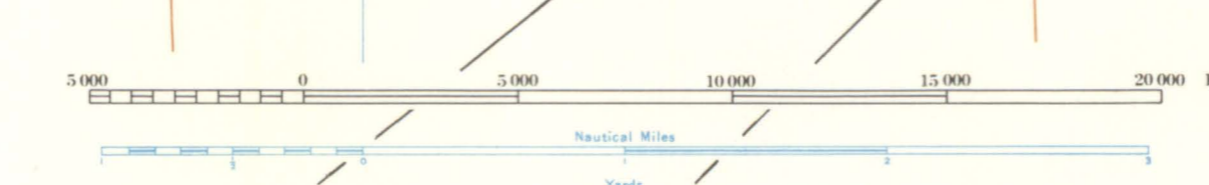


UNITED STATES - WEST COAST
 OREGON - WASHINGTON
COLUMBIA RIVER
 CRIMS ISLAND TO SAINT HELENS

SOUNDINGS IN FEET
 AT COLUMBIA RIVER DATUM
 (MEAN LOWER LOW WATER DURING LOWEST RIVER STAGES)

U.S. DEPARTMENT OF COMMERCE
 NATIONAL OCEANIC AND ATMOSPHERIC ADMINISTRATION
 NATIONAL OCEAN SURVEY
 WASHINGTON, D.C.
 May 1978
TRIANGULATION DIAGRAM

HORIZONTAL CONTROL
 O Monumental Point or Located Object
 See separate index for names of numbered stations
 ORENVILLE Station reported not recovered
 Measured Base - Electronic or Taped
 Line of triangulation observed
 Line of triangulation measured from one end only
 Measured Length - Electronic
 Information may be obtained from the Director, National Geospatial Information Center, National Ocean Survey, N.O.S. Chart No. 6153 (Not For Navigational Purposes)



- 104 DOLPHIN NO 5 (1951)
- 105 WOODLAND AVIATION BEACON
- 106 ST HELENS JETTY LOWER LIGHT (1937)
- 107 ST HELENS JETTY LOWER LIGHT NO 77 (1951)
- 108 ST HELENS JUNCTION LIGHT (1937)
- 109 ST HELENS JETTY LIGHT NO 78 (1951)
- 110 DOLPHIN NO 4 (1951)
- 111 LEONORS LIGHT (1937)
- 112 DOLPHIN NO 1 (1951)
- 113 DEER ISLAND MIDDLE DIKE LIGHT (1937)
- 114 MARTIN ISLAND MIDDLE DIKE LIGHT (1937)
- 115 MARTIN ISLAND BAR FRONT RANGE LIGHT (1937)
- 116 BURKE LIGHT (1937)
- 117 BURKE UPPER DIKE BEACON (1937)
- 118 CAPLES LIGHT (1937)
- 119 COLUMBIA CITY SCHOOL, CUPOLA, FLAGSTAFF
- 120 HUNTER BAR DIKE NO 4 LIGHT (1937)
- 121 DIKE 36-3 DOLPHIN, NE END (1937)
- 122 DIKE 35-9 DOLPHIN, NE END (1937)
- 123 DEER ISLAND UPPER DIKE LIGHT (1937)
- 124 DEER ISLAND LIGHT (1937)
- 125 DIKE 36-9A BEACON (1937)
- 126 HUNTER BAR DIKE NO 3 LIGHT (1937)
- 127 COLUMBIA CITY FRONT RANGE LIGHT (1913)
- 128 PRESCOTT, CLARK & WILSON LUMBER CO, STACK
- 129 KALAMA SCHOOL, NEW BUILDING, FLAGSTAFF
- 130 KALAMA HIGH SCHOOL, SE BLDG, FLAGSTAFF
- 131 KALAMA SCHOOL
- 132 LONGVIEW, PACIFIC PAPERBOARD CO, E STACK
- 133 LONGVIEW, PACIFIC PAPERBOARD CO, W STACK
- 134 COTTONWOOD ISLAND UPPER & LOWER REAR RANGE LIGHT (1937)
- 135 COTTONWOOD ISLAND UPPER FRONT RANGE LIGHT (1937)
- 136 LEONORS HOUSE, E GABLE
- 137 SAWMILL STACK
- 138 SMALL HOUSE ON SHORE, PIPE
- 139 COTTONWOOD ISLAND UPPER REAR LIGHT (1913)
- 140 COTTONWOOD ISLAND UPPER DIKE LIGHT (1937)
- 141 COTTONWOOD ISLAND LOWER FRONT RANGE LIGHT (1937)
- 142 COTTONWOOD ISLAND LOWER DIKE LIGHT (1937)
- 143 RAINIER BAR LOWER DIKE, EAST END LIGHT (1949)
- 144 LOWER DOLPHIN (1951)
- 145 KELSIO AVIATION BEACON FLASHING RED "N"
- 146 SAN FRANCISCO SEATTLE AIRWAY BEACON NO 61 B
- 147 SAN FRANCISCO SEATTLE AIRWAY BEACON NO 61 A
- 148 H-12 RM (USE)
- 149 H-12 RM 3 (USE)
- 150 DIKE 27-3, DOLPHIN (1937)
- 151 ST HELENS CHANNEL LIGHT NO 5 (1951)
- 152 ST HELENS BAR DIKE LIGHT NO 8 (1937)
- 153 DIKE 27-1, DOLPHIN (1951)
- 154 ST HELENS DIKE LIGHT NO 80 (1951)
- 155 ST HELENS BAR DIKE LIGHT NO 4 (1937)
- 156 OLD FRONT RANGE LIGHT (1951)
- 157 ST HELENS FRONT RANGE LIGHT (1951)
- 158 ST HELENS BAR FRONT RANGE LIGHT (1937)
- 159 DIKE 27-9, DOLPHIN (1951)
- 160 ST HELENS JETTY LIGHT NO 79 (1951)
- 161 ST HELENS JETTY LIGHT NO 3 LIGHT (1937)
- 162 DOLPHIN NO 1 (1951)
- 163 DOLPHIN NO 2 (1951)
- 164 ELLIS 2

CHANNEL DEPTHS
 A chart of channel depths in the Columbia River, Oregon, and Washington, is published by the U.S. Coast and Geodetic Survey, Office of Hydrography, Washington, D.C. The chart is published annually in the U.S. Coast and Geodetic Survey, Office of Hydrography, Washington, D.C. The chart is published annually in the U.S. Coast and Geodetic Survey, Office of Hydrography, Washington, D.C.

CAUTION
 Increased magnetic attraction due to the presence of iron ore in the Columbia River area has been observed along the section of the Columbia River shown on this chart.

LOCAL MAGNETIC ATTRACTION
 Difference from the normal variation of a compass of 1° has been observed along the section of the Columbia River shown on this chart.