.5269	lo	1.24	1.17	.51	-.14	-.17	14.205
R-075	87	16	54.1891	lo	1.24	1.17	.51	-.14	-.17	14.352
R-076	87	16	44.7366	lo	1.24	1.17	.51	-.15	-.17	14.513
R-077	87	16	32.2233	lo	1.24	1.17	.51	-.15	-.17	14.741
R-078	87	16	21.1262	lo	1.24	1.17	.51	-.15	-.17	14.914
R-079	87	16	11.3239	lo	1.24	1.17	.51	-.15	-.17	15.087
R-080	87	16	1.0405	lo	1.24	1.17	.51	-.15	-.18	15.296
R-081	87	15	49.5238	lo	1.24	1.17	.51	-.15	-.18	15.487
R-082	87	15	38.1618	lo	1.24	1.17	.51	-.15	-.18	15.674
R-083	87	15	27.2112	lo	1.24	1.17	.51	-.15	-.18	15.855
R-084	87	15	16.6597	lo	1.24	1.17	.51	-.15	-.18	16.029
R-085	87	15	5.9492	lo	1.24	1.17	.51	-.15	-.18	16.213
R-086	87	14	55.1442	lo	1.24	1.17	.51	-.15	-.18	16.392
R-087	87	14	42.1607	lo	1.24	1.17	.51	-.15	-.18	16.608
R-088	87	14	31.1444	lo	1.24	1.17	.51	-.15	-.18	16.791
R-089	87	14	19.3923	lo	1.24	1.17	.51	-.15	-.18	16.986
R-090	87	14	7.3419	lo	1.24	1.17	.51	-.15	-.18	17.186
R-091	87	13	56.4817	lo	1.24	1.17	.51	-.15	-.18	17.370
R-092	87	13	45.1237	lo	1.24	1.17	.51	-.15	-.18	17.560
R-093	87	13	33.6236	lo	1.24	1.17	.51	-.15	-.18	17.752
R-094	87	13	21.8360	lo	1.24	1.17	.51	-.15	-.18	17.949
R-095	87	13	10.7120	lo	1.24	1.17	.51	-.15	-.18	18.135
R-096	87	13	0.0815	lo	1.24	1.17	.51	-.15	-.18	18.313
R-097	87	12	48.7091	lo	1.24	1.17	.51	-.15	-.18	18.506
R-098	87	12	36.5180	lo	1.24	1.17	.51	-.15	-.18	18.710
R-099	87	12	25.4750	lo	1.24	1.17	.51	-.15	-.18	18.896
R-100	87	12	14.0916	lo	1.24	1.17	.51	-.15	-.18	19.087

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Escambia County								
R-101	87	12 3.6513	lo	1.24	1.17	.51	-.15	-.18 19.263
R-102	87	11 51.2822	lo	1.24	1.17	.51	-.15	-.18 19.472
R-103	87	11 40.8850	lo	1.24	1.17	.51	-.15	-.18 19.647
R-104	87	11 29.6165	lo	1.24	1.17	.51	-.15	-.18 19.838
R-105	87	11 18.6166	lo	1.24	1.17	.51	-.15	-.18 20.022
R-106	87	11 5.9272	lo	1.24	1.17	.51	-.15	-.18 20.228
R-107	87	10 55.5960	lo	1.24	1.17	.51	-.15	-.18 20.407
R-108	87	10 45.1772	lo	1.24	1.17	.51	-.15	-.18 20.581
R-109	87	10 35.2992	lo	1.24	1.17	.51	-.15	-.18 20.752
R-110	87	10 24.4609	lo	1.24	1.17	.51	-.15	-.18 20.932
R-111	87	10 13.0765	lo	1.24	1.17	.51	-.15	-.18 21.125
R-112	87	10 2.5108	lo	1.24	1.17	.51	-.15	-.18 21.300
R-113	87	9 52.6972	lo	1.24	1.17	.51	-.15	-.18 21.456
R-114	87	9 40.8049	lo	1.24	1.17	.51	-.15	-.18 21.657
R-115	87	9 30.2112	lo	1.24	1.17	.51	-.15	-.18 21.838
R-116	87	9 19.7776	lo	1.24	1.17	.51	-.15	-.18 22.022
R-117	87	9 7.2429	lo	1.24	1.17	.51	-.15	-.18 22.231
R-118	87	8 58.5338	lo	1.24	1.17	.51	-.15	-.18 22.377
R-119	87	8 47.7756	lo	1.23	1.17	.51	-.15	-.18 22.563
R-120	87	8 36.3893	lo	1.23	1.17	.51	-.15	-.18 22.760
R-121	87	8 24.9905	lo	1.23	1.17	.51	-.15	-.18 22.946
R-122	87	8 14.2038	lo	1.23	1.17	.51	-.15	-.18 23.133
R-123	87	8 2.2477	lo	1.23	1.17	.51	-.15	-.19 23.337
R-124	87	7 52.1342	lo	1.23	1.17	.51	-.15	-.19 23.507
R-125	87	7 41.3870	lo	1.23	1.17	.51	-.15	-.19 23.683
R-126	87	7 30.0230	lo	1.23	1.17	.51	-.15	-.19 23.879
R-127	87	7 18.0248	lo	1.23	1.17	.51	-.15	-.19 24.082
R-128	87	7 8.4465	lo	1.23	1.17	.51	-.15	-.19 24.243
R-129	87	6 58.2338	lo	1.23	1.17	.51	-.15	-.19 24.418
R-130	87	6 46.8719	lo	1.23	1.16	.51	-.15	-.19 24.612
R-131	87	6 35.1091	lo	1.23	1.16	.51	-.15	-.19 24.807
R-132	87	6 25.1109	lo	1.23	1.16	.51	-.15	-.19 24.982
R-133	87	6 14.0727	lo	1.23	1.16	.51	-.15	-.19 25.170
R-134	87	6 3.4027	lo	1.23	1.16	.51	-.15	-.19 25.351
R-135	87	5 52.8182	lo	1.23	1.16	.51	-.15	-.19 25.531
R-136	87	5 40.1579	lo	1.23	1.16	.50	-.15	-.19 25.743
R-137	87	5 29.3244	lo	1.23	1.16	.50	-.15	-.19 25.925
R-138A	87	5 18.6800	lo	1.23	1.16	.50	-.15	-.19 26.114
R-139	87	5 8.5742	lo	1.23	1.16	.50	-.15	-.19 26.290
R-140	87	4 57.1817	lo	1.23	1.16	.50	-.15	-.19 26.479
R-141	87	4 44.7803	lo	1.23	1.16	.50	-.15	-.19 26.690
R-142	87	4 33.8269	lo	1.23	1.16	.50	-.15	-.19 26.876
R-143	87	4 22.2221	lo	1.23	1.16	.50	-.15	-.19 27.072
R-144	87	4 10.7860	lo	1.23	1.16	.50	-.15	-.19 27.267
R-145	87	3 59.9284	lo	1.23	1.16	.50	-.15	-.19 27.452
R-146	87	3 48.5297	lo	1.23	1.16	.50	-.15	-.19 27.645
R-147	87	3 37.5403	lo	1.23	1.16	.50	-.15	-.19 27.831
R-148	87	3 25.8621	lo	1.23	1.16	.50	-.15	-.19 28.029
R-149	87	3 14.6902	lo	1.23	1.16	.50	-.15	-.19 28.217
R-150	87	3 3.8435	lo	1.23	1.16	.50	-.15	-.19 28.402
R-151	87	2 51.4931	lo	1.23	1.16	.50	-.15	-.19 28.610

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Escambia County								
R-152	87	2 40.6587	lo	1.23	1.16	.50	-.15	-.19 28.792
R-153	87	2 29.4732	lo	1.23	1.16	.50	-.15	-.19 28.982
R-154	87	2 18.2400	lo	1.23	1.16	.50	-.15	-.19 29.172
R-155	87	2 7.1442	lo	1.23	1.16	.50	-.15	-.19 29.360
R-156	87	1 55.2747	lo	1.23	1.16	.50	-.15	-.19 29.561
R-157	87	1 44.3969	lo	1.23	1.16	.50	-.15	-.19 29.746
R-158	87	1 33.2419	lo	1.23	1.16	.50	-.15	-.19 29.937
R-159	87	1 22.2311	lo	1.23	1.16	.50	-.15	-.19 30.122
R-160	87	1 10.7232	lo	1.23	1.16	.50	-.15	-.19 30.319
R-161	87	0 59.3329	lo	1.23	1.16	.50	-.15	-.19 30.513
R-162	87	0 48.2489	lo	1.23	1.16	.50	-.15	-.20 30.699
R-163	87	0 36.4079	lo	1.23	1.16	.50	-.15	-.20 30.897
R-164	87	0 26.9051	lo	1.23	1.16	.50	-.15	-.20 31.061
R-165	87	0 15.0068	lo	1.23	1.16	.50	-.15	-.20 31.262
R-166	87	0 3.2247	lo	1.22	1.16	.50	-.15	-.20 31.457
R-167	86	59 52.4294	lo	1.22	1.16	.50	-.15	-.20 31.638
R-168	86	59 41.8136	lo	1.22	1.16	.50	-.15	-.20 31.818
R-169	86	59 29.8845	lo	1.22	1.16	.50	-.15	-.20 32.020
R-170	86	59 18.3213	lo	1.22	1.16	.50	-.15	-.20 32.218
R-171	86	59 6.7558	lo	1.22	1.16	.50	-.15	-.20 32.411
R-172	86	58 55.2641	lo	1.22	1.16	.50	-.15	-.20 32.605
R-173	86	58 45.1395	lo	1.22	1.16	.50	-.15	-.20 32.777
R-174	86	58 34.1041	lo	1.22	1.15	.50	-.15	-.20 32.964
R-175	86	58 23.6753	lo	1.22	1.15	.50	-.15	-.20 33.142
R-176	86	58 11.7265	lo	1.22	1.15	.50	-.15	-.20 33.345
R-177	86	58 0.1067	lo	1.22	1.15	.50	-.15	-.20 33.543
R-178	86	57 48.9227	lo	1.22	1.15	.50	-.15	-.20 33.730
R-179	86	57 38.7806	lo	1.22	1.15	.50	-.15	-.20 33.905
R-180	86	57 27.6921	lo	1.22	1.15	.50	-.15	-.20 34.093
R-181	86	57 16.0724	lo	1.22	1.15	.50	-.15	-.20 34.289
R-182	86	57 4.9711	lo	1.22	1.15	.50	-.15	-.20 34.476
R-183	86	56 53.3443	lo	1.22	1.15	.50	-.15	-.20 34.672
R-184	86	56 42.0700	lo	1.22	1.15	.50	-.15	-.20 34.863
R-185	86	56 30.7331	lo	1.22	1.15	.50	-.15	-.20 35.053
R-186	86	56 18.5222	lo	1.22	1.15	.50	-.15	-.20 35.260
R-187	86	56 7.8527	lo	1.22	1.15	.50	-.15	-.20 35.442
R-188	86	55 57.0929	lo	1.22	1.15	.50	-.15	-.20 35.626
R-189	86	55 46.0202	lo	1.22	1.15	.50	-.15	-.20 35.814
R-190	86	55 35.0327	lo	1.22	1.15	.50	-.15	-.20 36.000
R-191	86	55 24.2899	lo	1.22	1.15	.50	-.15	-.20 36.182
R-192	86	55 12.2408	lo	1.22	1.15	.50	-.15	-.20 36.387
R-193	86	54 58.9427	lo	1.22	1.15	.50	-.15	-.20 36.607
R-194	86	54 49.5707	lo	1.22	1.15	.50	-.15	-.20 36.770
R-195	86	54 38.7655	lo	1.22	1.15	.50	-.15	-.20 36.951
R-196	86	54 27.0637	lo	1.22	1.15	.50	-.15	-.20 37.149
R-197	86	54 15.2952	lo	1.22	1.15	.50	-.15	-.20 37.349
R-198	86	54 4.4234	lo	1.22	1.15	.50	-.15	-.20 37.533
R-199	86	53 52.8165	lo	1.22	1.15	.50	-.15	-.20 37.720
R-200	86	53 42.3305	lo	1.22	1.15	.50	-.15	-.20 37.896
R-201	86	53 30.4560	lo	1.22	1.15	.50	-.15	-.20 38.094
R-202	86	53 19.1135	lo	1.22	1.15	.50	-.15	-.20 38.285

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Escambia County								
R-203	86 53	8.0182 lo	1.22	1.15	.50	-.15	-.20	38.473
R-204	86 52	56.6174 lo	1.22	1.15	.50	-.15	-.20	38.665
R-205	86 52	46.4667 lo	1.22	1.15	.50	-.15	-.20	38.836
R-206	86 52	33.2498 lo	1.22	1.15	.50	-.15	-.21	39.056
R-207	86 52	21.4336 lo	1.22	1.15	.50	-.15	-.21	39.253
R-208	86 52	10.4040 lo	1.22	1.15	.50	-.15	-.21	39.450
R-209	86 51	58.7094 lo	1.22	1.15	.50	-.15	-.21	39.636
R-210	86 51	46.4832 lo	1.22	1.15	.50	-.15	-.21	39.978
R-211A	86 51	34.6777 lo	1.22	1.15	.50	-.15	-.21	40.175
R-212	86 51	22.8819 lo	1.21	1.15	.50	-.14	-.21	40.373
R-213	86 51	15.0246 lo	1.21	1.15	.50	-.14	-.21	40.506
R-214	86 51	0.5164 lo	1.21	1.14	.50	-.14	-.21	40.748
Okaloosa County								
R-1	86 37	59.3728 lo	1.20	1.13	.51	-.12	-.22	53.800
R-2	86 37	48.1070 lo	1.20	1.13	.51	-.12	-.22	53.986
R-3	86 37	34.8463 lo	1.20	1.13	.51	-.12	-.22	54.207
R-4	86 37	22.3061 lo	1.20	1.13	.51	-.12	-.22	54.415
R-5	86 37	9.7585 lo	1.20	1.13	.51	-.12	-.22	54.623
R-6	86 36	57.8161 lo	1.20	1.13	.51	-.12	-.22	54.817
R-7	86 36	45.3434 lo	1.20	1.13	.51	-.12	-.22	55.024
R-8	86 36	33.2485 lo	1.20	1.13	.51	-.12	-.22	55.227
R-9	86 36	20.7459 lo	1.20	1.13	.51	-.12	-.22	55.436
R-10	86 36	9.1048 lo	1.20	1.13	.51	-.12	-.22	55.631
R-11	86 35	57.6085 lo	1.20	1.13	.51	-.12	-.22	55.824
R-12	86 35	45.2410 lo	1.20	1.13	.51	-.12	-.22	56.030
R-13	86 35	32.8618 lo	1.20	1.13	.51	-.11	-.22	56.238
R-14	86 35	20.8651 lo	1.20	1.13	.51	-.11	-.22	56.439
R-15	86 35	8.6022 lo	1.20	1.13	.51	-.11	-.22	56.641
R-16	86 34	58.6609 lo	1.20	1.13	.51	-.11	-.22	56.806
Destin East Pass								
R-17	86 30	19.7755 lo	1.20	1.12	.51	-.10	-.22	61.494
R-18	86 30	10.0894 lo	1.20	1.12	.51	-.10	-.22	61.628
R-19	86 29	58.7902 lo	1.20	1.12	.51	-.10	-.22	61.832
R-20	86 29	47.8297 lo	1.20	1.12	.51	-.10	-.22	62.019
R-21	86 29	34.6834 lo	1.20	1.12	.51	-.10	-.22	62.227
R-22	86 29	23.1928 lo	1.20	1.12	.51	-.10	-.22	62.415
R-23	86 29	11.5502 lo	1.20	1.12	.51	-.10	-.22	62.615
R-24	86 29	1.6943 lo	1.20	1.12	.51	-.10	-.22	62.778
R-25	86 28	46.9650 lo	1.20	1.12	.51	-.10	-.22	63.023
R-26	86 28	35.4587 lo	1.20	1.12	.51	-.10	-.22	63.214
R-27	86 28	22.6487 lo	1.20	1.12	.51	-.10	-.22	63.427
R-28	86 28	10.4047 lo	1.20	1.12	.51	-.10	-.22	63.629
R-29	86 27	58.8033 lo	1.20	1.12	.51	-.10	-.22	63.820
R-30	86 27	45.0296 lo	1.20	1.12	.51	-.10	-.22	64.048
R-31	86 27	32.7127 lo	1.20	1.12	.51	-.10	-.22	64.252
R-32	86 27	23.0935 lo	1.20	1.12	.51	-.10	-.22	64.413
R-33	86 27	12.0577 lo	1.20	1.12	.51	-.10	-.22	64.596
R-34	86 26	59.9595 lo	1.20	1.12	.51	-.10	-.22	64.797
R-35	86 26	48.6502 lo	1.20	1.12	.51	-.10	-.22	64.985
R-36	86 26	37.9129 lo	1.20	1.12	.51	-.10	-.22	65.163

DNR Range Monu	Longitude = lo or Latitude = la		MHHW (feet NGVD)	MHW (feet NGVD)	MTL (feet NGVD)	MLW (feet NGVD)	MLLW (feet NGVD)	Distance (mi)
Okaloosa County								
R-37	86 26	25.2836 lo	1.20	1.12	.51	-.09	-.22	65.373
R-38	86 26	13.6172 lo	1.20	1.12	.51	-.09	-.21	65.567
R-39	86 26	2.5766 lo	1.20	1.12	.51	-.09	-.21	65.750
R-40	86 25	51.6562 lo	1.20	1.12	.51	-.09	-.21	65.932
R-41	86 25	38.6000 lo	1.20	1.12	.51	-.09	-.21	66.145
R-42	86 25	27.4491 lo	1.20	1.12	.51	-.09	-.21	66.334
R-43	86 25	16.5768 lo	1.20	1.12	.51	-.09	-.21	66.514
R-44	86 25	4.8083 lo	1.20	1.12	.51	-.09	-.21	66.710
R-45	86 24	53.2567 lo	1.20	1.12	.51	-.09	-.21	66.904
R-46	86 24	40.7088 lo	1.20	1.12	.51	-.09	-.21	67.113
R-47	86 24	29.7486 lo	1.20	1.12	.52	-.09	-.21	67.298
R-48	86 24	17.7675 lo	1.20	1.12	.52	-.09	-.21	67.496
R-49	86 24	6.9006 lo	1.20	1.12	.52	-.09	-.21	67.679
R-50	86 23	55.5185 lo	1.20	1.12	.52	-.09	-.21	67.870
Walton County								
R-01	86 23	50.3382 lo	1.20	1.12	.52	-.09	-.21	67.953
R-02	86 23	37.4987 lo	1.20	1.12	.52	-.09	-.21	68.580
R-03A	86 23	26.4488 lo	1.20	1.12	.52	-.09	-.21	68.986
R-04	86 23	3.1040 lo	1.20	1.12	.52	-.09	-.21	69.159
R-05	86 22	49.8013 lo	1.20	1.12	.52	-.09	-.21	69.378
R-06	86 22	39.4607 lo	1.20	1.12	.52	-.09	-.21	69.555
W-07	86 22	15.0118 lo	1.20	1.12	.52	-.09	-.21	69.962
R-08	86 22	4.4172 lo	1.20	1.12	.52	-.09	-.21	70.141
R-09	86 21	53.5549 lo	1.20	1.12	.52	-.08	-.21	70.328
R-10	86 21	41.6426 lo	1.20	1.12	.52	-.08	-.21	70.527
R-11	86 21	30.1852 lo	1.20	1.12	.52	-.08	-.21	70.718
R-12	86 21	18.5944 lo	1.20	1.12	.52	-.08	-.21	70.915
R-13	86 21	7.2406 lo	1.20	1.12	.52	-.08	-.21	71.106
R-14	86 20	56.1596 lo	1.20	1.12	.52	-.08	-.21	71.292
R-15	86 20	43.8976 lo	1.20	1.12	.52	-.08	-.21	71.500
R-16	86 20	30.6360 lo	1.20	1.12	.52	-.08	-.21	71.717
R-17	86 20	18.0538 lo	1.20	1.12	.52	-.08	-.21	71.931
R-18	86 20	7.6228 lo	1.20	1.12	.52	-.08	-.21	72.114
R-19	86 19	56.8618 lo	1.20	1.12	.52	-.08	-.21	72.293
R-20	86 19	46.0880 lo	1.20	1.12	.52	-.08	-.21	72.476
R-21	86 19	33.8579 lo	1.20	1.12	.52	-.08	-.21	72.682
R-22	86 19	21.8584 lo	1.20	1.12	.52	-.08	-.21	72.886
R-23	86 19	11.0380 lo	1.20	1.12	.52	-.08	-.21	73.069
R-24	86 18	59.7935 lo	1.20	1.12	.52	-.08	-.21	73.260
R-25	86 18	49.2668 lo	1.20	1.12	.52	-.08	-.21	73.429
R-26	86 18	35.6839 lo	1.20	1.12	.52	-.08	-.21	73.667
R-27	86 18	25.9767 lo	1.20	1.12	.52	-.08	-.21	73.834
R-28	86 18	13.8855 lo	1.20	1.12	.52	-.08	-.21	74.035
R-29	90 44	56.0008 lo	1.20	1.12	.52	-.08	-.21	74.252
R-30	86 17	51.6466 lo	1.20	1.12	.52	-.08	-.21	74.418
R-31	86 17	40.0884 lo	1.20	1.12	.52	-.08	-.21	74.617
R-32	86 17	28.9893 lo	1.20	1.12	.52	-.08	-.21	74.806
R-33	86 17	17.8857 lo	1.20	1.12	.52	-.08	-.21	74.997
R-34	86 17	6.3736 lo	1.20	1.12	.52	-.08	-.21	75.194
R-35	86 16	55.2890 lo	1.20	1.12	.52	-.08	-.21	75.384
R-36	86 16	43.8611 lo	1.20	1.12	.52	-.08	-.21	75.577

DNR Range Monu	Longitude = lo or Latitude = la		MHHW (feet NGVD)	MHW (feet NGVD)	MTL (feet NGVD)	MLW (feet NGVD)	MLLW (feet NGVD)	Distance (mi)
Walton County								
R-37	86 16	33.0682 lo	1.20	1.12	.52	-.08	-.21	75.765
R-38	86 16	21.5132 lo	1.20	1.12	.52	-.08	-.21	75.964
R-39	86 16	10.4180 lo	1.20	1.12	.52	-.08	-.21	76.156
R-40	86 15	58.9810 lo	1.20	1.12	.52	-.07	-.21	76.352
R-41	86 15	47.1697 lo	1.20	1.12	.52	-.07	-.21	76.553
R-42	86 15	36.1911 lo	1.20	1.12	.52	-.07	-.21	76.744
R-43	86 15	25.0568 lo	1.20	1.12	.52	-.07	-.21	76.939
R-44	86 15	13.8424 lo	1.20	1.12	.52	-.07	-.21	77.133
W-45	86 15	2.1992 lo	1.20	1.12	.52	-.07	-.21	77.323
R-46	86 14	48.7365 lo	1.20	1.12	.52	-.07	-.21	77.556
R-47	86 14	36.9856 lo	1.20	1.12	.52	-.07	-.21	77.772
R-48	86 14	24.7832 lo	1.20	1.12	.52	-.07	-.21	77.984
R-49	86 14	13.2804 lo	1.20	1.12	.52	-.07	-.21	78.186
R-50	86 14	1.2516 lo	1.20	1.12	.52	-.07	-.21	78.395
R-51	86 13	50.4778 lo	1.20	1.12	.52	-.07	-.21	78.586
R-52	86 13	38.9877 lo	1.20	1.12	.52	-.07	-.21	78.785
R-53	86 13	28.6221 lo	1.20	1.12	.52	-.07	-.21	78.967
R-54	86 13	17.4869 lo	1.20	1.12	.52	-.07	-.21	79.162
R-55	86 12	59.2288 lo	1.20	1.12	.52	-.07	-.21	79.478
R-56	86 12	54.9366 lo	1.20	1.12	.52	-.07	-.21	79.562
R-57	86 12	43.9238 lo	1.20	1.12	.52	-.07	-.21	79.753
R-58	86 12	32.6655 lo	1.20	1.12	.52	-.07	-.21	79.950
R-59	86 12	20.8074 lo	1.20	1.12	.52	-.07	-.21	80.149
R-60	86 12	10.1228 lo	1.20	1.12	.52	-.07	-.21	80.343
R-61	86 11	58.9029 lo	1.20	1.12	.52	-.07	-.20	80.538
R-62	86 11	47.6262 lo	1.20	1.12	.52	-.07	-.20	80.734
R-63	86 11	37.2590 lo	1.20	1.12	.52	-.07	-.20	80.913
R-64	90 44	56.0008 lo	1.20	1.12	.52	-.07	-.20	81.053
R-65	90 44	56.0008 lo	1.20	1.12	.52	-.07	-.20	81.326
R-66	86 11	1.8406 lo	1.20	1.12	.52	-.07	-.20	81.530
R-67	86 10	50.6549 lo	1.20	1.12	.52	-.07	-.20	81.729
R-68	86 10	38.2138 lo	1.20	1.12	.52	-.07	-.20	81.936
R-69	86 10	26.3631 lo	1.20	1.12	.52	-.07	-.20	82.141
R-70	86 10	16.4377 lo	1.20	1.12	.52	-.07	-.20	82.308
R-71	86 10	5.8376 lo	1.20	1.11	.52	-.07	-.20	82.509
W-72	86 9	54.5868 lo	1.20	1.11	.52	-.07	-.20	82.684
R-73	90 44	56.0008 lo	1.20	1.11	.52	-.07	-.20	82.904
R-74	86 9	33.1384 lo	1.20	1.11	.52	-.07	-.20	83.090
R-75	86 9	22.3752 lo	1.20	1.11	.52	-.07	-.20	83.281
R-76	86 9	10.8927 lo	1.20	1.11	.52	-.07	-.20	83.479
R-77	86 9	0.2819 lo	1.20	1.11	.52	-.07	-.20	83.669
R-78	86 8	49.5360 lo	1.20	1.11	.52	-.07	-.20	83.857
R-79	86 8	38.6089 lo	1.20	1.11	.52	-.07	-.20	84.049
R-80	86 8	27.5771 lo	1.20	1.11	.52	-.07	-.20	84.242
R-81	86 8	16.3939 lo	1.20	1.11	.52	-.07	-.20	84.439
W-82	86 8	5.3284 lo	1.20	1.11	.52	-.07	-.20	84.629
R-83	86 7	54.5938 lo	1.20	1.11	.52	-.07	-.20	84.820
R-84	86 7	42.6270 lo	1.20	1.11	.52	-.07	-.20	85.033
R-85	86 7	32.5259 lo	1.20	1.11	.52	-.07	-.20	85.212
R-86	86 7	21.4186 lo	1.20	1.11	.52	-.07	-.20	85.408
R-87	86 7	10.4882 lo	1.20	1.11	.52	-.07	-.20	85.601

DNR Range Monu	Longitude = lo or Latitude = la		MHHW (feet NGVD)	MHW (feet NGVD)	MTL (feet NGVD)	MLW (feet NGVD)	MLLW (feet NGVD)	Distance (mi)
Walton County								
R-88	86	6 59.7310 lo	1.20	1.11	.52	-.07	-.20	85.791
R-89	86	6 48.7254 lo	1.20	1.11	.52	-.07	-.20	85.986
R-90	86	6 37.7805 lo	1.20	1.11	.52	-.07	-.20	86.178
R-91	86	6 26.8328 lo	1.20	1.11	.52	-.07	-.20	86.367
R-92	86	6 16.0829 lo	1.20	1.11	.52	-.07	-.20	86.556
R-93	86	6 5.4684 lo	1.20	1.11	.52	-.07	-.20	86.749
R-94	90	44 56.0008 lo	1.20	1.11	.52	-.07	-.20	86.949
R-95	90	44 56.0008 lo	1.20	1.11	.52	-.07	-.20	87.113
R-96	86	5 31.8083 lo	1.20	1.11	.52	-.07	-.20	87.338
R-97	86	5 21.9718 lo	1.20	1.11	.52	-.07	-.20	87.515
R-98	86	5 9.9752 lo	1.20	1.11	.52	-.07	-.20	87.716
W-99	86	4 58.3331 lo	1.20	1.11	.52	-.07	-.20	87.921
R-100	86	4 49.7415 lo	1.20	1.11	.52	-.07	-.20	88.092
W-101	86	4 38.0575 lo	1.20	1.11	.52	-.07	-.20	88.296
R-102	86	4 27.5619 lo	1.20	1.11	.52	-.07	-.20	88.488
R-103A	86	4 14.3387 lo	1.20	1.11	.52	-.07	-.20	88.869
R-104	86	3 55.1507 lo	1.20	1.11	.52	-.07	-.20	89.041
R-105	86	3 44.3597 lo	1.20	1.11	.52	-.07	-.20	89.270
R-106	86	3 33.5230 lo	1.20	1.11	.52	-.07	-.20	89.462
R-107	86	3 22.8574 lo	1.20	1.11	.52	-.07	-.20	89.658
W-108	86	3 11.5341 lo	1.20	1.11	.52	-.07	-.20	89.845
R-109	86	3 2.0427 lo	1.20	1.11	.52	-.07	-.20	90.029
R-110	86	2 50.6222 lo	1.20	1.11	.52	-.07	-.20	90.234
R-111	86	2 40.3488 lo	1.20	1.11	.52	-.07	-.20	90.422
R-112	86	2 29.3662 lo	1.20	1.11	.52	-.07	-.20	90.613
R-113	86	2 20.0670 lo	1.20	1.11	.52	-.07	-.20	90.779
R-114	86	2 8.0631 lo	1.20	1.11	.52	-.07	-.20	91.000
R-115	86	1 57.4715 lo	1.20	1.11	.52	-.07	-.19	91.192
R-116	86	1 46.4186 lo	1.20	1.11	.52	-.07	-.19	91.386
R-117	86	1 36.2280 lo	1.20	1.11	.52	-.07	-.19	91.575
R-118	86	1 25.3704 lo	1.20	1.11	.52	-.07	-.19	91.768
R-119	86	1 14.4189 lo	1.20	1.11	.52	-.07	-.19	91.967
R-120	86	1 4.0680 lo	1.20	1.11	.52	-.07	-.19	92.156
R-121	86	0 53.5219 lo	1.20	1.11	.52	-.07	-.19	92.345
R-122	86	0 44.6203 lo	1.20	1.11	.52	-.07	-.19	92.504
R-123	86	0 32.8173 lo	1.20	1.11	.52	-.07	-.19	92.722
R-124	86	0 21.9174 lo	1.20	1.11	.52	-.07	-.19	92.906
R-125	86	0 11.4309 lo	1.20	1.11	.52	-.07	-.19	93.108
W-126	85	59 59.9313 lo	1.20	1.11	.52	-.07	-.19	93.302
R-127	85	59 49.4337 lo	1.20	1.11	.52	-.07	-.19	93.496
Bay County								
Phillips Inlet								
R-01	85	59 15.6152 lo	1.20	1.11	.52	-.07	-.19	93.689
R-02-T	85	59 7.4624 lo	1.20	1.11	.52	-.07	-.19	93.868
R-03-T	85	58 57.1568 lo	1.20	1.11	.52	-.07	-.19	94.055
R-04-T	85	58 46.5207 lo	1.20	1.11	.52	-.07	-.19	94.247
R-05-T	85	58 35.9080 lo	1.20	1.11	.52	-.07	-.19	94.438
R-06	85	58 27.0682 lo	1.20	1.11	.52	-.07	-.19	94.603
R-07-T	85	58 16.0737 lo	1.20	1.11	.52	-.07	-.19	94.807
R-08-T	85	58 5.4711 lo	1.20	1.11	.52	-.07	-.19	95.002
R-09-9	85	57 55.7203 lo	1.20	1.11	.52	-.07	-.19	95.184
R-10	85	57 43.9133 lo	1.20	1.11	.52	-.07	-.19	95.397

DNR Range Monu	Longitude = lo or Latitude = la	MHHW (feet NGVD)	MHW (feet NGVD)	MTL (feet NGVD)	MLW (feet NGVD)	MLLW (feet NGVD)	Distance (mi)
Bay County							
R-11	85 57 35.0657	lo	1.20	1.11	.52	-.07	95.559
R-12	85 57 25.0062	lo	1.20	1.11	.52	-.07	95.746
R-13-T	85 57 14.2801	lo	1.20	1.11	.52	-.07	95.935
R-14	85 57 4.3100	lo	1.20	1.11	.52	-.07	96.126
R-15	85 56 54.3224	lo	1.20	1.11	.52	-.07	96.315
R-16	85 56 43.9586	lo	1.20	1.11	.52	-.07	96.506
R-17-T	85 56 33.8426	lo	1.20	1.11	.52	-.07	96.691
R-18	85 56 22.7597	lo	1.20	1.11	.52	-.07	96.901
R-19	85 56 13.6543	lo	1.20	1.11	.52	-.07	97.073
T-20	85 56 3.7645	lo	1.20	1.11	.52	-.07	97.264
R-21-T	85 55 54.3051	lo	1.20	1.11	.52	-.07	97.431
R-22	85 55 42.7181	lo	1.20	1.11	.52	-.07	97.651
R-23	85 55 32.6112	lo	1.20	1.11	.52	-.07	97.841
R-24	85 55 21.9465	lo	1.20	1.11	.52	-.07	98.041
R-25	85 55 13.3281	lo	1.20	1.11	.52	-.07	98.208
R-26-T	85 55 2.9080	lo	1.20	1.11	.52	-.07	98.397
R-27	85 54 53.7888	lo	1.20	1.11	.52	-.07	98.574
R-28-T	85 54 43.5960	lo	1.20	1.11	.52	-.07	98.778
R-29	85 54 33.4344	lo	1.20	1.11	.52	-.07	98.965
R-30-A	85 54 24.0189	lo	1.20	1.11	.52	-.07	99.146
R-31-T	85 54 14.3501	lo	1.20	1.11	.52	-.07	99.328
R-32-T	85 54 4.4426	lo	1.19	1.11	.52	-.07	99.518
R-33-T	85 53 53.2883	lo	1.19	1.11	.52	-.07	99.721
R-34-T	85 53 38.7658	lo	1.19	1.11	.52	-.07	100.007
R-35	85 53 27.9769	lo	1.19	1.11	.52	-.07	100.212
R-36	85 53 17.7229	lo	1.19	1.11	.52	-.07	100.410
R-37-T	85 53 9.7901	lo	1.19	1.11	.52	-.08	100.567
R-38-T	85 52 59.5754	lo	1.19	1.11	.52	-.08	100.773
R-39	85 52 49.5881	lo	1.19	1.11	.52	-.08	100.957
R-40-T	85 52 38.7149	lo	1.19	1.11	.52	-.08	101.155
R-41-T	85 52 29.8055	lo	1.19	1.11	.52	-.08	101.340
R-42	85 52 21.9208	lo	1.19	1.11	.52	-.08	101.495
R-43	85 52 10.6892	lo	1.19	1.11	.51	-.08	101.727
R-44	85 52 2.7621	lo	1.19	1.11	.51	-.08	101.867
R-45-T	85 51 50.2869	lo	1.19	1.11	.51	-.08	102.095
R-46	85 51 41.2023	lo	1.19	1.11	.51	-.08	102.291
R-47-T	85 51 32.9707	lo	1.19	1.11	.51	-.08	102.452
R-48	85 51 19.6242	lo	1.19	1.11	.51	-.08	102.683
R-49	85 51 12.0611	lo	1.19	1.11	.51	-.08	102.864
R-50-T	85 51 2.6717	lo	1.19	1.11	.51	-.08	103.039
R-51-T	85 50 52.7846	lo	1.19	1.11	.51	-.08	103.234
R-52-T	85 50 43.7739	lo	1.19	1.11	.51	-.08	103.431
R-53-T	85 50 33.5508	lo	1.19	1.11	.51	-.08	103.617
R-54	85 50 23.9598	lo	1.19	1.11	.51	-.08	103.806
R-55-T	85 50 11.7024	lo	1.19	1.11	.51	-.08	104.065
R-56-T	85 49 58.7910	lo	1.19	1.10	.51	-.08	104.310
R-57-T	85 49 54.5889	lo	1.19	1.10	.51	-.08	104.388
R-58	85 49 46.3726	lo	1.19	1.10	.51	-.08	104.572
R-59	85 49 36.7790	lo	1.19	1.10	.51	-.08	104.777
R-60-T	85 49 25.4991	lo	1.19	1.10	.51	-.08	104.973
R-61-T	85 49 16.2832	lo	1.19	1.10	.51	-.08	105.155

DNR Range Monu	Longitude = lo or Latitude = la	MHHW (feet NGVD)	MHW (feet NGVD)	MTL (feet NGVD)	MLW (feet NGVD)	MLLW (feet NGVD)	Distance (mi)
Bay County							
R-62-T	85 49 7.3212	lo	1.19	1.10	.51	-.08	105.324
R-63-T	85 48 58.5935	lo	1.19	1.10	.51	-.09	105.499
R-64-T	85 48 50.3518	lo	1.19	1.10	.51	-.09	105.690
R-65-T	85 48 40.2973	lo	1.19	1.10	.51	-.09	105.892
R-66	85 48 29.7864	lo	1.19	1.10	.51	-.09	106.078
R-67	85 48 20.2871	lo	1.19	1.10	.51	-.09	106.291
R-68	85 48 11.8644	lo	1.19	1.10	.51	-.09	106.460
R-69	85 48 1.8190	lo	1.19	1.10	.51	-.09	106.647
R-70-T	85 47 53.2491	lo	1.19	1.10	.51	-.09	106.833
R-71-T	85 47 44.4566	lo	1.19	1.10	.51	-.09	107.008
R-72-T	85 47 34.3770	lo	1.19	1.10	.51	-.09	107.211
R-73	85 47 25.1406	lo	1.19	1.10	.51	-.09	107.403
R-74-T	85 47 16.3694	lo	1.19	1.10	.51	-.09	107.564
R-75	85 47 6.5852	lo	1.19	1.10	.51	-.09	107.779
R-76-T	85 46 58.0513	lo	1.19	1.10	.51	-.09	107.966
R-77-T	85 46 48.5662	lo	1.19	1.10	.50	-.09	108.144
R-78-T	85 46 40.2992	lo	1.19	1.10	.50	-.09	108.312
R-79-T	85 46 30.1495	lo	1.19	1.10	.50	-.09	108.523
R-80-T	85 46 21.3148	lo	1.19	1.10	.50	-.09	108.712
R-81	85 46 12.1014	lo	1.19	1.10	.50	-.09	108.894
R-82-T	85 46 3.0261	lo	1.18	1.10	.50	-.09	109.100
R-83-T	85 45 55.4075	lo	1.18	1.10	.50	-.10	109.278
R-84	85 45 47.0386	lo	1.18	1.10	.50	-.10	109.461
R-85-T	85 45 35.3289	lo	1.18	1.10	.50	-.10	109.672
R-86	85 45 30.8434	lo	1.18	1.10	.50	-.10	109.840
R-87	85 45 20.9005	lo	1.18	1.10	.50	-.10	110.039
R-88-T	85 45 13.3982	lo	1.18	1.10	.50	-.10	110.217
R-89	85 45 5.6224	lo	1.18	1.10	.50	-.10	110.404
R-90-T	85 44 55.5994	lo	1.18	1.10	.50	-.10	110.624
R-91	85 44 48.7713	lo	1.18	1.10	.50	-.10	110.780
R-92-T	85 44 39.7656	lo	1.18	1.10	.50	-.10	110.968
R-93-A	85 44 32.7765	lo	1.18	1.10	.50	-.10	111.150
R-94	85 44 24.8342	lo	1.18	1.10	.50	-.10	111.358
R-95-T	85 44 16.4459	lo	1.18	1.10	.50	-.10	111.544
R-96-T	85 44 7.2539	lo	1.18	1.10	.50	-.10	111.715
R-97	85 44 0.7569	lo	1.18	1.10	.50	-.10	111.907
Panama City Shipping Channel (St. Andrews Inlet)							
R-98-A	85 43 43.7559	lo	1.18	1.10	.50	-.11	112.361
R-99	85 43 34.9655	lo	1.18	1.10	.50	-.11	112.569
R-100	85 43 26.2316	lo	1.18	1.10	.50	-.11	112.753
R-101-	85 43 16.1993	lo	1.18	1.10	.49	-.11	112.946
R-102-	85 43 6.8755	lo	1.18	1.10	.49	-.11	113.149
R-103-	85 42 57.2894	lo	1.18	1.10	.49	-.11	113.361
R-104-	85 42 50.4958	lo	1.18	1.10	.49	-.11	113.509
R-105	85 42 41.2902	lo	1.18	1.09	.49	-.11	113.702
R-106-	85 42 30.4589	lo	1.18	1.09	.49	-.11	113.913
R-107-	85 42 22.9474	lo	1.18	1.09	.49	-.11	114.069
R-108-	85 42 12.9189	lo	1.18	1.09	.49	-.11	114.271
R-109-	85 42 2.6046	lo	1.18	1.09	.49	-.11	114.473
R-110	85 41 54.2370	lo	1.18	1.09	.49	-.11	114.637

DNR Range Monu	Longitude = lo or Latitude = la		MHHW (feet NGVD)	MHW (feet NGVD)	MTL (feet NGVD)	MLW (feet NGVD)	MLLW (feet NGVD)	Distance (mi)
Bay County								
R-111	85	41 45.3186	lo	1.17	1.09	.49	-.11	-.19 114.823
R-112	85	41 34.8756	lo	1.17	1.09	.49	-.11	-.19 115.016
R-113	85	41 24.9201	lo	1.17	1.09	.49	-.12	-.19 115.204
R-114	85	41 15.2016	lo	1.17	1.09	.49	-.12	-.19 115.392
R-115	85	41 5.5782	lo	1.17	1.09	.49	-.12	-.19 115.574
R-116	85	40 55.3778	lo	1.17	1.09	.49	-.12	-.19 115.758
R-117	85	40 46.2641	lo	1.17	1.09	.49	-.12	-.19 115.938
R-118	85	40 36.1156	lo	1.17	1.09	.49	-.12	-.19 116.130
R-119	85	40 27.1534	lo	1.17	1.09	.49	-.12	-.19 116.297
R-120	85	40 16.8500	lo	1.17	1.09	.49	-.12	-.19 116.481
R-121	85	40 6.7502	lo	1.17	1.09	.49	-.12	-.19 116.671
St. Andrews Bay East Entrance								
Eloise Inlet								
R-122	85	26 51.7918	lo	1.12	1.06	.43	-.20	-.22 133.079
R-123	85	26 40.8091	lo	1.12	1.06	.43	-.20	-.22 133.277
R-124	85	26 29.8243	lo	1.12	1.06	.43	-.20	-.22 133.475
R-125	85	26 19.6925	lo	1.12	1.06	.43	-.20	-.22 133.660
R-126	85	26 8.4430	lo	1.12	1.05	.43	-.20	-.22 133.852
R-127A	85	25 57.8351	lo	1.12	1.05	.42	-.21	-.22 134.162
Mexico Beach Inlet								
R-128	85	25 40.8778	lo	1.12	1.05	.42	-.21	-.22 134.304
R-129	85	25 29.7491	lo	1.12	1.05	.42	-.21	-.22 134.541
R-130	85	25 18.6155	lo	1.12	1.05	.42	-.21	-.22 134.741
R-131	85	25 7.6781	lo	1.11	1.05	.42	-.21	-.22 134.945
R-132	85	24 59.1805	lo	1.11	1.05	.42	-.21	-.22 135.121
R-133	85	24 48.4239	lo	1.11	1.05	.42	-.21	-.22 135.245
R-134	85	24 39.5789	lo	1.11	1.05	.42	-.21	-.22 135.405
R-135	85	24 29.3430	lo	1.11	1.05	.42	-.21	-.22 135.593
R-136	85	24 19.8028	lo	1.11	1.05	.42	-.21	-.22 135.721
R-137	85	24 11.0577	lo	1.11	1.05	.42	-.22	-.22 135.895
R-138	85	24 2.1999	lo	1.11	1.05	.42	-.22	-.23 136.046
R-139	85	23 54.8579	lo	1.11	1.05	.42	-.22	-.23 136.216
R-140	85	23 46.5282	lo	1.11	1.05	.42	-.22	-.23 136.380
R-141	85	23 38.3381	lo	1.11	1.05	.41	-.22	-.23 136.543
R-142	85	23 30.3383	lo	1.11	1.05	.41	-.22	-.23 136.709
R-143	85	23 23.0079	lo	1.11	1.05	.41	-.22	-.23 136.866
R-144	85	23 19.2351	lo	1.11	1.05	.41	-.22	-.23 136.948
Gulf County								
R-001	29	55 22.6732	la	1.10	1.04	.41	-.22	-.23 137.492
R-002	29	55 14.6763	la	1.10	1.04	.41	-.23	-.23 137.687
R-003	29	55 7.2850	la	1.10	1.04	.41	-.23	-.23 137.880
R-004	29	54 59.4740	la	1.10	1.04	.41	-.23	-.23 138.073
R-005	29	54 51.9410	la	1.10	1.04	.41	-.23	-.23 138.263
R-006	29	54 44.5265	la	1.10	1.04	.41	-.23	-.23 138.450
R-007	29	54 36.3716	la	1.10	1.04	.41	-.23	-.24 138.655
R-008	29	54 29.6214	la	1.10	1.04	.40	-.23	-.24 138.836
R-009	29	54 21.4524	la	1.10	1.04	.40	-.23	-.24 139.021
R-010	29	54 13.7189	la	1.10	1.04	.40	-.23	-.24 139.211
R-011	29	54 5.9916	la	1.10	1.04	.40	-.24	-.24 139.395
R-012	29	53 58.0654	la	1.09	1.04	.40	-.24	-.24 139.585
R-013	29	53 50.0286	la	1.09	1.04	.40	-.24	-.24 139.775

DNR Range Monu	Longitude = lo or Latitude = la		MHHW (feet NGVD)	MHW (feet NGVD)	MTL (feet NGVD)	MLW (feet NGVD)	MLLW (feet NGVD)	Distance (mi)
Gulf County								
R-014	29 53	41.7931	la	1.09	1.04	.40	-.24	-.24 139.963
R-015	29 53	33.2839	la	1.09	1.04	.40	-.24	-.24 140.146
R-016	29 53	24.5813	la	1.09	1.04	.40	-.24	-.24 140.339
R-017	29 53	16.0594	la	1.09	1.03	.40	-.24	-.24 140.527
R-018	29 53	7.2506	la	1.09	1.03	.40	-.24	-.24 140.719
R-019	29 52	58.0719	la	1.09	1.03	.40	-.24	-.24 140.914
R-020	29 52	49.8821	la	1.09	1.03	.39	-.25	-.25 141.091
R-021	29 52	40.2599	la	1.09	1.03	.39	-.25	-.25 141.286
R-022	29 52	31.3849	la	1.09	1.03	.39	-.25	-.25 141.472
R-023	29 52	22.3706	la	1.09	1.03	.39	-.25	-.25 141.661
R-024	29 52	13.2107	la	1.08	1.03	.39	-.25	-.25 141.849
R-025	29 52	3.9517	la	1.08	1.03	.39	-.25	-.25 142.037
R-026	29 51	54.5278	la	1.08	1.03	.39	-.25	-.25 142.225
R-027	29 51	45.1544	la	1.08	1.03	.39	-.25	-.25 142.412
R-028	29 51	35.6081	la	1.08	1.03	.39	-.25	-.25 142.601
R-029	29 51	26.4199	la	1.08	1.03	.39	-.26	-.25 142.792
R-030	29 51	17.4129	la	1.08	1.03	.39	-.26	-.25 142.982
R-031	29 51	8.5166	la	1.08	1.03	.39	-.26	-.26 143.177
St. Joseph Point Channel (Port St. Joe Channel)								
R-032	29 52	23.1201	la	1.06	1.01	.37	-.28	-.28 147.226
R-033	29 52	15.1055	la	1.06	1.01	.37	-.28	-.28 147.527
R-034	29 52	9.5457	la	1.06	1.01	.36	-.28	-.28 147.699
R-035	29 51	59.8681	la	1.06	1.01	.36	-.28	-.28 147.917
R-036	29 51	57.7889	la	1.05	1.01	.36	-.29	-.28 148.109
R-037	29 51	50.4118	la	1.05	1.01	.36	-.29	-.28 148.336
R-038	29 51	41.9018	la	1.05	1.01	.36	-.29	-.28 148.539
R-039	29 51	33.1680	la	1.05	1.01	.36	-.29	-.28 148.737
R-040	29 51	25.0291	la	1.05	1.01	.36	-.29	-.29 148.940
R-041	29 51	14.8533	la	1.05	1.01	.36	-.29	-.29 149.146
R-042A	29 51	3.7568	la	1.05	1.01	.36	-.29	-.29 149.351
R-043	29 50	54.3485	la	1.05	1.00	.36	-.29	-.29 149.537
R-044	29 50	44.6154	la	1.05	1.00	.36	-.29	-.29 149.741
R-045A	29 50	34.8054	la	1.05	1.00	.35	-.30	-.29 149.931
R-046	29 50	24.6094	la	1.04	1.00	.35	-.30	-.29 150.119
R-047	29 50	14.2188	la	1.04	1.00	.35	-.30	-.29 150.326
R-048	29 50	3.7528	la	1.04	1.00	.35	-.30	-.30 150.524
R-049	29 49	54.4423	la	1.04	1.00	.35	-.30	-.30 150.720
R-050	29 49	44.2925	la	1.04	1.00	.35	-.30	-.30 150.914
R-051A	29 49	34.0929	la	1.04	1.00	.35	-.30	-.30 151.109
R-052	29 49	23.9430	la	1.04	1.00	.35	-.30	-.30 151.304
R-053	29 49	13.9914	la	1.04	1.00	.35	-.30	-.30 151.505
R-054A	29 49	4.1200	la	1.04	1.00	.35	-.31	-.30 151.692
R-055	29 48	53.8268	la	1.04	1.00	.35	-.31	-.30 151.892
R-056	29 48	43.9371	la	1.03	1.00	.35	-.31	-.31 152.079
R-057A	29 48	33.6966	la	1.03	1.00	.34	-.31	-.31 152.275
R-058	29 48	23.3554	la	1.03	.99	.34	-.31	-.31 152.479
R-059	29 48	13.7556	la	1.03	.99	.34	-.31	-.31 152.666
R-060	29 48	3.4823	la	1.03	.99	.34	-.31	-.31 152.862
R-061	29 47	53.7779	la	1.03	.99	.34	-.31	-.31 153.059
R-062	29 47	43.7692	la	1.03	.99	.34	-.31	-.31 153.247

DNR Range Monu	Longitude = lo or Latitude = la	MHHW (feet NGVD)	MHW (feet NGVD)	MTL (feet NGVD)	MLW (feet NGVD)	MLLW (feet NGVD)	Distance (mi)
Gulf County							
R-063	29 47 33.0205 la	1.03	.99	.34	-.32	-.31	153.450
R-064	29 47 23.5412 la	1.03	.99	.34	-.32	-.32	153.651
R-065	29 47 13.6292 la	1.03	.99	.34	-.32	-.32	153.845
R-066A	29 47 3.0052 la	1.02	.99	.34	-.32	-.32	154.050
R-067	29 46 52.2753 la	1.02	.99	.34	-.32	-.32	154.250
R-068	29 46 41.8610 la	1.02	.99	.33	-.32	-.32	154.450
R-069A	29 46 31.8887 la	1.02	.99	.33	-.32	-.32	154.653
R-070	29 46 21.6257 la	1.02	.99	.33	-.32	-.32	154.860
R-071	29 46 11.2151 la	1.02	.98	.33	-.32	-.33	155.059
R-072A	29 46 1.0526 la	1.02	.98	.33	-.32	-.33	155.262
R-073	29 45 50.3687 la	1.02	.98	.33	-.33	-.33	155.465
R-074	29 45 41.2942 la	1.02	.98	.33	-.33	-.33	155.662
R-075	29 45 30.1835 la	1.01	.98	.33	-.33	-.33	155.863
R-076A	29 45 20.4757 la	1.01	.98	.33	-.33	-.33	156.063
R-077	29 45 10.3574 la	1.01	.98	.33	-.33	-.33	156.262
R-078A	29 45 0.7205 la	1.01	.98	.33	-.33	-.34	156.463
R-079A	29 44 50.1946 la	1.01	.98	.32	-.33	-.34	156.661
R-080	29 44 40.2940 la	1.01	.98	.32	-.33	-.34	156.856
R-081A	29 44 30.5608 la	1.01	.98	.32	-.33	-.34	157.057
R-082	29 44 20.4925 la	1.01	.98	.32	-.34	-.34	157.252
R-083	29 44 12.8903 la	1.01	.98	.32	-.34	-.34	157.407
R-084A	29 44 2.4367 la	1.01	.98	.32	-.34	-.35	157.633
R-085A	29 43 53.1321 la	1.00	.97	.32	-.34	-.35	157.822
R-086	29 43 42.5710 la	1.00	.97	.32	-.34	-.35	158.022
R-087A	29 43 33.9850 la	1.00	.97	.32	-.34	-.35	158.211
R-088	29 43 23.8744 la	1.00	.97	.32	-.34	-.35	158.407
R-089A	29 43 14.6628 la	1.00	.97	.32	-.34	-.35	158.602
R-090A	29 43 4.8705 la	1.00	.97	.32	-.34	-.35	158.798
R-091	29 42 55.1758 la	1.00	.97	.31	-.34	-.36	158.990
R-092	29 42 45.4607 la	1.00	.97	.31	-.34	-.36	159.187
R-093	29 42 36.1940 la	1.00	.97	.31	-.35	-.36	159.374
R-094A	29 42 27.2441 la	1.00	.97	.31	-.35	-.36	159.571
R-095A	29 42 17.5073 la	.99	.97	.31	-.35	-.36	159.771
R-096A	29 42 7.6500 la	.99	.97	.31	-.35	-.36	159.967
R-097A	29 41 58.8033 la	.99	.97	.31	-.35	-.37	160.155
R-098	29 41 49.8385 la	.99	.97	.31	-.35	-.37	160.341
R-099A	29 41 41.4908 la	.99	.97	.31	-.35	-.37	160.544
R-100A	29 41 31.9852 la	.99	.96	.31	-.35	-.37	160.730
R-101A	29 41 23.1215 la	.99	.96	.31	-.35	-.37	160.922
R-102A	29 41 14.6641 la	.99	.96	.31	-.35	-.37	161.108
R-103A	29 41 6.5429 la	.99	.96	.31	-.36	-.37	161.300
R-104A	29 40 58.3015 la	.99	.96	.30	-.36	-.38	161.499
R-105A	29 40 48.5763 la	.98	.96	.30	-.36	-.38	161.693
R-106A	29 40 40.4135 la	.98	.96	.30	-.36	-.38	161.887
R-107A	29 40 31.4142 la	.98	.96	.30	-.36	-.38	162.084
R-108A	29 40 23.3481 la	.98	.96	.30	-.36	-.38	162.271
R-109A	29 40 15.4397 la	.98	.96	.30	-.36	-.38	162.467
R-110A	29 40 7.4206 la	.98	.96	.30	-.36	-.39	162.678
R-111A	29 39 58.9841 la	.98	.96	.30	-.36	-.39	162.872
R-112A	29 39 51.0149 la	.98	.96	.30	-.36	-.39	163.064
R-113A	29 39 43.3124 la	.98	.96	.30	-.36	-.39	163.269

DNR Range Monu	Longitude = lo or Latitude = la	MHHW (feet NGVD)	MHW (feet NGVD)	MTL (feet NGVD)	MLW (feet NGVD)	MLLW (feet NGVD)	Distance (mi)
Gulf County							
R-114A	29 39 35.3389 la	.98	.95	.30	-.36	-.39	163.443
R-115A	29 39 32.2720 la	.98	.95	.30	-.37	-.39	163.650
R-116	29 39 23.2813 la	.97	.95	.30	-.37	-.40	163.804
R-117A	85 20 54.9426 lo	.97	.95	.29	-.37	-.40	163.958
R-118	90 44 56.0008 lo	.97	.95	.29	-.37	-.40	164.112
R-119	85 20 57.5320 lo	.97	.95	.29	-.37	-.40	164.267
R-120	85 20 51.6316 lo	.97	.95	.29	-.37	-.40	164.421
R-121	85 20 46.0230 lo	.97	.95	.29	-.37	-.40	164.631
R-122	85 20 37.7525 lo	.97	.95	.29	-.37	-.41	164.800
R-123	85 20 26.9942 lo	.97	.95	.29	-.37	-.41	164.978
R-124	85 20 16.1357 lo	.97	.95	.29	-.37	-.41	165.175
R-125	85 20 5.9460 lo	.97	.95	.29	-.37	-.41	165.363
R-126	85 19 54.9502 lo	.97	.95	.29	-.37	-.41	165.551
R-127	85 19 43.1343 lo	.97	.95	.29	-.37	-.41	165.760
R-128	85 19 33.0585 lo	.96	.95	.29	-.38	-.42	165.936
R-129	85 19 22.0766 lo	.96	.95	.29	-.38	-.42	166.125
R-130	85 19 10.4333 lo	.96	.95	.29	-.38	-.42	166.326
R-131	85 18 58.5756 lo	.96	.94	.28	-.38	-.42	166.527
R-132	85 18 47.2749 lo	.96	.94	.28	-.38	-.42	166.718
R-133	85 18 35.2633 lo	.96	.94	.28	-.38	-.42	166.920
R-134	85 18 23.9764 lo	.96	.94	.28	-.38	-.43	167.110
R-135	85 18 12.6643 lo	.96	.94	.28	-.38	-.43	167.301
R-136	85 18 1.4320 lo	.96	.94	.28	-.38	-.43	167.488
R-137	85 17 49.4916 lo	.96	.94	.28	-.38	-.43	167.686
R-138	85 17 38.3175 lo	.96	.94	.28	-.38	-.43	167.872
R-139	85 17 26.7775 lo	.95	.94	.28	-.38	-.44	168.065
R-140	85 17 15.8870 lo	.95	.94	.28	-.38	-.44	168.247
R-141	85 17 4.0169 lo	.95	.94	.28	-.39	-.44	168.445
R-142	85 16 51.9875 lo	.95	.94	.28	-.39	-.44	168.646
R-143	85 16 41.2385 lo	.95	.94	.28	-.39	-.44	168.822
R-144	85 16 28.7435 lo	.95	.94	.28	-.39	-.45	169.029
R-145	85 16 17.6547 lo	.95	.94	.28	-.39	-.45	169.217
R-146	85 16 5.9762 lo	.95	.94	.28	-.39	-.45	169.415
R-147	85 15 55.7526 lo	.95	.93	.27	-.39	-.45	169.587
R-148	85 15 43.9404 lo	.95	.93	.27	-.39	-.45	169.788
R-149	85 15 32.0904 lo	.95	.93	.27	-.39	-.45	169.982
R-150	85 15 21.2730 lo	.95	.93	.27	-.39	-.46	170.169
R-151	85 15 9.7794 lo	.94	.93	.27	-.39	-.46	170.372
R-152	85 14 58.0237 lo	.94	.93	.27	-.39	-.46	170.572
R-153	85 14 46.9566 lo	.94	.93	.27	-.39	-.46	170.763
R-154	85 14 35.6458 lo	.94	.93	.27	-.39	-.46	170.963
R-155	85 14 24.0342 lo	.94	.93	.27	-.40	-.47	171.186
R-156	85 14 14.0050 lo	.94	.93	.27	-.40	-.47	171.356
R-157A	85 14 2.2106 lo	.94	.93	.27	-.40	-.47	171.552
R-158	85 13 52.4459 lo	.94	.93	.27	-.40	-.48	172.025
R-159	85 13 41.9419 lo	.94	.93	.27	-.40	-.48	172.212
R-160	85 13 31.6506 lo	.94	.93	.27	-.40	-.48	172.408
R-161	85 13 24.5856 lo	.94	.93	.27	-.40	-.48	172.561
R-162	85 13 17.1983 lo	.94	.93	.26	-.40	-.48	172.741

Indian Pass

DNR Range Monu	Longitude = lo or Latitude = la		MHHW (feet NGVD)	MHW (feet NGVD)	MTL (feet NGVD)	MLW (feet NGVD)	MLLW (feet NGVD)	Distance (mi)
Franklin County								
West Pass								
R-001	85	5 45.9491 lo	.91	.91	.25	-.42	-.58	181.647
R-002	85	5 40.2407 lo	.91	.91	.25	-.42	-.58	181.943
R-003	85	5 30.4473 lo	.91	.91	.25	-.42	-.59	182.161
R-004	85	5 21.7001 lo	.91	.91	.25	-.42	-.59	182.335
R-005	85	5 10.9603 lo	.91	.91	.25	-.42	-.59	182.540
R-006	85	5 1.4489 lo	.91	.91	.24	-.42	-.59	182.721
R-007	85	4 51.3999 lo	.91	.91	.24	-.42	-.60	182.909
R-008	85	4 41.1626 lo	.91	.91	.24	-.42	-.60	183.105
R-009	85	4 33.8054 lo	.91	.91	.24	-.42	-.60	183.281
R-010	85	4 24.4527 lo	.91	.91	.24	-.42	-.60	183.478
R-011	85	4 14.8637 lo	.91	.91	.24	-.42	-.60	183.683
R-012	85	4 5.5607 lo	.91	.91	.24	-.42	-.61	183.870
R-013	85	3 57.2240 lo	.91	.91	.24	-.42	-.61	184.028
R-014T	85	3 48.4802 lo	.91	.91	.24	-.42	-.61	184.233
R-015	85	3 40.5569 lo	.91	.91	.24	-.42	-.61	184.420
R-016	85	3 34.8884 lo	.91	.91	.24	-.42	-.62	184.612
R-017	85	3 27.9144 lo	.91	.91	.24	-.43	-.62	184.797
R-018	85	3 20.6733 lo	.91	.90	.24	-.43	-.62	184.987
R-019T	85	3 12.8672 lo	.91	.90	.24	-.43	-.62	185.181
R-020T	85	3 4.5285 lo	.91	.90	.24	-.43	-.62	185.398
R-021T	85	2 56.4335 lo	.91	.90	.24	-.43	-.63	185.674
R-022	85	2 52.0041 lo	.91	.90	.24	-.43	-.63	185.751
R-023	85	2 40.9612 lo	.91	.90	.24	-.43	-.63	185.937
R-024	85	2 29.8394 lo	.91	.90	.24	-.43	-.63	186.127
R-025	85	2 19.1117 lo	.91	.90	.24	-.43	-.64	186.312
R-026	85	2 7.7153 lo	.91	.90	.24	-.43	-.64	186.518
R-027	85	1 56.7504 lo	.91	.90	.24	-.43	-.64	186.710
R-028	85	1 45.6294 lo	.91	.90	.24	-.43	-.64	186.907
R-029	85	1 35.1043 lo	.91	.90	.24	-.43	-.64	187.096
R-030	85	1 24.0886 lo	.91	.90	.24	-.43	-.65	187.291
R-031	85	1 13.0921 lo	.91	.90	.24	-.43	-.65	187.484
R-032	85	1 2.4214 lo	.91	.90	.24	-.43	-.65	187.673
R-033T	85	0 51.9120 lo	.91	.91	.24	-.43	-.65	187.862
R-034	85	0 40.0049 lo	.91	.91	.24	-.43	-.66	188.064
R-035	85	0 29.0033 lo	.91	.91	.24	-.43	-.66	188.253
R-036	85	0 18.9676 lo	.91	.91	.24	-.43	-.66	188.438
R-037	85	0 7.2989 lo	.91	.91	.24	-.43	-.66	188.641
R-038T	84	59 57.8582 lo	.91	.91	.24	-.43	-.67	188.801
R-039	84	59 45.4064 lo	.91	.91	.24	-.43	-.67	189.019
R-040T	84	59 36.0762 lo	.91	.91	.24	-.43	-.67	189.202
R-041	84	59 25.5867 lo	.91	.91	.24	-.43	-.67	189.386
R-042	84	59 13.2882 lo	.91	.91	.24	-.43	-.67	189.594
R-043	84	59 2.6638 lo	.91	.91	.24	-.43	-.68	189.785
R-044	84	58 52.1023 lo	.91	.91	.24	-.43	-.68	189.976
R-045	84	58 40.5242 lo	.91	.91	.24	-.43	-.68	190.172
R-046	84	58 30.0376 lo	.91	.91	.24	-.43	-.68	190.364
R-047	84	58 19.3794 lo	.91	.91	.24	-.43	-.69	190.557
R-048	84	58 8.5164 lo	.91	.91	.24	-.43	-.69	190.753
R-049	84	57 57.9065 lo	.91	.91	.24	-.43	-.69	190.942

DNR Range Monu	Longitude = lo or Latitude = la		MHHW (feet NGVD)	MHW (feet NGVD)	MTL (feet NGVD)	MLW (feet NGVD)	MLLW (feet NGVD)	Distance (mi)
Franklin County								
R-050	84 57	47.0144 lo	.91	.91	.24	-.43	-.69	191.137
R-051	84 57	40.4461 lo	.91	.91	.24	-.43	-.70	191.286
Bob Sikes Cut								
R-052T	84 57	26.4111 lo	.91	.91	.24	-.43	-.70	191.520
R-053	84 57	15.1357 lo	.92	.91	.24	-.43	-.70	191.725
R-054	84 57	4.3807 lo	.92	.91	.24	-.43	-.70	191.935
R-055	84 56	53.2049 lo	.92	.91	.24	-.43	-.71	192.146
R-056	84 56	41.9946 lo	.92	.91	.25	-.43	-.71	192.357
R-057	84 56	31.2827 lo	.92	.91	.25	-.43	-.71	192.560
R-058	84 56	20.2646 lo	.92	.91	.25	-.43	-.71	192.769
R-059T	84 56	9.0804 lo	.92	.91	.25	-.43	-.72	192.992
R-060	84 55	58.7369 lo	.92	.91	.25	-.43	-.72	193.192
R-061T	84 55	49.2197 lo	.92	.91	.25	-.43	-.72	193.394
R-062T	84 55	37.7484 lo	.92	.91	.25	-.43	-.72	193.611
R-063	84 55	27.9329 lo	.92	.91	.25	-.43	-.73	193.810
R-064	84 55	17.1094 lo	.92	.91	.25	-.43	-.73	194.025
R-065T	84 55	4.4732 lo	.92	.91	.25	-.43	-.73	194.280
R-066T	84 54	56.1855 lo	.92	.92	.25	-.43	-.73	194.441
R-067	84 54	45.1333 lo	.93	.92	.25	-.43	-.74	194.657
R-068	84 54	34.3758 lo	.93	.92	.25	-.43	-.74	194.866
R-069T	84 54	24.5394 lo	.93	.92	.25	-.43	-.74	195.063
R-070T	84 54	13.6694 lo	.93	.92	.25	-.43	-.74	195.281
R-071T	84 54	3.1844 lo	.93	.92	.25	-.43	-.75	195.494
R-072T	84 53	53.4749 lo	.93	.92	.25	-.43	-.75	195.680
R-073T	84 53	41.8698 lo	.93	.92	.25	-.43	-.75	195.914
R-074	84 53	33.1592 lo	.93	.92	.25	-.43	-.75	196.089
R-075	84 53	22.2291 lo	.93	.92	.25	-.43	-.76	196.303
R-076	84 53	11.8643 lo	.93	.92	.25	-.43	-.76	196.506
R-077	84 53	2.2396 lo	.93	.92	.25	-.43	-.76	196.694
R-078T	84 52	52.4150 lo	.94	.92	.25	-.43	-.76	196.882
R-079T	84 52	40.8286 lo	.94	.92	.25	-.43	-.77	197.098
R-080	84 52	30.5254 lo	.94	.93	.25	-.43	-.77	197.288
R-081	84 52	19.6231 lo	.94	.93	.25	-.43	-.77	197.491
R-082T	84 52	8.1264 lo	.94	.93	.26	-.43	-.77	197.701
R-083T	84 51	56.4081 lo	.94	.93	.26	-.43	-.77	197.906
R-084	84 51	46.5458 lo	.94	.93	.26	-.43	-.78	198.089
R-085T	84 51	36.1079 lo	.94	.93	.26	-.42	-.78	198.292
R-086	84 51	24.1621 lo	.95	.93	.26	-.42	-.78	198.501
R-087	84 51	13.6118 lo	.95	.93	.26	-.42	-.78	198.692
R-088	84 51	2.6420 lo	.95	.93	.26	-.42	-.79	198.889
R-089T	84 50	51.1603 lo	.95	.93	.26	-.42	-.79	199.091
R-090	84 50	40.1941 lo	.95	.93	.26	-.42	-.79	199.285
R-091T	84 50	29.3802 lo	.95	.94	.26	-.42	-.79	199.476
R-092	84 50	18.1357 lo	.95	.94	.26	-.42	-.80	199.674
R-093	84 50	7.6499 lo	.96	.94	.26	-.42	-.80	199.859
R-094T	84 49	55.1013 lo	.96	.94	.26	-.42	-.80	200.072
R-095	84 49	43.1984 lo	.96	.94	.26	-.42	-.80	200.271
R-096T	84 49	30.9427 lo	.96	.94	.26	-.42	-.81	200.483
R-097T	84 49	21.1599 lo	.96	.94	.26	-.42	-.81	200.690
R-098T	84 49	8.8975 lo	.96	.94	.27	-.42	-.81	200.903

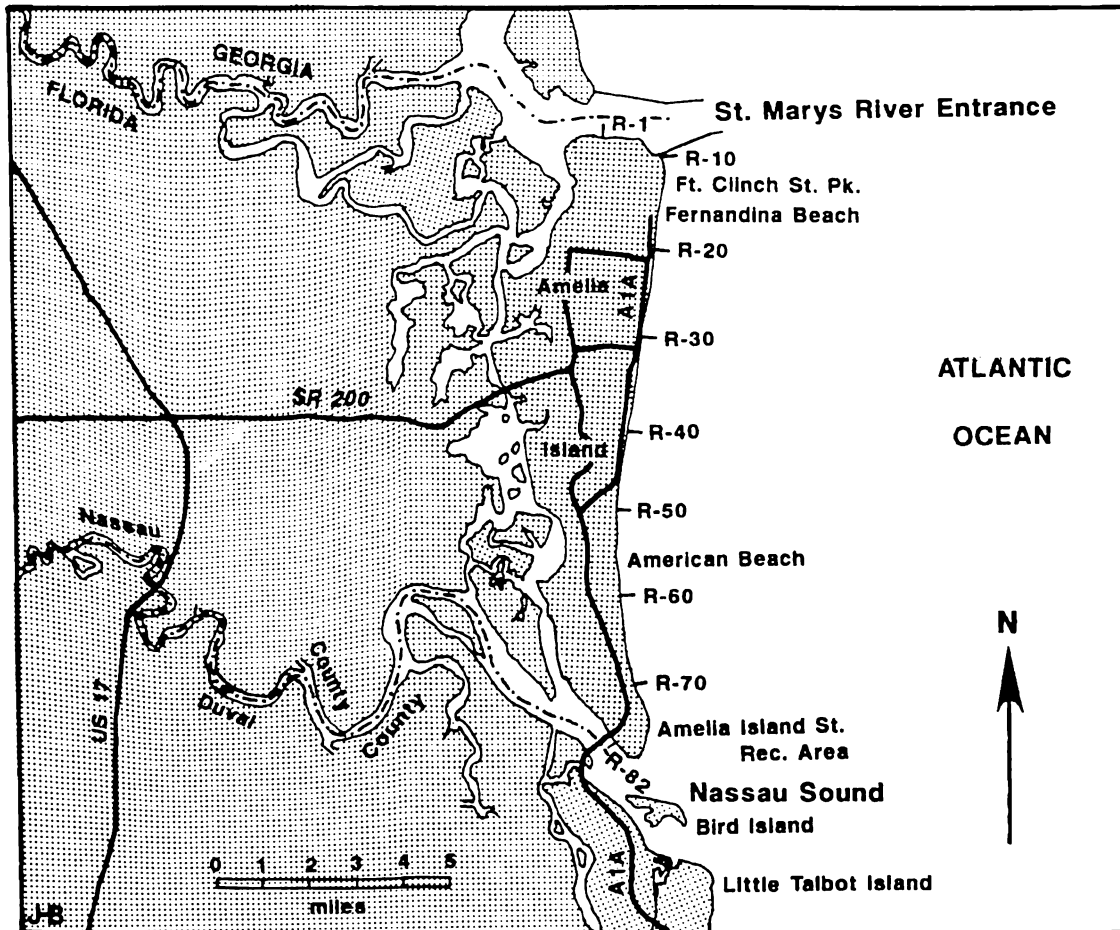
DNR Range Monu	Longitude = lo or Latitude = la	MHHW (feet NGVD)	MHW (feet NGVD)	MTL (feet NGVD)	MLW (feet NGVD)	MLLW (feet NGVD)	Distance (mi)
Franklin County							
R-099T	84 48 55.7298 lo	.97	.94	.27	-.42	-.81	201.131
R-100	84 48 43.3528 lo	.97	.95	.27	-.42	-.81	201.334
R-101	84 48 32.4924 lo	.97	.95	.27	-.42	-.82	201.527
R-102T	84 48 21.3908 lo	.97	.95	.27	-.42	-.82	201.731
R-103	84 48 10.8381 lo	.97	.95	.27	-.42	-.82	201.923
R-104	84 47 59.6637 lo	.97	.95	.27	-.42	-.82	202.118
R-105	84 47 49.3950 lo	.98	.95	.27	-.42	-.83	202.314
R-106	84 47 38.7059 lo	.98	.95	.27	-.42	-.83	202.510
R-107T	84 47 30.2772 lo	.98	.95	.27	-.42	-.83	202.687
R-108T	84 47 18.4339 lo	.98	.96	.27	-.42	-.83	202.908
R-109T	84 47 9.2202 lo	.98	.96	.27	-.42	-.84	203.105
R-110	84 46 56.8615 lo	.99	.96	.27	-.42	-.84	203.322
R-111	84 46 45.9526 lo	.99	.96	.28	-.42	-.84	203.530
R-112	84 46 35.6049 lo	.99	.96	.28	-.42	-.84	203.735
R-113T	84 46 24.5643 lo	.99	.96	.28	-.42	-.84	203.964
R-114	84 46 14.2242 lo	.99	.96	.28	-.42	-.85	204.151
R-115	84 46 4.6337 lo	1.00	.97	.28	-.42	-.85	204.357
R-116T	84 45 57.4538 lo	1.00	.97	.28	-.42	-.85	204.564
R-117T	84 45 47.7374 lo	1.00	.97	.28	-.42	-.85	204.770
R-118	84 45 38.3350 lo	1.00	.97	.28	-.42	-.86	204.967
R-119	84 45 29.6813 lo	1.01	.97	.28	-.42	-.86	205.177
R-120T	84 45 21.8191 lo	1.01	.97	.28	-.42	-.86	205.368
R-121T	84 45 13.8262 lo	1.01	.98	.29	-.42	-.86	205.560
R-122T	84 45 7.1903 lo	1.01	.98	.29	-.42	-.86	205.772
R-123T	84 44 57.6099 lo	1.02	.98	.29	-.42	-.87	205.963
R-124	84 44 48.1956 lo	1.02	.98	.29	-.42	-.87	206.155
R-125T	84 44 39.4857 lo	1.02	.98	.29	-.42	-.87	206.349
R-126T	84 44 31.3548 lo	1.02	.98	.29	-.42	-.87	206.541
R-127T	84 44 22.7420 lo	1.03	.99	.29	-.41	-.88	206.740
R-128T	84 44 14.6341 lo	1.03	.99	.29	-.41	-.88	206.938
R-129	84 44 5.6390 lo	1.03	.99	.29	-.41	-.88	207.133
R-130T	84 43 55.7752 lo	1.03	.99	.30	-.41	-.88	207.367
R-131T	84 43 48.7343 lo	1.04	.99	.30	-.41	-.88	207.530
R-132	84 43 39.7050 lo	1.04	1.00	.30	-.41	-.89	207.731
R-133	84 43 31.8957 lo	1.04	1.00	.30	-.41	-.89	207.923
R-134	84 43 23.7333 lo	1.04	1.00	.30	-.41	-.89	208.115
R-135T	84 43 15.0489 lo	1.05	1.00	.30	-.41	-.89	208.310
R-136T	84 43 7.5339 lo	1.05	1.00	.30	-.41	-.89	208.502
R-137T	84 43 0.9733 lo	1.05	1.01	.30	-.41	-.90	208.694
R-138T	84 42 53.2285 lo	1.06	1.01	.30	-.41	-.90	208.886
R-139T	84 42 45.3470 lo	1.06	1.01	.31	-.41	-.90	209.089
R-140T	84 42 36.4161 lo	1.06	1.01	.31	-.41	-.90	209.284
R-141T	84 42 30.7345 lo	1.06	1.01	.31	-.41	-.90	209.476
R-142	84 42 21.5136 lo	1.07	1.02	.31	-.41	-.91	209.667
R-143T	84 42 13.8943 lo	1.07	1.02	.31	-.41	-.91	209.860
R-144	84 42 5.5872 lo	1.07	1.02	.31	-.41	-.91	210.053
R-145T	84 41 57.6753 lo	1.08	1.02	.31	-.41	-.91	210.249
R-146	84 41 50.1701 lo	1.08	1.03	.31	-.41	-.91	210.433
R-147	84 41 45.0364 lo	1.08	1.03	.32	-.41	-.91	210.614
R-148	84 41 46.4017 lo	1.08	1.03	.32	-.41	-.92	210.677

DNR Range Monu	Longitude = lo or Latitude = la	MHHW (feet NGVD)	MHW (feet NGVD)	MTL (feet NGVD)	MLW (feet NGVD)	MLLW (feet NGVD)	Distance (mi)
Franklin County							
<i>East Pass</i>							
R-149	84 41 48.1588 lo	1.08	1.03	.32	-.41	-.92	210.697
R-150	84 40 20.8235 lo	1.12	1.05	.33	-.41	-.93	212.541
R-151	84 40 23.1744 lo	1.12	1.05	.33	-.41	-.93	212.421
R-152	84 40 16.6194 lo	1.12	1.05	.33	-.41	-.93	212.452
R-153	84 40 6.5606 lo	1.12	1.05	.33	-.41	-.93	212.556
R-154	84 39 56.7479 lo	1.12	1.05	.33	-.41	-.93	212.670
R-155	84 39 45.6301 lo	1.12	1.06	.33	-.41	-.94	212.857
R-156	84 39 34.9100 lo	1.13	1.06	.33	-.41	-.94	213.040
R-157	84 39 24.4125 lo	1.13	1.06	.33	-.41	-.94	213.224
R-158	84 39 13.1977 lo	1.13	1.06	.34	-.41	-.94	213.411
R-159	84 39 2.5121 lo	1.14	1.07	.34	-.41	-.94	213.597
R-160	84 38 52.1691 lo	1.14	1.07	.34	-.41	-.94	213.784
R-161	84 38 41.4428 lo	1.15	1.07	.34	-.41	-.95	213.968
R-162	84 38 30.5759 lo	1.15	1.07	.34	-.41	-.95	214.158
R-163	84 38 19.8897 lo	1.15	1.08	.34	-.41	-.95	214.343
R-164	84 38 9.1870 lo	1.16	1.08	.34	-.41	-.95	214.531
R-165	84 37 58.6192 lo	1.16	1.08	.35	-.41	-.95	214.713
R-166	84 37 47.9217 lo	1.16	1.09	.35	-.41	-.95	214.901
R-167	84 37 37.6095 lo	1.17	1.09	.35	-.41	-.95	215.080
R-168T	84 37 26.6107 lo	1.17	1.09	.35	-.41	-.96	215.271
R-169	84 37 16.5385 lo	1.18	1.09	.35	-.41	-.96	215.469
R-170	84 37 7.1810 lo	1.18	1.10	.35	-.41	-.96	215.646
R-171	84 36 57.7213 lo	1.19	1.10	.35	-.41	-.96	215.825
R-172	84 36 46.7183 lo	1.19	1.10	.36	-.41	-.96	216.030
R-173	84 36 36.5599 lo	1.19	1.11	.36	-.41	-.96	216.219
R-174	84 36 27.5766 lo	1.20	1.11	.36	-.41	-.97	216.395
R-175T	84 36 17.5480 lo	1.20	1.11	.36	-.41	-.97	216.579
R-176T	84 36 6.6223 lo	1.21	1.12	.36	-.41	-.97	216.772
R-177	84 35 56.3201 lo	1.21	1.12	.36	-.41	-.97	216.955
R-178	84 35 45.8479 lo	1.22	1.12	.37	-.41	-.97	217.144
R-179	84 35 36.0399 lo	1.22	1.13	.37	-.41	-.97	217.326
R-180T	84 35 26.2828 lo	1.22	1.13	.37	-.41	-.97	217.509
R-181T	84 35 16.2669 lo	1.23	1.13	.37	-.41	-.97	217.696
R-182	84 35 6.8076 lo	1.23	1.13	.37	-.41	-.98	217.879
R-183	84 34 56.1832 lo	1.24	1.14	.37	-.41	-.98	218.075
R-184	84 34 46.7072 lo	1.24	1.14	.38	-.41	-.98	218.251
R-185	84 34 39.5614 lo	1.25	1.14	.38	-.41	-.98	218.417
R-186T	84 34 33.5965 lo	1.25	1.15	.38	-.41	-.98	218.653
R-187	84 34 29.7895 lo	1.26	1.15	.38	-.41	-.98	218.843
R-188	84 34 26.0899 lo	1.26	1.16	.38	-.41	-.98	219.024
R-189	84 34 23.5536 lo	1.27	1.16	.39	-.41	-.98	219.196
R-190	84 34 21.7893 lo	1.27	1.16	.39	-.41	-.99	219.297
R-191	84 34 22.0918 lo	1.27	1.16	.39	-.41	-.99	219.396
R-192	84 34 23.5566 lo	1.28	1.16	.39	-.41	-.99	219.465
R-193	84 34 29.7796 lo	1.27	1.16	.39	-.41	-.99	219.404
<i>Alligator Harbor</i>							
R-194	84 25 42.5540 lo	1.63	1.42	.50	-.43	-1.02	229.714
R-195T	84 25 30.8440 lo	1.64	1.43	.51	-.43	-1.02	229.954
R-196	84 25 20.8057 lo	1.65	1.43	.51	-.43	-1.02	230.161

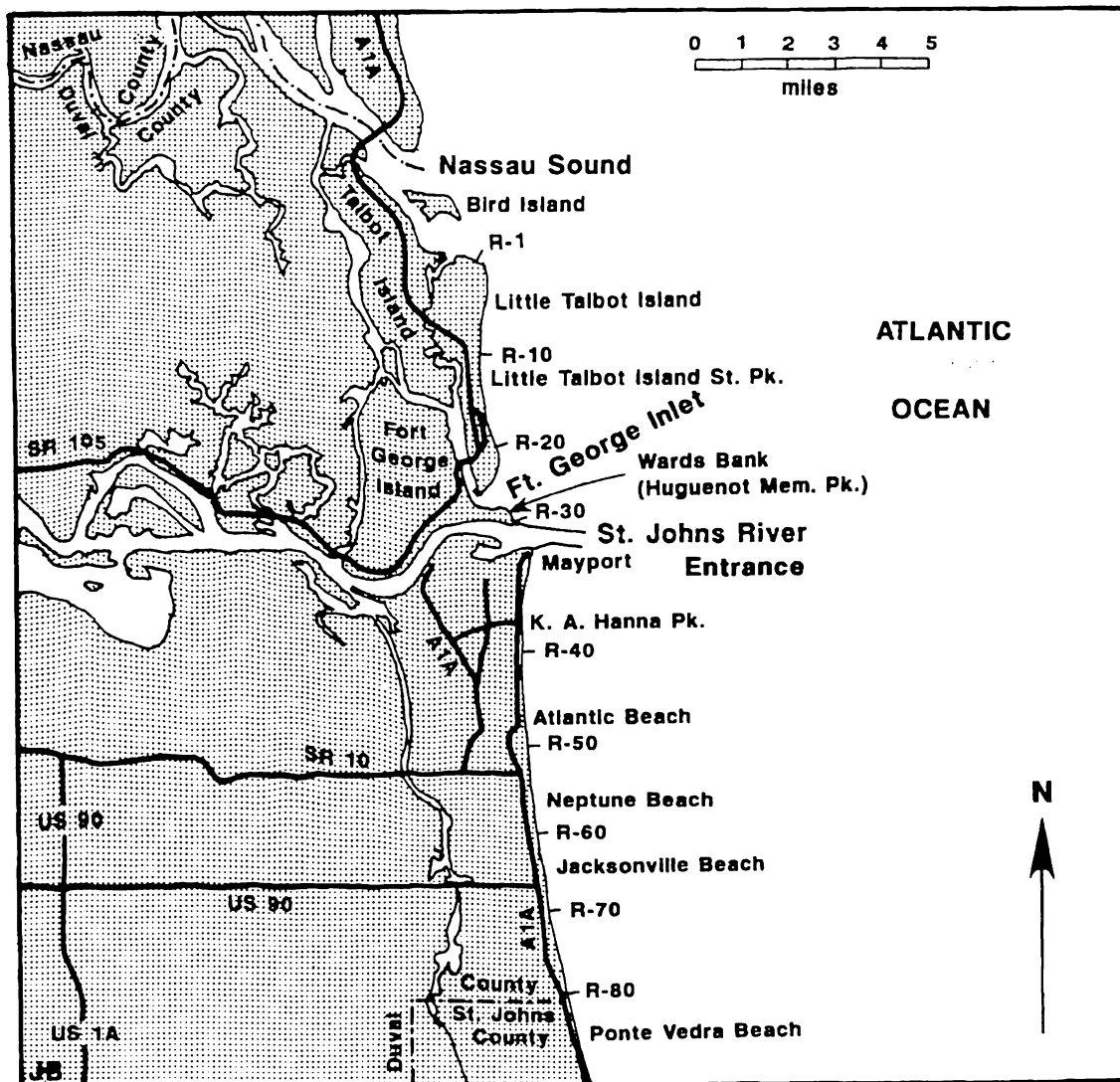
APPENDIX 4

DNR/DEP Range Monument Locations for the Florida East Coast

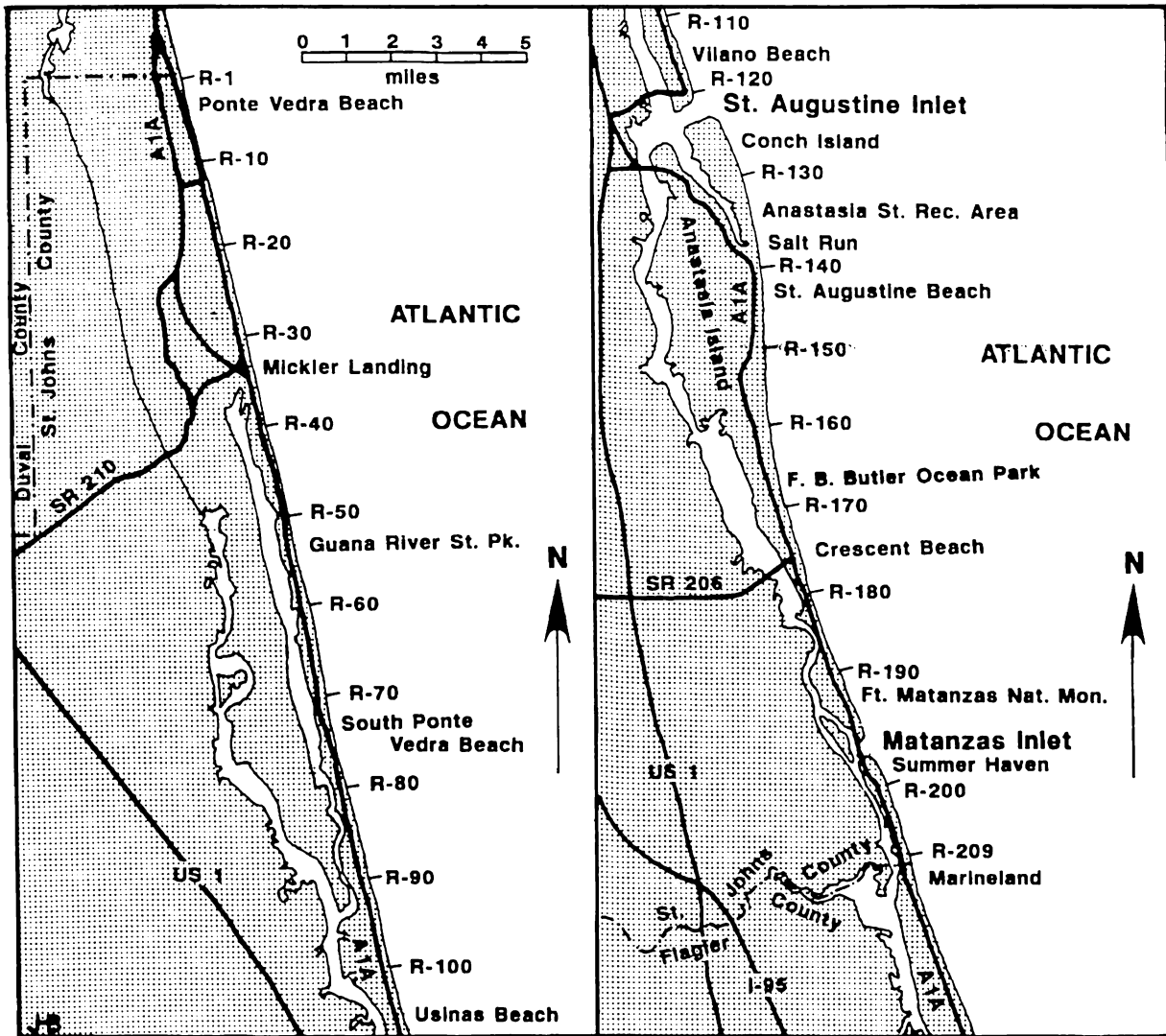
(Locations of every 10th monument are shown in these county maps).



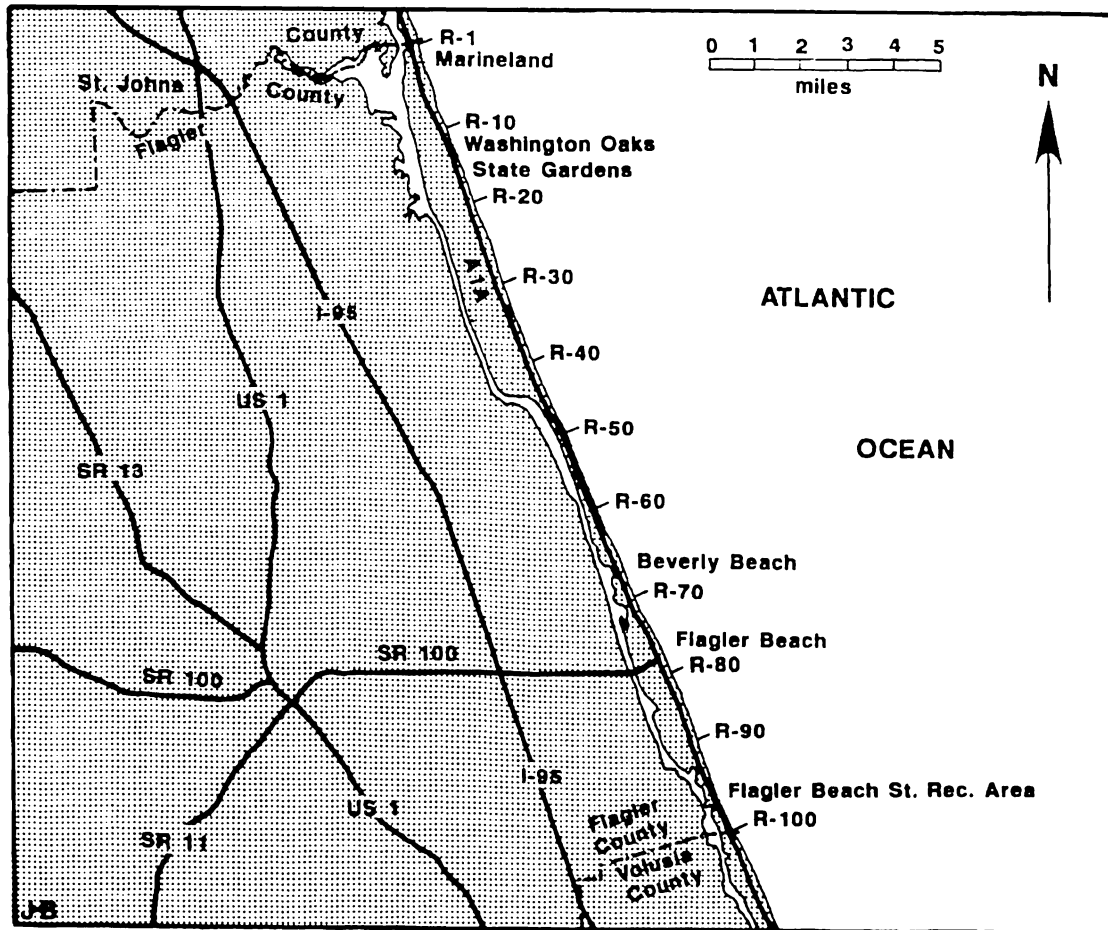
NASSAU COUNTY



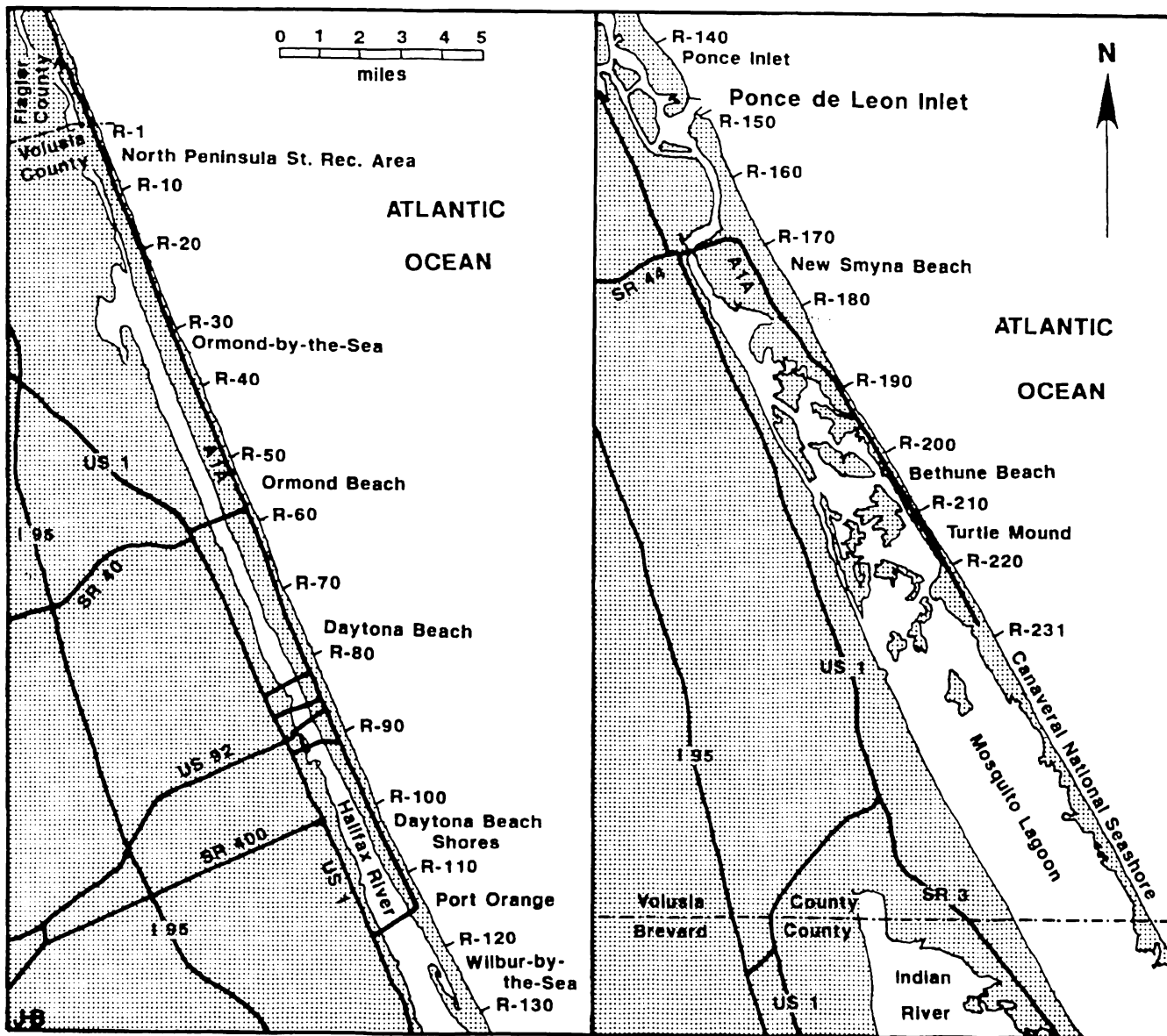
DUVAL COUNTY



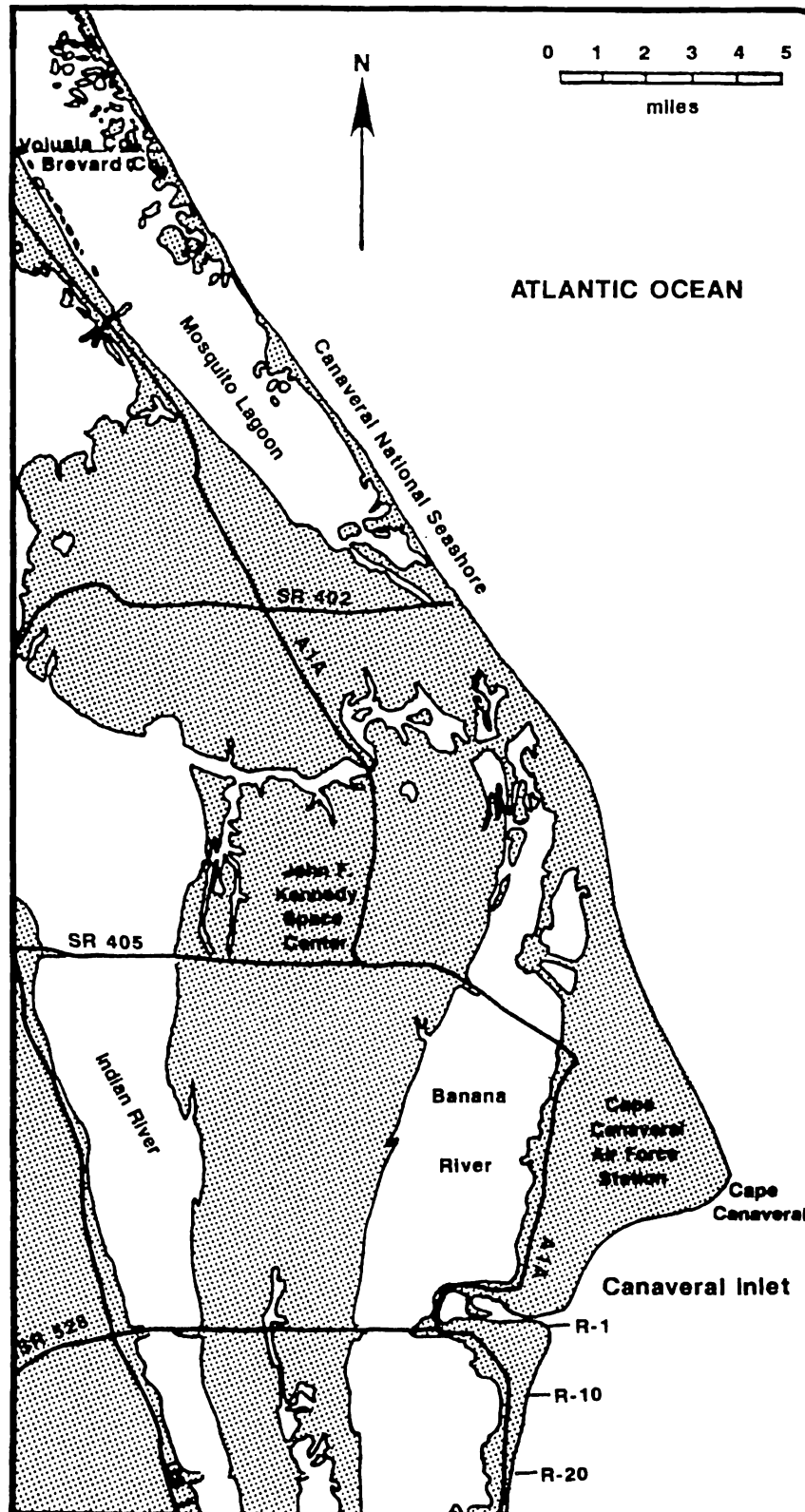
ST. JOHNS COUNTY



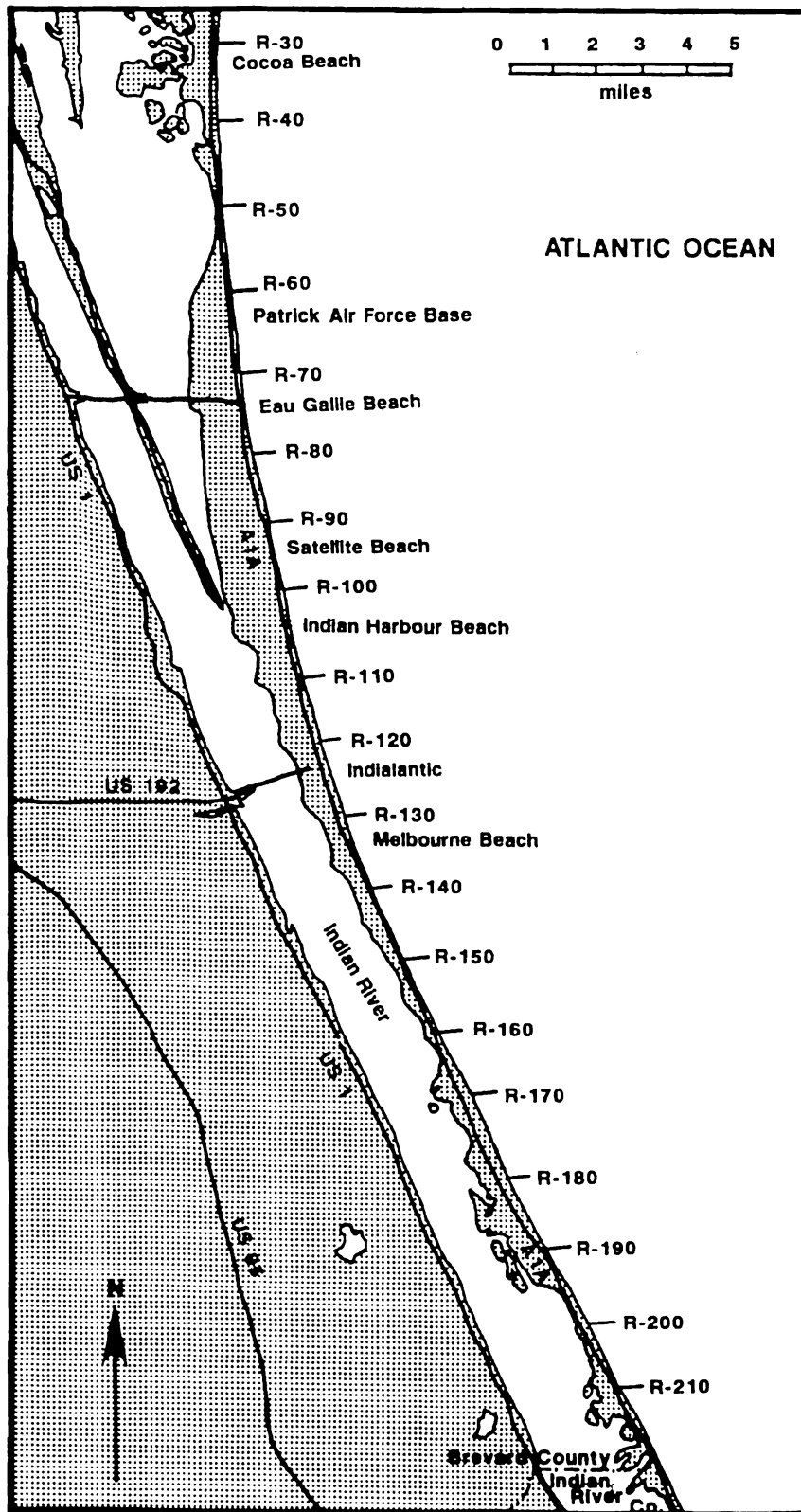
FLAGLER COUNTY



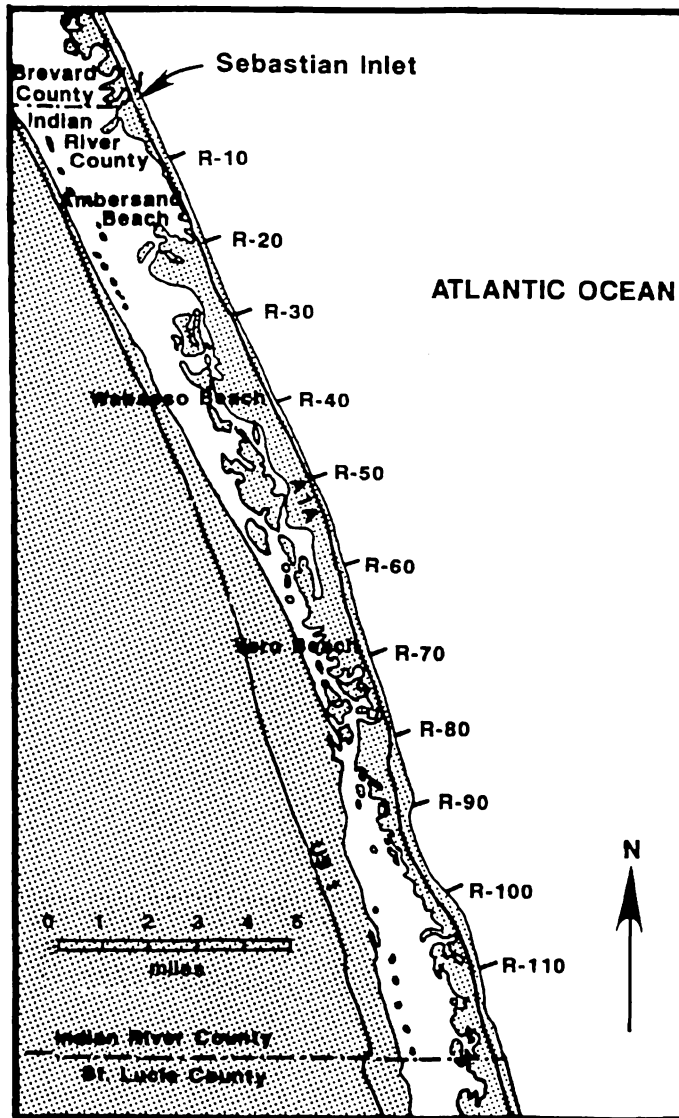
VOLUSIA COUNTY



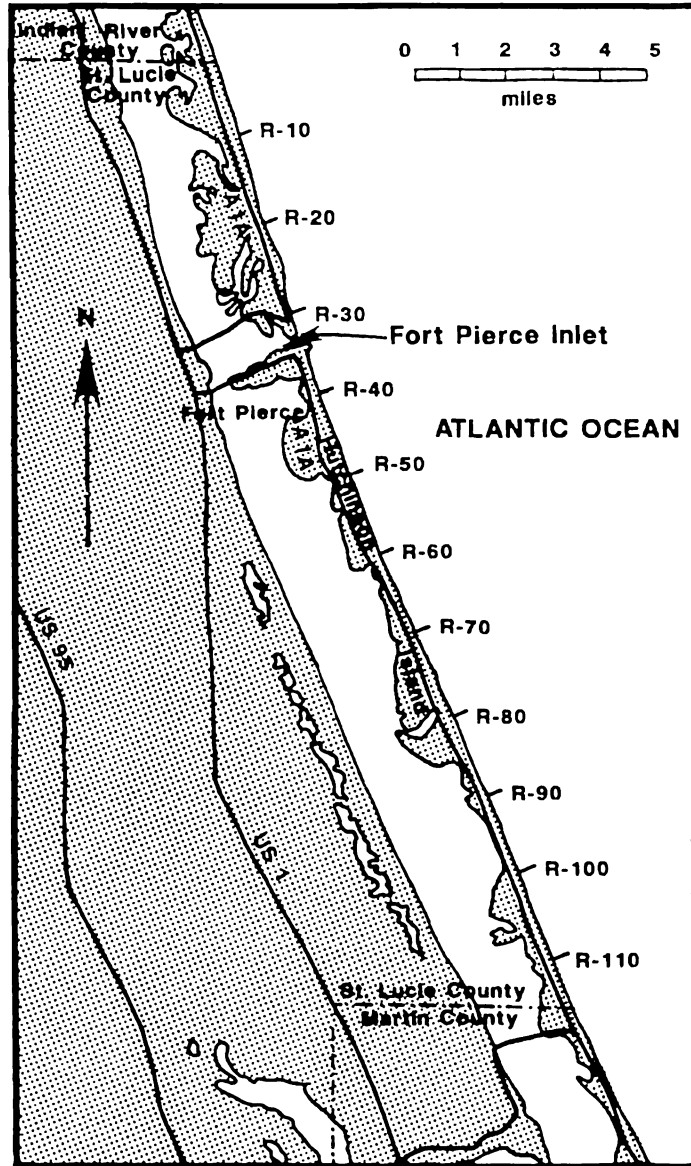
BREVARD COUNTY (1 OF 2)



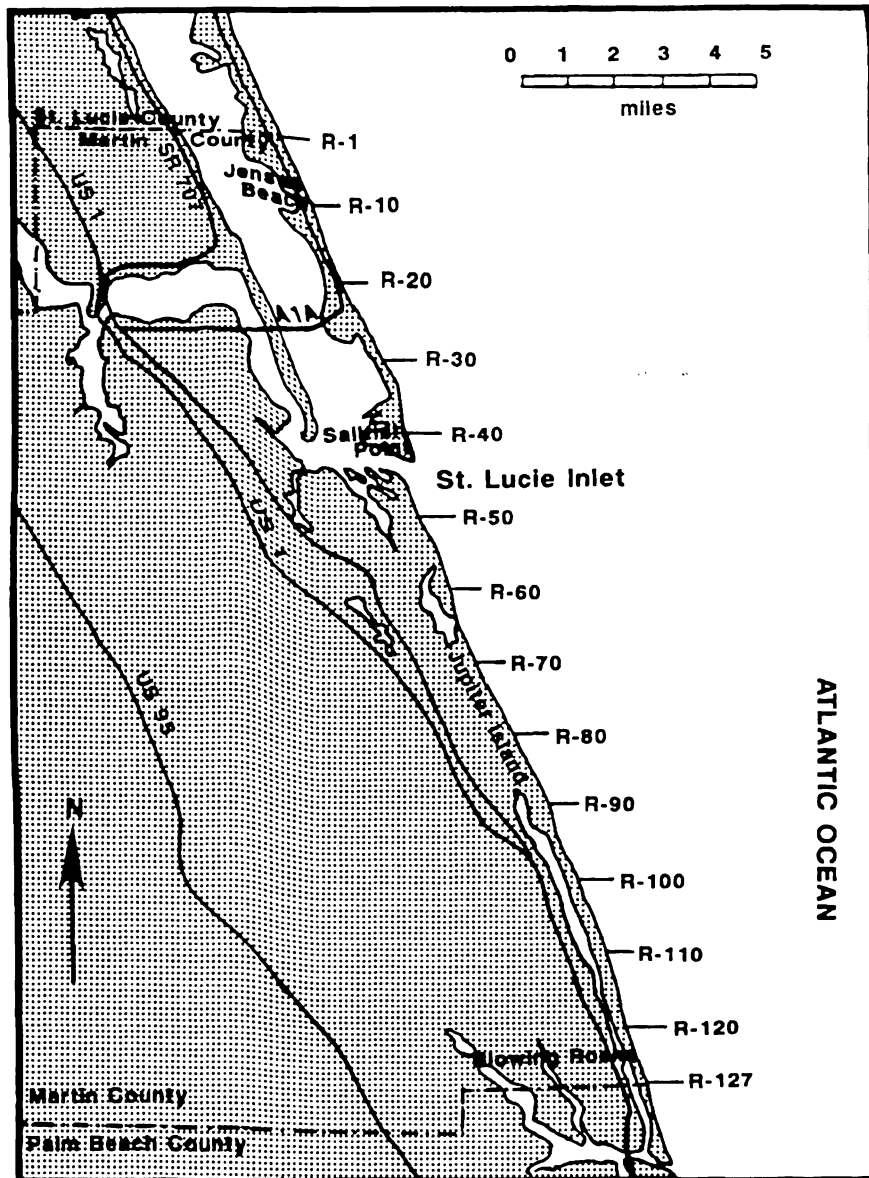
BREVARD COUNTY (2 OF 2)



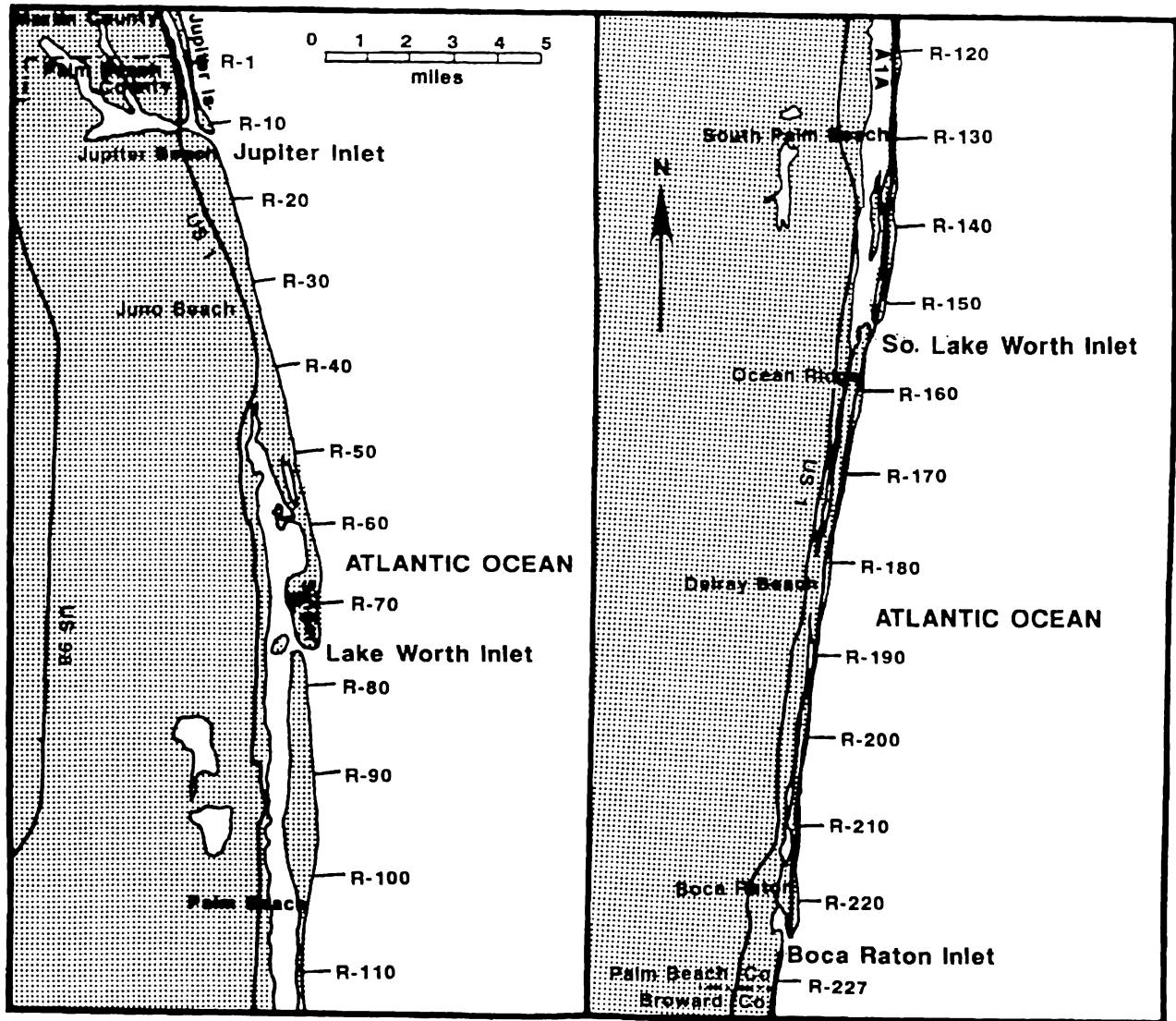
INDIAN RIVER



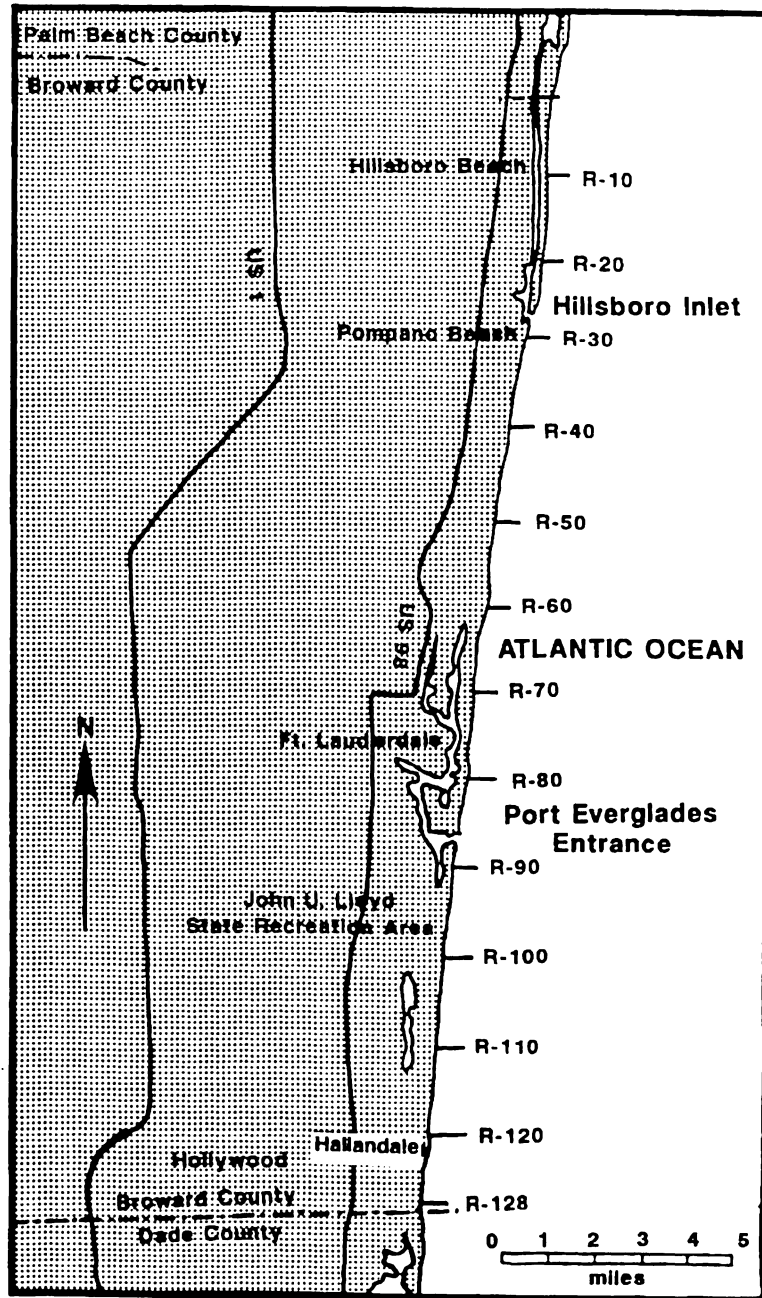
ST. LUCIE COUNTY



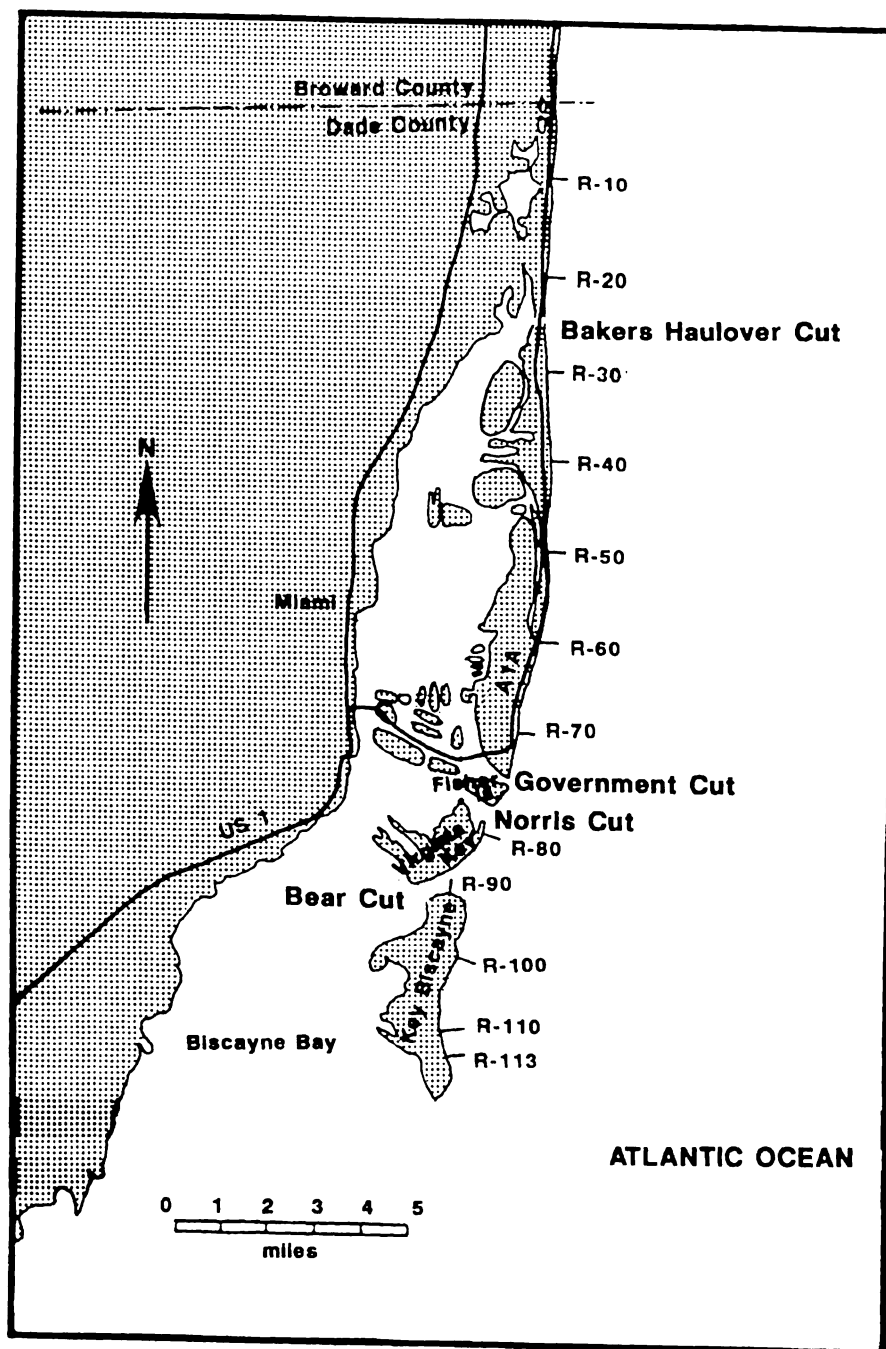
MARTIN COUNTY



PALM BEACH COUNTY



BROWARD COUNTY

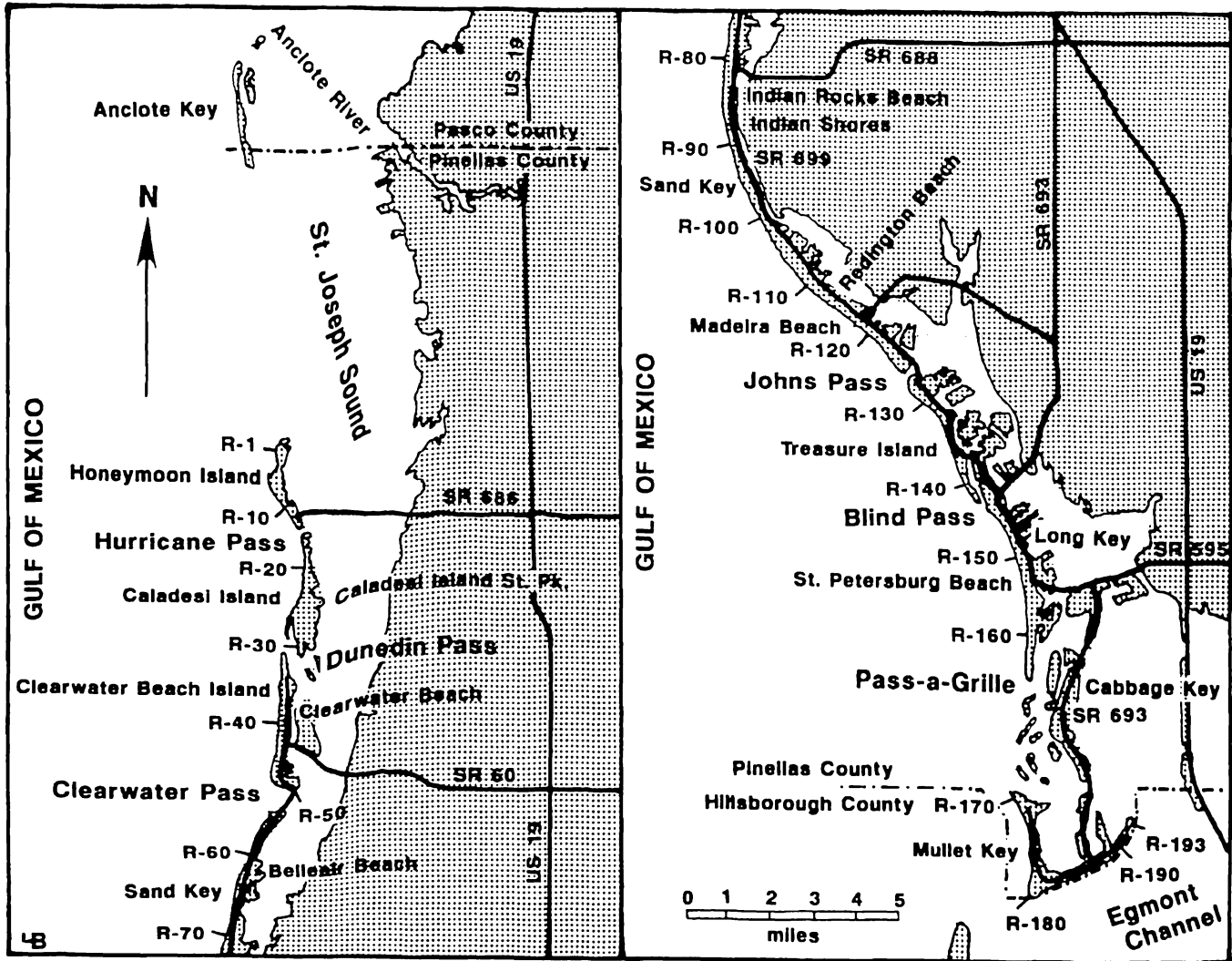


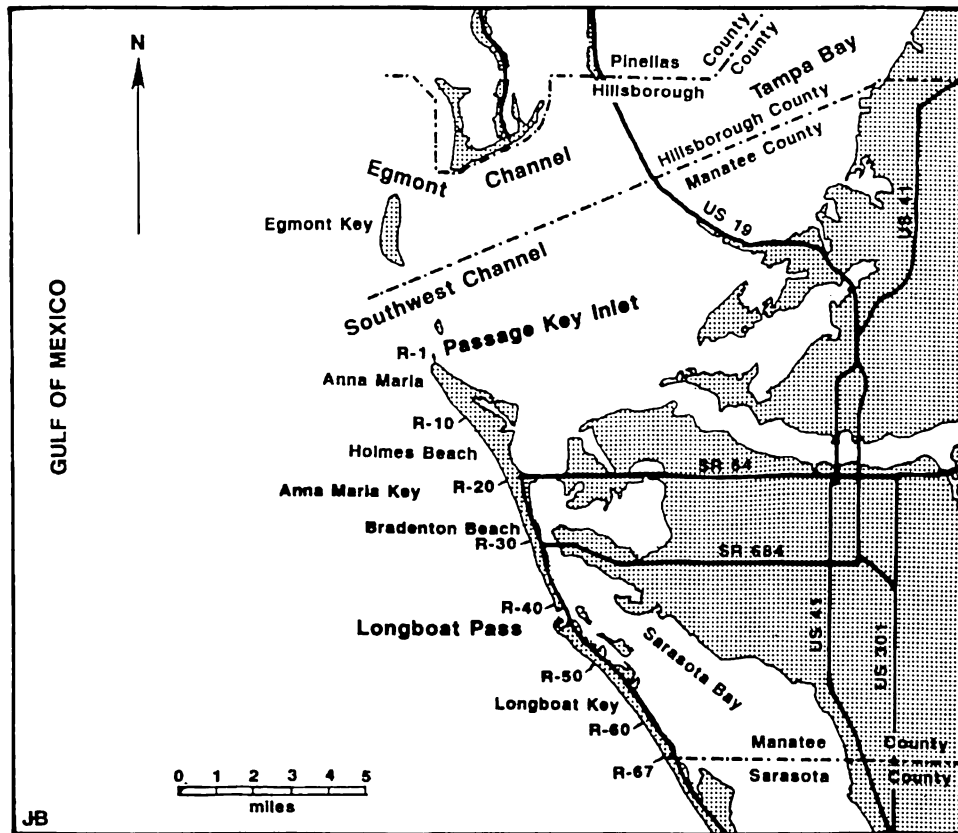
DADE COUNTY

APPENDIX 5

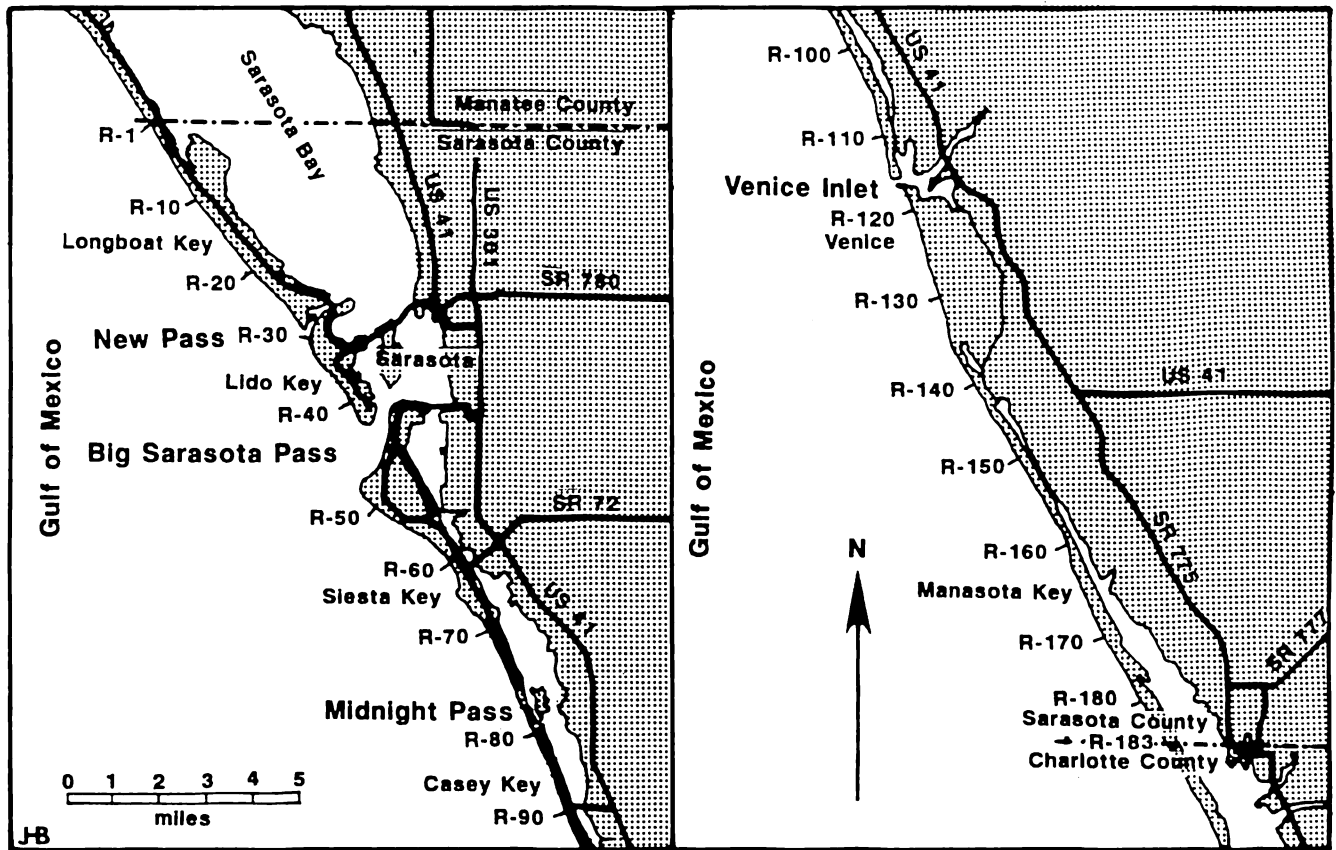
DNR/DEP Range Monument Locations for the Florida Lower Gulf Coast

(Locations of every 10th mounument are shown in these county maps)

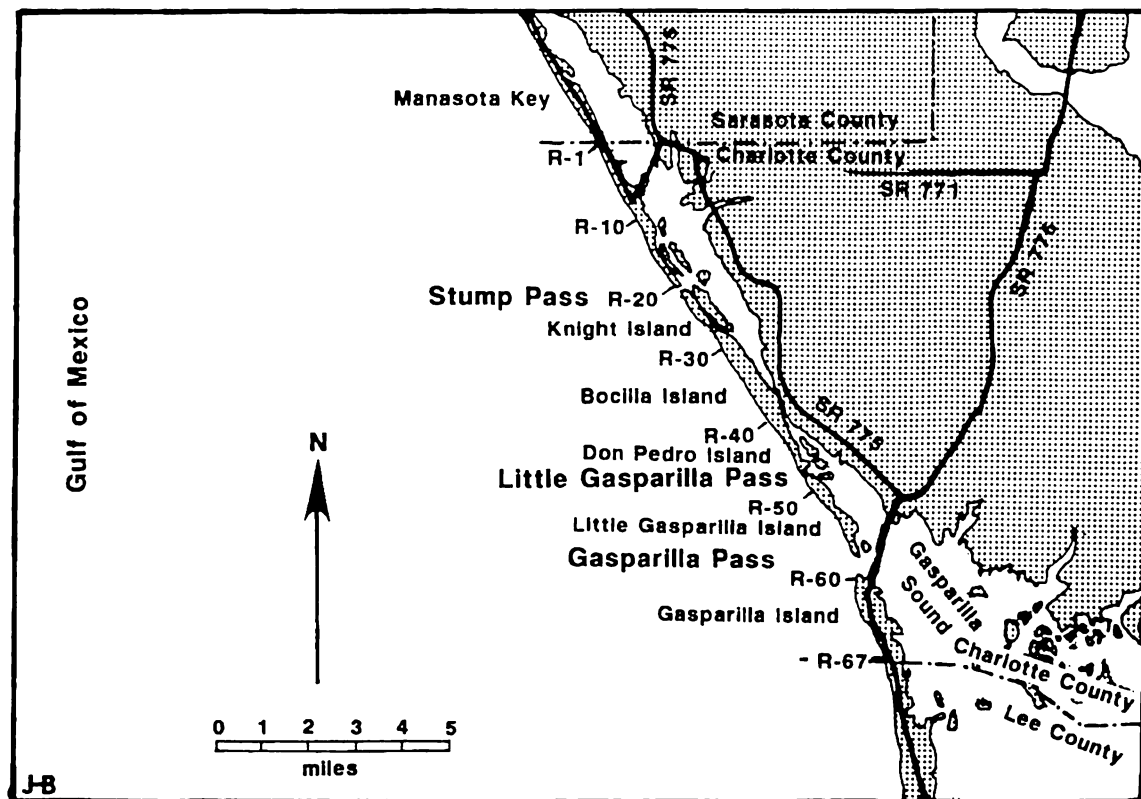




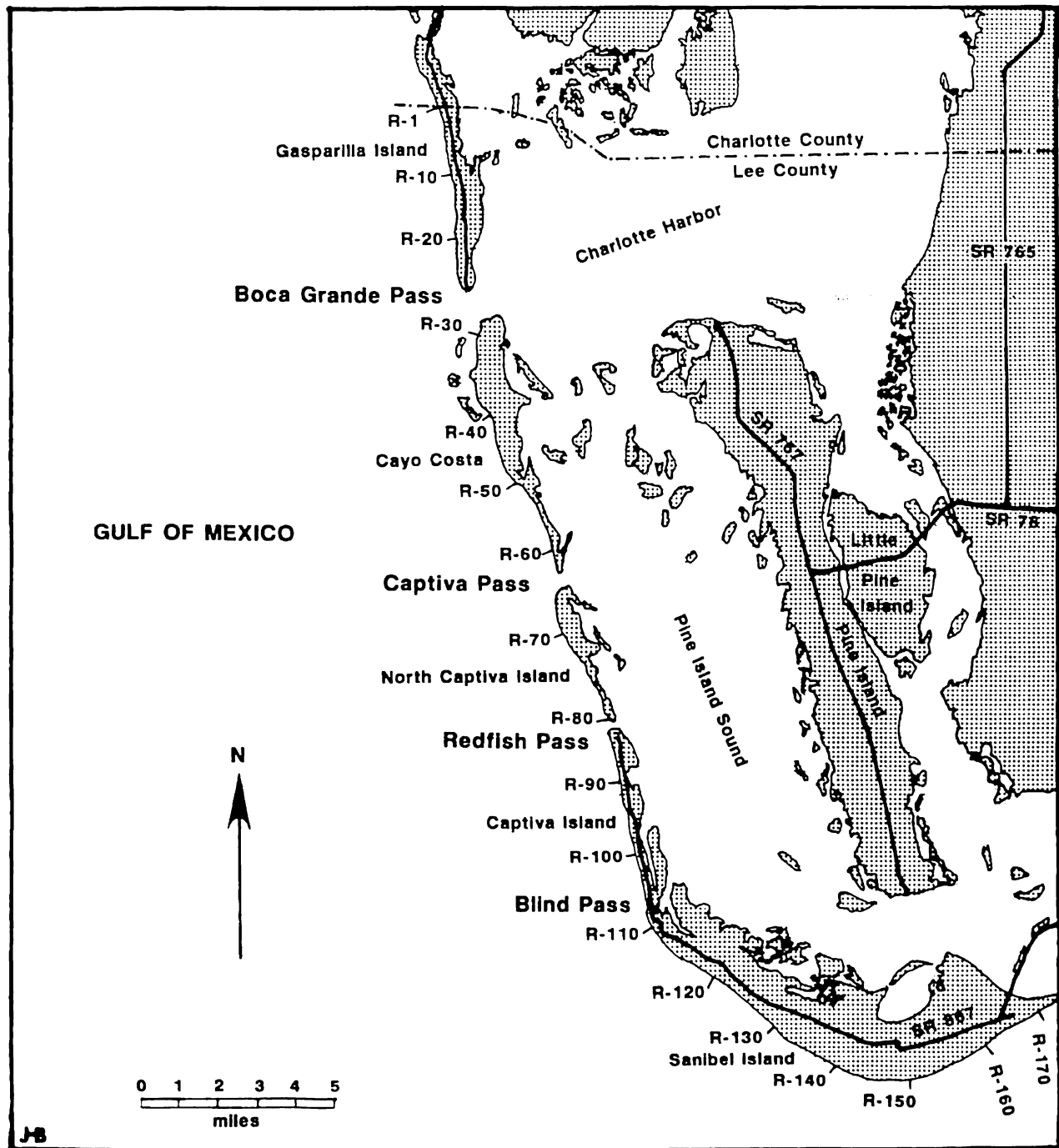
MANATEE COUNTY

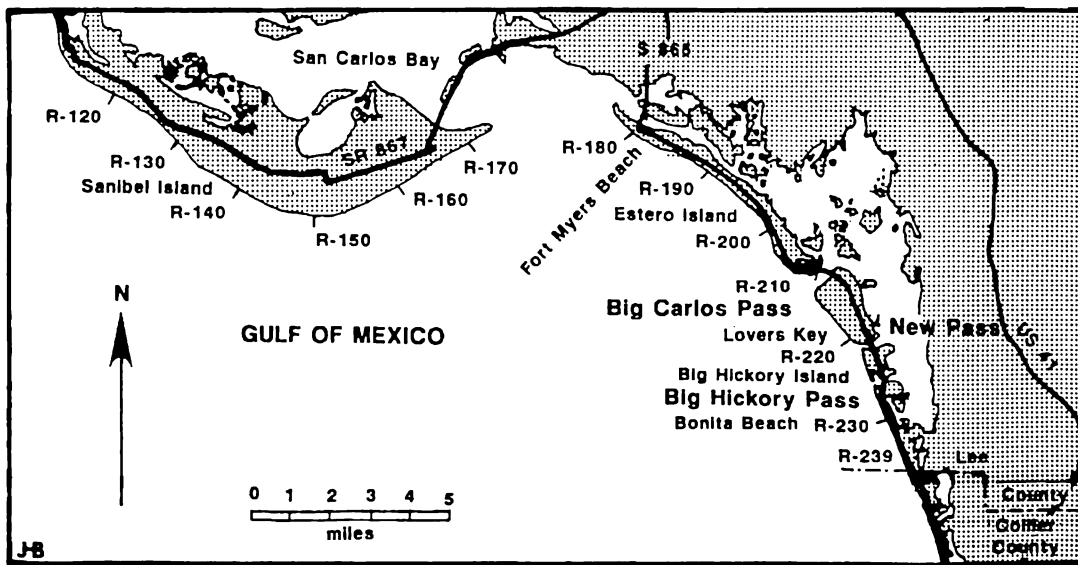


SARASOTA COUNTY

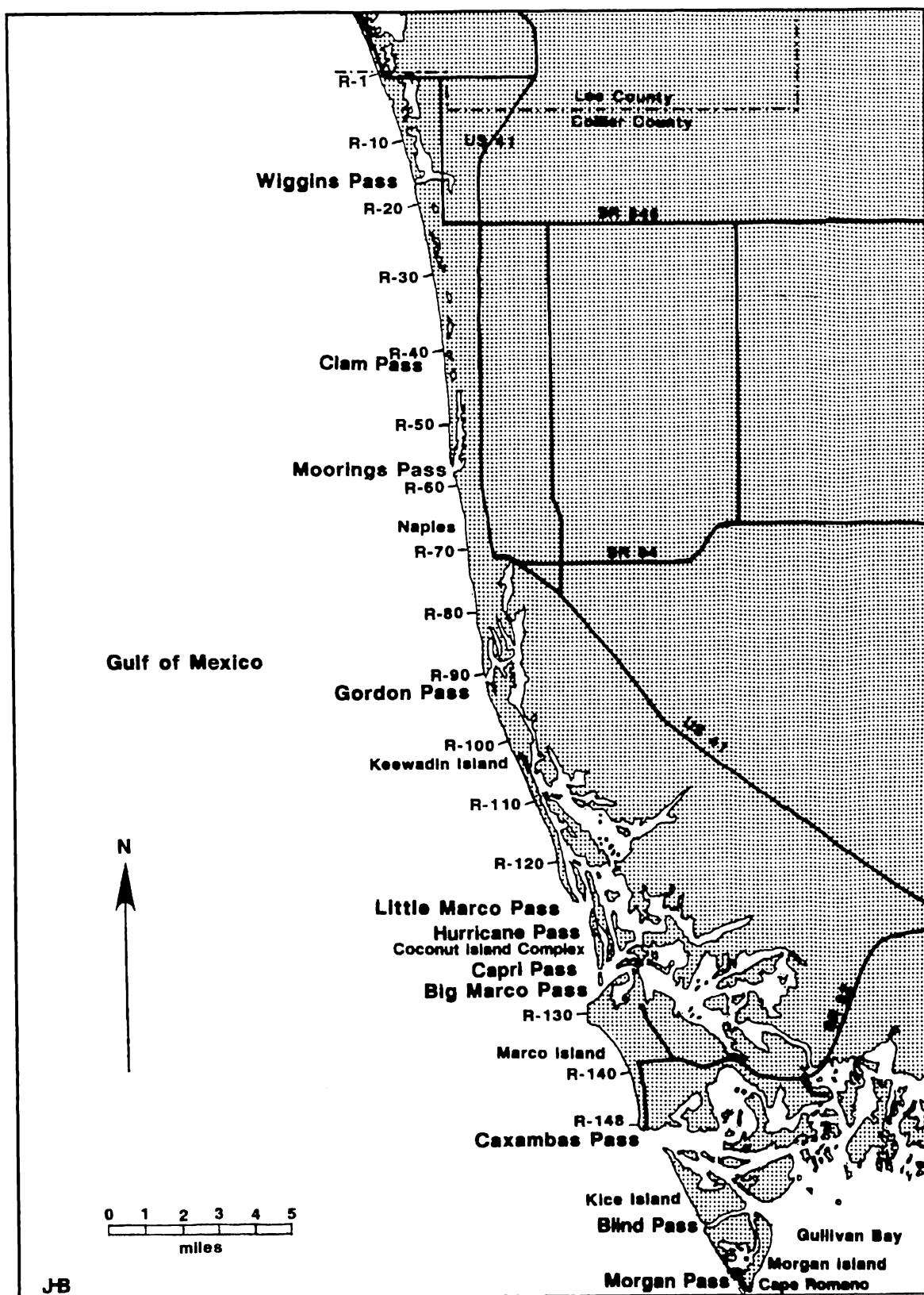


CHARLOTTE COUNTY

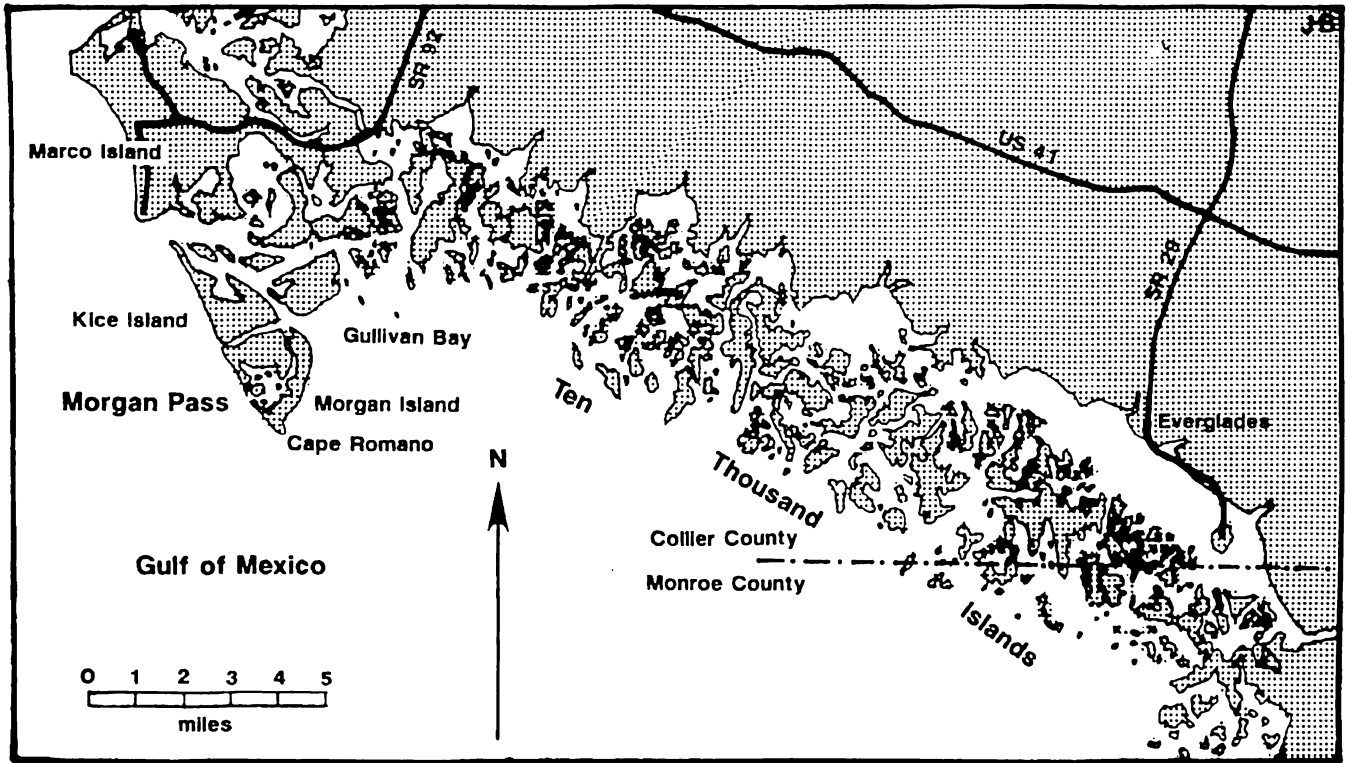




LEE COUNTY (2 OF 2)



COLLIER COUNTY (1 OF 2)

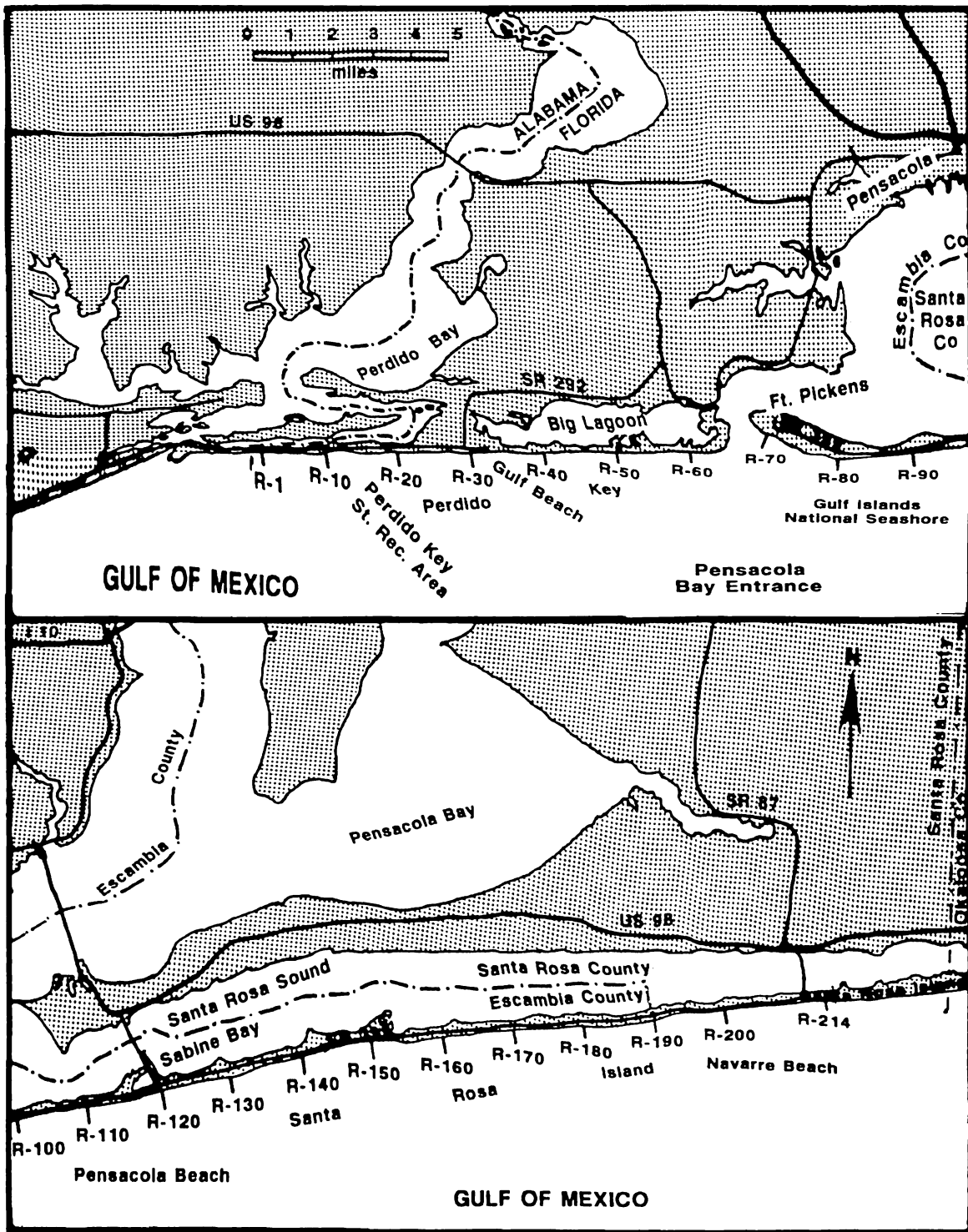


COLLIER COUNTY (2 OF 2)

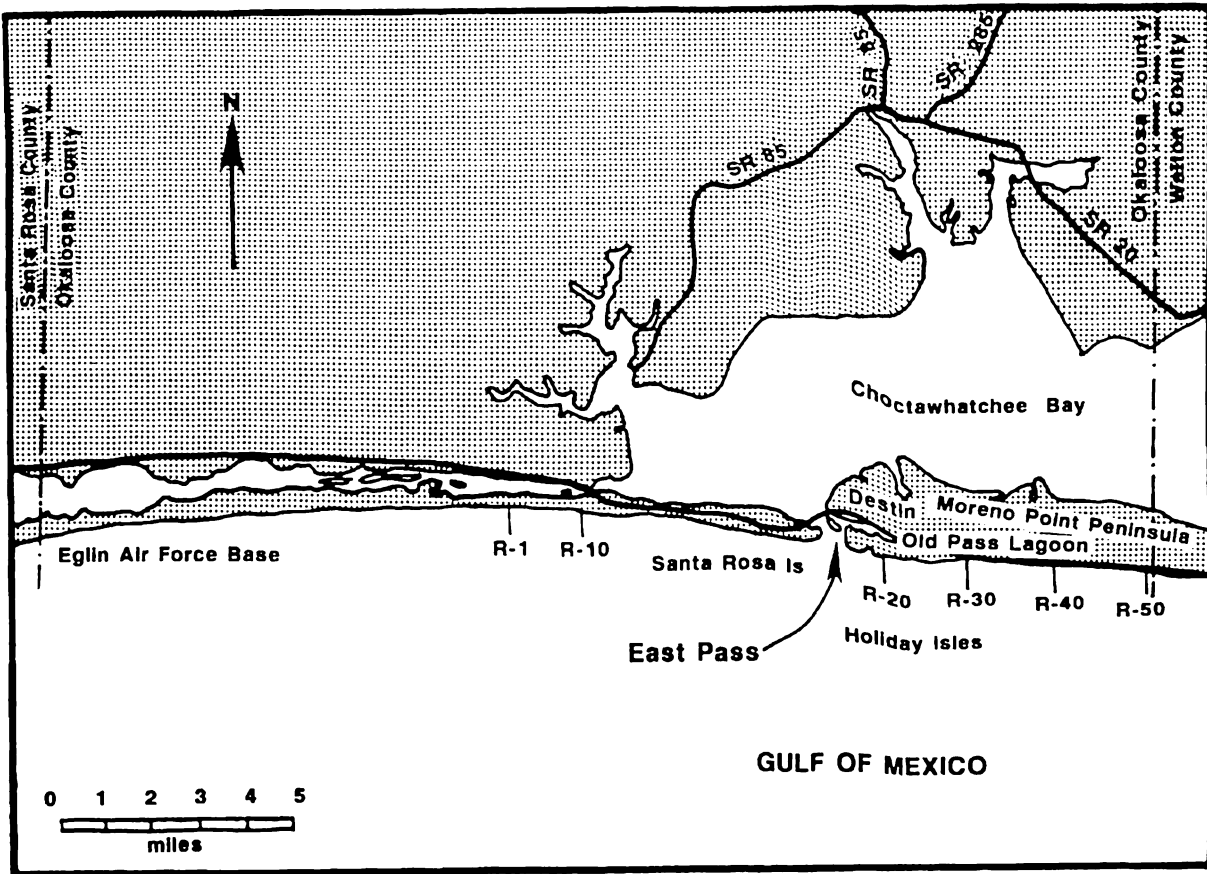
APPENDIX 6

DNR/DEP Range Monument Locations for the Florida Panhandle Gulf Coast

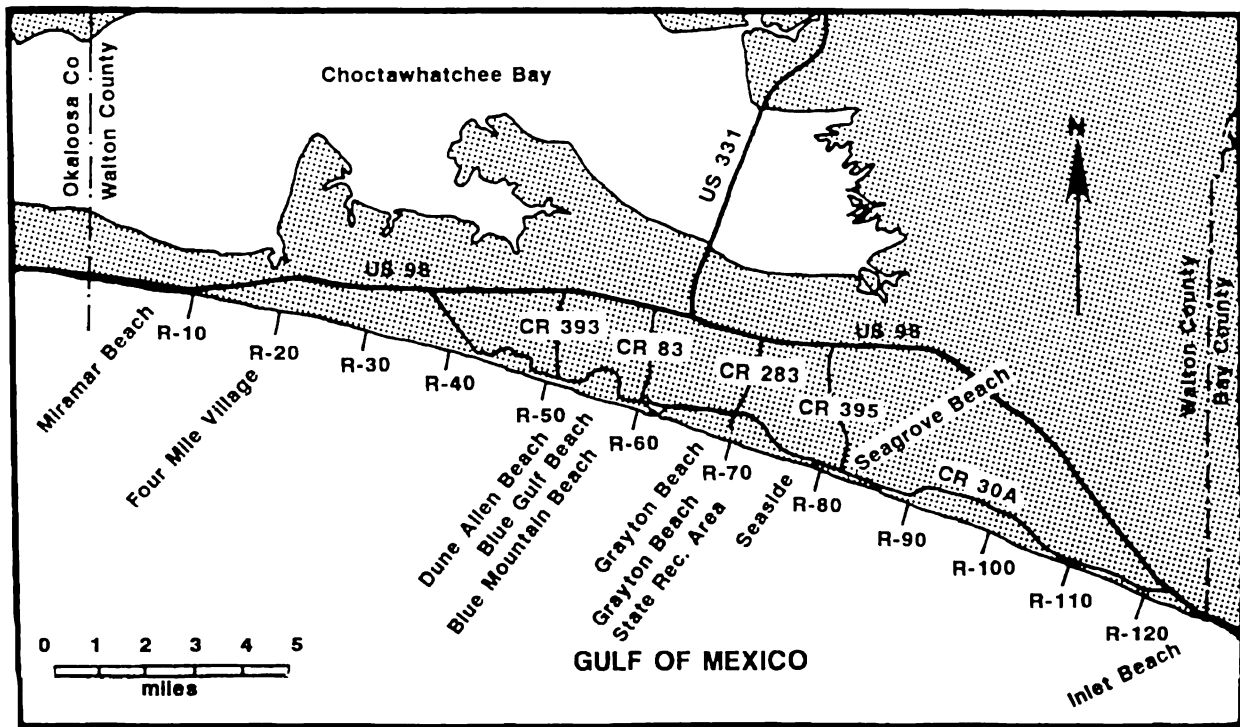
(Locations of every 10th monument are shown in these county maps)



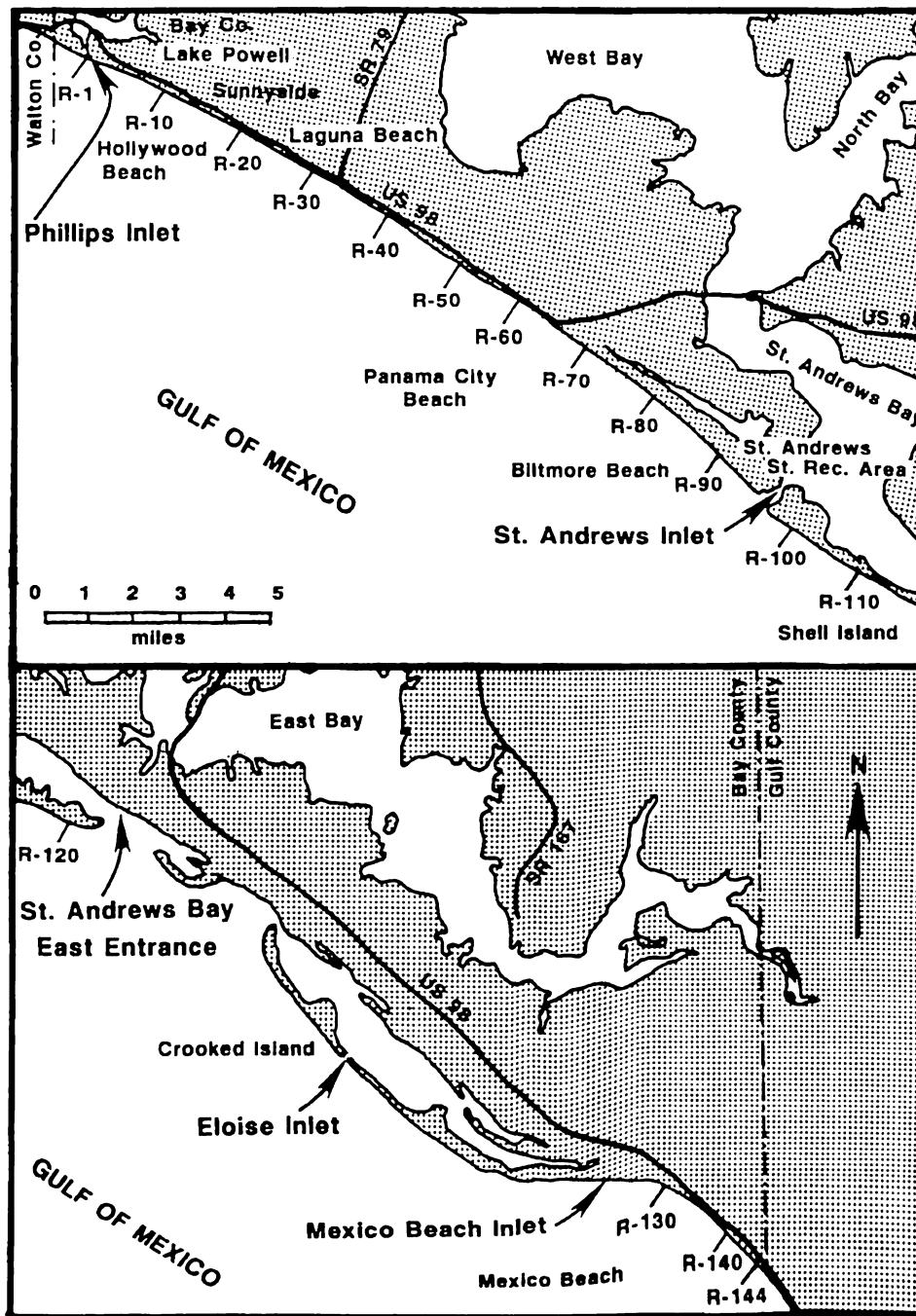
ESCAMBIA COUNTY



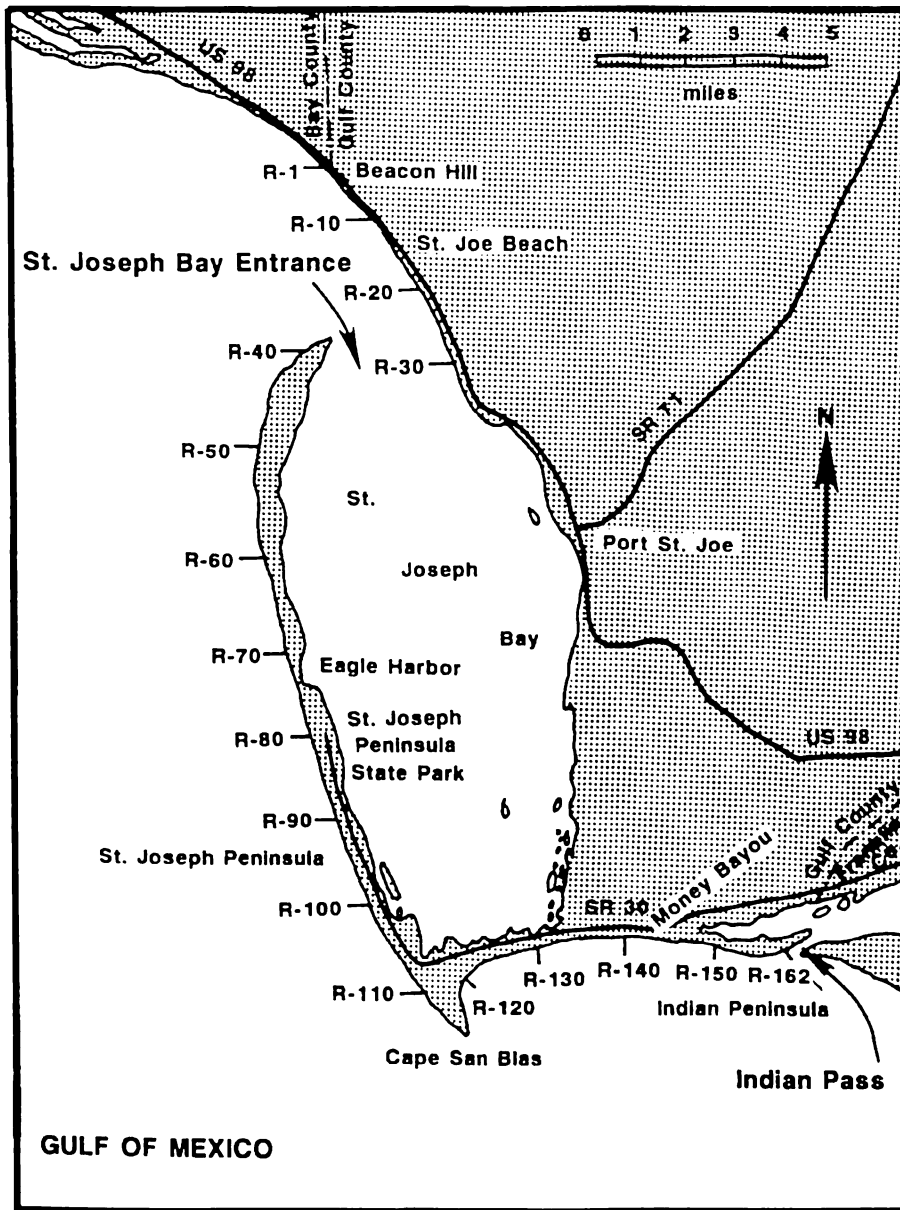
OKALOOSA COUNTY



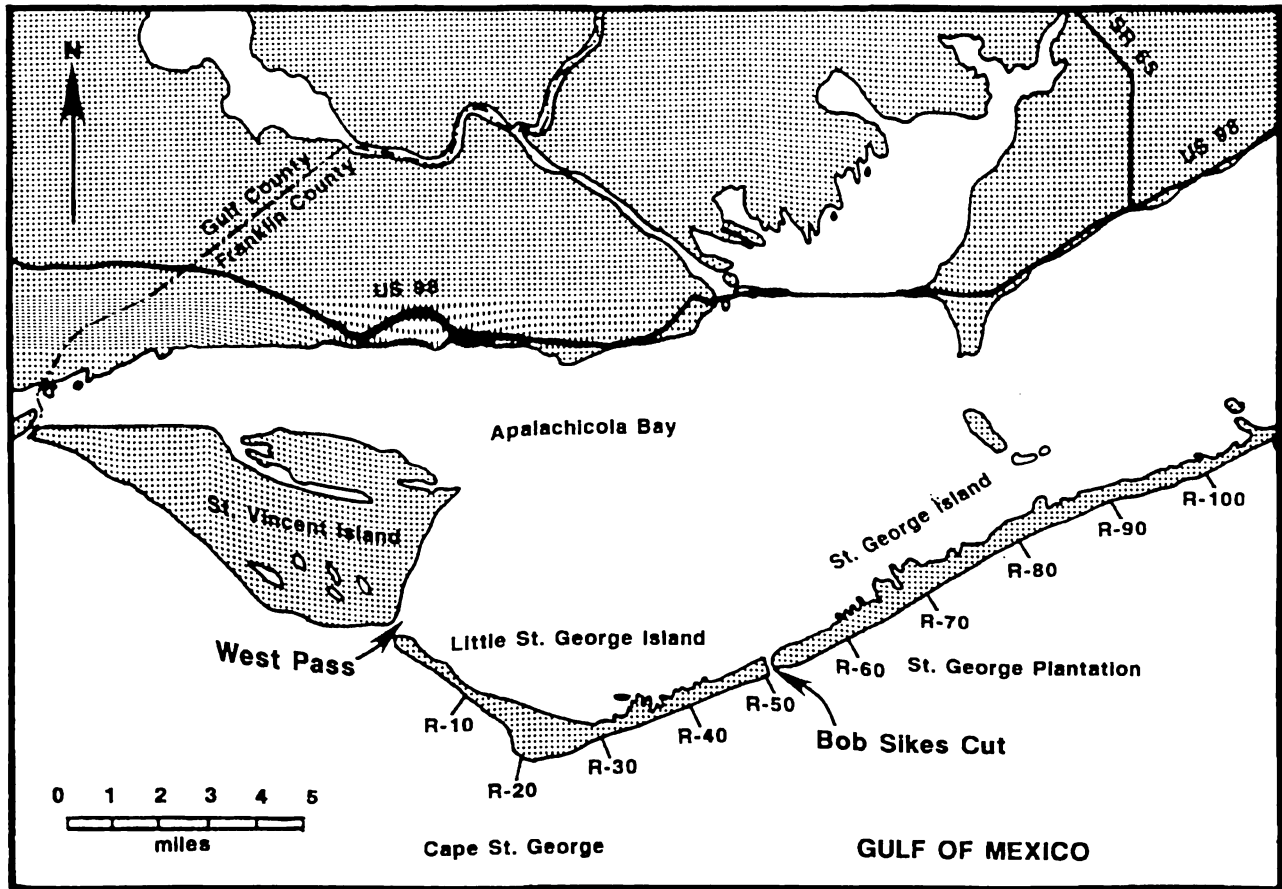
WALTON COUNTY



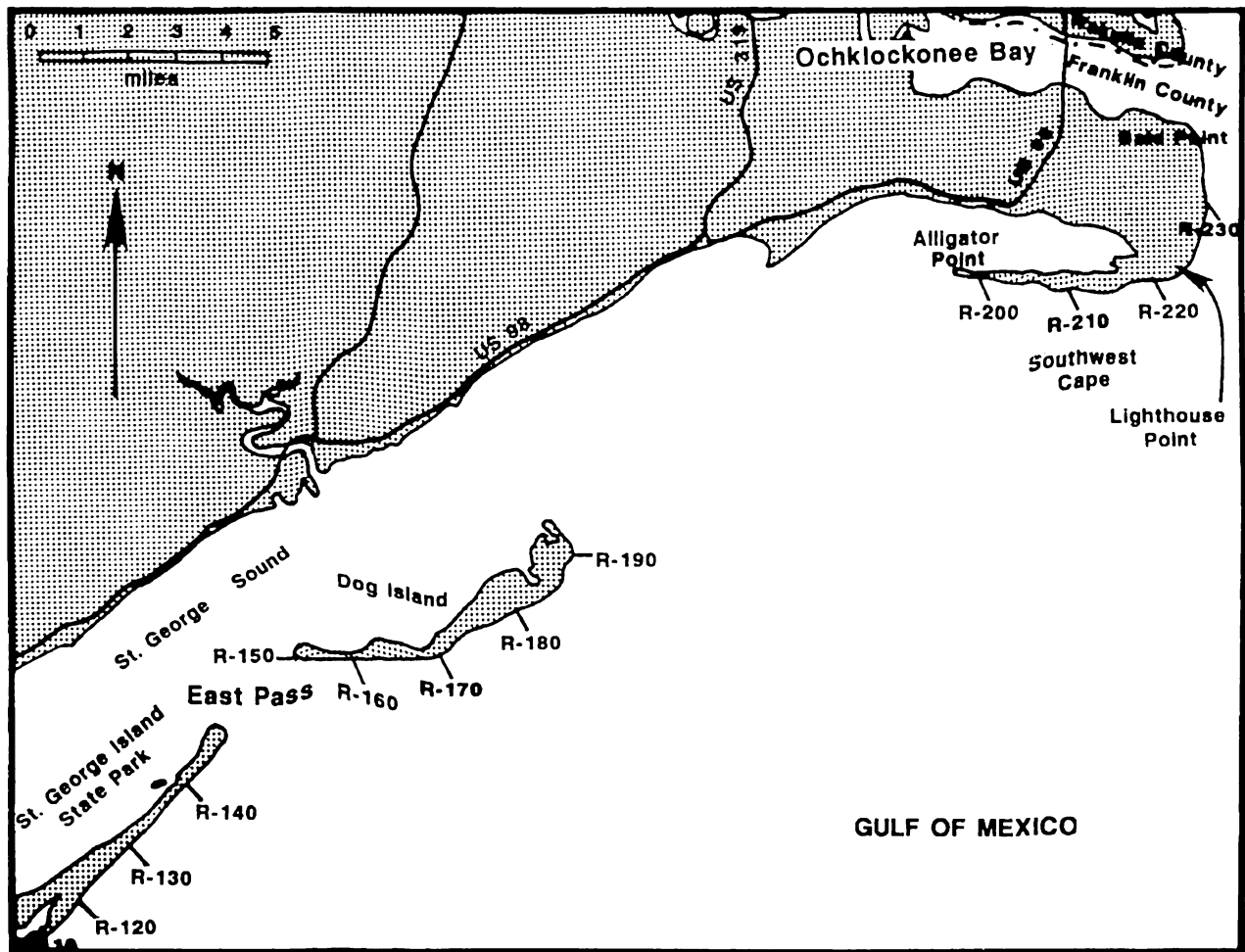
BAY COUNTY



GULF COUNTY



FRANKLIN COUNTY (1 OF 2)



FRANKLIN COUNTY (2 OF 2)

APPENDIX 7
Correspondence

The O'Hargan Company

Attachment 1

SURVEYING SERVICES
5588 N.W. 10TH TERRACE
FT. LAUDERDALE, FL 33309
(305) 771-7095

RECEIVED
AUG 20 1987
DIRECTOR'S OFFICE
Division of Beaches & Shores

August 15, 1987

Mr. Kirby B. Green, III
Acting Division Director
Division of Beaches & Shores
Department of Natural Resources
State of Florida
3900 Commonwealth Boulevard
Tallahassee, Florida 32399

Ref: TRANSFORMATION OF HISTORICAL SHORELINES
TO CURRENT NGVD POSITION

Dear Kirby:

Thank you for the opportunity to review the preliminary reports
for the referenced study.

Kirby, I have nothing to add, but my complements, to this concept. The approach is certainly superior to interpolation, which I have always advocated as only better than an on-site tide study which, of course, is most always a near impossibility along the open coastline. We should change the Rules so as to make this the methodology for Mean high water location for boundary purposes as well. The Rule could read that, in lieu of an on-site tide study, the tabular NGVD value of MHW would be acceptable to DNR as the elevation of MHW. The burden of proof to the contrary being placed on the property owner.

Please keep me informed as to the progress of the study.

Yours truly,



Paul T. O'Hargan

PTO'H/j

FLORIDA ENGINEERING SERVICES CORPORATION

Three Fifteen Beard Street

Tallahassee, Florida 32303

964-222-1441

January 28, 1988

Mr. James H. Balsillie
Division of Beaches and Shores
Department of Natural Resources
State of Florida
3900 Commonwealth Boulevard
Tallahassee, Florida 32399

Dear Jim:

Thank you for providing us a copy of Special Reports 87-1 thru 87-3 (Predicted Open Coast Tidal Datums).

We feel that this study represents a nice approach to the determination of datums on the outside coast for a number of reasons. First, this process represents a systematic review of each existing outside datum point against other such points. Therefore, it can detect bad data points. Secondly, we feel that the curve fitting approach is more statistically sound for determining datums (on the outside coast) than linear interpolation. Thirdly, this approach sets the stage for economy in future tidal gauging programs by getting a better handle on pattern of datum changes.

The tabulated results, as published, can now be readily used for mean high water line surveys (Chapter 177, Florida Statutes and Rule 16-3 appear to allow such techniques), for bathymetric surveys and for design and permitting work. Having the values readily available should result in considerable savings. In our office, we have already used the data on several occasions.

Our compliments on the work.

Best personal regards.

FLORIDA ENGINEERING SERVICES CORPORATION



George M. Cole, PE, PLS
President

GMC/dlm



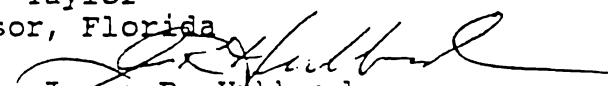
UNITED STATES DEPARTMENT OF COMMERCE
National Oceanic and Atmospheric Administration

NATIONAL OCEAN SERVICE
Rockville, Maryland 20852

Attachment 3

February 12, 1988

TO: Ronnie L. Taylor
NOS Advisor, Florida

FROM: N/OMA123 -  James R. Hubbard
Chief, Tidal Datum Quality Assurance Section

SUBJECT: National Ocean Service Review of Historical Shorelines
Report

The Florida Historical Shoreline Report was reviewed by personnel in the Sea and Lake Levels Branch as requested. The derived relationships between tidal datums and the National Geodetic Vertical Datum (NGVD) is a reasonable approach for outside oceanographic conditions along a coastline with similar topographic features and hydrographic conditions. This is most evident in the MTL-NGVD relationships found in Table 3 for Florida East, Lower Gulf and Panhandle Gulf Coast.

Where MTL-NGVD values in Table 3 do not show consistency or appear anomalous, data may have been unreliable, level connections inadequate or more recent information is now available.

One such anomaly appears in the East Coast Volume, Page 15, table 3. Daytona Beach Shores should have nearly the same relationship as Daytona Beach. Based on the latest data available. Daytona Beach Shores should be deleted.

One other point, NOS officially established the 1960-1978 National Tidal Datum Epoch in 1980. However, throughout the publication, the Epoch is erroneously referred to as 1959 to 1978 and the midpoint (1978.5) used in transformation equations

A few corrections are noted for accuracy and completeness:

- P 4 NGVD Shoreline Transformation; change MGVD to NGVD.
- Page 14 Tidal Datums-Tidal Datum Epoch; change 1959-1978 to 1960-1978.
- Pages 20 Top of page. change Antartic to Antarctic.
and 23
- Page 21 Bottom of page, change 1959-1978 to 1960-1978.
- Pages 46 Definitions, National Tidal Datum Epoch, change
and 52 1959 through 1978 to 1960 through 1978.



Page 14 Tidal Datums-Tidal Datum Epoch; change 1959-1978 to
1960-1978.

Pages 20 Top of page. Change Antartic to Antarctic.
and 23

Page 21 Bottom of page, change 1959-1978 to 1978 to 1960
through 1978.

Pages 46 Definitions, National Tidal Datum Epoch, change 1959
and 52 through 1978 to 1960 through 1978.

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FLORIDA GEOLOGICAL SURVEY