7903

Diag. Cht. No. 6154

CS-339

Rec

Form 504

U. S. COAST AND GEODETIC SURVEY

DEPARTMENT OF COMMERCE

DESCRIPTIVE REPORT

Type of Survey HYDROGRAPHIC

Field No. HO-1751 Office No. H-7903

LOCALITY

State OREGON - WASHINGTON

General locality COLUMBIA RIVER

Locality HAYDEN ISLAND

1951

CHIEF OF PARTY

H. G. Conerly

LIBRARY & ARCHIVES

DATE Oct 23 - 1951

B-1870-1 (1)

7903

SEP 1 8 1951

Form 537
(Ed. June 1946)

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-7903

Field No. HO-1751

State Oregon - Washington

General locality Columbia River

Locality Hayden Island

Scale 1:10,000 Date of survey July 3 to August 1951

Instructions dated 21 Sept. 1950

Vessel HODGSON

Chief of party Horace G. Conerly

Surveyed by A. M. Legako

Soundings taken by fathometer, ~~graphic recorder~~, hand lead, ~~wire~~

Fathograms scaled by Ship's personnel

Fathograms checked by Ship's personnel

Protracted by A. R. Brodie and L. R. Whitney

Soundings penciled by L. R. Whitney

Soundings in ~~fathoms~~ feet at ~~MLLW~~ Columbia River Datum (Mean lower low water during lowest river stages) and are true depths

REMARKS:

U. S. GOVERNMENT PRINTING OFFICE 777032

DESCRIPTIVE REPORT

to accompany

Hydrographic Survey No. H-7892, (HO-1351)
No. H-7893, (HO-1251)
~~No. H-7894, (HO-1351)~~
No. H-7895, (HO-1451)
No. H-7901, (HO-1551)
No. H-7902, (HO-1651)
No. H-7903, (HO-1751)

Columbia River
Longview, Washington to Vancouver, Washington

Ship HODGSON
Horace G. Conerly
Chief of Party

A. PROJECT:

Project CS-339

This hydrographic survey was made in accordance with the following instructions.

1. Original instructions, 22/MEK, S-2-HO dated 24 May,1949
2. Supplemental instructions,22/MEK, S-2-HO dated 21 Sept., 1950
3. Related letter - Letter from Director 22/MEK, S-1-HO, dated 22 May, 1951.

B. SURVEY LIMITS AND DATES:

Sheet H-7892 extends from the mouth of Cowlitz River to coffin rock. Hydrography was begun 20 April,1951 and ended 30 April 1951.

Sheet H-7893 extends from coffin rock to the downstream tip of Deer Island. Hydrography was begun 17 April 1951, and ended 19 April 1951.

Sheet ~~H-7894~~ combined with H-7893 extends from the downstream tip of Deer Island to the upstream tip of Deer Island. Hydrography was begun 1 May 1951, and ended 18 May 1951.

Sheet H-7895 extends from the upstream tip of Deer Island to Bachelor Shoal. Hydrography was begun 22 May 1951, and ended 13 June 1951.

Sheet H-7901 extends from Bachelor Shoal to Willow Point. Hydrography was begun 11 June 1951, and ended 22 June 1951.

Sheet H-7902 extends from Willow River to the mouth of the Williamette River. Hydrography was begun 28 June 1951, and ended 23 July 1951.

Sheet H-7903 extends from the mouth of the Williamette River to the Interstate Bridge, Vancouver Washington. Hydrography was begun 27 July 1951, and ended 17 August 1951. } present survey area

B. CONT.:

Junction is made with prior surveys, H-7129 1948, H-7121 1946, H-7742 1949, H-7743 1949, and H-7744 1949, H-7129 is 1:8000 scale the remaining surveys are 1:5000 scale. Review par. 4

C. VESSEL AND EQUIPMENT:

Hydrography was done with launch No. 160, a 36 foot landing craft (L.C.P.R.). 808-A type depth recorder No.77 was used with the fish mounted on the keel.

The launch returned to the Ship HODGSON at the end of each working day.

D. TIDES AND CURRENTS:

See discussion under tide note attached.

Three 75 hour current observations were made at the following locations:

(1) St. Helens, Oregon
Latitude 45 52.2'
Longitude 122 47.7'

(2) Downstream from Willow Point
Latitude 45 46.1'
Longitude 122 45.9'

(3) Mouth of the Williamette River
Latitude 45 38.6'
Longitude 122 46.4'

not applicable

One current station was occupied for 27 hours upstream from Hewlett Point at Latitude 45 40.5' Longitude 122 46.1'

Current observations in the mouth of the Williamette River were made when the Columbia River had about 15½ feet of flood water. The current was flowing upstream in the Williamette River at a velocity of about one knot to flow down the Multnomah Slough.

E. SMOOTH SHEETS:

The projections were made by hand on the Ship HODGSON.

F. CONTROL STATIONS: (Located By)

1, Triangulation observed through 1949. 2, Triangulation observed by H. G. Conerly in 1951. 3, Topographic and photo stations located in 1949. 4, Army Engineer triangulation observed through 1950. This was converted from lambert coordinates to Geographic Positions. 5, Stations located by hydrographic methods.

see H-7901

G. SHORELINE AND TOPOGRAPHY:

Part of the shoreline and topography was done by photogrammetry and is to be added to the sheets later. The rest is from photogrammetry done in previous years. Rev. par. 1

The low water line was determined wherever possible. Its entire delineation was prevented by steep banks, log rafts, and docks.

H. SOUNDINGS:

Soundings were measured with an 808 A type portable depth recorder, with a few leadline soundings added.

See fathometer report under separate cover filed with H-7901 for method of obtaining corrections to be applied to fathometer readings.

I. CONTROL OF HYDROGRAPHY:

Hydrography was controlled by three point fixes taken with sextants to shore objects.

J. ADEQUACY OF SURVEY:

The survey is considered to be adequate.

K. CROSSLINES:

About 8% of crosslines were run.

Soundings on the Vancouver upper range line which was a crossline do not check, as the Army Engineers dredge was working in this area during the survey. A copy of their survey, made after dredging, will be furnished the Supervisor M W District. ← Bp. 48455

L. COMPARISON WITH PRIOR SURVEYS:

Prior surveys are H-6245 1937, H-6246 1937, H-6247 1937, H-6332 1938, and H-6333 1938. During the lapse of time betwwen prior surveys and the present survey many changes have occured from spring freshets and dredging. This survey should supesede all prior surveys. Review par. 5b

Satisfactory junction was made with surveys H-7744 1949, H-7743 1949, H-7742 1949, H-7129 1946, and H-7121 1946. ← Review, par. 4

M. COMPARISON WITH CHART:

Comparison with chart 6153, print date Sept. 18, 1950. Review par. 6, comparison with Chart 6155.

All following survey depths reduced for river level corrections only and are not those shown on the Smooth Sheet.

Latitude 46-03-31", Longitude 122 53' 07" 21 feet depth charts shows 30 feet.
Latitude 46 04' 15", Longitude 122 53' 33" 14 feet depth chart shows 18 feet. } not applicable

M. CONT.:

Latitude 46 03' 06", Longitude 122 53' 07" dock now in ruins.
Latitude 46 02' 35", Longitude 122 52' 58" small boat float.
Latitude 46 01' 58", Longitude 122 52' 10" chart shows dolphin, only stub remains.
Latitude 46 01' 29", Longitude 122 51' 55" chart shows dolphin, dolphin no longer exists.
Latitude 46 01' 21", Longitude 122 51' 45" chart shows dolphin, dolphin no longer exists.
Latitude 46 00' 57", Longitude 122 51' 17" least depth 34 feet.
Latitude 46 00' 18", Longitude 122 50' 43" dock now in ruins only stub piles remain.
Latitude 45 57' 30", Longitude 122 49' 14" chart shows dolphin only stub remains.
Latitude 45 57' 17", Longitude 122 49' 12" chart shows dolphin, only stub remains.
Latitude 45 55' 51", Longitude 122 48' 46" chart shows dolphin, dolphin no longer exists.
Latitude 45 55' 24", Longitude 122 48' 32" 15 feet depth chart shows 20 feet.
Latitude 45 56' 03", Longitude 122 48' 15" 29 feet depth in middle of dredged channel. Channel was dredged by the Army Engineers after survey.
Latitude 45 55' 03", Longitude 122 48' 27" 26 feet depth near dredged channel, chart shows 31 feet depth.

not applicable

Comparison with chart 6154, print Sept. 4, 1950.

Latitude 45 51' 08", Longitude 122 46' 56" shoalest depth 24½ feet. Depth is near dredged channel.
Latitude 45 41' 15", Longitude 45 44' 15" channel 6 feet shoaler then channel depth shown on chart. This area was being dredged by the Army Engineers during Sept., 1951. This is a area of large amount of dredging in spite of strong currents.

not. applicable

The area from Latitude 45 38.9', Longitude 122 45.5' to Latitude 45 38.3', Longitude 122 44.6' is a log mooring area. An attempt was made to show the offshore dolphins and piles, but there are numerous ones inside, that were not located. The area on both sides of the northwestern tip of Hayden Island is the same.

Rev. par. 6a

N. DANGERS AND SHOALS:

All newly found dangers and shoals are discussed above under comparison with chart, or are clearly shown on the sheet.

O. COAST PILOT INFORMATION:

This information was submitted as a separate report.

P. AIDS TO NAVIGATION:

All aids to navigation are listed on form 567 which is a part of this report.
The geographic positions of the following lights do not agree with

P. CONT.:

the positions shown in the 1951 Light List: Willow Light 23, light list No. 1136; Reeder Point Light 28, light list No. 1139; Knapp Point Light, light list No. 1133; Bachelor Point Light 13, light list No. 1130; and St. Helens Jetty Light 79, light list No. 1112.

Termini of two cable crossings are not shown on latest edition of chart 6153. (see smooth sheet) not applicable

Latitude	46	02'	20"	Longitude	122	52'	22"
Latitude	46	02'	10"	Longitude	122	52'	54"
Latitude	46	02'	20"	Longitude	122	52'	22"
Latitude	46	02'	17"	Longitude	122	52'	52"

Q. LANDMARKS FOR CHARTS:

All landmarks for charts are listed on form 567 which is a part of this report.

S. BY-PRODUCT INFORMATION:

In areas near Vancouver, Wash. the river bottom is very rough. In these areas the water apparently moves the sand like wind driven sand dunes, since the steep side is almost invariably downstream.

T. TABULATION OF APPLICABLE DATA:

1. Tidal records for Longview, Kalama, Columbia City, Henrici, Knapp Point, Kelly Point, and Vancouver, forwarded to Washington.

2. Triangulation previous to 1951, and triangulation done by HODGSON in 1951.

3. Fathometer report forwarded to Washington. See H-7901

4. List of Geographic Positions of stations computed from coordinates furnished by U. S. E.D. See H-7901

Respectively submitted,
Dan L. Wheeler
Dan L. Wheeler
Ensign, USC&GS

Approved and Forwarded
Horace G. Conerly
Horace G. Conerly
Lt. Comdr., USC&GS

Reg. No. 7903

Name Used in Hydrographic Survey	Source of Station
JM	Alum D.S. Gable High Conv. House, 1948 (U.S.E.)
B	Volume 1
BAN	Volume 1
BANK	BANK (U.S.E.), 1919
BOX	Volume 1
CAT CAB	Volume 1
CA. CAT	Volume 1
CROSS	North Cable Crossing, 1948 (U.S.E.)
DEN	Volume 1
DIKE	DIKE A DOLPHIN AT NORTH END (OREG.), 1938
DOCK	1949 (U.S.E.)
DOG	Volumel
DOL	Matt Dol, 1948 (U.S.E.)
DOL 9	1949 (U.S.E.)
DOT	Pier 3 (U.S.), 1948 (U.S.E.)
DRAW	VANCOUVER BRIDGE CENTER OF DRAW (WASH), 1937
ED	DREDGE (WASH), 1937
DUB	Dubois Tall Stack, 1948 (U.S.E.)
FIVE	VANCOUVER UPSTREAM ONE OF FIVE STACKS, 1938
FOUR	FOUR$_2$ (U.S.E.), 1912
4 LT.	Willamette River 4 Lt., 1948 (U.S.E.)
FRONT	Vancouver Upper Range Front, 1950 (U.S.E.)
GAB	Coast Guard Gable, 1948 (U.S.E.)
GAGE	Reg. No. H-7902
L	Volume 1
GREEN	Volume 1
HAY	Hayden 3, 1948 (U.S.E.)
HIGH	VANCOUVER ALCOA STACK (WASH.), 1946
HOT	Reg. No. H-7902
LIFT	South Tower, 1948 (U.S.E.)
LOW	Low Stack, 1948 (U.S.E.)
LUX	Volume 1
.T	Matthews Point Lt., 1949 (U.S.E.)
MID	Dol 8, 1949 (U.S.E.)
MOOR	Mooring Dolphin, 1948 (U.S.E.)
NET	NETTLE (OREG.), 1938
NEW	Volume 1
OIL	Oil Dock, 1948 (U.S.E.)
OUT	Volume 1
PAL	PALMER (U.S.E.), 1938
PAP	VANCOUVER COLUMBIA RIVER PAPER MILLS TANK (WASH.), 1938
PAVING	1948 (U.S.E.)
PI PILE	Volume 1
POD POD	Volume 1
PORT	Volume 1
RAN	Vancouver Lower Range Rear, 1949 (U.S.E.)
RT	Volume 1
REAR	Vancouver Upper Range Rear, 1950 (U.S.E.)
SAW	Gable Sawmill, 1948 (U.S.E.)
SIDE	Inside Dolphin, 1948 (U.S.E.)
SIGN	South Cable Crossing Sign, 1949 (U.S.E.)
STACK	Veneer Stack, 1948 (U.S.E.)

TAN	1948 (U.S.E.)
39 LT.	Morgan Bar Dike 39 Lt., 1949 (U.S.E.)
TON	Washington Tower, 1948 (U.S.E.)
TOW	South Lift, 1948 (U.S.E.)
TRI	Pier 3 D.S., 1948 (U.S.E.)
2 LT.	Willamette River 2 Lt., 1948 (U.S.E.)
V-1.5	DIKE V-1.5 DOLPHIN AT NORTH END,1938
V-1.8	DIKE V-1.8 DOLPHIN AT S. END (WASH), 1938
V-1.9	VANCOUVER LOWER REAR RANGE LIGHT, 1938
V-2.2	DIKE V-2.2 DOLPHIN AT SOUTH END (WASH.), 1938
'N VAN	Vancouver Lower Range Front, 1949 (U.S.E.)
VENT VENT	Volume 1
WASH	Wash Dol, 1948 (U.S.E.)
WEST	Oregon Tower, 1949 (U.S.E.)

ABSTRACT OF RIVER LEVEL CORRECTIONS

Hydrographic Sheet Field HO-1751
Registry H-7903

DATE	TIME 105 M.W.	ZONE KELLEY POINT	TIME 105 M.W.	ZONE A	TIME 105M.W.	ZONE B	TIME 105 M.W.	ZONE VANCOUVER
7/27/51	0800-1200	9.8	0800-1248	10.0	0800-0848	10.4	0800-1000	10.6
	1201-end	9.6	1249-end	9.8	0849-end	10.2	1001-end	10.4
7/30/51	0800-0900	9.2	0800-0924	9.4	0800-0954	9.6	0800-1100	9.8
	0901-1230	9.0	0924-1254	9.2	0955-1324	9.4	1101-1430	9.6
	1231-end	8.8	1255-end	9.0	1325-end	9.2	1431-end	9.4
7/31/51	0800-1000	9.0	0800-1000	9.2	0800-1030	9.4	0800-1030	9.6
	1001-1230	8.8	1001-1230	9.0	1031-1300	9.2	1031-1400	9.4
	1231-1530	8.6	1231-1630	8.8	1331-end	9.0	1401-end	9.2
	1531-end	8.4	1631-end	8.6				
8/1/51	0800-1300	8.6	0800-0900	9.0	0800-0900	9.2	0800-0900	9.4
	1301-1400	8.4	0901-1242	8.8	0901-1218	9.0	0901-1200	9.2
	1401-1542	8.2	1243-1406	8.6	1219-1430	8.8	1201-1500	9.0
	1453-end	8.0	1407-1600	8.4	1431-end	8.6	1501-end	8.8
			1601-end	8.2				
8/3/51	0800-1220	8.2	0800-1200	8.4	0800-1100	8.6	0800-1300	8.6
	1221-1430	8.0	1201-1408	8.2	1101-1318	8.4	1301-1500	8.4
	1431-1630	7.8	1409-1600	8.0	1319-1512	8.2	1501-end	8.2
	1631-end	7.6	1601-end	7.8	1513-end	8.0		
8/6/51	0800-0824	7.0	0800-0830	7.2	0800-0900	7.4	0800-0900	7.6
	0825-1300	7.2	0831-1236	7.4	0901-1200	7.6	0901-1142	7.8
	1301-end	7.0	1237-end	7.2	1201-1410	7.4	1143-1348	7.6
					1411-end	7.2	1349-end	7.4
8/7/51	0800-0930	6.8	0800-1412	7.0	0800-0830	7.0	0800-0900	7.2
	0931-1230	7.0	1413-1600	6.8	0831-1330	7.2	0901-1300	7.4
	1231-1440	6.8	1601-end	6.6	1331-1540	7.0	1301-1520	7.2
	1441-1700	6.6			1541-end	6.8	1521-1700	7.0
	1701-end	6.4					1701-end	6.8

DATE	TIME 105 M.W.	ZONE Kelley Point & A	TIME 105 M.W.	ZONE Vancouver & B
8/10/51	0800-1100	6.6	0800-0900	6.8
	1101-1640	6.4	0900-end	6.6
	1641-end	6.2		
8/13/51	0800-0900	6.6	0800-0900	7.0
	0901-1020	6.4	0901-1020	6.8
	1021-1215	6.2	1021-1200	6.6
	1216-1330	6.0	1201-1300	6.4
	1331-end	5.8	1301-end	6.2
8/17/51	0800-0830	6.2	0800-0845	6.2
	0831-0930	6.0	0846-0945	6.0
	0931-1015	5.8	0946-1030	5.8
	1016-1100	5.6	1031-1130	5.6
	1101-1224	5.4	1131-1230	5.4
	1225-1300	5.2	1231-1320	5.2
	1301-1400	5.0	1321-1430	5.0
	1401-1422	4.8	1431-1550	4.8
	1423-1430	4.6	1551-1700	4.6

Fathometer Corrections

Sheet Field HO-1751 (H-7903)

Fathometer No. 77

Launch No. CS-160

Corrections for days "a" thru "g"

Fath-Depth Feet	Corrections Feet
"A" Scale	
0.0 to 4.0	+1.6
4.1 to 7.7	+1.4
7.8 to 12.0	+1.2
12.1 to 16.8	+1.0
16.9 to 21.8	+0.8
21.9 to 28.9	+0.6
29.0 to 37.9	+0.4
38.0 to 46.8	+0.2
46.9 to 55.7	0.0
"B" Scale	
29.0 to 37.9	+1.6
38.0 to 46.8	+1.4
46.9 to 55.7	+1.2
55.8 to 64.6	+1.0
64.7 to 73.4	+0.8
73.5 to 82.1	+0.6
82.2 to 91.0	+0.4
"C" Scale	
64.7 to 73.4	+1.4
73.5 to 82.1	+1.2
82.2 to 91.0	+1.0
91.1 to --	+0.8

Corrections for days "h" and "j"

"A" Scale		"B" Scale	
0.0 to 2.3	+1.8	31.5 to 40.0	+1.6
2.4 to 5.6	+1.6	40.1 to 48.0	+1.4
5.7 to 9.2	+1.4	48.1 to 56.1	+1.2
9.3 to 13.9	+1.2	56.2 to 64.2	+1.0
14.0 to 18.4	+1.0	64.3 to 72.5	+0.8
18.5 to 23.7	+0.8		
23.8 to 31.4	+0.6		
31.5 to 40.0	+0.4		
40.1 to 48.0	+0.2		
48.1 to 56.1	0.0		

NOTE: Corrections between "A" scale and "B" scale taken from fathometer corrections for Sheets HO-1151, HO-1251, and HO-1351. H-7892 H-7893

TIDE NOTE

Hydrographic Sheets: H-7892, H-7893, ~~H-7894~~, H-7895, H-7901, H-7902, H-7903

The tides were recorded by portable automatic tide gages. The staffs were connected to USC&GS bench marks and referred to the Columbia River Datum.

The tide gages were established so that two gages could be used to determine the river level corrections on all but one sheet. Hydrographic sheet H-7893 was a small sheet and the Kalama tide gage was used directly for river level corrections. The remaining sheets were zoned for a 0.2 foot differences between adjacent zones. This difference however was as mu ch as 0.4 foot on a few occasions.

During April and early part of May some tide action was noted, but as the river rose this action became less, and the tide curves approached horisontal lines during June and July. In early August some tide action was again becoming apparent.

Daylight Saving Time, or the 105 meridian west, was used from 1600 April 29, 1951 to 2400 September 29,1951. Prior to and succeeding the above dates Pacific Standard Time or the 120 meridian west was used.

Tide stations were maintained at the following locations during the time of work in each area:

Station	Latitude	Longitude	Staff Reading in Feet Corresponding to C.R.D.
Longview,Wash.	46 06.5'	122 57.6'	-2.8
Kalama,Wash.	46 00.6'	122 57.4'	0.0
Columbia City,Or.	45 43' 32"	122 48' 19"	-3.5
Henrici Landing	45 48.7'	122 47.8'	-4.75
Knapp Landing	45 44' 31"	122 45' 22"	-10.75
Kelley Point	45 39.12'	122 45.8'76'	-9.55
Vancouver,Wash.	45 37.6'30'	122 40.5'37'	-0,90

APPROVAL SHEET

Hydrographic Survey No.	H-7892	HO-1151
	H-7893	HO-1251
	~~H-7894~~	HO-1351
	H-7895	HO-1451
	H-7901	HO-1551
	H-7902	HO-1651
	H-7903	HO-1751

Columbia River

Longview, Washington to Vancouver, Washington

Project CS-339

The records for these hydrographic sheets have been examined and found to be complete.

The smooth sheets have been examined and found to be complete.

This survey is complete, adequate in detail and is approved.

Horace G. Conerly
Lt. Comdr., USC&GS
Commanding Ship HODGSON

STATISTICS

FOR

HYDROGRAPHIC SURVEY FIELD NO. HO-1751
REGISTRY NO. H-7903

Launch No. 160

DATE	DAY	VOL.	HANDLEAD SOUNDINGS	POSITIONS	STAT. MILES OF SOUNDINGS
7/27/51	a	1	--	161	28.3
7/30/51	b	2	1	192	21.3
7/31/51	c	3	109	128	11.8
8/1/51	d	3	53	146	17.5
8/3/51	e	4	--	146	22.7
8/6/51	f	4&5	--	71	12.6
8/7/51	g	5	--	92	9.3
8/10/51	h	2	45	96	9.2
8/13/51	j	6	23	104	9.5
	Total for sheet		231	1136	142.2

Total area of hydrography - 2.5 sq. stat. miles

NOTE TO ACCOMPANY

SHEET HO-1751   REG. H-7903

The Engineers are now dredging the channel along the Vancouver Upper and Lower Ranges. The U.S.E. Assistant to the Chief Hydrographer stated that he would furnish the Supervisor, Midwestern District, two copies of the survey made, after the dredging is complete. One of these copies are intended for the Director, Washington, D. C. Bp. 48574 & 48455.

CC: Supervisor, MW District

Horace G. Conerly,
Lt. Comdr., USC&GS
Commanding

mylar(?) 14 Oct 51

GEOGRAPHIC NAMES

Survey No. H-7903

Name on Survey	A On Chart No.	B On previous survey No.	C On U. S. quadrangle Maps	D From local information	E On local Maps	F P. O. Guide or Map	G Rand McNally Atlas	H	K U. S. Light List	
Oregon									B. on	1
Washington									"	2
Columbia River									"	3
Hayden Island									"	4
										5
										6
										7
										8
				Names underlined in red are approved. 1-24-52 L Heck						9
										10
										11
										12
										13
										14
										15
										16
										17
										18
										19
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										23
										24
										25
										26
										27

M 234

Form 567
April 1945

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

NONFLOATING AIDS OR LANDMARKS FOR CHARTS

TO BE CHARTED / ~~TO BE DELETED~~ } STRIKE OUT ONE

Astoria, Oregon — 2 Oct., 1951

I recommend that the following objects which have (~~have not~~) been inspected from seaward to determine their value as landmarks be charted on (~~deleted from~~) the charts indicated.

The positions given have been checked after listing by Horace G. Conerly

Names used are those listed in 1951 Light List.

Horace G. Conerly *Chief of Party.*

STATE CHARTING ~~Office~~ Lt. No.	DESCRIPTION	SIGNAL NAME	POSITION LATITUDE ° ' D.M. METERS	 LONGITUDE ° ' D.P. METERS	DATUM	METHOD OF LOCATION AND SURVEY No.	DATE OF LOCATION	HARBOR CHART	INSHORE CHART	OFFSHORE CHART	CHARTS AFFECTED
1069.3	Cowlitz River 1 Entrance Lt.	--	46-05 1621 (232)	122-55 137 (1152)	N. A. 1927	H-7892	1951	x			6153
1069.7	Carroll Channel 2	East	46-05 1123.2 (297)	122-54 823.0 (1033)	"	Triang.*	1949	x			"
1079	Cottonwood Island Upper Range Rear	Up	46-04 1556 (642)	122-53 256 (1090)	"	T-9263	1949	x			"
1070	Cottonwood Island Lower Range Front	Low	46-04 1211 (838.9)	122-53 199 (1105.7)	"	H-7892	1951	x			"
1078	Cottonwood Island Upper Front Range	Front	46-04 1013.7 (878)	122-53 184.1 (230)	"	USE	1949	x			"
1071	Cottonwood Island Lower Range Rear	--	46-04 975 (42)	122-52 1059 (81)	"	H-7892	1951	x			"
1080	Cottonwood Island Light 41	In	46-03 1811 (1300)	122-52 1209 (1081)	"	"	"	x			"
1077	Cottonwood Island Dike Lt. 39	Sam	46-04 553 (1220.8)	122-53 208 (741.6)	"	"	"	x			"
1069.9	Carrolls Dike Light 4	Roll	46-03 631.7 (1760.0)	122-52 548.2 (300.0)	"	USE	1949	x			"
1073	Doubletower Light	Bow	46-05 92.5 (22.5)	122-54 989.2 (778.7)	"	Topo HO-N-49	1949	x			"
1082	Kalama River Lt. 43	Kal	46-01 1830.0 (1768.7)	122-52 511.6 (276.0)	"	HO-K-49	"		x		"
1081	Coffin Rock Lt. 42	Cof	46-02 83.8	122-52 1014.3	"	"	"		x		"

*Triang. Station RAINIER BAR LOWER DIKE EAST END LT.

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16—51696-1 U. S. GOVERNMENT PRINTING OFFICE

Form 567
April 1945

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

NONFLOATING AIDS OR LANDMARKS FOR CHARTS

TO BE CHARTED / ~~TO BE DELETED~~ } STRIKE OUT ONE

Astoria, Oregon — 2 Oct., 1951

I recommend that the following objects which have ~~(have not)~~ been inspected from seaward to determine their value as landmarks be charted on ~~(deleted from)~~ the charts indicated.

The positions given have been checked after listing by Horace G. Conerly

Names used are those listed in 1951 Light List.

Horace G. Conerly *Chief of Party.*

STATE ~~NAME~~ Lt. No.	DESCRIPTION	SIGNAL NAME	POSITION LATITUDE ° ′	LATITUDE D.M. METERS	LONGITUDE ° ′	LONGITUDE D.P. METERS	DATUM	METHOD OF LOCATION AND SURVEY NO.	DATE OF LOCATION	HARBOR CHART	INSHORE CHART	OFFSHORE CHART	CHARTS AFFECTED
1085.5	Kalama Port Dock Light 45	Port	46-00	(155) 1697	122-51	(1041) 250	N. A. 1927	Topo T-9265	1949	x			6153
1084	Kalama Lower Range Front 47	Ran	46-00	(1015) 837	122-50	(322) 969	"	"	"	x			"
1085	Kalama Lower Range Rear	Rear	46-00	(1245.6) 606.9	122-50	(527.4) 763.5	"	USE	"	x			"
1089	Hunter Dike Lt. 52	Dike	45-59	(907.6) 944.9	122-51	(1149.5) 141.9	"	"	"	x			"
	Hunter Bar Dike Daybeacon 2	Day	45-59	(1099.8) 752.7	122-51	(1986.4) 305.0	"	HC-1-49	1949	x			"
1091	Hunter Upper Dike Lt. 56	Bar	45-58	(402.5) 1449.9	122-50	(1752.9) 538.6	"	USE	1949	x			"
1090	Hunter Dike Lt. 54	Pot	45-59	(1297) 555	122-50	(199) 1092	"	H-7893	1951	x			"
1092	Hoffman Lt.	Hof	45-58	(290.6) 1561.8	122-49	(219.6) 1072.1	"	USE	1949	x			"
1088	Ahle Point Lt.	Ahle	45-59	(191.9) 1660.5	122-50	(494.2) 797.1	"	"	"	x			"

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U. S. GOVERNMENT PRINTING OFFICE: 1949 O - 853418

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Form 567
April 1945

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

NONFLOATING AIDS OR LANDMARKS FOR CHARTS

TO BE CHARTED / ~~TO BE DELETED~~ — STRIKE OUT ONE

Astoria, Oregon — 2 Oct. — 19 51

I recommend that the following objects which have (~~known~~) been inspected from seaward to determine their value as landmarks be charted on (~~deleted from~~) the charts indicated.

The positions given have been checked after listing by Horace G. Conerly

Horace G. Conerly — *Chief of Party.*

Names used are those listed in 1951 Light List.

STATE / Light No.	DESCRIPTION	SIGNAL NAME	POSITION LATITUDE ° ′	LATITUDE D.M. METERS	LONGITUDE ° ′	LONGITUDE D.P. METERS	DATUM	METHOD OF LOCATION AND SURVEY No.	DATE OF LOCATION	HARBOR CHART	INSHORE CHART	OFFSHORE CHART	CHARTS AFFECTED
1086	Kalama Upper Range Front 58	Up	45-5	(1410) 442	122-49	(191) 1101	M.A. 1927	H-7894[3]	1951	x			6153
1095	Deer Island Lower Dike Light 62	Low	45-57	(1016) 834	122-49	(1221) 71	"	"	"	x			"
1094	Martin Slough Dike Light 61	Tin	45-57	(952) 900	122-48	(689) 603	"	"	"	x			"
1101	Deer Island Light 70	Deer	45-55	(427) 1425	122-48	(438) 855	"	"	"	x			"
1102	Deer Island Upper Dike Lt. 72	Per	45-55	(1479) 373	122-48	(342) 951	"	"	"	x			"
1096	Martin Dike Light 63	Mar	45-57	(1493) 359	122-48	(872) 420	"	"	"		x		"
1099	Martin Island Range Rear	Rear	45-56	(1079) 773	122-48	(1191) 102	"	"	"	x			"
1098	Martin Island Range Front	Ran	45-56	(1271.8) 580.7	122-48	(1163.6) 129.0	"	USE	1949	x			"
1100	Burke Light 69	Bur	45-55	(1641) 211	122-48	(1164) 129	"	H-7898[3]	1951	x			"
1103	Caples Dike Light 73	Cap	45-55	(1794) 58	122-48	(1013) 280	"	"	"	x			"
1087	Kalama Upper Range Rear	--	45-58	(1793.4) 59.1	122-49	(337.4) 954.4	"	USE	1949	x			"
1097	Martin Island Middle Dike Lt. 65	Land	45-56	(587) 1265	122-48	(1083) 209	"	H-7894[3]	1951	x			"

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U. S. GOVERNMENT PRINTING OFFICE: 1949 O - 853418

Form 567
April 1945

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

NONFLOATING AIDS ~~OR LANDMARKS~~ FOR CHARTS

TO BE CHARTED / ~~TO BE DELETED~~ } STRIKE OUT ONE

Astoria, Oregon — 28 Sept., 1951

I recommend that the following objects which have ~~have not~~ been inspected from seaward to determine their value as landmarks be charted on ~~(deleted from)~~ the charts indicated.

The positions given have been checked after listing by Horace G. Conerly

Names used are those in 1951 Light List.

Horace G. Conerly *Chief of Party.*

STATE / CHARTING NAME	DESCRIPTION	SIGNAL NAME	POSITION LATITUDE ° ′	LATITUDE D.M. METERS	LONGITUDE ° ′	LONGITUDE D.P. METERS	DATUM	METHOD OF LOCATION AND SURVEY No.	DATE OF LOCATION	HARBOR CHART	INSHORE CHART	OFFSHORE CHART	CHARTS AFFECTED
1104	Columbia City Range Front 74	Front	45-53	(403.6) 1148.9	122-48	(709.6) 583.7	M.A. 1927	4th Order Triang.	1951	x			6153
1105	Columbia City Range Rear	--	45-53	(760.8) 1091.7	122-48	(689.7) 603.9	"	USS	1949	x			"
1106	Columbia City Light 76	City	45-53	(870.3) 982.2	122-48	(882.4) 411.2	"	"	"	x			"
1110	St.Helens Jetty Lower No. 77 Lt.	Jet	45-53	(1705.4) 147.1	122-47	(415.3) 878.5	"	4th Order Triang.	1951	x			"
1111	St.Helens Jetty Light No. 78	No. 78	45-52	(178.9) 1673.5	122-47	(252.3) 1041.5	"	"	"	x			"
1115	St.Helens Channel 2 Lt. *	Lem	45-52	(1083.4) 769.1	122-47	(180.9) 1113.0	"	USS*	1949	x			"
1114	St. Helens Channel 1 Lt.	1 Lt.	45-52	(1052.5) 800.0	122-47	(449.6) 844.5	"	4th Order Triang.	1951	x			"
1116	St. Helens Channel 3 Lt.	3 Lt.	45-51	(133.5) 1718.9	122-47	(654.3) 639.9	"	"	"	x			"
1113	St. Helens Dike Lt. No. 80	No. 80	45-51	(356.1) 1496.4	122-47	(941.9) 352.4	"	"	"	x			"
1117	St. Helens Channel 5 Lt.	5 Lt.	45-51	(627.8) 1224.6	122-47	(812.8) 481.6	"	"	"	x			6153 6154
	Multnomah Channel North Entrance Range Front	--	45-51	(1429.5) 423.0	122-47	(693.2) 601.3	"	USS	1949	x			6154
	Multnomah Channel North Entrance Range Rear	--	45-51	(1609.3) 163.2	122-47	(737.6) 557.0	"	"	"	x			6153 6154
1117.3	Multnomah Channel 6 Lt.	6 Lt.	45-50	(1660) 192	122-48	(559) 736	"	H-7895	1951	x			6153 6154

* U. S. C. & G. S. Station Lemonts Light

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U. S. GOVERNMENT PRINTING OFFICE: 1949 O - 853418

Form 567
April 1945

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

NONFLOATING AIDS ~~OR LANDMARKS~~ FOR CHARTS

TO BE CHARTED / ~~DISCONTINUED~~ } STRIKE OUT ONE

Astoria, Oregon — 28 Sept., 1951

I recommend that the following objects which have *(~~have not~~)* been inspected from seaward to determine their value as landmarks be charted on *(~~discontinued~~)* the charts indicated.

The positions given have been checked after listing by Horace G. Conerly

Horace G. Conerly — *Chief of Party.*

STATE / CHARTING NAME	DESCRIPTION	SIGNAL NAME	POSITION LATITUDE ° ′	LATITUDE D.M. METERS	LONGITUDE ° ′	LONGITUDE D.P. METERS	DATUM	METHOD OF LOCATION AND SURVEY No.	DATE OF LOCATION	HARBOR CHART	INSHORE CHART	OFFSHORE CHART	CHARTS AFFECTED
1121	Duck Club 6 Lt.	Duck	45-49	(1004.5) 848.0	122-47	(245.2) 1050.0	M.A. 1927	4th Order Trvng.	1951	x			6154
1118	Warrior Rock 2 Lt.	Rear	45-50	(135.1) 1717.4	122-47	(994.9) 299.7	"	"	"	x			"
1119	Warrior Rock Range Front 1	Rock	45-51	(1591.4) 261.1	122-46	(223.4) 1071.1	"	"	"	x			"
1120	Warrior Rock Range Rear	Rear	45-51	(1226.1) 626.4	122-46	(357.0) 937.5	"	"	"	x			6154 6153
1108	St. Helens Range Rear	—	45-51	(496.3) 1356.1	122-46	(326.7) 967.6	"	"	"	x			6153
1107	St. Helens Range Front 81	Run	45-51	(131.8) 1720.6	122-46	(126.6) 1167.7	"	"	"	x			"
* 1112	St. Helens Jetty Lt. No. 79	No. 79	45-52	(1418.9) 433.5	122-47	(1238.1) 56.0	"	"	"	"			"

* Does not agree with position shown in 1951 Light List.

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U. S. GOVERNMENT PRINTING OFFICE: 1949 O - 853418

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DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

NONFLOATING AIDS ~~OR LANDMARKS~~ FOR CHARTS

TO BE CHARTED / ~~TO BE DELETED~~ } STRIKE OUT ONE

Astoria, Oregon — 2 Oct., 19 51

I recommend that the following objects which have (~~not~~) been inspected from seaward to determine their value as landmarks be charted on (~~delete from~~) the charts indicated.

The positions given have been checked after listing by Horace G. Conerly

Names used are those listed in 1951 Light List.

Horace G. Conerly *Chief of Party.*

STATE / No. of Lt.	DESCRIPTION	SIGNAL NAME	POSITION LATITUDE ° ′	LATITUDE D.M. METERS	LONGITUDE ° ′	LONGITUDE D.P. METERS	DATUM	METHOD OF LOCATION AND SURVEY NO.	DATE OF LOCATION	HARBOR CHART	INSHORE CHART	OFFSHORE CHART	CHARTS AFFECTED
1126	Henriei Range Front	Front	45-48	(396.4) 1156.1	122-47	(230.9) 1064.5	N.A. 1927	4th Order Triang.	1951	x			6154
1128	Henriei Landing 10 Lt.	Land	45-48	(907.1) 945.3	122-47	(330.2) 965.3	"	USE	1949	x			"
1129	Henriei Crossing 12 Lt.	Cross	45-48	(1484.2) 368.3	122-47	(523.3) 772.3	"	"	"	x			"
* 1133	Knapp Point Light	Knapp	45-44	(1499.2) 1353.2	122-45	(709.6) 587.4	"	"	1944	x			"
1132	Fales 17 Lt.	Fales	45-46	(850.9) 1001.6	122-45	(286.6) 1009.7	"	"	1949	x			"
1131	Bachelor Dike 15 Lt.	Abe	45-47	(1717.3) 135.2	122-46	(1019.2) 276.9	"	"	"	x			"
* 1130	Bachelor Point Light 13	Bash	45-47	(891.9) 960.6	122-46	(533.2) 762.7	"	"	"	x			"
1125	Henriei Crossing 9 Light	Hen	45-48	(771.2) 1081.2	122-47	(944.2) 351.3	"	"	"	x			"

H-7901 H-7902 H-7901

* Does not agree with position shown in 1951 Light List

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U. S. GOVERNMENT PRINTING OFFICE: 1949 O - 853418

Form 567
April 1945

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

NONFLOATING AIDS ~~OR LANDMARKS~~ FOR CHARTS

TO BE CHARTED / ~~DISCONTINUED~~ } STRIKE OUT ONE

Vancouver, Wash. 16 Aug. 19 51

I recommend that the following objects which have ~~(been)~~ been inspected from seaward to determine their value as landmarks be charted on ~~(deleted from)~~ the charts indicated.

The positions given have been checked after listing by Horace G. Conerly

Horace G. Conerly
Chief of Party.

STATE / CHARTING NAME	DESCRIPTION	SIGNAL NAME	POSITION LATITUDE ° ′	LATITUDE D.M. METERS	LONGITUDE ° ′	LONGITUDE D.P. METERS	DATUM	METHOD OF LOCATION AND SURVEY No.	DATE OF LOCATION	HARBOR CHART	INSHORE CHART	OFFSHORE CHART	CHARTS AFFECTED
1135	Willow Range Rear	—	45-44	(655.8) 1196.6	122-45	(870.1) 127.0	N. A. 1927	USE	1949	x			6154
1134	Willow Range Front 21	LOW	45-44	(900) 952	122-45	(807) 490	"	H-7902	1951	x			"
*1136	Willow Light No. 23	NO.23	45-44	(1290) 562	122-45	(803) 494	"	"	"	x			"
1143	Howlett Dike 33 Lt.	HOW	45-41	(1525.6) 326.8	122-46	(1195.1) 103.3	"	USE	1949	x			"
	Morgan Bar Dike Daybeacon No. 3	DAY	45-40	882.7	122-45	1224.5	"	Triang.	1937	x			"
1147	Morgan Dike 39 Lt.	39 LT.	45-40	(1186.4) 166.0	122-45	(309.5) 989.3	"	USE	1949	x			"
1152	Matthews Point Lt. 45	MAT	45-38	(34.2) 1818.2	122-44	(402.0) 897.2	"	"	"	x			6154 6155
1375	Willamette River 6 Lt.	6 LT.	45-38	(711.6) 1140.8	122-46	(591.2) 708.1	"	"	1948	x			6154 6155
1374	Willamette River 4 Lt.	4 LT.	45-38	(249.7) 1602.7	122-46	(971.9) 327.4	"	"	"	x			6154 6155
1373	Willamette River 2 Lt.	2 LT.	45-39	(1472.7) 379.6	122-46	(1296.1) 3.1	"	"	"	x			6154 6155
1149	Vancouver Lower Range Front 42	VAN	45-39	(755.1) 1097.3	122-46	(1196.2) 102.8	"	"	1949	x			6154 6155
1150	Vancouver Lower Range Rear	RAN	45-39	(636.1) 1216.2	122-46	(1024.1) 274.8	"	"	"	x			6154 6155
1148	Morgan Dike 40 Lt.	40 LT.	45-39	(220) 1632	122-46	(1068) 231	"	H-7902	1951	x			6154

*Does not agree with G. P. shown in 1951 Light List.→ (no disagreement, A.U.tt.)

H-7902 H-7902 H-7902

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U. S. GOVERNMENT PRINTING OFFICE: 1949 O - 853418

Form 567
April 1945

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

NONFLOATING AIDS ~~OR LANDMARKS~~ FOR CHARTS

TO BE CHARTED / ~~TO BE DELETED~~ } STRIKE OUT ONE

Vancouver, Wash. 16 Aug. , 1951

I recommend that the following objects which have (~~have not~~) been inspected from seaward to determine their value as landmarks be charted on (~~deleted from~~) the charts indicated.

The positions given have been checked after listing by Horace G. Conerly

Horace G. Conerly
Chief of Party.

STATE / CHARTING NAME	DESCRIPTION	SIGNAL NAME	POSITION LATITUDE ° ′	LATITUDE D.M. METERS	LONGITUDE ° ′	LONGITUDE D.P. METERS	DATUM	METHOD OF LOCATION AND SURVEY No.	DATE OF LOCATION	HARBOR CHART	INSHORE CHART	OFFSHORE CHART	CHARTS AFFECTED
1146	Morgan Dike Lt. No. 36	No. 36	45-40	(1093.1) 759.3	122-46	(743.0) 555.7	N. A. 1927	U.S.E.	1949	x			6154
1144	Morgan Upper Range Front 34	GAN	45-40	(315.1) 1537.3	122-46	(569.0) 729.5	"	"	1950	x			"
1145	Morgan Upper Range Rear	—	45-40	(6.9) 1845.5	122-46	(455.1) 843.3	"	"	1949	x			"
1141	Morgan Lower Range Front 32	MOR	45-41	(969.0) 883.4	122-46	(579.4) 718.9	"	"	"	x			"
1142	Morgan Lower Range Rear	—	45-41	(736.4) 1116.0	122-46	(540.4) 757.7	"	"	"	x			"
1140	Hutchinson Dike Lt. 30	HUT	45-42	(1847.5) 4.9	122-46	(812.3) 485.7	"	"	"		x		"
* 1139	Reeder Point Lt. 28	REED	45-42	(780.5) 1072.0	122-46	(1079.1) 218.7	"	"	"	x			"

H-7902

*Does not agree with Geographic Position shown in 1951 Light List.

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U. S. GOVERNMENT PRINTING OFFICE: 1949 O - 853418

Form 567
April 1945

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

NONFLOATING AIDS ~~OR LANDMARKS~~ FOR CHARTS

TO BE CHARTED / ~~TO BE DELETED~~ } STRIKE OUT ONE

Astoria, Oregon 7 Sept. 1951

I recommend that the following objects which have ~~been~~ been inspected from seaward to determine their value as landmarks be charted on ~~(deleted from)~~ the charts indicated.

The positions given have been checked after listing by Horace G. Conerly

Horace G. Conerly *Chief of Party.*

STATE / CHARTING NAME	DESCRIPTION	SIGNAL NAME	POSITION LATITUDE ° ′	LATITUDE D.M. METERS	LONGITUDE ° ′	LONGITUDE D.P. METERS	DATUM	METHOD OF LOCATION AND SURVEY No.	DATE OF LOCATION	HARBOR CHART	INSHORE CHART	OFFSHORE CHART	CHARTS AFFECTED
1155	Vancouver Upper Range Front 53	Front	45-38	(1697.2) 155.2	122-42	(1230.1) 69.5	N. A. 1927	USE	1950	x			6154 6155
1156	Vancouver Upper Range Rear	Rear	45-38	(1819.2) 33.2	122-41	(250.9) 1048.7	"	"	"	x			6154 6155

4-7903

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U. S. GOVERNMENT PRINTING OFFICE: 1949 O - 853418

Form 567
April 1945

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

NONFLOATING AIDS OR LANDMARKS FOR CHARTS

TO BE CHARTED / ~~TO BE DELETED~~ } STRIKE OUT ONE

Astoria, Oregon — 4 Oct., 19 51

I recommend that the following objects which have (~~known~~) been inspected from seaward to determine their value as landmarks be charted on (~~deleted from~~) the charts indicated.

The positions given have been checked after listing by Horace G. Conerly

Horace G. Conerly *Chief of Party.*

STATE / CHARTING NAME	DESCRIPTION	SIGNAL NAME	POSITION LATITUDE ° '	LAT. D.M. METERS	POSITION LONGITUDE ° '	LONG. D.P. METERS	DATUM	METHOD OF LOCATION AND SURVEY NO.	DATE OF LOCATION	HARBOR CHART	INSHORE CHART	OFFSHORE CHART	CHARTS AFFECTED
	Cottonwood Island Lighted Buoy 35	--	46-04	1291	122-53	710	N.A. 1927	H-7892	Apr. 1951		x		6153
	Cottonwood Island Lighted Buoy 31	--	46-05	80	122-54	22	"	"	"		x		"
	Doblebower Lighted Buoy 36	--	46-04	858	122-53	669	"	"	"		x		"
	Rainier Lighted Buoy 29	--	46-05	1192	122-55	741	"	"	"		x		"
	Red Nun Buoy No. 2	--	45-50	383	122-48	659	"	H-7895	May 1951		x		6154
	Flashing Red Buoy No. 4	--	45-50	925	122-47	350	"	"	"		x		"
H-7903	Red Buoy W.Fl. No. 52	--	45-38	399	122-42	967	"	H-7903	Aug. 1951	x	x		6154 6155
H-7903	Buoy No. 47 W.Fl.	--	45-38	1196	122-44	75	"	"	"	x	x		6154 6155

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16—51696-1 U. S. GOVERNMENT PRINTING OFFICE

Form 567
April 1945

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

~~NON~~FLOATING AIDS ~~OR LANDMARKS~~ FOR CHARTS

TO BE CHARTED / ~~TO BE DELETED~~ — STRIKE OUT ONE

Vancouver, Wash. 16 Aug. 1951

I recommend that the following objects which have *(~~have not~~)* been inspected from seaward to determine their value as landmarks be charted on *(~~deleted from~~)* the charts indicated.

The positions given have been checked after listing by Horace G. Conerly

Horace G. Conerly
Chief of Party.

STATE / CHARTING NAME	DESCRIPTION	SIGNAL NAME	POSITION: LATITUDE ° ′	LATITUDE D.M. METERS	LONGITUDE ° ′	LONGITUDE D.P. METERS	DATUM	METHOD OF LOCATION AND SURVEY NO.	DATE OF LOCATION	HARBOR CHART	INSHORE CHART	OFFSHORE CHART	CHARTS AFFECTED
*	Fl. Red (discontinued, N to M 40, 1951) Buoy No. 44	—	45-39	(1351) 501	2 122-45	(414) 885	N. A. 1927	H-7902	1951	x			6154
*	Fl. White Buoy No. 26	—	45-43	(1026) 826	122-45	(33) 1264	"	"	"	x			"
	Both buoys floating at end of scope downstream with 15 feet of flood.												
	* These buoys are temporarily in position where fixed structures have been destroyed and are to be replaced.												

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U. S. GOVERNMENT PRINTING OFFICE: 1949 O - 853418

Form 567
April 1945

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

NONFLOATING AIDS OR LANDMARKS FOR CHARTS

~~TO BE CHARTED~~ / ~~XXXXXXXXXXXXXXX~~ / TO BE DELETED — STRIKE OUT ONE

~~Vancouver, Wash.~~ ~~17 Aug.~~, 19~~51~~

I recommend that the following objects which have *(~~have not~~)* been inspected from seaward to determine their value as landmarks be charted on *(deleted from)* the charts indicated.

The positions given have been checked after listing by /A. M. Lugako

~~Horace G. Conerly~~ *Chief of Party.*

STATE / CHARTING NAME	DESCRIPTION	SIGNAL NAME	POSITION: LATITUDE ° ′	LATITUDE D.M. METERS	LONGITUDE ° ′	LONGITUDE D.P. METERS	DATUM	METHOD OF LOCATION AND SURVEY No.	DATE OF LOCATION	HARBOR CHART	INSHORE CHART	OFFSHORE CHART	CHARTS AFFECTED
	~~KRX Radio Transmission Tower~~		~~45-36~~	~~13"~~	~~122-41~~	~~19.2"~~	N.A. ~~1927~~			x			6155 ~~6154~~
	~~Washed out in 1948 flood.~~												

This form shall be prepared in accordance with Hydrographic Manual, pages 800 to 804. Positions of charted landmarks and *nonfloating aids* to navigation, if redetermined, shall be reported on this form. The data should be considered for the charts of the area and not by individual field survey sheets. Information under each column heading should be given.

U. S. GOVERNMENT PRINTING OFFICE: 1949 O - 853418

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Form 567
April 1945

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

NONFLOATING AIDS OR LANDMARKS FOR CHARTS

~~TO BE CHARTED~~ / TO BE DELETED } STRIKE OUT ONE

Portland, Oregon 23 January, 1952

I recommend that the following objects which have ~~not~~ been inspected from seaward to determine their value as landmarks be ~~charted for~~ *(deleted from)* the charts indicated.

The positions given have been checked after listing by L. R. Whitney

H.C. Conerly
Chief of Party.

STATE: Washington - Oregon

CHARTING NAME	DESCRIPTION	SIGNAL NAME	POSITION LATITUDE ° '	LATITUDE METERS	POSITION LONGITUDE ° '	LONGITUDE METERS	DATUM	METHOD OF LOCATION AND SURVEY No.	DATE OF LOCATION	HARBOR CHART	INSHORE CHART	OFFSHORE CHART	CHARTS AFFECTED
Stack	Stack at Kalama, Washington gone		46-00	20"	122-50	43"	N.A. 1927			X			6153

-51-

This form shall be prepared in accordance with Hydrographic Manual, pages 800 to 804. Positions of charted landmarks and *nonfloating aids* to navigation, if redetermined, shall be reported on this form. The data should be considered for the charts of the area and not by individual field survey sheets. Information under each column heading should be given.

16—51696-1 U. S. GOVERNMENT PRINTING OFFICE

Form 567
April 1945

DEPARTMENT OF COMMERCE
U. S. COAST AND GEODETIC SURVEY

NONFLOATING AIDS ~~OR LANDMARKS~~ FOR CHARTS

TO BE CHARTED / ~~TO BE DELETED~~ — STRIKE OUT ONE

Portland, Oregon 28 January, 1952

I recommend that the following objects which have *(have not)* been inspected from seaward to determine their value as landmarks be charted on *(deleted from)* the charts indicated.

The positions given have been checked after listing by L. R. Whitney

H. G. Conerly
Chief of Party.

STATE: Washington - Oregon

CHARTING NAME	DESCRIPTION	SIGNAL NAME	POSITION LATITUDE ° ′	LATITUDE D.M. METERS	LONGITUDE ° ′	LONGITUDE D.P. METERS	DATUM	METHOD OF LOCATION AND SURVEY No.	DATE OF LOCATION	HARBOR CHART	INSHORE CHART	OFFSHORE CHART	CHARTS AFFECTED
				(1099.8)		(986.4)	N.A.	Topo.					
	Hunter Bar Dike Daybeacon 2	Day	45-59	752.7	122-51	305.0	1927	10-J-49	1949	X			6153
H-7902	Morgan Bar Dike Daybeacon No. 3	Day	45-40	832.7	122-45	1224.5	N.A. 1927	Triang.	1937	X			6154

This form shall be prepared in accordance with Hydrographic Manual, pages 800 to 804. Positions of charted landmarks and *nonfloating aids* to navigation, if redetermined, shall be reported on this form. The data should be considered for the charts of the area and not by individual field survey sheets. Information under each column heading should be given.

16—51606-1 U. S. GOVERNMENT PRINTING OFFICE

Preliminary Junction Notes H-7903

R.H. Carstens 11/26/51

1. Inspect topo. for conflicts with hydrographic information
2. Inspect junctions for conflicts (Junction on south may show change due to dredging)
3. Ink & check piles, wrecks & rocks where possible.
4. Check and ink least depths on the following:

18 ✓ 45° 39.1' , 122° 45.3'

17 ✓ 39.28
45.25

20 ✓ 38.92
and 7.8 75m 45.02
marsh

19 ✓ 38.88
44.82

19 ✓ 38.81
44.89

16 ✓ 38.65
44.85

17 ✓ 38.4
43.45

10 ✓ 38.28
43.21

11 ✓ 38.02
42.72

19 ✓ 38.07
42.43

13 ✓ 37.80
41.40

14 ✓ 37.45
41.38

18 ✓ 37.53
41.34

12 ✓ 37.1
40.4

9 ✓ 37.02
40.49

9 ✓ 37.45
41.50

2 ✓ 37.01
40.70

10 ✓ 36.92
40.51

[redacted]

DIVISION OF CHARTS

REVIEW SECTION - NAUTICAL CHART BRANCH

REVIEW OF HYDROGRAPHIC SURVEY

REGISTRY NO. H-7903 FIELD NO. HO-1751

Oregon-Washington, Columbia River, Hayden Island

Project No. CS-339

Surveyed in July - August 1951 Scale 1:10,000

Soundings:

808 Fathometer
Handlead

Control:

Sextant fixes on shore signals

Chief of Party - H. G. Conerly
Surveyed by - A. M. Legako
Protracted by - A. R. Brodie and L. R. Whitney
Soundings plotted by - L. R. Whitney
Preliminary Verification by - O. Svendsen
Verified and inked by - B. T. DAVIS
Reviewed by - A. J. Hoffman, 14 April 1952
Inspected by - R. H. Carstens

1. Shoreline and Signals

The shoreline will be applied when the verification of the survey is completed. Air-photographic surveys T-8668, T-8669, T-8672, T-8673 and T-8674 of 1945 cover the area of the present survey. shoreline applied at AMC

2. Sounding Line Crossings

Depths at crossings are in good agreement.

3. Depth Curves and Bottom Configuration

The usual depth curves are adequately delineated except in some inshore areas where log-booms and other obstructions prevented the complete development of the low-water line by the regular system of sounding lines.

There are numerous irregularities in the bottom caused by dredging and river currents.

4. Junctions with Adjoining Surveys

The present survey junctions adequately with H-7121 (1946) at the southwest end of Hayden Island. An adequate junction with H-7129 (1946-48) on the southeast, could not be made, because of numerous natural changes and changes caused by dredging. Depths on the present survey are as much as 8-ft. deeper than depths on H-7129. This area is covered by subsequent surveys by the Corps of Engineers. The junction with H-7902 (1951) on the west will be considered in the review of that survey.

5. Comparison with Prior Surveys

a. H-1673 (1885) 1:10,000

This prior survey has been superseded by H-6333 and is considered in the review of that survey. Further consideration in the present survey is deemed unnecessary.

b. H-6333 (1938) 1:10,000

A comparison between the prior and the present survey indicates extensive changes in the river bottom, resulting from natural causes, and periodic dredging. The channel in lat. 45° 38.2', long. 122° 42.7' has been dredged 300 meters north of its prior position. In lat. 45° 38.63', long. 122° 44.52' present depths of 28-ft. falls in depths of 11-13 ft. on the prior survey. In lat. 45° 38.30', long. 122° 43.28' present depths of 18-ft. fall in former channel depths of over 30-ft. A group of rocks awash in lat. 45° 37.0', long. 122° 40.70' originating with T-6620 (1938) are shown on H-6333. These rocks have been carried forward to supplement the present survey delineation.

The present survey is adequate to supersede this prior survey in the common area.

6. Comparison with Chart 6155 (Print date 12/17/51)

a. Hydrography

Charted hydrography originates principally with the present survey prior to verification.

The 9-ft. sounding charted in lat. 45° 38.61', long. 122° 44.96' from the unverified smooth sheet of the present survey has been revised during preliminary verification and should be disregarded.

The position of the piling charted in the vicinity of lat. 45° 37.3', long. 122° 41.3' from air-photographic survey T-8674 differs with the present survey position by as much as 35 meters. The position of this group of

piling has probably been changed subsequent to the air-photographic survey and should be charted from the present survey. Minor differences between the present survey and air-photographic survey positions of other piling were noted during the preliminary verification but none were of importance to charting.

No other revisions were made to the present survey during the preliminary verification and review.

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.

c. Dredged Channels

The project depth in the river channel from Vancouver, northward, to the survey limit is 30 ft. The present survey shows numerous soundings ranging in depth from 20-29 ft. within the limits of the marked channel. Dredging accomplished since the present survey was made has probably restored the project depth.

7. Condition of Survey

a. The sounding records and Descriptive Report are complete and comprehensive.

b. The smooth plotting was adequate. This was one of a series of six river surveys plotted by the hydrographic party directly on the smooth sheet.

c. The preliminary verification of this survey was confined to critical soundings, discrepancies at crossings and junctions, and an inspection for conflicts with topographic detail. Completion of the verification, inking and application of the shoreline is deferred until some future date, at which time the inspection of the junctions, curves and shoreline will be completed by the reviewer.

8. Compliance with Project Instructions

The survey adequately complies with the Project Instructions.

9. Additional Field Work Recommended

This is a very good basic survey and no additional field work is recommended.

Examined and approved:

H. R. Edmonston
Chief, Nautical Chart Branch

H. Arnold Karo
Chief, Division of Charts

L. S. Hubbard
Chief, Section of Hydrography

Earl O. Heaton
Chief, Division of Coastal Surveys

orm 946

Hydrographic Surveys (Chart Division)

HYDROGRAPHIC SURVEY NO. H-7903...

Records accompanying survey: Smooth sheets ..1...;

boat sheets .....; sounding vols. ..6..; wire drag vols. .....;

Descriptive Reports ..1...; graphic recorder envelopes .5...;

special reports, etc. .....

.....

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

Number of positions on sheet		1136
Number of positions checked		265
Number of positions revised		4
Number of positions revised (refers to depth only)		20+
Number of soundings erroneously spaced		0
Number of signals erroneously plotted or transferred		0
Topographic details	Time	16
Junctions	Time	6
Verification of soundings from graphic record	Time	20
Special adjustments	Time	.....

Prelim. Verification O. Svendsen 40 hrs. 12/5/51

Verification by ....B.T..Davis..... Total time .133.. Date 6/15/52

Reviewed by A.J. Hoffman Time 55 hrs. Date 4/14/52

VERIFIER'S REPORT OF HYDROGRAPHIC SURVEY NO. H-7903

The verifier should deal with the present hydrographic survey only, as the reviewer considers its relation to previous surveys and published charts. He should be thoroughly familiar with Chapters 3, 7 and 9 of the Hydrographic Manual.

1. The descriptive report was consulted and appropriate notes were made in soft pencil regarding action taken.

2. Soundings originating with the survey and mentioned in the descriptive report have been verified, including latitude and longitude.

3. All reference to survey sheets mentioned in the descriptive report include the registry number and year.

4. Geographic names of hydrographic features if on sheet are in slanting lettering and of topographic features in vertical lettering.

5. All items affecting the plotting of the survey which are entered in the remarks columns of the sounding records were noted and check marked. In all cases appropriate action was taken.

6. All positions verified instrumentally were check marked in the sounding records.

7. All critical soundings are clear and legible and are a little larger than the adjacent soundings.

8. The ~~metal~~ plastic protractor has been checked within the last three months.

9. The protracting and plotting of all bad crossings were verified.

10. All detached positions locating critical soundings, rocks or buoys were verified.

11. The boat sheet was compared with the smooth sheet. N.A.

12. ✓ The spacing of soundings as recorded in the records was closely followed.

13. ✓ The bottom characteristics were shown on outstanding shoals.

14. ✓ The reduction and plotting of doubtful soundings were checked.

15. ✓ The transfer of contemporary topographic information was carefully examined.

16. All junctions were transferred and overlapping curves made identical. See Notes to the Reviewer

17. ✓ The notation "JOINS H- (19--)" was added in ink for all contemporary adjoining or overlapping sheets now registered. Those not verified are shown in pencil.

18. ✓ The depth curves have been inspected before inking.
By W.W.F.

19. ✓ All triangulation stations and transfer of topographic and hydrographic signals were checked.

20. ✓ Heights of rocks were checked against range of tide.

21. Rocks transferred from topographic surveys have a dotted curve where shown thereon. Rocks located accurately by hydrographer are encircled by dotted red curve. N.A.

22. ✓ Unnecessary pencil notes have been removed.

23. ✓ Objects on which signals are located and which fall outside of the low water line have been described on the sheet.

24. ✓ The low water line and delineation of shoal areas have been properly shown.

25. ✓ Degree and minutes values and symbols have been checked.

26. ✓ Questionable soundings have been checked on the fathograms.

27. Source of shoreline and signals (when not given in report).
T-8668, T-8669, T-8672, T-8673, T-8674 (1945 Air-photos)

28. ✓ All notes on sheet are in accordance with figure 171 in the Hydrographic Manual.

29. ✓ All aids located, with those on contemporary topographic sheets, have been shown on survey.

30. ✓ Depth curves were satisfactory except as follows:

31. ✓ Sounding line crossings were satisfactory except as follows:

32. Junctions with contemporary surveys were satisfactory except as follows: See Notes to the Reviewer

33. ✓ Condition of sounding records was satisfactory except as follows:

34. ✓ The protracting was satisfactory except as follows:

35. ✓ The field plotting of soundings was satisfactory except as follows:

36. Notes to reviewer: Attached

Bernie T Davis

Verified by Bernie T. Davis Date 6/15/72

AMC VERIFICATION NOTES
SURVEY H-7903
Ho-1751

GENERAL

This appears to be an excellent basic survey and, except for the conditions listed below, most of the critical items are covered in the descriptive report and the attached report by the Review Section.

SOUNDINGS

There are three areas where soundings fall inside the HWL. Flood conditions on the river, or the time lapse between the 1945 air-photos and the 1951 hydro survey, may have caused the discrepancies. These sounding are being submitted on a Mylar overlay and their position numbers are as follows:

2 - 6b; 157 - 174b; 177 - 180b; 182 - 183b; 108 - 113d; 79 - 80g

JUNCTIONS

Minor adjustments to depth curves will be needed on adjoining survey H-7902(1951) because additional soundings were taken in the junction area on this survey.

Hugh L. Proffitt
Chief, Verification Br., AMC

Norfolk, Va.
July 12, 1972

RHC

Form 712
DEPARTMENT OF COMMERCE
COAST AND GEODETIC SURVEY
Rev. June 1937

TIDE NOTE FOR HYDROGRAPHIC SHEET

[illegible] 14 November 1951

Division of Charts: R. H. Carstens

Plane of reference approved in
6 volumes of sounding records for

HYDROGRAPHIC SHEET 7903

Locality Vancouver, Columbia River

Chief of Party: H. G. Conerly in 1951
Plane of reference is Columbia River Datum, reading
-10.7 ft. on tide staff at Knapp Landing
19.0 ft. below B. M. W 7_3 No 1 (1938)

-9.6 ft. on tide staff at Kelley Point
39.8 ft. below B.M. KELLEY POINT (1938)

-0.9 ft. on tide staff at Vancouver
28.7 ft. below B.M. 1 (1940)

Condition of records satisfactory except as noted below:

E.C. McKay
Section
Chief, ~~Division~~ of Tides ~~and Currents.~~

U. S. GOVERNMENT PRINTING OFFICE 756675

NAUTICAL CHARTS BRANCH

SURVEY NO. H-7903

Record of Application to Charts

DATE	CHART	CARTOGRAPHER	REMARKS
10/19/51	6154	Andrew	Before ~~After~~ Verification and Review
2/27/52	6156	S.G. McGann	Before ~~After~~ Verification and Review
11/24/52	6156	N.W. Burgoyne	Completely applied after Preliminary Ver. + Review
			Before After Verification and Review
9/30/53	6155	N.W. Burgoyne	Completely applied after preliminary Ver + Review
			Before After Verification and Review
6/1/54	6154	J.P. Wallace	~~Before~~ After Preliminary Verification and Review Thru Ch 6155
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review
			Before After Verification and Review

M-2168-1

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.