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U. S. COAST & GEODETIC SURVEY
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DEPARTMENT OF COMMERCE

U. S. COAST AND GEODETIC SURVEY

R. S. Patton, Director

State: North Carolina

DESCRIPTIVE REPORT

Air
Photo

Topographic
Hydrographic

Sheet No. 5048 5048

LOCALITY

Bogue Sound

Bear Inlet to Cat Island.

19 33

CHIEF OF PARTY

O. S. Reading.

U. S. GOVERNMENT PRINTING OFFICE: 1921

5048

Applied to chart correction 1234 12/19/35 H.E. MacEwen
Applied to chart 833 Sept. 14, 1936 H.E.C.

DESCRIPTIVE REPORT

to accompany Sheet 5048

Bogue Sound, North Carolina

O. S. Reading H. & G. Eng. Chief of Party

Statistics:

The total area covered by this sheet is 65 square statute miles. The length of shore line along the outside coast is 13.3 statute miles, and length of inside shore line more than 200 meters from the opposite shore, is 48 statute miles. Rivers and sloughs less than 200 meters wide, and islands less than 200 meters wide, approximately 56 statute miles. The figure 56 statute miles for rivers and sloughs include the prominent channels less than 200 meters wide, but does not include the small water courses which subdivide the marshy areas.

Other Reports:

Descriptive reports, topographic sheets C. & D. North Carolina Locality sheet C, Jumping Run to Bogue Inlet. Locality sheet C, Bogue Inlet, Bear Inlet, and south portion of White Oak River. Lieutenant Herman Odessey, Chief of Party, Commanding Launch GILBERT, Lieutenant S. B. Grenell, topographer, 1933. The entire area has very little relief, nothing over 25 feet. Most of the islands inside of Bogue Banks are low grass covered marsh. All solid land not under cultivation is covered with bushy woods of mixed variety.

Photo Numbers:

There are portions of three flights on this sheet. Two flights were parallel to the outer coast, the center of the B prints being approximately over the center of Bogue Sound. One coast flight, photo Nos. 117 to 141 starts at the east edge of the sheet and continues to long. 77°-08'W. This flight was taken in the early afternoon of January 24, 1933. Low tide at Bogue Inlet occurred at 12:30 P.M. on January 24, 1933, the height being minus 0.5 feet, so this flight consists of low tide pictures. The flight consisting of photo Nos. 194 to 205 starts at the town of Swansboro and continues N over White Oak River. The third flight, photo Nos. 206 to 212 starts at long. 77°-08' W. and continues to the west edge of the sheets. These last two flights were made on January 29, at 10:00 A. M. at which time the tide was high, 2.2 feet, at Bogue Inlet.

Control:

The control for this sheet consists of second and third order triangulation executed in 1908, 1914, and 1927, supplemented and revised by a second order revision survey executed in 1933 by a party on the launch GILBERT, Lieutenant Herman Odessey, Commanding. Aluminum control sheets No. C. & D. executed by Lieutenant Odessey's party, cover this sheet. All control is listed on N.A. datum and reduced to N.A. 1927 datum before being plotted on the compilation sheet.

Errors:

No plottable errors were found in the control, although I understand the triangulation computations have not been checked.

Compilation:

The standard radial line method was used as described in the U.S.C. & G.S. 1933 notes on the Compilation of Planimetric Line Maps from Five Lens Aerial Photographs. A scale plot was made locating about ten triangulation stations. When this plot was laid over the topographic control sheet, there was not over a ten meter discrepancy in any station, so the average scale of the photographs was assumed to be 1:20,000 and the projection was made at that scale.

Adjustment of Plot:

The D wing was missing on pictures 137 to 141, 206 to 212 and 194 to 205. This weakened the plot on the N. W. Portion of the sheet, which accounts for the blank area there. The control was dense enough so each picture could be plotted, so no traverse was run with the pictures.

Interpretation:

The field inspection notes were complete. Lt. S. B. Grenell who made the field inspection, was in the office while the compilation was being made, and he gave much aid in explaining the pictures. Much of the swampy area had such fine detail that it is impossible to show it all on a 1:20,000 scale. Such areas had to be generalized, however the detail was held as fine as possible without causing confusion.

Information From Other Sources:

All information was obtained from the photographs, topo control sheets, and the triangulation survey already referred to.

Names:

All names were taken from Chart No. 1234.

Comparison with other Surveys:

A satisfactory junction was made with sheet No. 5049 on the west and sheet No. 5047 on the East. There are no other joining sheets. The original topo survey of this area made in 1871 shows a $\frac{1}{2}$ mile change has taken place around Bogue Inlet. ✓

Landmarks:

Descriptive reports for topo sheets A and A already referred to, has a complete list of landmarks for charts. They are listed on the

T-6002 T-6003

N. A. datum, and the mean correction used to plot them on this sheet to the N. A. 1927 datum was Lat. minus 13.6 meters, Long. plus 14.3 meters.

Recommendations for further Surveys:

It is believed that the compilation has no plottable error in position of well defined detail of importance for charting and a probable error of ten meters for other data. The missing wings prevented a compilation of the Queen Creek area, but this seems of small importance for charting.

Remarks:

In general, the pictures were badly tilted, causing the selection of many points in the radial plot, and much shifting in tracing detail.

Respectfully submitted

E. H. Kirsch

E. H. Kirsch
Jr. H. & G. Eng.
U. S. C. & G. S.

List of Plane table objects

<i>Object</i>	<i>Description</i>	<i>Remarks</i>
<i>Bn 13 A</i>	<i>A. one pile unlighted Bn.</i>	<i>Located on Topo Control sheet field # C.</i>
<i>Bn 15 A</i>	<i>"</i>	<i>"</i>
<i>Bn 27 A</i>	<i>"</i>	<i>Located on Topo Control sheet field # D.</i>
<i>Bn</i>	<i>"</i>	<i>"</i>
<i>Bn 27 B.</i>	<i>"</i>	<i>"</i>

RECOVERABLE TOPOGRAPHIC STATIONS *

Description	Position				Remarks
	Lat.	D.M.	Long.	D.P.	
Bn. No. 13A	34°	42' 297 (1551)	76° 58'	437 (1089)	
Bn. No. 15A	34°	41' 1044 (805)	76° 59'	1519 (9)	
Bn. No. 27A	34°	39' 1331 (518)	77° 08'	1361 (167)	
Bn. ●	34°	39' 734 (1115)	77° 09'	661 (867)	between No. 27A and 27B
Bn. No. 27B	34°	39' 341 (1508)	77° 09'	1208 (320)	
<p>* These stations were transferred from plane table shots T-6002 and T-6003</p> <p>(5048)</p>					

Reflight Photographs

Single lens photographs Nos. M 80-8¹/₄, N-8 to M 96-8¹/₄, N-8 taken January 14, 1934 were supplied to make any revision necessary in the outer coast due to storms in the Fall of 1933. No revision was necessary.

Leonard A. Huxman
August 29, 1934.

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

AIR PHOTOGRAPHIC
TOPOGRAPHIC TITLE SHEET

REG. NO. 5048

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

Field No. 5048

REGISTER NO. 5048

State North Carolina.

General locality Bogue Sound.

Locality Bear Inlet to Cat Island.

Scale 1:20,000 Photos { 1/24/33 1:00 P.M. }
Date of survey { 1/29/33 11:00 A.M. }
Date of compilation Nov. 1933

Vessel Army Air Corps Plane

Chief of party O. S. Reading, Washington Office.

Photographs
Surveyed by Plotted by E. H. Kirsch

Inked by E. H. Kirsch.

Heights in feet above to ground to tops of trees

Contour, Approximate contour, Form line interval feet

Instructions dated Washington Office, 19

Remarks: Compilation from aerial photographs no 117 to 141

206 to 212, 194 to 205

Polyconic projection	by E.H.K.	Sept. 26th, 1933
" "	checked	by S.B.G. Sept. 26th, 1933
Control Plotted	by E.H.K.	Sept. 27th, 1933
" "	checked	by S.B.G. Sept. 27th, 1933

E. H. Kirsch

REVIEW OF PHOTO TOPOGRAPHIC SURVEY NO. 5048

Title (Par. 56) *Boque Sound, Cat Island to Bear Inlet, North Carolina*
 Chief of Party *O. L. Reading* Compiled by *E. H. Lusk*
 Project *North Carolina* Instructions dated -

1. ✓ The survey and preparation for it conform to the requirements of the Topographic Manual. (Par. 8; and 16, a, b, c, d, e, g and i.)
2. ✓ The character and scope of the compilation satisfy the instructions and the "Notes on the Compilation of Planimetric Line Maps from Five Lens Aerial Photographs".
3. ✓ The control and adjustment of the radial plot were adequate. (Par. 12, 29.)
4. ~~There is sufficient control on maps from other sources that were transmitted by the field party for their application to the charts. (Par. 28.)~~
5. ✓ High water line on marshy and ~~mangrove~~ coast is clear and adequate for chart compilation. (Par. 16a, 43, 44.)
6. ✓ The representation of low water lines, reefs, ~~coral reefs and rocks~~, and legends pertaining to them is satisfactory. (Par. 36, 37, 38, 39, 40, 41.)
7. ✓ Important details shown on previous surveys and on the chart have been compared with this sheet and a statement has been entered in the report regarding the removal from the chart or change in position of important detail such as rocks, lights, beacons, prominent objects, bridges, docks, and structures along the water front. *see reverse side*

8. ✓ The span, draw and clearance of bridges are shown. (Par. 16c.)

The one bridge shown on the sheet was under construction March 1933, and no data was submitted by the field inspection concerning it.

9. ✓ The data furnished by the Field Inspection is adequate. *see reverse side*

NOTE: Strike out paragraphs, words or phrases not applicable and modify those requiring it. Paragraph numbers refer to those in the Topographic Manual. Use reverse side for extending remarks.

7. Cont'd.

At the western end of Bogue Sound from Long. $76^{\circ} 58'$ to $77^{\circ} 01'$ several of the small islets shown on chart 1234 do not appear on this sheet. Photo 118-(A wing) and photo M97-884 N-8 (single lens revision flight taken at 11:00 A. M., Jan. 18, 1934) were sent to Lieutenant S. B. Grenell for explanation. Only the islands which he recommended are shown. He states that the other numerous islets are small patches of shell on the shoaler portions of the sand-mud bottom. These shell patches are just awash on the extreme low tides and should not appear as topographic features on the charts. These photographs with S. B. Grenell's note are filed as letter #15, 1934, in the Air Photo Section Files.

On chart 1234 in White Oak River ($34^{\circ}-42'$, $77^{\circ}-06'$) there are numerous islets and also a wharf on the east bank of the river. An examination of the photographs indicates that neither the wharf nor the islets are in existence at the present time. Also at the mouth of Queen Creek Chart 1234 are shown numerous small islands, ($34^{\circ} 40'$, $77^{\circ} 09'$). An examination of the photographs indicates that these islets are no longer in existence. On chart 1234 numerous islets are shown in Deer Creek, (approx. Lat. $34^{\circ} 41'$, approx. Long. $77^{\circ} 03'$). From an examination of the photographs it appears that most of these islets are shoal spots and are therefore shown as such on this sheet (T-5048). Field inspection did not cover the three cases mentioned above.

The descriptive report mentions a half a mile change having taken place around Bogue Inlet since the survey of 1871, (T-1215). This change consists of a shift of the inlet westward along the coast. It might be added that east of Bogue Inlet the shore-line has shifted seaward as much as 130 meters in places since 1871.

Just west of Bogue Inlet (T-1215 and T-1291 1872) the shift has been inland but at Bear Inlet the shift is seaward again. Bear Inlet has shifted northeast with the coastline about 400 meters.

A comparison of this sheet with the 1927 surveys T4294 and T4295 indicates no apparent change in the coastline from the eastern extremity of the sheet to Bogue Inlet except between Long. $77^{\circ} 04\frac{1}{2}'$ and $77^{\circ} 05\frac{1}{2}'$ where there has been a seaward shift being a maximum at $77^{\circ} 05'$ of ± 50 meters. From Bogue Inlet to Bear Inlet there has been an inshore shift of ± 15 meters. At both Bear and Bogue Inlets there has been quite a change in the shape of the inlets but the general position has remained approximately the same.

13. Cont'd.

Chart 1234 shows a landmark TREE at $34^{\circ}-42.4'$, $76^{\circ}-57.8'$. This landmark was not mentioned by the field inspection, nor was it submitted with T-6002 and T-6003.

10. ✓ The descriptive report covers all details listed in the Manual, so far as they apply to this survey. (Par. 64, 65 and 66.)
11. ✓ The descriptive report also contains all additional information required in photo topography as prescribed in the instructions and in the "Notes on the Compilation of Planimetric Line Maps from Five Lens Aerial Photographs".
12. ✓ The descriptions of recoverable stations and references to shore line were ^{not} accomplished on Form 524, and scaling of positions checked. (Par. 29, 30 and 57.) *There is a list of recoverable topographic stations transmitted to this sheet from T-6002 and T-6003 included in this report.*
13. ✓ A list of landmarks for charts was furnished on Form 567 and scaling of positions checked, (Par. 16d, e, 60.) *with the photo control sheets of this area. T-6002 and T-6003.*
14. ✓ The geographic datum of the sheet is *N.A. 1927* and the reference station is correctly noted. (Par. 34.) *the contour was reduced to this datum by corrections furnished by the Division of Geology*
15. ✓ Junctions with contemporary surveys are adequate.
16. ✓ Geographic names are shown on the sheet and are covered by the Descriptive Report. (Par. 64, 66k.) *Attention is called to the fact that there are two "Saunders Creek" on this sheet. Both appear on chart 1734.*
17. ✓ The quality of the drafting is good. (Par. 31, 32, 33, 35, 36, 37, 38, 39, 40, 41, 42, 45, 46.)
18. ✓ No additional surveying is recommended.
19. ✓ Remarks: *This sheet was compiled in the Washington Office*

20. Examined and approved:

O. S. Reading
Chief of Party

21. Remarks after review in office:

Reviewed in office by: *Frank G. Eakin* Aug. 10, 1934

Examined and approved:

K.T. Adams
Chief, Section of Field Records

L.O. Lobnitz
Chief, Division of Charts

J.H. Gordon
Chief, Section of Field Work

G.H. Rude
Chief, Division of
Hydrography and Topography.