

6688a

6688a

Form 504 Rev. April 1935	
DEPARTMENT OF COMMERCE U. S. COAST AND GEODETIC SURVEY	
DESCRIPTIVE REPORT	
Topographic Hydrographic	Sheet No. 6688a
U. S. COAST & GEODETIC SURVEY LIBRARY AND ARCHIVES MAR 18 1940 Acc. No. _____	
State	Washington
LOCALITY	
Eastern Approaches to Deception Pass	
Puget Sound	
1939.	
CHIEF OF PARTY	
Robert W. Knox	

Applied to Chart 6380 Mar. 3/41 BR.
" " " ~~6380~~ " 20/41 "
" " " 6376 Aug 9, 1944 JFW

DEPARTMENT OF COMMERCE
U.S. COAST AND GEODETIC SURVEY

REG. NO.

TOPOGRAPHIC TITLE SHEET

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. "G"

T6688a

REGISTER NO. 6688a

State Washington

General locality Skagit Bay
Puget Sound

Locality Eastern Approaches to Deception Pass

Scale 1:5,000 Date of survey July, 1939.

Vessel U.S.C. & G.S.S. EXPLORER

Chief of party Robert W. Knox

Surveyed by Joseph E. Waugh, Jr.

Inked by Joseph E. Waugh, Jr.

Heights in feet above M.H.W. to ground ~~tops of trees~~

~~Elevations in parenthesis are estimated heights of trees~~

~~Contours, Approximate contours~~ Form line interval 50 feet

Instructions dated April 12, 1939.

Remarks:

DESCRIPTIVE REPORT

TO ACCOMPANY

TOPOGRAPHIC SHEET T-6688a

EASTERN APPROACHES TO DECEPTION PASS, WASHINGTON

PROJECT HT-233

1 9 3 9

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Robert W. Knox, Chief of Party, C. & G. S.

DESCRIPTIVE REPORT

TO ACCOMPANY

TOPOGRAPHIC SHEET T-6688a

EASTERN APPROACHES TO DECEPTION PASS, WASHINGTON.

INSTRUCTIONS:

The topography on sheet T-6688a, is a part of Project HT-233, the instructions for which were dated April 12, 1939, and were interpreted by letter on June 24, 1939.

LIMITS AND SCALE:

This sheet was surveyed on a scale of 1:6,000. It covers the eastern approaches to Deception Pass from Longitude $122^{\circ}38'30''$ to Longitude $122^{\circ}38'00''$. It includes the bays and islands adjacent thereto.

CONTROL AND SURVEY METHODS:

The control consisted of two second order triangulation stations and seven third order triangulation stations, both main scheme and intersection. The second order stations are from Jack Senior's 1934 scheme in this area. The third order work was done by this party in 1939. It consisted in part of connecting available National Park Service triangulation to the Coast Survey's existing triangulation. In addition two N.P.S. marks were recovered. They are plotted on this sheet graphically from N.P.S. records. They were not used in the control. They are shown on this sheet as triangulation stations but no date is given after the name as they are not connected with the Coast Survey's triangulation.

The usual plane-table survey methods were used. The plane-table positions were obtained by three point fixes and resection methods.

There are two short traverses. The first extends northward from triangulation station "SAW", and return. The error was less than two meters. Field adjustment was made.

The second extends one set-up into Cornet Bay from elevation 41. No error was found.

No extra set-ups were made to obtain features back of the high water line.

All wooded areas are sketched. The inshore side of all clearings and fields where shown are approximate only.

All off-lying features were rodded in.

There is submitted in connection with sheets T-6688a, T-6688b, and T-6686 several blueprints of the N.P.S. survey of this area.

The only one of these available for field comparison was the master sheet ^(BP 34227) on a scale of five hundred feet to one inch. The other blueprints were obtained after the field season closed. This survey has been compared with the existing topography and found to be accurate enough for the detail back of high water only in Deception Pass Park. The H.W.L. was found to be in error in several places. The most noticeable of these are around triangulation station "CRUMB", and Strawberry and Ben Ure Islands. The topographer conferred with the engineer in charge of this district of the State Park Service as to the methods used in making the survey. The park area was surveyed by plane-table and supplemented in part by a tape and transit. In compiling the master sheet the roads, shore line, property lines, etc., outside the park area were obtained from different sources and are shown on this sheet in their approximate position only. In the park, all detail and form lines were drawn from an actual survey of the area. However, the high water line as shown was transferred from Coast and Geodetic Survey charts when not accessible from the land side. Therefore it is felt that while this N.P.S. survey is accurate enough for the detail back of the high water line in the Park area, it should not be considered as accurate in the water areas or outside of the limits of the Park.

FORM LINES:

Several elevations were taken over this area as a check on the contours shown on the N.P.S. blueprint. ³⁴²²⁷ The contours shown on this blueprint were obtained by running lines of levels over this area supplemented in part by elevations determined with the plane-table.

It was felt that these contours are more accurate than any form lines that could be drawn by the topographer since this area is wooded and therefore the elevations would depend on estimated heights of trees.

It is recommended that the contours on the N.P.S. sheets be used in the park area as form lines. ^{34227 (Master Sheet)}

Fifty foot form lines have been drawn on the sheet in the area outside of Deception Pass State Park. Where a determined elevation is to the top of the trees or a snag an estimated height has been deducted. This height is shown on the sheet in parenthesis under the ground elevation. These estimations are based on several actual measurements of trees and snags in this area. Hydrographic signal "Sty", is the chimney of a house and the elevation shown there depends on the amount deducted for the height of the house. All elevations shown are ground elevations above mean high water. The elevations on the blueprint are ground elevations above mean sea level.

There is submitted a tracing of form lines just off the north-east edge of the sheet. Because of the nature of the topography no elevations could be determined on the sheet north of latitude $48^{\circ}25'30''$ and Longitude $122^{\circ}37'00''$. However, several were determined just off the sheet and the form lines drawn in.

Transmitting letter does not list this tracing - and it was not received by this office.
L.S.S.

GENERAL DESCRIPTION OF TOPOGRAPHIC FEATURES:

The area is rolling and for the most part wooded. The trees are second growth timber interspersed with tall snags and first growth timber, the remains of the original forest. On the more exposed sections of the shoreline there is a small vertical bluff varying from ten to twenty-five feet directly back of the high water line. This bluff disappears in the west and south side of Cornet Bay between signals "Wax" and "Stum". It also recedes between signal "Clop" and the rocky bluff west of signal "Hart" and midway between signals "Rock" and "Wak". In back of the other smaller bights it recedes back from the high water line. The trees extend down to the high water line where indicated and in these areas the small bluff is not visible from the water. The bluff back of signal "Hart", is rocky and vertical. It is approximately fifty feet high at the highest part.

The small black circles on the sheet indicate piling unless otherwise noted. The old ferry landing north of triangulation station "DEWEY", has been abandoned. The piling is old and shaky. The wharf is still serviceable. The piling off signals "Stum" and "Mil", are used to secure log booms while the tows are waiting for favorable currents through Deception Pass. A cable area is shown between signal "Cab", and a black dot west of signal "Barn". These are the cable crossing signs. It is assumed that the cable is laid directly between these signs. The float shown inshore of signal "Cat", is narrow and laid between piling. The float south of signal "Lan", is a semipermanent structure and is used for mooring small boats by Mr. Barnes who lives on Ben Ure Island. The

skid is small and is used for hauling out small boats.

The wharf between signals "Wax" and "End", is small. It is accessible only at half tide or better.

There is an abandoned C.C.C. camp in the clearing back of this wharf. It is now used as a health camp by religious groups.

MARSHES:

There are two marshes shown on the sheet. The high water line is the outside grass line. They are small and low and are covered at high water. The vegetation is a short marsh grass. There are extensive mud flats outside of each marsh.

COMPARISON WITH OLD SURVEYS:

This sheet has been compared with sheets T-1252 and T-2856. ⁽¹⁸⁷¹⁾

The shore line agreement between T-1252 and the modern survey is poor. The indentations in the shore line are of different size, shape, and character than that shown on the old survey. Strawberry Island is of a different size and shape. A point is shown northeast of signal "Mil", on the old survey which does not now exist. Cornet Bay is a little deeper than shown on the old survey. Between signals "Bil" and "Out", and between signals "Gal" and "An", the shore line has receded. The point south of signal "Cor", has become sharper and the shore line to the north is on a whole, different than shown on the old survey. The shore line at signal "CRUMB", and in the bight to the northward has receded. This is also the case around signals "Nox", and "Clop". These differences are the most pronounced ones. The rest of the survey is in poor agreement showing that the area has had numerous changes along the water line or that the old survey was a sketchy one.

A satisfactory comparison with T-2856 could not be made in the field due to the difference in scales. From a visual comparison, there seems to be fair agreement between it and the new survey.

MAGNETIC MERIDIANS:

The magnetic meridian was determined at seven places on the sheet. Signals "CRUMB", "SAW", "DEWEY", and "HOYP (NPS)", were also occupied with the declinometer.

Standardization of Declinatoire No. 246 was made at Seattle (Lincoln Park) on May 3, 1939, at 14:41. The ^{correction} ~~error~~ was found to be plus 10' (no diurnal variation correction ^{applied}). Different values were obtained on sheet 6688b at two stations shown on this sheet. They are listed below:

DECLINATOIRE OBSERVATIONS					
Station	Date	Time	Values from 6688a	Values from 6688b	
			Scaled value	Time	Scaled value
HOYP(NPS)	July 24	8:10	24°13'		
DEWEY	July 24	10:30	24°05'		
SAW	July 24	11:30	26°02'		
PILE(NPS)	July 25	11:05	24°05'		
WHIRL	July 25	15:06	23°35'	14:25	23°38' ✓
ROAD	July 26	16:35	24°13'		
CRUMB	July 27	9:40	23°35' ✓	9:50	23°50' ✓

DECLINOMETER OBSERVATIONS			
SAW	Aug. 8	8:42	26°30.4'
		8:52	26°33.0'
		9:04	26°27.2'
		9:13	26°27.0'
CRUMB	Aug. 3	13:15	23°32.8'
		13:28	23°32.7'
		13:45	23°33.5'
		13:52	23°32.8'
DEWEY	Aug. 10	9:39	24°37.6'
		9:53	24°33.2'
		10:07	24°31.7'
		10:18	24°29.7'
HOYP(NPS)	Aug. 16	9:15	24°22.8'
		9:24	24°24.8'
		9:33	24°26.0'
		9:45	24°26.7'

These values do not include the diurnal variation or the declinatoire error.

Your attention is invited to the local attraction found at triangulation station "SAW". This value was checked by the Declinometer. The area affected has been localized by occupying adjacent triangulation stations with the declinometer.

40

SIGNALS:

The following is a list of topographic signals and triangulation stations on this sheet outside the high water line.

<u>NAME</u>	<u>DESCRIPTION</u>
Cab	Cable crossing sign on pile.
Mil	Cloth in overhanging tree.
Nox	Whitewash on telephone pole.
SAW	Standard triangulation station mark on top of boulder on the beach.
Sup	Cloth in overhanging tree.
Wik	Whitewash on rock bearing 3' at H.W. It is on the high water line.

JUNCTIONS:

This sheet was carried on the east to a satisfactory junction with sheet T-6686, and on the west to a satisfactory junction with sheet T-6688b.

LANDMARKS:

There are no prominent landmarks to charts on this sheet.

AIDS TO NAVIGATION:

Ben Ure Island Light is the only aid to navigation on the sheet. It was located by triangulation. It is a new light having been installed this summer while the party was working in this area.

GEOGRAPHIC NAMES:

<u>Name</u>	<u>Source</u>	<u>Recommendation</u>
Deception Pass	Charts 6380 & 6300	Be retained.
Fidalgo Island	Charts 6380 & 6300	Be retained.
Hoypus Point	Charts 6380 & 6300	Be retained.
Whidbey Island	Charts 6380 & 6300	Be retained.
Yokeko Point	Charts 6380 & 6300	Be retained.

The following is a list of names used by the Park Service to identify various topographic features in Deception Pass State Park. It is recommended that they be charted where the scale of the chart permits.

Ben Ure Island Cornet Bay Strawberry Island

COAST PILOT:

This is the subject of a separate report by the Chief of Party.

STATISTICS:

Statute miles of shore line	7.2
Area, in square statute miles	2.5

Respectfully submitted,

Joseph E. Waugh, Jr.

Joseph E. Waugh, Jr.,
Aid, C. & G. S.

APPROVED AND FORWARDED:

Robert W. Knox

Robert W. Knox,
Chief of Party, C. & G. S.

Remarks

Decisions

1		484225
2		484226
3		"
4		"
5		" USGB
6		483226
7		482226
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GEOGRAPHIC NAMES

Survey No.

T6688a

Name on Survey

	On Chart No.	On previous survey No.	On U. S. quadrangle Maps	From local information	On local Maps	P. O. Guide or Map	Rand McNally Atlas	U. S. Light List	
A	B	C	D	E	F	G	H	K	
<u>Fidalgos Island</u>									1
<u>Yokeko Point</u>									2
<u>Strawberry Island</u>									3
<u>Deception Pass</u>									4
<u>Ben Ure Island</u>									5
<u>Cornet Bay</u>									6
<u>Whidbey Island</u>									7
<u>Hoypus Point</u>									8
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L Heck 4/24/40

MEMORANDUM

IMMEDIATE ATTENTION

SURVEY
 DESCRIPTIVE REPORT } ~~No. H~~
 PHOTOSTAT OF } No. T **T6688a**

{ received March 8, 1940
 { registered April 9, 1940
 { verified
 { reviewed
 { approved

This is forwarded in order that your attention may be directed to the matters as indicated below. Please initial in column 3 as an acknowledgement that your attention has been thus directed. The complete original records are available if desired. If you cannot give this your immediate attention, please initial, note, and forward to the next section marked, calling for the records at your convenience.

ROUTE		Initial	Attention called to
20			
22			
24			
25	✓	HRL	Pages 3 and 4
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30			
40	✓	unl	Page 5
62			
63			
82			
83			
88			
90			

RETURN TO

82	T. B. Reed
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✓ JBR

DIVISION OF CHARTS

Section of Field Records

REVIEW OF TOPOGRAPHIC SURVEY NO. 6688a (1939) FIELD NO. "G"

Washington, Skagit Bay, Eastern Approaches to Deception Pass

Surveyed in July 1939, Scale 1:5,000

Instructions dated April 12, 1939 (EXPLORER)

Plane Table Survey

Aluminum Mounted

Chief of Party - R. W. Knox.

Surveyed by - J. E. Waugh, Jr.

Inked by - J. E. Waugh, Jr.

Reviewed by - Leo S. Straw, July 18, 1940.

Inspected by - H. R. Edmonston.

1. Junctions with Contemporary Surveys.

The junctions with T-6686 (1939) scale 1:10,000 on the east and T-6688b (1939) on the west are satisfactory.

The junction with the form lines on blue print 34227 (1939) is satisfactory.

2. Comparison with Prior Surveys.

a. T-1252 (1871) 1:10,000.

A detailed comparison between this old survey and the present survey appears on page 4 of the descriptive report. The shoreline is in poor agreement with the present work and the form lines as well as the shoreline are of a sketchy nature. T-1252 (1871) contains no information of current charting value and should be disregarded.

b. T-2856 (1908) 1:20,000.

The shoreline of this old survey is sketched with less control on a much smaller scale when compared to the new survey. There are differences up to 40 meters in the location of shoreline, the most outstanding being the size and shape of Strawberry Island and the southeast shoreline of Cornet Bay (Ore Bay on T-2856). Differences in the latter are due in part to the varying interpretation of the shoreline in the marsh area. The low water line on T-2856 (1908) approximates that shown on the present hydrographic survey, H-6477 (1939). The elevations

indicated on T-2856 (1908) are in approximate agreement with those shown on the present survey and the National Park Service surveys. If it is desirable to show the bluff symbol it may be taken from T-2856 (1908).

The present survey with the additional contours from the National Park Service surveys blue print 34227 (Master Sheet) should supersede T-2856 (1908).

3. Comparison with Chart No. 6380 (New print dated Apr. 13, 1940)
Chart No. 6300 (New print dated Apr. 4, 1940)

a. Topography.

Within the common area of the present survey the topography on the charts is based on T-2856 (1908) discussed in paragraph 2b of this review.

b. Aids to Navigation.

The charted location of Ben Ure Island Light is in agreement with the present survey.

c. Magnetic Meridian.

Local attraction was found at triangulation station SAW located about four tenths of a mile north of Yokeko Point. The several values obtained exceeded the charted value of $23^{\circ} 45'$ E more than 2° . The values at other stations were practically within one degree of the charted value. The local attraction at SAW has been called to the attention of the Division of T. M. & S.

4. Condition of Survey.

a. The descriptive report is satisfactory.

b. The field drafting is very good.

c. The method of showing small islands or large bare rocks in solid black ink is not desirable as they look too much like ink blots; an open shape should be used.

d. The overhead power line running northeastward from Deception Pass and south across Cornet Bay was not located on the present survey. A small section of the telephone line approximately parallel to the power line is shown. For complete information regarding the power line and the telephone line

see the National Park survey blue print 34227 (1939).

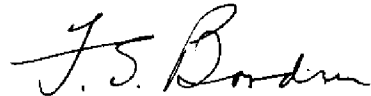
- e. The form lines at the northern limits of this survey are controlled by elevations which fall off of the sheet; they are in general agreement with the form lines on the previous survey, T-2856 (1908) and are considered adequate to supersede them.
- f. The error of the declinoire was not indicated on the survey. (Par. 17 of Topographic Manual).
- 5. Compliance with Instructions for the Project.
Satisfactory.
- 6. Additional Field Work Recommended.
No additional field work is required.
- 7. Superseding Old Surveys.

T-1252 (1871) in part
T-2856 (1908) in part.

Examined and approved:



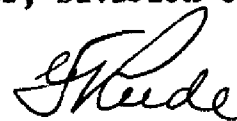
T. B. Reed
Chief, Section of Field Records.



Chief, Division of Charts.



Chief, Section of Field Work.



Chief, Division of H. & T.

6688b

6688b

Form 504 Rev. April 1935	
DEPARTMENT OF COMMERCE U. S. COAST AND GEODETIC SURVEY	
DESCRIPTIVE REPORT	
Topographic Hydrographic	Sheet No. T-6688b
U. S. COAST & GEODETIC SURVEY LIBRARY AND ARCHIVES MAR 18 1940 Acc. No. _____	
State <u>Washington</u>	
LOCALITY <u>Deception Pass & Approaches</u> _____ _____ _____	
193 9. CHIEF OF PARTY <u>Robert W. Knox</u>	

U. S. GOVERNMENT PRINTING OFFICE

Applied to Chart 6380 Mar. 3/41 S.R.
" " " 6300 " 20/41 "
" " " 6376 Aug 9, 1944 JFW

DEPARTMENT OF COMMERCE
U.S. COAST AND GEODETIC SURVEY

REG. NO.

TOPOGRAPHIC TITLE SHEET

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. H

T6688 b

REGISTER NO. T-6688b

State Washington

General locality Rosario Strait

Western Approaches to
Locality Deception Pass and Approaches

Scale 1:5,000 Date of survey July & August, 1939.

Vessel U.S.C. & G.S.S. EXPLORER

Chief of party Robert W. Knox

Surveyed by Joseph E. Waugh, Jr.

Inked by Joseph E. Waugh, Jr.

Heights in feet above M.H.W. to ground ~~to tops of trees~~

Contour, Approximate contour, Form line interval feet

Instructions dated April 12, 1939.

Remarks:

DESCRIPTIVE REPORT
TO ACCOMPANY
TOPOGRAPHIC SHEET T-6688b
DECEPTION PASS AND APPROACHES
WASHINGTON

PROJECT NO. HT-233

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Robert W. Knox, Chief of Party, C. & G. S.

DESCRIPTIVE REPORT
TO ACCOMPANY
TOPOGRAPHIC SHEET T-6688b
DECEPTION PASS AND APPROACHES

INSTRUCTIONS:

The topography on Sheet T-6688b, is a part of Project HT-233, the instructions for which were dated April 12, 1939, and were interpreted by letter of June 24, 1939.

LIMITS AND SCALE:

This sheet was surveyed on a scale of 1:5,000. It covers Deception Pass from Longitude 122°38' to the westward. It includes the western approaches to the Pass, extending from Rosario Head on the north, to West Point on the south, and includes Deception Island.

CONTROL AND SURVEY METHODS:

The control consisted of three second order triangulation stations, and ten third order triangulation stations, both main scheme and intersection. The second order stations are from Jack Senior's triangulation executed in 1934, and George Davidson's triangulation executed in 1854. The third order work was done by this party in 1939, and consisted in part of connecting available National Park Service triangulation. In addition two N.P.S. stations were recovered that were not connected by this Bureau's triangulation. However one of these triangulation stations, "NECK", was used after it had been checked by cutting it in from plane-table set-ups. This position checked the position as determined by reducing the plane coordinates to the geographic position. Both "NICK" and "MACK", are shown on the sheet as triangulation stations but no date is given after the name as they have not been tied into the Coast Survey work as yet.

The usual plane-table survey methods were used. The plane-table positions were obtained by three point fix and resection methods.

There is one traverse. It extends from triangulation station "PASS", to topographic station "Pore", and return. The error in the traverse was three meters. Proper adjustments were made in the field.

No extra set-ups were made to obtain features back of the high water line.

The wooded areas are sketched. The inshore limits of the wooded areas are approximate only.

All off-lying features were rodded in.

There is submitted in connection with this sheet and sheets T-6688a and T-6686, several blue prints of the N.P. S. survey of this area.

The only one of these that was available for field comparison was the master sheet^{BP 34227} on a scale of 500 feet to one inch. The other blue prints were obtained after the field season had closed. This survey has been compared with the existing topography and found to be accurate enough for the detail back of high water only in Deception Pass Park. For this reason the roads on this sheet were not run out. The high water line was found to be in error in several places. The most noticeable of these are on the north side of Rosario Head and in the vicinity of triangulation station "CRUMB". The dock shown on the N.P. S., blue print in Sharpe Cove has been replaced by a float as shown on this sheet. The topographer conferred with the engineer in charge of this district of the State Park Service as to the methods used in making the survey. The park area was surveyed by plane-table and supplemented in part by a tape and transit. In compiling the master sheet the roads, shoreline, property lines, etc., outside the park area were obtained from different sources and are shown on this sheet in their approximate position only. In the park, all detail and form lines were drawn from an actual survey of the area. However, the high water line as shown was transferred from Coast and Geodetic Survey charts when not accessible from the land side. Therefore it is felt that while this N.P.S., survey is accurate enough for the detail back of the high water line in the Park area, it should not be considered as accurate in the water areas or outside of the limits of the Park.

FORM LINES:

Several elevations were taken over this area as a check on the contours shown on the N.P.S., blue print. The contours shown on this blue print were obtained by running lines of levels over this area supplemented in part by elevations determined with the plane-table.

It was felt that these contours are more accurate than any form lines that could be drawn by the topographer since this area

is wooded and therefore the elevations would depend on estimated heights of trees.

It is recommended that the contours on the N.P.S., sheets be used on this sheet as the form lines for this area. Your attention is invited to the fact that the elevations on the N.P.S., survey are above mean sea level while the ones shown on this sheet are above high water.

GENERAL DESCRIPTION OF TOPOGRAPHIC FEATURES:

The area generally has a rugged appearance. The land back of the high water line appears to rise abruptly from the water's edge and the tops of these rises are covered by brush and trees, with numerous tall snags and dead trees projecting above the second growth timber. There are numerous indentations in the shore line and many off-lying rocks. There are several sand and gravel beaches on the sheet however. The north side of Sharpe Cove, the east side of Reservation Bay, the north side of Lottie Bay, the south side of Deception Pass from the highway bridge to the westward, West Beach and the deep indentation back of station "Egg". They are all indicated on the sheet. On approaching from the south, the land east of West Beach looks flat and barren of vegetation for a considerable distance inshore and then a fairly rapid rise. This rising ground is wooded.

The kelp shown west of West Point indicates foul area. The hydrographer found several rocks in this kelp.

No evidence was found of any recent changes in the shore line.

There are two highway bridges shown on the sheet. One over Canoe Pass and one over Deception Pass. They are fixed bridges. The clearance under the center line of Deception Pass Bridge is 154 feet above M.L.L.W., and under the center line of Canoe Pass bridge it is 164 feet above M.L.L.W. These values are the mean of three separate and independent determinations from as many different points. The actual stage of the tide was used in determining the height of the instrument. These figures fail to check the Army Engineer's figures by 18.5 feet and 9.5 feet respectively. This was noticed in the field and the third determination was made as a check. The heights are referred to M.L.L.W., instead of M.H.W. as the field party did not have the mean range of the tide under the bridges. This figure can be obtained when the final value is determined by the tide division.

q' is the height of M.H.W. above M.L.L.W. (page 15 of D.R.H. 6477 (1939).

(Par 16 Topographic Manual.)

A line drawn between hydrographic signals "In", and "Joe", and from "Auk", toward the five foot rock off the west side of West Point gives the boundry for seine fishing. No purse seine fishing is allowed by state law east of these lines. The marks on West Point have been destroyed so that the line from "Auk", will give the approximate limit only.

There are numerous slides between the east side of the bight east of signals "Pix" and "Can". Slides also occur between signal "Kik", and the bight west of signal "Cross".

MARSHES:

There are two marshes shown on the sheet. A small one lies just east of triangulation station "NECK (NPS)", and a larger one east of Reservation Beach. They both are back of a definite H.W. L., and are covered by salt water only by storm tides. The vegetation on the one back of Reservation Beach is tall marsh grass, cattails and clumps of brush. It is covered by fresh water from Pass Lake during the rainy season.

COMPARISON WITH OLD SURVEYS:

This sheet has been compared with Sheet T-1252⁽¹⁸⁷¹⁾. The shore line agreement between T-1252 and the modern survey is poor. The indentations in the shore line are of different size, shape, and character than that shown on the old survey. In fact the general lack of agreement points either to numerous changes along the water or the old survey was a sketchy one.

Some of the more pronounced differences are:

1. Rosario Head is farther west than shown.
2. Urchin Rocks, Pinnacle Rock, Gull Rock, and Coffin Rock are all high water rocks.
3. Reservation Head is farther north than shown.
4. The island and bight at signal "Bin" and "Kro", are larger than shown.
5. There are more rocks between Reservation Head and Lighthouse Point.
6. Lighthouse Point is of different shape and size.
7. Lottie Bay has receded on the east side.
8. The shore line between signals "Pix" and "Can", and signals "Bit" and "Cross" has built out.
9. The shore line at triangulation station "CRUMB", has receded.

10. Pass Island has receded between signal "Rat", and has built out around signal "Fat".
11. The shoreline between signal "Bob", and the point east of signal "Mo", has receded.
12. The shoreline around signal "Mo", has built out.
13. The bight at signal "Stik" is deeper.
14. The shoreline between signals "Dar" and "Lor" has receded.
15. The bight at signal "Box", is not as deep.
16. West Beach has built out.

MAGNETIC MERIDIANS:

The magnetic meridian was determined at five places on the sheet. "PASS", "ROSY", and "CRUMB", were also occupied with the declinometer.

within 1° of
the charted
value of
23°45'

Standardization of Declinatoire No. 246 was made at Seattle (Lincoln Park) on May 3, 1939, at 14:41. The ^{correction} ~~error~~ found was plus 10' (no diurnal variation correction). Different values were obtained on sheet 6688a at two stations shown on this sheet. They are given below.

DECLINATOIRE OBSERVATIONS

Values from sheet 6688b				Values from 6688a	
STATION	DATE	TIME	SCALED VALUE	TIME	SCALED VALUE
ROSY (NPS)	Aug. 3, 1939	10:35 A.M.	22°55' 23°08'		
DROP (NPS)	July 31, 1939	11:35 A.M.	22°48'		
PASS	July 28, 1939	10:40 A.M.	22°59'		
WHIRL	July 25, 1939	2:25 P.M.	23°38'	3:06 P.M.	23°35'
CRUMB	July 27, 1939	9:50 A.M.	23°50' 23°59'	9:40 A.M.	23°35'

DECLINOMETER OBSERVATIONS

ROSY(NPS)	Aug. 29, 1939	14:39	23°08.0'
		14:50	23°08.6'
		15:00	23°09.5'
		15:13	23°09.6'
CRUMB	Aug. 3, 1939	13:15	23°32.8'
		13:28	23°32.7'
		13:45	23°33.5'
		13:52	23°32.8'
PASS	Aug. 3, 1939	10:03	22°57.2'
		10:15	22°58.0'
		10:31	22°57.8'
		10:44	22°55.9'

These values do not include the diurnal variation or the declinatoire error.

TOPOGRAPHIC SIGNALS:

The following is a list of topographic signals on this sheet outside of the high water line:

<u>Name</u>	<u>Description</u>
Aam	Whitewashed face of ten foot rock. ✓
Baa	Whitewashed face of low rock. ✓
Out	Pile. ✓
Rib	Whitewashed face of seven foot rock. ✓
Tide	Tide gage fastened to dolphin. ✓

Your attention is also called to the fact that there are two signals named "Tab". This occurred inadvertently due to the fact two different hydrographers were working in this area at the same time. ✓

There are no triangulation stations on this sheet outside of the high water line. ✓

JUNCTION:

This sheet joins sheet T-6688a on the east end. This is the only junction with a modern survey. ✓

LANDMARKS:

There are no prominent landmarks to charts on this sheet. ✓

AIDS TO NAVIGATION:

There ^{is one} are two permanent aids to navigation on this sheet. ~~It was~~ They were both located by triangulation. (Deception Pass Light.)

GEOGRAPHIC NAMES:

<u>Name</u>	<u>Source</u>	<u>Recommendation</u>
Deception Island	Chart No. 6300	Be retained.
Deception Pass	Chart No. 6300	Be retained.
Fidalgo Island	Charts Nos. 6380 & 6300	Be retained.
Reservation Bay	Chart No. 6380	Be retained.
Rosario Strait	Charts Nos. 6380 & 6300	Be retained.
Whidbey Island	Charts Nos. 6380 & 6300	Be retained.

The following is a list of names used by the Park Service to identify various topographic features in Deception Pass State Park. It is recommended that they be charted where the scale of the chart permits.

Canoe Pass	Pass Island
Coffin Rock	Pinnacle Rock
Gull Rock	Reservation Head
Gun Point	Rosario Head
Lighthouse Point	Sharpe Cove
Lottie Bay	Urchin Rocks
North Beach	West Beach
Northwest Pass	West Point

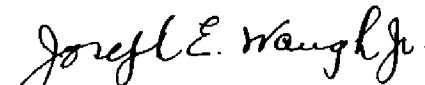
COAST PILOT:

This is the subject of a separate report by the Chief of Party.


STATISTICS:

Statute miles of shore line	8.2
Area in square statute miles	2.9

Respectfully submitted,


Joseph E. Waugh, Jr.,
Aid, C. & G. S.

APPROVED AND FORWARDED:


Robert W. Knox,
Chief of Party, C. & G. S.

POSITION COMPUTATION, THIRD-ORDER TRIANGULATION

11-0303 U. S. GOVERNMENT PRINTING OFFICE: 1959

LAT. 0
LAT. N

LONG. 0
LAT. N

+

+

$\Delta 7048-24$ 06.975
 $\Delta 7048-24$ 43.653

$\Delta \phi'' + 36.678 N$

$\Delta 7048-24$ 122 38 18.647
 $\Delta 7048-24$ 122 39 00.174

$\Delta \lambda$ + 41.527

$\log \Delta \lambda'' = 1.6183306 P$
 $= 1.8290988$

$\log H = 3.4474294 P$

$\log X$

$X = 2.801.75 A$

$y = 3716.93 + 0.21 = 3717.14$

$\log X^2 = 6.89486$
 $\log L = 2.42916$

$\log LX^2 = 9.32402$
 0.21

$\log \Delta \phi'' = 1.5644056$
 $\log K = 2.0057790$

$\log \Delta K = 3.5701846$

000

00

000

POSITION COMPUTATION, THIRD-ORDER TRIANGULATION

Tape only

α	2	to 3	288	40	12	α	3	to 2	108	41	30
$2^d \angle$		&	+ 59	23	16	$8^d \angle$			- 43	49	10
α	2	to 1	348	03	28	α	3	to 1	64	52	20
$\Delta\alpha$					12	$\Delta\alpha$				01	05
			180	00	00.0				180	00	00.0
α'	1	to 2	168	03	49	α'	1	to 3	244	51	15
			76	47	34						-01
FIRST ANGLE OF TRIANGLE											
ϕ	48	24	30.448	2	70.448	λ	48	24	06.975	3	41.11
$\Delta\phi$			50.993		16.194	$\Delta\lambda$			27.520		
ϕ'	48	23	39.455	1	70.455	λ'	48	23	39.455	1	70.455
VALUES IN SECONDS											
s	3.206 805			48	24	04.9	$\frac{1}{2}(\phi+\phi')$	48	23	53.2	Values in seconds
$\cos\alpha$	9.990 497						s	3.301 273	Logarithms		
B	8.510 205					(273.3)	$\sin\alpha$	9.956 823			
h	1.707 507					960.9	A'	8.508 902			
s^2	64 13 71						$\sec\phi'$	0.177 832			
$\sin^2\alpha$	8.631 63						$\Delta\lambda$	1.944 830			88.0704
C	1.455 44						$\sin\frac{1}{2}(\phi+\phi')$	9.873 772			
	6.500 78						$-\Delta\alpha$	1.818 602			65.8
h^2						-12.1					
D	2.3897										
VALUES IN SECONDS											
1st term	+50.9926						1st term	+27.5105			
2d term	+0.0003						2d term	+0.0094			
3d term	+						3d term	+			
$-\Delta\phi$	+50.9929						$-\Delta\phi$	27.5199			

Comp. Result

$$\begin{array}{r} 37.048 - 24 \\ \hline 13.048 \end{array} \quad \begin{array}{r} 06.975 \\ 43.653 \\ \hline 49.628 \end{array}$$

$$\Delta \phi'' + 36.678 N$$

$$\log \Delta \lambda'' = 1.6183306 P$$

$$= \frac{1.8290988}{3.4474294 P}$$

$$\log H$$

$$\log X$$

$$X = 2801.75 H$$

$$y = 37.16.93 + 0.21 = 3717.14$$

$$\begin{array}{r} \text{Long. } 0 \quad 122 \quad 38 \quad 18.647 \\ \text{LAT. } N \quad 122 \quad 39 \quad 00.174 \\ \hline \Delta \lambda \quad \quad \quad + 41.527 \end{array}$$

$$\log X^2 = 6.89486$$

$$\log L = 2.42916$$

$$\log LX^2 = 9.32402$$

$$0.21$$

$$\log \Delta \phi'' = 1.5644056$$

$$\log K = 2.0057790$$

$$\log \Delta \phi K = 3.5701846$$

POSITION COMPUTATION, THIRD-ORDER TRIANGULATION

FIRST ANGLE OF TRIANGLE									
2		to 3		40		12		3	
3d L		&		+ 59 23		16		&	
3		to 1		348 03		28		to 1	
Δα						12			
				180		00 00.0			
1		to 2		168 03		49		to 3	
				76 47		34			
α		φ		λ		λ		H.111	
3d L		Δφ		Δλ		Δλ		Δλ	
3		φ'		λ'		λ'		1 Trap/NAS	
Δα									
1									
		</							

Comp Recd-

Topo only

2

COMPUTATION OF TRIANGLES

State: _____

11-9121

U. S. GOVERNMENT PRINTING OFFICE: 1929

NO.	STATION	OBSERVED ANGLE	CORR'N	SPHER'L ANGLE	SPHER'L EXCESS	PLANE ANGLE AND DISTANCE	LOGARITHM
	2-3						3.354 813
1	Trap (NPS)	76 47 44					0.011 642
2	Totm (NPS)	59 23 16					9.934 818
3	Hill	43 49 10					9.840 350
1-3							
1-2		178 11 9 60			(NPS	3.301 178 3.206 707	3.301 273 3.206 805
							comp Ruk
2-3	all angles from N.P.S. in in Deception Pass State Park.						
1							
2							
3							
1-3							
1-2							
2-3							
1							
2							
3							
1-3							
1-2							
2-3							
1							
2							
3							
1-3							
1-2							

Do not write in this margin

Remarks

Decisions

1		484 225
2		484 226
3		"
4		"
5		"
6		"
7		"
8		"
9		"
10		"
11		484227 USGB
12		484226
13		"
14		"
15		"
16		"
17		"
18		"
19		484226
20		482 226
21		483 226
22		484 226
23		"
24		
25		
26		
27		
M 234		

GEOGRAPHIC NAMES

 Survey No.
T6688 b

Name on Survey

	On Chart No.	On previous survey No.	On U. S. quadrangle Maps	From local information	On local Maps	P. O. Guide or Map	Rand McNally Atlas	U. S. Light List	
A.	B.	C.	D.	E.	F.	G.	H.	K.	
<u>Fidalgo Island</u>									1
<u>Urchin Rocks</u> ✓									2
<u>Rosario Head</u>									3
<u>Sharpe Cove</u>									4
<u>Pinnacle Rock</u>									5
<u>Gull Rock</u>									6
<u>Coffin Rock</u>									7
<u>Reservation Bay</u>									8
<u>Reservation Head</u>									9
<u>Northwest Pass</u>									10
<u>Rosario Strait</u>									11
<u>Deception Island</u>									12
<u>Lottie Bay</u>									13
<u>Canoe Pass</u>									14
<u>Lighthouse Point</u>									15
<u>Pass Island</u>									16
<u>Deception Pass</u>									17
<u>North Beach</u>									18
<u>West Point</u>									19
<u>Whidbey Island</u>									20
<u>West Beach</u> ✓									21
<u>Goose Rock</u>									22
<u>Gun Point</u>									23
									24
									25
			L Heck	4/24/40					26
									27

MEMORANDUM

IMMEDIATE ATTENTION

SURVEY
DESCRIPTIVE REPORT
PHOTOSTAT OF

~~No. 11~~

No. T

T6688 b

received March 8, 1940
registered April 9, 1940
verified
reviewed
approved

This is forwarded in order that your attention may be directed to the matters as indicated below. Please initial in column 3 as an acknowledgement that your attention has been thus directed. The complete original records are available if desired. If you cannot give this your immediate attention, please initial, note, and forward to the next section marked, calling for the records at your convenience.

ROUTE		Initial	Attention called to
20			
22			
24			
25	✓	HBC	Pages 3 & 4
26			
30			
40			
62			
63			
82			
83			
88			
90			

RETURN TO

82	T. B. Reed
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✓ JBR

DIVISION OF CHARTS

Section of Field Records

REVIEW OF TOPOGRAPHIC SURVEY NO. 6688b (1939) FIELD NO. "H".

Washington, Rosario Strait, Western Approaches
to Deception Pass

Surveyed in July and August 1939, Scale 1:5,000
Instructions dated April 12, 1939 (EXPLORER)

Plane Table Survey

Aluminum Mounted

Chief of Party - R. W. Knox.
Surveyed by - J. E. Waugh, Jr.
Inked by - J. E. Waugh, Jr.
Reviewed by - Leo S. Straw, July 20, 1940.
Inspected by - H. R. Edmonston.

1. Junctions with Contemporary Surveys.

The junction with T-6688a (1939) on the east is satisfactory.

No contemporary surveys join the present survey on the west at Urchin Rocks or West Beach.

2. Comparison with Prior Surveys.

a. T-1252 (1871) 1:10,000.

A detailed comparison between this old survey and the present survey appears on pages 4 and 5 of the descriptive report.

The shoreline is in poor agreement with the present work and the form lines as well as the shoreline are of a sketchy nature. T-1252 (1871) contains no information of current charting value and should be disregarded.

b. T-1667 (1885) 1:10,000.

The shoreline on this old survey is in good agreement with the present survey, however the present work shows the rock detail much more completely and accurately on a larger scale. T-1667 (1885) shows several bare rocks south of Deception Island, the group of four is shown on the present survey as rocks awash bare from 1 to 3 feet M.L.L.W. The bare rock between this group and Deception Island was probably missed by the topographer of the present survey. It was not located by the hydrographer since it is in a foul area covered

with kelp. The bare rock is carried forward but shown as a rock awash on the present survey. The low water line on T-1667 (1885) approximates that shown on the present hydrographic survey H-6477 (1939). The elevations indicated on the old survey are in fair agreement with those on the large scale surveys by the National Park Service, blue print 34227 (1939) (Master Sheet). If it is desirable to show the bluff symbol it may be taken from T-1667 (1885).

The present survey should supersede the shoreline and associated detail on T-1667 (1885). The form lines on the National Park Service surveys (Master Sheet blue print 34227) were checked by the field party and found adequate to supersede the form lines on the old survey. (T-1667 (1885)).

3. Comparison with Chart No. 6380 (New Print dated Apr. 13, 1940)
Chart No. 6300 (New Print dated Apr. 4, 1940).

a. Topography.

Within the common area of the present survey the charts are based on T-1667 (1885) discussed in paragraph 2b of this review and on blue print 29076 (1935).

b. Bridge Clearances.

No values for bridge clearances at Deception Pass and Canoe Pass are shown on the chart. The values determined by the field party do not agree with those listed in the Engineers Bridge Book. The field party noticed these discrepancies and made a special effort to obtain correct clearances. It is recommended that the values obtained by them as given on page 3 of the descriptive report supersede those listed in the Bridge Book.

c. Names.

The name "Deception Pass" should be shifted on the Chart No. 6380 to agree with the present survey.

d. Aids to Navigation.

The charted location of Deception Pass Light is in agreement with the present survey.

4. Condition of Survey.

a. The descriptive report is satisfactory.

- b. The field drafting was very good.
- c. The method of showing small islands or large bare rocks in solid black ink is not desirable, an open shape is preferred.
- d. The overhead power line and telephone line at Deception Pass and Canoe Pass was not located by the present survey. For complete information see the National Park Service survey blue print 34227 (1939).
- e. As recommended by the topographer (page 2 and 3 of the descriptive report) the form lines should be taken from the National Park Service survey blue print 34227 (1939).
- f. The error of the declinatoire was not indicated on the survey. This was accomplished in the office (par. 17 of the Topographic Manual).

5. Compliance with Instructions for the Project.

Satisfactory.

6. Additional Field Work Recommended.

No additional field work is required.

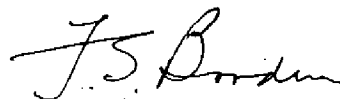
7. Superseding Old Surveys.

T-1252 (1871) in part
T-1667 (1885) in part

Examined and approved:



T. B. Reed,
Chief, Section of Field Records.



Chief, Division of Charts.



Chief, Section of Field Work.



Chief, Division of H. & T.