

APPENDIX A
GAZETTEER OF LOCALITIES

The sites of seabird colonies and other locations in this catalog are listed below. Names given are as they appear on U.S. Geological Survey topographic maps unless they are in quotation marks. Names in quotation marks for the referred-to sites and locations do not appear on these maps nor do lower case site-and-location name description modifiers. Names in quotation marks are derived from (1) National Oceanic and Atmospheric Administration, National Ocean Survey, Nautical Charts; (2) local use; (3) the literature; (4) previous investigators; or (5) were assigned by the authors.

Name	Colony	Latitude and Longitude
Abbey Island	174 014	47°42'58"N, 124°25'10"W
Agate Bay	156 182	48°09'30"N, 123°44'00"W
Aleck Rocks	156 162	48°25'23"N, 122°50'48"W
Alexander Island	174 010	47°47'52"N, 124°30'16"W
Allan Island	156 170	48°27'55"N, 122°42'12"W
Allen Point, SE cliffs	175 030	47°20'25"N, 122°39'50"W
Anacortes, waterfront	156 134	48°31'24"N, 122°36'20"W
Anderson Island, south end	175 054	47°07'30"N, 122°42'00"W
Armitage Island	156 117	48°32'09"N, 122°47'42"W
"Bald Island" (see Jagged Island)	155 009	
Bare Island	156 013	48°43'48"N, 123°00'47"W
Barnes Island	156 070	48°42'00"N, 122°46'24"W
Barren Island	156 084	48°37'22"N, 123°09'34"W
Battleship Island	156 082	48°37'30"N, 123°11'03"W
Bell Island	156 107	48°35'46"N, 122°58'46"W
Belle Rock	156 159	48°29'35"N, 122°45'12"W
Bellingham Bay, waterfront north	156 047	48°45'20"N, 122°30'00"W
Bellingham Bay, waterfront south	156 076	48°43'40"N, 122°30'40"W
Ben-Ure Island	156 176	48°24'12"N, 122°37'43"W
Bird Rock	156 095	48°35'54"N, 123°00'49"W
Bird Rocks	156 024	48°29'08"N, 122°45'43"W
Blaine	156 039	48°59'18"N, 122°45'19"W
Blakely Rock	175 016	47°35'40"N, 122°28'48"W
Blind Island	156 164	48°25'27"N, 122°49'34"W
Blind Island	156 108	48°35'06"N, 122°56'15"W
Blowers Bluff	156 186	48°14'30"N, 122°39'40"W
Bodelteh Island, east	155 060	48°10'30"N, 124°45'18"W

Bodelteh Island, middle	155 059	48°10'33"N,	124°45'33"W
Bodelteh Island, west	155 058	48°10'33"N,	124°45'44"W
Bodelteh Islands	155 006	48°10'32"N,	124°45'30"W
Boulder Island	156 167	48°25'58"N,	122°48'02"W
Bremerton, ferry dock	175 014	47°33'45"N,	122°37'20"W
Bremerton, shipyard	175 013	47°33'15"N,	122°38'30"W
Buck Island	156 140	48°27'09"N,	122°55'15"W
Burrows Island	156 168	48°28'48"N,	122°42'06"W
Cactus Island, east	156 057	48°39'07"N,	123°07'43"W
Cactus Island, west	156 056	48°39'04"N,	123°08'10"W
Cactus Islands	156 017	48°39'00"N,	123°07'50"W
Cake	174 002	47°55'58"N,	124°41'02"W
Cape Alava, mainland	155 062	48°10'00"N,	124°44'00"W
Cape Disappointment	174 108	46°16'30"N,	124°03'00"W
Cape Elizabeth	174 098	47°21'22"N,	124°19'04"W
Cape Flattery, mainland	155 002	48°22'50"N,	124°43'20"W
Cape Johnson, mainland	174 033	47°58'00"N,	124°40'26"W
Cape Johnson, offshore rocks	174 034	47°58'00"N,	124°40'30"W
Carroll Island	155 010	48°00'20"N,	124°43'16"W
Castle Island	156 031	48°25'20"N,	122°49'13"W
Charles Island	156 147	48°26'30"N,	122°54'30"W
Cherry Point	156 046	48°51'24"N,	122°43'53"W
Chibahdehi Rocks	155 015	48°23'40"N,	124°40'30"W
Chuckanut Island	156 078	48°40'38"N,	122°30'05"W
Chuckanut Rock	156 077	48°41'05"N,	122°30'05"W
Clark Island	156 069	48°42'08"N,	122°45'48"W
Cliff Island	156 100	48°35'24"N,	123°00'13"W
Colville Island	156 032	48°24'58"N,	122°49'17"W
Colvos Rock, south	175 002	47°56'55"N,	122°39'56"W
Colvos Rock, north	175 001	47°57'06"N,	122°40'10"W
Commencement Bay, Hylebos Waterway	175 038	47°17'00"N,	122°24'12"W
Commencement Bay, Milwaukee	175 037	47°16'07"N,	122°25'15"W
Commencement Bay, NE shore	175 039	47°17'50"N,	122°25'08"W
Commencement Bay, St. Paul	175 036	47°15'57"N,	122°25'48"W
Commencement Bay, SW shore	175 035	47°16'33"N,	122°27'40"W
Cone Island, east	156 124	48°35'31"N,	122°40'22"W
Cone Island, north	156 122	48°35'40"N,	122°40'56"W
Cone Island, south	156 123	48°35'35"N,	122°40'56"W
Coon Island	156 096	48°35'43"N,	123°01'04"W
Copalis Rock	174 022	47°09'09"N,	124°11'45"W
Crab Island	156 158	48°27'44"N,	122°50'36"W
Cutts Island	175 031	47°19'15"N,	122°41'09"W
Cypress Island	156 125	48°34'20"N,	122°42'30"W
Dahdayla	174 040	47°56'08"N,	124°40'01"W
Danger Rocks	156 060	48°39'51"N,	123°04'00"W
Davis Bay, cliffs	156 141	48°27'10"N,	122°55'00"W
Deadman Island	156 139	48°27'30"N,	122°56'36"W
Decatur Island	156 160	48°30'35"N,	122°48'30"W
Deception Island	156 173	48°24'27"N,	122°40'05"W
Destruction Island	174 016	47°40'36"N,	124°28'57"W
Dinner Island	156 102	48°30'26"N,	123°00'30"W
Double Island, north	156 104	48°36'24"N,	122°58'21"W

Double Island, south	156 105	48°36'16"N,	122°58'21"W
Doe Island	156 072	48°38'00"N,	122°47'12"W
Dot Island	156 132	48°31'58"N,	122°33'06"W
Drayton Harbor, northeast	156 040	48°59'45"N,	122°45'36"W
Drayton Harbor, southwest	156 041	48°58'50"N,	122°46'25"W
Dungeness, wharf	156 183	48°09'30"N,	123°06'54"W
Dungeness Spit	156 202	48°10'00"N,	123°09'00"W
Duwamish Head, waterfront	175 017	47°35'40"N,	122°23'15"W
Eagle Harbor	175 015	47°37'15"N,	122°30'30"W
Eagle Island	175 049	47°11'17"N,	122°41'40"W
Edmonds, ferry dock	175 005	47°48'50"N,	122°23'09"W
Eliza Island	156 008	48°39'54"N,	122°35'00"W
Eliza Rock	156 080	48°38'23"N,	122°34'35"W
Ellen Sands, complex	195 001	46°40'00"N,	123°57'30"W
"Erin"	174 101	47°18'01"N,	124°16'00"W
"Erin's Bride"	174 102	47°17'57"N,	124°16'01"W
Father	155 054	48°13'36"N,	124°42'43"W
Father and Son	155 005	48°13'36"N,	124°42'41"W
Fawn Island	156 091	48°36'50"N,	123°00'20"W
Flat Rock	174 019	47°22'44"N,	124°20'38"W
Flattery Rocks	155 066	48°10'00"N,	124°46'00"W
Flattop Island	156 020	48°38'51"N,	123°04'52"W
"Flint Beach Island"	156 161	48°25'12"N,	122°52'00"W
Flower Island	156 022	48°32'43"N,	122°51'12"W
Foot Rock	155 068	48°01'55"N,	124°42'06"W
Fortress Island	156 156	48°27'56"N,	122°50'13"W
Fox Island	175 033	47°15'00"N,	122°37'30"W
Freeman Island	156 063	48°41'55"N,	122°57'00"W
Friday Harbor	156 101	48°32'00"N,	123°00'20"W
Frost Island	156 115	48°32'18"N,	122°50'42"W
Fuca's Pillar	155 022	48°22'52"N,	124°43'51"W
"Gargoyle Rock"	156 081	48°39'12"N,	122°29'43"W
Georgetown Reach, north	175 023	47°33'50"N,	122°20'45"W
Gertrude Island	175 048	47°13'04"N,	122°39'30"W
Giants Graveyard	174 005	47°51'15"N,	124°34'00"W
Glen Cove, cliff N of	175 029	47°20'22"N,	122°43'25"W
Goose Island	174 023	46°58'40"N,	124°04'10"W
Goose Island	156 026	48°27'30"N,	122°57'18"W
Gossip Island	156 051	48°39'47"N,	123°10'17"W
Green Cove, bank NE of	175 051	47°06'10"N,	122°56'38"W
Green Point	175 032	47°16'52"N,	122°41'26"W
Grenville Arch	174 021	47°17'46"N,	124°16'59"W
Grenville Pillar	174 100	47°18'08"N,	124°16'45"W
Gull Harbor, cliff	175 052	47°06'50"N,	122°53'27"W
Gull Reef, west	156 052	48°39'17"N,	123°08'44"W
Gull Rock	156 018	48°39'04"N,	123°05'18"W
"Gunpowder Island"	174 106	46°40'55"N,	124°02'15"W
Guss Island	156 086	48°35'04"N,	123°09'11"W
"Half Round Rock"	174 082	47°48'56"N,	124°30'29"W
"Half Round Rock, outer"	174 083	47°48'44"N,	124°31'45"W
Hall Island	156 030	48°26'06"N,	122°54'37"W
Hammersley Inlet, eastern third	175 043	47°12'10"N,	122°58'06"W
Hand Rock	155 067	48°01'55"N,	124°43'00"W

Harbor Island, north waterfront	175 021	47°35'20"N,	122°21'00"W
Harbor Rock	156 138	48°28'13"N,	122°58'12"W
Hat Island	156 133	48°31'28"N,	122°32'48"W
Hogsback	174 094	47°26'49"N,	124°20'31"W
Hogsback, Little	174 095	47°26'16"N,	124°20'30"W
Hoh Head	174 088	47°46'12"N,	124°28'30"W
Hope Island	156 180	48°23'54"N,	122°34'06"W
Huckleberry Island	156 130	48°32'10"N,	122°34'06"W
Humphrey Head	156 114	48°33'45"N,	122°52'14"W
Iceburg Island	156 151	48°25'37"N,	122°53'18"W
Indian Island, bar	156 196	48°05'23"N,	122°44'00"W
Indian Island, navy dock	156 198	48°03'05"N,	122°44'30"W
Jack Island	156 129	48°34'52"N,	122°36'48"W
Jagged Island	174 027	47°59'48"N,	124°41'40"W
James Island	174 003	47°54'22"N,	124°38'50"W
James Island	156 119	48°30'45"N,	122°46'26"W
Jefferson Cove, mainland cliff	174 089	47°45'55"N,	124°27'30"W
Jetty Island	156 201	48°00'35"N,	122°13'37"W
Johns Island	156 015	48°40'00"N,	123°09'00"W
Jones Island	156 090	48°36'53"N,	123°02'42"W
Kalaloch	174 091	47°36'30"N,	124°22'25"W
Kessiso Rocks	155 020	48°23'00"N,	124°43'43"W
Keyport, pier	175 008	47°42'00"N,	122°36'45"W
Keystone, wharf	156 189	48°09'28"N,	122°40'09"W
Killisut Harbor, north bluff	156 197	48°05'36"N,	122°43'20"W
Kingston, ferry dock	175 006	47°47'39"N,	122°29'40"W
Lake Whatcom	156 204	48°45'40"N,	122°24'00"W
Lawson Rock	156 118	48°31'50"N,	122°47'15"W
Lemolo	175 007	47°42'40"N,	122°37'00"W
Lime Kiln Bay	156 088	48°31'12"N,	123°09'03"W
Lone Tree Island	156 004	48°41'41"N,	122°45'22"W
Long Island	156 029	48°26'32"N,	122°55'20"W
Lopez Island, south shore	156 143	48°26'00"N,	122°52'30"W
Lopez Island	156 142	48°28'30"N,	122°53'00"W
Low Island	156 021	48°35'22"N,	123°01'27"W
Low Island	156 087	48°32'37"N,	123°09'47"W
Lummi Rocks	156 007	48°40'15"N,	122°40'00"W
"Mainland Cave"	174 078	47°49'38"N,	124°30'52"W
March Point, piers	156 135	48°30'32"N,	122°34'21"W
Matia Island	156 002	48°44'50"N,	122°50'00"W
Maury Island	175 027	47°23'00"N,	122°26'00"W
McConnell Island	156 094	48°35'46"N,	123°01'17"W
McMicken Island	175 046	47°14'57"N,	122°51'40"W
Middle Rock	174 013	47°44'54"N,	124°26'54"W
"Migley Rocks"	156 075	48°44'54"N,	122°43'00"W
Minor Island	156 033	48°19'28"N,	122°49'06"W
Mummy Rocks	156 027	48°26'54"N,	122°55'40"W
Mushroom Rock	155 017	48°23'24"N,	124°42'47"W
Nisqually Reach, east shoreline	175 055	47°06'50"N,	122°40'06"W
North Head	174 107	46°18'00"N,	124°04'35"W
North Rock	174 012	47°45'00"N,	124°28'30"W
Northwest Island	156 172	48°25'09"N,	122°40'06"W

"Norwegian Creek"	155 069	48°02'00"N,	124°41'00"W
Nob Island	156 098	48°35'28"N,	123°01'00"W
O'Neal Island	156 089	48°36'14"N,	123°05'28"W
Oak Harbor	156 200	48°16'30"N,	122°39'00"W
Oak Harbor	156 106	48°36'22"N,	122°57'09"W
Observatory Point	156 205	48°09'02"N,	123°38'18"W
Olympia, waterfront	175 053	47°03'30"N,	122°54'30"W
Ozette Island	155 007	48°09'28"N,	124°44'52"W
"Paahwoke-it"	155 070	48°00'25"N,	124°43'27"W
Parker Reef	156 062	48°43'40"N,	122°53'42"W
Pass Island	156 174	48°24'25"N,	122°38'33"W
Patos Island	156 001	48°47'05"N,	122°57'10"W
Patos Island, Little	156 044	48°47'06"N,	122°58'00"W
Peapod, Middle	156 074	48°38'24"N,	122°45'01"W
Peapod, North	156 009	48°38'32"N,	122°44'37"W
Peapod, South	156 010	48°38'03"N,	122°45'27"W
Peapod Rocks	156 073	48°38'21"N,	122°45'00"W
Penn Cove, north shore	156 185	48°14'22"N,	122°41'45"W
Penn Cove, south shore	156 188	48°12'52"N,	122°43'00"W
Penn Cove, southwest shore	156 187	48°13'00"N,	122°43'25"W
Perkins Reef	174 011	47°46'28"N,	124°30'15"W
Pitt Island	175 047	47°13'25"N,	122°42'55"W
Point Brown, jetty	174 103	46°55'38"N,	124°10'37"W
Point Chehalis, jetty	174 104	46°54'21"N,	124°08'37"W
Point Defiance	175 034	47°18'42"N,	122°32'00"W
Point Grenville, complex	174 020	47°18'00"N,	124°16'45"W
Point Grenville, mainland cliffs	174 099	47°18'18"N,	124°16'07"W
Point No Point	175 004	47°54'55"N,	122°31'30"W
Point of the Arches	155 004	48°14'50"N,	124°41'58"W
Point Southworth	175 025	47°30'36"N,	122°29'40"W
Point Partridge	156 184	48°13'51"N,	122°46'00"W
Point Roberts, southeast	156 037	48°58'30"N,	123°01'30"W
Point Roberts, west	156 036	48°59'02"N,	123°05'04"W
Point Whitehorn, north	156 042	48°53'40"N,	122°47'00"W
Point Whitehorn, south	156 043	48°53'00"N,	122°46'30"W
Pointer Island	156 023	48°32'20"N,	122°46'50"W
Pole Island	156 085	48°36'04"N,	123°10'00"W
Port Angeles	156 190	48°07'02"N,	123°24'38"W
Port Ludlow	175 003	47°55'09"N,	122°41'06"W
Port Townsend, bluffs	156 194	48°06'38"N,	122°45'46"W
Port Townsend, mill dock	156 193	48°05'34"N,	122°47'28"W
Port Townsend, tower	156 195	48°05'36"N,	122°44'00"W
Port Williams	156 191	48°07'00"N,	123°03'00"W
Posey Island	156 083	48°37'07"N,	123°10'00"W
Poverty Bay	175 041	47°22'30"N,	122°19'20"W
Protection Island	156 035	48°07'40"N,	122°55'50"W
Puffin Island	156 003	48°44'42"N,	122°49'12"W
Quillayute Needle	174 052	47°52'50"N,	124°37'59"W
Quillayute Needles, group	174 043	47°54'31"N,	124°38'40"W
Ram Island	156 155	48°28'35"N,	122°49'50"W
Reef Island	156 092	48°36'18"N,	123°00'52"W
Rim Island	156 153	48°28'55"N,	122°49'35"W

Ripple Island	156 054	48°39'26"N,	123°07'47"W
Rounded Island	174 007	47°49'55"N,	124°33'13"W
Rum Island	156 154	48°28'48"N,	122°49'41"W
Saddlebag Island	156 131	48°32'09"N,	122°33'21"W
Sail Rock	155 011	48°20'32"N,	124°32'35"W
Sail Rock & Seal Rock	155 013	48°21'42"N,	124°32'42"W
Salmon Bay	175 009	47°40'30"N,	122°24'36"W
Sand Island	174 024	46°57'45"N,	124°03'25"W
Sand Island, East	195 002	46°15'45"N,	123°57'45"W
Sand Island, West	174 109	46°16'30"N,	124°01'20"W
Sanderson Harbor, cliff NE of	175 045	47°09'00"N,	122°55'56"W
Sandy Island, group	174 031	47°59'14"N,	124°41'24"W
Sares Head	156 171	48°26'00"N,	122°40'30"W
Satellite Island	156 049	48°41'00"N,	123°11'20"W
Scow Bay	156 203	48°01'52"N,	122°41'48"W
Sea Lion Rock	174 093	47°27'03"N,	124°24'15"W
Sea Lion Rock (Jagged Islet)	174 001	47°59'32"N,	124°43'36"W
Seal Rock	155 012	48°21'45"N,	124°32'50"W
Seattle, downtown	175 019	47°36'30"N,	122°20'00"W
Seattle, East Waterway	175 020	47°35'00"N,	122°21'06"W
Seattle, waterfront	175 018	47°36'20"N,	122°21'00"W
Seattle, west waterfront	175 024	47°35'00"N,	122°22'15"W
Seattle, West Waterway/Harbor	175 022	47°34'45"N,	122°21'30"W
Secar Rock	156 148	48°26'17"N,	122°54'22"W
Semiahmoo Spit	156 038	48°59'27"N,	122°46'08"W
Sentinel Island	156 019	48°38'24"N,	123°08'57"W
Sentinel Rock	156 058	48°38'25"N,	123°09'22"W
Shannon Point	156 127	48°30'30"N,	122°41'15"W
Sheep Island	156 067	48°37'19"N,	122°57'25"W
Shelton	175 042	47°12'40"N,	122°05'12"W
"Silver Sides"	155 039	48°15'11"N,	124°42'30"W
Sister, Little	156 006	48°41'23"N,	122°45'30"W
Sister Island, middle	156 005	48°41'33"N,	122°45'28"W
Sisters, The	156 071	48°41'02"N,	122°45'30"W
Skagit Island	156 179	48°24'48"N,	122°34'42"W
Skipjack Island	156 012	48°43'56"N,	123°02'00"W
Skull Island	156 065	48°38'22"N,	122°59'07"W
Skull Island	156 157	48°27'57"N,	122°49'55"W
Slant Rock	155 016	48°23'29"N,	124°41'38"W
Small Island	156 152	48°29'44"N,	122°51'42"W
Smith Cove, piers	175 011	47°37'45"N,	122°22'48"W
Smith Island	156 034	48°19'08"N,	122°50'32"W
Smith and Minor Islands	156 181	48°19'16"N,	122°49'47"W
Son	155 055	48°13'36"N,	124°42'39"W
South Rock	174 015	47°41'57"N,	124°25'30"W
Spike Rock	155 003	48°15'16"N,	124°42'58"W
Split Rock	174 018	47°24'29"N,	124°21'46"W
Steamboat Island	175 044	47°11'08"N,	122°56'25"W
Strawberry Island	156 126	48°33'42"N,	122°44'03"W
Strawberry Island	156 175	48°24'26"N,	122°37'50"W
Stuart Island, Turn Point	156 048	48°41'20"N,	123°14'18"W
Sucia Island, complex	156 045	48°45'30"N,	122°54'00"W

"Swinomish Islands, east"	156 178	48°27'40"N,	122°30'38"W
"Swinomish Islands, west"	156 177	48°28'15"N,	122°31'27"W
Swirl Island	156 163	48°25'07"N,	122°50'51"W
"Table Rock"	174 051	47°52'52"N,	124°38'06"W
Tacoma/Commencement Bay	175 040	47°17'00"N,	122°26'30"W
Tatoosh Island, complex	155 001	48°23'32"N,	124°44'07"W
Tift Rocks/Egg Rock	156 109	48°34'42"N,	122°59'10"W
Toleak Point	174 006	47°50'08"N,	124°32'20"W
Tongue Point	156 206	48°10'00"N,	123°42'05"W
"Tower Rock"	174 100	47°18'08"W,	124°16'45"W
Towhead Island	156 121	48°36'48"N,	122°42'43"W
Travis Spit	156 192	48°04'50"N,	123°02'00"W
Trump Island	156 120	48°30'16"N,	122°50'09"W
Tskawahyah Island	155 061	48°10'16"N,	124°46'02"W
Tunnel Island	174 092	47°27'50"N,	124°20'40"W
Turn Island	156 111	48°32'00"N,	122°58'12"W
Twin Rocks	156 113	48°36'57"N,	122°51'50"W
Union Bay	175 012	47°39'00"N,	122°17'30"W
"Unnamed Island"	155 064	48°09'07"N,	124°44'45"W
"Unnamed Island"	155 065	48°09'14"N,	124°43'50"W
"Unnamed Island"	156 144	48°26'32"N,	122°55'45"W
"Unnamed Island"	156 093	48°35'57"N,	123°01'27"W
"Unnamed Rock"	155 018	48°23'22"N,	124°43'08"W
"Unnamed Rock"	155 019	48°23'06"N,	124°43'42"W
"Unnamed Rock"	155 023	48°22'16"N,	124°43'52"W
"Unnamed Rock"	155 024	48°22'13"N,	124°44'03"W
"Unnamed Rock"	155 025	48°22'09"N,	124°43'58"W
"Unnamed Rock"	155 026	48°22'12"N,	124°43'44"W
"Unnamed Rock"	155 027	48°21'58"N,	124°43'38"W
"Unnamed Rock"	155 028	48°21'06"N,	124°42'15"W
"Unnamed Rock"	155 030	48°19'08"N,	124°40'00"W
"Unnamed Rock"	155 031	48°18'08"N,	124°41'17"W
"Unnamed Rock"	155 032	48°17'55"N,	124°40'29"W
"Unnamed Rock"	155 033	48°17'52"N,	124°40'41"W
"Unnamed Rock"	155 034	48°16'49"N,	124°41'03"W
"Unnamed Rock"	155 035	48°16'47"N,	124°41'00"W
"Unnamed Rock"	155 036	48°16'45"N,	124°41'02"W
"Unnamed Rock"	155 037	48°16'42"N,	124°40'58"W
"Unnamed Rock"	155 038	48°16'39"N,	124°40'51"W
"Unnamed Rock"	155 040	48°15'12"N,	124°42'26"W
"Unnamed Rock"	155 041	48°15'07"N,	124°42'25"W
"Unnamed Rock"	155 042	48°15'02"N,	124°42'15"W
"Unnamed Rock"	155 043	48°14'58"N,	124°42'15"W
"Unnamed Rock"	155 044	48°14'54"N,	124°42'11"W
"Unnamed Rock"	155 045	48°14'56"N,	124°42'11"W
"Unnamed Rock"	155 046	48°14'55"N,	124°42'03"W
"Unnamed Rock"	155 047	48°14'48"N,	124°42'03"W
"Unnamed Rock"	155 048	48°14'54"N,	124°42'01"W
"Unnamed Rock"	155 049	48°14'32"N,	124°42'32"W
"Unnamed Rock"	155 050	48°14'32"N,	124°42'27"W
"Unnamed Rock"	155 051	48°14'32"N,	124°42'37"W
"Unnamed Rock"	155 052	48°14'22"N,	124°42'21"W

"Unnamed Rock"	155 053	48°14'01"N,	124°42'16"W
"Unnamed Rock"	155 056	48°13'35"N,	124°41'52"W
"Unnamed Rock"	155 057	48°10'39"N,	124°45'49"W
"Unnamed Rock"	155 063	48°09'28"N,	124°45'15"W
"Unnamed Rock"	174 026	47°59'59"N,	124°41'28"W
"Unnamed Rock"	174 028	47°59'47"N,	124°41'24"W
"Unnamed Rock"	174 029	47°59'42"N,	124°41'24"W
"Unnamed Rock"	174 030	47°59'30"N,	124°40'58"W
"Unnamed Rock"	174 032	47°58'12"N,	124°40'54"W
"Unnamed Rock"	174 035	47°57'32"N,	124°40'31"W
"Unnamed Rock"	174 036	47°57'30"N,	124°40'14"W
"Unnamed Rock"	174 037	47°57'15"N,	124°40'24"W
"Unnamed Rock"	174 038	47°57'13"N,	124°40'20"W
"Unnamed Rock"	174 039	47°57'05"N,	124°40'13"W
"Unnamed Rock"	174 041	47°54'38"N,	124°39'00"W
"Unnamed Rock"	174 042	47°54'29"N,	124°39'02"W
"Unnamed Rock"	174 044	47°53'32"N,	124°37'46"W
"Unnamed Rock"	174 045	47°53'17"N,	124°37'38"W
"Unnamed Rock"	174 046	47°53'12"N,	124°37'42"W
"Unnamed Rock"	174 047	47°53'15"N,	124°38'35"W
"Unnamed Rock"	174 048	47°53'10"N,	124°38'16"W
"Unnamed Rock"	174 049	47°53'02"N,	124°38'15"W
"Unnamed Rock"	174 050	47°53'02"N,	124°38'07"W
"Unnamed Rock"	174 054	47°52'20"N,	124°36'39"W
"Unnamed Rock"	174 056	47°52'22"N,	124°36'06"W
"Unnamed Rock"	174 057	47°52'20"N,	124°36'00"W
"Unnamed Rock"	174 058	47°52'27"N,	124°35'50"W
"Unnamed Rock"	174 059	47°52'32"N,	124°35'44"W
"Unnamed Rock"	174 060	47°52'05"N,	124°34'18"W
"Unnamed Rock"	174 061	47°51'58"N,	124°34'09"W
"Unnamed Rock"	174 062	47°51'40"N,	124°33'43"W
"Unnamed Rock"	174 063	47°51'22"N,	124°34'05"W
"Unnamed Rock"	174 064	47°51'22"N,	124°34'00"W
"Unnamed Rock"	174 065	47°51'15"N,	124°34'03"W
"Unnamed Rock"	174 066	47°51'11"N,	124°33'41"W
"Unnamed Rock"	174 067	47°51'02"N,	124°33'47"W
"Unnamed Rock"	174 068	47°51'02"N,	124°33'57"W
"Unnamed Rock"	174 069	47°50'39"N,	124°32'52"W
"Unnamed Rock"	174 070	47°50'40"N,	124°33'13"W
"Unnamed Rock"	174 071	47°50'22"N,	124°32'20"W
"Unnamed Rock"	174 073	47°49'58"N,	124°32'30"W
"Unnamed Rock"	174 074	47°49'57"N,	124°32'02"W
"Unnamed Rock"	174 075	47°49'49"N,	124°32'12"W
"Unnamed Rock"	174 076	47°49'48"N,	124°32'12"W
"Unnamed Rock"	174 077	47°49'44"N,	124°31'03"W
"Unnamed Rock"	174 079	47°49'20"N,	124°30'48"W
"Unnamed Rock"	174 080	47°49'18"N,	124°30'40"W
"Unnamed Rock"	174 081	47°49'13"N,	124°30'42"W
"Unnamed Rock"	174 084	47°48'23"N,	124°31'46"W
"Unnamed Rock"	174 085	47°47'55"N,	124°31'00"W
"Unnamed Rock"	174 086	47°47'32"N,	124°28'52"W
"Unnamed Rock"	174 087	47°46'17"N,	124°28'27"W

"Unnamed Rock"	174 096	47°26'14"N, 124°20'29"W
"Unnamed Rock"	174 097	47°23'55"N, 124°21'45"W
"Unnamed Rock" (see 174 051)	174 004	
"Unnamed Rock"	174 072	47°50'00"N, 124°32'41"W
"Unnamed Rock"	156 053	48°39'13"N, 123°08'31"W
"Unnamed Rock"	156 055	48°39'15"N, 123°07'55"W
"Unnamed Rock"	156 064	48°41'40"N, 122°54'23"W
"Unnamed Rock"	156 136	48°29'24"N, 123°06'30"W
"Unnamed Rock"	156 137	48°28'58"N, 123°05'00"W
"Unnamed Rock"	156 145	48°26'18"N, 122°55'30"W
"Unnamed Rock"	156 146	48°26'22"N, 122°55'07"W
"Unnamed Rock"	156 165	48°25'18"N, 122°49'29"W
"Unnamed Rock"	156 166	48°25'00"N, 122°49'32"W
"Unnamed Rock"	156 050	48°39'54"N, 123°10'24"W
"Unnamed Rock"	156 059	48°40'10"N, 123°04'15"W
"Unnamed Rock"	156 066	48°38'02"N, 122°59'28"W
"Unnamed Rock"	156 068	48°44'36"N, 122°48'53"W
"Unnamed Rock"	156 061	48°38'52"N, 123°07'34"W
"Unnamed Rock"	156 099	48°35'27"N, 123°01'05"W
"Unnamed Rock"	156 149	48°25'57"N, 122°52'58"W
"Unnamed Rock"	156 150	48°25'52"N, 122°52'51"W
"Unnamed Rock"	156 110	48°33'45"N, 122°55'16"W
"Unnamed Rock"	156 112	48°31'42"N, 122°58'10"W
"Unnamed Rocks"	155 021	48°22'54"N, 124°43'46"W
"Unnamed Rocks"	174 053	47°52'35"N, 124°36'34"W
"Unnamed Rocks"	174 055	47°52'15"N, 124°36'18"W
"Unnamed Rocks"	174 090	47°45'15"N, 124°27'15"W
Vashon Island	175 026	47°25'00"N, 122°29'00"W
Vendovi Island	156 128	48°36'37"N, 122°36'22"W
Victum Island	156 103	48°36'48"N, 122°58'24"W
Viti Rocks	156 011	48°38'00"N, 122°37'17"W
Waadah Island	155 014	48°22'55"N, 124°35'50"W
Waatch Point, rock	155 029	48°20'19"N, 124°40'55"W
Waldron Island	156 014	48°42'05"N, 123°01'48"W
West Point	175 010	47°39'15"N, 122°25'14"W
Whale Rocks	156 028	48°26'51"N, 122°56'26"W
"Whaleback Island"	174 105	46°41'25"N, 124°02'30"W
Whidbey Island	156 199	48°10'00"N, 122°40'00"W
Whiskey Rock	156 079	48°39'38"N, 122°30'08"W
Whitcomb Island	174 025	46°54'40"N, 124°04'40"W
White Rock	155 008	48°08'05"N, 124°44'00"W
White Rock	156 016	48°40'04"N, 123°04'14"W
Williamson Rocks	156 025	48°27'03"N, 122°42'17"W
Willoughby Rock	174 017	47°24'42"N, 124°21'17"W
Willow Island	156 116	48°32'26"N, 122°49'20"W
Windy Bluff	175 028	47°20'45"N, 122°47'40"W
Yellow Island	156 097	48°35'33"N, 123°01'50"W
Young Cove, bank E of	175 050	47°09'00"N, 122°56'00"W
Young Island	156 169	48°28'32"N, 122°41'22"W

APPENDIX B

OBSERVATION POINTS FOR SEABIRD COLONIES

Bird-watching, birding, or nature observation has become a major non-consumptive recreational pursuit in North America, and people often travel great distances to see hard-to-find species or rarities from other parts of the world. This is true in Washington and the situation exists not only for birds in general but also for species breeding in the State.

With this greatly increased interest and awareness of the natural world, more and more people are attempting to see seabirds, particularly where they nest. A few years ago a Horned Puffin appeared on one relatively accessible colony in Washington, and within a short period of time bird-watchers converged on the area, having chartered boats in order to try to add the species to their "Washington list." It is with this experience in mind and with concern for the welfare of the birds and their reproductive success that we include this section. Some cautions are also introduced here for the welfare of persons viewing seabirds.

Seabird colonies in Washington, as elsewhere, tend to be inaccessible because of the need of the birds for security from predation and disturbance. Thus many colonies are offshore and

must be viewed at a distance, usually with a telescope, or must be approached in a boat. The former method is preferable because possibilities for disturbance are minimal. The use of boats allows close approach but also introduces possible disturbance stress and this is not only undesirable but is illegal in some cases. Many nesting islands are wildlife refuges and entry is forbidden. Maintaining a distance of perhaps 100-200 yards from a colony is necessary in many cases to prevent birds being frightened, taking flight, and causing loss of eggs or young to predators or being crushed. A further cause for caution in using small boats in Washington is that in many areas it can be extremely hazardous. Along the outer coast, there are very few places where boats can be rented or launched--Neah Bay, LaPush, Grays Harbor, Willapa Bay, and Ilwaco--and only the first two are near colonies. Even in the summer, sea conditions can change within a few minutes and heavy swells or fog can quickly create dangerous circumstances around rocks and islands or make entry into harbor impossible. In the inside waters, particularly in the San Juans, navigation near rocks can be very hazardous due to very strong tidal currents, and inexperienced sailors are well advised to be

extremely cautious, even during ideal weather. There are a number of places in the State where the summer resident seabirds can be observed, perhaps even better than on the colonies themselves. Most of these are included in Wahl and Paulson (1981) and full details are given there.

Trips to view pelagic birds on the ocean encounter not only nesting species, including storm-petrels and Cassin's Auklets not visible from shore, but also such species as Black-footed Albatrosses (Diomedea nigripes), Northern Fulmars (Fulmarus glacialis), and several species of shearwaters. Details can be obtained through the Seattle Audubon Society.

Ocean jetties at Ocean Shores, Westport, and Ilwaco (north jetty of the Columbia River) extend out from shore and allow, in good conditions, excellent views of seabirds. Birds rest on and forage around the jetties, and vast numbers pass by during migration. Pigeon Guillemots often nest in crevices in the jetties themselves, and large numbers of gulls, cormorants, sea ducks, rock shorebirds, and other species can be seen in season.

The lighthouse site at Point Wilson, Fort Worden State Park, near Port Townsend is an excellent location all year. Rhinoceros Auklets from Protection Island feed offshore, and large numbers of many species of birds forage in the strong tidal currents off the point.

Point Roberts, reached through Canada, is the extreme north-western tip of Whatcom County. Lighthouse Park, at the southwest

tip of the Point, is an excellent place to see seabirds close to shore, especially when the tide is running.

Green Point, in Washington Park, Anacortes, overlooks Rosario Strait and, while Bird Rocks can be seen by telescope in the distance, this spot is best known for spectacular flights of cormorants moving between roosts and foraging areas and for large numbers of Common Murres and many other species feeding in the tidal convergences.

Deception Pass, at the north end of Whidbey Island is reached by entering Deception Pass State Park and also has large flocks of birds feeding in strong tidal currents. Pigeon Guillemots, cormorants, loons, and many other species are often present.

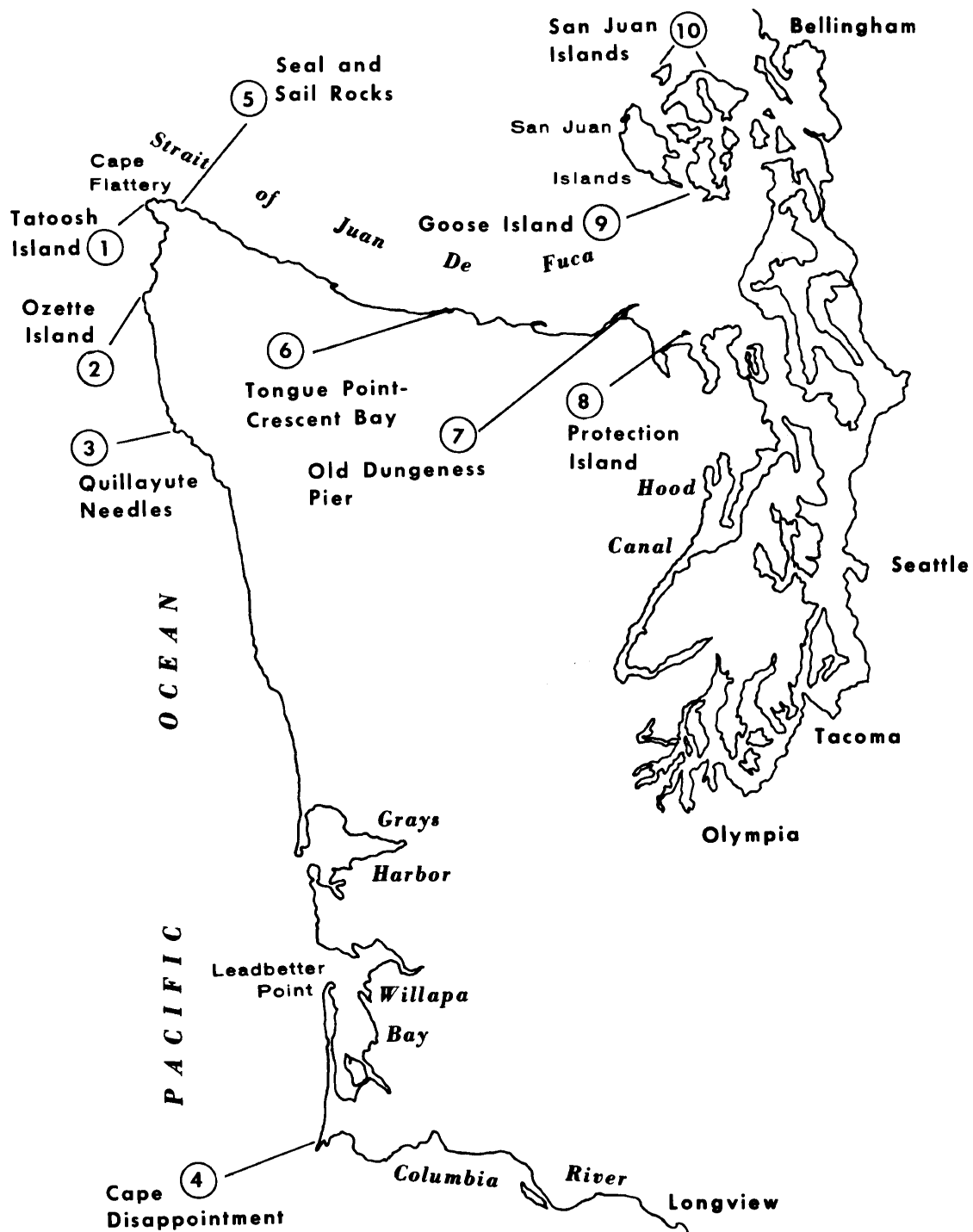
Washington also has what many other places do not--passenger and car ferries traveling through waters where there are many seabirds to observe in the appropriate season. While the routes in the southern inland waters of Puget Sound do not often encounter many birds, two Washington State Ferry routes do have abundant birds. The "Keystone Ferry" between Whidbey Island and Port Townsend crosses the tidal fronts of Admiralty Inlet, which drains most of Puget Sound into the Strait of Juan de Fuca and the Pacific Ocean. While large numbers of birds of many species may be seen during the 35-minute crossing, the most abundant species are Rhinoceros Auklets in summer, and Common Murres in winter, and gulls during all seasons. Thousands of Rhinoceros Auklets, from the colonies at Protection Island and Smith

Island, can be seen particularly on the west side of Admiralty Inlet. Tufted Puffins are also possible here.

The other ferry route with good bird observation possibilities is the ferry from Anacortes to Friday Harbor or Sidney, British Columbia. The ferry passes, at some distance, a number of important colonies. Foraging birds and others moving from one feeding area to another are often seen close to the vessel. The ferry to Sidney normally passes close to Mandarte Island, B.C., which has hundreds of nesting cormorants, thousands of nesting gulls, as well as Pigeon Guillemots and Black Oystercatchers. This is one of the largest colonies in the inside waters of Washington and British Columbia. Bald Eagles are often seen in the San Juans and Gulf Islands, with largest numbers in winter.

One excellent location for viewing nesting seabirds is not listed below. That is Point Grenville, where the many offshore rocks and islands can be seen well from the lighthouse site. However, the access to this former Coast Guard station is questionable at present. The property itself is now under Quinault Indian Tribal jurisdiction and access has not been allowed recently, at least at writing of this catalog.

Hiking the outer coastal beaches of the Olympic National Park has been a popular form of recreation for years. Many of the offshore nesting colonies may be seen from along the shore, though a telescope is necessary and transporting the necessary equipment while back-packing makes this out of the question for most people.



VIEW POINT: Cape Flattery

COLONY: Tatoosh Island

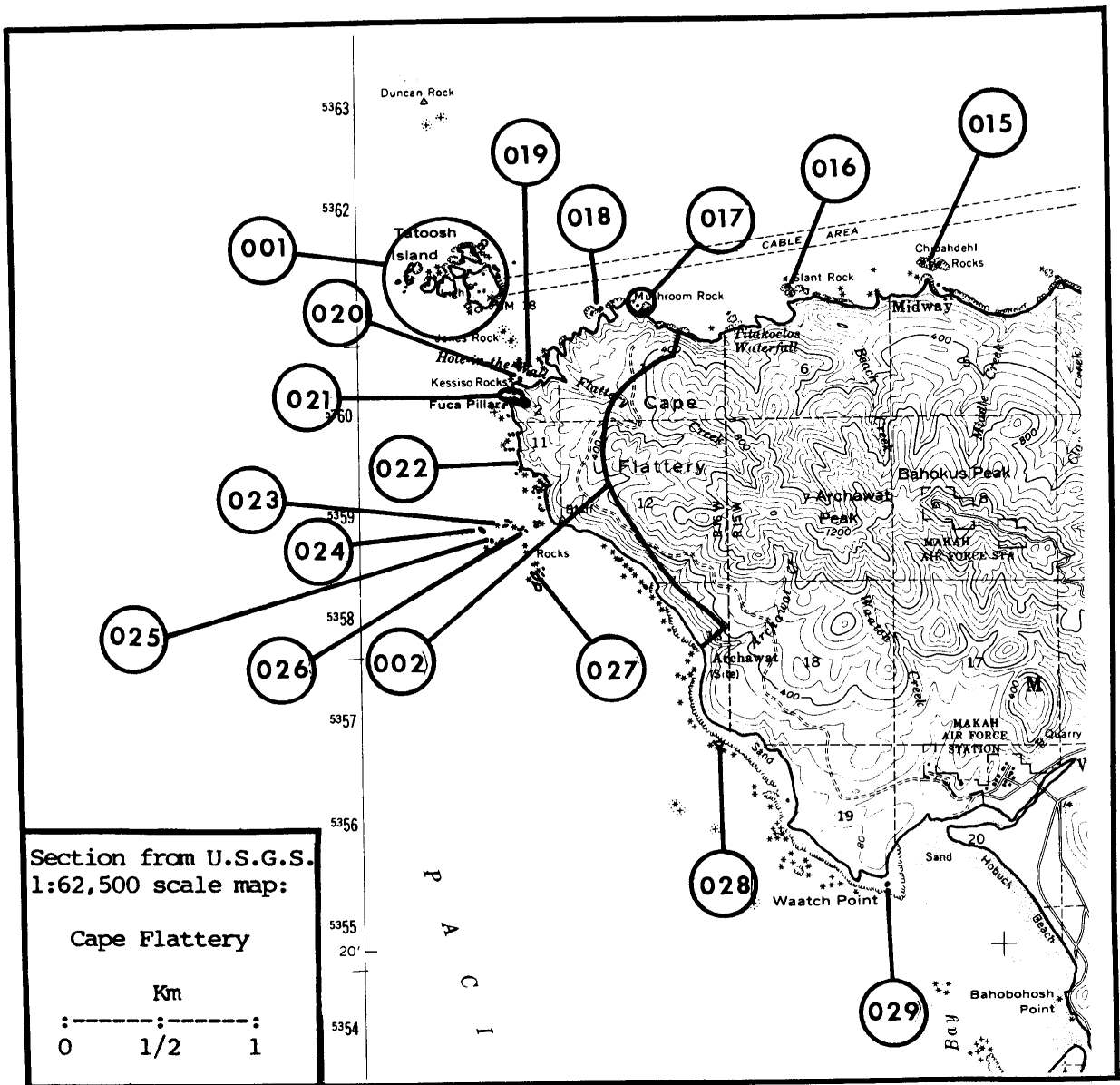
ACCESS Follow the signs in Neah Bay to "Cape Flattery." The road from the west end of Neah Bay circles the Cape itself. The parking area for the trail to the Cape Flattery viewpoint on the cliffs is about 5 miles from Neah Bay. It is about one-half mile down a trail, with some stepping over tree roots under the forest, to the edge of the cliffs.

①

SEABIRD SPECIES:

From the viewpoint at the edge of the cliffs--caution is advised: do not get too close to the edge--

Tatoosh Island is visible offshore, and with a telescope, birds can be seen on nesting territories or flying to and from foraging areas offshore. Pelagic Cormorants, Black Oystercatchers, Glaucous-winged Gulls, Common Murres, Pigeon Guillemots, and Tufted Puffins may be clearly, if distantly, seen. Leach's and Fork-tailed Storm-Petrels and Cassin's Auklets nest here, too, but are strictly nocturnal and only infrequently seen near the island during daylight hours. Pelagic Cormorants and Black Oystercatchers also nest on sea stacks closer to Cape Flattery and can be seen there also. A great amount of bird activity can often be seen from Cape Flattery, from vast flocks of shearwaters feeding at the entrance to the Strait of Juan de Fuca, to flocks of migrating Brants and hawks passing in the spring. Gray Whales may be seen during their spring migration, with some passing directly under the cliff view point.



VIEW POINT: Cape Alava

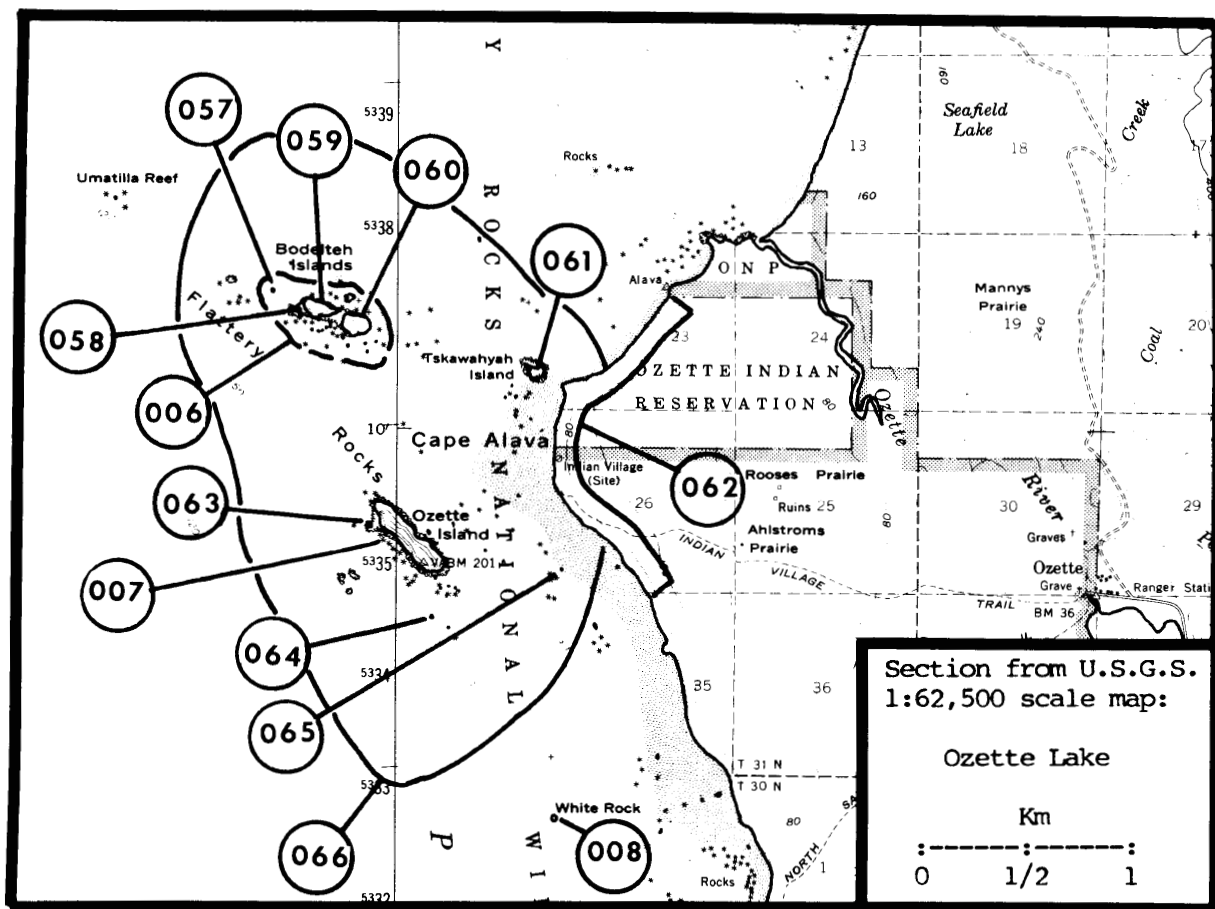
SEABIRD SPECIES:

COLONY: Bodeliteh Islands,
Ozette Island

Pelagic Cormorants, Black Oystercatchers, Glaucous-winged Gulls, Common Murres, Pigeon Guillemots and Tufted Puffins can be seen by telescope on the islands offshore. In addition, storm-petrels and Cassin's Auklets nest there. One of the few places in the State where Sea Otters may be seen from shore is near Ozette Island, to the south of Cape Alava.

ACCESS: The Cape Alava trail is 3.3 miles long, from Lake Ozette to the Cape. The trail is reached by a road leaving Highway 110 west of Sekiu.

2



VIEW POINT: Rialto Beach or LaPush

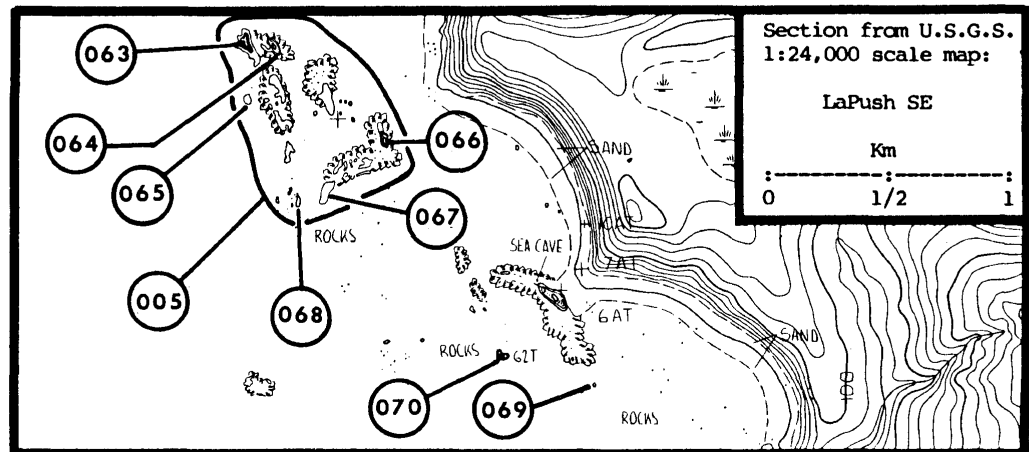
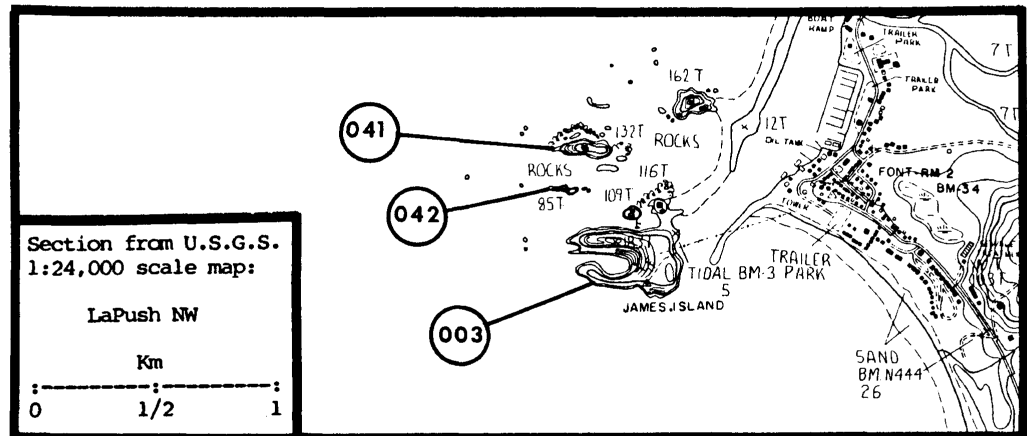
COLONY: Quillayute Needles

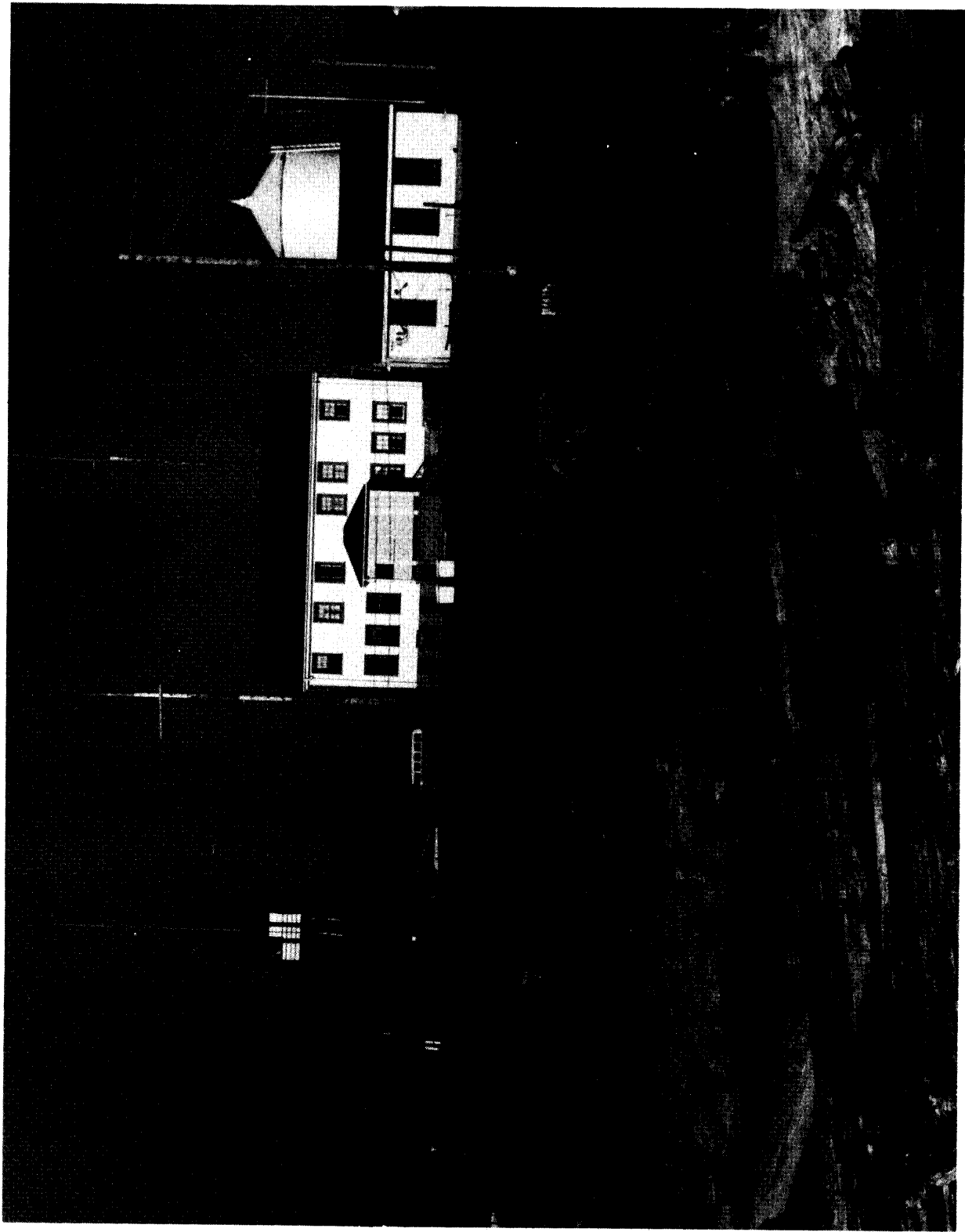
ACCESS: Leave Highway 101 just north of Forks, go about 10.5 miles where the right fork in the road goes to Mora Campground, Olympia National Park, and then to Rialto Beach, just across the river from LaPush. The left fork goes to the town of LaPush.

3

SEABIRD SPECIES:

From Rialto Beach, the Quillayute Needles are visible just beyond wooded James Island. With a telescope, nesting murrelets, guillemots, and Tufted Puffins, may be seen along with many other species, including Harlequin Ducks (Histrionicus histrionicus), scoters, Bald Eagles (Haliaeetus leucocephalus), and shorebirds. For better views of the Quillayute Needles colonies, take the road to LaPush (left-hand fork). From LaPush it is possible to walk the beach south and from there to look at the offshore islands and their colonies.





LaPush U.S. Coast Guard

VIEW POINT: Cape Disappointment Interpretive Center overlook, lighthouse

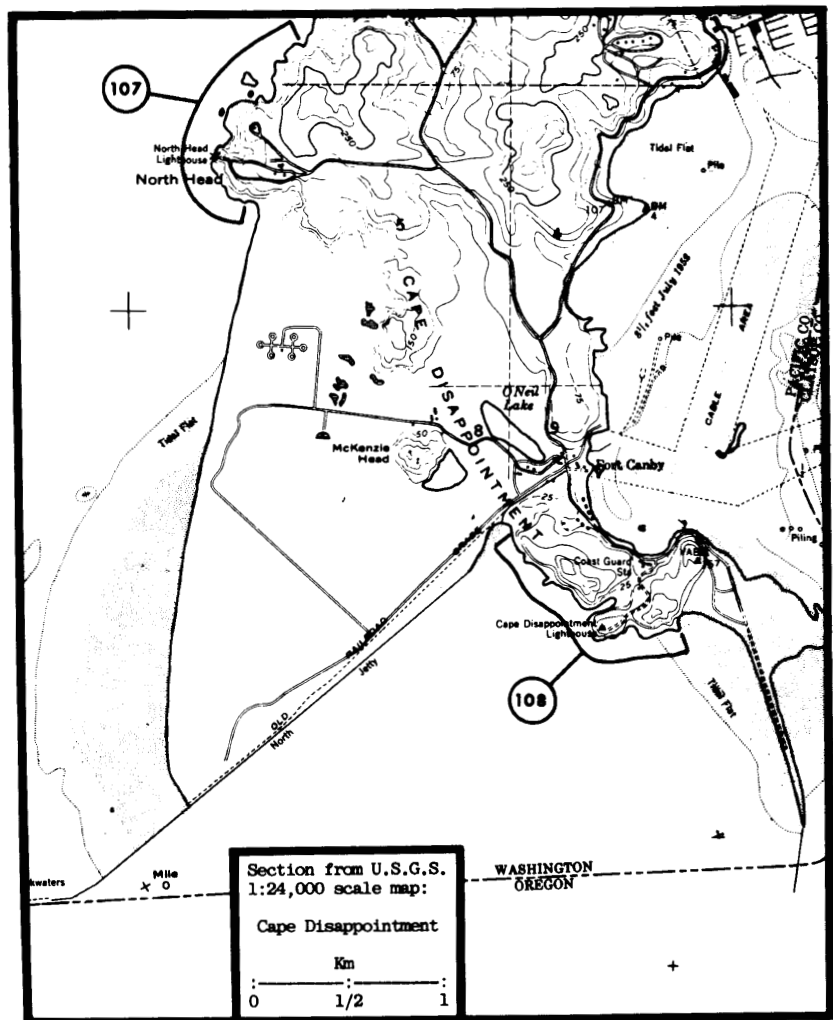
COLONY: Cape Disappointment

ACCESS: Reach the Lewis and Clark Interpretive Center by following directions from Ilwaco. The access trail to the Cape Disappointment lighthouse is also marked.

4

SEABIRD SPECIES:

The nesting Brandt's and Pelagic cormorants can be seen by peering over the edge of the cliff at the interpretive center (stay behind the fence!) or from the lighthouse site with a telescope. This is one of only four known locations where Brandt's Cormorants nest in Washington and views here are good.





Cape Disappointment (174108) U.S. Coast Guard

VIEW POINT: Tongue Point, Salt
Creek Recreation
Area

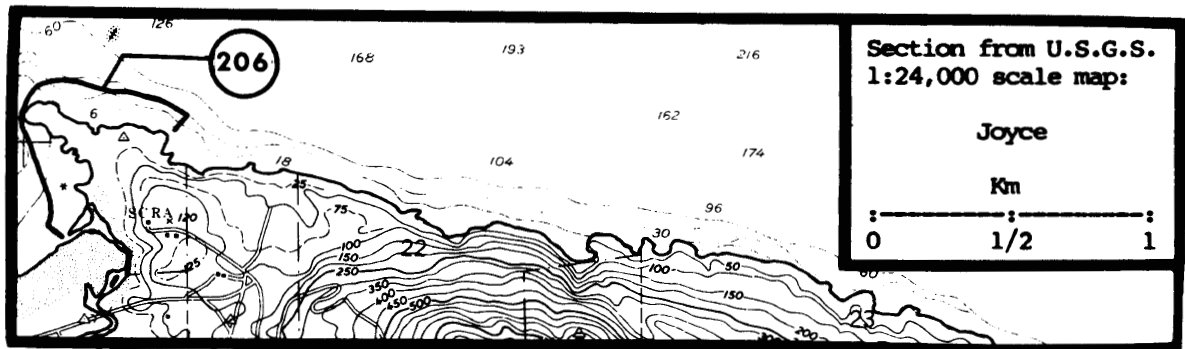
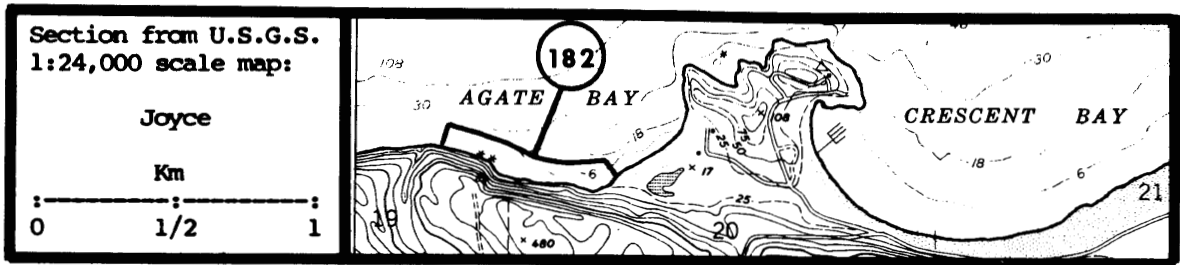
COLONY: Tongue Point-
Crescent Bay

ACCESS: Leave Highway 112
about 13 miles west
of Port Angeles at
signs from Salt
Creek Recreation
Area (Clallam County
Park). Follow the
road through the
camping area to
Tongue Point.

6

SEABIRD SPECIES:

While this is not a "colony" as such, it is a good place to see Black Oystercatchers and Pigeon Guillemots at close range during the nesting season. Marbled Murrelets are usually here, too.



VIEW POINT: Old Dungeness ("3 Crabs")

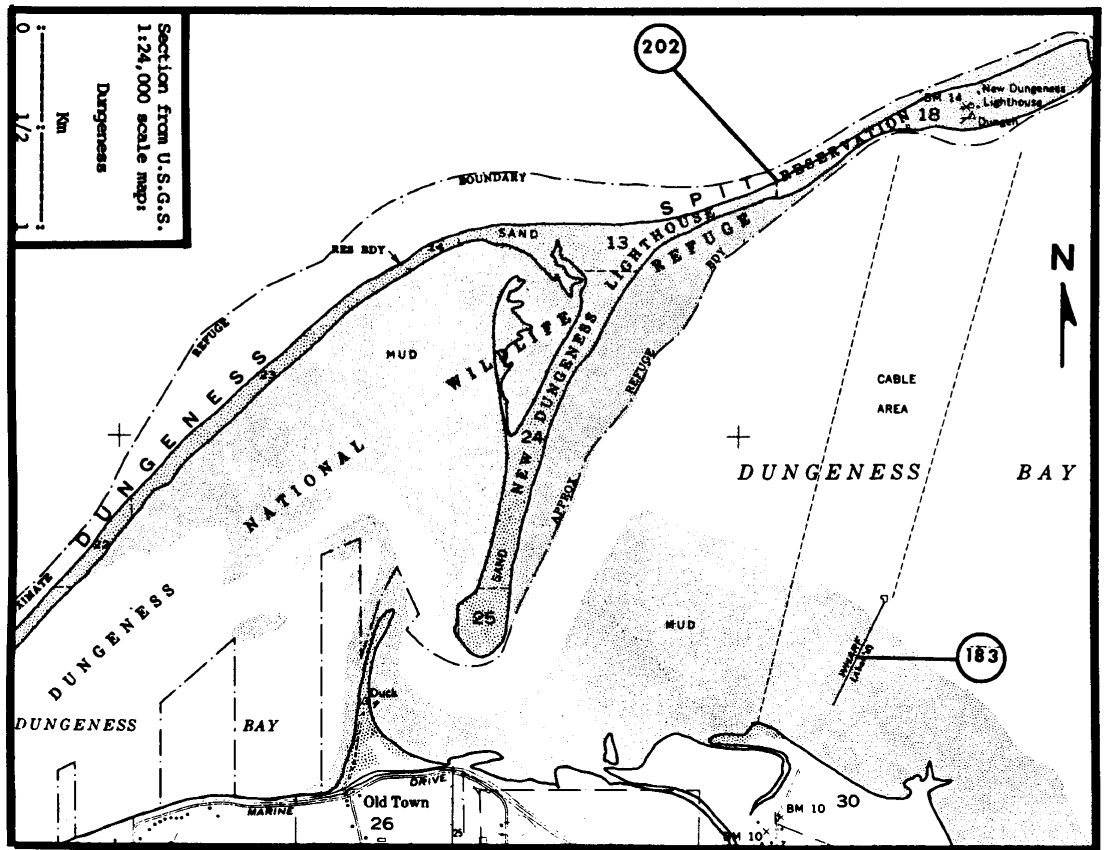
COLONY: Abandoned pier

ACCESS: Limited parking is available at the end of the road next to the 3 Crabs Restaurant (do not use the restaurant parking lot).

7

SEABIRD SPECIES:

The old pier offshore is used by nesting Pelagic Cormorants and Glaucous-winged Gulls, which can be seen quite closely by telescope.



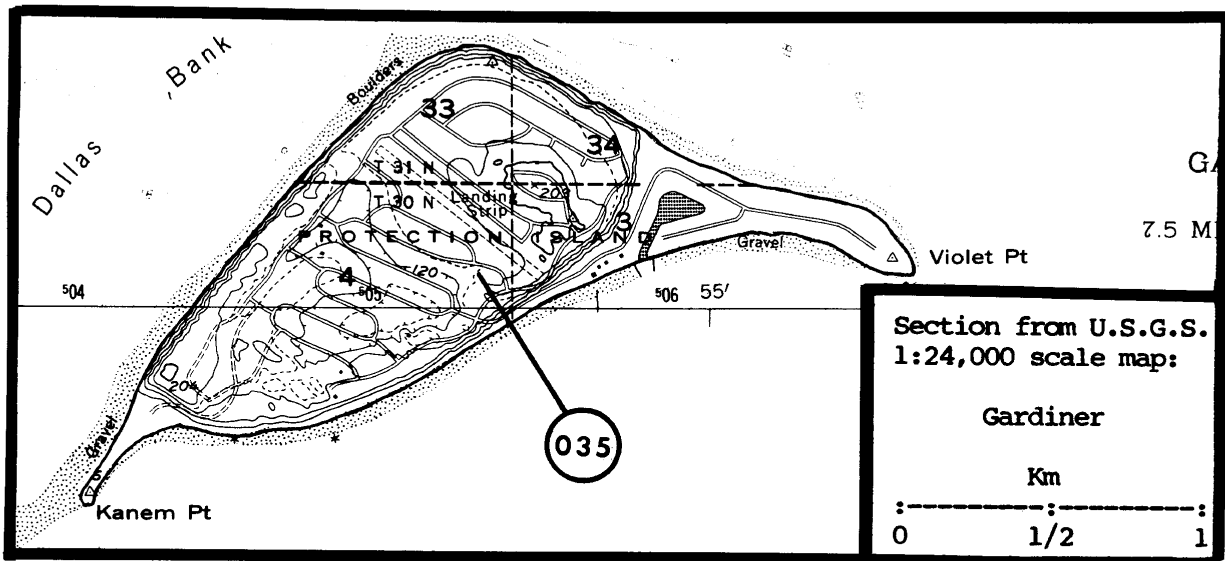
VIEW POINT: Boat
 COLONY: Protection Island
 ACCESS: Boats may be rented or larger vessels chartered in Port Townsend.

8

SEABIRD SPECIES:

This colony contains the largest number of Rhinoceros Auklets in Washington, along with impressive concentrations of Black Oystercatchers, gulls, Pigeon Guillemots, and Tufted Puffins. However, this colony is included in this section only because it is so well known and accessible, and compared to the open ocean coast, it is in relatively sheltered waters. Because of possible disturbance of nesting cormorants,

puffins, and hauled-out harbor seals, close approach is ill-advised. The north side of the island is fraught with navigational hazards and puffins in particular can be chased off cliffs on the south side. Most of the nesting seabirds can be seen much better at foraging areas. Rhinoceros Auklets can be seen close at hand at dusk offshore from the west end of the island as they bring food to chicks. Thousands of Rhinos feed during the daytime in Admiralty Inlet and can be seen from Point Wilson and the Keystone Ferry. The completion of acquisition of Protection Island by the U.S. Fish and Wildlife Service as a refuge and subsequent development of interpretive facilities and programs will minimize disturbance to animals and provide viewing possibilities in the future.



VIEW POINT: Cattle Point

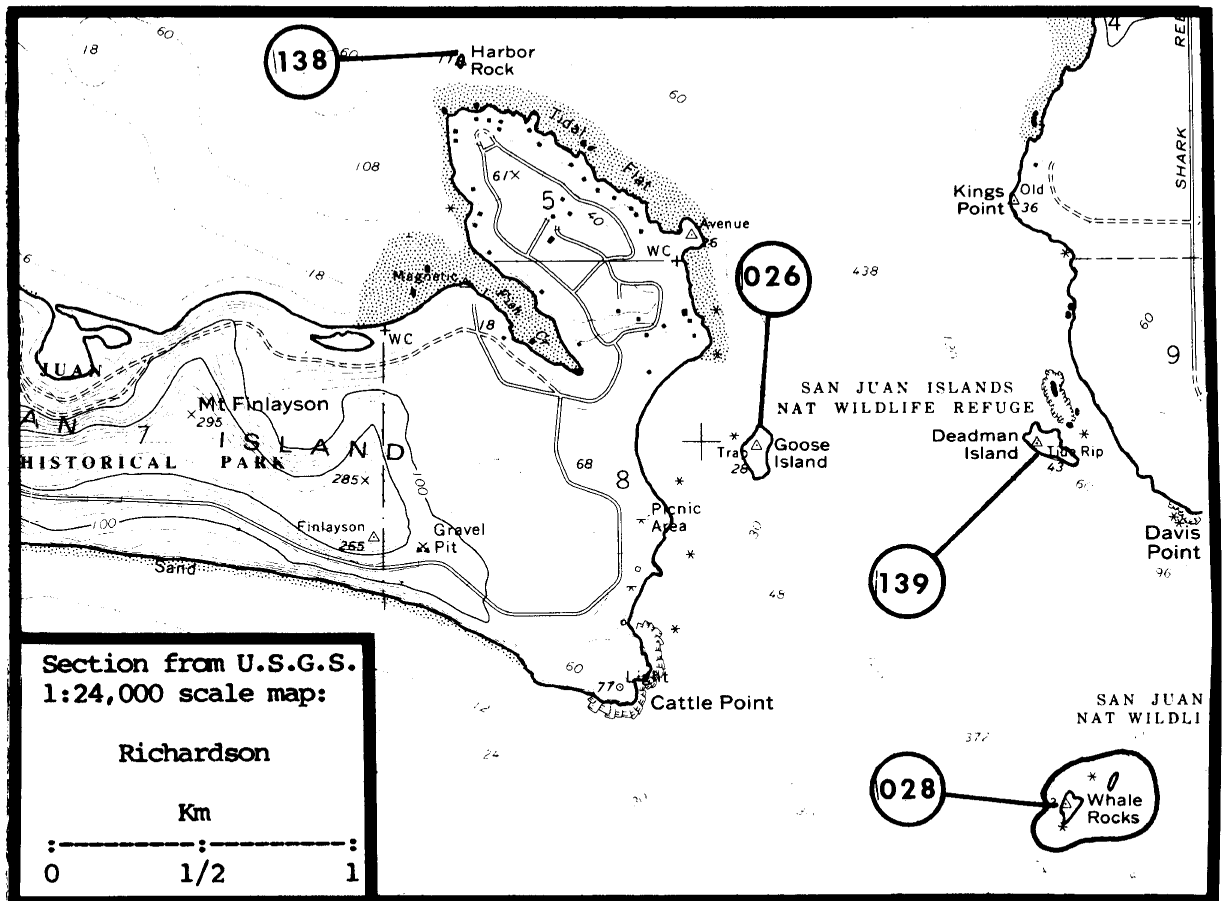
SEABIRD SPECIES:

COLONY: Goose Island

ACCESS: Drive from Friday Harbor on San Juan Island to Cattle Point at the south end. There is a State Department of Natural Resources park on the site of an old lighthouse generator station.

Goose Island is a small island offshore from Cattle Point, in the narrow entrance to San Juan Channel. Glaucous-winged Gulls and Black Oystercatchers nest here, and many other seabirds can be seen foraging in the tidal currents and along the shorelines. Whale Rocks and Mummy Rocks are visible to the east, near Lopez Island. These are very important cormorant roosting sites. Sea lions may be seen near them in the winter, and Minke Whales may be seen in the passage. Bald Eagles are also numerous in the area, and river otters may be seen.

9



VIEW POINT: Boat

COLONY: Colonies in San Juan Islands area

ACCESS: Small boats may be chartered in Anacortes and Friday Harbor.

⑩

SEABIRD SPECIES:

There are many accessible small islands throughout the San Juan Islands. Almost all of these already have a great deal of disturbance due to small boats, scuba diving, and other

activities, however, and close approach is not advised.

Species nesting in the San Juans include Double-crested and Pelagic cormorants, Black Oystercatcher, Glaucous-winged Gulls, Pigeon Guillemot, and very few Tufted Puffins. Refer to individual site maps and listings for specifics. Marbled Murrelets may be seen in numbers at several locations in the San Juan Islands. The shoreline of Lopez Island near Point Colville and Watmough Head, Peavine Pass, and Obstruction Pass between Orcas and Blakely Islands, and the southwestern shoreline of Lummi Island are among the best places.



Colville Island (156032) D. Marshall

APPENDIX C

NUMBERS OF PIGEON GUILLEMOTS AND MARBLED MURRELETS

All of the marine waters east of Cape Flattery have been systematically surveyed for the presence of marine birds during the summer breeding period. Marine waters of the Strait of Juan de Fuca, San Juan Islands, Georgia Strait, and the northeastern bays were surveyed during June of 1978 and 1979, using a variety of platforms of observation, such as a small airplane, a small boat, the Washington State Ferry, and land sites (see Manuwal et al. 1979b and Wahl et al. 1981 for details of sites, transect routes, and census methods). The results of these surveys for Pigeon Guillemots and Marbled Murrelets are summarized in Appendix Table 1.

The marine waters of Puget Sound (waters south of Admiralty Inlet) and Hood Canal were first systematically surveyed in summer 1982. During this survey, the entire marine shoreline was sampled from a small boat, a small airplane, and, in some cases, from shore (see Wahl and Speich 1984 for details). All open waters were also sampled. The numbers of Pigeon Guillemots and Marbled Murrelets observed are listed in Appendix Table 2.

As pointed out in the Species Accounts, these surveys are only samples; actual numbers of breeding individuals of each species are likely larger.

Censuses are sensitive to a variety of factors. Environmental conditions such as sun glare and glare area, water surface condition, and tidal stage all affect the detectability of birds during censuses. The activity patterns of the species determine their presence on the water surface during surveys. Pigeon Guillemots often loaf on shore beaches, rocks, logs, and cliff ledges, making detection difficult, especially from aircraft. Censuses made during feeding periods likely will fail to detect birds beneath the water surface. Birds may also dive to avoid the approaching boat or aircraft and go undetected. During the incubation period, the incubating adult in the nest would of course also go unobserved.

There have been no systematic surveys along the outer coast of Washington, sensitive to Pigeon Guillemots and Marbled Murrelets, which would allow quantification of their numbers. Numerous pelagic trips out of Westport over the continental slope have shown the species to be rare in deep waters (Wahl, pers. obs.). Pigeon Guillemots are found all along the coast where suitable nesting habitat is found. These observations are recorded in the colony-site tables in this catalog. Apparently, few if any birds nest along the long stretches of

beaches south of Pt. Grenville, except as observed in the rocks of the jetties at the entrance to Grays Harbor and the cliffs of Cape Disappointment. Marbled Murrelets have been observed along the entire nearshore area of the outer coast. Birds are often seen in the entrance channels of Grays Harbor and Willapa Bay. Birds have been observed in the shallow coastal waters north of the Grays Harbor entrance. During surveys

of the north coastal islands between Pt. Grenville and Cape Flattery, during the summers of 1978 and 1979, Marbled Murrelets were often observed. However, these observations were from a Zodiac and were incidental to colony surveys. Marbled Murrelets appear to stay in shallow waters, and within 1 or 2 miles of shore. Comments on numbers are found in the Species Accounts.

Table 1. Projected totals of Pigeon Guillemots and Marbled Murrelets by MESA^a study area subregions, summer of 1978 and 1979.

Subregion			Projected totals ^d		
Number ^b	Area ^c (km ²)	Name	Catalog map area	Pigeon Guillemot	Marbled Murrelet
0101	840.8	Swiftsure Bank ^e	155	0	0
0201	1883.7	Strait of Juan de Fuca (Outer) ^e	155	0	0
0203	5.4	Cape Flattery	155	10	1
0204	4.5	Neah Bay	155	2	4
0205	12.9	Neah Bay to Clallam Bay	155	20	25
0206	3.2	Clallam Bay	155	2	15
0207	20.8	Clallam Bay to Crescent Bay	155/156	80	4
0208	1.1	Crescent Bay	156	15	4
0209	9.0	Crescent Bay to Ediz Hook	156	120	20
0301	1630.8	Strait of Juan de Fuca (Inner) ^e	156	50	10
0302	0.4	Ediz Hook	156	(+) ^g	(+)
0303	10.4	Port Angeles	156	10	0
0304	24.0	Voice of America	156	150	150
0305	4.0	Dungeness Spit	156	15	25
0306	12.0	Dungeness Bay/Harbor	156	40	(+)
0307	21.4	Jamestown	156	90	0
0308	13.8	Sequim Bay	156	15	1
0309	4.8	Miller Peninsula	156	90	30
0310	3.1	Protection Island	156	560	0
0311	37.1	Discovery Bay ^f	156	30	1
0312	10.7	Quimper Peninsula	156	60	3
0313	21.0	Whidbey Island	156	30	10
0314	0.3	Smith Island	156	20	0
0315	5.6	Deception Pass	156	15	10
0316	8.9	Lopez Island (south shore)	156	170	30
0317	3.5	San Juan Island (south shore)	156	2	3
0401	40.9	Admiralty Inlet ^f	156	35	10
0501	73.9	Bellingham Channel ^f	156	80	10
0502	10.2	Guesnes Channel	156	30	20
0503	11.5	Fidalgo Bay	156	3	2

(continued)

Table 1. Continued

Subregion			Projected totals ^d		
Number ^b	Area ^c (km ²)	Name	Catalog map area	Pigeon Guillemot	Marbled Murrelet
0504	80.0	Padilla Bay ^f	156	20	30
0505	66.0	Samish Bay ^f	156	20	60
0506	158.0	Bellingham Bay ^f	156	30	25
0507	16.1	Hale Passage	156	20	260
0601	25.0	Lummi Bay ^f	156	(?)	(+)
0602	14.1	Cherry Point	156	30	20
0603	19.0	Birch Bay ^f	156	30	1
0604	9.5	Semiahmoo Spit	156	1	10
0605	12.8	Drayton Harbor	156	1	5
0606	157.0	Boundary Bay ^f	156	40	340
0607	34.4	San Juan Islands - Northern Tier ^f	156	130	30
0608	288.3	Georgia Strait ^e	156	60	320
0701	16.3	Pt. Roberts	156	10	170
0702	6.1	Tsuwvassem Bay	156	0	2
0703	364.5	Georgia Strait ^e	156	10	110
0801	338.7	Northern Haro Strait ^f	156	150	110
0802	224.4	Southern Haro Strait ^f	156	30	0
0901	123.2	Southern Rosario Strait ^f	156	50	40
0902	83.1	Central Rosario Strait ^f	156	30	2
0903	92.2	Northern Rosario Strait ^f	156	40	10
1001	103.6	President Channel ^f	156	50	10
1002	50.0	Northern Areas ^f	156	5	2
1101	13.7	Speiden Channel ^f	156	20	0
1102	36.1	Northern San Juan Channel ^f	156	1	2
1103	48.5	Southern San Juan Channel ^f	156	4	0
1104	2.5	Wusp Pass	156	3	2
1105	8.8	Upright Channel ^e	156	0	3
1106	32.9	Harney Channel ^f	156	10	10
1107	2.5	Obstruction Pass	156	2	2
1108	0.9	Thatcher Pass	156	1	(+)
1201	6.0	Mosquito/Roche Complex	156	40	0

(continued)

Table 1. Concluded

Subregion			Projected totals ^d		
Number ^b	Area ^c (km ²)	Name	Catalog map area	Pigeon Guillemot	Marbled Murrelet
1202	1.5	Friday Harbor	156	0	0
1203	15.0	Griffin Bay ^f	156	0	15
1205	1.9	Fisherman Bay	156	0	0
1206	4.6	Swifts/Shoal Bays	156	10	5
1207	2.0	Deer Harbor	156	10	2
1208	9.1	West Sound	156	2	0
1209	29.6	East Sound ^f	156	1	0
1210	23.9	Lopez Sound	156	<u>20</u>	<u>5</u>
TOTALS				2,605	1,991

NOTES:

- a. Refers to Marine Ecosystem Analysis Program, National Oceanic and Atmospheric Administration, Seattle, Washington. For full details of this extensive project see Wahl et al. 1981.
- b. These are MESA subregion numbers. Many numbers were assigned during the MESA project. The numbering system was then subsequently extended to cover all marine waters of Washington (Wahl and Speich 1980). Subregion boundaries, although arbitrary, generally follow natural geographic and oceanographic features. Subregion boundaries and numbers are shown in maps on pages 502-507.
- c. The surface area, km², of the subregion.
- d. These are projected totals based on the mean density calculated from all censuses in the subregions in June of 1978 and 1979. The mean density was extended to the Subregion Area to obtain the projected totals. For full details see Wahl et al. (1981).
- e. This subregion consists entirely of offshore waters, greater than 20 m deep. See Wahl et al. (1981) for full details. If no comments are made, the subregion consists entirely or primarily of nearshore waters less than 20 m deep.
- f. This subregion contains nearshore waters and significant proportions of offshore waters. See Appendix A in Wahl et al. 1981 for full details.
- g. Number present indeterminant but probably small.

Table 2. Numbers of Pigeon Guillemots and Marbled Murrelets observed during censuses of Puget Sound nearshore waters, Summer 1982. All nearshore areas were surveyed 100% except for Admiralty Inlet (0401) with only 20% of the nearshore area surveyed and Penn Cove/Crescent Harbor (1402) with only 75% of the nearshore area surveyed.

Subregion Number ^a	Name	Catalog map area	Survey type ^b	Numbers observed	
				Pigeon Guillemot	Marbled Murrelet
0401	Admiralty Inlet	156	B	7	3
0402	Southern Admiralty Inlet	156/175	A/B	43	20
0403	Port Townsend	156	B	71	159
0404	Oak Bay	156/175	B	21	49
0405	Killisut Harbor		B	118	0
1401	Skagit Bay	156	A	6	2
1402	Penn Cove/Crescent Harbor	156	S	88	0
1403	Saratoga Passage	156	A	9	21
1404	Holmes Harbor	156	A	1	4
1405	Port Susan	156	A	5	2
1406	Possession Sound	156/175	A	8	24
1501	Hood Canal Entrance	175	A	28	26
1502	Port Ludlow	175	B	3	1
1503	Port Gamble	175	A	0	0
1504	Northern Hood Canal	175	A	3	10
1505	Central Hood Canal	175	A	0	2
1506	Dabob Bay	175	A	6	17
1507	Quilcene Bay	175	A	0	2
1508	Southern Hood Canal	175	A	2	8
1509	Anna's Bay	175	A	0	18
1510	Great Bend	175	A	3	3
1601	Northern Puget Sound	175	A	10	1
1602	Northcentral Puget Sound	175	A/B	32	4
1603	Central Puget Sound	175	B	15	12
1604	Elliott Bay	175	B	4	0
1605	East Passage	175	A	0	1
1606	Colvos Passage	175	A	1	0
1607	Commencement Bay	175	B	10	0
1635	Dalco Passage	175	B	2	0
1608	The Narrows	175	B	3	2

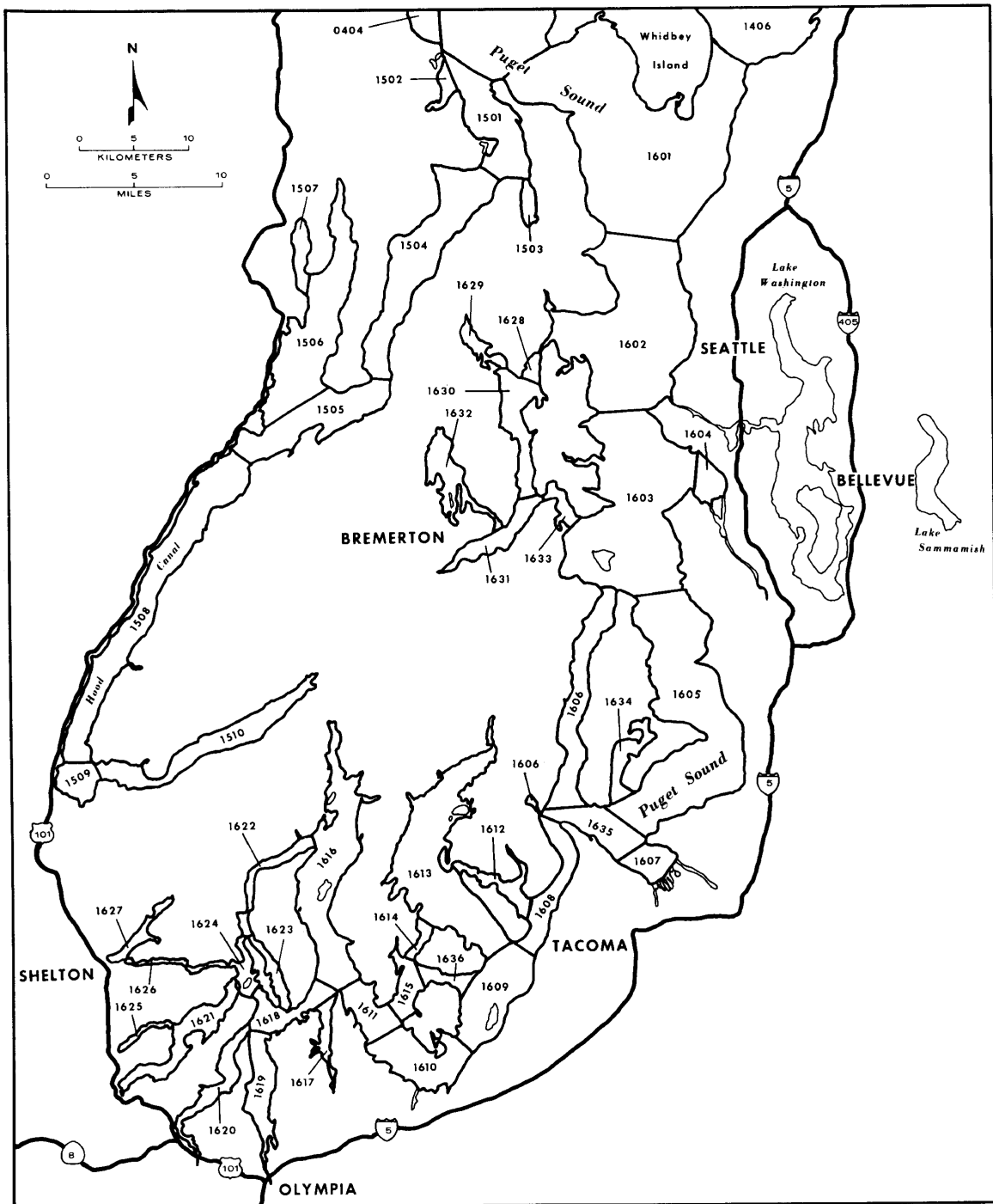
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Table 2. Concluded

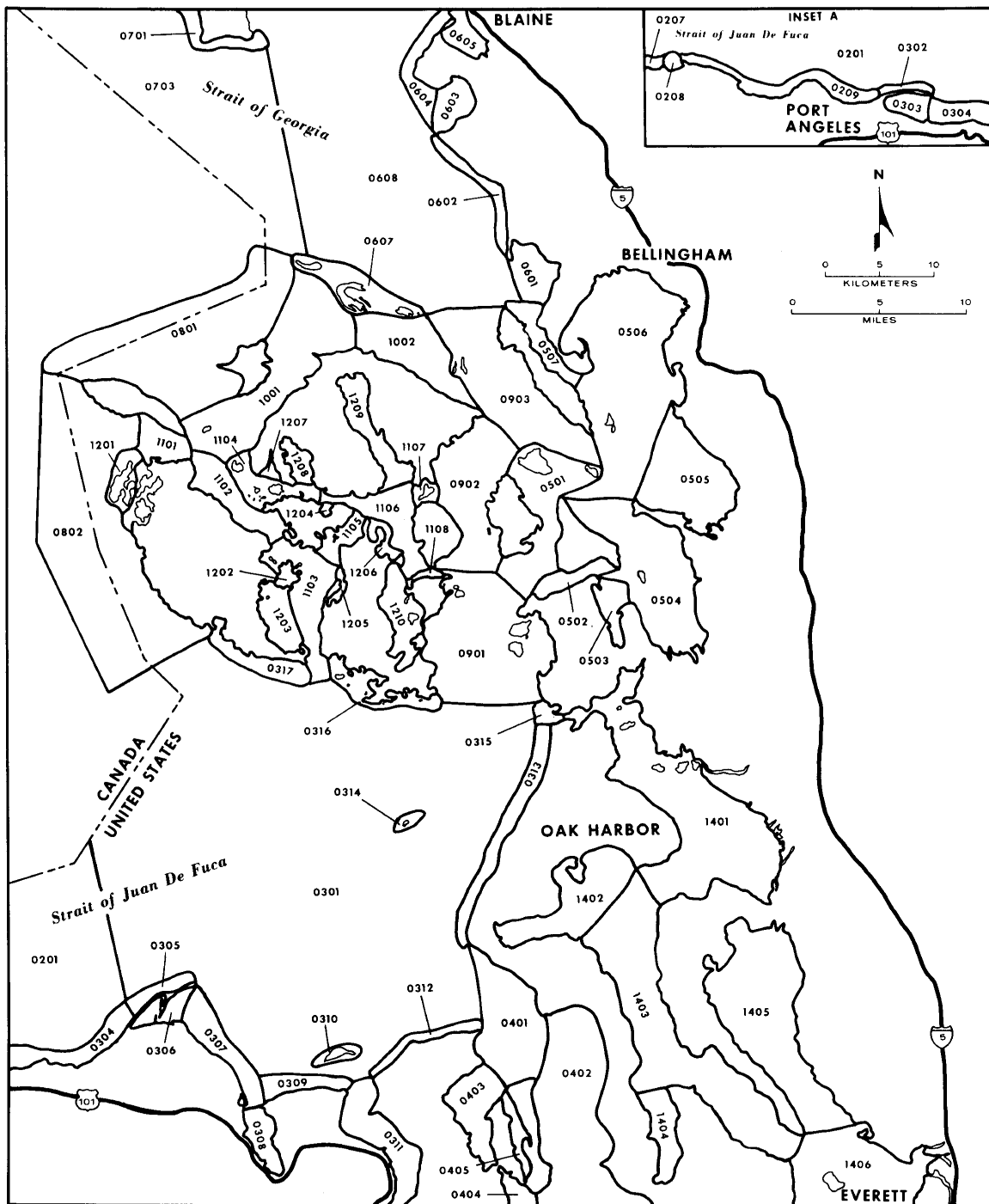
Subregion Number ^a	Name	Catalog map area	Survey type ^b	Numbers observed	
				Pigeon Guillemot	Marbled Murrelet
1609	Steilacoom	175	B	6	3
1610	Nisqually Reach	175	B	28	12
1611	Treble Point/ Johnson Point	175	B	35	2
1612	Hale Passage	175	B	11	0
1613	Carr Inlet	175	B	105	4
1614	Pitt Passage	175	B	18	0
1636	Balch Passage	175	B	8	0
1615	Drayton Passage	175	B	9	4
1616	Case Inlet	175	B	93	5
1617	Henderson Inlet	175	B	12	0
1618	Dana Passage	175	B	9	
1619	Budd Inlet	175	B	36	0
1620	Eld Inlet	175	B	21	0
1621	Totten Inlet	175	B	44	0
1622	Pickering Passage	175	B	8	0
1623	Peale Passage	175	B	11	0
1624	Squaxin	175	B	19	0
1625	Skookum Inlet	175	B	8	0
1626	Hammersley Inlet	175	B	49	0
1627	Oakland Bay	175	B	1	0
1628	Agate Passage	175	B	27	0
1629	Liberty Bay	175	B	20	0
1630	Port Orchard	175	B	46	4
1631	Sinclair Inlet	175	B	8	0
1632	Dyes Inlet	175	B	18	0
1633	Rich Passage	175	B	1	1
1634	Quartermaster Harbor	175	S	<u>3</u>	<u>1</u>
TOTALS				1,153	429

- a. These are MESA subregion numbers. Many numbers were assigned during the MESA project. The numbering system was then subsequently extended to cover all marine waters of Washington (Wahl and Speich 1980). Subregion boundaries, although arbitrary, generally follow natural geographic and oceanographic features. Subregion boundaries and numbers are shown in maps on pages 501-506.
- b. Survey type (observation platform) codes: A = airplane; B = small boat (and Washington State Ferry); and S = shoreline.

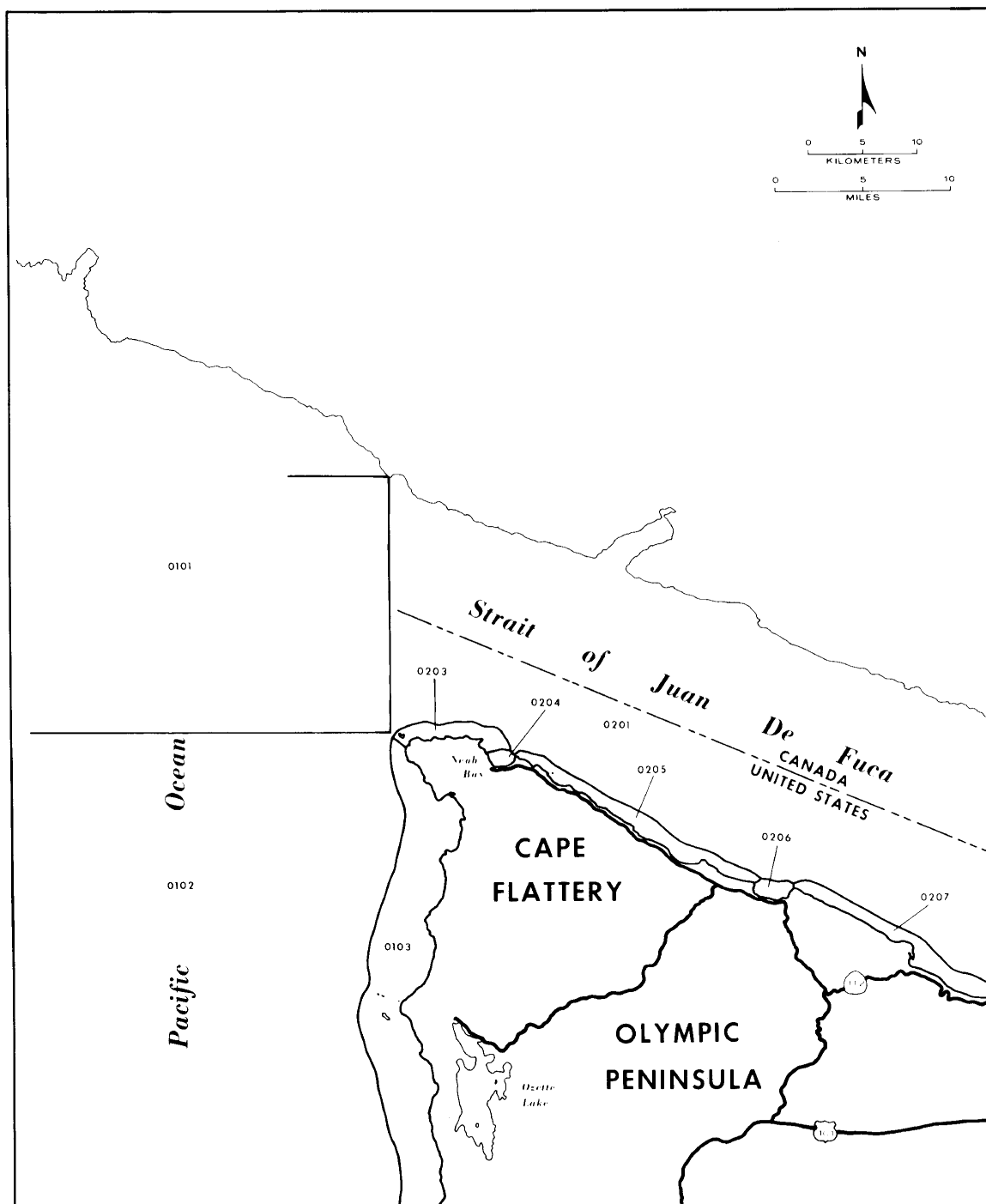
175 SEATTLE



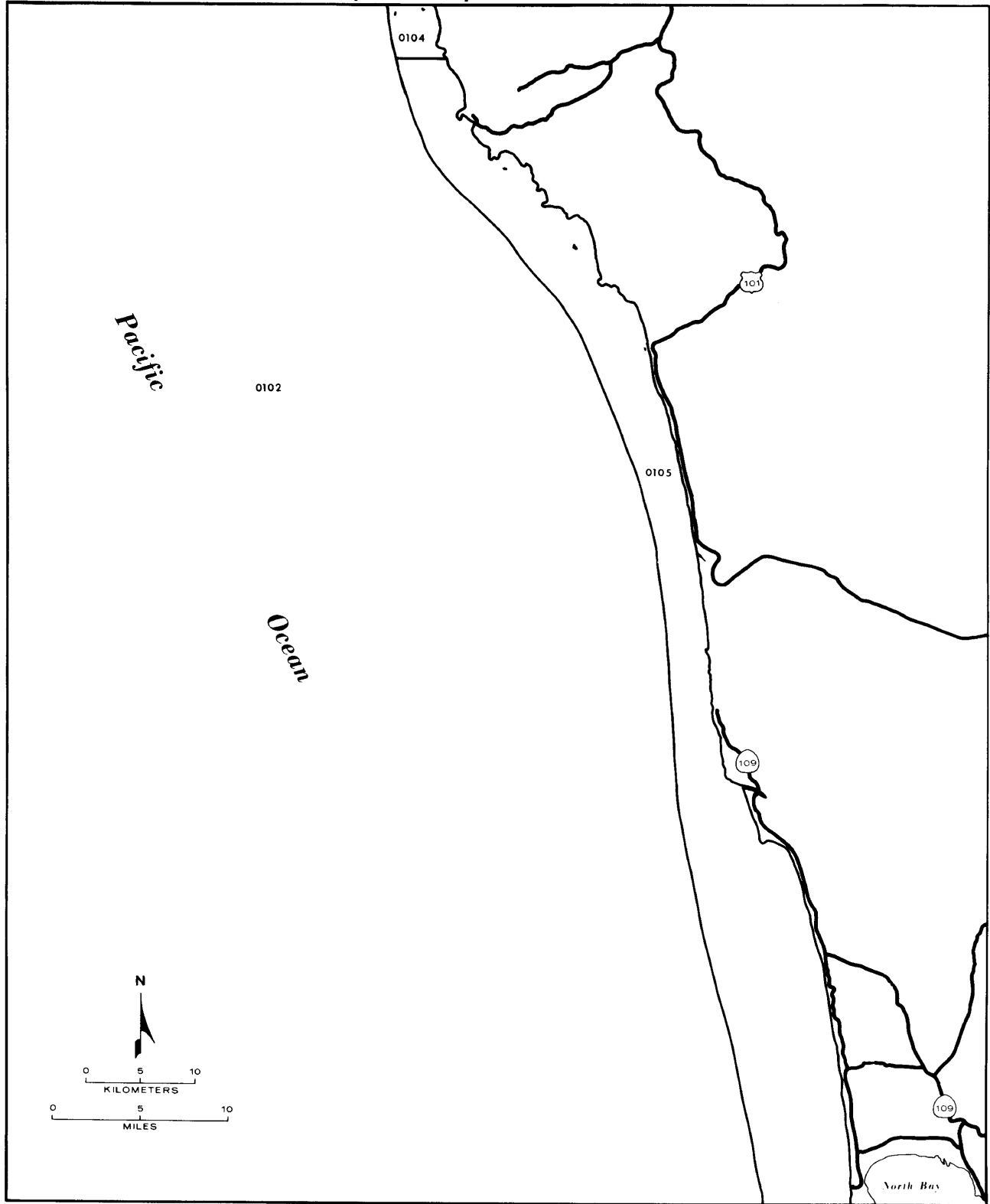
156 VICTORIA



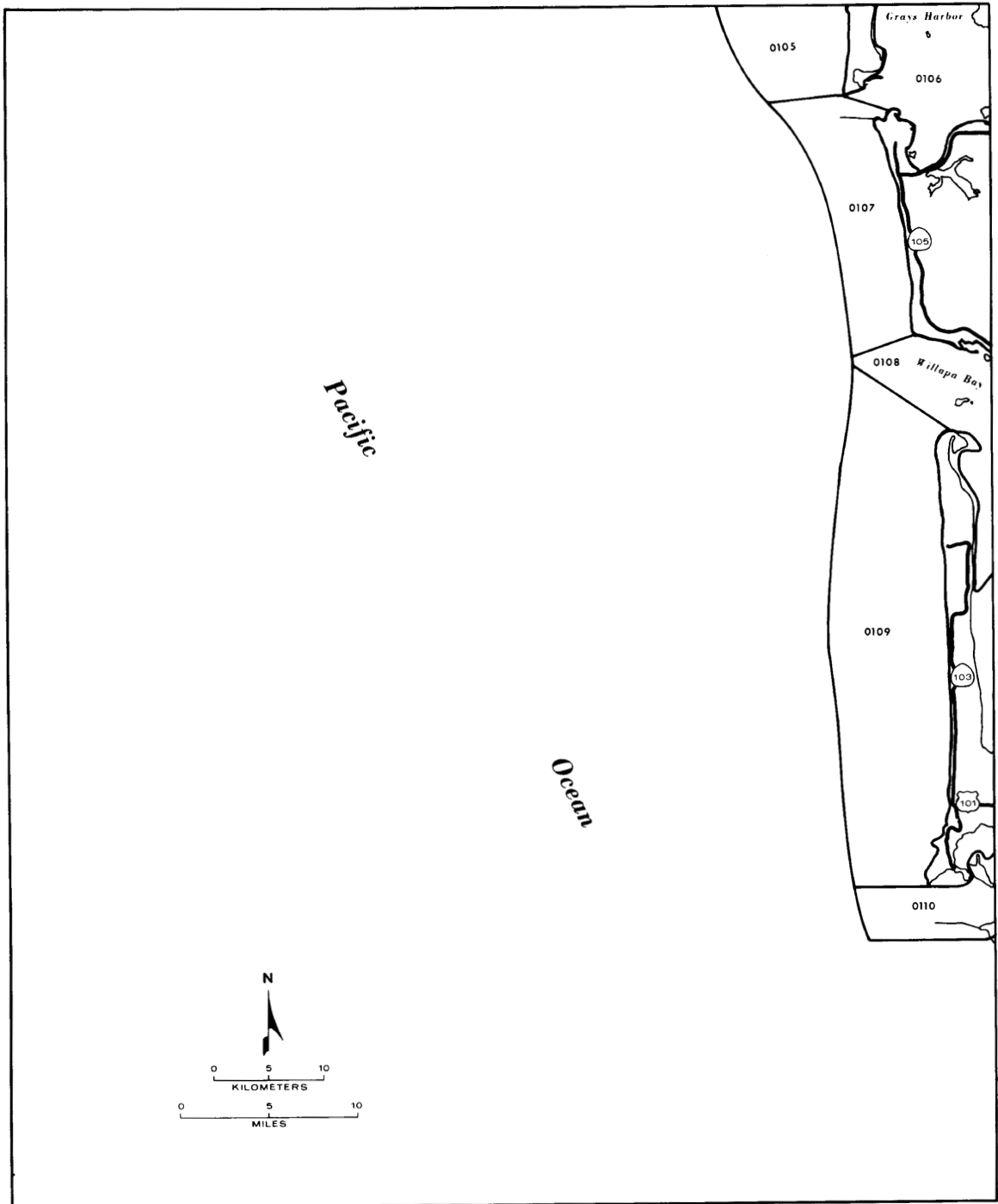
155 CAPE FLATTERY



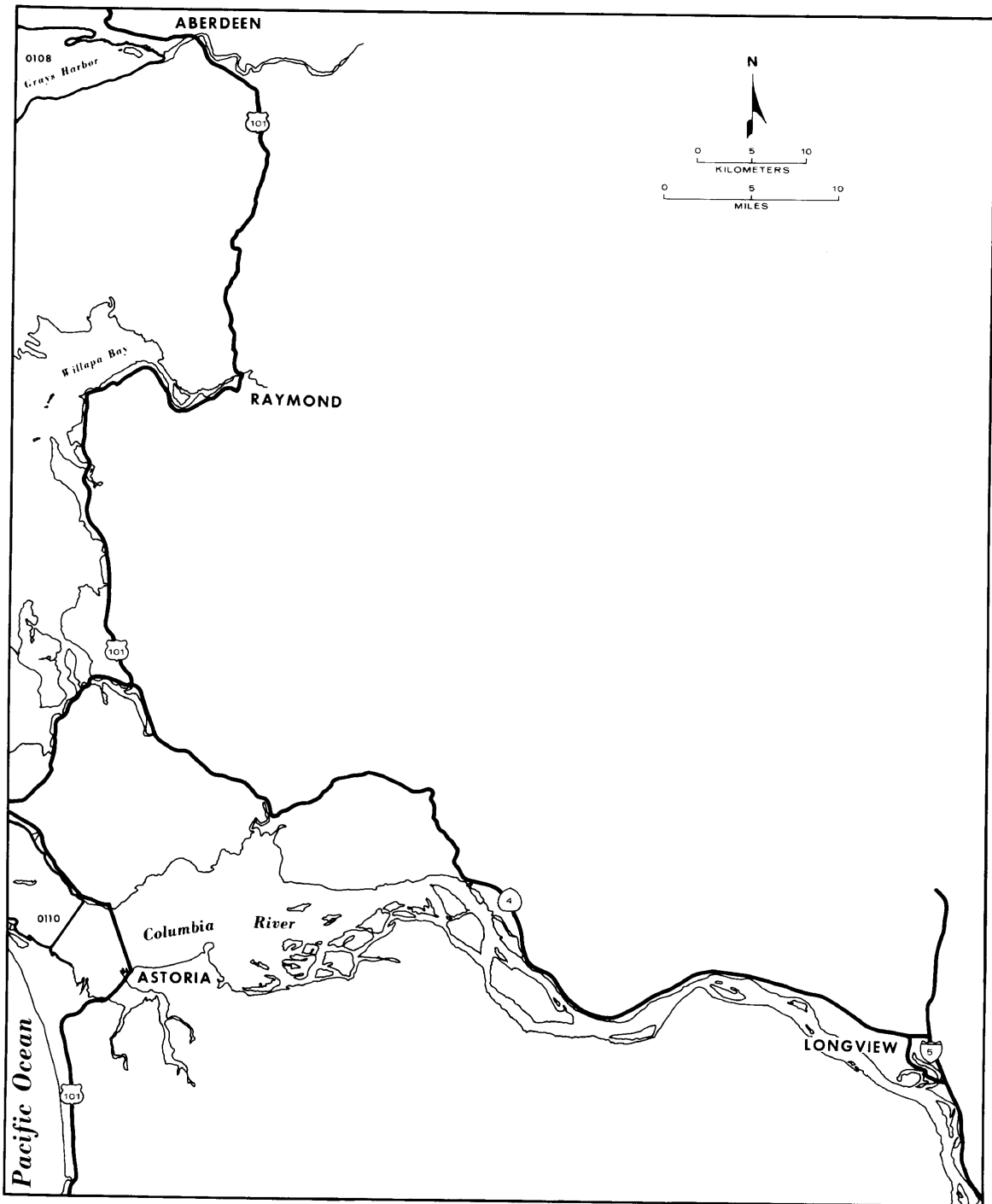
174 (NORTH) COPALIS BEACH



174 (SOUTH) COPALIS BEACH



195 HOQUIAM



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APPENDIX E

AVAILABILITY AND PUBLISHING STATUS OF WATERBIRD ATLASES AND CATALOGS

Most of the listed atlases or catalogs are no longer available from the U.S. Fish and Wildlife Service, but may be found in the Federal Documents section in some libraries under the Superintendent of Documents code I 49.89/2 (see your local librarian for the location of the nearest library designated as a Federal Depository). Most may also be ordered from the National Technical Information Service (NTIS) at a cost (NTIS/U.S. Department of Commerce/5285 Port Royal Road/Springfield, VA 22161).

ATLANTIC COAST:

Erwin, R.M., and C.E. Korschgen. 1979. Coastal waterbird colonies: Maine to Virginia, 1977. An atlas showing colony locations and species composition. U.S. Fish Wildl. Serv. FWS/OBS-79/08. 647 pp. NTIS PB80 147 945

Osborn, R.G., and T.W. Custer. 1978. Herons and their allies: atlas of Atlantic coast colonies, 1975 and 1976. U.S. Fish Wildl. Serv. FWS/OBS-77/08. 211 pp. NTIS PB297 864

Portnoy, J.W., R.M. Erwin, and T.W. Custer. 1981. Atlas of gull and tern colonies: North Carolina to Key West, Florida (including pelicans, cormorants, and skimmers). U.S. Fish Wildl. Serv. FWS/OBS-80/05. 121 pp. NTIS PB82 116 054

FLORIDA:

Nesbitt, S.A., J.C. Ogden, H.W. Kale II, B.W. Patty, and L.W. Rowse. 1982. Florida atlas of breeding sites for herons and their allies: 1976-78. U.S. Fish Wildl. Serv. FWS/OBS-81/49. 449 pp. NTIS PB83 138 438

GULF COAST:

Portnoy, J.W. 1977. Nesting colonies of seabirds and wading birds - coastal Louisiana, Mississippi, and Alabama. U.S. Fish Wildl. Serv. FWS/OBS-77/07. 126 pp. NTIS PB 286 216

TEXAS:

Texas Colonial Waterbird Society. 1982. An atlas and census of Texas waterbird colonies 1973-1980. Caesar Kleberg Wildlife Research Institute, Texas A&I University, Kingsville. 358 pp. (not available from USFWS)

GREAT LAKES:

Scharf, W.C. 1978. Colonial birds nesting on man-made and natural sites in the U.S. Great Lakes. U.S. Army Eng. Waterways Exp. Stn., Vicksburg, Miss. Tech. Rep. 0-78-10, and U.S. Fish Wildl. Serv. FWS/OBS-78/15. 136 pp. + appendixes. NTIS AD A061 818

CALIFORNIA:

Sowls, A.L., A.R. DeGange, J.W. Nelson, and G.S. Lester. 1980. Catalog of California seabird colonies. U.S. Fish Wildl. Serv. FWS/OBS-80/37. 371 pp. NTIS PB81 212 599

OREGON:

Pitman, R.L, J. Hodder, M.R. Graybill, and D.H. Varoujean. 1988. Catalog of Oregon seabird colonies. U.S. Fish Wildl. Serv. Biol. Rep. 88(7). (Unpubl)

ALASKA:

Sowls, A.L., S.A. Hatch, and C.J. Lensink. 1978. Catalog of Alaska seabird colonies. U.S. Fish Wildl. Serv. FWS/OBS-78/78. 153 pp. + appendixes.

UNITED STATES:

Spendelow, J.A., and S.R. Patton. 1988. National atlas of coastal waterbird colonies in the contiguous United States: 1976-82. U.S. Fish Wildl. Serv. Biol. Rep. 88(5). x +326 pp.

REPORT DOCUMENTATION PAGE	1. REPORT NO. Biological Report 88(6)*	2.	3. Recipient's Accession No.
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16. Abstract (Limit: 200 words) This report is a summary of data collected from 1792 to 1982 on the location, size, and species composition of seabird colonies in Washington. It documents more than 440 nesting areas, with a total of more than 300,000 birds, within the marine shoreline habitats of the State. Eighteen species of seabirds are discussed in this report. For each colony described, this report contains a map showing the location and size of the colony and a table with the colony name, location by latitude and longitude, species present, number of breeding birds, sources of information, survey dates and types, and data quality.			
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