

Alaska State Library
Historical Collections

Guide to Collection

Merrell, Theodore R.

Theodore R. Merrell Photograph Collection, 1958-

PCA 450

8 boxes
3668 slides, col.
80 b&w photographs
2 reels 16mm film (*Moved to AV 004 in 2009*)
42 b&w photographs
Published Studies & Correspondence

Processed by:
Kay Shelton 10/2004
Gerald Lopez, 3/2005
James Simard, 12/2006,
9/2007; Anastasia
Tarmann, 2008-2012

ACQUISITION: The first piece of the collection, slides of Southeast Alaska, including, and Juneau and vicinity, 1958-2000, was donated by Ted Merrell in 2004 (Acc. No.s 2004-51, 2004-66). In 2005, he donated slides of the Amchitka and Cannikin drilling site and other N. Alaska areas, and images of Juneau (2005-40). Added in 2006 were mixed media, including moving images and sound tapes related to surveys of Nuclear weapons testing and Alaska towns, and a slide-show titled Nuclear weapons tests and the environment of Amchitka Island (2006-010, 2006-051). In 2008 Photographs and papers documenting the field work of Merrell and other scientists on Amchitka Island between 1969 and 1974 were added (Accession number: 2008-014). In 2009, the Historical Library received slides related to a survey of Aleutian Islands (2009-50), followed by portraits of biologists, and memorabilia from a survey trip, and slides of a Bering Sea biological survey related to drilling (2010-25, 2010-26).

ACCESS: The collection is available for viewing.

COPYRIGHT: Request for permission to publish or reproduce material from the collection should be discussed with the Librarian.

PROCESSING: Slides were numbered and housed in Mylar. The order of the photographs was retained. Most descriptions were taken from the donor notes on the slide mounts. Slide type varies: Kodachrome, Ektachrome, Agfachrome placed in plastic or cardboard mounts. The slides donated in Aug. 2005, arrived sleeved in archival slide protectors. Accession No. 2006-010 included documentation of nuclear weapons testing on Amchitka Island, and was housed as MS228. Photographs and papers documenting the field work of Merrell and other scientists on the biological effects of nuclear testing on Amchitka Island and islands in proximity to Amchitka Dates between 1969 and 1974; described at folder and item level. Most descriptions were taken from donor notes. Photos left in original order and original envelopes, Slides in original Vue-all slide files.

BIOGRAPHICAL NOTE

Theodore Reed Merrell (Ted) was born in Superior, Wisconsin on June 12, 1923. He attended St. Olaf College until 1943, when he served in the Army during World War II. After the war, he completed a B.A. at St. Olaf in 1948 and an M.A. in Zoology and Fisheries at the University of Michigan in 1949. After serving six years as a fishery research biologist for the Oregon State Fish Commission, he became a Fishery Research Biologist in Juneau, Alaska, for Bureau of Commercial Fisheries, National Marine Fisheries Service, working at the Auke Bay Laboratory.

During a period from 1969-1974 Ted Merrell represented the Federal Bureau of Commercial Fisheries on Amchitka during underground tests of the nuclear warhead for the proposed Spartan U.S. Anti-Intercontinental Ballistic Missile System. He reviewed research of the Atomic Energy Commission-sponsored ecological studies, monitored the activities of AEC contractors and recommended measures to minimize harmful impacts on the environment.

He married Doreen Gillett in 1946 and they have four children: Ted III, Bruce, Susan and Melinda.

SCOPE AND CONTENTS NOTE

The slides in this collection document Theodore Merrell's travels throughout Alaska as a field project leader and fishery research administrator. Ted's travels included Bristol Bay, Prince William Sound, Yakutat, the Yukon River, Cordova, Valdez, Aleutian Islands, Katmai, and Southeast Alaska towns and field camps. His field work included base line studies in trans-Alaska pipeline construction and planning areas, and studying the effects of underground nuclear weapons testing on Amchitka Island.

As Ted managed the laboratory and field studies of effects of oil and clear-cut logging on fish and habitats, he documented the work and places. Juneau images include events such as the Fourth of July Statehood parade in 1959, the ruins of the Alaska-Juneau Mine fire, the waterfront, Juneau Cold Storage, ferry scenes, buildings, street scenes, etc.

The collection includes photographs of field work on Amchitka Island, and a slide-show with accompanying text on the subject of nuclear weapons testing and the effect those tests have had on the vegetation and wildlife of Amchitka Island. Additionally, the collection contains later research notes and studies about the cumulative impacts of nuclear testing on Amchitka Island, detonation dates, and other research files and photos on the topic of Nuclear Weapons testing. Two professionally produced motion pictures (16 mm sound) tell the AEC's public relations story; the films were used by Merrell in school programs. A few personal photos of Ted and colleagues, and biographical information were donated by Ted Merrell to the collection as well.

INVENTORY

Box 1

Series I: Alaska cities and villages, 1957-1993

#1 through #146 Planes, airports, aerial shots, and various views of Juneau area, including native village, waterfront, buildings.

1. Pan American Strato-Clipper, Juneau Airport, December 1959. exterior
2. Pan American Strato-Clipper, Juneau Airport, December 1959. exterior
3. Pan American Strato-Clipper, Juneau Airport, December 1959. interior
4. Pan American Strato-Clipper, Juneau Airport, December 1959. interior
5. First Jet - Juneau, March 1962, Pan American Boeing 707
6. Juneau from Pan American 707, April 1963
- 7-9. Pacific Northern Airlines at Yakutat: Lockheed, Constellation, "Connie," 1958
10. Pacific Northern Airlines at Juneau: "Connie," February 1958
11. Helicopter at Subport, May 1959
12. Petersburg, Alaska Coastal Airlines, 1958
13. Ellis Airlines Goose, Juneau, 1967
- 14-16. Governor's Mansion, October 1958
17. Alaska Steamship Dock [in distance], May 1959
- 18-19. Juneau, [Downtown] July 1958

20. Juneau from across Gastineau Channel, October 1958
21. Juneau in distance, January 1957
22. Juneau, January 1957
23. Juneau from Lab. January 1957
24. Juneau, January 1961, A-J Mine Dock
- 15-28. Russian Church, Juneau, October 1958
29. Alaska-Juneau Mine, May 1959
30. Juneau Small Boat Harbor, March 1960
31. Juneau Small Boar Harbor, High School, March 1960
32. Juneau Small Boat Harbor, March 1960
33. Summit, Mt. Juneau, Mt. Roberts, Taku Inlet, November 1959
- 34-39. Climb up Mt. Juneau with Florence Mynarski in November 1959
40. Mendenhall Flats from Mt. Juneau Trail, including Airport, at high tide.
- 41-43. Juneau from Mt. Juneau trail
44. Juneau, July 4, 1959: Vessel "Hyak"
45. July 4th fireworks, 7/4/59
- 46-65. Statehood Celebration and Parade, July 4, 1959
- 66-82. Chilkat Dancers, High School, March 1959
83. Native Village, Juneau, March 1960
- 84-86. Princess Louise, Juneau, June 1960
- 87-90. Rusher shooting, Mt. Roberts Trail, Sixth Street, Juneau, 9/1960. [Boys playing with 22 rifles/one shot and killed]
91. Juneau, radio tower 9/1960
92. Aerial view, Airport, Dredge Channel, Juneau, 1960

93. Sub-port, Juneau, [taken from A-J Dock]
94. Smoke from Sawdust burner, Juneau waterfront
95. Rock Dump, Juneau, Jan. 1961
96. Juneau from A-J Dock, Jan., 1961
- 97-98. A.J. Dock, Scrap from mine, Juneau Jan. 1961
99. Aerial of Juneau, March 1961
100. Aerial of A-J Mine on hill above Juneau
101. Juneau, January 1961
102. Lemon Creek
- 103-105. Juneau Motors Fire, May 1965
- 106-109. Alaska Juneau Mine Tour, July 1965
110. A.J. Mine. Burned. [photo date:] July 1966
111. Aerial of Douglas
- 112-115. Juneau waterfront with fishing boats
116. Juneau ferry dock
117. Juneau ferry dock. Salvation Army, Nov. 1970
118. Juneau ferry dock. Scandinavian Hotel, Home Hotel, Nov. 1970
119. Aerial view of Juneau
120. Juneau across channel
121. A-J Mine, Juneau
- 122-124. Juneau downtown – from distance
125. Thane Road slide area, 5/1971
126. Mine Tailings, Juneau Rock dump, 5/1971
- 127-128. Aerial views of Juneau, May 1971

- 129. Juneau Boat Harbor, May 1971
- 130. Aerial view of State Correctional Institution, May 1971
- 131. Juneau, April 1969
- 132. Juneau bridge, federal building, April 1969
- 133-134. Juneau from water, April 1969
- 135. Coastal-Ellis Air building, downtown Juneau, April 1969
- 136. Owl Groceteria, North Franklin, April 1969
- 137. Don's Photo, Seward Street, April 1969
- 138-139. Skinners Gun Shop, Front Street
- 140. Governor's Mansion from Native Village, April 1969
- 141. House Sign, Indian Village. "Yah-Tah-Hit" April 1969
- 142. Juneau/ Douglas, Jan. 1969
- 143. Mike's Place, Douglas [snowy]
- 144. Juneau from Douglas, January 1969
- 145-146. Juneau Federal Building, Jan 1969

#147 through #474, Juneau Fourth of July Parades, including the July 4th 1959 Statehood celebration.

- 147-150 1966 - 4th of July
- 151-157 1968 - 4th of July
- 158-174 1969 - 4th of July; #159: Governor Keith Miller
- 175-179 1970 - 4th of July; #175: Protestors: "Down with Lawrence Welk", etc.
- 180-199 1976 - 4th of July
- 200-223 1977 - 4th of July
- 224-257 1978 - 4th of July. #250: Red Dog's Hattie Jessup

- 258-298 1980 – 4th of July: Juneau’s 100th anniversary celebration
263: Representative Jim Duncan
284: Senator Mike Gravel
- 299-340 1982 – 4th of July
- 341-378 1987 – 4th of July
- 379-380 1989 – 4th of July
- 381-414 1991 – 4th of July
- 415-456 2000 – 4th of July
- 457-474 1959 – 4th of July: Statehood Celebration in Juneau
- #475 through #1379 Southeast, Northwest coastal, and some interior Alaska towns*
- 475-496 Slides of Juneau and Vicinity taken by Martha Merrell, aunt of Ted and Doreen Merrell while visiting Juneau
- 498-498 Tagish, Yukon, Tagish; Anna’s Pies, 1972
- 499-500 Yakataga, October 1964
501-546 Haines, Port Chilkoot, cannery, ferry dock, barracks, Portage Cove, 1969, 1972, 1985, 2000
- 547-563 Haines: Japanese Log Ship, 1985
- 564-645 Hoonah, Point Sophia, fishing fleet, town, 1971, 1975, 1979
- 646-657 Tenakee native cemetery, graves; grave island, 1974
- 658 “Murre II” Tenakee, NMPS research vessel, 1974
- 659-689 Tenakee, dock, crab boat, 1974
- 690-718 Petersburg, 1961 -1967, 1971, 1993
- 719-744 Ketchikan, 1964 (Coastal-Ellis Main Terminal, water-skiing, fishing fleet)
- 745-757 Ketchikan, 1969 and earlier (Tongass Trading Co., Gilmore Hotel, waterfront)
- 758-769 Ketchikan, 1975-1978 (Pulp Mill, Ward Cove, Sunny Point cannery, ferry dock, airport and “Abnaki” ferry)

- 770-784 Ketchikan, 1982 and 1987 (Ketchikan Pulp Mill, waterfront)
- 785-801 Wrangell, 1979, 1997 (totem, petroglyphs, ferry Columbia)
- 802-815 Pelican, 1987
- 816-872 Sitka, 1958-1959 (PBY landing, Cathedral, Totem Park, National Monument, waterfront, trollers, Pioneer's Home)
- 873-915 Sitka, 1961, 1965, 1971 (plane float, Katlian Street, Silver Bay, Castle Hill and Russian buildings, Pioneer Home, new Cathedral under construction, Totem Park, Pulp Mill)
- 916-944 Sitka, 1997 (Russian house, totems, churches, Pioneer Home, Sheldon Jackson Museum)
- 945 Skagway, 1960 (aerial)
- 946-1002 Skagway (buildings and dock); White Pass and Yukon Railroad (cars, tracks, scenery), 1968, 1971, 1972, 1987
- 1003-1029 Anchorage, Girdwood, Turnagain Arm - July 1964 and July 1965 (Earthquake)
- 1030-1053 Anchorage, 1957, 1969, 1973 (Globemaster crash on Knik Arm, tide flats, Elmendorf, cabins in city center, Lake Hood, airport, aerials)
- 1054-1062 Fairbanks, 1970 (University, Permafrost research, Creamer Dairy, aerials)
- 1063-1079 Circle City and Circle Hot Springs, 1989 (lodge and miners' cabins, placer mining on Steese Highway)
- 1080-1090 Ninilchik village and harbor, 1970 (fishing vessels, church)
- 1091-1108 Kenai, 1970 (church, Tesoro refinery, oil platform, Phillips LP plant, Standard Oil refinery)
- 1109-1153 Kodiak, 1971, 1982 ("Kalakala" as fish processor, ferry, Gibson Cove, National Marine Fisheries Service, Russian church, downtown, museum, fishing vessels, shrimp processing, water front, aerials)
- 1154-1190 Dutch Harbor and vicinity (Unisea, Great Lands surimi plant, bridge, municipal dock, aerials, airport, spruce forest) and Unalaska (church, seamen's monument, bishop's house – exterior and interior, aerials), 1989
- 1191 Annette Island Gooses [airplanes-Grumman Goose]
- 1192 Western & Alaska Airlines Planes (Western)

- 1193 Alaska "Gooses" Airlines
- 1194 Twin Otter turbo
- 1195 Alaska Airlines Twin Otter Turbo
- 1196 Twin Otter- Turbo Prop Alaska Airlines
- 1197 Turbo beaver lumber on floats fish trap
- 1198 Turbo beaver lumber on floats
- 1199 Western Airlines- air fright rough handles
- 1200 Round Air Freight handling western Airlines
- 1201 Air freight - Western Airlines.
- 1202 Twin Otter- Alaska Airlines Twin Turbo Otter
Single Otter- Prince Report Provincial Airlines
- 1203 Fish & Wildlife Service Grumman Gooses Juneau airport
- 1204 Trans-Provincial Airline, Otter, Fish Biologists Return from Prince Rupert.
- 1205 Western Airlines 727- Boeing. Juno [Juneau] Airport, Jan. '71.
- 1206 Alaska Airlines PBY Patrol Bomber, June '68, Petersburg.
- 1207 Alaska Airlines Patrol Bomber PBY, June '68, Petersburg.
- 1208 Alaska Airlines PBY-Patrol Bomber, June '68, Petersburg.
- 1209 Cordova Flats road earthquake repairs
- 1210 Cordova Quake Harbor repairs, June '65.
- 1211 Cordova Quake Harbor repairs, June '65.
- 1212 Cordova, Quake repairs to harbor, June '65.
- 1213 Cordova Boat Harbor, Sept. '60.
- 1214 Boat Harbor Cordova
- 1215 Western [Airlines] & Cordova Airlines Terminal, Cordova. Nov. '58.

- 1216 "Alaska" Bar, Cordova, August '63.
- 1217 Cordova sidewalk [boardwalk], Aug. '63.
- 1218 Skiffs, Cordova, Aug. '63.
- 1219 Cordova garbage truck [in front of] Northern Hotel. Aug. '63.
- 1220 Cordova from "Shrike"
- 1221-1229 Copper River Highway and the Million [Dollar] Bridge, quake damage, Aug. '64.
- 1230-1242 [Cordova Earthquake damage, roads, boat harbor, April, 1964.]
- 1243-1246 [Copper River Highway, earthquake damage, April '64]
- 1247 Childs Glacier, Copper [River], Aug '63
- 1248 Ice deflector, Copper [River] Bridge, Aug '63
- 1249-1251 [Million Dollar Bridge, Copper River. April '65]
- 1252 Wood Canyon damsite, Copper [River], canyon below Chitna, April '65
- 1253 Copper [River] flats, between town and airport, Sept. '70
- 1254 Copper[River] flats- Cordova Airport, Sept '70
- 1255 Copper R. Bridge "Million Dollar Bridge" Aug '63, before quake, T. Merrell.
- 1256 Million Dollar Bridge, temporary caisson, east span repair, July '83
- 1257 Million Dollar Bridge temporary repair, July '23
- 1258-1281 [Million Dollar Bridge, temporary repairs, salmon catcher, etc., July '83]
- 1282-1298 [Miles Glacier, Copper River, July, 1983]
- 1299 Million Dollar Bridge July, '83
- 1300-1301 Miles Glacier, Copper [River], before quake, Aug '63
- 1302 Solomon Gulch, power plant, Valdez
- 1303 Valdez Community College [student beside ca. 20 ft. carving]

- 1304 Port Gravina, PWS [Prince William Sound], April, '63.
- 1305 Columbia Glacier, Sept. '61.
- 1306 College Fjord Glacier, PWS, post-'64 quake.
- 1307-1310 [Views of Yakutat-Situk cannery engines]
- 1311 Yakutat Small Boat Harbor
- 1312 Whittier, 1970
- 1313 [Railroad] Whittier, cars loading for portage, 1970
- 1314 Whittier, 1970
- 1315 M/V Bartlett Ferry, Whittier, 1970
- 1316 Whittier, 10/'63, before quake
- 1317 Whittier [aerial view], July '64
- 1318-1319 Whittier, earthquake damage, July '64
- 1320 Whittier, Aug '64
- 1321 M/V Tustamena, Seward
- 1322 Juneau docks, June '67
- 1323 Juneau Cold Storage dock, power trollers (No Year)
- 1324 Juneau Cold Storage dock, gillnetter June '67
- 1325 Juneau [aerial] Aug '64
- 1326 Juneau Cold Storage, halibut boat, June '67
- 1327 Juneau Cold Storage, June '67
- 1328 Juneau Waterfront, view from ferry, June '67
- 1329 Franklin St. Jnno [Juneau], Jan. '71
- 1330 Jnno [Juneau] Jan '71
- 1331 Sue, Main St., Jnno [Juneau] Jan '71

- 1332-1335 Seward, [ca.] Sept '94
- 1336-1337 Homer, 1970
- 1338-1340 Port Moller Village, 1975
- 1341-1342 Kotzebue, 7/93
- 1343-1344 King I. Fish Camp Woolly [Woolley] Lagoon, 7/93
- 1345 Sled dogs, Teller, July '93
- 1346 Teller School, July '93
- 1347 Teller, July '93
- 1348 Teller, Main Street, July '93
- 1349 Hunting guide, Council, July '93
- 1350 Nome- Pilgrim Springs Highway, caribou legs
- 1351 Council (end of road)], July '93.
- 1352, 1353 Council ford, July '93.
- 1354 Council City, Nome, RR [railroad ruins]], July '93.
- 1355 Council City-Solomon RR Ruins [railroad ruins]], July '93.
- 1356, 1357 [Solomon-Council Railroad] July '93.
- 1358-1360 [Nome miner] July '93.
- 1361 Nome, derelict generators
- 1362 Reindeer corral, Nome-Teller Rd.
- 1363 Recreational gold miner, Nome Beach
- 1364 Nome, Main Street
- 1365 Nome supply barge
- 1366 Dew line, Anvil Mt. (abandoned), 7/93
- 1367 Nome, Icy View Subdivision, from Anvil Mt., 7/93

- 1368 Nome From Anvil Mt., 7/93
- 1369 Nome gold dredge, 7/93
- 1370 Nome gold dredge over-burden truck to uncover gravel
- 1371-1374 Nome gold dredge, 7/93
- 1375 Dew line antenna, Anvil Mt., Nome, 7/93
- 1376 Gold dredge, 3rd bench, Nome, from Anvil Mt., 7/93
- 1377 Nome dredge, 7/93
- 1378 Nome beach from breakwater, 7/93
- 1379 Dredge buckets, Nome, 7/93
- 1380-1418 [Juneau, 1957-1960. *Some published in Alaska Geographic, Vol. 30, No. 2, 2003*]

Box 1, Continued

Series I: Alaska cities and villages, 1958-1984.

Color slides and prints of Alaskan and Yukon towns.

- | | | |
|-----------|------------|---|
| Folder 9 | 1419- 1552 | Cordova |
| Folder 10 | 1543-1549 | Boeing Hydrofoil in Sitka, Angoon, Tenakee, 1984 |
| | 1550-1564 | Prince Williams Sound, 1964, 1970 |
| | 1565- 1581 | Aleutians (Unalaska), 1978, 1985 |
| | 1582- 1596 | Aleutians, 1973, 1985 |
| | 1597- 1613 | Sitka, 1984 |
| | 1614- 1621 | Ketchikan, 1984 |
| Folder 11 | 1622-1653 | Sitka, Petersburg, 1958-1959, 1997 |
| Folder 12 | 9 | Photographic prints Judge Wickersham's court, Eagle, 1985 |
| | 7 | Atlin, 1985 |
| | 7 | Photographic prints Dalton Post, 1985 |
| | 25 | images (2 postcards) Kennecott copper mine, 1994 |

Box 2

Series II: Nuclear Weapons testing and baseline studies, 1969-1972.

B&W Photo prints and slides Amchitka: Long shot, Cannikin, Milrow

- Folder 1 *Nuclear weapons tests and the environment of Amchitka Island*, by Theodore R. Merrell [3 typed pages].
- Folder 2 C-Site (Cannikin) March 1970
- Folder 3 1972, Cannikin Lake, Sandy Cove
- Folder 4 Cannikin ground zero, November 1971
- Folder 5 Cannikin Lake 1972, 1973
- Folder 6 Cannikin Ground Zero April 1972
- Folder 7 Sandy Beach Cove, Falls Creek, Cannikin Crater, Drillback Stie, Teal Creek Fault and Midden
- Folder 8 Long Shot and Milrow [35 slides]
- Folder 9 Constantine Harbor [36 slides]
- Folder 10 AEC Facilities [46 slides]
- Folder 11 Square Bay (Eagle Cove) largest rockfall caused by Milrow [33 slides]
- Folder 12 Cannikin, 1970, 1971 [62 slides]
- Folder 13 Cannikin: Sand Beach Cove and Bering Sea Coast (area of maximum damage) [72 slides]
- Folder 14 Cannikin "C-Site"; Ground Zero, recording trailer park, cable reel building [57slides]
- Folder 15 Cannikin Lake and nearby small drained lakes [46 slides]
- Folder 16 Princeton Aircraft Carrier [58 slides]
- Folder 17 Drilling mud, Site d [39 slides]
- Folder 18 Coastal Geography [139 slides]

The following two reels of 16 mm film were moved from PCA 450 to AV 004 in 2009.

Reel 1, Motion picture: "The Amchitka Program" 24 minutes

Reel 2, Motion picture: Post-Cannikin shoreline surveys

1. Bering Sea Coastline
2. Pacific Ocean Coastline

Box 3

Series II: Nuclear Weapons testing and baseline studies, 1969-2002.

Biological effects of nuclear testing on Amchitka: documents and photographs.

Folder 1 B&W Prints. Amchitka Scuba 1971-72-73, 1969. People: Helle, Barr. Locations: Stump Creek, Sea Otter Pen, Duck Cove.

Folder 2 Research Files and Photos

- 1 Amchitka Stakeholders Meeting Dutch Harbor, April 3-4, 2002.
Amidst Battles and Bombs: Conserving Wildlife and Wildlands on

Amchitka Island, presented by Anne Morkill, Deputy Refuge Manager, Alaska Maritime National Wildlife Refuge

- 2 Laycock, George. *The Beautiful, Sad Face of Amchitka*. Audubon, Nov-Dec, 1963. Expository article about Amchitka wildlife, impacts of WWI on the island, and plans to detonate atom bombs on or near the island.
- 3 List of Detonation dates written out by hand: Milrow 10/2/69; Cannikin 11/6/71; 1972 - all holes sealed abandoned; Long Shot 10/29/65
- 4 Cowals, Dennis – Times Staff Writer. *Atoms and Otters*. Anchorage Daily Times. Tuesday, November 30, 1971.
- 5 Merrell, Theodore R. *Marine Fishery Resources in the Vicinity of Amchitka Island, Alaska*. BioScience (1971), Vol. 21 No. 12.
- 6 Barr, Louis. *Studies of Population of Sea Urchins, Strongylocentrotus sp., in Relation to Underground Nuclear Testing at Amchitka Island, AK*. BioScience (1971), Vol. 21 No. 12.
- 7 Isakson, J.S.; Simentsad, C.A.; Burgner, R.L.. *Fish Communities and food Chains in the Amchika Area*. BioScience (1971), Vol. 21 No. 12.
- 8 Lebednik, P.A. and Tutmark, G.J. *Biological Effects of Fault Disturbance in the Vicinity of Sandia Stateion S-8, Amchitka, AK*. Unpublished paper, Dept. of Botany, University of Washington, Seattle, Sept. 3, 1970. Map and four photos included.
- 9 Lebednik, P.A. *Ecological Effects of Intertidal Uplifting from Nuclear Testing*. Marine Biology 20, 197-207 (1973).
- 10 Letter from Fred Marshall, SRI International to Ted R. Merrell, NOAA at Auke Bay Laboratory. February 23, 1983. Refers to over 300 photos.
- 11 Williamson, Francis S.L. Emison, William B. and White, Clayton M. *Amchitka Bioenvironmental Program Studies of the Avifauna on Amchitka Island, Alaska Annual Progress Report July 1, 1970-June 30, 1971*. BMI-171-134. Smithsonian Institution. Edgewater, Maryland. February, 1972. Prepared for Battelle, Columbus Laboratories under Atomic Energy Commission Prime Contract No. AT (26-1) - 171.

- 12 Shacklette, Hansford, et. All. *Vegetation of Amchitka Island, Aleutian Islands, Alaska: An account of the plant species and plant communities that occur in an oceanic island environment*. Geological Survey Professional Paper 648. 1969. United States Dept. of the Interior, Walter J. Hickel, Secretary. Geological Survey. William T. Pecora, Director.

Folder 3 B&W Prints. Amchitka, NOAA Dive Operations, Cannikin.

Folder 4 Research Files

- 1 Lecture Notice: *Nuclear Weapons Tests and the Environment of Amchitka Island, 1969-1974*. By Merrell, Ted, Jr. UAS, December 8, 2005.
- 2 Handwritten List: Abbreviations and Significant Names in Merrell Correspondence and Report File – Amchitka.
- 3 Turner, Christy G. II. *Archaeological Reconnaissance of Amchitka Island, Alaska*. Arctic Anthropology VII-2, 1970.
- 4 Collins, Henry, et al. *The Aleutian Islands: Their People and Natural History...* Smithsonian Institution War Background Studies Number Twenty-One. City of Washington: Smithsonian Institution, February 5, 1945.
- 5 Guggenheim, Paul. *An Anthropological campaign on Amchitka*. Scientific Monthly, July, 145 issue.

Folder 5 Slides: Semisopchnoi Island (40 miles north of Amchitka). Scuba divers search for a “control” site to compare with Amchitka. One visit only, Sept. 1971. Vessel support “Pacific Apollo.” Pacific Apollo mainly used to deploy instruments around Amchitka and on nearby islands during blasts to measure physical effects. [29 color slides]

Folder 6 Slides, 1971. Amchitka. Boats, Scuba/ Diving, 12 million year old stump. [color slides]

- 1 Notes to accompany Scuba slides
- 2 Boat launch, divers, research, 1969-70
- 3 12 million year old stump, scuba, beach
- 4 Helicopters, scuba, surveys, VIP’s, 1969-1974
- 5 Boats 1, 1969-1971
- 6 Boats 2 (one slide shifted to set, one slide originally in set)
- 7 Boats and Scuba/Diving, 1969-1974

Folder 7 Slides: Amchitka. Plants, Animals, Scenics.

- 1 Flowers, July, 1972.

- 2 Plants, Soils, Geology, 1969-1972
- 3 Critters #1, 1971-1974
- 4 Critters #2, 1969-1982
- 5 Critters #3 (test effects), 1969-1971
- 6 Scenics, 1969-1974

Folder 8 Slides: Amchitka. AEC Facilities. Grafitti. Aircraft/ Airport/Helicopters. Tundra Damage, 1969-1972.

- 1 Reeves Aleutian Airline, Alaskan Air, Fish & Wildlife, Supergoose
- 2 Terminals, schedule to Soviet
- 3 Tundra Damage by AEC
- 4 AEC facilities, Grafitti

Folder 9 Slides: Amchitka-Cannikan Mortatities. Sea Otters, Harloquin Ducks, Sandfish, Rock Greenling.

- 1 Sea Otters, 1969-1972
- 2 Sea Otters, Cannikin, 1971
- 3 Cannikin Dtl mortalities, 11/7/1971
- 4 Cannikin: Fishermen, Sandfish, Sand Beach Cove

Folder 10 Slides: Amchitka. Wildlife. Birds.

- 1 Emperor Geese, various locations
- 2 Birds, 1974-1982
- 3 Rock Ptarmigan
- 4 Eagles

Folder 11 Slides: Nome 1993. Council-Teller-Solomon. Wooley lagoon- Safety Lagoon. Three sets of slides (Items 1-3)

Folder 12 Slides: Amchitka E-Site- abandoned-10 feet diameter; site of largest most devastating mud slide to Pacific Ocean. F-Site-10 feet diameter not used (no nuclear test, but in reserve).

- 1 E-Site
- 2 F-Site

Folder 13 Slides: Amchitka. Creeks. Middens

- 1 Middens
- 2 Bridge Creek, Rifle Range, Clevenger Cr., Jones Cr.

Folder 14 Slides: Amchitka. Emplacement holes. Casing. Drill bits.

Box 4

Series II: Nuclear Weapons testing and baseline studies.

Amchitka slides and slide show presentation of various regions.

- Folder 1 [138 color slides] Amchitka Island, WWII ruins, Quonset huts, Kirilof Point, Constantine Harbor, Cannikin drilling rigs, Site C, ammunition dumps, pill boxes, et
- Folder 2 [Slide Show, 111 slides] NUCLEAR WEAPONS TESTS AND THE ENVIRONMENT OF AMCHITKA ISLAND *lecture and slide show*, by Theodore R. Merrell. 35mm color slides are numbered 1 through 111, and labeled, with additional information written on the slide frames. The slides are the basis of Mr. Merrell's presentation on nuclear weapons testing on the environment Amchitka Island.
- Folder 3 [111 color prints] Color prints made from slide show, with additional information written on the reverse of the prints. Slide show presentation narration is also appended to this finding aid.

Box 5

Series III: Survey work. Chariot, Point Hope, Rampart Dam, Arctic and Yukon River Villages, 1961.

- Folder 1 Map of trips
- Folder 2 32 B&W contact & 8x10 prints [negs.]
- Folder 3 Color photos: 47 3x5 and 16 5x7
- Folder 4 [Binder] 106 color slides

Box 6

Series III Survey work. Bering Sea. Aleutian Islands Litter and Sea Lion.

- Folder 1 {Binder} Bering Sea Survey, 1975
- Folder 2 [Binder] Aleutian Islands Litter and Sea Lion Surveys, June 25-July 16, 1985

Box 7

Series III. Survey work. Middleton Island, Northslope Oil Pipeline Color slides. [In Progress]

Box 8

Series III Survey work. Brooks Station & Katmai, Bristol Bay, Chariot, DDT Arctic, Aleutian Islands, Whitehorse, 1957-1980s [B&W and color slides]

- Folder Katmai, Brooks Lake, 1957-1958 slides, correspondence related to historical Native usage in Native allotment case involving NPS
- Binder #1 Katmai, Novarupta Volcano, Brooks Lake 1957-1958 (88 color slides).
Mixed slides:
- Chariot, 1961 (7 color slides)
- DDT Arctic Survey, 1969 (7 slides)
- Fish & Wildlife Service Picnic and football- 1962-1963 (5 slides)
- Bristol Bay, Traitors Cove, Lover's Cove, Rodman bay -escapement, morpholine experiment, Brooks Station, 1958-1968 (21 slides)
- Aleutians - hydrocarbons sampling, 1975 (7 slides)
- Klukshu R., Klwane R. , Whitehorse area (10 slides, no dates)
- Olsen Bay Field Station, Little Port Walter, Valdez pre-spill, 1959-1980 (12 slides)
- Amchitka 1969-1987 (21 slides)

Box 9

Series IV: Personal Miscellany

Portraits, tickets, mixed slides, Katmai, Brooks Station, Correspondence re: NPS land case

Biographical photographs of Fish & Wildlife colleagues, portraits of Ted, Ted and Doreen
Book: United Kingdom Activities in British Antarctic Territory, 1966-67, by Theodore R. Merrell, Jr. Self-produced Report documenting Mr. Merrell's job as a U.S. Exchange Representative to the United Kingdom under the U.S. Bureau of Commercial Fisheries. Includes color photo prints. Transferred from the Auk Bay Lab depository by Paula Johnson to the Alaska State Library Historical Collectons February, 2012.

Color slides, 2009 slide show of selected work: Chariot, Rampart, and the Hickel Highway, lecture notes, inventory

Box 10

Slides, various subjects. Move to other boxes.

Brooks Lake, 1957-1958

Amchitka

False Pass
Dutch harbor
OCSEAP – Outer Continental Shelf

NUCLEAR WEAPONS TESTS AND THE ENVIRONMENT OF AMCHITKA ISLAND

By Theodore R. Merrell

Amchitka Island, 1300 miles southwest of Anchorage, is one of Alaska's most historically significant places. More than 70 ancient middens along its shoreline indicate that it was once one of the most densely populated of the more than 200 islands that make up the Aleutian Chain. The culture of its inhabitants was complex and highly developed to exploit the abundant marine food resources around the island. Although tree-less, driftwood is abundant for construction of boats, living quarters, tools, and fires. Temperatures are mild, and there are many protected beaches for launching skin boats.

Following Vitus Bering's voyage of discovery of the Aleutians in 1741, free-lance Russian hunter-traders rapidly decimated both the valuable sea otters and the human inhabitants. By 1849 the last permanent settlement on Amchitka had been abandoned, a result of disease and subjugation of Natives throughout the Aleutians.

In 1913, in order to protect the remnant sea otter population and abundant birds, President Taft established the Aleutian Islands National Wildlife Refuge. Amchitka was the centerpiece. Taft's Executive Order stated that "The reservation should not interfere with the use of the islands for lighthouses, military or naval purposes . . .". So the U.S. Military has a legal right to use Amchitka.

Beginning in January, 1943, a major air base was constructed on Amchitka to forestall a Japanese invasion of Alaska. After war's end, thousands of deteriorating structures and other wartime debris were abandoned. Then, during the Cold War between the U.S. and the Soviet Union, the Atomic Energy Commission with the Department of Defense began a series of underground nuclear tests of nuclear "devices", "events", or "shots", as they were euphemistically called.

My Amchitka background is as research coordinator to the U.S. Atomic Energy Commission from 1967 to 1972, representing the U.S. Bureau of Commercial Fisheries. During that period I spent several weeks each year on the island, alternating with another biologist from the Bureau of Sport Fisheries and Wildlife. Our role was to recommend studies of environmental effects of nuclear tests, review reports by other researchers, and monitor and assist in field activities.

The Fish and Wildlife Service first learned of AEC's plans to conduct a series of tests of large nuclear weapons on Amchitka in spring 1967. AEC's plans were already complete and meticulous, including a contract with Battelle Columbus Laboratories to manage all aspects of research to measure environmental effects of the tests. AEC rejected a request by the Service to provide additional funds to support two federal research biologists to review, advise, and monitor ongoing research.

In mid-1967, however, AEC reconsidered its decision after Department of Interior Assistant Secretary for Fish and Wildlife Clarence Pautzke notified AEC that "...if I were queried on the Amchitka Program by National conservation leaders, I would be unable to reply that the present arrangements are adequate" AEC then agreed to part-time support of two U.S. Service research biologists. However, by then field studies were already underway, so we had little opportunity for effective input. On the other hand, once ASC agreed to our participation, we received generally good cooperation.

The first nuclear test, code-named LONG SHOT, was detonated October 29, 1965. It was buried at a depth of 2300 feet and had an 8G-kiloton yield -- the explosive equivalent of 20,000 tons of TNT Its purpose was to distinguish between natural earthquakes and clandestine underground nuclear tests by USSR and China. LONG SHOT caused few surface physical effects but continues to leak low levels of radioactive krypton and tritium.*

In 1966, two much larger and deeper nuclear explosions were scheduled to test the warhead of the Spartan Antibalistic Missile. These tests required construction of facilities for 800 men (no women!) at a cost of \$275 million, \$55 million for the camp alone.

The first Spartan Missile test, code-named MILROW, was detonated October 2, 1969. (Originally named GANJA, until someone discovered that GANJA was the Turkish word for marijuana, suggesting the unfortunate term POT SHOT!) MILROW was buried at a depth of 4,000 feet at the bottom of a shaft five feet in diameter. It had a 1-megaton yield equivalent to 1 million tons of TNT. It resulted in some surface damage within 2,000 feet of ground zero, and created a shallow subsidence crater. Its purpose was to calibrate (duplicate) the largest previous detonation at AEC's Nevada Test site, preparatory to testing the larger weapon.

The second and final Spartan Missile test, code named CANNIKIN, was detonated November 6, 1971. It was buried at a depth of 5,875 feet at the bottom of a shaft eight feet in diameter. It had a 5-megaton yield equivalent to 5 million tons of TNT. A surface subsidence crater 55 feet deep resulted from the collapse of rubble into the 800-foot diameter cavity of vaporized rock at the bottom of the shaft. The surface crater has subsequently filled with water, forming a 30-acre lake, the largest and deepest on Amchitka. Six nearby shallow lakes were tilted and drained by the blast when the ground surface was permanently raised nearly 4 feet.

A third shaft, 10 feet in diameter, was completed but not used. A fourth shaft, 10 feet in diameter, was abandoned before completion.

MILROW killed no sea otters; CANNIKIN killed some sea otters but the number is a matter of dispute. Only 21 dead or injured otters were recovered on beaches after the blast, but several hundred may have died in the water and been blown offshore by winds following a severe storm on the eve of the explosion.

So far, according to AEC, no surface radiation has leaked from either MILROW or CANNIKIN. AEC has sometimes been accused of being less than truthful with the public. In a moment of candor during a radio call-in program in Fairbanks, an AEC information official said, "AEC never lies; we may dissemble, but we never lie." I found this to be true and have no reason to doubt AEC's claim. This was confirmed in 2004-2005 when, on the recommendation of the National Academy of Science, AEC funded an independent study by a consortium of 14 senior scientists

from 6 major universities. They found no evidence of radiation leakage and established baselines for future reference of naturally occurring radiation on Amchitka and nearby Kiska Island.

Recent advances in understanding plate tectonics have raised another concern about radiation products buried on Amchitka: AEC had assumed that Amchitka is geologically stable; but geologists now believe Amchitka is one of the least stable tectonic environments in the U.S., moving westward toward the Asian continent, at a rate of 2 cm per year.

An indirect benefit of the nuclear test program is the publication of studies of biological, physical, and chemical features of Amchitka's environment. One result of these wide-ranging studies is its designation by the United Nations as a Biosphere Reserve, to encourage international research into, and preservation of, plants and animals having unique importance.

Amchitka's ecosystem has reverted to nearly its prehistoric pristine condition. Most of the visible evidences of World War II and the weapons test program have been removed by a \$13 million cleanup program. However, there remains the specter of eventual leakage of radiation to the marine environment or the atmosphere, and westward transport of buried radioactive magma, permanent legacies of the Cold War.