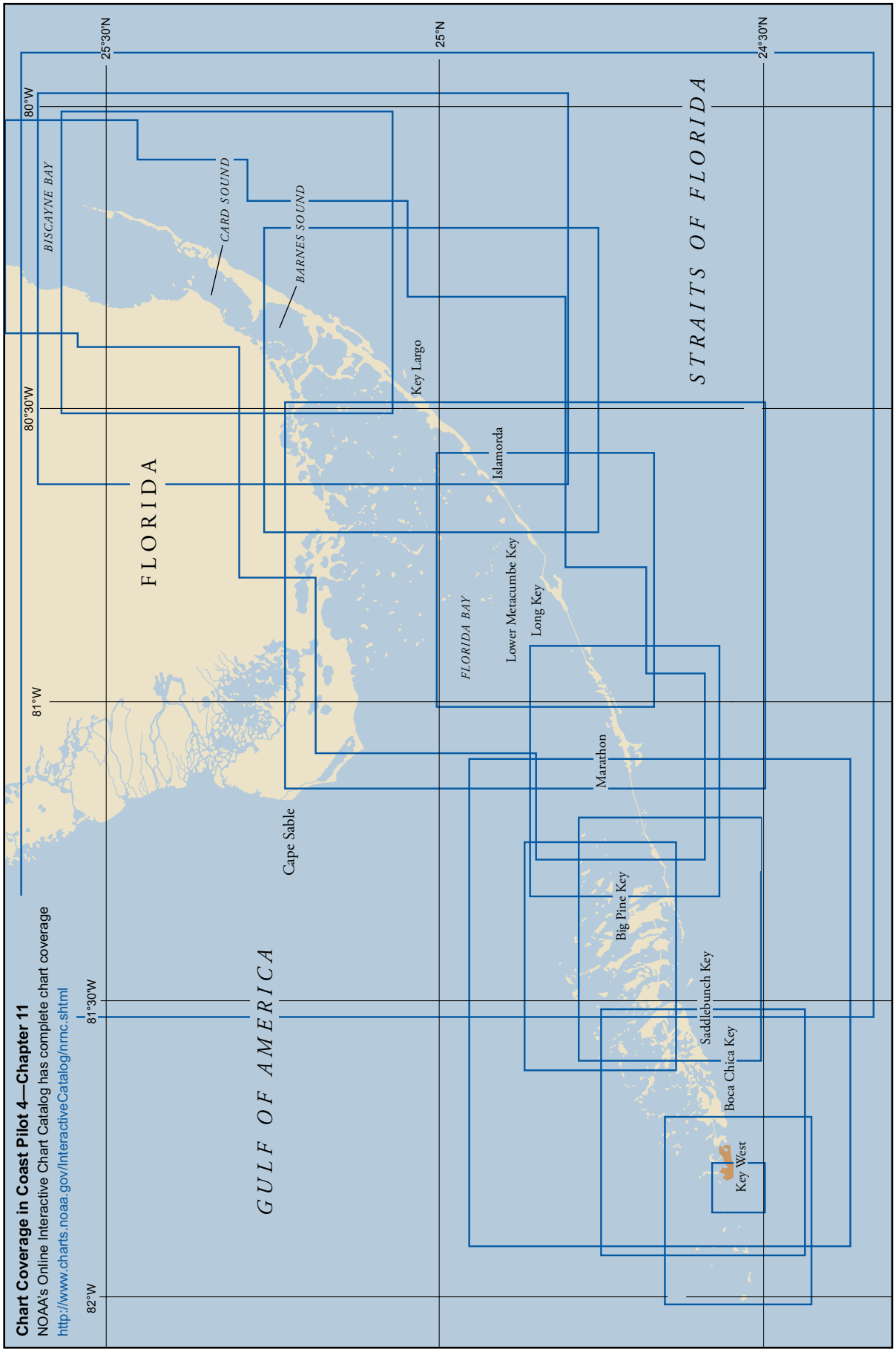
Chart Coverage in Coast Pilot 4—Chapter 11
NOAA's Online Interactive Chart Catalog has complete chart coverage
http://www.charts.noaa.gov/InteractiveCatalog/nrnc.shtml
25°30'N
25°N
24°30'N
80°W
80°30'W
81°W
81°30'W
82°W
BISCAYNE BAY
CARD SOUND
BARNES SOUND
FLORIDA
STRAITS OF FLORIDA
GULF OF AMERICA
Key Largo
Islamorda
FLORIDA BAY
Lower Metacumbe Key
Long Key
Marathon
Cape Sable
Big Pine Key
Saddlebunch Key
Boca Chica Key
Key West

Miami to Key West

(1) This chapter describes the Florida Keys and the various passages that lead through it from the Straits of Florida and Hawk Channel to Florida Bay and the Gulf of America. Also discussed are Key West Harbor and the small-craft basins at Key West, Boot Key Harbor, Safe Harbor and several other small-craft harbors along the Florida Keys.

(2) Strangers using Hawk Channel and the various passages through the Florida Keys can obtain the services of fishing boat captains and other qualified charter-boat captains at Miami or Key West who will act as **pilots** or **guides.**

(3)

COLREGS demarcation lines

(4) The lines established for this part of the coast are described in **33 CFR 80.735** and **80.740**, chapter 2.

(5)

Weather

(6) Tropical cyclones are the greatest weather hazard to navigation in this area. While they can form in any month they are most likely during August, September and October. Some of the greatest hurricanes on record have moved through this area. Often considered the most devastating was the Labor Day Hurricane that struck the Florida Keys in 1935. Sustained winds were estimated to be near 160 knots, with higher gusts. Near Lower Matecumbe Key (Craig) a pressure of 892.3 mb was measured; the lowest ever in a North Atlantic hurricane (in the Caribbean, lower pressures were measured in both Hurricane Gilbert (1988; 888 mb) and Hurricane Wilma (2005; 882 mb). Storm tides were estimated to have exceeded 18 feet (5.5 m) above mean sea level. Donna (1960) and Betsy (1965) were other severe hurricanes that wreaked havoc in the Keys. For more detail see Key West.

(7) This area lies close to the northern boundary of the trade winds in winter but in the heart of this system in summer. Therefore easterlies and northeasterlies are persistent throughout the year. They are occasionally interrupted by winter cold fronts, easterly waves and tropical cyclones. Local effects also come into play near the Keys. The trades usually blow at 10 to 20 knots but can strengthen at times. While gales are infrequent, winds of 22 knots or more blow about 7 to 12 percent of the time from October through March. In the Straits of Florida, October and November trade winds are persistent and intense, averaging around 15 knots. From fall through spring, waves of 10 feet (3 m) or more are reported 1 to 3 percent of the time.

(8) The nearness of the Gulf Stream and the tempering effects of the Gulf of America produce a tropical maritime climate in which average winter temperatures are only 12° to 15°F (6.7° to 8.4°C) cooler than summer averages. Cold fronts are usually modified even if they reach the Keys. Just south of Miami there are about 10 to 12 days on the average when the temperatures drop below 40°F (4.4°C). June through October is generally considered the rainy season and most of this falls from showers and thunderstorms. Particularly heavy amounts fall in conjunction with easterly waves or more organized tropical cyclones. In winter, cold fronts may bring rain. Visibilities are usually good but may be reduced briefly in showers.

(9)

Florida Keys

(10) The **Florida Keys** consist of an outlying chain of low islands, beginning from Virginia Key and extending southwest in a circular arc to Loggerhead Key, a distance of about 200 miles. Around 100 miles of that distance, the keys fringe the southeast coast of the Florida Peninsula, where they are separated by shallow bodies of water known as Biscayne Bay, Card Sound, Barnes Sound, Blackwater Sound and Florida Bay. Shallow depths exist for most of the length, containing numerous small keys and shoals. Westward of Florida Bay the Florida Keys separate the **Straits of Florida** from the Gulf of America.

(11) The Keys are mostly of coral formation, low and generally covered with dense mangrove growth, though some are wooded with pine, and on a few are groves of coconut trees. Most of the keys that are connected by U.S. Highway 1 to Key West are inhabited. **Key West** is the most important of the Keys. **Florida Keys National Marine Sanctuary**, a Marine Protected Area (MPA), surrounds the keys from Biscayne Bay to Dry Tortugas.

(12) The openings under the viaduct and bridges are indicated on the charts. Drawbridges are over Channel Five, Jewfish Creek and Moser Channel. Overhead power cables run parallel to U.S. Highway 1 from Tavernier to Big Coppitt Key. All clearances are greater than those of the adjacent fixed bridges. Cables are submerged at the movable spans of drawbridges. Small craft with local knowledge use these channels to go from the Straits of Florida to Florida Bay and the Gulf of America. Mariners unfamiliar with this area should not attempt passage without a pilot or guide.

(13) The tidal currents are strong through the openings between the keys. Wind effects may at times be expected

to modify the velocities of tidal currents. See the Tidal Current prediction service at *tidesandcurrents.noaa.gov* for specific information about times, directions, and velocities of the current at numerous locations throughout the area. Links to a user guide for this service can be found in chapter 1 of this book.

(14) The Florida Keys are skirted on the side next to the straits throughout their extent by the **Florida Reefs**, a chain of dangerous reefs and shoals lying at an average distance of about 5 miles from the line of keys. The reefs are hazardous because they are not marked by breakers in smooth weather and only a few show above the water. On the outer edge of and between the reefs the water shoals abruptly.

(15) In the seaward approach to the reefs, warning of their proximity usually will be given by the difference in color of the water, from deep blue to light green, or by the **Bank Blink**, described in chapter 3. Too much reliance in these warnings, however, may lead to trouble. In clear weather the lights and daybeacons make navigation along the reefs easy, but in thick weather soundings should be relied upon for safety. Fifty-fathom soundings indicate a distance of 2 to 3 miles from the reefs, and great caution should be used in approaching them closer. Fog is not frequent in this locality.

(16) The water always becomes milky following windy weather. The usual color of the water on the reefs is bluish green, and the shoal patches show dark, shading through brown to yellow as they approach the surface. The shoal sand patches show as a bright green. At depths of 10 to 15 feet grass patches on the bottom look quite similar to rocks. When piloting in this area choose a time so that the sun will be astern, conning the vessel from aloft or from an elevated position forward, for then the line of demarcation between deep water and edges of the shoal will be indicated with surprising clarity.

(17) The **Florida Keys Particularly Sensitive Sea Area (PSSA)** is an IMO-designated zone that encircles the sea area around all of the Florida Keys. The PSSA includes the entire Florida Keys National Marine Sanctuary as well as Biscayne National Park at the northeastern end of the Keys. The PSSA has been established to protect the exceptional values of the sea area around the Florida Keys from possible damage by international shipping activities. The PSSA includes the Tortugas Ecological Reserve, which was established in 2001 to protect nearly pristine coral formations and habitat in the Sanctuary. The coral resources within the Reserve are especially vulnerable to possible damage from shipping activities.

(18) Domestic law and regulations adopted by the United States for the Sanctuary apply within the PSSA. Several of these concern shipping activities:

(19) (1) **Areas To Be Avoided (ATBAs)** – There are four ATBAs in the Sanctuary: in the vicinity of the Florida Keys; in the vicinity of Key West Harbor; in an area surrounding the Marquesas Islands; and in an area surrounding the Dry Tortugas Islands. All tank vessels and vessels greater than 50 meters in registered length are prohibited from operating within the ATBAs. The ATBAs are described and the coordinates are provided in chapter 3.

(20) (2) **Areas closed to anchoring**– All vessels are prohibited from anchoring in the Tortugas Ecological Reserve. Vessels that are 100 feet or less in length (30.48 m) may request permission from the Sanctuary to use mooring buoys in the northern portion of the Reserve (Tortugas North). Vessels 50 meters or greater in registered length are prohibited from anchoring on the portion of Tortugas Bank west of Dry Tortugas National Park. (This area was modified in January 2001 by the establishment of the Tortugas Ecological Reserve.)

(21) (3) **Anchoring restriction**– In areas of the Sanctuary identified as Ecological Reserves and Sanctuary Preservation Areas all anchor apparatus (including the anchor, chain or rope) must not touch any coral, living or dead, or any attached organism. In all other areas of the Sanctuary, vessels are prohibited from anchoring on living coral in water depths of less than 40 feet when visibility is such that the seabed can be seen.

(22) (4) **Restricted access**– Vessels are not allowed to stop in the southern portion of the Tortugas Ecological Reserve (Tortugas South) and must receive permission in advance in order to stop in the northern portion of the Reserve (Tortugas North).

(23) (5) **Discharge restriction**– In Ecological Reserves and Sanctuary Preservation Areas, all discharges and deposits are prohibited except cooling water or engine exhaust.

(24) Additional restrictions on vessel activities, such as vessel discharges, apply within the Sanctuary. (See **15 CFR 922**, chapter 2, for limits and regulations) for the Sanctuary, including the coordinates of ATBAs, Ecological Reserves and Sanctuary Preservation Areas.

(25)

Prominent features

(26) The outer part of the Florida Reefs is marked by lights from Miami to Key West. Several lights marking the Hawk Channel are also visible from seaward. In addition, several lighted radio towers and microwave towers along the keys and the aerolights at Marathon Airstrip, on Boca Chica Key and at the **Key West International Airport** are prominent.

(27)

Dangers

(28) Vessels proceeding through the channels inside the Florida Reefs should exercise extreme caution because of the numerous rocks, shoals, wrecks and pile structures that exist. The chart should be examined carefully to determine the position of these dangerous obstructions so they may be avoided.

(29) **Hawk Channel** is the navigable passage inside Florida Reefs and outside the keys from Cape Florida to Key West, a distance of about 127 miles. It varies in depth from 9 to 34 feet and is 0.25 mile wide at its narrowest part. Light-draft vessels, bound southward and

westward, may use this channel with great advantage, avoiding entirely the adverse current of the Gulf Stream and finding comparatively smooth water in all winds, except when passing the large openings between the reefs in southerly winds. These openings are principally between Alligator Reef Light and American Shoal Light. Power-driven vessels or sailing vessels with a following wind may run the courses through this channel without difficulty. Sailing vessels drawing more than 7 feet are advised not to try to beat through without a pilot or guide.

(30) Reports indicate that the current in Hawk Channel usually sets fair with the channel, except alongside the open area between Hawk Channel and Biscayne Bay where a fairly strong cross current exists, particularly on an ebb tide. Possible cross currents should be guarded against, especially in the vicinity of the openings between the keys.

(31) Local fishing-boat and charter-boat captains who will act as pilots or guides are generally available at Miami or Key West. The channel is marked with lights, lighted buoys, daybeacons and buoys. However, strangers should not attempt passage at night without local knowledge. Vessels may anchor at night where the bottom is soft. Known anchorages are discussed in a later section. The holding ground is poor where the bottom is hard. Tows and other small vessels use the channel.

(32) The **Intracoastal Waterway** between Miami and Key West is described in chapter 12. This waterway on the western and northern side of the keys passes southward through Biscayne Bay, Card Sound, Barnes Sound, Blackwater Sound and connecting waterways in Florida Bay to Moser Channel. From there it is necessary to pass either through Moser Channel and proceed to Key West via Hawk Channel, a distance of 40 miles, or to remain on the northern side of the keys and proceed to Key West via Big Spanish Channel and the Gulf of America, a distance of 54 miles. The waterway route is through smooth waters, except in Hawk Channel and the Gulf of America.

(33) **Florida Bay**, northward of the Florida Keys and southward of the mainland of Florida, is a triangular body of water extending in a general east-and-west direction from Barnes Sound to Cape Sable. The depths are shallow and irregular, and the bottom is mostly coral with a thin covering of silt in the eastern part. From April to October the waters of the bay are clear and the shoals plainly discernible, but during the winter the water is frequently milky and the shoals indistinguishable.

(34) In the eastern part of the bay are numerous ridges and reefs that show bare or nearly bare. Numerous small wooded keys dot the area. Only small craft can navigate this part of the bay, which is frequented by small motor yachts, crab and lobster fishermen and other fishing craft. The western part of the bay is comparatively clear, with depths ranging from 7 to 13 feet. Many charted shoal areas with lesser depths are scattered throughout this part of the bay; the chart is the best guide. The bottom is covered with basket sponges and small coral heads.

(35) A protected area of the **Everglades National Park** is in the northern part of Florida Bay. Landing on the beaches or keys of this area without the authorization of the Superintendent of the Everglades National Park is **prohibited**, except on those beaches or keys marked by a sign denoting the area as being open. Everglades National Park is a Marine Protected Area.

(36) **Great White Heron National Wildlife Refuge** and **National Key Deer Refuge** extend through the northern part of the keys from near Vaca Key to Key West.

(37)

Norris Cut to Fowey Rocks Anchorage

(38) **Norris Cut** is a shallow inlet just south of the Main Channel to Miami Harbor between Fisher Island and **Virginia Key**. A prominent stack and tank are near the center of Virginia Key.

(39) **Key Biscayne** is connected to the mainland by a bridge-causeway that crosses Bear Cut, Virginia Key and Biscayne Bay. The highway bridge over Bear Cut has a 48-foot fixed span with a clearance of 16 feet. A shoal, reported bare at mean high water, extends about 0.6 mile in a north-south direction about 0.2 mile off the eastern shore of Key Biscayne.

(40) An abandoned lighthouse is on **Cape Florida**, the southern point of Key Biscayne. Many tall apartment hotels on the easterly side of Key Biscayne are also prominent.

(41) **Biscayne Channel** leads through the shoals south of Cape Florida into Biscayne Bay. It is partially dredged, but the channel has shoaled. The channel is marked by lights and daybeacons. Craft whose draft is close to the limiting depth of the channel should exercise extreme caution in navigating it. Several channels leading through the shoals between Biscayne Channel and Key Biscayne are used by local boats.

(42) **Cape Florida Anchorage**, with depths of 12 to 20 feet, is about 300 yards westward of the south end of Cape Florida with the lighthouse tower bearing northward of 069°. This is a poor anchorage with southerly winds.

(43) **Miami South Channel** is a dredged cut leading from Biscayne Bay, westward of Virginia Key, to the Miami waterfront. One branch of it leads into the Miami River, and the other leads directly to the basin off **Bay Front Park**. The Intracoastal Waterway southward to Key West passes through Miami South Channel. Clearance of the Rickenbacker Causeway bridge is given in chapter 12.

(44) **Fowey Rocks Light** (25°35'26"N., 80°05'48"W.), 110 feet above the water, is shown from a brown, octagonal, pyramidal skeleton tower on pile foundation enclosing a white dwelling and stair cylinder. A fish haven, covered 65 feet, is about 2.1 miles north-northeastward of the light in about 25°37'24"N., 80°04'54"W.

(45) **Fowey Rocks Anchorage**, 1.3 miles westward of Fowey Rocks Light and unprotected from southerly winds, can be used by vessels drawing 14 feet or less.

(46)

Bowles Bank Anchorage to Tavernier Key Anchorage

(47) **Bowles Bank Anchorage**, 6.5 miles south-southwestward of Fowey Rocks Light (25°35'26"N., 80°05'48"W.), is fair in all but southerly winds. It has depths of 14 to 16 feet and soft bottom in places and lies about 0.5 mile north of the light of Bache Shoal and eastward of the north end of **Elliott Key.**

(48) **Legare Anchorage**, 7 miles southward of Fowey Rocks Light, lies between the reefs westward of **Triumph Reef**. The bottom is mostly hard, but there are some soft spots on which vessels may anchor. The entrances are not marked, and the anchorage is not generally used.

(49) **Caesar Creek Bank Anchorage**, 12 miles south-southwestward of Fowey Rocks Light, is fair in all but southerly winds. It lies on the west side of Hawk Channel between **Margot Fish Shoal** and **Caesar Creek Bank**, with depths of 10 to 12 feet, soft bottom.

(50) Excellent anchorage for small craft will be found in **Caesar Creek**, just north of Caesar Creek Bank. The entrance is marked by a light, and private daybeacons mark the channel. There was a reported depth of 6 feet through the entrance channel in 1983.

(51) There is also a secure anchorage between **Adams Key**, **Meigs Key** and **Elliott Key**. In 1983, it was reported that with local knowledge a draft of 4 feet could be carried into Biscayne Bay through a privately marked channel that leads north along the west side of Adams Key.

(52) **Pacific Reef**, 13.4 miles southward of Fowey Rocks Light, is marked by **Pacific Reef Light** (25°22'16"N., 80°08'31"W.), 44 feet above the water and shown from a black skeleton tower on piles. A channel, marked by daybeacons, leads from the ocean 0.6 mile southward of Pacific Reef Light to Caesar Creek; the reported controlling depth was 8 feet in 1983.

(53) In 1984, a sunken wreck was reported in Hawk Channel about 0.3 mile northwest of Turtle Harbor West Shoal Daybeacon 2 in about 25°19.5'N., 80°13.0'W.

(54) **Angelfish Creek**, 17.5 miles southwestward of Fowey Rocks Light, is used by vessels proceeding to Card Sound and the Intracoastal Waterway. The reported controlling depth through the creek was 5 feet in 1983. The channel is marked by lights and daybeacons. The outer end of the creek offers good protection, but the bottom is rock ledge and the anchor should be buoyed.

(55) **Ocean Reef Harbor** is on the east side of **Key Largo**, 19.5 miles southwestward of Fowey Rocks Light. A privately dredged channel leads to the harbor. In 1979, the centerline controlling depth in the channel was 7 feet. The entrance channel is marked by a light and private daybeacons. The harbor has good anchorage. A private yacht club is on the north side of the harbor.

(56) In 1992, an obstruction was reported 0.6 mile east-southeastward of the entrance channel in about 25°18'19.4"N., 80°15'35.2"W.

(57) A privately dredged channel, about 0.4 mile northward of the entrance to Ocean Reef Harbor, leads to a residential area. The channel, marked by private daybeacons, had a centerline controlling depth of 7 feet in 1979.

(58) **Key Largo Anchorage**, 20 miles southwestward of Fowey Rocks Light, is fair in all but southerly winds. It has a depth of 14 feet, soft bottom, 4.5 miles northwestward of Carysfort Reef Light.

(59) **Turtle Harbor**, a well-sheltered anchorage between the reefs lying northwestward of Carysfort Reef Light, is one of the better offshore anchorages between Key West and Miami and is protected from all but northeast winds. It is entered from the Straits of Florida by a marked passage 5 miles northeastward of the light. Vessels of 15-foot draft can use this passage in smooth water. Depths in the approach range from 27 to 38 feet and at the anchorage from 25 to 28 feet. In 1980, a submerged pile was reported in the north end of the anchorage about 0.2 mile southwest of Turtle Harbor Daybeacon 6. Vessels can enter Hawk Channel from this harbor by proceeding about 1.3 miles south-southwestward of Daybeacon 6 and then taking a westerly course.

(60) **Carysfort Reef Light** (25°13'19"N., 80°12'41"W.), 100 feet above the water, is shown from a brown, octagonal, pyramidal skeleton tower on pile foundation, enclosing a conical dwelling and stair cylinder.

(61) **The Elbow** is a reef, 5.3 miles southwestward of Carysfort Reef Light, on which several wrecks have occurred. It is marked on its seaward edge by a light.

(62) **Molasses Reef**, 15.5 miles southwestward of Carysfort Reef Light, is marked by a light. The entrance to **Molasses Reef Channel**, which has a controlling depth of about 8 feet, is just south of the light. The shoalest part of the channel is marked by daybeacons. A **no anchorage area**, marked by private buoys, has been established on Molasses Reef.

(63) **Biscayne National Park** extends south from Cape Florida for about 19.5 miles to Angelfish Creek and comprises Biscayne Bay and the offshore reef areas northeast and east of Elliott Key. Regulations are available from the park ranger station at Elliott Key Harbor or from the park headquarters on the west side of Biscayne Bay at Homestead. Gasoline and a launching ramp are available at the headquarters. The mailing address is Biscayne National Park, Post Office Box 1369, Homestead, FL 33030. Biscayne National Park is a Marine Protected Area (MPA).

(64) The **John Pennekamp Coral Reef State Park** comprises the offshore reef area from the vicinity of Angelfish Creek to near Molasses Reef. The area has been established for the protection of the coral reef formation and its associated marine life. Regulations for the preserve are available at the park headquarters on the southwest side of Largo Sound.

(65) **Key Largo Management Area** (**Key Largo National Marine Sanctuary**), 20 miles long, extends to seaward about 8 miles from the John Pennekamp Coral

Reef State Park. The area has been established for the protection of the coral reef formation and its associated marine life. Sanctuary regulations include prohibitions against spearfishing, anchoring in the coral, breaking or removing coral or otherwise damaging the fragile habitats found within the Sanctuary. The Sanctuary seeks to minimize reef damage by educating the public and providing alternatives to anchoring. The mooring buoy system now established in the Sanctuary is intended to alleviate the problem of anchor damage to coral reefs. (See **15 CFR 922**, chapter 2, for limits and regulations.)

(66) **El Radabob Key**, locally known as **Julia Island**, is an island westward of The Elbow, about 10 miles southwestward of Carysfort Reef Light. It is about 5 miles long and 0.5 miles wide and in general is covered with dense mangrove growth. The island is separated from Key Largo on the west by Largo Sound, South Sound Creek and North Sound Creek.

(67) **Largo Sound**, between El Radabob Key and Key Largo, is about 1.8 miles long and 0.8 mile wide and is entered southward of El Radabob Key. General depths in the sound are from 1 to 6 feet. A dredged channel leads from Hawk Channel through **South Sound Creek** thence 0.3 mile into the sound. The channel is well marked by lights and daybeacons. Mariners are advised to stay well to the center of the channel as the sides are composed of coral rock, and the bends are sharp. The entrance is difficult and narrow and fills with southerly winds.

(68) **Marvin D. Adams (Key Largo) Waterway**, another dredged channel, enters the west side of Largo Sound from Blackwater Sound. The waterway is marked at each end by a light.The waterway is crossed by twin fixed highway spans of U.S. Route 1, an adjacent pedestrian bridge, overhead cables and an overhead pipeline. The spans each have a clearance of 14 feet. A state park marina on the west side has berths, electricity, launching ramp, pump-out station, water and ice available.

(69) A narrow unmarked channel leads northwestward from about 1 mile above the mouth of South Sound Creek to an unnamed bay. An island in the middle of the bay is connected to the mainland by a causeway bridge; bridge clearance is not known. Gasoline is available at a camper resort on the west side of the bay about 0.2 mile southwestward of the bridge.

(70) Several small-craft facilities are at the town of **Key Largo**, about 1 mile southwestward of the south end of El Radabob Key. Berths, electricity, gasoline, diesel fuel, water, ice, marine supplies, a pump-out station and a mobile lift are available; hull, engine and electrical repairs can be made.

(71) **Rock Harbor**, about 3 miles southwestward of El Radabob Key and 5.7 miles northwestward of the light on Molasses Reef, has small-craft facilities where gasoline, water and ice can be obtained. Also available are berths with electricity, launching ramps, repairs and a 5-ton fixed lift.

(72) **Tavernier**, about 5 miles southwestward of Rock Harbor and 20 miles southwestward of Carysfort Reef Light, is one of the larger settlements on the Florida Keys. A channel, marked by a light and daybeacons, leads to Tavernier Harbor from Hawk Channel. A fixed highway bridge with a clearance of 15 feet crosses Tavernier Creek. In 1991, a fixed highway bridge with a design clearance of 15 feet was under construction immediately north of the existing bridge. Gasoline, supplies, motels and charter party fishing boats are available. The small-craft facilities on the bay side at Tavernier and in Tavernier Creek are described with the Intracoastal Waterway, chapter 12.

(73) **Tavernier Key Anchorage** is 2 miles eastward of Tavernier. Anchor according to draft from northward to eastward of Tavernier Key, hard bottom.

(74)

Indian Key Channel to Marathon

(75) **Alligator Reef Light** (24°51'05"N., 80°37'04"W.), 16 feet above the water, is shown from a small platform on a steel pile.The octagonal pyramidal skeleton tower close north-northwest is abandoned; extreme caution advised.

(76) **Indian Key Channel**, northwestward of Alligator Reef Light, is about 200 yards wide and leads from the Straits of Florida east of **Lignumvitae Key** to Florida Bay. It is marked by daybeacons. In 1983, the reported controlling depth in this narrow channel was 6 feet. It was also reported that the channel has a tendency to deepen with westerly winds and fill in with southeasterly winds. Local knowledge is advised. The highway bridge across the channel has a fixed span with a clearance of 27 feet.

(77) **Channel Five**, 8.4 miles westward of Alligator Reef Light, is a natural channel that had a reported controlling depth of 7 feet in 1978. At times a strong current sets through the channel. The fixed highway bridge across the channel has a clearance of 65 feet. Vessels drawing up to three feet can follow the marked route leading westward and northwestward in Florida Bay to Cape Sable and Flamingo.

(78) **Flamingo**, on the north side of Florida Bay about 9 miles east of East Cape (25°07'N., 81°05'W.), is a visitors center in **Everglades National Park**. A 300-foot tower and an 86-foot standpipe about 0.3 mile northeast of the visitors center are prominent.

(79) A dredged channel leads from the bay to the entrance to **Buttonwood (Flamingo) Canal**. The reported controlling depth was 4½ feet in 1982. A dam blocks the canal about 200 yards above the entrance. Passage around the dam to allow vessels to proceed to Whitewater Bay is provided by boat ramps and by an 8-ton sling hoist that can handle craft to 26 feet with 10-foot beam. A highway bridge about 0.5 mile above the entrance to the canal has a 45-foot fixed span with a clearance of 10 feet. A marina on the west side of the canal just below the dam at Flamingo has berths with electricity, water, ice and limited marine supplies. Gasoline, diesel fuel and launching ramps are available on either side of the dam. A 5 mph no wake **speed limit** is enforced in the canal.

(80) **Tennessee Reef Light** (24°44'46"N., 80°46'56"W.), 49 feet above the water, is shown from a small black house on a hexagonal, pyramidal skeleton tower on piles, about 0.7 mile off the southwestern end of **Tennessee Reef**. A lighted buoy is about 5.6 miles northeast of the light.

(81) **Long Key Anchorage**, 3 miles north-northwestward of Tennessee Reef Light, has soft bottom in depths of 15 to 18 feet, but it is exposed to southerly winds.

(82) In 1982, a partially submerged steel beam was reported 2.8 miles northwest of Tennessee Reef Light in about 24°46.5'N., 80°49.3'W.

(83) **Turtle Shoal Anchorage**, 20 miles southwestward of Alligator Reef Light and 1 mile westward of **East Turtle Shoal Light 45** (24°43'29"N., 80°55'59"W.), 20 feet above the water, has a soft bottom in a depth of 27 feet. It is a fair anchorage in fine weather. **West Turtle Shoal** to the southwestward affords another anchorage area in depths of 24 to 36 feet about 1 mile to its westward. A 1-mile-square fish haven is immediately southward of West Turtle Shoal.

(84) A well-protected yacht basin and a marina are at **Duck Key**, about 3 miles north-northeastward of East Turtle Shoal Light 45. A private light and private daybeacons mark the channel entrance to Duck Key. In 1983, a reported depth of 10 feet could be carried to the yacht basin, thence 5 feet to the marina beyond. Berths, electricity, gasoline, diesel fuel and water are available at the yacht basin and marina. A launching ramp, ice and marine supplies are also available at the marina. Hotels and restaurants are nearby.

(85) **Valhalla** on **Crawl Key**, about 3 miles northwestward of East Turtle Shoal Light 45, has a private yacht club.

(86) **Key Colony Beach**. about 3 miles southwestward of Valhalla, is a protected harbor westward of **Fat Deer Key**. In 2000, the reported controlling depth was 9 feet in the entrance channel. The channel is marked by private daybeacons. Gasoline, diesel fuel, water, berthing with electricity and a launching ramp are available.

(87) **Sister Creek**, about 3.8 miles southwestward of Key Colony Beach and 4 miles northeastward of Sombrero Key Light, is a narrow passage between **Boot Key** and **Vaca Key**. It connects Hawk Channel to the southward with Boot Key Harbor to the northward and has several arms that provide secure refuge during heavy weather. Vessels tie to the mangroves. The entrance to the creek between **West Sister Rock** and **East Sister Rock** is marked by a light and daybeacons. Rocks awash extend well into the channel from the east side. In 1983, the reported controlling depth was 5 feet to Boot Key Harbor. A sunken wreck is about 300 yards southeastward of West Sister Rock.

(88) **Knight Key Anchorage**, northward of Sombrero Key Light, is good but exposed to southwesterly winds. To make this anchorage, bring Sombrero Key Light astern on a **352°** course and anchor in 6 to 12 feet, sticky bottom, about 0.6 mile southward of Knight Key.

(89) **Boot Key Harbor**, on the south side of the town of **Marathon**, is entered southward of **Knight Key** about 4.5 miles northward of Sombrero Key Light. The entrance channel is marked by a light and daybeacons; the color of the banks is also a good guide for the narrow entrance channel. Daybeacons also mark the channel through the harbor for a distance of about 1.5 miles. The reported controlling depth was 7 feet, but shoaling was reported along the southerly side of the entrance channel; caution is advised. A partial bridge over the channel at mile 0.13, has an open clearance at the center of the channel.

(90) A group of four radio towers on the southwestern end of Boot Key and four radio towers about 1.1 miles eastnortheastward of the first group are prominent. Also prominent is a tower with a blue strobe light at a marina 1.2 miles northward of the southeasterly radio towers.

(91) An aerolight is at Marathon Airstrip at the east end of Vaca Key.

(92) Boot Key Harbor is a secure refuge and has excellent small-craft facilities. Several marinas and a boatyard in the western part of the harbor can provide berthage with electricity, gasoline, diesel fuel, water, ice, launching ramps and marine supplies and hull, engine and electronic repairs. A boatyard on the north side of the harbor, immediately eastward of the highway bridge, has a 50-ton mobile lift. There are several fish wharves in the harbor where fuel and some services can be obtained. The small-craft facilities on the bay side at Marathon are described in chapter 12.

(93) A privately dredged channel through the shallow eastern part of Boot Key Harbor leads eastward from near the vicinity of Daybeacon 20 to a marina where berthage with electricity, gasoline, diesel fuel, water and ice can be obtained. This marina and Boot Key Harbor proper can also be reached from the southward via Sister Creek as previously described.

(94) **Marathon Coast Guard Station** is on the bay side at Marathon.

(95)

Moser Channel to Cow Key Channel

(96) **Sombrero Key Light** (24°37'40"N., 81°06'31"W.), 19 feet above the water, is shown from a small platform on a steel pile foundation. The octagonal pyramid skeleton tower close northwest of the light is abandoned, extreme caution advised.

(97) **Moser Channel** is northwestward of Sombrero Key Light and 95 miles southwestward of Miami. It affords a passage for vessels of 7 to 8 feet in draft between the Florida Keys from the Straits of Florida to Florida Bay. The swing span of Seven Mile Bridge across Moser Channel has been removed; however, the bridge piers remain. The fixed highway bridge close south of the former swing span has a clearance of 65 feet.

(98) The tidal current at the bridge has a velocity of about 1.4 to 1.8 knots. Wind effects modify the current velocity considerably at times; easterly winds tend to increase

the northward flow and westerly winds the southward flow. Overfalls that may swamp a small boat are said to occur near the bridge at times of large tides. See the Tidal Current prediction service at *tidesandcurrents.noaa.gov* for specific information about times, directions, and velocities of the current at numerous locations throughout the area. Links to a user guide for this service can be found in chapter 1 of this book.

(99)

Route

(100) A route from the Straits of Florida via the Moser Channel to the Gulf of America is as follows: From a point 0.5 mile 336° from the center of the bridge, pass 200 yards west of the light on Red Bay Bank, thence 0.4 mile east of the light on Bullard Bank, thence to a position 3 miles west of Northwest Cape of Cape Sable, thence to destination.

(101) **Bahia Honda Channel (Bahia Honda)**, 10 miles northwestward of Sombrero Key and between Bahia Honda Key on the east and **Scout Key** on the west, is the deepest channel between the Straits of Florida and Florida Bay. In 1983, the reported controlling depth was 8 feet from Hawk Channel to Little Pine Key. The passage is crossed by three fixed highway bridges. The southernmost has a clearance of 20 feet over the channel and unlimited vertical clearances at an opening at each end. Mariners are advised to navigate with extreme caution as falling and hanging debris exits in the area. The twin bridges to northward have a clearance of 23 feet over the channel. The direction of the current should be carefully watched when turning northwestward after passing under the bridges in order to avoid being grounded on the banks on either side of the channel. These banks are usually visible. Currents through the passage average 2 knots or more at strength. See the Tidal Current prediction service at *tidesandcurrents.noaa.gov* for specific information about times, directions, and velocities of the current at numerous locations throughout the area. Links to a user guide for this service can be found in chapter 1 of this book. From Bahia Honda Channel, vessels may proceed via Big Spanish Channel to the Gulf of America as described in chapter 12.

(102) A marina with two boat basins is at the Bahia Honda State Park, on the bayside and near the western end of **Bahia Honda Key**. In 1981, depths of 4 feet were reported in the unmarked entrance channel, with 7 to 15 feet in the basins. Berths with electricity, water, ice and a launching ramp are available.

(103) A marina on the northwest side of **Ohio Key**, northeast of Bahia Honda Key, provides berths, gasoline, diesel fuel, water, electricity, ice, limited marine supplies and a launching ramp; a forklift can handle craft to 23 feet. In 1981, the reported controlling depth was 6 feet in the privately marked entrance channel with 5 to 6 feet reported alongside the berths.

(104) **Newfound Harbor Keys Anchorage**, 16 miles westward of Sombrero Key Light, is in depths of 19 to 22 feet in the channel northeastward of the light at the west end of the keys. **Newfound Harbor Channel** to the northward is clearly defined by the appearance of the water and is marked by a light and daybeacons. A strong current sets fair with the channel. In 1983, the reported controlling depth was 4 feet to the western of two bridges at the head, 3.4 miles above the entrance. Clearances at the bridges are 15 feet under the westerly span and 9 feet under the easterly span.

(105) A marina is on the west side of **Big Pine Key** about 0.25 mile south of the easterly span. Gasoline, diesel fuel, water, ice, marine supplies, a 2½-ton forklift and minor hull and engine repairs are available. In 1981, a depth of 3 feet was reported available to the marina.

(106) A marina on the east side of **Little Torch Key**, just south of the westerly span, provides berths with electricity, gasoline, diesel fuel, water, ice and a launching ramp. In 1991, depths of 4 feet were reported in the approach with 10 feet alongside the berths.

(107) A **restricted area** is between Big Pine Key and Little Torch Key due to the presence of high-tension power lines. (See Notice to Mariners and latest edition of charts for limits and note.)

(108) In 1983, a 3-foot spot was reported between the entrances to Newfound Harbor and Niles Channels, about 0.45 mile west of Newfound Harbor Channel Entrance Light 2 in about 24°37'09"N., 81°24'55"W.

(109) **Niles Channel**, 18 miles westward of Sombrero Key Light, is the best channel from the Straits of Florida to the Gulf of America between Bahia Honda Channel and Key West. The reported controlling depth, in 1983, was 4 feet from Hawk Channel through Niles Channel and **Cudjoe Channel** to the Gulf. The south entrance to Niles Channel is the narrowest part of two channels and is marked by private stakes. The fixed highway bridge crossing Niles Channel has a clearance of 40 feet. The approach spans of the former highway bridge immediately southward are used as fishing piers; the piers extend 10 feet into either side of the navigation channel and are marked on the channelward ends by lights. Caution should be exercised to avoid pilings on the north side of the bridge. A rocky shoal extends northward from about 350 yards from the bridge.

(110) **Looe Key Management Area (Looe Key National Marine Sanctuary)** has been established to protect and preserve the coral reef ecosystem and other natural resources of the waters surrounding **Looe Key**, about 6 miles south-southeast of Summerland Key. (See **15 CFR 922**, chapter 2, for limits and regulations.)

(111) **Kemp Channel**, about 2 miles westward of Niles Channel, is between Summerland Key to the east and Cudjoe Key to the west. This channel is highly used by local boaters. In 1986, a reported controlling depth of 3 feet was in the entrance, and 5 feet was in the channel. The channel is marked by daybeacons to the highway bridge. Strangers should seek local knowledge before transiting this area.

(112) U.S. Route 1 highway bridge crossing Kemp Channel, about 2.7 miles above the entrance, has a fixed span with a clearance of 15 feet. A pedestrian bridge in ruins is adjacent to the fixed bridge; caution is advised.

(113) A small marina is near a conspicuous 100-foot flagpole at the south end of Cudjoe Key. Gasoline, limited marine supplies and provisions are available; the marina is limited to shallow draft boats.

(114) **Bow Channel**, about 4 miles westward of Niles Channel and northward of American Shoal Light, leads northward between **Sugarloaf Key** and **Cudjoe Key**. The channel is marked by daybeacons from Hawk Channel for about 1.6 miles and private daybeacons for another 1.4 miles. Two fixed bridges across the channel, one highway and one pedestrian, have least clearances of 8 feet vertical and 24 feet horizontal. Currents are strong and set fair with the channel, north with the flood and south with the ebb. The channel is not recommended for a draft of over 2 feet without a pilot. The reported controlling depths, in 1983, were 4 feet from Hawk Channel to the highway bridge, thence 3 feet to the Gulf of America via Johnston Key Channel. Cudjoe Bay, eastward of the channel, offers fair holding ground for fishing boats.

(115) A small marina at the southwest end of the bridge has berths, gasoline, water, ice, marine supplies and a launching ramp. A marina on the southwestern side of Cudjoe Key about 0.5 mile south of the eastern end of the bridge is reached through a canal reportedly marked by private daybeacons. Berths, electricity, gasoline, diesel fuel, water, ice, limited marine supplies, engine repairs and a launching ramp are available.

(116) **American Shoal Light** (24°31'33"N., 81°31'03"W.), 19 feet above the water, is shown from a small platform on a steel pile. The brown octagonal skeleton tower close west of the light is abandoned; extreme caution advised.

(117) **Ninefoot Shoal Light** (24°34'09"N., 81°33'07"W.), 18 feet above the water, is shown from a diamond-shaped dayboard on a dolphin.

(118) **Saddlebunch Harbor**, 10.5 miles eastward of Key West, is a good hurricane anchorage for small craft. The northwest end of the harbor is obstructed by a line of submerged pilings. The harbor is marked by private daybeacons.

(119) **Geiger Key**, about 1 mile west of Saddlebunch Harbor, has a marina on the east side about 1 mile south of U.S. Route 1 highway bridge. Berths, gasoline, water, ice, limited marine supplies and a launching ramp are available.

(120) **Stock Island Channel**, entered about 12.4 miles west-southwestward of American Shoal Light, leads from the Straits of Florida to a point in Hawk Channel just southward of Boca Chica Channel and the entrance to Safe Harbor. The entrance is marked by a light and the channel by a daybeacon.

(121) **Boca Chica Key**, 5 miles eastward of Key West, is the site of the Key West U.S. Naval Air Station. A **naval restricted area** extends about 150 yards from the shoreline along a portion of the northeast side of the Naval Air Station. (See **33 CFR 334.610**, chapter 2, for limits and regulations.) **Boca Chica Channel**, with a reported controlling depth of 9 feet in 2000, from Hawk Channel to the naval air station basin on the west side of the key, is marked by a light at the entrance, thence by lights and daybeacons. An overhead power cable has a clearance of 60 feet across the channel. The basin provides a good hurricane anchorage for small vessels in emergencies only.

(122) A **restricted area** is off the southwest end of Boca Chica Key. (See **33 CFR 334.610**, chapter 2, for limits and regulations.)

(123) Two auxiliary channels marked by private daybeacons lead off Boca Chica Channel. Channel A leads northwest just north of Boca Chica Channel Daybeacon 5. A large boatyard has an entrance on the west side of the channel between Daybeacon 5A and an overhead cable. Transient berths, hull and engine repairs, water, ice diesel fuel and an open-end travel lift that can haul sail and motor vessels to 75 feet and 60 tons are available.

(124) A marina is north of the overhead cable which has an authorized clearance of 25 feet at this point. Water, ice, gasoline and hull and engine repairs are available.

(125) In 1986, the reported controlling depth was 6 feet to Daybeacon 5A and then 5 feet to the marina.

(126) Channel B leads northwest from opposite Boca Chica Channel Light 8 toward the Route U.S. 1 bridge. In 1986, the reported controlling depth was 4 feet.

(127) A marina in the northwest corner by highway U.S. 1 has transient berths, hull and engine repairs and gasoline. The following conditions were reported in 1986. Boats proceeding to the marina will find deeper water and avoid obstructions, after passing Daybeacons 6B and 7B, nearer the highway to a point near a boat ramp at the highway, then angling southwest to a spit and following the spit to the marina entrance. Small boats heading north of the highway via the Boca Chica Channel usually pass through at the western end of the bridge where the clearance is less and the water is deeper. Boats passing under the high rise center of the bridge will find shallower water immediately north of the bridge.

(128) **Safe Harbor**, 4 miles eastward of Key West, is a medium-draft harbor on the south side of Stock Island, under the jurisdiction of the Monroe County Port Authority. Conspicuous objects include the stack and tanks at a powerplant and desalination plant on the east side, and a large red dry-storage building at a marina on the southeast end of Stock Island.

(129) The harbor is entered from Hawk Channel through a privately dredged channel. A light marks the approach, and lights and a daybeacon mark the channel.

(130) The piers, with dolphins, on the east side of the harbor near the entrance, are used by barges to unload petroleum products for the power and desalination plants. Depths of 18 feet are reported alongside the piers.

(131) The piers on the east and west sides of the harbor are used by cold storage and seafood packing plants; numerous shrimp boats tie up alongside the finger piers.

(132) A boatyard on the west side at the head of the harbor has a mobile hoist that can handle craft to 60 tons. Diesel fuel, water and ice are available. In 1982, a depth of 30 feet was reported alongside the piers at the yard; 300 feet of berthing space was available. A marina on the east side at the head of the harbor has transient berths, electricity, water, ice and marine supplies; hull, engine and radio repairs are available. In 1991, the depth alongside the facility was reported to be 18 feet. A facility serving shrimpers and other commercial vessels on the east side of the harbor, just north of the electric plant, has water, ice, diesel fuel and electricity available.

(133) A privately dredged spur channel east of Safe Harbor leads to a large marina on the southeast end of Stock Island. The channel is marked by private daybeacons. Berths, gasoline, diesel fuel, water, ice, electricity, a launching ramp and storage are available. A forklift can haul out craft to 25 feet for hull and engine repairs. The dockmaster can be contacted on VHF-FM channel 16.

(134) **Cow Key Channel**, between Stock Island and Key West, is narrow and marked by private daybeacons. A shoal that bares is about 0.2 mile south-southwest of the southwest point of Cow Key. Mariners are advised to seek local knowledge before entering the channel. Two fixed bridges with a least clearance of 36 feet horizontal and 9 feet vertical cross the channel between the keys. An overhead cable crosses the channel with a least clearance of 25 feet. The channel north of the highway bridges is unmarked and difficult to follow.

(135) Prominent on Stock Island are three radio antennas and a deteriorating drive-in movie screen. Scuba tanks can be filled at a diving facility on the east side of the channel at the bridges. An adjacent marina has berths, water, ice, limited supplies and a launching ramp. Another marina is on Stock Island about 0.5 mile north of the bridges; berths, gasoline, storage and marine supplies are available. A forklift can haul out boats to 25 feet for engine repairs.

(136) Boats can avoid the restricted passage of Cow Key Channel by using Garrison Bight Channel to the north end of Fleming Key, thence sailing easterly north of Sigsbee Park to a dredged channel east of Sigsbee Park, and then following the dredged channel to the marina.

(137)

Key West Harbor

(138) **Key West Harbor** is 134 miles and 151 miles southwestward of Miami Harbor via the inside and coastwise routes, respectively. The harbor proper lies in front of the city of Key West, protected on the eastern side by the island and on the other sides by reefs and sand flats and by **Wisteria Island** and **Tank Island**. The harbor is entered through breaks in the reef by several principal channels with depths of 13 to 34 feet and by several minor channels.

(139) **Key West**, on the island of the same name near the western end of the Florida Keys, is a winter resort. Tourism is one of the leading industries. Cruise ships frequently call here, and the harbor is a safe haven for any vessel.

(140)

Prominent features

(141) Easy to identify when standing along the keys are 300-foot-high radio towers about 0.3 mile eastward of Fort Taylor, the hotel 0.3 mile south of Key West Bight, the cupola close south of the hotel, a white spherical radar dome, and a 110-foot-high abandoned lighthouse, 0.5 mile east-northeastward of Fort Taylor. Numerous tanks, lookout towers and masts are prominent but difficult to identify. Also conspicuous is a white radar dome and an aerobeacon on Boca Chica Key and the aerobeacon at Key West International Airport. From southward, several apartment complexes, condominiums and hotels on the south shore extending from just west of Key West International Airport to the abandoned lighthouse are prominent.

(142) **Sand Key Light** (24°27'21"N., 81°52'38"W.), 40 feet above the water, is shown from a skeleton tower. An abandoned white square pyramidal skeleton tower is in the vicinity; extreme caution advised.

(143) Sand Key is surrounded by a section of the **Area To Be Avoided Off the Coast of Florida**. See Area To Be Avoided Off the Coast of Florida, indexed as such, chapter 3.

(144)

Channels

(145) **Main Ship Channel** is the only deep-draft approach to Key West. Federal project depth is 34 feet from the Straits of Florida to a turning basin off the Naval Air Station Truman Annex Mole and inside the annex basin, thence 30 feet to an upper turning basin off Key West Bight, and thence 12 feet to and including a turning basin in the bight. For detailed channel information and minimum depths as reported by the U.S. Army Corps of Engineers (USACE), use NOAA Electronic Navigational Charts. Surveys and channel condition reports are available through a USACE hydrographic survey website listed in Appendix A. The channel from the entrance to the upper turning basin is marked by lighted ranges and other aids to navigation. Spoil areas are west of the channel.

(146) **Northwest Channel** is a medium-draft passage between Key West Harbor and the Gulf of America. Intermittent shoaling exists along the length of the channel. Vessels can pass directly across the reefs from the Gulf to the Straits of Florida by way of Northwest Channel and Main Ship Channel. The Gulf end of the channel is shifting westward.

(147) The jetties on either side of the Gulf entrance to Northwest Channel are 0.3 to 0.5 mile from the centerline of the channel, and only the outer part of the east jetty shows above low water. The northwest end of the east jetty is marked by a light. Mariners should exercise caution to avoid the submerged jetties in Northwest Channel. The channel is marked by lighted and unlighted buoys, lights

and daybeacons. The pilings and skeletal structure of a former lighthouse are about 0.3 mile southwestward of the south end of the west jetty.

(148) **Smith Shoal**, about 4.5 miles northward of the northern entrance to Northwest Channel, is covered 11 feet and marked on its northeast end by **Smith Shoal Light** (24°43'06"N., 81°55'18"W.). The light also marks the northern approach to the channel and is shown 54 feet above the water from a small black house on a white, hexagonal, pyramidal skeleton tower on a three-legged jacket. A relatively flat-topped coral head, covered by a least depth of 11 feet, is about 3.3 miles west-southwestward of the light.

(149) **Southwest Channel** is a deep unmarked approach to Key West from the southwest. Local knowledge is advised.

(150) **West Channel**, a passage leading westward from Key West between the keys and outer reefs, is deep but unmarked. It is used by shrimp boats and small craft bound toward the Dry Tortugas. Local knowledge is advised.

(151) **Calda Channel** leads northward from Man of War Harbor to the open waters of the Gulf. The channel is narrow and crooked but is well marked by daybeacons and a light at the northerly end. In 1983, the controlling depth was reported to be 3 feet, except for shoaling close to the aids marking the channel. In 1992, severe shoaling was reported to extend into the channel between Daybeacon 6 and Daybeacon 8. The channel should be used only with local knowledge and during good visibility.

(152) **Garrison Bight Channel**, a well-marked dredged channel, leads from Man of War Harbor around the north end of Fleming Key, thence south for about 1.8 miles, thence east to Trumbo Point, thence into a turning basin just inside the entrance of Garrison Bight. An overhead power cable crosses the entrance and the northerly part of the bight; clearances are 50 feet at the entrance and 34 feet elsewhere. Mariners are advised to use caution when approaching the overhead power cable because high voltage arcing is reported to occur between the powerline and sailboat masts. A privately dredged channel leads from the turning basin to a basin in the southwesterly part of the bight. The channel was reported to be shifting; local knowledge is advised. A causeway bridge, with a 44-foot span and a clearance of 19 feet, crosses the southwesterly part of the bight.

(153) Garrison Bight can also be reached via an unmarked channel, locally known as Fleming Key Cut, which leads from Man of War Harbor eastward between Fleming Key and the north shore of Key West to the junction with Garrison Bight Channel at Trumbo Point. A depth of about 6 feet can be carried to the junction. Fleming Key Cut is reported to have very strong tidal currents and is not recommended for low-powered vessels. The channel is crossed by a 42-foot fixed span highway bridge with a clearance of 18 feet that connects Fleming Key with Key West. Garrison Bight has excellent small-craft facilities; these are described later in the chapter.

(154)

Anchorages

(155) The best anchorage for vessels up to 150 feet long is north of the city in **Man of War Harbor** where depths are 14 to 26 feet. Mariners should exercise caution to avoid the visible and submerged wrecks in the harbor. The anchorage is protected against heavy seas by **Frankfort Bank** and **Pearl Bank** on the west and **Fleming Key** on the east. Small craft usually anchor east of **Wisteria Island**, to the west of the main ship channel. Anchoring in the vicinity of Key West Bight Channel Light 2, between Key West Bight Channel and the shoreline, is not recommended because of poor holding ground, strong currents and obstruction of the dock approaches.

(156) Vessels can anchor west of the city, outside of the federal channel and upper turning basin, in depths of 20 to 26 feet, taking care, however, to avoid the reefs that rise abruptly in some places along the edges of the channels. The outer anchorages are southwest of **Fort Taylor** is somewhat exposed, but have depths of 20 to 35 feet and is safe for vessels with good ground tackle. The anchorage area at Key West is one of the best for large vessels south of Chesapeake Bay.

(157)

Dangers

(158) **Naval restricted areas** are off the south, west and north sides of Key West. Another **restricted area** extends about 150 yards from the shoreline around Fleming Key. (See **33 CFR 334.610**, chapter 2, for limits and regulations.)

(159) A **naval explosives anchorage** is about 2.5 miles southwestward of Key West. (See **33 CFR 110.189a**, chapter 2, for limits and regulations.)

(160) Sand Key is surrounded by a section of the **Area To Be Avoided Off the Coast of Florida**. See Area To Be Avoided Off the Coast of Florida, indexed as such, chapter 3.

(161) A **naval operating danger area** is in the Straits of Florida and Gulf of America westward of Key West; see **33 CFR 334.620**, chapter 2, for limits and regulations.

(162)

Caution

(163) Craft approaching Key West, Boca Chica and Safe Harbor from the eastward through Hawk Channel should be mindful that submerged rocks and reefs extend up to 0.6 mile off the keys and give little or no indication of their presence under certain conditions.

(164) Fishermen operating from the Florida Keys, particularly Key West, routinely use stakes to mark otherwise unmarked channels that they use as short cuts or for safe passage in rough weather. These stakes are not removed when the channels change or fall into disuse. Visitors to the keys should use these channel markers with caution.

(165) The area west of the Main Ship Channel is part of the **Key West National Wildlife Refuge.**

(170)

METEOROLOGICAL TABLE – COASTAL AREA OFF KEY WEST, FLORIDA
Between 23°N to 25°N and 79°W to 83°W

WEATHER ELEMENTS	JAN	FEB	MAR	APR	MAY	JUN	JUL	AUG	SEP	OCT	NOV	DEC	YEARS OF RECORD
Wind > 33 knots [1]	0.5	0.5	0.3	0.2	0.1	0.3	0.1	0.2	0.5	0.6	0.5	0.5	0.3
Wave Height > 9 feet [1]	2.0	2.0	1.9	1.7	1.1	0.8	0.4	0.7	0.7	2.4	2.5	1.9	1.5
Visibility < 2 nautical miles [1]	0.4	0.4	0.3	0.2	0.3	0.5	0.2	0.4	0.4	0.7	0.3	0.4	0.4
Precipitation [1]	2.8	2.6	1.8	1.4	2.5	3.7	2.3	2.9	3.9	4.6	2.9	2.6	2.8
Temperature > 69° F	70.1	69.7	81.9	95.2	99.7	99.9	99.9	100.0	99.9	99.3	93.3	77.1	90.9
Mean Temperature (°F)	72.2	72.4	74.3	76.8	79.7	82.2	83.7	84.0	83.2	80.5	76.9	73.5	78.5
Temperature < 33° F [1]	0	0	0	0	0	0	0	0	0	0	0	0	0
Mean RH (%)	78	78	78	77	78	79	77	77	79	78	77	77	78
Overcast or Obscured [1]	12.8	11.7	9.8	7.2	9.4	12.9	6.8	7.1	10.1	12.4	10.4	12.3	10.2
Mean Cloud Cover (8^{ths})	3.8	3.7	3.5	3.4	3.7	4.2	4.0	4.0	4.3	4.3	4.0	4.0	3.9
Mean SLP (mbs)	1019	1018	1017	1017	1015	1016	1017	1016	1014	1014	1017	1019	1017
Ext. Max. SLP (mbs)	1038	1036	1035	1035	1031	1032	1030	1029	1030	1031	1034	1037	1038
Ext. Min. SLP (mbs)	997	1000	997	998	1000	997	1004	1002	996	991	1000	1000	991
Prevailing Wind Direction	E	E	E	E	E	E	E	E	E	E	E	E	E
Thunder and Lightning [1]	0.5	0.7	0.5	0.6	2.0	3.0	4.8	5.0	5.9	3.2	1.2	0.6	2.4

[1] Percentage Frequency

(166)

Current

(167) A westerly current, counter to the prevailing easterly set of the Gulf Stream, at times exceeding 3 knots, has been reported in the vicinity of Key West Entrance Lighted Whistle Buoy KW. In the southerly approaches to Key West within the 10-fathom curve just inside the entrance to the main channel, the tidal currents are weak and variable. In the main channels west of Fort Taylor, the flood (northerly) and ebb (southerly) currents are 2 knots and 3 knots, respectively. North of Key West, in the upper turning basin and Northwest Channel, the currents are somewhat less. Daily predictions for Key West are available from the Tidal Current prediction service at *tidesandcurrents.noaa.gov,* however, both the time and velocity of the tidal current are influenced by the winds. Very strong currents have been reported in the channel between Fleming Key and Key West.

(168)

Weather, Key West and vicinity

(169) Key West has a notably mild, tropical maritime climate where winters are mild and summers pleasant thanks to the Gulf Stream and the prevailing easterly trade winds. The differences in maximum and minimum temperatures are about 10°F (5.6°C) on the average. There is no record of frost, ice, sleet or snow at Key West, and on 49 days annually, on the average, the temperature reaches 90°F (32.2°C) or more. It has never reached 100°F (37.8°C). The extreme maximum temperature for Key West is 95°F (35°C) recorded most recently on August 31, 1957. The average high temperature for Key West is 83°F (28.3°C) while the average low is 73°F (22.8°C). The extreme minimum temperature for Key West is 41°F (5°C) recorded on January 13, 1981.

(171) From December through April, sunshine is abundant and less than 25 percent of the average annual rainfall is recorded, usually as brief showers, in advance of cold fronts. From June through October numerous showers and thunderstorms provide more than 50 percent of the precipitation recorded each year. Heaviest amounts are often associated with easterly waves or the more organized tropical cyclones. The average annual precipitation for Key West is 40 inches (1,016 mm). September is the wettest month averaging nearly 6.5 inches (165.1 mm), and February is the driest averaging just 1.5 inches (38.1 mm).

(172) If a tropical cyclone is considered a threat when it moves within 50 miles (93 km) of Key West, then an average of 1 tropical cyclone threat every three years is the normal. While tropical cyclones can develop in any month they are most likely in this region from June through November. Even within that period there are fluctuations. Since 1886, only one tropical cyclone has produced significant effects during July. The threat resumes in August, as storms originating east of the Antilles tend to enter the Gulf waters via Cuba or the Straits of Florida, instead of recurving northward near the Bahamas. This threat continues into the peak of the season; by October the principal threat is as it was in June, from storms originating in the western Caribbean that move northward across Cuba. Statistically, hurricane-force winds can be expected at Key West about once every 15 years and a frequency of 50-knot winds once every 5 years on the average.

(173) Tropical cyclone waves affecting these waters are produced by swell, which advances ahead of the storm, and sea, which is determined by wind direction, which in turn is dependent upon the path of the storm. The deep-water berths outside of North Mole, piers A and B, and Municipal Wharf (Mallory Wharf) are all badly exposed to swells from the southwest. The berths at Naval Air Station Truman Annex are well protected from wave action. The piers off the turning basin north of Key West Bight are affected by waves generated in Man of

War Harbor by northerly winds. These conditions can occur in cold winter outbreaks as well as hurricanes. The anchorages in this harbor are protected from sea and swell by the shallow reef north of the turning basin. Key West Bight is sheltered by Stone Mole, and Garrison Bight is also protected from wave action from all quarters. At Safe Harbor, Stock Island, sea and swell from the southern quadrant will cause heavy surf at the harbor entrance; during southerly winds a seiche of 2 to 3 feet (1 m) inside the harbor is possible.

(174) Storm tides are worst, usually, when an intense hurricane approaches Key West from the Caribbean, passing close to the west. On three occasions since 1900 the streets of the Old Town (greater than 3 m MSL) have been flooded by such storms. The height of the expected surge will appear in the hurricane warnings. However, there is a large variability in surge heights along the Florida Keys due to their physical characteristics. Tidal currents are considerably magnified by the wind and surge generated by a tropical cyclone. This is particularly evident along the deep western shores where effective storm surge drainage has the advantage of reducing tide heights at main berthing facilities.

(175) For masters of deep-draft vessels, shortages of tug power and lack of protected anchorages and piers at Key West makes an early assessment of a tropical cyclone threat essential. This is best accomplished by using the forecasts in conjunction with climatology. This detailed climatology, as well as the foregoing text and a study of evasion tactics, can be found in the **Hurricane Havens Handbook for the North Atlantic Ocean** (further details in chapter 3.) Under the present port circumstances, evasion at sea is the recommended course of action for all seaworthy, deep-draft vessels capable of making 15 knots or more when the port is under threat from a hurricane or an intense tropical storm (50–63 knots).

(176) The National Weather Service maintains an office at the Key West International Airport. **Barometers** can be compared and weather information obtained by telephone or website. (See Appendix A for address)

(177)

Pilotage, Key West

(178) Pilotage is compulsory for all foreign and U.S. vessels under register in the foreign trade drawing more than 7 feet (including tugs, barges, and tows) bound for or from Key West Harbor, Key West anchorages, and Key West channels. Pilotage is optional for U.S. mechanically-propelled vessels in the coastwise trade that have on board a pilot properly licensed by the Federal Government.

(179) Pilotage is available from Key West Bar Pilots Association, P.O. Box 848, Key West, FL 33041, telephone 305–296–5512.

(180) The Pilot Station is at the northeast end of Front Street, Key West. Pilot Station monitors VHF-FM channels 16 and 14 (when expecting traffic). The 39-foot pilot boat has a gray hull with black trim and gray superstructure with the word PILOT on the side. The 40-foot pilot boat has a green hull and white superstructure with the word PILOT on the side. Occasionally other boats may be used. Pilots board day or night 2 miles south of Key West Harbor Entrance Lighted Whistle Buoy KW (24°27'26"N., 81°48'00"W.).

(181) Vessels being boarded should maintain 8 knots and provide a good lee with the ladder 3.34 feet (1 meter) – (not dragging) above the water. Seas should be slightly aft of the weather beam. Arrangements for pilots are made through the above telephone or through ships' agents. A minimum 24-hour notice of time of arrival is requested; however, pilots will still attempt to service vessels with less time of notice.

(182) The operational guidelines in the Port of Key West are flexible due to changing conditions, different stages of current, tide, bottom shoaling, weather and the change in acceptable risk in emergency situations, Key West being a port of emergency entry as well as a cruise ship port of call and a naval station. The main guideline is a knowledge of seamanship and the port on the part of the pilot and communication of this to the vessel's master for guidance.

(183) Certain rules of thumb are sometimes used. These are:

(184) 1. Not over 10-foot draft of 250-foot length for transiting Northwest channel, daylight only.

(185) 2. Not over 10-foot draft or 250-foot length for entering safe Harbor, Stock Island, under normal conditions.

(186) 3. Tankers docking at Pier D-2 North should do so on or near at slack water, daytime only, with at least two tugs, one for port bow, one for aft, docking starboard side to. Deep draft limited to 25.7 feet. Sailing should be daytime only, on or near slack water, with two tugs.

(187) 4. Naval men of war with their sonar dome in the bow may dock at Pier D-2 North, starboard side to, with deep draft limited to 26 feet. If possible, the same current restrictions as for tankers should be used.

(188) 5. All vessels should be limited to not over 29 foot-deep draft, dependent on tide. Some piers require shallower drafts and length limitations. Poorly handling ships may be restricted even further in draft, and very large poorly handling ships may be restricted to daylight only and in not over 25 knots wind.

(189) 6. Tug assistance may be needed at berths in Key West, even with twin screw bow thrustered ships, due to wind and current. Tugs, however, are not provided, plan ahead if needed.

(190) 7. Key West Harbor is under the International Rules of the Road.

(191)

Security Calls

(192) All vessels 65 feet or greater and all tugs with tows on entering or leaving Key West Harbor or the Key West Main Ship Channel shall give Security Calls on VHF-FM channels 16 and 13.

(193)

Towage

(194) There are no tug boats in Key West.

(195)

Quarantine, customs, immigration and agricultural quarantine

(196) (See chapter 3, Vessel Arrival Inspections, and Appendix A for addresses.)

(197) **Quarantine** is enforced in accordance with regulations of the U.S. Public Health Service. (See Public Health Service, chapter 1.) The quarantine anchorage is in Man of War Harbor if size and draft of vessel permit; larger vessels anchor in the outer harbor.

(198) Public and private hospitals are at Key West.

(199) Key West is a **customs port of entry.**

(200)

Coast Guard

(201) Key West Coast Guard Station is at Pier D-2 on the northwest side of Key West.

(202)

Harbor regulations

(203) The City of Key West Port Operations Office has direct supervision of city docks, properties, moorings and anchorages. The City of Key West Port Operations Office also collects city property port dues. The office telephone number is: 305–809–3790. A 5-mph **speed limit** is enforced in Garrison Bight and in all constricted channel areas.

(204) In the Main Ship Channel, not more than one vessel shall be in the reach of the channel between Lighted Buoys 23 and 25. Vessels in this reach shall have the right-of-way over vessels departing the Truman Annex Basin.

(205) The reach of the channel from Lighted Buoys 14 and 15 to the north end of the Truman Annex Mole shall be kept clear except for vessels able to proceed to their berths without delay. Vessels shall not lie to in this reach of the channel. If a vessel is unable to proceed because of harbor congestion, she shall pull aside to the westward and lie to in safe water. No passing is permitted in this reach of the channel.

(206) Vessels shall not overtake or pass in the following areas: between Buoys 2 and 3, in the passage from Western Triangle and Eastern Triangle to Buoys 7 and 8, and in the passage from Buoy 9 to Buoys 14 and 15.

(207) It is permissible to pass in Cut A Range reach between Buoys 7 and 12 after making proper signals, but extreme caution is mandatory when passing in the narrow reaches of the channel.

(208) Vessels that will be delayed in berthing shall notify vessels astern of that fact in order that they may proceed.

(209) Nothing in the above shall relieve masters or commanding officers of their responsibilities for observing the Navigation Rules and the practice of good seamanship.

(210)

Wharves

(211) **Municipal Wharf**, also known as **Mallory Wharf** (24°33'35"N., 81°48'28"W.), is 870 feet long and has a deck height of about 7 feet. The northerly half is privately owned by a condominium development. The southerly half is operated by the City of Key West Port Operations Office as a cruise ship terminal. Two mooring dolphins off the wharf face provide a total of 464 feet of berthing space with reported depths of 26 feet alongside. For detailed channel information and minimum depths as reported by the U.S. Army Corps of Engineers (USACE), use NOAA Electronic Navigational Charts. Surveys and channel condition reports are available through a USACE hydrographic survey website listed in Appendix A. Potable water is available with advance arrangements. Large vessels must depart the berth 45 minutes before sunset except in emergency or by special arrangement with the City of Key West Port Operations Office.

(212) **Pier B** (24°33'22"N., 81°48'33"W.) is another deepwater berthing facility operated by the Pier B Development Corporation. It has a face of 483 feet with a mooring dolphin to the north of the dock. Maneuverable ships up to 1,040 feet have docked at this berth. The pier has a deck height of about 9 feet.

(213) **The Outer Navy Mole** (24°33'17"N., 81°48'39"W.), another deepwater berth, has a face of 580 feet and a deck height of 7 feet. Sometimes the mole is used to dock vessels up to 1040 feet in length, by directions of the City of Key West Port Operations Office.

(214) Municipal Wharf, Pier B and the Outer Navy Mole are available for emergency dockage. Contact the Key West Pilots Association, ship's agent, or the City of Key West Port Operations Office for further information.

(215) Commercial fish wharves are in Safe Harbor. Charter boats and yachts use Key West Bight, Garrison Bight and Stock Island.

(216)

Supplies

(217) Gasoline, diesel fuel, water, ice, provisions and marine supplies can be obtained in Key West.

(218)

Repairs

(219) There is a small repair yard at Key West on the west side of Garrison Bight. Lifts to 30 tons and hull, engine, electrical and electronic repair facilities are available. Above-the-waterline repairs can also be made to larger vessels. In 1991, shoaling to 3½ feet was reported at the entrance to the yard, with 5 feet available inside.

(220)

Small-craft facilities

(221) Berths, electricity, water, ice and some marine supplies are available at Key West. Gasoline and diesel fuel are available in Garrison Bight and Key West Bight. A pumpout facility is at a marina in the southwestern part of Key West Bight. Hull, engine, electrical and electronic repairs can be made. Small craft berths are available at

several marinas in Key West Bight, in Garrison Bight at the Municipal Marina or at Key West Yacht Club, which are at the southwest and eastern ends of the bight, respectively. A causeway across the southwestern part of Garrison Bight has a small-craft opening. The highway bridge over the opening has a 44-foot fixed span with a clearance of 19 feet at the center. An overhead power cable crossing the northern part of Garrison Bight and the entrance has a clearance of 50 feet over the entrance and 34 feet elsewhere. Anchoring or mooring in Garrison Bight, except in an emergency or as a shelter during bad weather, is not permitted. Public small-boat ramps are in Garrison Bight, at the foot of Simonton Street and at the south end of Bertha Street.

(222)

Communications

(223) There are no rail connections at Key West. Movement of freight in and out of the port is by vessel or truck. The Overseas Highway (U.S. Route 1) connects the city with Miami and points north, and there is air service to Miami. Bus service is available to mainland points.

(224) **Information about the Florida Reefs west of Key West and the Gulf of America is contained in United States Coast Pilot 5, Gulf Coast, Puerto Rico, and Virgin Islands.**