

and reach a length of 30 feet; they are very ferocious and are much dreaded by pearl-divers, boatmen, and fishermen.

Manta raya.

"The *Manta raya*, a species of ray, is an immense brute of enormous strength, cunning and ferocity, and is more the terror of the pearl-divers than any other creature of the sea."

When at anchor off La Paz, one of these monsters was captured after hard work for hours in harpooning and lancing it. During the struggle it exhibited enormous strength, pulling a boat fully manned after it at immense speed.

It measured 17 feet in width, 11 feet in length, exclusive of tail (which was armed with a spine), and over 3 feet in thickness at the middle. Its mouth, armed with formidable jaws (no teeth), measured 26 inches across, occupying the space between two singularly-shaped flaps, projecting from its head like horns. Its weight was estimated at 3,000 pounds. It seems identical with the horned ray, sometimes called a *sea devil*, of the Mediterranean.

Octopod.

Another inhabitant of these waters is the Octopod, or great squid (devil-fish), a gigantic mollusk, that is found in the rocky cavities along the shore, particularly in localities sheltered from the surf, where it lies quietly among the seaweeds watching for its prey. Its arms, which are furnished with flat disks or suckers, are from 10 to 20 feet in length. With these arms it seizes, envelopes, and smothers its prey, which it afterwards devours at its leisure with its sharp, formidable bill.

Red water.

A very curious phenomenon in the waters of the gulf is the existence of extensive patches of red-colored water. This was noted by the earliest Spanish navigators, who at one time named the gulf "El Mar Vermejo," the vermilion sea. It is believed that the first investigation and description of this phenomenon was by Assistant Surgeon Thomas H. Streets, U. S. N., of the U. S. S. *Narragansett*, in 1875. (See *American Naturalist*, February, 1878.) He makes a distinction between the vermilion patches of the mouth of the gulf and the brick-colored and corrosive waters of certain portions of the upper gulf. The former he assigns to the presence of countless numbers of *ciliate infusoria* suspended some distance below the surface of the water; the latter to the presence of great numbers of *flagellate infusorium*, the common *noctiluca miliaris*, floating on the surface of the water, giving it a milky red color.

## CHAPTER I.

### THE COAST AND ISLANDS FROM CAPE SAN LUCAS TO THE NORTHERN END OF SAN JOSEF ISLAND, INCLUDING SAN JOSEF CHANNEL.

Cabeza Ballena is a perpendicular rocky point of dark lead color from 50 to 75 feet high, with numerous detached rocks lying off it. Immediately back of the point a range of hills, one of the spurs of the Sierra de la Victoria, rises to a height of over 1,000 feet. A rocky formation, the same as that of Cabeza Ballena, extends 2 miles to the westward of it, where it joins the steep sand beach of San Lucas Bay, which has already been described.

From Cabeza Ballena the coast for 4 miles to the north-eastward is generally rocky and of moderate height; thence it recedes somewhat, and for a distance of 2½ miles is low and sandy, sloping gradually to a mountain range a short distance inland, called the Sierra de San Lazaro. Near the south-western end of this sand beach are an arroyo and several ranches. After passing the strip of sand the coast is of rocky formation as far as Palmia Point. Near the point and within half a mile of the beach is the Cerro Colorado, 502 feet high, and of *red sandstone*. It is an excellent landmark, being the only formation of the kind between Cape San Lucas and San José Bay.

Palmia Point is the south-western extremity of San José Bay, and is a low, bluff, rocky point, with numerous detached rocks close to. It is backed, at a distance of 3 cables from the point, by a mound 353 feet high. The soundings off this part of the coast showed over 100 fathoms at a distance of 1½ miles.

San José del Cabo Bay is an open bay formed by an indentation in the coast line between Palmia and Gorda Points. The shore of the bay consists of steep sand beaches, with rocky patches at either end, that toward Palmia Point being the most extensive. A short distance inland are mod-

erately high hills, with the mountains of the Sierra de San Lazaro to the north and west. The bay is entirely open to the south and east, and the sea breaks heavily upon its shores.

## Anchorage.

Vessels may anchor anywhere in the bay at a distance of a third of a mile from the beach in from 7 to 9 fathoms water, sandy bottom, *except just south of the watering place* (see Chart No. 635), where there is a deep hole, with from 30 to 50 fathoms water to within 2 cables of the shore. The best anchorage is about three-quarters of a mile to the northward of Palmia Point, in 8 to 9 fathoms, abreast a short strip of sand beach about a cable in length, fronting a rocky formation. On this sand beach is the best boat landing. The heavy swell that sets into the bay at all times, and particularly during the season of the SE. gales (viz. from May to October), makes this bay an uncomfortable anchorage and renders landing in ordinary ship's boats a hazardous undertaking.

## San José River.

The San José River waters an extensive valley of the same name, which extends many miles into the interior. It empties into the sea a little over 3 miles NNW. (mag.) from Palmia Point. At ordinary times the water percolates through the high sand ridge thrown up by the action of the sea, and only breaks through at the time of freshets. A mile farther to the eastward is a small outlet, which is always open, where good water may be obtained at the last of the ebb. Mount San Lazaro, the highest peak of the range of the same name, 4,564 feet high, kept on a bearing N. 45° 30' W. (NW. by W. mag.), leads up to the watering place.

## San José del Cabo.

The village of San José del Cabo is on the western bank of the river, three-quarters of a mile from the sea. The population is variously estimated at from 1,000 to 1,500, of which a few are foreigners. Vessels may obtain supplies of fresh meat, vegetables, and wood at moderate prices.

The business of the place is mainly dependent on the silver mines of San Antonio. Some of the natives are engaged in the shark fishery and the preparation of shark oil; and it seems as though a profitable business might be done in the gathering and pressing of the castor bean, which grows wild in the vicinity in great abundance. There is also plenty of rosewood and cedar growing on the mountain sides.

## San José Valley.

The valley of San José is one of the most fertile of Lower

California. Throughout its extent are plantations of sugarcane, cotton, corn, and tobacco, while in the gardens are groves of orange, fig, lemon, lime, and pomegranate trees, and plantains and bananas are found growing by the side of every ditch or aqueduct. Here and there are seen waving groves of palm trees.

There is a road from San José del Cabo through the valley, winding around the numerous lateral spurs of the Sierra de San Lazaro to Santa Anita, La Palma, Miraflores, Santiago and Los Martires, near the coast in Palma Bay; thence up a cañon to San Bartolo, San Antonio, Triunfo silver mines, and La Paz. Horses and mules for making this journey, which is somewhat over 100 miles, can be obtained at San José del Cabo.

An extensive salt marsh, known as Salatea, lies between the beach near the mouth of the river, and the village of San José. By landing near the *watering place* it will be possible to procure horses to ride to the village, and native guides who will point out the best places for fording the intervening water courses. Generally there will be no delay in getting horses at this point, as the natives are on the watch for parties landing, and bring the horses down at once.

The magnetic variation in 1878 was 9° 40' E., increasing about 2' annually. Tides rise about 4 feet.

Gorda Point is a round, rocky bluff, about 50 feet high, with many outlying rocks close to; from it a rather flat-topped hill rises to a height of 300 feet. Near the shore, 1½ to 2 miles west of Gorda Point, is a cluster of conspicuous hills, called Cerros Prietos. They are of conical shape and of a light-gray color, resembling small craters. They can be distinguished at considerable distance, and cannot escape notice, when coming from the westward, before entering San José Bay.

Cape Pulmo lies 21 miles N. 28° 30' E. (N. by E. ¾ E. mag.) from Gorda Point. The coast between them projects considerably to the eastward of the line of bearing, having a gradually sweeping convex shore line, without any intermediate prominent points that are recognizable from a distance. It is moderately low and rocky, with occasional sand beaches, sloping gradually to the mountain range in the interior. Polfia Point, which is 3 miles north-eastward from Gorda

Road to La Paz and intermediate places.

Salatea.

Variation.  
Tides.

Gorda Point.

Coast from Gorda Point to Cape Pulmo.

Point, projects but little from the general coast line. It is low and rocky, and a heavy surf breaks upon it at all times. Porfia Point, which lies 10 miles farther to the northeastward, is a bold, rocky bluff 60 feet high, which may be recognized by its light, grayish color, differing several shades from other points in the vicinity. Off this point are numerous detached rocks close to.

Porfia Point.

Shoal water.

About midway between Polfia and Porfia Points, where a lateral spur of the coast range of hills terminates near a low sand beach, the water is shoal and discolored for a mile or more off shore. Soundings about a mile off shore showed a depth of 12 fathoms, increasing to 16½ fathoms at a mile and a half off. On other parts of this coast soundings at the same distance showed 40 and 50 fathoms.

About 3 miles to the northward of Porfia Point is a minor point, with a rocky bluff 60 feet high; about midway between the two points is an arroyo and ranch.

Cape Pulmo.

Cape Pulmo (view opposite page 52) is a bold, rocky bluff of a light grayish color, 410 feet high, surmounted by a hill 850 feet high. The country between this headland and the coast range of hills is low.

Immediately south of the cape is a small bay, three-quarters of a mile deep, at the bottom of which is an arroyo and ranch. The water in this bay and off the cape is deep, 10 fathoms and over being found within a cable's length of the beach.

Breaker.

Off the south-east point of the bay the sea breaks for a quarter of a mile off shore.

There is a small white rock, 12 feet high, 1½ miles northward of the cape proper, and about a third of a mile from the nearest shore to the south-west; 12 fathoms of water were found close to it.

Silver mines.

About 7 or 8 miles to the north-westward of Cape Pulmo are some silver mines that were opened a few years ago by a French company, but soon given up on account of the difficulty and expense of transportation of the necessary material for such an enterprise.

High Bluff.

High Bluff is a rocky headland which lies 4 miles to the northward of Cape Pulmo, and is from 50 to 75 feet high, surmounted by a hill 820 feet in height, which is the eastern end of a range of mountains from 1,500 to 2,000 feet high. Shoal water extends off this headland a short distance in

every direction, and there are numerous detached rocks close to it; the coast between it and Cape Pulmo consists chiefly of sand bluffs about 20 feet high, with some rocky patches and a few outlying rocks along the shore. Just south of High Bluff there is a small settlement of people engaged in the pearl fishery.

The coast between High Bluff and Arena Point recedes considerably, forming an open bay 1½ miles deep, the shores of which are sandy, and, toward Arena Point, low.

A mile and a half N. 16° W. (NNW. ¼ W. mag.) from High Bluff, and 4 cables distant from the nearest shore to the westward, is a shoal of small extent on which the sea breaks. Between it and shore is a passage with from 4 to 5 fathoms water. To avoid this shoal when coming from the south, after passing Cape Pulmo keep it on a bearing nothing to the eastward of south (S. ¾ E. mag.) until High Bluff is well on the port quarter, bearing S. 45° W. (SW. ¾ S. mag.), when you can safely haul up for Arena Point. Coming from the north, keep Cape Pulmo well open of High Bluff, or on a bearing nothing to the east of south (S. ¾ E. mag.) until High Bluff bears S. 56° 15' W. (SW. ¼ W. mag.), when you will be well past the shoal.

Arena Point is low and sandy, with a heavy surf breaking all around it; there are no outlying dangers, and the water off the point to the eastward is very deep, no bottom being found at 150 fathoms three-quarters of a mile off it.

Good anchorage may be found in moderate weather in from 7 to 10 fathoms water, dark sandy bottom, less than half a mile from the shore, Arena Point bearing N. 24° E. (N. by E. ¼ E. mag.), distant 1 mile. The magnetic variation at Arena Point in 1876 was 9° 50' E., increasing about 2' annually. Tides rise about 4½ feet.

Between Arena and Pescaderos Point the coast falls away, forming Palmas Bay, which is from 3 to 4 miles deep, and 19½ miles between the two points. It is entirely open to easterly winds, and affords no shelter from the south-easterly gales. In the northern part of the bay the hills extend to the water, with rocky cliffs and stony beaches. The southern part is less broken, the coast being low and sandy and rising gradually to the coast range of mountains.

Near Arena Point there is quite an extensive plain covered with cactus and various kinds of bushes and trees;

Coast between High Bluff and Arena Point.

Shoal.

Directions.

Arena Point.

Anchorage.

Variation.

Tides.

Palmas Bay.

among the latter is the *copal tree*, which is found in many places in the southern part of the peninsula.

**Soundings.** The soundings in the northern and western part of the bay show deep water close to the shore, in the southern part, between Arena Point and a steep rocky point  $3\frac{1}{4}$  miles northwestward from it. Shoal water from 3 to 5 fathoms, with indications of shifting shoaler spots, extends half a mile off shore. When approaching Arena Point from the northward the land should not be approached to within a mile and the lead should be kept going.

**Boca Trinidad Ranch.** Several arroyos open into the bay, one of them, known as Boca Trinidad, is  $9\frac{1}{2}$  miles north-westward of Arena Point, near a cluster of conspicuously formed hills, and has an extensive ranch near it. There are several other ranches near the shore of the bay and about  $2\frac{1}{2}$  miles to the southward of Pescaderos Point are the ruins of a stone building.

**Pescaderos Point.** Pescaderos Point is bold, rocky, and of a reddish color; it may be safely approached to within half a mile, carrying about 10 fathoms of water; the hills back of the point rise to a considerable height.

**Muertos Bay.** Muertos Bay is very much the same in character as Palmas Bay, being formed by the receding of the coast between Pescaderos and Perico Points. The land back of the bay rises to a height of nearly 4,000 feet, with a gradual descent on its southern side to a sand beach, and on the northern to a broken rocky shore. The most prominent peak in the coast range of mountains, 3,768 feet high, is 9 miles N.  $69^{\circ}$  W. (W. by N. mag.) from Pescaderos Point, and is not more than 4 miles from the bottom of the bay.

In the northern part of the bay the water is deep close to the shore; in the southern part anchorage can generally be had within half a mile of the beach in from 6 to 10 fathoms water, sandy bottom.

There are several ranches situated near the shores of the bay.

**Perico Point.** Perico Point is a steep rocky bluff, of a whitish color, from 40 to 60 feet high, back of which a hill rises abruptly to a height of 797 feet. The coast to the south-eastward is of the same formation as the point for a distance of about 2 miles, where there is a small cove with a sand beach on its western and southern sides.

The soundings off the point show deep water close to;

from 10 to 14 fathoms were obtained at from 200 to 300 yards off it, increasing to 135 fathoms at half a mile distant.

The coast northward of the rocky bluffs of Perico Point recedes a little and is low and sandy to Point Arena de la Ventana, which is a low sandy point, the eastern limit of Ventana Bay and the south point of entrance to Ceralbo Channel; back of it to the westward, is a low sandy plain, gradually rising as it extends inland.

In rounding this point it should not be approached nearer than half a mile, as the soundings at that distance to the northward show only 6 fathoms, increasing rapidly from that point.

Anchorage may be obtained in moderate weather inside the point in from 6 to 8 fathoms, sandy bottom. The magnetic variation in 1876 was  $10^{\circ} 05'$  E., increasing about  $2'$  annually. Tides rise about  $4\frac{1}{2}$  feet.

Ventana Bay is a large open bay lying between Points Arena de la Ventana and Gorda; it is about 6 miles deep and  $12\frac{1}{2}$  miles between the two points above mentioned. The southern shore of the bay is low and sandy, with an extensive plain back of it, covered with cactus and stunted bushes. On the north-western side the high coast hills rise more abruptly from the water's edge, forming, with the high peaks of the interior, an unbroken stretch of mountainous country extending to La Paz Bay. The two highest peaks, over 4,000 feet high, known as Los Cacachiles, lie  $7\frac{1}{2}$  miles in a south-westerly direction from Point Gorda; they are a mile apart and visible from a great distance.

The bay is much frequented at the proper season by vessels engaged in the pearl fishery.

La Ventana is a small village lying near the shore of the bay  $9\frac{1}{2}$  miles westward of Point Arena de la Ventana. There is a road from the village to San Antonio (Triunfo silver mines), a distance of about 15 miles, and at one time the products of the mines were brought to La Ventana for shipment; at present they are taken to La Paz. Fresh water, cattle, hogs, poultry, vegetables, &c., may be obtained here.

Anchorage may be found in any part of the bay within half a mile of the shore in from 5 to 8 fathoms water; farther off shore the water deepens rapidly.

Point Gorda, the western limit of Ventana Bay, is a bold, rocky bluff 50 to 75 feet high, with high land immediately

Point Arena de la Ventana.

Caution.

Anchorage.

Variation.

Tides.

Ventana Bay.

Los Cacachiles.

La Ventana.

Supplies.

Anchorage.

Point Gorda.

back of it. It may be safely approached to within a short distance, 5 fathoms water being found close to.

*Ceralbo Island.* Ceralbo Island, which lies to the northward of Point Arena de la Ventana, is of volcanic origin, high and barren. It is  $15\frac{1}{2}$  miles long in a nearly NW. and SE. direction, and its greatest width is about 4 miles. It is said to contain rich copper mines. Two high peaks rise, one in the northern and one in the southern part of the island, to heights of 2,265 and 2,477 feet respectively.

The whole eastern face of the island is a succession of bold, rocky bluffs with small stretches of gravel beach intervening, with deep water close to the shore. From the northernmost point, which is a high bluff, a reef of rocks extends off nearly half a mile. Small vessels, especially those engaged in the pearl fishery, frequently anchor to the eastward of and close under this point, which affords some protection from the strong north-west winds.

*Seal Rock.* Four miles N.  $27^{\circ}$  W. (NW.  $\frac{5}{8}$  N. mag.) from the northernmost point of Ceralbo Island is a rock, about 100 feet long, 50 feet wide and 12 feet above water, known as Seal Rock, from its being a favorite resort of those animals. On the north-western side of this rock, at something less than 100 yards distant, is a smaller one that is awash at low water, and 200 yards SSW. about S. by W. (mag.) is a sunken rock with only 2 fathoms water over it. There are a few smaller rocks in the immediate vicinity, the whole forming a dangerous group.

*Channel.* Between the above-mentioned group of rocks and Ceralbo Island there is a deep channel that is believed to be free from dangers. At a quarter of a mile from Seal Rock 25 fathoms were obtained, increasing to over 100 fathoms at a mile and a half distant.

The north-west point of Ceralbo Island ends in a reef of rocks fronting a bluff point and extending off but a short distance. The western side of the island presents nearly the same appearance as the eastern—bold, rocky bluffs—wherever the steep lateral spurs of the main ridge approach the shore, with sand and gravel beaches intervening.

Four and a half miles from the north-western point there is a slight indentation in the shore line, with a strip of sand beach at the bottom of the bight, known as La Limoña, and 3 miles farther south a similar indentation is known as El

Mostrador. The southern limit of El Mostrador is formed by a steep, high bluff of a whitish color, called Farallones Blancos;  $2\frac{1}{4}$  miles southward of this bluff is a bold, rocky point, called Carrera de los Viejos. The next point to the southward is low and sandy and forms the south-western extremity of the island; the water off this point is very deep, but anchorage may be found on the north side of it, 2 cables distant from the shore, in 10 fathoms water. Three-quarters of a mile SE. by E. from the last-mentioned point is a bold, rocky point called Piedra Gorda, off which a reef of rocks extends about a quarter of a mile; from this point to the south-eastern point of the island, which is a steep, rocky bluff, is a distance of a little over 3 miles.

Montana Rock is a dangerous sunken rock which has only 4 feet of water over it at low tide. It lies about three-quarters of a mile off the south-eastern point of the island, the eastern extreme of the island bearing north (about N. by W. mag.), and Piedra Gorda N.  $72^{\circ}$   $30'$  W. (W.  $\frac{5}{8}$  N. mag.). Between the rock and the island there is a clear passage with 5 and 6 fathoms water; outside the rock the water deepens rapidly to 10 fathoms and upwards. This rock, although it has not heretofore appeared on any chart, has long been well known to the native fishermen and pearl-divers. It takes its name from that of the Col. S. N. Co.'s steamer *Montana*, which struck on it in 1874, when rounding the point, coming from the northward.

Captain Shirley, commanding the U. S. S. *Suwanee*, reports in 1866, "While passing the south-east point of Ceralbo Island, within a mile of the land, passed over a reef of rocks about 50 yards wide, the bottom plainly visible; went over it so quickly that we could not get a cast of the lead."

This undoubtedly refers to the Montana Rock, as no other rocks or shoals could be found in the vicinity, nor were any others known to the natives.

Between Ceralbo Island and the main-land there is a channel  $3\frac{1}{2}$  miles wide at Point Arena de la Ventana, and  $6\frac{1}{2}$  miles wide at Point Gorda.

In using this channel with a steamer it is only necessary to keep in mid-channel. The *Montana Rock* is the only danger that lies at any distance off shore; that is easily avoided by keeping toward the southern side of the entrance. *Do not let Los Cacachiles* (before described), 4,000

5 MEX

Montana Rock.

Ceralbo Channel.

Directions.

feet high, bear any to the southward of west (W. by S. mag.), and you will pass well to the southward of the rock.

The above directions apply equally well to a sailing vessel having a *fair wind*. With a *head wind* they should not attempt to pass through the channel, as the tides run with considerable force, sometimes  $2\frac{1}{2}$  knots per hour, and nothing would be made beating against them. Calms are also frequent in the channel, and as a rule sailing vessels bound to La Paz will do better to go well outside of Ceralbo Island.

Caution.

Unless well acquainted with the coast, it is not advisable to attempt to pass through the channel at night or in thick weather.

From Point Gorda to Coyote Point.

The coast between Point Gorda and Coyote Point, a distance of  $16\frac{1}{2}$  miles, is generally bold and rocky, with occasional sand beaches. Back of the coast the country is broken and mountainous.

Point La Luz.

Point La Luz is  $2\frac{6}{10}$  miles north-westerly from Gorda Point, the coast between being steep, with a succession of bluffs. Two miles farther, in the same general direction, is a rocky point, with a reef of rocks extending off nearly a quarter of a mile; fresh water may be obtained near this point. Following the coast for  $3\frac{3}{4}$  miles from the last-mentioned point, we come to Point Santa Cruz, a bluff point, outlying from which are a large white rock and several smaller ones.

Point Santa Cruz.

Rosario Bay.

Rosario Bay is an open bay formed by an indentation in the coast-line between Point Santa Cruz and the next point to the north-westward. At the deepest part of the bight, near the shore of the bay, is a ranch known as San Rosario. Just north of this ranch a shoal extends a short distance off the coast. The soundings in the bay are from 3 fathoms at a cable's length from the shore to 10 fathoms half a mile off. The northern end of the bay is formed by a rocky bluff, with a conspicuous hill 984 feet high just back of it. From here to Coyote Point is  $5\frac{3}{4}$  miles, the coast-line curving inward somewhat, and the hills receding considerably from it. Before reaching Coyote Point, when coming from the southeast, a bold rocky bluff with moderately high hills is passed. This bluff is frequently mistaken for Coyote Point, which is somewhat over half a mile north-westward from it.

Coyote Point.

Coyote Point is the south-eastern point of the entrance to San Lorenzo Channel; it is moderately low and rocky, with

a small outlying white rock close to, and a reef of rocks extending a little more than a cable's length off the point. (See view opposite page 71.)

Two miles to the westward of Coyote Point a shelving rocky ledge called Las Galeras makes off from a bluff point, in a WNW. (mag.) direction, a quarter of a mile. Las Galeras.

Arranco Cabello Point is a steep rocky projection, just back of which is a hill 164 feet high, lying about a mile to the westward of Las Galeras. A small shoal with but  $1\frac{1}{4}$  fathoms water lies 3 cables to the north-westward of this point; between the shoal and the point is a passage with  $2\frac{3}{4}$  fathoms water. Arranco Cabello Point.

San Lorenzo Channel, which separates Espiritu Santo Island from the main-land southward of it, is  $3\frac{1}{2}$  miles wide at its narrowest part, but on account of the dangerous shoals and rocks in it must be navigated with the greatest caution. San Lorenzo Channel.

Scout Shoal is a dangerous shoal on which there is, in the shoalest part, only  $1\frac{3}{4}$  fathoms water. It lies  $1\frac{1}{10}$  miles N.  $30^{\circ}$  W. (NW.  $\frac{1}{2}$  N. mag.) from Arranco Cabello Point and is nearly circular in form, having a diameter of one-quarter of a mile; the bottom is rocky, being composed chiefly of loose stones. There is generally a *can buoy* on its north-western side. Between this shoal and the one previously mentioned as lying off Arranco Cabello Point there is a passage a quarter of a mile wide, with 4 fathoms of water. Scout Shoal.

San Lorenzo Reef is a rocky ledge lying  $1\frac{1}{4}$  miles N.  $13^{\circ}$  W. (NNW. mag.) from the shoalest part of Scout Shoal; its north-western limit is about the same distance S.  $39^{\circ}$  E. (SE.  $\frac{1}{4}$  E. mag.) from Lupon Point (the SE. point of Espiritu Santo Island). It is 4 cables in length in a general SE. and NW. direction by  $2\frac{1}{2}$  in width; the least depth of water, near the centre, is  $4\frac{1}{2}$  feet. Between it and Lupon Point there is a clear passage three-quarters of a mile wide, through which 4 fathoms may be carried. San Lorenzo Reef.

The Suwanee Rocks lie half a mile N.  $52^{\circ}$  E. (NE.  $\frac{1}{4}$  N. mag.) from the shoalest part of San Lorenzo Reef. The patch is small in extent and has in its shoalest part only 1 foot of water at low tide; all around it, close to, are 5 and 6 fathoms water. Suwanee Rocks.

The main channel which lies between Scout Shoal and San Lorenzo Reef is three-quarters of a mile wide with a Directions.