

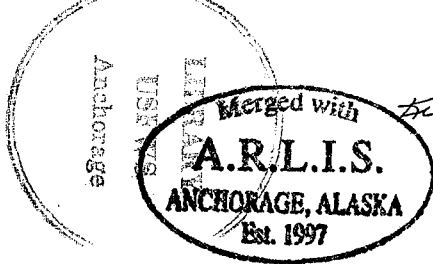
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US FISH & WILDLIFE SERVICE--ALASKA



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GOVERNMENT
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ional Director, BSF&W, Portland, Oregon, ~~March 26, 1970~~

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SUBJECT: Bird kills from oil contamination in the Gulf of Alaska
February-March 1970

oil bird species?

It is now clear that a major bird kill of serious proportions has occurred in the Gulf of Alaska as a result of oil floating on the water. The FWPCA in Anchorage is investigating the matter and new information is coming to light almost daily. Presumably we will have access to the final FWPCA report so no attempt will be made here to cover the whole story. With Clay Crawford I attended two hearings conducted by the FWPCA Commissioner and spent a day collecting oil-feather samples on one beach at Kodiak. In addition I have consulted with a number of people regarding this matter and have followed the newspaper accounts. I feel that the problem is not being properly investigated or interpreted by ornithologists and that neither our own Bureau, the FWPCA, the news reporters or the public are fully aware of the implications in what has occurred.

The Gulf of Alaska

The Gulf of Alaska includes some 300,000 square miles of coastal and open waters. The biological richness of these waters is attested by the fact that Kodiak village is number two behind San Pedro in the value of annual fish landings at United States ports. In addition to the American fishery huge Soviet and Japanese fleets operate in these waters each year recovering millions of tons of whales and fishes. Sea otter, sea lions and seals are numerous in these waters. A major portion of the Pribilof fur seal herd uses a staging area near Kodiak for some weeks immediately preceding their return to the breeding Islands each spring. Birds use these waters by the millions.

Water currents in the Gulf follow a counter clockwise pattern (see map). Tide action, winds and other factors cause eddies and tide rips at various places along the coast that are largely uncharted.

I know of no American bird studies in the Gulf of Alaska but Russian scientific vessels have occasionally carried ornithologists. V. P. Shuntov reporting in the Russian "Zoological Journal", Volume XLV, Edition 11, 1966 reported an average of 27 sea birds per square kilometer wintering in the Gulf of Alaska. Most of these were Gulls and Alcids. We don't know

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the size of the sampling area or of the sample. If this data is true for the entire Gulf, we are dealing with a population of some 18 million wintering pelagic birds. Lacking any better figures we must assume this is substantially correct.

Shuntov's surveys were generally off shore and he states few ducks were seen. We know, of course, that scoters, goldeneyes, eiders, harlequins, old squaws, scaup, mergansers, mallards and Emperor geese are very common wintering species close to shore. Again we have no data on where these birds nest but can assume that they move north into Bering Sea and across the Siberian, Alaskan and Canadian Arctic. Refuges are doubtless involved.

A large segment of Pacific Flyway waterfowl move across the Gulf of Alaska during migration periods. These include whistling swan, cackling geese, black brant, pintails and many other dabbling and diving ducks. A vast array of other water birds follow the same pattern. In summer these waters are occupied by huge numbers of non breeding birds, some of which are too young to breed and some that breed in the tropics or southern hemisphere at other seasons such as albatross and shearwaters.

A detailed review of the literature on each species of birds found in the Gulf of Alaska at some period in the year might shed some additional light on the pattern of bird use there but would also support the thesis that we know virtually nothing about the magnitude and quality of the bird fauna involved.

The recent incidents that have collectively been termed the "Kodiak Oil Spill"

Reports of oil on the beaches, on seals and on fishing gear began accumulating in late February and resulted in an investigation by FWPCA Commissioner David Dominick on March 11-14. It has been already announced by FWPCA that at least 10,000 birds had died on Kodiak beaches and that possibly as many as 100,000 birds had been killed. Subsequently oil was found on beaches on the lower end of the Kenai Peninsula and on Montague Island essentially doubling the miles of shoreline originally believed to have been contaminated and presumably doubling FWPCA's bird kill estimate. As far as I know, no investigation was conducted on the mainland west of Kodiak but there was some thought that the problem might extend in that direction.

On March 12 Clay Crawford and I inspected a beach in Gibson Cove at Kodiak. One oiled bird carcass was found that appeared to be a mallard. Along the mid tide line on the beach we found several hundred small globs of sticky tar like oil. These globs of oil, with few exceptions, were formed around feathers. In some cases clumps of feathers had been pulled from birds and in two cases pieces of skin still clung to the feathers. Feather shafts stained by oil were found in the grass near the top of the tide. We concluded that the birds from whence these feathers came had died at sea and had decomposed and been broken up by wave action before being blown ashore in bits and pieces. Once on the beach this oil which was extremely sticky stuck to rocks, began to gather sand, rapidly fragmented and disappeared probably as a result of wave action, leaving only the larger feather shafts at the top of the beach. Estimates of the number of birds or species that had

come ashore on this beach during the past weeks were not possible. We did conclude that the material was still coming ashore probably with each tide.

There were a dozen or so ducks in Gibson Cove indicating that the kill had not been a "clean sweep". Birds adjacent to the beach may have fared better than those farther out.

Reports from other observers in the area indicated that the evidence on the beaches was rapidly decreasing.

The oil was thought to have come from crude oil tankers headed for Cook Inlet pumping ballast at sea. Something more than one tanker a day arrives in Cook Inlet. Several weeks of steady southeast winds are credited with blowing oil ashore that normally would disappear at sea. Other sources of oil were not ruled out.

Discussion

Any discussion of this situation now must be premised by three facts: 1. The FWPCA investigation is not complete and additional pertinent information may be forthcoming. 2. Oceanographic and biological information on the Gulf of Alaska, particularly regarding birds, is very superficial and incomplete. 3. There are almost no residents along the beaches of this area and this is the most inactive time of year for fishermen, so that eye witnesses are very scattered and few.

In spite of the lack of information we can speculate that a very bad and serious condition occurs in the Gulf of Alaska as far as birds are concerned. Crude oil shipments from Cook Inlet have been going on for ten years or so and each year the number of tankers has increased somewhat. We have no indication that ballast pumping procedures have changed any during this time. It seems likely that oil so discharged normally gathers in eddies and tide rips where it wafts about and eventually decomposes or sinks without ever reaching shore. Birds caught in such oil normally decompose at sea and are seldom seen on shore although there are a few past reports of oil on beaches. The unusual winds this winter brought the oil onto the shore. If this is so then it was the unusual winds that account for the "incident", and the oil at sea and dead birds are a continuing fact that has been with us for several years. There is a distinct possibility that not thousands but millions of birds have died in the Gulf of Alaska and that a significant portion of the boreal bird fauna is being exterminated. At present who can say if this is happening or not?

We must not overlook the fact that some land birds are in jeopardy, particularly bald eagles. Birds make up a substantial portion of the eagles diet, particularly in winter. Eagles constantly check bird flocks and immediately direct their full attention to any that are weak or injured. A bird weakened or struggling with oil would be singled out for consumption by any nearby eagle or any other predator for that matter. The consistency of the oil found at Kodiak was such that an eagle getting it on his beak would be in serious trouble. It could coat his nostrils and result in

suffocation very easily or coat the mouth rendering further feeding impossible. The affect on talons and feathers might be just as fatal. Eagles are numerous along the entire shore of the Gulf. One dead eagle was picked up and I understand it is being autopsied.

Misconceptions - Newspaper accounts and discussion with a variety of people indicate some real misconceptions about the problem of oil pollution in the water and the relationship to birds in Alaska. Some of these are as follows:

1. The papers and the Coast Guard have indicated the problem revolved around oil on the beaches. This I assume stems from the fact that swimming beaches and a very vocal group of resort owners were involved in both the Torrey Canyon and the Santa Barbara spills. To these people if winds kept the oil at sea there was no problem. For the fauna of the sea, however, for some of which our Bureau has a primary responsibility, the problem begins when the oil hits the water and continues as long as oil floats or is present on the bottom. Any oil that washes up on the beach is of only minor consequence and that may be the best place for it.

2. The notion that oil damage to feathers is the primary problem to birds is actually only part of the story. The oil found at Kodiak was so sticky that a bird getting it on its nostrils could suffocate in minutes or getting it in its mouth could lose the ability to feed and starve. Small portions of oil swallowed as a result of cleaning feathers or of consuming oily food items could be poisonous. Even very small amounts of light weight oil deposited on eggs by incubating birds can affect the oxygen intake of the egg and prevent it from hatching. The effects of oil in a water habitat may well be detrimental long after the easily observed evidence is gone.

3. There has been an implication that because no heavily hunted species or endangered species are involved the problem is not serious. We do not know the value of the birds we are losing, in fact the oil cover was so complete or the decomposition so extensive that it was largely impossible by cursory examination to tell what species were killed. We assume many of the birds were of the Alcid family which are not used by white men but which are of importance to and legally taken by Eskimos in the summer. The nesting places of these birds are largely protected by National Wildlife Refuges. The birds are protected by International treaty. We do not really know whether heavily hunted species such as black brant or pintails are not or will not be involved. We do not know of any "rare and endangered" birds that might be involved but there may in fact be some unidentified endangered species involved. One might say that any species using the Gulf of Alaska, no matter what its present number, is endangered. The fact remains that we cannot in good conscience "write off" the Gulf bird kills as of no importance to man.

4. At the Anchorage and Kodiak hearings it was repeatedly brought out that if the oil was pumped beyond 50 miles from shore no law was violated. Unusual winds could be blamed for upsetting an otherwise acceptable operation. It is not legal, however, by deliberate human action to kill birds protected by treaty. To kill protected birds unwittingly is no more legal than the planned killing of them. There is both a moral and legal obligation to let these creatures live. No operation that is killing birds at sea should be considered acceptable.

5. Throughout the investigation of the dead birds found at Kodiak the matter was referred to as an incident. That weather conditions brought the dead and fragmented birds ashore where they were found may be an incident all right. But the death of birds in the Gulf of Alaska may very well be a continuing thing that has been going on for several years and will continue until there are no more birds in the area. Occasional incidents of the birds washing ashore and being found will not tell the story. Like the Pleistocene mammals whole races and species may disappear leaving only clues as to what happened.

6. The entire pattern of northern water bird migration and distribution is little understood by the American public, the conservationists, the bird watchers and is only superficially known to science. The flyway concept has become well imprinted on the average American. We tend to have a picture of birds moving generally north and south in regular corridors from limited wintering areas to vast northern wilderness or semi-wilderness nesting areas. It is not well known that birds of the tropics are largely land forms and that as we move north water forms become the dominant type; that many of these species have huge wintering ranges in the seas and estuaries and crowd into relatively or extremely limited breeding habitat and that a large number of Arctic birds, typified by the eiders, seldom or never move south into the belt of maximum human population. An awareness of the northern and Arctic bird fauna is not a part of the current public preoccupation with "environmental" and "ecological" problems. There is little knowledge of the great Bering Sea bird production areas protected by the National Refuge system including the Pribilof Islands, Clarence Rhode, Nunivak, Cape Newaham, Izembek Bay, the Aleutian Islands and others. That these refuges would collectively show bird use days and waterfowl production far in excess of the rest of the United States Refuges put together is not known. Few know of the great bird migration that follows the Alaskan Arctic coast to populate much of the Canadian and Siberian Arctic in summer. Even most Alaskans are unaware of these things and have given little thought to what a constantly replenished oil supply in the coastal waters will do.

Recommended Bureau Action

There are several things the Bureau could and should do now. Dead birds of course have been making the news. Questions we cannot answer are beginning to be asked both by officials in high places, such as the FWPCA Commissioner and by reporters and citizens. As oil "incidents" persist and increase so will the questions and if not answered properly criticism will follow. Several lines of action are indicated.

1. First an effort should be made to see if oil does accumulate in eddies off shore in the Gulf of Alaska and what birds are present and could be affected. This might be accomplished by a series of flights criss crossing the shipping lanes at 150 feet elevation. If oil does accumulate off shore so too would garbage, driftwood, other trash and the carcasses of dead birds and animals. Such flights might not show the quality of such trash and possibly a follow up by boat would be required to see if oil and feathers do accumulate with other drift.

It would be well to do these things to coincide with the major bird migrations and the fur seal staging. Any time in April would be a good time.

The Bureau lacks suitable aircraft or boats for such a program now. The Coast Guard on the other hand has the equipment and a responsibility in these matters but lacks trained observers. It seems likely that the Coast Guard could provide the flights with BSF&W, ECF and FWPCA observers.

2. When the FWPCA report is in and any follow-up observations as indicated above are done, it would seem to be most advantageous for our Bureau to issue its own press release on the matter. An effort should be made to dispel some of the misconceptions listed herein and to properly orient the problem of birds and oil for the increasingly eager public consumption. The tendency of politicians and industry people to consistently downgrade oil problems because easily visible evidence is lacking should be recognized and refuted.

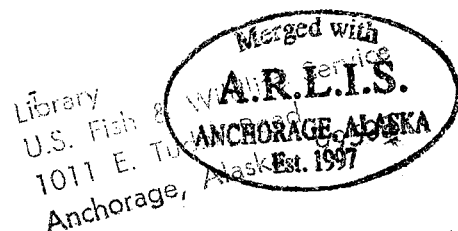
3. The legal aspects of dumping oil at sea in areas where protected migratory birds are known to be affected should be fully explored. Although the shipping lanes to Cook Inlet are largely in International waters the ships involved are primarily American. Perhaps an administrative regulation could be drawn up for protecting bird life in this area. Perhaps Congressional action is needed. In any event any implication that killing migratory birds at sea is legal should be refuted. Steps must be taken to halt this bird destruction and to stop the flow of waste oil into the water or else our treaties with Mexico, Canada and Japan become a mockery.

4. Looking farther ahead the Bureau should establish an ornithological program in Alaska to do research, formulate management plans and answer questions regarding birds from a firm factual footing. Such a program could be handled within the M&E Division, the Refuge Division or the Research Branch or a combination of all three. A full time ornithologist should head the program.

Some interest in Alaska's coastal birds is generating on a piecemeal basis. The University of Alaska has a proposed project at Point Barrow for studying the eider migration, the M&E Division is planning some banding on the Arctic Slope and the TAPS is sponsoring some environmental studies by Interior Agencies. Such activities will help provide some information but should not be considered relief by the Bureau from its overall responsibility to protect the bird fauna. There is no question that in the years ahead the public will expect and demand a firm Bureau program. We still have a bit of lead time to get a coordinated program going. The cost would not be great but the benefits from starting now both to the Bureau, the birds and the public would be immeasurable. When the day comes, and it will, that a million oily birds wash up on an Alaskan beach attracting photographers from around the world let us not be caught gazing off in the other direction.

Jim King

Jim King



THE ALASKAN STREAM

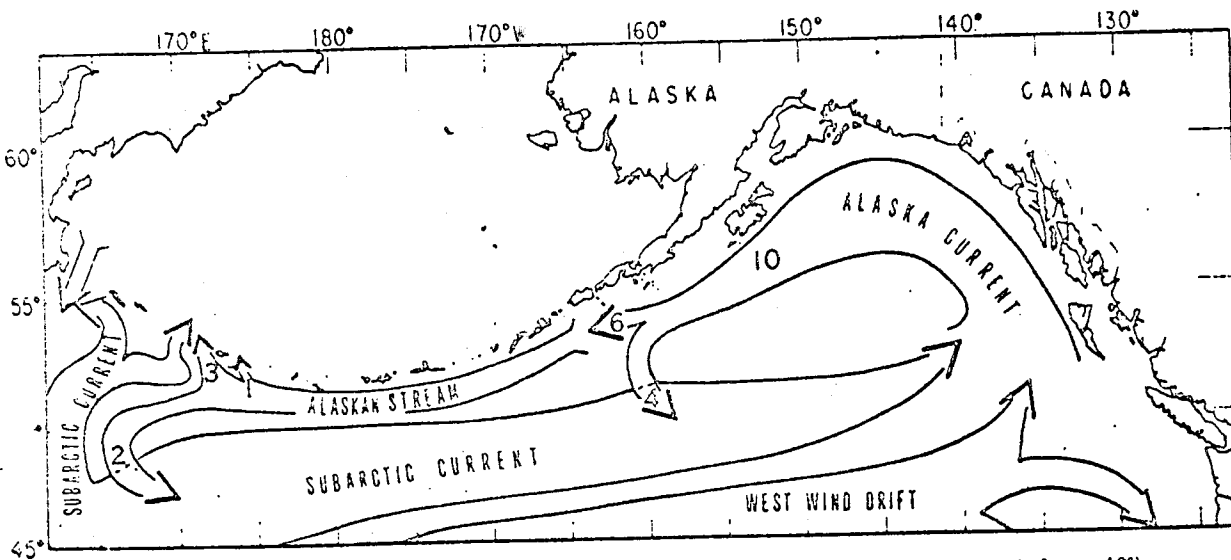


FIGURE 27. Schematic diagram of the Alaskan Stream. Numbers indicate volume transport ($\text{m}^3/\text{sec} \times 10^6$) referred to the 1000-m level.