



United States Department of the Interior

IZEMBEK NATIONAL WILDLIFE REFUGE

P.O. BOX 127

COLD BAY, ALASKA 99571

(907) 532-2445

IN REPLY REFER TO:

August 7, 1995

Mr. Gary S. Liepitz
Habitat Biologist
Alaska Department of Fish and Game
333 Raspberry Road
Anchorage, AK 99518

ALASKA DEPT. OF
FISH & GAME

AUG 9 1995

REGION II
HABITAT AND RESTORATION
DIVISION

Dear Mr. Liepitz:

As a followup to our discussions regarding commercial guiding on Izembek Lagoon, I reviewed the Supplemental Memorandum of Understanding (SMOU), copy enclosed, for the cooperative management of Izembek National Wildlife Refuge (NWR) and Izembek State Game Refuge (SGR). I would like to take this opportunity to consult with the Habitat Division on provisions of special use permits (SUPs) we issue for land use of Izembek NWR that would affect the use of Izembek SGR.

We feel that certain areas of the Izembek Lagoon are susceptible to high human caused disturbance of the migratory bird resource, in excess of what should be occurring. During periods of flooding tides (low to high) brant intensively feed progressively closer to shore as eelgrass beds become inundated. This is typically a narrow window of a few hours for intensive feeding. Human disturbance from boating occurring at these times displaces birds to areas which are less desirable for feeding, and/or promotes an earlier departure to roosting sites (see the enclosed issue paper).

Steller's eiders, a species of management concern, demonstrate seasonal fidelity for certain areas of Izembek Lagoon while undergoing wing and body molt. This is an energetically demanding period for these birds and repeated human (boating) disturbance could have adverse impacts by displacing portions of the population to less remote and/or less suitable foraging areas.

We believe at present there is reason for added concern due to the inquiry by three (3) individuals who have expressed interest in Izembek SGR and NWR for the purpose of guiding waterfowl hunters. We have observed during past years that boating activity by commercial guides generally is at times of high tide due to the ease of access. The refuge staff believes a conservative approach is needed to avoid the "sudden" realization that human caused impacts have become excessive.

We are proposing to limit boating access, for commercial guides, in portions of the lagoon through the use of Service SUPs. SUPs are required for commercial operations

gave copy to Terry
(ABR) on 10-8

utilizing any portion of a National Wildlife Refuge. I am enclosing what we propose to use as our special conditions for commercial waterfowl guiding. We realize that the operator would need a Service SUP only for activities taking place on the land surface of Izembek NWR. However, we would like to use a special condition in our permitting process that would be agreeable to both the Department of Fish and Game (State) and U.S. Fish and Wildlife Service (Service) since access is gained utilizing NWR lands. A map is attached indicating the areas that commercial operators would not be allowed to enter by boat; however, these areas would remain open in accordance with other applicable state and federal regulations (e.g. foot access). We recognize the concern over limiting commercial use, in excess of private use, may arise. However, providing special restrictions on commercial operations will not be precedent setting. Commercial guides are often required to follow more stringent conditions than are private individuals (e.g. guides are often limited to very specific geographical areas in which they may conduct business, such as the Right and Left-Hand Valley area for the purpose of brown bear hunting).

We have taken steps to reduce human disturbance in the areas of concern due to our research activities (see the enclosed issue paper) and recognize we need to set an example of sound resource stewardship through our actions. All actions are reviewed and the least disturbing methods are employed (e.g. aerial approach on adjacent wetlands for brant productivity surveys, etc.).

We also have concerns over aircraft disturbance in the locality of the lagoon and continue to support your issuance of Special Area Permits which provide for aircraft landings predominately on the seaward (west) side of the barrier island/spit complex, and on the unvegetated tidal flat of the Joshua Green River. The mouth of the Joshua Green River is used extensively by brant and emperor geese during periods of roosting and we would have concerns should increased aircraft activity occur here.

The enclosures are for your perusal and I fully support our cooperative efforts in managing the resources of Izembek SGR and NWR. If I can provide additional information please contact me at 907-532-2445.

I look forward to hearing from you.

Sincerely,



Gregory E. Siekaniec
Refuge Manager

East Central Izembek Lagoon: An area bounded by Neumann Island (the second barrier island separating Izembek Lagoon from the Bering Sea) to the northwest, Blaine Point to the south and Strawberry Point to the east encompassing approximately 10,000 acres or 12 percent of Izembek Lagoon. Over 80 percent of the area is covered by eelgrass beds with important roosting and sanding areas also located along the south shore of Neumann Island. An estimated 15 to 20 percent of the Pacific brant population and 30 percent of the Steller's eider population utilize the area each fall. Approximately 15 percent of the brant population here is composed of light-bellied birds from arctic Canadian breeding areas. Light-bellied birds use Neumann Island and Moffet Bay portions of the lagoon almost exclusively. Some, if not all, non-breeding and failed breeding Steller's eiders of the remnant Alaska breeding population also use this area.

Moffet Bay: An area in at the northeast end of Izembek Lagoon covering 19,500 acres and comprised of approximately 23 percent of the total lagoon acreage. Eelgrass beds cover approximately one third of the area, with the remainder being extensive sand and mud flats. Up to eight percent of the fall Pacific brant population, including most of the light-bellied component, and an estimated 20 percent of the Steller's eider population use Moffet Bay each fall. Important brant roosting and sanding areas include Moffet Point and the mouth of the Joshua Green River.

*This proves that the
Black Legged Arctic River
birds*

References

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- Reed, A., Stehn, R. and Ward, D. 1989. Autumn use of Izembek Lagoon, Alaska, by brant from different breeding areas. J. Wildl. Manage. 53:720-725.
- Ward, D. H. and Stehn, R. A. 1989. Response of brant and other geese to aircraft disturbance at Izembek Lagoon, Alaska. U.S. Fish and Wildlife Service Report, Anchorage, Alaska. 193pp.
- Ward, D. H., Stehn, R. A. and D. V. Derksen. 1994. Response of staging brant to disturbance at the Izembek Lagoon, Alaska. Wildl. Soc. Bull. 22(2): 220-228.

Prepared by: Izembek National Wildlife Refuge
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Through an agreement with the Federal Aviation Administration, pilots are requested to maintain $\leq 2,000$ feet above ground level over all National Wildlife Refuges to avoid, or at least minimize, wildlife disturbance. Weather conditions along the lower Alaska Peninsula often require Visual Flight Rules (VFR) traffic below the recommended altitude. To address that concern and the potential for expanding air traffic in the area, the Service evaluated the effects of aircraft and other disturbance factors on fall staging waterfowl at Izembek Lagoon during the 1980's (Ward and Stehn 1989; Ward et al. 1994). Specific recommendations based on the study resulted in aircraft routing that minimized disturbance due to overflights. Disturbance from aircraft was greatly reduced when pilots followed recommended VFR routes around (not over) the lagoon. Aircraft landings did not occur in Izembek Lagoon and, therefore, were not evaluated during the disturbance study, however, the Refuge Complex staff believes the effects of landings in areas of high waterfowl concentrations would be very detrimental, by causing adverse behavioral responses, especially by Pacific brant. Additionally, there are concerns for the public safety of pilots operating at low altitude in a dense bird concentration environment.

*No fishing
over lake
July*

BOAT: Outboard motor boats are traditional means of access at Izembek Lagoon, but most activity involves small commercial salmon fishing vessels during the July through September period. Commercial fishing is primarily confined to the Moffet Bay and Applegate Cove areas of the Lagoon. Due to the location, timing and duration of those activities (prior to the arrival of peak waterfowl populations), the present level of disturbance does not appear to be excessive. Other traditional public use boating activity occurring between 1960 and 1992 supported beachcombing (about 5 visits per year) primarily during summer months and waterfowl hunting (about 5 visits per year) in September and October. Boat traffic on Izembek Lagoon during September and October dramatically increased in 1993 and continued to increase in 1994 to a level of 3 to 4 visits per week due to a commercial waterfowl guiding operation. The Refuge Complex staff believes an increase in commercial, and potentially non-commercial, boating associated with waterfowl hunting can be expected in future years. Therefore, we believe a need to control access to avoid excessive levels of disturbance currently exists. We suggest seasonal area use restrictions for commercial waterfowl guiding operations, possibly coupled with limitations on the maximum number of permits issued annually. Any Service special use permits issued for commercial waterfowl guiding requiring the use of Refuge Complex lands (e.g., boat ramp, road, and shoreline use) would also require an ESA Section 7 Consultation (due to the presence of Steller's eiders) and a Refuge Complex compatibility determination. If the current low level of personal boat traffic associated with individual waterfowl hunting increases in the future, a similar closure of that activity must also be considered.

*Special
Hunting*

Timing: Spring - 15 April to 31 May; Fall - 15 August to 25 November.

Justification: Prior to the passage of ANILCA, a Refuge Complex special refuge regulation was in place that prohibited the use of airboats and jet boats within the boundary of the refuge. State tidelands of Izembek Lagoon, although not covered by that federal regulation, received an increased level of protection due to boating restrictions in effect on the Refuge Complex. However, the special regulation was abolished in 1980 with the

passage of ANILCA and the potential for excessive levels of disturbance to waterfowl due to unrestricted boating during peak waterfowl staging periods has become a concern.

Historical levels of boating activity by waterfowl hunters through 1992 were low, estimated at 5 visits each fall. Boat traffic increased dramatically in 1993 and 1994 to an estimated 3 to 4 visits per week by a single commercial waterfowl guide. Collection of waterfowl harvest data and law enforcement surveillance by Refuge Complex staff has verified activity levels. We believe the elevated boating disturbance level observed in 1993 and 1994, all occurring on flooding tides concurrent with intensive brant foraging, is excessive and adversely affects Pacific brant feeding behavior and distribution. We also are concerned about the possibility of adverse effects on other species including the Steller's eider which may be displaced from preferred molting and feeding habitats by such activity.

The dramatic 1993 increase in overwintering Pacific brant at Izembek Lagoon is a phenomenon that may also indicate adverse effects due to increasing human disturbance through fall recreational boating activity. In the 12 year period between 1981 and 1992, an average 6,165 brant wintered on Izembek Lagoon. In 1993 an estimated 13,220 birds overwintered and indications are that in 1994 in excess of 30,000 birds may winter on the lagoon. The Refuge Complex staff believes increasing numbers of brant overwintering at Izembek Lagoon may indicate a decreased level of body condition due to insufficient fat resources that prevent the birds from undertaking the arduous fall migration. Due to observed behavioral responses and our knowledge of their foraging strategies, we also believe that disturbance from increased boat use on the Lagoon is a factor adversely affecting Pacific brant fitness (Ward and Stehn 1989; Ward et al. 1994). Other factors that might result in increased numbers of brant being unable to initiate the fall migration include phenological variation, intensity of climatic events critical to migration (Dau 1992), and other disturbance factors (such as helicopter traffic, bald eagles and habitat quality) which have not significantly changed in recent years.

PROPOSED RESTRICTED ACCESS AREAS IN IZEMBЕК LAGOON

Norma Bay: An area of approximately 11,000 acres located at the southwest end of Izembek Lagoon. Norma Bay comprises approximately 15 percent of the lagoon, but accommodates 20 to 30 percent of the Pacific brant population and 15 to 20 percent of the Steller's eider population each fall. Over 80 percent of Norma Bay is covered by eelgrass beds and the entire area is used extensively by foraging brant. A major tide channel separates Norma Bay from Applegate Cove to the east.

Oberl Island (southwest end): The island is one of two barrier islands separating Izembek Lagoon from the Bering Sea. The southwest portion of the island adjacent to the lagoon, an area of approximately 1,000 acres, includes a large sand flat that is used by up to 35,000 Pacific brant as a roosting and sanding area after each flood tide foraging cycle. An estimated 20 to 25 percent of fall staging brant uses the area twice daily.

THE SERVICE AND THE DEPARTMENT MUTUALLY AGREE:

1. Nothing in this MOU shall obligate any party to the expenditure of funds, or for future payments of money, in excess of appropriations authorized by law.
2. Each party will be responsible only for its own acts and the results thereof; and will assume all risks and/or liabilities resulting from its individual actions.
3. No member of Congress, or Commissioner, shall be admitted to any share or part of the agreement or to any benefit that may arise therefrom.
4. Each party will comply with all applicable laws, regulations, and executive orders relative to Equal Employment Opportunity.
5. Nothing herein is intended to conflict with federal, state, or local laws or regulations. If there are conflicts, the laws and regulations shall have precedence. This agreement will be amended at the first opportunity to bring it into conformance with conflicting laws or regulations.
6. Either party may terminate its participation in this MOU by providing to the other party written notice 120 days prior to the effective date of termination.
7. A free exchange of research and assessment data between agencies is necessary to attain the management goals of the state and federal refuges.
8. To cooperate in conducting systematic surveys and inventories of fish and wildlife populations within the Izembek state and federal refuges.
- 9. To consult on the issuance, monitoring and enforcement of appropriate land use permits for activities on state and federal refuges.
10. To develop consultation procedures that are in compliance with the state permit reform regulations and appropriate federal regulations governing notice and review periods.
11. To permit land use activities consistent with the purposes described in AS 16.20.020 and Section 303(3) of ANILCA as outlined in the agencies' respective management plans and with agreements reached in the Bristol Bay Cooperative Planning Process and described in the State Bristol Bay Area Plan and Federal Bristol Bay Regional Management Plan.
12. To conduct cooperative research and studies on the effect of activities which may adversely affect waterfowl or other fish and wildlife populations.
13. Amendments to this agreement may be proposed by either agency and shall become effective upon approval of both agencies.

- 14. Both agencies agree to maintain regular contact pertaining to implementation of the MOU and to meet annually to discuss long-term direction and evaluation.
- 15. The effective date of this agreement shall be from the date of final signature.
- 16. This agreement is entered into under the conditions of the Master Memorandum of Understanding between the Alaska Department of Fish and Game and the U.S. Fish and Wildlife Service, dated March 13, 1982.
- 17. Contact points for coordination under this agreement are:

for the Service --

Refuge Manager, Izembek NWR

for the Department --

Deputy Commissioner

Robert E. Gilmore

Robert E. Gilmore
Regional Director
U.S. Fish and Wildlife Service

DEC 22 1986

Date

Don W. Collinsworth

Don W. Collinsworth
Commissioner
Alaska Department of Fish and Game

10-27-86

Date

SUPPLEMENT TO THE
MASTER MEMORANDUM OF UNDERSTANDING
Between the

U.S. FISH AND WILDLIFE SERVICE
Anchorage, Alaska

and

THE ALASKA DEPARTMENT OF FISH AND GAME
Juneau, Alaska

This Supplemental Memorandum of Understanding (MOU) is designed to assist the agencies in cooperatively managing the Izembek National Wildlife Refuge (NWR) and the Izembek State Game Refuge (SGR).

The United States Fish and Wildlife Service (Service) enters into this agreement pursuant to Section 304(F) of the Alaska National Interest Lands Conservation Act (ANILCA), Pub. L. No. 96-487, 94 Stat. 2371, 2394 (1980). The Alaska Department of Fish and Game (Department) enters into this agreement pursuant to Section 16.05.050(1) and 16.05.050(13) of Title 16, Alaska Statutes (1984).

WITNESSETH:

WHEREAS, there is in effect a Master Memorandum of Understanding between the Department and the Service which reflects the general policy guidelines within which the two agencies agree to operate;

WHEREAS, in that Master Memorandum of Understanding provision was made for supplemental MOU's to facilitate management policies; and

WHEREAS, the purpose in establishing the Izembek SGR (AS 16.20.020) is to protect and preserve the natural wildlife habitat and wildlife populations; and

WHEREAS, the purpose in establishing Izembek NWR [ANILCA S 303(3)] is to manage and conserve fish and wildlife populations and habitats in their natural diversity, and to provide the opportunity for continuation of subsistence uses by local rural residents; and

WHEREAS, The Bristol Bay Cooperative Land Use Plan Group, the Bristol Bay Area Plan, and the Bristol Bay Regional Management Plan recommend the formulation of a Cooperative Agreement for the management of the lagoon and surrounding federal lands; and

WHEREAS, certain waterfowl populations, particularly black brant and emperor geese, which depend upon Izembek Lagoon and adjacent marine waters and uplands have undergone serious declines.

NOW, THEREFORE, the parties hereto agree as follows:

THE DEPARTMENT AGREES:

1. To prepare and implement a refuge management plan and appropriate regulations for Izembek SGR which will protect and preserve the natural habitat and fish and wildlife populations within the boundaries as described in AS 16.20.030 and which is compatible, to the maximum extent allowable, with the intent and purposes of the Izembek NWR. The plan will provide for the continued harvest of fish and wildlife resources, including the opportunity for subsistence uses of wild, renewable resources by rural residents as provided for in Alaska law.
2. To review all proposed public and land use activities within Izembek SGR and authorize activities which are compatible with the conservation of fish and wildlife resources, habitats, and uses, as described in Title 16 of Alaska Statutes.
3. To conduct an active monitoring and enforcement program for land use activities authorized under AS 16.20.050-.060.
4. To review and comment on the Service's refuge plans, land use actions, and permits which affect Izembek SGR.
5. To permit the Service reasonable access to the Izembek SGR for purposes relating to the administration of the Izembek NWR.

THE SERVICE AGREES:

1. To assist the Department in monitoring land use activities within Izembek SGR and report any unauthorized activities promptly to the Department.
2. To prepare and implement a refuge management plan and appropriate regulations for Izembek NWR which provides that land use activities on the Izembek NWR are compatible, to the maximum extent allowable, with the purposes of the Izembek SGR.
3. To provide technical assistance to the Department during the development of a management plan for the Izembek SGR.
4. To review and comment on the Department's refuge plans, land use actions, and permits which affect Izembek NWR.
5. To continue present surveys and inventories of waterfowl populations and research on waterfowl usage of the Izembek state and federal refuges.
6. To provide the department and public reasonable access to Izembek NWR for purposes relating to the management and use of Izembek State Game Refuge.

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ALBUQUERQUE ISLANDS
NATIONAL WILDLIFE REFUGE

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Amak Island
Landing Area

R 91 W



- DATE -

ISSUE PAPER: Management of Disturbances to Waterfowl Izembek Lagoon

The Izembek National Wildlife Refuge Complex (Refuge Complex) boundary encompasses State tidelands within the Izembek State Game Refuge (Game Refuge) administered by the Alaska Department of Fish and Game (Department). Based on research and management programs performed by the Refuge Complex staff and cooperators during the past two decades and recently observed increases in public use of Izembek Lagoon, the Refuge Complex staff believes there is a need to reduce human activity disturbance to spring and fall staging waterfowl populations.

Concerns over disturbance from aircraft and recreational boating at Izembek Lagoon require coordination of management actions through the U.S. Fish and Wildlife Service (Service) and the Department as delineated in the 1982 Master Memorandum of Understanding and the 1986 Supplement to the Master Memorandum of Understanding (Supplement). The Supplement charges our agencies to complete refuge management plans and draft appropriate regulations for the two refuges that are compatible, to the maximum extent allowable, with the intent and purposes for each area. Within that framework, we propose potential regulations to assure that similar purposes for both areas are achieved. We believe the closely related purposes for the two refuges were underscored with the establishment of the Refuge Complex and Game Refuge as a Wetland of International Importance during the RAMSAR Convention of 1987.

The Refuge Complex staff, in cooperation with various Service divisions, the Department, the U. S. National Biological Survey and other cooperators, has long been involved in monitoring the distribution, population dynamics and annual productivity of the internationally important waterfowl populations utilizing Izembek Lagoon. We have also supported and been involved in evaluations of disturbance factors affecting those populations. Data and experience obtained indicate some species are more susceptible to disturbance than others and that management procedures should take the most sensitive species into special consideration. In the case of Izembek Lagoon, the Pacific brant, the species most vulnerable to disturbance, and the Steller's eider, which will soon be designated a threatened species under the Endangered Species Act (ESA), have exhibited a dramatic decline in breeding in Alaska (approximately one third of the world Steller's eider population migrates to Izembek Lagoon from northeastern Russia and remnant breeding areas in Alaska to undergo the fall molt).

Essentially the entire Pacific brant population, up to 150,000 birds in recent years, stage at Izembek Lagoon and adjacent bays for up to eight weeks each fall (Reed et al. 1989), with peak concentrations present for up to six weeks. The importance of the area to brant in spring and fall is well known, as are the dramatic characteristics of their fall migration to wintering grounds in Mexico. Pacific brant gain more than 70 percent of their premigratory lipid levels at Izembek Lagoon each fall. The estimated 55 hour flight over a distance of about 3,300 miles results in a loss of more than 30 percent of

their body weight (Dau 1992). Prior to the annual exodus from Izembek Lagoon, adult Pacific brant must recover from the energetic stress of summer breeding, the fall molting period, and store sufficient body reserves to allow the completion of an energetically demanding fall migration to Mexico. Those factors underscore the importance of the Izembek Lagoon to Pacific brant, especially during the short fall staging period.

Other aspects of Pacific brant feeding behavior provide additional focus on the importance of the fall staging period. The birds feed intensely from low tide through flooding tide, progressively closer to shore in shallower water, as eelgrass beds within the lagoon become inundated. As the tide begins to peak most brant abruptly depart for roosting and sanding areas elsewhere in the lagoon. Two high tide cycles, normally only one during daylight hours, occur each 24 hour period throughout September and most of October. Pacific brant concentrate during relatively narrow windows of opportunity to accomplish most of their feeding. Human disturbance events, particularly recreational boating, occurring during flooding tides while the birds are most concentrated and actively feeding cause adverse impacts by displacing birds from preferred habitats where food of higher nutritional value is available. It is not known to what extent brant are able to feed at night, so the importance of daylight foraging periods may be even more critical than we now know. We believe it is extremely important that resource managers cooperatively seek to minimize controllable short duration disturbance events (including helicopter and fixed wing aircraft overflights) and longer duration disturbance events (such as recreational boating) in the most critical feeding areas of Izembek Lagoon during the few weeks that Pacific brant are staging for migration.

Management and research programs conducted at Izembek Lagoon by Refuge Complex staff and cooperators take brant habitat use and feeding behavior into consideration by scheduling events to minimize disturbance to the birds while still allowing the collection of necessary biological data. As an example, aerial population surveys are best conducted at low or mid-tide cycles to maximize inventories of species such as Canada geese, emperor geese and dabbling ducks, many of which disperse to upland and freshwater areas outside the survey area during periods of high tide. Pacific brant feeding during low to mid-tide cycles are less likely to be prematurely displaced to roosting and sanding sites during survey activities. Traditional boat access to ground observation points to gather productivity data on Pacific brant and emperor geese has been discontinued in several critical brant feeding areas in an effort to avoid displacing the birds while still allowing data collection. Additionally, molting Steller's eider banding drives are conducted during low tide cycles within main tide channels to minimize disturbance to feeding brant on adjacent eelgrass beds (an ESA Section 7 consultation has been completed for the Steller's eider work).

Public use of Izembek Lagoon, which primarily occurs during the spring and fall staging periods, has increased in recent years. The Refuge Complex staff believes several potentially significant disturbance factors must be controlled to ensure adequate protection for Pacific brant, Steller's eiders, emperor geese and other important waterfowl resources. Current levels of use appear relatively low, however, a conservative approach is appropriate as we do not fully understand the level at which human disturbance becomes excessive. With respect to Pacific brant and Steller's eiders, our data

suggest manageable disturbance factors should be minimized during September and October when the body condition of the birds is rapidly changing. Steller's eiders are concurrently undergoing the energetically demanding wing and body molt during the same period. Disturbance of flightless eiders could result in displacement of population segments to less suitable foraging areas with resulting increased mortality rates and adverse impacts on ongoing research projects.

The Refuge Complex staff and cooperators have conducted long-term aerial population surveys, radio telemetry tracking and banding studies of Pacific brant, Steller's eiders and other species at Izembek Lagoon to understand population distribution, abundance and dynamics. We know various segments of the Pacific brant and Steller's eider populations display seasonal fidelity for specific portions of Izembek Lagoon during spring and fall. That information, considered in conjunction with observed behavioral responses and the need to collect management and research data, has helped identify specific areas in the lagoon suitable for seasonal access restrictions. Types of access that are of concern and the critical time periods when it is necessary to restrict those events are presented below. Justifications for our concerns and biological rationale are also provided. Specific areas listed and indicated on the attached map are, in our opinion, the highest biologically sensitive areas that we believe should be considered for seasonal access restrictions.

TYPE OF ACCESS/TIMING

AIRCRAFT: Aircraft landings on federal lands adjacent to Izembek Lagoon were historically prohibited via special Refuge Complex regulations (such activity was prohibited within Refuge Complex boundaries). The Refuge Complex boundary encompasses State tidelands within Izembek Lagoon which, although not covered by the federal regulation, received an increased level of protection due to the special regulation affecting use of adjacent lands. Special Refuge Complex regulations were abolished through the passage of the Alaska National Interest Lands Conservation Act (ANILCA) in 1980. Refuge Complex staff efforts to reestablish those special regulations have been unsuccessful to date. We propose a seasonal closure of the Izembek Lagoon to aircraft landings during spring and fall periods of peak waterfowl use as follows:

Timing: Spring - 15 April to 31 May; Fall - 15 August to 25 November. ✓

Justification: There is no traditional use of Izembek Lagoon for the purpose of aircraft landings during spring and fall waterfowl staging periods. The potential for increased disturbance due to aircraft landings throughout Izembek Lagoon continues to be a concern. The Refuge Complex special refuge regulation prohibiting aircraft landings was established primarily due to that concern and an effort to avoid a major waterfowl disturbance factor. We cooperated with the Department in 1993 to establish a controlled use area that prohibits aircraft landings for the purpose of brown bear hunting on federal lands within a portion of the Refuge Complex and Game Refuge. The Refuge Complex staff believes sensitive spring and fall waterfowl habitats within Izembek Lagoon require similar attention to avoid excessive levels of disturbance.