Merrell, Theodore R.

Theodore R. Merrell Photograph Collection, 1958-

PCA 450

10 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
2 discs of digitized slide images

Processed by:
Kay Shelton 10/2004
Gerald Lopez, 3/2005
Anastasia Tarmann, 2008-present

ACQUISITION: Theodore (Ted) Merrell has donated many images and documents related to his work as a fisheries biologist since 2004, mostly created by himself. Paula Johnson, NOAA Fisheries Librarian in Auke Bay donated materials created by Ted and other Scientists as well (See PCA 446: Auke Bay Laboratory, Juneau Alaska, circa 1920s-1980s).

Donations, listed below:


2008: Photographs and papers documenting field work on Amchitka Island between 1969 and 1974 (Acc.#: 2008-014).

2009: Slides related to a survey of Aleutian Islands (Acc.# 2009-50);

2010: Portraits of biologists, and memorabilia from a survey trip, and slides of a Bering Sea biological survey related to drilling (Acc. #2010-25, 2010-26).


2015: Two reels of 16mm films-Little Port Walter, 1961; 11 b&w photos of tree ring; color photo dirt mound and scientists; field notes

2016-007: Photos of Prince of Wales donated by Paula Johnson, Auke Bay Lab

**ACCESS:** The collection is available for viewing. Photographs digitized & available for viewing via VILDA: (1-) 0044-0065, 0103-0105, 0458-0470, 0472-0474, 0477, 0574-0576

**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 item descriptions are from Ted Merrell’s notes. Slide type varies: Kodachrome, Ektachrome, Agfachrome placed in plastic or cardboard mounts. Some of the slides arrived sleeved in Vue-all or original archival slide protectors. Accession No. 2006-010 included documentation of nuclear weapons testing on Amchitka Island; documents are located at MS 228. Items described at folder and/ or item level. Photos left in original order and original envelopes. The collection is grouped into four series. Series are marked with Roman numerals on boxes and folders; however, cardinal numerals substitute for Roman on individual items.
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. 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. In addition, he photographed Juneau, his home base, as well as places throughout Alaska.

An outline of Ted’s fieldwork includes:
As Chief of Salmon Ecology Investigations from 1958-1971:
1961 proposed Chariot nuclear project site baseline study
1961 proposed Rampart Dam baseline study
Trans-Alaska pipeline construction and planning areas
measure effects of underground nuclear weapons testing on Amchitka Island
Aleutian shoreline debris
1969 DDT fish sample survey when he also observed Hickel Highway damage to North Slope tundra.

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. (See Nuclear Weapons Tests and the Environment of Amchitka Island, By Theodore R. Merrell for background information)

Ted married Doreen Gillett in 1946, with whom he had 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. He traveled to Bristol Bay,
Prince William Sound, Yakutat, the Yukon River, Cordova, Valdez, Aleutian Islands, Katmai, Northwestern Alaska, Arctic and Yukon River villages, and Southeast Alaska towns and field camps.

**Arctic Slide Show, 2010, Museum**

Series I: Alaska cities and villages, 1957-1993 (1 box)
Series II: Nuclear Weapons testing and baseline studies, 1969-1972 (3 boxes)
Series III: Survey work (4 boxes)
  - 1961 Chariot, Point Hope, Rampart Dam, Arctic and Yukon River Villages
  - 1969 DDT Arctic
  - 1972
  - 1975 Bering Sea
  - Aleutian Islands Litter and Sea Lions
  - Middleton Island
  - Northslope Oil Pipeline
Series IV: Personal Miscellany (1 box)

**SUBJECTS**

Chariot, Point Hope, Rampart Dam, Amchitka, nuclear testing, Aleutians, Marine debris, fisheries biology, Katmai, Novarupta Volcano, Arctic and Yukon River Villages, Southeast Alaska, Alaska Statehood, trans-Atlantic pipeline, Bering coast, Pacific coast

**INVENTORY**

**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.

**Box 1** Folders 1-12

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

http://www.library.alaska.gov/hist/hist_docs/finding_aids/PCA450.pdf
6. Juneau from Pan American 707, April 1963
11. Helicopter at Sub port, May 1959
12. Petersburg, Alaska Coastal Airlines, 1958
14-16. Governor’s Mansion, October 1958
17. Alaska Steamship Dock [in distance], May 1959
20. Juneau from across Gastineau Channel, October 1958
21. Juneau in distance, January 1957
22. Juneau, January 1957
23. Juneau from Lab. January 1957
25-28 Russian Church, Juneau, October 1958
30. Juneau Small Boat Harbor, March 1960
32. Juneau Small Boat Harbor, March 1960
33. Summit, Mt. Juneau, Mt. Roberts, Taku Inlet, 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
99. Aerial of Juneau, March 1961
100. Aerial of A-J Mine on hill above Juneau

http://www.library.alaska.gov/hist/hist_docs/finding_aids/PCA450.pdf
101. Juneau, January 1961  
102. Lemon Creek  
103-105. Juneau Motors Fire, May 1965  
110. A.J. Mine, Burned, July 1966  
111. Aerial of Douglas  
112-115. Juneau waterfront with fishing boats  
116. Juneau ferry dock  
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  
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. Skinner’s Gun Shop, Front Street  
140. Governor’s Mansion from Native Village, April 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  

http://www.library.alaska.gov/hist/hist_docs/finding_aids/PCA450.pdf
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
   Note: Representative Jim Duncan (# 263)
   Note: Senator Mike Gravel (# 284)
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
547-563 Haines: Japanese Log Ship, 1985
646-657 Tenakee native cemetery, graves; Grave Island, 1974
658 “Murre II” Tenakee, NMPS research vessel, 1974
659-689 Tenakee, dock, crab boat, 1974
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)

http://www.library.alaska.gov/hist/hist_docs/finding_aids/PCA450.pdf
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 miners19 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.
1206 Alaska Airlines PBY Patrol Bomber, June 1968, Petersburg.
1207 Alaska Airlines Patrol Bomber PBY, June 1968, Petersburg.
1208 Alaska Airlines PBY-Patrol Bomber, June 1968, Petersburg.
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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

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

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

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

Box 2
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 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 [57 slides]
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]

Note: two reels of 16 mm film 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

http://www.library.alaska.gov/hist/hist_docs/finding_aids/PCA450.pdf
2 Pacific Ocean Coastline

**Series II**
Biological effects of nuclear testing on Amchitka. (Documents and photographs).

**Box 3**
Folder 19
Locations: Stump Creek, Sea Otter Pen, Duck Cove.

Folder 20
Research Papers

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


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


Letter to Ted Merrill from Phillip Lebenik, Department of Botany, UW, Seattle, 1970.


Folder 21
Research Files


2 Handwritten List: Abbreviations and Significant Names in Merrell Correspondence and Report File—Amchitka.


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.


Folder 22

http://www.library.alaska.gov/hist/hist_docs/finding_aids/PCA450.pdf
Folder 23
Semisopochnoi Island (40 miles north of Amchitka). (29 color slides).
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.

Folder 24
Amchitka. Boats, Scuba/Diving, 12 million year old stump. (68 color slides)
1 Notes to accompany Scuba slides (1 pg.)
2 Boat launch, divers, research, 1969-70 (7 slides)
3 12 million year old stump, scuba, beach (10 slides)
4 Helicopters, scuba, surveys, VIPs, 1969-1974 (10 slides)
5 Boats I, 1969-1971 (21 slides—one on backside of sleeve)
6 Boats and Scuba/Diving, 1969-1974 (20 slides)

Folder 25
Amchitka. Plants, Animals, Scenics. (91 color slides)
1 Flowers, July, 1972. (14 slides)
2 Plants, Soils, Geology, 1969-1972 (19 slides)
3 Critters #1, 1971-1974 (15 slides)
4 Critters #2, 1969-1982 (15 slides)
5 Critters #3 (test effects), 1969-1971 (9 slides)
6 Scenics, 1969-1974 [Rifle Range Point, Constantine Point, Sand Beach Cove, Segula Volcano, Tundra ponds, Intertidal zone, St. Makarins Bay (19 slides)

Folder 26
1 Reeves Aleutian Airline, Alaskan Air, Fish & Wildlife, Supergoose (19 slides)
2 Terminals, schedule to Soviet (6 slides)
3 Tundra Damage by AEC (18 slides)
4 AEC facilities, Graffiti (19 slides)

Folder 27
Amchitka-Cannikan Mortatities. Sea Otters, Harloquin Ducks, Sandfish, Rock Greenling. (55 color slides)
1 Sea Otters, 1969-1972
2 Sea Otters, Cannikin, 1971
3 Cannikin Dtl mortalities, 11/7/1971
4 Cannikin: Fishermen, Sandfish, Sand Beach Cove (2 slides)
1  Emperor Geese, various locations (19 slides)
2  Birds, 1974-1982 (10 slides)
3  Rock Ptarmigan (15 slides)
4  Eagles (7 slides)

Folder 29  Nome 1993.
Council, Teller, Solomon, Wooley lagoon, Safety Lagoon, gold dredges, fish camp, caribou, sled dogs (48 color slides)

Folder 30  Amchitka
1  E-Site- abandoned-10 feet diameter; site of largest most devastating mud slide to Pacific Ocean. (12 slides)
2  F-Site-10 feet diameter not used (no nuclear test, but in reserve). (14 slides)

Folder 31  Amchitka. Creeks. Middens (23 color slides)
1  Middens
2  Bridge Creek, Rifle Range, Clevenger Cr., Jones Cr.

Folder 32  Amchitka. (19 color slides)

Series II
Nuclear Weapons testing and baseline studies.
Amchitka slides and slide show presentation of various regions.

Box 4
Folder 33
Amchitka Island, WWII ruins, Quonset huts, Kirilof Point, Constantine Harbor, Cannikin drilling rigs, Site C, ammunition dumps, pill boxes, etc. (138 color slides)

Folder 34
Nuclear Weapons Tests and the Environment of Amchitka Island, lecture and slide show, by Theodore R. Merrell. (Slide Show, 111 slides). 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, fish, and wildlife, on Amchitka Island.
Folder 35  Color prints made from slide show, with additional information written on the reverse of the prints. Slide show presentation narration. (111 color prints)

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

**Box 5**
- **Folder 1**  Map of trips
- **Folder 2**  Color photos: 47 3x5 and 16 5x7
- **Folder 3**  Arctic, Chariot, Yukon. Goose, August, 1961.  
  (28 4 x 5 b&w contact prints & 31 enlarged 8x10 copy prints, with negatives—some negatives only, some prints only)
- **Folder 4**  Binder: Point Hope, Chariot, Kivalina, Noorvik, Alakanuk, Mountain Village, Kotzebue, Kiwalik, Unalakleet, Bethel, Shaktolik, Huslia, Tanana, Stevens Village, Fort Yukon, Rampart Dam survey, Fairbanks (106 color slides)

**Series III**  
Survey work.  
Bering Sea. Aleutian Islands Litter and Sea Lions.

**Box 6**
- **Folder 1**  Bering Sea Survey, 1975. (Binder: handwritten chronology, 2 articles)
- **Folder 2**  Aleutian Islands Litter and Sea Lion Surveys, June 25-July 16, 1985

**Series III**  
Survey work.

**Box 7**
Middleton Island, Northslope Oil Pipeline. Color slides. [In Progress]

**Series III**  
Survey work.

**Box 8**
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

2 discs of digitized slides of Katmai, 1957-1958, donated to National Park Service at Katmai. Discs sent to Historical Collections by Kathryn Myers.

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)

Kluksu R., Kluane 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)

Series IV

Personal Miscellany

Box 9

1 Fisheries biologists, BCE Field Station, Little Port Walter, 1959 (b&w group portrait, 3 copies). Jerry Reid, Norm Wilimorsky, Dick Meyers, Karl Lagler, Al Kropf, Ted Merrell, Jerre Olson.

2 Little Port Walter BCF Field Station, 1959. Olson’s Living Quarters. Bette Olson, Jerre Olson, Jette Olson, Mark Meyer, Frank Stokes, Ralph Stillman, Jerry Reid, Ted Merrell.

3 Curriculum Vitae

http://www.library.alaska.gov/hist/hist_docs/finding_aids/PCA450.pdf
4 American Institute of Fishery Research Biologists
5 Atomic Energy Commission (AEC) Identification
6 Amchitka Reeve Airways baggage tag
7 Reeve Airways ticket folder for Amchitka Island AEC charter during nuclear bomb tests
8 Portrait of Ted and Doreen Merrell at home, Fritz Cove Rd.
9 *A Valentine Couple Since the Fifth Grade.* Juneau Empire, February 14, 2011
10 Obituary for Doreen Merrell
11-12 Portrait of Ted and detail

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


**Box 10**

Folders 1, 2

Folder 3
Transects sample chart: Dayville Study Area
Hydrocarbon Baseline Survey notes

Slides, various subjects. Move to other boxes?
Brooks Lake, 1957-1958
Amchitka
False Pass
Dutch harbor
OCSEAP—Outer Continental Shelf

http://www.library.alaska.gov/hist/hist_docs/finding_aids/PCA450.pdf
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, freelance 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 the 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 Antiballistic 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

http://www.library.alaska.gov/hist/hist_docs/finding_aids/PCA450.pdf
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.