**U.S. COAST AND GEODETIC SURVEY**
DEPARTMENT OF COMMERCE

**DESCRIPTIVE REPORT**

<table>
<thead>
<tr>
<th>Type of Survey</th>
<th>HYDROGRAPHIC</th>
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<tbody>
<tr>
<td>Field No.</td>
<td>89-05152</td>
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<tr>
<td>Office No.</td>
<td>H-8021</td>
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<table>
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<th>LOCALITY</th>
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<tr>
<td>State</td>
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<tr>
<td>General locality</td>
<td>St. Marks River</td>
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<tr>
<td>Locality</td>
<td>Port Leon to Newport</td>
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</tbody>
</table>

1952

**CHIEF OF PARTY**
Riley J. Sipe

**LIBRARY & ARCHIVES**

**DATE**
Apr 2, 1954
DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

HYDROGRAPHIC TITLE SHEET

The Hydrographic Sheet should be accompanied by this form, filled in as completely as possible, when the sheet is forwarded to the Office.

REGISTER NO. H-9021...
Field No. So-05162

State _____________________________ FLORIDA

General locality ____________ ST. MARKS RIVER

Locality _______________ FORT LEON TO NEWPORT

Scale ______________ 1:5,000 Date of survey __4. Dec. to 9. Dec. 1952__

Instructions dated ________________ 17 June 1952

Vessel ________________ SOSBEE

Chief of party _________________ RILEY J. SIPE

Surveyed by ________________ SHIP’ S OFFICERS

Soundings taken by _______ DRIVER, graphic recorder, _______ POLE

Fathograms scaled by ________________ SHIP’S PERSONNEL

Fathograms checked by ________________ SHIP’S PERSONNEL

Protracted by ________________ GEO. L. FERNANDES

Soundings penciled by ________________ GEO. L. FERNANDES

Soundings in ________________ feet at MLW _______ and are true depths

REMARKS: ________________ This survey was smooth plotted in the Hydrographic Section of

______________________________ the Norfolk Processing Office.

______________________________
DESCRIPTIVE REPORT
TO ACCOMPANY

Hydrographic Survey No. H-8021 (Field No. SO-05152)
St. Marks River, Florida - Port Leon to Newport
Scale 1:5,000 4 December to 9 December 1952

A. PROJECT:

This survey is part of Project CS-351 and was done under Instructions dated 17 June 1952.

B. SURVEY LIMITS AND DATES:

The survey covers the St. Marks River from Port Leon to Newport, and the Wakulla River for a distance of 0.7 miles above its confluence with St. Marks River. (1952)

Junction was made with survey H-8022 (Field No. SO-05252) on the south. There are no contemporary surveys upstream.

Field work was begun on 4 December and completed 9 December 1952.

C. VESSELS AND EQUIPMENT:

Skiff No. 735, a 25-foot wooden skiff driven by two ten-horsepower outboard motors, was used for all the hydrography. This boat has a maximum speed of about 5 knots and a turning radius of about 20 meters.

Portable depth recorder, model 808J, serial 140-SP, calibrated for a velocity of sound in sea water of 820 fathoms per second, was used in measuring the depth of water where possible. In depths of 3 feet or less, a wooden sounding pole, graduated in feet, was used.

D. TIDE AND CURRENT STATIONS:

A portable automatic tide gage was in operation at St. Marks during this survey.

Data from this gage, with a correction of - 10 minutes, were used in reducing the soundings from the downstream limit to the confluence of the river, and for all of the Wakulla River.
D. TIDE AND CURRENT STATIONS: CON'T.

These St. Marks tide data were used uncorrected for all soundings in the St. Marks River above its confluence with the Wakulla.

A current station was observed in the river at the town of St. Marks, at Lat. 30° 09'.26', Long. 84° 12'.10". Observations were made with a Price meter and current pole and were continuous for 100 hours.

E. SMOOTH SHEET:

Not within the scope of this report.

F. CONTROL STATIONS:

Triangulation stations are all on the North American 1927 datum and are listed below:

1. Third Order, described stations:

   LEON TOWER 1935 – re-located 1952.
   WAK 1935
   BUZZ 1935
   TOWER, TRANS. 1952 (Q JIM)

2. Undescribed stations, located by triangulation methods for hydrographic signals only:

   COO (not used)
   BAG
   ACE
   SIS
   EVA
   RAM
   BOB
   MUG

The stations listed below were located by radial plot methods on photogrammetric sheets R.S. 447 and R.S. 448 of Ph 97(52):

   PIE (No. 825)
   DOG (No. 702)
   EGG (No. 703)
   CAR (No. 704)
   IVY (No. 705)
   ARM (No. 706)
   LAD (No. 708)
   NAY (No. 710)
   MAX (No. 711)
   NEW (No. 712)
   OIL (No. 713)
   POT (No. 715)
   RIG (No. 716)
   GET (No. 717)
   PEP (No. 719)(not used)
   SAX (No. 720)(not used)
   TOM (No. 721)(not used)
   VAL (No. 722)(not used)

G. SHORELINE AND TOPOGRAPHY:

From shoreline manuscripts R.S. 447 and R.S. 448 of Ph 97(52), by Baltimore Photogrammetric Office from nine-lens photographs taken in February 1952.
H. SOUNDINGS:

In depths of more than three feet, soundings were obtained by a portable fathometer of the 808 type. In shoaler areas a wooden sounding pole graduated in feet was used.

I. CONTROL OF HYDROGRAPHY:

In all of the Wakulla River covered, and in that part of the St. Marks River below the confluence, the hydrography was controlled in position by three-point sextant fixes on objects located as listed under Item F.

Soundings in the St. Marks River, above its confluence with the Wakulla, were spotted on the boat sheet from features along the shoreline. The nine-lens photographs were used to identify prominent objects such as leaning trees, mouths of small streams, small islands, etc. for that part of the river between the power plant and Newport where the thick woods overhang the banks. Then positions were marked on the boat sheet with reference to these objects and the path of the sounding skiff delineated as well as it could be judged. One line was run in mid-stream and one on each side, along the line of grass that marks the channel.

J. ADEQUACY OF SURVEY:

The survey is complete and adequate to supersede prior surveys for charting.

The junction with H-8022 is satisfactory. Depth curves are continuous at this junction.

K. CROSSLINES:

Crosslines comprise about 8 per cent of the total mileage. All of them are in the wider part of the St. Marks and Wakulla Rivers, since the narrowness and lack of good control render a system of crosslines unfeasible above the town of St. Marks.

L. COMPARISON WITH PRIOR SURVEYS:

Survey No. H-1330a, surveyed in 1875 at a scale of 1:10,000 covers the river as far up as the village of St. Marks. The present survey is in agreement with this prior one. Apparently the river had not been surveyed above St. Marks.

M. COMPARISON WITH CHART 1261:

This chart is of such a small scale that only six soundings are shown in this part of the river. Thus no real comparison can be made.

N. DANGERS AND SHOALS:

None found.
O. COAST PILOT INFORMATION:

The channel is marked by buoys up as far as the confluence of the St. Marks and Wakulla Rivers. From there up to Newport the St. Marks River is narrow but deep. The best water is in mid-stream, with a dense fringe of grass along the edges of the channel. A turning basin has been dredged about 350 yards upstream from the power line crossing in St. Marks.

P. AIDS TO NAVIGATION: (From 1952 Light List)

There are no fixed aids to navigation in this survey.

Floating aids to navigation were located as follows:

St. Marks River Buoy 41:
Lat. 30° 08.02', Long. 84° 12.35'; in 9 feet; located on 4 December 1952, position 7a.

St. Marks River Buoy 42:
Lat. 30° 08.13', Long. 84° 12.40'; in 15 feet; located on 4 December 1952, position 6a.

St. Marks River Buoy 43:
Lat. 30° 08.34', Long. 84° 12.44'; in 9 feet; located on 4 December 1952, position 5a.

St. Marks River Buoy 44:
Lat. 30° 08.48', Long. 84° 12.49'; in 11 feet; located on 4 December 1952, position 4a.

St. Marks River Buoy 45:
Lat. 30° 08.68', Long. 84° 12.56'; in 11 feet; located on 4 December 1952, position 3a.

St. Marks River Buoy 46:
Lat. 30° 08.86', Long. 84° 12.66'; in 13 feet; located on 4 December 1952, position 2a.

St. Marks River Buoy 48:
Lat. 30° 08.93', Long. 84° 12.65'; in 8 feet, located on 4 December 1952, position 1a.

Q. LANDMARKS FOR CHARTS:

Landmarks for charts for the whole St. Marks River are listed on form 567.

St. Marks River Buoy 40:
Lat. 30° 07.92', Long. 84° 12.26'; in 10 feet, located on 25 November, 1952, position 8'a.
Q. LANDMARKS FOR CHARTS: CON'T.

Prominent landmarks found within the limits of this survey are:

Leon Tower.
Transmission Towers.
Newport Tower.

R. GEOGRAPHIC NAMES:

Charted geographic names were verified by consultation with local residents.

S. SITTED AREAS:

None found.

T. BY-PRODUCT INFORMATION:

None.

N. BOAT SHEET:

The boat sheet was furnished by the Washington Office. It was received with a projection ruled in ink, the triangulation stations plotted in pencil, and bearing only the note "SO-05152 1:5,000 polyconic ruled 3/25/52 J.A." When preliminary work (plotting of signals and checking plotting of triangulation stations) was begun in September, it was found that the paper had expanded in an east and west direction, the amount of 16 meters in one minute of longitude. At the time, the discrepancy was thought to be an error in laying out the projection, so corrected projection lines were drawn in red ink. About a month later, it was found that the original black projection lines were correctly spaced, the sheet having reverted to its original size. The shoreline and signals were re-plotted according to the original projection.

V. OVERLAYS:

The transparent overlays made from the map manuscript on a scale of 1:5,000 for the purpose of transferring photo-hydro stations to the boat sheet could not be used. The projection lines were not straight and could not be matched, even in one quadrangle, to get satisfactory accuracy. As a result, the photo-hydro stations were plotted on the boat sheet by scaling dm's and dp's directly from the map manuscript. A Sylar-Lockerbie scale was used for this scaling and plotting. Many of these photo-hydro stations were later located by triangulation. A comparison of the results is given in the special report on this subject.
Z. TABULATION OF APPLICABLE DATA:

Accompanying this report are:

2. Tide Note.
3. Approval Sheet.
4. List of Signals.

Submitted by,

Arthur L. Wardwell
Commander, USCGS
STATISTICS SHEET

For Hydrographic Survey H-8021 (Field No. SO-05152)
St. Marks River, Florida - Port Leon to Newport
Scale 1:5,000        4 December to 9 December 1952

<table>
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<th>Day Letter</th>
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<th>No. of Positions</th>
<th>Statute Miles</th>
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<td>5 Dec.</td>
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<td>9.4</td>
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<td>e</td>
<td>2 &amp; 3</td>
<td>9 Dec.</td>
<td>63</td>
<td>3.7</td>
<td>97</td>
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</table>

| Totals     | 684           | 43.3      |                  | 564           |

Area = 0.4 Square Statute Miles.
TIDE NOTE

A portable automatic tide gage was in operation at St. Marks during the period of this survey.

For the part of the St. Marks River above its confluence with the Wakulla, the St. Marks tide data were used with no time correction.

For the rest of the sheet, a correction of -10 minutes was applied.
APPROVAL SHEET

The survey of the area covered by 50-05152(H-8021) is adequate for charting purposes. The sounding records and boat sheet have been inspected and are approved this date. Additional work is not necessary.

26 Jan. 1953

Riley J. Sipe
Chief of Party, C&GS
# List of Signals

Survey No. H-8021  (Field No. 30-05152)

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<tr>
<th>Name used in Hydrographic Survey</th>
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<td>EVA</td>
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<td>GET</td>
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<td>IVY</td>
<td>Photo-hydro, from R.S. 447.</td>
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<td>JIM</td>
<td>TOWER, TRANSMISSION 1952.</td>
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<td>RIG</td>
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<td>SIS</td>
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<td>WAX</td>
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LIST OF SIGNALS
H-8021

TRIANGULATION STATIONS

BUZZ    BUZZ, 1955-52
JIM     TOWER TRANS., 1952
Leo     LEON TOWER, 1955-52
wak    WAK, 1955-52

TOPOGRAPHIC STATIONS

(Located by fourth order triangulation)

Ace    Bag    Bob    Eva    Mug    Ram    Sis

(Source-Air-photo compilation RS-447)

Arm    Car    Dog    Egg    Get    Ivy    Lad    May    May    New    Oil
Pot    Rig

(Source-Air-photo compilation xS-448)
Pie
ADDENDUM
To Accompany

HYDROGRAPHIC SURVEY H-8021 (Field No. So-06152)

GENERAL
This appears to be an excellent basic survey and no unusual conditions were encountered during the smooth plot.

BOTTOM CHARACTERISTICS
Numerous bottom characteristics, recorded as RK in the sounding volumes, were entered as "rky" on the smooth sheet. It is believed probable that many of these rocky indications were obtained on oyster shells.

Respectfully submitted,
Hugh L. Proffitt
Cartographer.

Norfolk, Va.
16 April 1954
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<tr>
<th>Name on Survey</th>
<th>On Chart No.</th>
<th>On Previous survey</th>
<th>On U.S. quadrangle Maps</th>
<th>From local information</th>
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Names approved 4-27-64  L. Heck
Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. H-8021...

Records accompanying survey:
Boat sheets 1...
Sounding vols. 2...
Wire drag vols. ...
Bomb vols. ...
Graphic recorder rolls 2, etc.
Special reports, etc. 1 Smooth Sheet: 1 Descriptive Report...

The following statistics will be submitted with the cartographer's report on the sheet:

Number of positions on sheet 684
Number of positions checked 23
Number of positions revised 5
Number of soundings revised (refers to depth only) 0
Number of soundings erroneously spaced 6
Number of signals erroneously plotted or transferred 0
Topographic details Time 1 hr
Junctions Time 1/2 hr
Verification of soundings from graphic record Time 1/2 hr

Verification by O. Swendsen Total time 18 hrs Date 6/28/55
Reviewed by A. R. Stinn Time 24 hr Date 7/27/55
TIDE NOTE FOR HYDROGRAPHIC SHEET

Division of Charts: R. H. Carstens

Plane of reference approved in
3 volumes of sounding records for

HYDROGRAPHIC SHEET 8021

Locality St. Marks River, Florida

Chief of Party: R. J. Sipe in 1952
Plane of reference is mean low water reading
2.0 ft. on tide staff at St. Marks
5.2 ft. below B. M. 3 (1935)

Height of mean high water above plane of reference is 2.4 feet.

Condition of records satisfactory except as noted below:

E. C. McKay

Chief, Division of Tides and Currents.
DIVISION OF CHARTS
REVIEW SECTION - NAUTICAL CHART BRANCH

REVIEW OF HYDROGRAPHIC SURVEY

REGISTRY NO. H-8021
Florida, St. Marks River, Port Leon to Newport
FIELD NO. 30-05152
Project No. CS-351

Surveyed - Dec., 1952
Soundings:
808 Fathometer
Sounding pole

Scale 1:5,000
Control:
Sextant fixes on shore signals
References to prominent features

Chief of Party - Riley J. Sipe
Surveyed by - R. J. Sipe, A. L. Wardwell
Protracted by - G. L. Fernandes
Soundings plotted by - G. L. Fernandes
Verified and inked by - O. Svendsen
Reviewed by - A. R. Stirn 7/24/55
Inspected by - R. H. Carstens

1. Shoreline and Control
The shoreline originates with the unreviewed manuscripts of RS-447 (1952) and RS-448 (1952).
The source of the control is given in the Descriptive Report.

2. Sounding Line Crossings
Sounding-line crossings in the wider parts of the St. Marks and Wakulla Rivers are in good agreement. Cross lines were not attempted in the narrow channel of the St. Marks River north of lat. 30°09.0'.

3. Depth Curves and Bottom Configuration
The usual depth curves have been adequately delineated. In the broad part of the St. Marks River below the confluence with the Wakulla River the channel winds back and forth across the river and is marked with buoys. Above the junction with the Wakulla River, where the St. Marks River narrows considerably, the channel holds to a midstream course and is easily followed.
4. Junctions with Contemporary Surveys

The present survey is in harmony with unverified survey H-8022 (1952) on the south. The junction with H-8022 will be discussed in the review of that survey. There are no contemporary surveys on the north.

5. Comparison with Prior Surveys

H-541 (1856), 1:10,000
H-1330a (1875), 1:10,000
H-305 (1852), 1:20,000

None of the prior surveys extend north of St. Marks. The soundings on the reconnaissance survey H-305 (1852) are as much as 200 meters apart but differ little with the present depths.

In comparing the present survey with H-541 (1856) and H-1330a (1875), there appears to be considerable difference in shoreline; however, no detailed references are made because of the generalization on the prior surveys and the different delineation of marshy shoreline. Channel depths have changed little since the time of the earlier surveys but the surveys reveal much lateral shifting in the channel bed. For example at lat. 30°08.00', long. 84°12.30' (buoy C-41), where the channel presently lies 50 meters east of its former location, and at lat. 30°08.20', long. 84°12.45' and lat. 30°08.55', long. 84°12.52', where, in both instances, the channel presently lies 40 meters west of its former location.

The present survey is adequate to supersede the prior surveys within the common area.

6. Comparison with Chart 484 (Latest print date 5/31/54)

A. Hydrography

Charted hydrography originates with the boat sheet (Bp. 50154) of the present survey. Only minor differences are noted between the charted soundings and the present survey. Areas at lat. 30°08.70', long. 84°12.65' and lat. 30°09.2', long. 84°12.8' which are charted awash at MLW are covered by depths of 1/2 - 1-ft. on the smooth sheet after verification.

The present survey is adequate to supersede the charted hydrography within the common area.

B. Aids to Navigation

The aids to navigation located on the present survey are in substantial agreement with the charted aids and adequately mark the features intended, except that buoy N-42 charted in lat. 30°08.16', long. 84°12.42' should be moved 100 meters northwesterly to adequately mark the channel.
7. **Condition of Survey**
   
   (a) The sounding records and Descriptive Report are complete and comprehensive.
   
   (b) The smooth plotting was accurately done.

8. **Compliance with Project Instructions**
   
The survey adequately complies with the Project Instructions.

9. **Additional Field Work**
   
   This is a good basic survey and no additional field work is recommended.

---

Examined and Approved:

H. R. Edmonston  
Chief, Nautical Chart Branch

E. R. McCarthy  
Acting Chief, Chart Division

C. T. Bull  
Chief, Hydrography Branch

Earl O. Heaton  
Chief, Division of Coastal Surveys
NAUTICAL CHARTS BRANCH

SURVEY NO. H. 8021

Record of Application to Charts

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</table>

A basic hydrographic or topographic survey supersedes all information of like nature on the uncorrected chart. Give reasons for deviations, if any, from recommendations made under "Comparison with Charts" in the Review.
CHF 484 - Before V & R - Exam for central information (Hydro)
CHF 484 - After V & R - fully applied. S. Thomas