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Report of Investigation during 4-19 January 1952 of Walrus Mortality on St. Lawrence Island, Alaska

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Introduction:

A newspaper report on 9 November 1951 concerning 200 dead walrus washed ashore in the vicinity of Kukuliak Bay, north coast of St. Lawrence Island, came to the attention of the Animal-borne Disease Branch of the U. S. Public Health Service. This laboratory has been conducting disease investigations on St. Lawrence Island during the past three years and a field trip had been arranged for which transportation was being awaited when the walrus information became known.

Purpose:

To investigate the facts concerning the unusual walrus mortality and if possible to determine the cause of death.

1. General considerations as to probable cause of death:

   a. Epizootic disease
   b. Submarine earthquake
   c. Conventional or atomic explosion

2. Preliminary arrangements:

   a. Information from St. Lawrence Island indicated that the walrus carcasses were frozen in the shore ice and that it would be necessary to use demolitions to uncover them. A request was made to the Alaska Command for demolitions material.

   b. A radiacmeter was obtained for use in checking possible radiation.

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   a. Arrived Gambell, St. Lawrence Island, on 23 December 1951.
   b. Made trip by dog team from Gambell to Northeast Cape and return during 11 January 1952 to 19 January 1952. (See sketch map for route.)
   c. Returned Anchorage 24 January 1952.

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Observations and Information:

1. (4 January 1952) Checked three skulls obtained from walrus found dead in vicinity of Gambell (see map for distribution). Used Radiacmeter IM-63/PDR-27A. Radiac set tested before putting into operation according to instructions contained in "Temporary Instruction Book for Radiac Set AN/PDR-27A, Kelly-Koett Instrument Company, Cincinnati, Ohio," pages 3-1 to 3-3. The specified readings were obtained indicating proper operating condition. Tests on this walrus material gave meter readings on .5 range of 0.2 to 0.4 milliroentgens per hour. These three animals were males, two old adults and one juvenile.

2. (13 January 1952) Second check made, while en route to Northeast Cape, at Camp Ongovewak, half-way between Savoonga and Northeast Cape. This marked the beginning of concentration of walrus washed ashore (see map). A section examined was piece of belly flesh which had been cut from a carcass found earlier by an Eskimo at this camp. It had been stored for dog food. Flesh was badly decomposed, skin shriveled and hair missing. Radiac set gave readings on .5 range of .04 milliroentgens per hour consistently.

3. (Arrived Northeast Cape 14 January 1952) Greatest concentration of carcasses was found in this area extending for a distance of about 10 miles from the Cape northward. The date the animals were washed ashore was established as the 24th of October 1951. Wash-up of carcasses had been preceded by three days of gale-winds from the northeast. No other forms of marine animals were washed ashore at this time. Number of animals, implying a heavy concentration, and a normal sex and age composition of the group of animals, indicated that most probably a single herd of walrus had been affected. Savoonga natives, who have trapping camps in this area, reported 40 carcasses in this general vicinity. Movements of shore ice, since animals first appeared, carried out many of the carcasses except those which had been thrown highest on the beach (greatest distance from water's edge at which carcasses were found was 15 to 20 feet). (See map for distribution of carcasses actually accounted for during time of investigation). Additional observations were as follows:

a. Extremely mild weather during late October and early November caused rapid putrifaction. Carcasses, at the time of this examination, were an almost unrecognizable, amorphous mass. All were covered to a varying degree by beach sand, gravel, seaweed, snow and ice. Ten carcasses were excavated and examined. Decomposition had proceeded to such a degree that pathological study was impossible. Bone material and tissue samples were collected from these animals for purposes of further laboratory study.

b. Heads missing; neck bones protruding from carcasses. Femur and other bones exposed suggestive of explosive force.

Shriveled skin and scarring clearly not characteristic of ice abrasion was noted. Best example of this seen on one section

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of flesh which had a deep smooth gouged-out wound about 10 inches in length, 3 inches in width and 1½ inches deep. This scar had a "seared" appearance as though it had resulted from searing by hot metal.

d. Radiacmeter reading taken over an entire carcass was highest here at Northeast Cape. One count every 5 seconds on the 500 range was obtained. Corresponding reading on .5 range was from 0.10 to 0.15 milliroentgens per hour. Reading on beach in vicinity of carcasses was .05 to .08 on .5 range, and on lake ice about 30 yards behind beach the reading was about .04 to .05 milliroentgens per hour. In view of the overall differential readings obtained with this instrument, the highest readings here seemed to be significant.

e. Tusks, teeth and penis-bones had been removed in all cases prior to investigation. (Penis-bones of the walrus have a tourist curiosity-value).

f. There was no evidence of death due to small arms fire, except for one animal found near Gambell which contained a copper bullet of a type used by the Siberian hunters.

g. There was much evidence of feeding on the walrus carcasses by arctic foxes and ravens.

Information obtained from Eskimo and others first to observe animals soon after they were washed up on the beach at Northeast Cape:

1. From 24 to 36 inches of intestine prolapsed from rectum observed in a number of animals --suggestive of concussion.

2. Profuse blood flow from abdomen noted when wall was opened in effort to remove penis-bone also suggestive of concussion.

3. Flesh of flippers ruptured, with bones exposed.

4. Several animals with heads missing with the neck bones protruding from carcass. Mutilation obviously did not represent attempts by men to remove the ivory.

5. Strong evidence of severe body mutilation when animals first appeared on the beach. Putrifaction later was rapid, the odor becoming so obnoxious in the vicinity of the working parties that several carcasses had been pushed back into the sea by the use of a bulldozer.

6. One man reported the presence of barnacles, occurring on the tusks he had removed from one of the dead walrus. (This organism undoubtedly became attached during the time the animal was submerged after death).

7. No photographs were taken depicting the original condition of the animals at the time they were washed ashore.

/s/

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