

Nancy Hillstrand P.O Box 170 Homer, Alaska 99603 May 17, 2009



MAY 1 8 2009

BOARDS

Cliff Judkins, Chair Alaska Board of Game Box 115526 Juneau, Alaska 99811-5526

RE: Kachemak Bay Seaduck Proposal 117 Emergency Petition

Greetings Board Members

The present Board of Game members seem to wisely understand, that there is a complexity in this Tribe of birds called Mcrgini. Substantial uncertainty remains about the impacts of management on scaduck populations. This can be dangerous and warrants more discussion, biological information and a more comprehensive management strategy.

Hatvest data is recognized in the literature as being unreliable.harvest data on individual species is almost nonexistent. State harvest data dates back before the bloom of Halibut Charter operations that grew from 1994 to the present.

As my proposal stated my main concern is commercialized guided hunting on these K-selected sensitive divers. Guides get very efficient at taking the biomass out of these narrow bays and lagoons.

I ask that proposal 117 stand at two per day for guided hunters. This still allows 9 ducks/day to be taken. 7 dabblers to eat and two scaducks for trophics.

Please at the very least defer implementing this new regulation and then include the proposal for further information and consideration in the statewide January 2010 Board meeting.

I have used the BOG process to bring attention to declining seaduck populations since 1983. I deeply appreciate and respect this public process and the Board members. It is exhausting but an honor to participate.

#0103 P.002 /005 RECEIVED/

We need a comprehensive Seaduck Management Plan that includes meaningful population dynamics, exploitation rates, biology Behavior, and physiological data of each species. (see Public Comment # 98)

I am willing to do whatever it takes to help create and refine a concise Plan. I would be happy to work with affected parties, knowledgably biologists, and local managers to bring meaningful biological information before you for consideration at the 2010 meeting.

The department is extremely busy with goese and dabblers so the focus has not been on seaducks. Because of this, two species have been listed on the endangered species list while many of the remaining 13 have shown trends of decline from 40 to 70 %. It is unacceptable to not have flexible state regs that promote the conservation of these birds while in a declined trend.

I ask that I be given the opportunity to express the vital information I have learned over the past 26 years of studying the biology and behavior of these animals. Three minutes testimony or this rushed response makes it difficult.

We are managing in deep uncertainty of harvest of exploitation rate with species in a shaky state of various declines in an area of easy access. This is unacceptable.

We have many questions to answer. The State needs to be involved and proactive. . Status quo has the potential to continue additive mortality.

We need unbiased, open-minded and concerned biologists who will look at the data with fresh eyes and help create a management plan that considers all the complexity of this relatively unknown tribe of birds. Please lets give it a chance and join the rest of the Pacific flyway to be proactive.

With Kind Regards

Nancy Hillstrand

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MAY 1 g 2009

BOARD:

# 15 – 30,000 NOT JUST SEADUCKS THIS INCLUDES ALL DABBLERS

With all due respect the department fails to honestly alert the Board of Game of how many <u>Seaducks</u> winter in Kachemak Bay.

The number 15-30,000 ducks is deceiving and does not reflect the scaduck population. Up to 1/3<sup>rd</sup> of these birds are dabblers not seaducks. I find this unfair. Drafts of these surveys have changed multiple times to allow for extrapolation, faulty transect width, etc. The final report has not been completed. I am looking forward to seeing it. (please see charts)

# #0103 P.004 /005 RECEIVER 1 2009

BOARDS

#### EXPLOITATION RATES AS IF ALL SPECIES ARE TH

Please, lets look at some exploitation rates using one of the shoreline stratum K- Bay surveys.

Literature states for some of these scaducks a 3-5% exploitation rate retains sustainability. I have used 5% and 10%. What is sustainable??? Again logically it would be wise to err on the side of conservation not guesswork using a mallard as the basis.

In 1999, 14,377 "total ducks" counted

- 4,770 33.3 % were dabblers\*

9,607 "total seaducks" counted

Δt 5% exploitation rate = 480 seaducks to remain sustainable

At 10% " = 960 Total for all of Kachemak Bay for all species in the aggregate

#### 1500 is over an exploitation rate of 10%

\*33.3% included Mallards, Greater Scaup, American Wigeon, American green-winged teal and Northern Pintail. (dabblers, one genus; Anas). These "ducks" are not "scaducks".

These numbers are meaningless in a total because they give the illusion that the tremendous diversity of the 11 seaduck species included, have identical life stage histories, reproductive strategies, behaviors and physiology

To manage this diversity of animals as one is like putting deer, goats, moose, and caribou into one bag.



## EXPLOITATION RATES BY EACH INDIVIDUAL SPECIES 2009

BOARE

Now lets break this down by percent exploitation rate by species:

**Surf Scoters** 

1578 @ 5% = 79 bitds

(a) 10% = 159 birds

Harlequin

 $1332 \ @.5\% = 67 \ \text{birds}$ 

(a) 10% = 133 birds

Barrows Goldeneye  $1028 @ 5\% = 51 \text{ birds}^*$ 

@ 10% = 103 birds

Common Eider

300 (a) 5% = 15 birds to remain sustainable

@10% = 30

It would not take many hunter days to slide one of these species over the threshold into an unsustainable situation. Look at the common Eider. Three hunters in one day could cross the threshold. We wouldn't even know it happened. The extreme site fidelity of some of these species has already caused localized depletions. Unfortunately one of these bays was the one I live in. It has not grown back since 1996 when 100 seaducks a day were removed by one charter operator.

\*The Barrows Goldeneye is a sensitive seaduck species that shows strong site fidelity and is prone to localized depletion. They are mistakenly categorized in with the general dabbler duck bag limit. Their range is a very narrow band only on the North West coastal areas. It is estimated there are only 2500-3000 left on a narrow band of the eastern seaboard. They are listed as a species of conservation concern.

Common EIDER IN DANGER

Nancy Hillstrand

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#### Comments to the Board of Game

Proposal 117 - 5AAC 85.065 Seaducks - SUPPORT AS AMENDED

The intent of this proposal is to request the Board of Game to begin the process of allowing the State of Alaska the opportunity to create a Seaduck Management Plan Framework to augment Federal Management.

#### A list of considerations in this Plan can include:

- 1. Estimated population Densities of each species within Each GMU
- 2. Minimum acceptable biomass level of each Species in each GMU;
- 3. Maximum allowable exploitation rate of each species in each GMU:
- 4. Maintenance of geographic distribution of each species in each GMU
- 5. Minimum thresholds for implementation of commercial guided and non commercial hunting:
- 6. Age and sex composition:
- 7. Sensitive K selected reproductive strategies
- 8. Winter ice minimizing wintering areas hunted;

FEB 0 6 2004

- 9. Methods and means;
- 10. Guided hunting;
- 11. Full accountability of crippling mortality (60% crippling loss);
- 12. Trophy hunting;
- 13. Wanton waste palarability;
- 14. Habitat alteration;
- 15. Potential user group conflicts;
- 16. The ecosystem function of target species and their prey;
- 17. Individual Species behaviour; (tight rafting, site fidelity, low flight, difficulty in take off, tame;
- 18. Individual Species food preference;
- 19. Geographic characteristics, (narrow bays, open ocean etc);
- 20. Segregation of species within bays;
- 21. Meteorological patterns impacting wintering survival
- 22. Meteorological patterns impacting nesting survival
- 23. Climate change ice pack concerns
- 24. Interactions of users
- 25. Reporting requirements for guided hunting
- 26. Presence of endangered Seaduck species in specific GMU's
- 27. Areas of Refuge
- 28. Ballistics
- 29. Gender based bag limits
- 30. Disturbance

Public Comment #

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RCZ

This Plan can begin a State baseline that separates and understands the unique individual species of Tribe Mergini, their behaviours, characteristics, user groups and geographic locations impacting this Alaskan wildlife. It can also document the immense difference of these species as compared to Dabbler ducks Tribe Anatini, or bay ducks, (Tribe Aythyini). Presently we have little differentiation between these vastly different tribes. Bag limits are arbitrary.

The Federal management by the Service Regulation Committee in Washington DC is very broad. Information to ensure sustainability is vague and unknown. Individual species, their specific ranges, behaviours etc. are grouped together in the aggregate so the potential for localized depletions is very high and go unnoticed.

This very broad minimal Federal framework allows our state to fine tune special Alaskan requirements for a more quality oversight to species. For instance:

Federal "Scoter" management would consider Alaskan:

- 1. Black Scoter
- 2. White-winged Scoter
- 3. Surf Scoter

Federal "Eider" management would consider Alaskan:

- 1. King Eider
- 2. Common Eider
- 3. Spectacled Eider (endangered)
- 4. Stellers Eider (endangered)

Federal "Goldeneye" management would consider Alaskan:

- 1. Barrows Goldeneye (very limited west coast range)
- 2. Common Goldeneye (wide North American range)
- 3. Buffiehead

Federal "Merganser" management would consider Alaskan:

- Common Merganser
- Red Breasted Merganser
- 3. Hooded Merganser

"Harlequin Duck"

"Long-tailed duck" (previously Oldsquaw)

Public Comment #

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Other states in the Pacific Flyway embrace this opportunity to participate in specialized State management of their waterfowl species. This safeguards sustainability for special circumstances pertaining to localized areas and regional idiosyncrasies.

An Alaskan Seaduck Management Plan would bring State oversight to our little understood local populations. It can be used as a tool to fill the present void of information, to educate, guide and alert local managers in coastal GMU's. Potential problems such as localized depletions can be averted in our unique harsh upper latitudes.

Thank-you for your consideration to upgrade the quality of management of our diverse Alaskan Waterfowl,

Nancy Hillstrand P.O. Box 674 Homer Alaska 99603

3

#### 5AAC XX.XXX. KACHEMAK BAY MERGINI MANAGEMENT PLAN



- (a) The Board of Game (board) is concerned that inadequate information exists regarding the basic understanding of harvest, habitat requirements, basic breeding and post-nesting ecology, populations amics and statistically valid population monitoring; thus, most management decisions are based on little in information regarding the consequences of management actions in the Kachemak Bay Critical Habitat Area (AS 16.20.590) to ensure that Seaduck harvest can be conducted in a sustainable manner. Therefore, harvest for Seaducks shall be closed until the board has approved a management plan that considers the following factors:
  - (1) a minimum acceptable population level of each individual species
  - (2) maximum sustainable exploitation rates;
  - (3) minimum thresholds for implementation of commercial and non commercial hunts
  - (4) age and gender composition information;
  - (5) seasons that avoid biologically sensitive periods and areas;
  - (6) a regular schedule and mechanism for species population assessment,
  - (7) area-specific limits on species with strong site fidelity, including any considerations for the gender and size of rafts of these species, if appropriate;
  - (8) reporting requirements, including log books;
  - (9) full accountability of crippling, including deadloss;
  - (10) potential user group conflicts;
  - (11) the ecosystem function of these individual species and the species they prey on;
  - (12) maintenance of the geographic distribution of the resource; and
    - 3) an analysis of customary and traditional subsistence use patterns
- (b) After development of a draft management plan by the department, the board will, in its discretion, consider and act upon the management plan and associated regulations at its next regularly scheduled meeting.

## RC 3

#### Crass, Scott W (DFG)

From: Alaska's Sadie Cove Wilderness Lodge - Timeless Beauty in Alaska [randi@acsalaska.net]

Sent: Monday, May 18, 2009 11:16 AM

To: Crass, Scott W (DFG)

Subject: Fw: Proposal 117

To the Alaska Department of Fish and Game

Dear Christie Tibbles,

I am writing to ask the Department of Fish and Game to enact proposal #117 which would change the limit of sea ducks taken in Kachemak Bay to 2 ducks per hunter. I have lived in Sadie Cove since 1996 and have seen the rafts of ducks decline from rafts of 80 or 90 to rafts of 10 to 30. I also see how they are hunted by commercial operations and weekend hunters. Basically the ducks are chased from one end of the cove to the next, from one group of hunters to another until there are very few left. At that point the hunters go on to another area where the same techniques are used to capture as many ducks as is possible. As you well know, sea ducks are site specific and once a population is hunted out in one bay or cove it takes a very long time for them to come back in the numbers that used to be. Sadie Cove has not yet come back from overharvesting and I strongly believe that proposal 117 will be the solution to this unfortunate decline. Proposal 117 is a good decision and it is wise of the Department of Fish and Game to finally take action to curtail the over-harvesting and commercialized hunting that has been taking place for so long. I fully support proposal 117 and I look forward to seeing the ducks return as a sustainable resource one day in the future as a result of proposal 117.

Thank you for your time

Sincerely,

Randi Iverson

907-235-2350



#### Crass, Scott W (DFG)

From: Alaska's Sadie Cove Wilderness Lodge - Timeless Beauty in Alaska [randi@acsalaska.net]

Sent: Monday, May 18, 2009 11:17 AM

To: Crass, Scott W (DFG)
Subject: To Fish and Game

To the Alaska Department of Fish and Game

Dear Christie Tibbles,

I am writing to commend the Department of Fish and Game for enacting proposal #117 changing the limit of sea ducks taken in Kachemak Bay to 2 ducks per hunter. I have lived in Sadie Cove since 1971 and was a moderate duck hunter in the past. In the "old days" I would see rafts of hundreds sea ducks in the cove. Now the rafts are small in number from 10 to 30 ducks - a vast difference from the way it used to be. I can only explain this decline by my observations on how the ducks have been over hunted by hunters and guides in fast boats who drive the ducks to fellow hunters who proceed to shoot as many as is posssible. Since the sea ducks live in specific bays and coves, once a population has been over hunted in one area, it takes many many years for the ducks to recover. Sadie Cove has yet to recover from over harvesting and I believe that if the limit were for 2 sea ducks, they would have the chance they need to become the sustainable resource that they used to be. Proposal 117 is a good decision and it is wise of the Department of Fish and Game to finally take action to curtail the over-harvesting and commercialized hunting that has ben taking place for so long. Because of their sharp decline, I no longer hunt sea ducks myself.

Thank you for your consideration. This letter comes from a man who has lived year-round in Sadie Cove and has seen many changes in his 38 years of residency there.

Sincerely,

Keith Iverson



R. Ian Goudie
Department of Biology
Memorial University of Newfoundland
St. John's, Newfoundland
Canada
AIB 3X9

Alaska Board of Game Boards Support Section Box 25526 Juneau, Alaska 99802-5526 U.S.A.

#### Dear Board Members:

#### Re: Proposed changes to hunting regulations for sea ducks

I have been asked to comment on the proposed amendments for hunting regulations for Tribe Mergini (Sea ducks) in Units 1-5 of Alaska. In general, the sea duck tribe has been of critical conservation concern over the past 2 decades as commental populations are in sharp decline and at least three species have been placed on threatened and enkingered status in North America. Must recently it appears itsted sea ducks will be increased to four species as the eastern population of Barrow's Goldeneye has received unofficial approval for designation as vulnerable by the Committee for Status Of Endangered Wildlife in Canada (COSEWIC). A Sea Dick Joint Venture is now developing under the North American Waterfowl Management Plan.

In 1994, at the 50th North America Wildlife and Natural Resources Conference in Anchorage. Alaska we presented an extensive review of status of sea ducks in the North Pacific Rim. We used an analytical approach to demonstrate that sea duck populations are sensitive to relatively small increases in adult mortality, and that hunting mortality is likely additive to natural mortality. We further suggested that sustainable harvests of growing populations of sea ducks probably could not exceed about 3% of adults in an average year. Put in perspective a population of 10,000 sea ducks could not sustain annual harvests exceeding 300 adults. This contrasts sharply with patterns exemplified by sport ducks (e.g. mallards) on which the traditional management approaches for waterfowt have been based.

Sea ducks are long-lived and demonstrate fright fidelity to traditional molting and wintering areas where sport harvest occurs. Because of this, regional populations are substructured it.e.; components of metapopulations. Flarvest in remote areas such as Alaska are focused to relatively confined geographic areas due to limitations on access imposed by proximity to communities and the remoteness of much of the coastline. Under current liberal regimes of sea duck harvest there will be extirpations of local populations. Recovery of such stocks will be slow or unlikely because of the low levels.

MAY.17.2009 21:30 907-235-5330



of immigration from other sites, and also because of the presence of global (metapopulation) population declines meaning recruitment is not compensating for adult mortality.

A prowing number of scientists concerned with the status and conservation of sea ducks in the northern lieurisphere have emphasized the need for major change in approaches to management of sea ducks. In general, it is critical to take a proactive approach that assures relatively low annual harvests because recovery of sea duck populations is very slow, i.e., decades. This prudent approach should include:

- 1.) Drastically reduced bag limits and seasons.
- 2.) Timing of seasons to reduce adult composition in the harvest
- 3.) Closure of local areas to hunting to ensure local stocks are not exterpated
  - 4.) Closure of species to hunting that are in low abundance and/or have dramatic population declines

The proposed amendments for hunting regulations for Tribe Mergini (Sea ducks) in Units 1-5, appear to integrate some of the prudent management concepts touched on above. In general, I favor that possession limits not exceed the combined limit for 2 days, and that species of critical concern be closed while those that are of marginal status be included only as one bird/one bird in possession if at all. But overall, the proposed amendments would be a major step forward recognizing that these recommendations are geographically specific. There remains many additional areas in Alaska of conservation concern because Alaska has extremely liberal hunting regulations perfaming to sea ducks.

Any such prudent approach will require more local investment in population monitoring because even prudent regulations can not assure sustainable populations if hunter effort is high, i.e., the tragedy of the commons. Nevertheless, prudent management involving more conservative hapting regulations are needed as soon as possible if we are to ensure sustainable hunting opportunities for future generations

Sincerely.

c.c. Nancy Hillstrand

harter rishing and Sea Duck Hunting on the Chesapeake Bay of Maryland.

The Boat

Hunting

Fishing

Location

Reservations

. Learn About:

Sea Ducks

Cast & Blast



Fishing & Hunting
Home of the Original "Cast and Blast"!

Welcome to Sea Dux Outfitters!
Sea Dux is a licensed professional charter boat operation, specializing in Sea Duck Hunting and Charter Fishing in the waters of the beautiful Chesapeake Bay., between the Baltimore - Washington DC area and Maryland's Eastern Shore.



ain Regin they's off a great catch!

is a family owned business that takes people fishing or waterfowl hunting on the Chesapeake Bay, and Maryland's Eastern Shore area. Simply put; we offer guided trips to go fishing or hunting on

Sea duck hunting at its finest!

a "Charter Boat" specially designed for taking up to six passengers on a daily or half-day trip. We offer the finest fishing that the Chesapeake Bay produces catching the popular Striped Bass, (Morone saxatilis), also known as "Rockfish" and other species.

The Beat

Hanting

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### Hunting



A typical day of sea duck hunting starts at 6:00 AM meeting at the marina and loading your gear into the boat. You should bring your own food, drink, rain gear, sunglasses, shotguns, ammunition and hunting licenses. Your Captain will greet you, ask to see your hunting licenses, give you the safety information then take you to the sea duck hunting zone.

He is required to be no closer than 800 yards off shore. We usually will travel a few miles into an area where lots of ducks



Scoter sea ducks coming in for a landit

are active. The boat is then anchored among a stool of decoys and you shoot while st the back of this boat.



Decoys deployed, set-up & anchored.

Yes, the boat is in the open waters as shooting from an anchored boat. The usually have no fear of the boat and are attracted to it when they see the drafted in a feeding pattern.

Most sea ducks fly very low to the ware very fast flyers. We recommend at least 3-4 boxes of gun shells to realimit of 5 birds per person. The dow are retrieved, counted and upon limit the decoys are picked up and boat rethe marina.

top of page

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#### Sea Dux Outfitters

Duck Neck Point 115 Pintail Road Chestertown Maryland 21620

(410) 778info@seadux. 1. Seaduck hunting has grown in popularity by leaps and bounds in the last 10



- J rs. Although Eider numbers remain good the harvest has increased from
- 4,000 birds in 1985 to 42,000 in 1997.

Smoldering lake outfitters - 2000

- 2. Collectors journey here for the areas saltwater lagoons and harbors abundant populations of Barrow's Goldeneye, three species of scoters, oldsquaw, Bufflehead, and several other varieties of sea ducks...Limits are extremely generous, and there is the possibility of taking several species in a single day. White Pass Lodge- Kodiak 2000 Six nights lodging and five days hunting Call for customized group rates
- 3. Hunting is not a perfect science. We try to kill humanely, but we sometimes fail, and diver-duck hunting gives you the chance to fail frequently. The birds don't come in at long range, but they come in fast; fast enough to throw off even the most experienced shooters, and when this happens, you get cripples.

First there's the marginally legal practice of putting a guy with a loaded shotgun in the bow of the boat and bouncing him across 3-foot waves so that he can swing wildly lose his balance, and try to shoot before the duck dives again.

I like to follow them until they're tired and scoop them up with a net

But sometimes they don't come up. The ducks recognize that they have no hope, so they lock into weeds or wedge themselves into bottom structure. Having to choose between capture and drowning, they choose the latter. They accept death, but on their terms, not ours.

Field and Stream 2000

4. A review of several thousand journal articles and books revealed that water rs (chiefly boaters, anglers, hunters and aircraft create most disturbances Migratory and wintering waterfowl generally attempt to minimize time spent in flight and maximize time for feeding. Flight requires considerable more energy that any other activity except egg laying. Human disturbance compels waterfowl to change food habits, feed only at night, lose weight, or desert their feeding area. Density and pattern of disturbance may influence diving ducks more than dabbling ducks in most areas. Increased energy expenditure and depleted fat reserves.

Tidal swings in narrow fjords such as Sadie Cove concentrate birds in a more narrow band of water shrinking bay area by up to a quarter making these birds more susceptible to harvest and disturbance.

5. Repeated disturbances also can deny birds access to preferred feeding habitats sturbances displaced waterfowl from feeding grounds, increased energetic costs associated with flight, and may have lowered productivity of nesting or brooding waterfowl.

Listed in order of decreasing disturbance

Human disturbances of waterfowl by source of disturbance, effect, and number of citations in 211 journal articles on the subject shows the majority came from:

Sport hunting 71

Boating 66

Human activity 58

Research 55

6. Number of affected birds, and changes in behaviour are greater that most suspected. Birds may have flown up to an additional hour each day because of human disturbances.

RC 6

7. the majority (of duck hunters) seem to prefer the comforting propaganda of those with a vested interest in selling hunting licenses and duck stamps to the evidence of those seeking to establish a new waterfowl ethic that would end the boom and bust cycles triggered by heavy-harvest-oriented management. George Reiger - Field and Stream - 2000

#### 8. GUIDED ONE DAY WATERFOWL HUNTS

Kachemak Bay is known for it outstanding duck and goose hunting. The most abundant waterfowl in our area, range in variety of Harlequin, Surf Scoters, Oldsquaws, Buffleheads, Goldeneyes...

9. Most of the hunting is pass shooting as well as jump shooting for collectable sea-ducks...

Lucky Pierre Charters - web site 2001

- 10. "Hunt methods Pass- shooting can result in losses as high as 60%" Alaska Hunting Bulletin Tom Rothe October 2000
- 11. "Control of waterfowl hunting is more difficult than that of many other groups of game animals, because regulations traditionally have been set for all species of waterfowl, or at most, major groups such as ducks and geese. Actually, each species has different biological characteristics and presents special problems.

## 12. There is little question that species management will soon become



Intial if we are to maintain waterfowl shooting in highly populated areas, and conservation agencies and hunters must prepare for it."

Conservation and management. Jean Delacour 1964

"It is necessary that shooting seasons be timed to the post flight stage for both adults and Juveniles (Holchbaum 1946).

- 13. Where the chronology of nesting differs greatly between species as in case of the inland divers and the dabblers, late hatching young and late moulting adult divers have been protected by delaying marsh-shooting seasons...

  Jean Delacour 1964
- 14. Regulation of the number of birds taken per day ('bag limit') probably produces only slight changes in kill unless the cut is drastic (Rellrose 1944)
- 15. "All effort should be made to avoid commercialization and artificiality in wildfowling"
  (Wilson 1938; Elder 1946)
- 16. "With growing population pressures and the competition of 'human progress' with waterfowl habitat, management may one day be involved with the preservation rather than harvest of most species of wildfowl".

  Jean Delacour 1964
- 17. "The major disadvantage of Bag data are that they are not representative of very large geographic areas and hence are of limited value in measuring kill on a flyway or national level".

►an Delacour 1964



18. 'Basic natural history is lacking for some species, and there are few reliable KC G rulation indices or estimates of annual survival for most of the species. However, the information we do have tells us this: most of the populations are in trouble. "

- 19. To prevent more sea duck populations from attaining the status of harlequins and eiders, we face a number of challenges:
- insufficient knowledge of basic sea duck biology
- habitat changes on breeding and wintering grounds
- environmental contaminants affecting survival and productivity, and
- the inability to accurately measure harvest.

The Sea Duck Joint Venture - Reversing the Trend 2000

A North American Management Plan Conservation Partnership

COMMENT#\_97 RC7

WE THE DERSIGNED CITIZENS

FORMALL / REQUEST THE CREATION OF A KACHEMAK BAY SEADUCK SANCTUARY, OR SPECIAL MANAGEMENT AKEA EAST OF A LINE FROM BLUFF POINT TO BARABARA POINT WITHIN GMU 15C TO PROMOTE SUSTAINABILITY AND PROVIDE REFUGE FROM HARVEST OF THE DECLINING TRIBE MERGINI (SEADUCKS). TO INCLUDE:

NAME (print)	ADDRESS	PHONE /e-mail	SIGNATURE
Marins Kahas	197 College St.	735-3647	Museus Files
Jennifer Edwards	PO BOX 2296 Homer	235-7605	Jennifor Edwards
Em Avandano	Pr. Dix 4012 Roman	235-8527	Fre Archaleur
Windy Paris	20. Bolx 33391 Horry	235-5680	Mindy Clarks
Killen Bookun-	P6 29 27 Palmin	748-1817	Para
Ace Shary	F.O. Bux 2977 Palmer	765-181-1	30-8/1
James C. King	420 Argra Andrey Ak	272-7205 JKg@lsl-com	Contract of the contract of th
Kelly Hasnings	POBOX 240242 Ann Ax	712-2106	Whytan
_Charles 2 Deal	Porpor 2584 Home AC	235.0912	Clary & Del O
FEAUXO UENUN'	PO.BOX 3652 Homer, AK	235-7480	700
- Randy Haz austan	Box 3231 Home AK 72603	235-9107	Jane & X M
quie Fourty	70 Box 173 Gizdwood, HK 9533	783-3707	July H. Barth
School Phates	UNDER HOWELL PL. NIKHULLE	TN37204	THIN S
MARK HARTZOCI	UYOG HOWNL PLACE NATHERLE		
RON Gravenhorst	POB 785 Cooper Landing Ak	595-1710	
for Winding Frad	6613 Mentelew Lane Malson		(A) Jada S
LARL MOSTRAND	41480 STELLAR BAY DR	90) 735-5511	7.
Sherry Benner Elbel Hou	3838 Ber + lett St Honer	T	Sherry lone
	1 POBOX 72700 Fairbunk 99707	<del></del>	Med Ball
Mary Ellen Purcell	80 Box 15000 Futz Creeky 996	\$- <del>l</del>	Hay Elly Hercell
JO SCHAWILLIE	1980-H CENTER PLACE ROCHESTER, NY		I Hefefiquelle
TACAN COLLER	12105 WOODENSE DE AXH AF 9951		Mater Cloth
Bette MARLAFT	BOX (462 Home Ale	235-7778	Total Malin
Brisid Mccarthy	POBOX 505 ANCHORPHAK	235-2549 brace that	aloska, Brigid Mclarty
Geri DAY	104116105B	283-8379	Jacoben Way
Margret McCanell	8140 Woodgreen Circle many	532-0506	Man aut Whitness
Dean Littlema	32606 ExploRium RD ExploRiumAb	199527 696-5616	Day Firsts Prom
2 Diana Stone	14610 Elmore Rd Ancho	map99576 345-7195	Mannetone
Oharles Kennedy	3400 We Both Anchorage	563-5581	Ethans of Keiner
a Jim Rainwater	45425 E. End Rd Homer	235-6616	Outro 1
8 -		COMMENT#97	5-6-137) 0.1 of 24
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RC7

#### WE THE UNDERSIGNED CITIZENS

FORMALLY REQUEST THE CREATION OF AKACHEMAK BAY SEADUCK SANCTUARY, OR SPECIAL MANAGEMENT AREA EAST OF A LINE FROM BLUFF POINT TO BARABARA POINT WITHIN GMU 15C TO PROMOTE SUSTAINABILITY AND provide REFUGE FROM HARVEST OF THE DECLINING TRIBE MERGINI (SEADUCKS). TO INCLUDE:

NAME	ADDRESS	PHONE	SIGNATURE //	·
Cirai Matkin	907 235-	6295	You OMMUTE	
CRIST RIDEOUT			Tis Releaset	BOX 2430 HOUTE
Jennific Some Som	,		Jameles Simbre	
NORMAN RANDLE	166 W. BUL	NELL -0102	norman Rawle	A#0
Michael Marsh	261 E. Bunn	ell <u>0741</u>	mhal Man	
unice Fen	ZI.I E BUNA		It tem	
Tocia Tymrak	53845 Kitche	v Rd Homer	for fin	
Josqua Tornes	box 24	27	Janna Track	
_Kathleen Brewer	130x 15418		18/32	
S.T. POUFA	Box 2733	Homer 2280	Japane 3 Regul	
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Barbara Scarrau	PO 2843 HOW		5 tadad sax some	
DANA WHITTAY FE		ner 235 9179	Dany UMAY	
DOMON PROPRIET	400T PO Box 671	235-4390		
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know R. Ross	F.O. Box 1652	,Howter_ 235 42		<u>'</u>
SUPPLINE PERMIEN	PO GOX 1983	1-10HER -2462	ducadas Penher	
Mike Hayes	POB 3532	Haller 1921	Mil Hayer	
Mercedes O'llars	Pax 939	Homer #8050	Mencadas Dyeary	
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WE THE UNDERSIGNED CITIZENS

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NAME (print)	ADDRESS	PHONE /e-mail	A SIGNATURE
Keyn Hartar!	3601 Sammon Bay Cir Andr.	807-762-9502	and the second
Sabine Shymous	58814 Aloya Homer		Samo
Emilie Ohs	70 BOY 1402	90+235-0706	Emily Oh S
Mathew J. Lilley	70 Bay 3021. Henry	23D 0547	An. Lillan
Coorge Rooney	POB 104777 ANCH 94570.	762.1589	July.
Kyle cents	10 Box 1384 Homer A4 98623	707 235-2265	Tarle Oca
Lossen Howing	10 hox 4014	402-235-8780	eff.
R BRINSON	POBOXILLO GUL, ANC. AK	337-0628	aco Parinso
jans amudt	PO BOX 3522 HONGING	235.2841	Thashvia
Cot. Cle Toparale	53845 Kydler KI	225-4239	Water
Graig Ashell	189 city View	235 - 4832	
Josem Bett	11 cal 13 /x 2510 Clares		Con PSR
- inter	7.0x 1668	1603	Vegor & Crown
Alan J. Parks	1,25 Winterhaven	220,0000	
Sally Oberstein	13339 Honer At 99603	907-235-5680/amarts 0 xyz 1	Care Clarat
Brande maderal	1301 CA DAW CO 99516	(907)3456095 MGGOVETZNEGGELA	
radette Egger	P.O. Box an	907 567 3253	tawletu Eller
MICHAEL P. MCBRIDE	P.O. Box 956 Homes a.K.9966		Vall la BiOS
DIANE MEBEIDE	10	11	Diane MiBude
hun 1 MGOLIN	7301 old Rabbet 99516	3456095	Russ
Dennie Anderson	Box 3934 4704 Salvan Hover		0-1-
Dune Meder	22907 Whentle Drive Es. Al	6997463	gamervirusar
MICHAEL TANECEK	POBOX 878825 WASHLA9968		1
Esth Dorson	271 Xeradow # A-C		CHAPT KIND
Don Hrosswy		235-6666	Chille Market
tou Historia	3882 Lachonellang Lot 32	235-5290	yours som
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NAME (print)	ADDRESS	PHONE / e-mail	SIGNATURE
EUZABEM BURCK	BOX 3051 KENALAK 9941	, 262-7446	Chalk Buck
Susan Lanned	30410 Stabble Gold Dig	6 262-6389	Huran Leaned
Baro DEAL	POBOX 2584 Homer AR	235-0712	Sarb lead
Leannadayion	184 CITYVITO HOMER A	275-4832.	of lawyhouton
Sharon Bayer	POBOLARDA HOME	235 - 3496	Dhoron Bazer
Marilyn modris	9531 Hillside Dr. Anch 99516		of marky Grazis
TITA NILES	3990 Beluga Cir# 4,9963		Total Distriction
BONNIE LONG	14710 Prek Hill Cond Her 49811		Some Law
Debra Cary	PO BOX 2773 Homes	235-5626	Delpas Georg
Paince A. Mile	Potax 101811 Auch A1. 99.5	0 272-1909	anela de la
Tom RESS	112 CREIGHTO- OR ATHERS, AL 3	3613 256-233-3057	A Les
Roberta Ress	1000 15 700 00 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1 1	l u	Durta King
Mottra Leversiller	1901 Sunrise Dr. Anch, AK995	2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2 2	Block fluino
Dan NULLAN	8835 Jewel Torrece HALH.	243-9269	ANNE DE LA CONTRACTION DEL CONTRACTION DE LA CON
Kim Milean	111111111111111111111111111111111111111		K.M. Keam
Bor Hiseson	11110 SAKEKNICH	281-485-6223	PA
David Lee Ritter	62479 E. Skyline Dk.	6841 dansyla axy Znet	Dairy Los Octor
Paulotte Culbertion			Involette Lullertson
anch family ferendend	605 Majone, (Kenai Ax 99611		
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	2105 This Tree Pd. Boyman,		MATURE AND THE
PAT FORMSON		EMAN, MT 400-587-7305	Pater M. Juhn-
Marie McCart	POBOK 15295 FAIR CROKA		Illi (a)
Bill Grober	1944 Bouver 1 p Rd K		William goder
Teagy Softman		=: AK. 907-283-3701	Reggy Southon
Claire G. Caldes	POBOX 2719 Hower AK	907-235-9189	Chur 2, Caldes
13ill Noomah	Ro. Box 15242 Fritzbreck MK	1760 235-8469	Bell Normal
tanck young	1 602 Ext 15 ST Durango	081301 pryoung @ bwn not	James Ryo
Jane Little	65701 Skyline drive"		1/4
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NAME	ADDRESS	PHONE	SIGNATURE	PHONE
W.R. SHELT	on POB 240	08 235-5619	W.R. Sufter	
Kathrun Hiest			U, MT 59718, 406-58.	7-1816 Cathum & Hiestand
Linn Andrews	12621 Sau	nders Rd Anch. 99511	M. Rimon andlews	
Molly Andrew	> POBX 26	055 Homer 99603	The Colon	(4)
dennik toham-luwi	- 7.951 Raidoit (1	icked Brilings 9956	Dit Jollan lolve	
ILONA S. WRIGHT		Anchorace Alaska 94501	Can Brill	
Ann Colgrove		Homer 135-4864	ann Colyron	
Alex DeMar	Bex 330'	1 Seward 99164	aly had	
Beth Schroe	r 57670 C/n	ver Ave 99603	Bech Schraul	
Hire Ewain		m 235-7041	seie war	
BRIGHON WHER	3990 86461		Knetter Nels,	
Sandy House		290	I Sandra Daishton	
Saura asans	PO Box 87673	o wassella AK		) adams
Kolpey Alans		a unsile que		R. Eda
5 T SALTENBER		EN. AVE KENAI	2339912 91 Satterfel	9017
RICK & KRIS MER	212-0N P.O.Box 143,	251 ANCHORALE	Rad Part	
JOHN WENCER	3017 DOIL	DR ANCH AK 99509	4 Hole S. Oercu	
abrilan Erikson		Perk Circle Aah AK	45.17 Kala Carlos	
Pat Off	P.O. BOX 876	SOT WASHLA, AKG	1687 Detroga G. Oct	
JTAYLOR KIRC	HNER POB 15/3	3 FRITZ CREEK 996	13 Salen Glida	
Carla Stan	1en 398 Elde	wheny Cf Home	AL, 99602 Take KAT	ri
KIM Morris	13250 SHO	Kenson Anch 9951	18 mby PNOni	1
DAVE BRA	NN BBOX 10	101 Haver	Jan Bronn	
Bull Harrie		Selven ihmer		
Dennis Nova	POB 27	22 Howler	11-10-11	235-8485
From TUR	169 BOX 2	-113+ ANKE BAS	45 9982 Jen To	unes 907-789-7058
Nancy Shee		caster Dr. Anch.		907-5624354
Mike Sheene		Later Dr And	7100 00	11
Larry Hogre		wood Helt Some	Kurren K. Home	235-1206
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NAVIL	ADUKESS	PHUND	SIGNALURE
ASAIAH Bates	1304 504/pnz1-All	235=5/6/	Program Bater
CONHED // WORK	248 W PRICER AU	235 7252	MINUN / Coll hand
LEAH ALCOPN	PO. BOX 1976 Homer	735 - 3923	The state of the s
STEVE TAPERLY	A & BOX 2074 " AK	285-3610	Pr Daile
Priscilla Ruso ella	PU Box 2365 Home	235-5617	Ingulla Vigosell
JUL SUDHOFF	DO BOX BX HIMER	235-3437	All Sall
Pika Mouw	P.O. Box 4084 Homer	235 - 7455	John Mood
Heigh Crais	Kain ST Nomer		Peggy Courg
With all true			Effect
Reported Dog Boxetes	4730 Elmers and Home	299-12-79	Vog Toost 1 1
5 5 ari breylogie	Box 496, AnchorPoint AK 9956	<u> </u>	Oce Broke
Leven Swar	Der 7245 Homer AK 99607	#235-7024	Les Fills
Martin Zeller	201337 Honae, AK 991,3	735 8985	- Jak
		235-0688 N 338 2727	1 Street of Street
Stanley Jacobs Lora Wilker		235-2478	1901A 11 11 11 21
Ama Smith		235-7711	THE TAX TO
Rita Ptenninger			leta Phenninger
Sham White	By 1529, Itma	235.555+	1 Samuel 210
Malinda Thomason	Box 1542 Hower	235-4214	The state of the s
Dale Charman		6518	Valley
Evely Semela		736 4239	The contract of the contract o
Since mullin	107467 Agusto Lone	255-0633	
Mark Schallenberger		235-4387	Mark Stalle auge
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Lord Elemen 2	POBOK 553 HONGRAK 9963		Tou Maline 2
N Tela Sylvania		725 1290	
Lisa O Sen	PO Box 580 Homer AK		LISA OLSEN
LUZ HYICE	PO BOX & ALDREN AK	235-3922	- Liz EMICL
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	ADDRESS	PHONE	SIGNATURE
SUL SHEEKED	833 S. Stato St. Steel PMB 28	3 Lake OSWERD TOX 9 7034	SUB- SUTSUL
	PO. Box 2055 Homer AIS		MOLLY ANDREWS
	17478 Brookhorst Cot. Lake Osus		10 10
	1628 EACTEFEAR WAL LAS VE		1 Louis Wine
Buen Smit	POBOY 3235 Honer AKGG		Briasmith
Ares Strada	BOX 370 Dillingham AK		Dear Strengton
- Frie ON della	2695 Kielinchip Ball	ey m2 46072	EP9COSTQUEK
Janet DickChange	723 Green'SF	C-A: a CO, 81625 (970824	23 9 Jacka Dick Clymon
Benny Maga	1420 Lee Street	Homes alaska 99603	
Shelley Boat &	41700 hackemak De	Homer AK 99603.	Sully Cott
VAN H. HENDRIX	9603 EM NORA LA	HOUSTON TX 47080	1/classification
Clarence Hightohoo	1526 Broadway	TOWE CITY IZ 57240	Lange Collection
Carolus Merchant	2208 Rose St	Berkeley CA 94709	Carolyn Werchant
Chroson Ottate	D.O. BOX 4157	Homes AK 29603	Nancy White
for Adams	Po box 2292	Homer 12 99603	Ton Adams
KARENT MCCaty	P.O. BUX 224	Armer AK 99603	Faren & MC Corly
a. R. Counces	199 W- Sterling Poul	Houston 1x 27382	allfunk
Dans Willales O	Souther (N Drove Al	501 331-4154	The willes
Joel Pietsch	PMB 263 3335. State St. Ste #	ake Oswego OR 97034	Cod Parket
Scott & Dulcinea Graham	209 Cityrew the #5A Homet	2403 (907) 235-8247	habeing B. Grober
	POBOX 395 Homer AL 99603		lique Bee Harefman
·	PEBOK 15185 Fritz Creek AK	907-235-6563	( Let VII)
Delie Douglast		907-235-2232	Bolin I Borolani
	P.O. Box 674 - Homer AK976		Hamp Emblued
			Sil C. Theres
Le a Sterner		907 235 7155	
	POBOX 395 Homer AK	907-235-6356	
LENNIS MACKOLIN	POBOX 2810 HOMER AK	907 235 - 2744	Manning Marchania
TANKS M. BUCKWAYER	PO BOX 3487 HOMER AK	901-235-4186	Trans Prelined

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BUFFLEHEAD; COMMON, RED BREASTED, AND HOODED MERGANSER.

NAME	ADDRESS	PHONE	SIGNATURE
ROBINT 6185	15210 MEER PL. ANH	AK 375-4564	Maria -
Denjelle Mathe	3016 E 201h Arch XX	276-0005	Towalls I live e
Jeb Benson	2115 Dayson St	786-3597	- Dulies
James King	14183 Ranglove Biskel	VA. (58)669-2630	Lanc C. The
JEAN TAM	70. BOX 240363 ANCH. AK	248-3363	Jean Jan
Dahr Jamail	1327 Sunrise Dr. Auch, AK 9950		Dela Dunil
Laurie Solchenberger	90 Box 242364 Anch. AK 9952		Lauri Affertager
Anne Pfitzner	PaBof 1224 Siloptra, AK. 996	69 262-2673	Chris Potet
Zachar & Nehwe	11-7 w Rayview Home	DK 322-144)	Joelal Van
JAYNE MARKENOZ	3304 FOWA (Sty Arch, 995		Exagre Mark
Jani 1soyer	PO BON 231217 Mrh 9903	3 349-3786	
Ann Colgrove	10 BOX 2183 Homes 990	603 235 4864	In Colypore
Jone Fleeman	2200 Steeple Dr ANEK		Jone treamon
Mary Kethe Wright	13720 Kaven St. Bre ak	49,75 345-4589	Mary Bollo Wright
Raphael A.Datylo	20132 Mapino View DV. Sw. No	rmandy PK. Mr. 98/66	Tophail Sain le
Allen Jones	823WS3 AME ANCAK		Morning
DONNA R. JONES	823 W. 53RD AVE	907 561-4944	DOLTA PROLLEY
Jenny Carroll	35047 Cowbush St Homer		Manyparial
John Delans	19101 Elmore Rd. Anch. 990		Minte Depara
JOHN RATE	Box 2169 Hower, At 9940	7 907 235-8098	XIACIO
Susan Hunandez	2654 Brookstone, AK 9951	5 901-265-9574 -	War ETH
WILLIAM WATERS		2004	William Waters
Jeff Erickson	PO Box 3695 Home Ak 9960	907-235-6390	(left Exiles 1
Marie Herdeaun	109195 Rober U. Old Stev		M. Herdegen
Allison V. Teagre	POBOX 3917 HONERO		Ollism V. Claus.
Jin Corvey	P.S. By 1770, Mass net, MA		
Arthur L. Souls	P.O. Boy 1693 Homer, Ale	907 235-5958	( which downs -
EDWARD A WOOD	Box 511 Homer	4160	Slandanle
Claire Waxman	Box 2964 Homes	235 8406	Moran

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BUFFLEHEAD; COMMO	ON, RED BREASTED, AND F	HOODED MERGANSER.	1
NAME	ADDRESS	PHONE	
Suzanne, Snith	58405 Styline D	235-412	Suranu Omit
Ann Koskovick	2x 1282 HOUR	235-5405	S Out
S Grin WAVEL	BOX 2776 Homes	235-5%6	LAM M. YOUN
Sharon Mycenne	Box 1128 Homer	235-6737	Sharowellenie
LINDA SKELTON	BOX/6/0 Homes	235 - 8499	Sinday Hatin
Cance Doily	527 GRUBSTAKE HOMER	235-7725	The Story
Doby Bella	Box 3057 Horner	522.3800	SULVOIS OF
David S. Audierson	Box 475 Anchor Pt.	235-5489	Jan Sal
SAME WOLFE	PaBX3335 Homer	235 7696	Jan Work
Jim Griggs	1443 Dover Rd, McPherson, KS	316 241 6282	- Company
Stoul Fee	POBOX 1131 Homer, AR	235-7721 Bushic	Show fe
BRIAN SACNUES	PO BOX 1768 HOMER, AK	235 ~ 4757	
TRUIN KAUM	10 Box 32, G House, AIC		
HORMA DUDIAK	640 SOUNDRIEW HOMER	235-7181	Sforma Dude =
Julia Shuter	POBOX 413 Homas, ALL Sb760 E. Eng PJ	235-5996	2 Steelands
MICHELLE WANERO	PO 80x 1997 - Homer	235-1038	Michigania =
Evic Knuatson	PO Box 2094 Homer	235-2308	E h An
Teresa Gross	PO Box (lo) Homes AK	835-5276	Touch Gross 1
NANY MAKE	4331 MAMNER PRIVE	235-2982	vannyaki
Atelissa (Trimm	4105 White Alder Court #18 Homes	235 - 8217	N/O
	184 W. Banview Ade H		
Som Tarrilor State	POB875 Address AK	250000000000000000000000000000000000000	Lan Leviston =
		9071245-0302	
Koger D. Clyne	59855 Senfond Dr. Home		10 July 10 0
Las - Hibreth	6001 Beverly Angh		
PAULINE REDNER	PO Box 1255 Homer AL		Jahren Vienn
Months Stracmer	BOX 22095 JINU AIR 99602	<del>5</del> 42-5701	Minter Service
Danetheating CAKROLL	1950x6433 HalibutCove AK9960	3 2962231	Jonathody Land
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NAME	ADDRESS	PHONE	SIGNATURE
ALLEN E. SMITH	9835 LONE TREE, ANCHONES	9576 907) 346 - 2379	all Smiles
Dave Lyon	POB 47 Homer	race	a do do
Thillip Karmingh	Box 100774 Anen, 84 75/0	349-9491	The last of the second
Ingela L. Wade	Box 112 Sutton AK 99674	745 0737	Challet Wash
75 1-Co2-	BOX112 Sutton AKA9004		1=1-69
BILL SAMUELSON	8525 Emerald St 99502		Bill Joyan
Scott Graham	209 Citegriew Are. #5A	<i>235-8247</i>	A TON
Dulcinea Graham	709 Cityrieu Sec. # SA	( //	Alexan Josephan
Mary age Murphy	lobox 3185 Homer	235-6065	Mary and Muya
Kura Klandon	Surpilleper Cir Anen		Hung Kendung H
8 Commission Collection	Don 704 Sterbrught 906 78	2624030	
	Bex 2/0303 AUKS BAY AL998	21 907-789-2595	Estable 139eflain
CHARLES GODAL	Box AY? Server, AK	907 3623130	
Result Stankro	561 W. nelson are -4		Swil Stankers =
Jee P Josephson		907-277-4419	ged Josephia.
Marily & Maurer	1526 F St Anchowy 99501 20 Box 864 Honor		MARILAN EMANRER &
1 Da D Entra	PO BOX 15704 Fr. T-C.	e 907-235-3487	D= 1/51/2==
· Jane Middleton	54190 East Rd Homer AK	907-235-6064	Jane Middleton
market & ?	Pu Ber 292 HomER AK	907-235-8-EX	2) Demotor
Lamil St	P.O. Box 9/8 Homer	275- 3842	Emiel KH Joriet
I Chris Denich	u 11	11	Chris Anarch =
& Midrea Racher	6640 B Weener and 998	02- 248-6367	Julie Line
Karenotter	POPOX 583 Sterling		Parenotter 3
i William	(0 for SP) stelling		Julitation =
S PALPIH BROSHES	PO Box 1445 Homes A		Do I Sal Becorles
& Arthor Kettle	P.O. Box 3355 Homer		
# WIT JAHRIG	POBON 51 KENON' AL		Wil Cetter
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NAME	ADDRESS	PHONE	E-MAIL	SIGNATURE
Marai Blandina	PORO 3357, Honer AK	235-5118		non Willella a
Patricia Kane	P.O. BOX 15184 FILT Creek A			Whataia Van
L. Sharp	Box 190051 Anc - 91			
Non Kouka	Boy 832 Homes	235-8501		Donald Control
Gen Spelmen	POBOX 2545 SUDITION	260-3539		Some A Spelman
John Mours	PO BOX 212 Homer	235.7455	<u> </u>	( falul
Alan Cosgrace	PL BOX 336 HOMER	235.3275	·	( Soughan Commi
General Morsness	Toat Cararde Aux.	348.7000		Mellowards
due bree	7911 Hazel Ct.	345-0098		GATISH !
MICHAEL BOYLANd Kasen Boylan	POB 241283, Audum, Across	६१५-११६१		Coren Barbar
Nevin BECC	P.O. BOX 4354, Homer	235-5333	<del></del>	Know Berg
Carolineilitchie	1602 Tangen Yera! AK	283-3405		and Dod =
DANIEL Zatz	Box 2666 Homes At	235-1202 AK	RAVEN1@adiom	D22
15a Thomas	POPOX 315To Honer	235-4102		R m
Jun 1th Lyans	4178 Hohe Homes	235-3608		tradick to
POB LUND	4178 HOLLEST DOMER	-3608		Jacky & Thurs
Manton Bots ford	785 Sarah's way Wasila	357-5479		Will the fail
Maria Octobra	785 Sarah's lody was da	357-5449		March Blo Get
STUART EXMUTLIER	Po 3576	235-8082		SAT
Pany Pope	PO Box 1117/10 And At	348-002		Jamela Roges
Cathy Raabeck	14500 Ferdid C. Huch.	345-7690	· · · ·	Lay Realed
Charles of FOUT	P1 7799 Cospertading of	595-1712		A
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North Horanky	Bay 632 Homee All	135-7358	·	May Dlank
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Tom Latimer	P.O. Box 15025 Fritz Crk	235-55 <i>91</i>	and the same of th
Kichard Puringen	Box 52 Homer At 9868	-	Munglis
Sandy Rongenkamo	111 Garden St. Duluth MNS	5812 218-728-5977	British Romeskamin
CARNE HORLAGELL	3144 CASSIUS CT ANERDANCE AKAGS	W 907 277.6150.	Cash Hele Teles
Midnel S. Christy	P.O. Box 240552 Avel AU 93524		Wicked St Cluster
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Mary Aubrichae	Dobox 392 Fentin Ms 63026	314-737-7202	Mary Al Sule
JAMES M LOUGHLIN	505/ N SAKINO OW THOSON AZ	5-20-577-5787	In M Tel
Maria Metherson	PO BOX 3585 Homer, ALL 99603	235-6109	111111111
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Joel Cooper	P.O. Box 3585 HomerAKARRA	235-6109	1 million
Robert S Abillon	1-0. Box 24 Girdwood AK		Red Soule
Tracey Gotthanat	P.O. Box 795 Girdwood AK	783-3337	Traceus Goodboardt ?
DAVIT TESSLER	P.O.BOX 795 GIRDWAD AK	<i>7</i> 83 -3337	Dest jenh
ERANCO VENUTI	P.O.60X3652, HOMEN	235-7480	
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John Bran	Box 15167 File Creek	735 ,7541	Talik .
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Joy Steward	To Box 3516 Homes	235-802	The state of
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Michele Stenger	Box 15301 Fn72 Crede	235-3788	Muchale Fr
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RON READONT	9601 Hellside Dr Archrouse	GT1L	for Defruit
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BUFFLEHEAD; COMMON, RED BREASTED, AND HOODED MERGANSER.

NAME	ADDRESS	PHONE	SIGNATURE
KATHY PECL	PO BOX 3176 HOMER	235-1017	Hallerne XI
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Venise Lassall	165330 KNOW HILL ANCHO	v Point 235-4277	Denie Larrais
Edgan Bailey	POB 2994 Homen	235-6262	Elan Solar
HILARY GOSQUE	POBOX 336 HOMER	1353545	Wegan 60 2 mg
John Yowell	P.D. Box (OGI Homer AK	none	John Hulle
LINDA FEILER	Box 148 AMCHOK PT. Ah 99556	235-8457	The Joh
Marianne Lambert	5003 Brook curry Dr Rether	the My	
GABRIEL SANCHEZ	PO BOX 476 HONERAK.	235-2691	
6 FIL WALLINGA	4037 22ND AVE : MPLS MAN		Jan Olival
Carole Tillian	2524 STEVENS SOLMPLS.		arole their
Digging Rosky	672 Carroll St. Belininy 11215		TD/Bly
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MICHAEL S. DIRKS	POD. 397 ANICHOR SOME AK 99556		all all
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LINDA FETLER	Box 148 ANCHOK PT. AK	1 8457	The feelen
Lisa Thomas	Pohy 315ethmer, AL99603		XXXXXX
o Lois Esstein	1525 27 St., NW WDG 20007	202 965-4659	Com n. grand
& Richard A. Hojohin	21780 COAST HIGHWAY I TEN	1-800-927 2319	TAN-Horola
BANNE C. MANN	405 52 FANSANDUSS. MI LAGAR C4 94903	(410)472-2528	Lean Cilains
1 KAREN HOWDETH	P.O. BOX ANDHOR Pt 99556	907-235-5253	Hosen Howard
& Bob Forrest	P.O. Box 3269 Honge AKGGGG	03 907-235-4068	let Horier
5 John Tornes	po box 2497 Hore AK		Johnstons
3 Jereny Kobor	266 Orange Bloison Love Sulfield	4 415-492-8737	Som The
Parauer Dear	3979 LONDOY 4/ Lborec A.K.	907-235-1423	Teterne Grand
& Noncy Smith	3858 Lake 89 \$15 Alen-	907-235-821>	Mary Mary
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BUFFLEHEAD: COMMON. RED BREASTED, AND HOODED MERGANSER.

NAME ADDRESS		PHONE	SIGNATURE,
AMY BOLLENBACH	P.D. Box 3429 Homer At 99603	907-235-6954	Con Bollebach
Jenny Stroyeck	PO ROK 38 HOLLEY AK 99603	907-235-749V BARE 11.	Sunty Stronger
LEE VOST	PO BOX 1069 HOUSE AN 99503	907-236.7496	GE TOST
Barbara McBride	Po. Box 1857, Horser 99603	(901) 235-5581	Balaio De Budo
MICHEL ARMST PONK	P.O. BOX 38 HOWER 94603	907 235 - 7310	flam /
ENSUME PRAIS	2020x 3407 4000 09603		- sallsonor
Anne Wieland	PD Box 1395 Hower 99603		and widay
Freh Harren	ROO RED Mt. How 9860		Julian Marine
Wendy Noomah	PO BOX 15242 Fritz Creek 99603	28-8469	wendy wound
Tamara Stobenthale	170 Box2962 Horner, A699603		the second to
Christo Collier	54065 Frontier In. 79603	235-2512	Thrista Coller
Victoria Wilson	Box 1512 Into Creeke 99160		Dawskow
Joseph Lothins	18.0, Box 3311 Homes	399-7/20	
Susan Post	90 Box 1075 Homes	235-नंभव6	Susan R. POST
Aim Cocowell	10. pox 82 Homer	235-1245	Them go Consill
RHTH BECUIA	1034 LARKSPURCT	236-3721	RuthBigura
Rendar Hoen	152 E. Baguien Aug. Home		Grandy How
Karl Stollages	PO Box 3212	235-7525	
AUNKER ENIONT	Po Bot 507 Homes	235-6955	- Turkey
Nell Gustalan	POB 4149 Homes	235-lde53	Nell Gustalson
of Roll Cutton	2131 W SWATSING ALE (Chiczeo	<del></del>	for auto
3 Mary F. Veihl	180. Bux 3808 Hover, AK	835-1315	Many Jeh
& Swanne Torian	180, Box 3162 Hower AK	5-1052	
- Ches Fontain	PO Box 1386 Homes AK	907235-0698	This tostains
" SARAH ROBERTSON)	349 ELDERBERRY HOME	1	Sarah Robertsoni
DORATHY WESSER	POBULDAR Homes AK	917-235-5989	Specifil gases
a Patrick J. Stewart	P.O. BOX 2996 HOLLER ALL	907-235-6756	Watadistract
3 Joel Balzer	POBOX464 Homer AK.	235-48594	W 2/1
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Marga Rasken, Homer > Box 2419 -05/4
Thr. And Mrs Timetry II Buke. 181 North BAph Au Pittsburgh Pn 15002 Kazer & Denice Clyn, 59855 Senford Dr., Homen 9960. Solve Sumans, FOREx 2336, Homes Debbie Schmidt, P.O. Bix 4074 Honer 99603 Tyun Kassman POBOX 2315 Bethel ak. 99559 with hipmost 20. Box 4074 Homor, AK 99603 Laurie Janiel Caewi Elaurel PoBox 3713 Homen AK 89603 434 Sabrina Releason 3705 Andric Blud # 2570 Anon, AK 90303 56622 Rov GRAVENIHORST POB 785 Cooperhanding 99572 235/168 Spercen Atisley P.O. Box 3251 Amer 99603 Belle Merritt P.O. Box 276 Girdwood Ak 99587 907-783-1494 De nuis Andorson 80. Box 3934 4704 Sabrium Honer Ak. 94603 - 235-3735 Ron Macki 501 Lucas Rellet Washla Ak 99654 373-Sunviso Spelver 4670 Tawara St. Hower At 235-7. Jim Duined 14600 Hamages of Homer 2443607 h 22907 Myrtle Dr Eagle River At 99557 m Bym 1060 GAST RO Homer, AR PGGGS Villean Gidus P.O.Box 1882 Nomer, At. 99603 Clareceive Dimerumay. 18. 10:12AM-O-BOX498 Homerak. 99603



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Joyn Lanier 5951 acquire Woods Dr. (907)345-4545 Alienthogophy, P.O. Box 759 Homer AK 99603 909/235-6410 Bonnie Schwiesow POBOX 2298 Homer 99603 Pisa / Carble 60855 Slayling Dr., Hower AK 99603 235-3832 glores Atuant 294 mt. View Dr-Home. 99603 235-2898 (GREGORY FRIES) POB. 922 KASILOF sleggered PO.BOX922 KAS; 107 99610 > 672: Haven to 1393 Homer Anchorage 1 AK. 99509 Choate 3130 Kenwood Anch. 99509 Welloots 5130 KENWOOD CIR, Anchorage 1 AK. 98504 3335309 1134 Her Anceware AK. 99501 397-7215 January 9600 Houngride Lp Ducharage 99515 522-1237 Movent Neumann, Box 3192) How AK 96603 assum Box 2315 Bother ak 99559 Kovelson Box 1498 Home AK 99693 1/20 6/20 West Tree Di Andwaye AK 9256 letype 6120 w. ree Dr. Anch 99516 Meen Box 172005 Edgle River, AK. 99577 Patricia C. Valone, Box 1498, Homer AK 99603, 235-4846, Paturia C. Valore NINA FAUST, Nine Frust Box 2994 Homer, At 99603 235-6262 235-Vancy Lord Dors and Box 558 Homer AK 8252 TRAIRECEIVED TIMETEMAY. 18. 610:12AM Calezak PO By 244555 Anch. AK 99524

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NAME ,		ADDRESS	PHONE	SIGNATURE
Barbara Hol	man 2	316 Susitna Drive	248-6276	italian Homan
Shirley Forgi	UER.	P.U. Box 1187 Homes Ho	235-8317	Sharting Foliage
CHRIS YOUR EIG		32710 Landa In Homes AV	7654	Min Jell
Heather Keiche	ubere E	8375 9. End Pa -	2670	Wall Feel
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Mile Alle		171 Les Dive	785-7977	Markowski
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Due to the wide variety of users to the Kachemak Bay area and the large geographic area they live in we setup an online form for people to add their comments to the below Petition. We ask the Alaska Board of Game to take all other these users and their comments into account when making the decision on this topic.

## Board of Game 4/2/09

## re: Petition to Repeal Proposal 117

We, the undersigned, hereby support the petition to repeal proposal 117 5ACC 85.065. This proposal drastically reduced the number of sea ducks that can be harvest in Kachemak Bay. Resident hunters were dropped from 10 birds daily limit/20 in possession to 2 daily bag limit/4 in possession. We feel the original proposal said nothing about regulation changes such as bag limit reductions, and the public was mislead.

The head state waterfowl biologist Tom Rothe writes, "The department has concluded that the sea duck harvest is not excessive in Kachemak Bay and Cook Inlet". His recommendation for proposal 117 was: "Do not adopt." Surveys from 1999 to 2003 show from 15,000 to 30,000 ducks wintering in Kachemak Bay.

The Board of Game has made bag limits reductions to sea ducks in 1999 and 2001. State waterfowl biologists write: "The department does not have concerns that sea ducks are being over harvested and concludes that further restrictions to hunting will not provide conservation benefits to regional winter aggregations or populations of sea ducks." We believe that the biologist's conclusions should be validated by maintaining the previous bag limit.

Dropping of the bag limit is not necessary and was pursued for an individual's personal benefit and was not based on any scientific necessity.

Electronic Signatures and Comments below.

Below is the result of Petition 117 form comments with electronic signature.. It was submitted on Friday, April 10, 2009 at 13:11:45

\_\_\_\_\_

Name: Valerie Carroll

Address: 57690 Blueberry Glenn Ave.

City: Homer

State: Ak

Zip: 99603

Email: akcowgirl@alaska.net

Do You Hunt Sea Ducks in the Area? : Yes

Are you a Resident of the Area?: Yes

Are you a Resident of the Alaska? : Yes

Do You Just Care About the Biology of the region? : Yes

Do you use the are for other reasons? : Yes

Cert: Valerie J. Carroll

Submit: Submit

Petition 117: Email

Petition\_117\_Form: Petition\_117

Below is the result of Petition 117 form comments with electronic signature.. It was submitted on Friday, April 10, 2009 at 13:27:21

\_\_\_\_\_

Name: Henry K. Kinney

Address: 57690 Blueberry Glen Ave.

City: Homer

State: ak

Zip: 99603

Email: seacowboyd379@yahoo.com

Do You Hunt Sea Ducks in the Area? : Yes

Are you a Resident of the Area?: Yes

Are you a Resident of the Alaska?: Yes

Do You Just Care About the Biology of the region? : Yes

Do you use the are for other reasons? : Yes

Cert: Henry K. Kinney

Submit: Submit

Petition 117: Email

Petition\_117\_Form: Petition\_117

Below is the result of Petition 117 form comments with electronic signature.. It was submitted on Friday, April 10, 2009 at 14:26:10

\_\_\_\_\_

Name: Kristina R. Schlotmann

Address: 2820 North Meadow Lakes Loop

City: Wasilla

State: ak

Zip: 99654

Email: scooby\_doo99603@yahoo.com

Do You Hunt Sea Ducks in the Area? : Yes

Are you a Resident of the Area?: Yes

Are you a Resident of the Alaska? : Yes

Do You Just Care About the Biology of the region? : Yes

Do you use the are for other reasons? : Yes

Cert: Kristina R. Schlotmann

Submit: Submit

Petition 117: Email

Petition\_117\_Form: Petition\_117

Below is the result of Petition 117 form comments with electronic signature.. It was submitted on Friday, April 10, 2009 at 14:27:23

\_\_\_\_\_

Name: Christopher E. Schlotmann

Address: 2820 N. Meadow Lakes Loop.

City: Wasilla

State: ak

Zip: 99603

Email: scooby\_doo99603@yahoo.com

Do You Hunt Sea Ducks in the Area? : Yes

Are you a Resident of the Area?: Yes

Are you a Resident of the Alaska? : Yes

Do You Just Care About the Biology of the region? : Yes

Do you use the are for other reasons? : Yes

Cert: Christopher E. Schlotmann

Submit: Submit

Petition 117: Email

Petition\_117\_Form: Petition\_117

Below is the result of Petition 117 form comments with electronic signature.. It was submitted on Friday, April 10, 2009 at 14:45:47

-----

Name: Michael Justin Harrions

Address: 204 Pecan Circle

City: Brandon

State: MS

Zip: 39042

Email: mjustinharrison@aol.com

Comments: As a non-resident who has hunted (and will again this year, being 2009) Alaska, I am writing to you extremely concerned. I have been unable to find any research noted (or otherwise referenced) which would lead me to believe that lowering the sea duck limit in this area is anything short of caving to a few in order to silence the phone calls.

I consider myself a conservationist of the game first and foremost, and have no problem following (and helping police) game laws which take the protection of a species at risk. Conversely, I am also a hunter, and urge the department to strongly consider returning the limits to the former given the lack of hard, scientific data to support such a move as this.

Sincerely, Justin Harrison

Do You Just Care About the Biology of the region? : Yes

Cert: M. Justin Harrison

Submit: Submit

Petition 117: Email

Petition\_117\_Form: Petition\_117

Below is the result of Petition 117 form comments with electronic signature.. It was submitted on Friday, April 10, 2009 at 14:47:20

\_\_\_\_\_

Name: Robert Eagan

Address: P.O. Box 496

City: Anchor Point

State: AK

Zip: 99556

Phone: 907/299-1627

Email: uscgrob@yahoo.com

Comments: I find this proposal to be unfounded and deceitful. The fact of the matter is that this proposal has no ground to stand on. And furthermore, wildlife management is key to stability of the environment. I for one concur that this needs to be repealed.

Do You Hunt Sea Ducks in the Area? : Yes

Are you a Resident of the Area?: Yes

Are you a Resident of the Alaska? : Yes

Do You Just Care About the Biology of the region? : Yes

Do you use the are for other reasons? : Yes

Cert: Robert E. Eagan

Submit: Submit

Petition 117: Email

Petition\_117\_Form: Petition\_117

Below is the result of Petition 117 form comments with electronic signature.. It was submitted on Friday, April 10, 2009 at 15:54:08

\_\_\_\_\_

Name: Steven J. Hoover

Address: 3817 Blacksnake Hill Rd N.E.

City: Dover

State: Oh

Zip: 44622

Phone: 330-602-9008

Email: steve@duckwaterboats.com

Comments: The proposal was passed injustly! The use of Scientifis and biological data is

necessary for such judgement.

Do You Hunt Sea Ducks in the Area? : Yes

Cert: Steven J. Hoover

Submit: Submit

Petition 117: Email

Petition\_117\_Form: Petition\_117

Below is the result of Petition 117 form comments with electronic signature.. It was submitted on Friday, April 10, 2009 at 16:38:13

\_\_\_\_\_

Name: Jason Needham

Address: P.O. Box 179

City: Jersey

State: Ga

Zip: 30018

Phone: 770-267-5750

Email: Gaduckthrasher@aol.com

Comments: I have not ever hunted this region of Alaska, but someday I might consider it. It's hard to believe one anti can do such and they probably do nothing in the help of supporting wildlife. Hope this situation gets changed back to the way it was.

Jason Needham

Do You Just Care About the Biology of the region? : Yes

Cert: Jason Needham

Submit: Submit

Petition 117: Email

Petition\_117\_Form: Petition\_117

.....

Below is the result of Petition 117 form comments with electronic signature.. It was submitted on Friday, April 10, 2009 at 17:08:51

\_\_\_\_\_\_

Name: Dane J. mouton

Address: 2609 mary ann drive

City: Sulphur

State: la

Zip: 70663

Email: dmout53@yahoo.com

Cert: Dane J. mouton

Submit: Submit

Petition 117: Email

Petition\_117\_Form: Petition\_117

Below is the result of Petition 117 form comments with electronic signature.. It was submitted on Friday, April 10, 2009 at 18:48:07

\_\_\_\_\_

Name: Patrick Mathews Pitt

Address: 8740 Cedar Crest Lane

City: Olive Branch

State: Ms.

Zip: 38654

Phone: 662 893 4844

Email: ppitt@comcast.net

Comments: I first hunted the Kachemak Bay area in 1981 and again in 1983 and 1985. I fail to understand how what little sport hunting done ther can affect the Sea Ducks. I never saw another hunter and from the locals I spoke with their intrest was in Mallards and just a few even duck hunted. I know the McBride family well and they were hunters but conservationist as well. I firmly believe you're taking away a resource from the outfitters up there in this troubled economic time.

Do You Hunt Sea Ducks in the Area? : Yes

Cert: Patrick Mathews Pitt

Submit: Submit

Petition 117: Email

Petition 117 Form: Petition 117

.....

Below is the result of Petition 117 form comments with electronic signature.. It was submitted on Friday, April 10, 2009 at 19:57:47

\_\_\_\_\_

Name: Bill Connell

Address: 734 N Moraine

City: Valdez

State: AK

Zip: 99686

Phone: (907)835-9775

Email: eatwildgame@gmail.com

Comments: While the resource must be managed for a variety of use by the public, drastic bag limit changes that cannot be backed up with sound science appear to be serving only one user group. This bag limit restriction needs repealed.

Do You Hunt Sea Ducks in the Area? : Yes

Are you a Resident of the Alaska? : Yes

Do You Just Care About the Biology of the region? : Yes

Do you use the are for other reasons? : Yes

Cert: Bill Connell

Submit: Submit

Petition 117: Email

Petition\_117\_Form: Petition\_117

.....

Below is the result of Petition 117 form comments with electronic signature.. It was submitted on Saturday, April 11, 2009 at 07:57:27

\_\_\_\_\_

Name: Scott Jennings

Address: 31172 Hacienda Road

City: Visalia

State: CA

Zip: 93292

Email: scott@srjenningstaxidermy.com

Comments: I made my first December journey to Alaska specifically for sea duck hunting last year, and have planned to make it an annual trip. A drastic reduction in limits would make this unfeasable for me. All birds harvested last year were consumed, and the skins retained for taxidermy purposes.

Do You Hunt Sea Ducks in the Area? : Yes

Do you use the are for other reasons? : Yes

Cert: Scott Richard Jennings

Submit: Submit

Petition 117: Email

Petition\_117\_Form: Petition\_117

Below is the result of Petition 117 form comments with electronic signature.. It was submitted on Saturday, April 11, 2009 at 08:03:53

\_\_\_\_\_

Name: Ernie Spaulding

Address: 1073 Ferry Road

City: Bancroft

State: Me.

Zip: 04497

Email: info@risingsunoutfitters.com

Comments: If there is no scientific data to support the decision, than why go by what a anti- hunter has to say. The fish & game department of Alaska should be ashamed of it's actions....People's livelyhood and way of life are at stake here. Do the right thing...review your data and take what the anti's have for data with a grain of salt.

Do You Just Care About the Biology of the region? : Yes

Cert: Capt. Ernie Spaulding

Submit: Submit

Petition 117: Email

Petition\_117\_Form: Petition\_117

Below is the result of Petition 117 form comments with electronic signature.. It was submitted on Saturday, April 11, 2009 at 08:11:40

-----

Name: Jack Nash

Address: 1124 NE 44th Terrace

City: Okeechobee

State: Fl

Zip: 34972

Phone: 9544455098

Email: jacknash@embarqmail.com

Comments: I believe that you need scientific data to support any issue, regardless of which side you take.

Without due process, and the PROPER research anyone can come up with "findings" and call them facts. It is a scary place when we rely on those who go off of myths and belifs and not facts.

Ladies and gentlement hunting and the tradition of waterfowling is rich with in my native tribe as it is with in your native tribes there.

I never waste or over shoot, I never take from mother earth more than she will give me. I feel that your rules enacted where done in haste and without proper research.

A true waterfowler, which I am, will give back 10 fold in which he takes. You wll be limiting people like me from even coming to your area.

THIS is the true reason, the people that pushed this regulation do not believe in hunting THAT is the bottom line.

If you cannot see that then I feel very sorry for all involved. This is something that Gov. Palin will surely be recieving a letter about and should be concerned about. If she had any part in this regulation or putting the people in place that allowed it then I have will be questioning her as well in an informative letter to all that will listen.

PLease rethink you stance on this issue and take the time to educate yourselves on not only the TRUE reason this regualtion was started but also understand the proplir or group behind it and their true intention of making it impossible for hunters to hunt.

Thank you for your time, pateince and interest in my thoughts.

Jack Nash Seminole Tribe

Do You Just Care About the Biology of the region? : Yes

Cert: Jack James Nash (Running Deer)

Submit: Submit

Petition 117: Email

Petition\_117\_Form: Petition\_117

Below is the result of Petition 117 form comments with electronic signature.. It was submitted on Saturday, April 11, 2009 at 09:49:06

\_\_\_\_\_

Name: Tyson Rasmussen

Address: 612 east 600 south

City: Layton

State: ut

Zip: 84041

Phone: 801-690-0996

Email: tysonrasmussen@yahoo.com

Comments: If there has not been any data to support the lowering of the limit then don't do it! Dosen't make sence to just change something without showing the supporting evidence.

Cert: Tyson Rasmussen

Submit: Submit

Petition 117: Email

Petition\_117\_Form: Petition\_117

Below is the result of Petition 117 form comments with electronic signature.. It was submitted on Saturday, April 11, 2009 at 09:54:25

\_\_\_\_\_

Name: BERT SCHERER

Address: 280 DODD ROAD

City: WINDSOR

State: NY

Zip: 13865

Phone: 6077752827

Email: BNSCHERER@VERIZON.NET

Comments: WHAT ARE YOUR BIOLOGISTS FOR IF YOU DON'T LISTEN TO

THEM?

I'VE HUNTED IN ALASKA SEVERAL TIMES,INFACT I'M GOING NORTH OF FAIRBANKS IN SEPT.FOR MOOSE AND BEAR. OUTFITTERS SURVIVE ON PEPOLE LIKE MYSELF.

I WANT TO HUNT HOMER AREA, BUT I WON'T SPEND THE MONEY FOR A REDUCED, UNWARRENTED LIMIT!

Cert: BERT SCHERER

Submit: Submit

Petition 117: Email

Petition\_117\_Form: Petition\_117

Below is the result of Petition 117 form comments with electronic signature.. It was submitted on Saturday, April 11, 2009 at 15:07:45

\_\_\_\_\_

Name: Winston Gillies

Address: PO Box 1486

City: Kenai

State: Ak

Zip: 99611

Phone: 907-398-6247

Email: global.seafoods@acsalaska.net

Comments: Do not down grade outdoor activities that are not required by science and

biologist - it cost everyone in the long run.

Do You Hunt Sea Ducks in the Area? : Yes

Are you a Resident of the Area?: Yes

Are you a Resident of the Alaska? : Yes

Do You Just Care About the Biology of the region? : Yes

Do you use the are for other reasons? : Yes

Cert: Winston Gillies

Submit: Submit

Petition 117: Email

Petition\_117\_Form: Petition\_117

Below is the result of Petition 117 form comments with electronic signature.. It was submitted on Saturday, April 11, 2009 at 18:57:28

\_\_\_\_\_

Name: William Stahl

Address: PO Box 377

City: Wilmington

State: NY

Zip: 12997

Phone: 518 946-2602

Email: adkbunkhouse@yahoo.com

Comments: I've waterfowl hunted 6 states and have never seen any regs. come to pass as quickly and quietly as this.

I guide for waterfowl in AK., N.Y. and R.I., and hope this never happens in the areas I hunt/guide.

It makes me wonder about the future of waterfowl guiding in AK.

I was planning on a future there waterfowl guiding, but now I'm wondering.

William Stahl

Do You Hunt Sea Ducks in the Area? : Yes

Do You Just Care About the Biology of the region? : Yes

Do you use the are for other reasons? : Yes

Cert: William Stahl

Submit: Submit

Petition 117: Email

Petition\_117\_Form: Petition\_117

Below is the result of Petition 117 form comments with electronic signature.. It was submitted on Saturday, April 11, 2009 at 21:30:12

\_\_\_\_\_\_

Name: Michael Jones

Address: 7 lakenham Drive

City: Carver

State: MA

Zip: 02330

Email: <u>navywaterfowler@yahoo.com</u>

Comments: If this is passed it will no longer be worth my money to travel to Alaska in pursuit of waterfowl. There are plenty of other locations that manage bag limits based on factual data and not personal preference. It's your economy that will impacted negatively.

Do You Hunt Sea Ducks in the Area? : Yes

Do You Just Care About the Biology of the region? : Yes

Cert: Michael G. Jones

Submit: Submit

Petition 117: Email

Petition\_117\_Form: Petition\_117

Below is the result of Petition 117 form comments with electronic signature.. It was submitted on Saturday, April 11, 2009 at 22:37:22

\_\_\_\_\_

Name: Jarl Gustafson

Address: P.O. Box 952

City: Homer

State: AK

Zip: 99603

Email: jarlgust@yahoo.com

Comments: Not proper justification to reduce bag limits so severely.

Are you a Resident of the Area?: Yes

Are you a Resident of the Alaska?: Yes

Do You Just Care About the Biology of the region? : Yes

Do you use the are for other reasons? : Yes

Cert: Jarl Gustafson

Submit: Submit

Petition 117: Email

Petition\_117\_Form: Petition\_117

Below is the result of Petition 117 form comments with electronic signature.. It was submitted on Sunday, April 12, 2009 at 00:47:31

\_\_\_\_\_

Name: Christopher T. Hesley II

Address: 668 5th St.

City: Fort Richardson

State: AK

Zip: 99505

Email: ducksanddogs8@hotmail.com

Comments: If there is no scientific evidence which supports the prior limits are having a negative impact on the numbers of sea ducks in the area, there is no reason to drastically reduce the bag limit as such. Year after year, studies are done to set the bag limits based on summer surveys as well as the prior years harvest. If it has been at 10 birds and the population isn't changing, there is no reason to change the limit.

Do You Hunt Sea Ducks in the Area? : Yes

Are you a Resident of the Area?: Yes

Are you a Resident of the Alaska? : Yes

Do You Just Care About the Biology of the region? : Yes

Submit: Submit

Petition 117: Email

Petition\_117\_Form: Petition\_117

Below is the result of Petition 117 form comments with electronic signature.. It was submitted on Sunday, April 12, 2009 at 01:22:16

\_\_\_\_\_

Name: Mark Sauve

Address: 5940 Greece Drive

City: Anchorage

State: AK

Zip: 99516

Email: redhed91@yahoo.com

Comments: Please repeal the reduction in Sea Duck bag limits for Ketchemak

Bay. There is no biological basis for the reduction.

Do You Hunt Sea Ducks in the Area? : Yes

Are you a Resident of the Alaska? : Yes

Do you use the are for other reasons? : Yes

Cert: Mark Sauve

Submit: Submit

Petition 117: Email

Petition\_117\_Form: Petition\_117

Below is the result of Petition 117 form comments with electronic signature.. It was submitted on Sunday, April 12, 2009 at 02:09:05

\_\_\_\_\_

Name: Mike Schilbach

Address: box 205

City: kodiak

State: Ak

Zip: 99615

Phone: 907-486-2953

Email: mikemike@ptialaska.net

Are you a Resident of the Alaska?: Yes

Do You Just Care About the Biology of the region? : Yes

Cert: Michael 1 Schilbach

Submit: Submit

Petition 117: Email

Petition\_117\_Form: Petition\_117

Below is the result of Petition 117 form comments with electronic signature.. It was submitted on Sunday, April 12, 2009 at 02:50:19

\_\_\_\_\_

Name: Spek Jones

Address: 33675 Jones Dr

City: Homer

State: AK

Zip: 99603

Phone: 907-235-6455

Are you a Resident of the Area?: Yes

Are you a Resident of the Alaska? : Yes

Do You Just Care About the Biology of the region? : Yes

Do you use the are for other reasons? : Yes

Cert: Spek Jones

Submit: Submit

Petition 117: Email

Petition\_117\_Form: Petition\_117

Below is the result of Petition 117 form comments with electronic signature.. It was submitted on Sunday, April 12, 2009 at 12:31:49

\_\_\_\_\_\_

Name: Richard Richardson

Address: box 856

City: soldotna

State: AK

Zip: 99669

Email: <u>duckeduck@yahoo.com</u>

Comments: This should have never been pasted with out public opinion or scientific study Sound like one antes opinion.

Are you a Resident of the Alaska? : Yes

Do You Just Care About the Biology of the region? : Yes

Cert: Rick Richardson

Submit: Submit

Petition 117: Email

Petition\_117\_Form: Petition\_117

Below is the result of Petition 117 form comments with electronic signature.. It was submitted on Sunday, April 12, 2009 at 13:40:15

\_\_\_\_\_

Name: Ric Seward- Delta Waterfowl Local Chapter

Address: PO box 17

City: Delta Junction

State: AK

Zip: 99737

Phone: 907-895-5045

Email: rtseward@wildak.net

Comments: Based on the original PROPOSAL 117- 5 ACC 85.065.

and the subsequent decision from the Alaska Board of Game I am signing this petition based on the facts that this decision was made not based on sound scientific waterfowl management but rather on the basis of politics.

The Board of Game should not be allowed to arbitrarily institue game regulations without sound management and reason from subject matter experts.

Furthermore, is it within the scope of practice for the BOG to inact regulations based on alleged abuse of wanton waste of game?

The BOG has overstepped their bounds and this claim of ducks not being eaten or utilized should be handled by the appropriate authority, such as law enforcement. Further legislation does not solve the alleged claim, utilize the current laws in effect both on the federal and state levels before applying new regulations.

Are you a Resident of the Alaska? : Yes

Cert: Ric Seward

Submit: Submit

Petition 117: Email

Petition\_117\_Form: Petition\_117

Below is the result of Petition 117 form comments with electronic signature.. It was submitted on Sunday, April 12, 2009 at 16:32:47

\_\_\_\_\_

Name: Dan Ra

Address: 1940 N. Creekwood Park Cir. #8

City: Palmer

State: AK

Zip: 99645

Phone: 907 398-8157

Email: 7teal@gci.net

Comments: the homer dept. fish and game are taking pages out of the california dept fish and game's book with the un scientific approach in trying to ban private boaters fishing inshore for rock fish when rock fish populations are healthy. The good fishermen in Calif, once had 6 lawsuits against the dept fish and game and others in the year of 2004. <a href="https://www.coastsidefishingclub.com">www.coastsidefishingclub.com</a> and they overturned the redicules proposals.

Do You Hunt Sea Ducks in the Area? : Yes

Are you a Resident of the Alaska? : Yes

Do you use the are for other reasons? : Yes

Cert: Daniel Ra

Submit: Submit

Petition 117: Email

Petition\_117\_Form: Petition\_117

Below is the result of Petition 117 form comments with electronic signature.. It was submitted on Sunday, April 12, 2009 at 19:07:05

-----

Name: Steve Kostlin

Address: 10841 Klutina Cir

City: Eagle River

State: Ak

Zip: 99577

Email: skostlin@gci.net

Comments: To simply pass regulation on use of an area without proof of harm or scientific reasoning seems a bit questionable. Was there any reasoning to this beside someone thought it was "a good idea"? Was there biological data to support such a significant reduction in bag limits? Was there any discussion or public testimony from area users? This seems too much like someones personal agenda in play here.

Are you a Resident of the Alaska? : Yes

Do You Just Care About the Biology of the region? : Yes

Do you use the are for other reasons? : Yes

Cert: Steve Kostlin

Submit: Submit

Petition 117: Email

Petition\_117\_Form: Petition\_117

Below is the result of Petition 117 form comments with electronic signature.. It was submitted on Sunday, April 12, 2009 at 20:06:45

\_\_\_\_\_

Name: Alexander

Address: Armagost

City: Palmer

State: AK

Zip: 99645

Phone: 907 746 2205

Email: armagost2@gci.net

Comments: No change should without sound data to justify such changes

Do You Hunt Sea Ducks in the Area? : Yes

Are you a Resident of the Alaska?: Yes

Do You Just Care About the Biology of the region? : Yes

Do you use the are for other reasons? : Yes

Cert: Alexander Armagost

Submit: Submit

Petition 117: Email

Petition\_117\_Form: Petition\_117

Below is the result of Petition 117 form comments with electronic signature.. It was submitted on Monday, April 13, 2009 at 19:36:56

\_\_\_\_\_\_

Name: Jacob Madrid

Address: 1605 Fathom Drive

City: Kenai

State: AK

Zip: 99611

Phone: 907-252-6542

Email: asjmm68@uaa.alaska.edu

Comments: I am supporting this petition due to the lack of scientific data to support such a change, especially since I use the area for recreation and hunt the are frequently.

Do You Hunt Sea Ducks in the Area? : Yes

Are you a Resident of the Area?: Yes

Are you a Resident of the Alaska? : Yes

Do You Just Care About the Biology of the region? : Yes

Do you use the are for other reasons? : Yes

Cert: Jacob Madrid

Submit: Submit

Petition 117: Email

Petition\_117\_Form: Petition\_117

\_\_\_\_\_

Below is the result of Petition 117 form comments with electronic signature.. It was submitted on Tuesday, April 14, 2009 at 08:14:36

\_\_\_\_\_\_

Name: SHane Smith

Address: 962 co rd 94

City: bridgeport

State: al

Zip: 35740

Email: birdtaxidermy@aol.com

Comments: I do not recall Mrs. Hillstrand ever accompanying me on any hunts and monitoring our harvest and what we did with the birds. We skinned, cleaned, and ate all of the sea ducks we shot while hunting with Mr Brown. Not only did we have good success, we saw a great abundance of birds. With a nonresident limit of 20 per year, the birds are in no way endangered.

Do You Hunt Sea Ducks in the Area? : Yes

Cert: Shane Smith

Submit: Submit

Petition 117: Email

Petition\_117\_Form: Petition\_117

Below is the result of Petition 117 form comments with electronic signature.. It was submitted on Tuesday, April 14, 2009 at 09:09:53

\_\_\_\_\_

Name: Andrew Trochuck

Address: 919 Strawberry Road

City: Fairbanks

State: AK

Zip: 99712

Email: andrew.c.trochuck@us.army.mil

Comments: This is crazy how this could pass without any proof or data to the allegations

mentioned.

Are you a Resident of the Alaska? : Yes

Cert: Andrew C. Trochuck

Submit: Submit

Petition 117: Email

Petition\_117\_Form: Petition\_117

Below is the result of Petition 117 form comments with electronic signature.. It was submitted on Wednesday, April 15, 2009 at 11:28:47

\_\_\_\_\_\_

Name: James Warren

Address: 3570 Yellowbell

City: Bozeman

State: Mt

Zip: 59715

Phone: 406 570-1038

Email: j g warren@hotmail.com

Do You Just Care About the Biology of the region? : Yes

Cert: James Warren

Submit: Submit

Petition 117: Email

Petition\_117\_Form: Petition\_117

\_\_\_\_\_

Below is the result of Petition 117 form comments with electronic signature.. It was submitted on Wednesday, April 15, 2009 at 13:57:15

\_\_\_\_\_

Name: Patrick J Dunn

Address: PO Box 1411

City: Ennis

State: TX

Zip: 75120

Phone: 2145155000

Email: pjd@prodigy.net

Comments: The guide in Soldovia 'Buck Brown' is the best conservationist for waterfowl in that region, he is your best reference for duck populations in that region! I have hunted with him many times and no problem achieving my limit of ducks in that region. The population is not only stable it is awesome!!!

Do You Hunt Sea Ducks in the Area? : Yes

Cert: Patrick J Dunn Sr

Submit: Submit

Petition 117: Email

Petition\_117\_Form: Petition\_117

Below is the result of Petition 117 form comments with electronic signature.. It was submitted on Thursday, April 16, 2009 at 01:40:41

\_\_\_\_\_

Name: Dan Robertson

Address: 11301 Snowline Dr

City: Anchorage

State: AK

Zip: 99507

Phone: 907-529-5818

Email: nova887@gmail.com

Comments: There does not appear to be a biological need to reduce the Kachemak Bay

sea duck limit.

Are you a Resident of the Alaska? : Yes

Do You Just Care About the Biology of the region? : Yes

Do you use the are for other reasons? : Yes

Cert: Dan Robertson

Submit: Submit

Petition 117: Email

Petition\_117\_Form: Petition\_117

Below is the result of Petition 117 form comments with electronic signature.. It was submitted on Thursday, April 16, 2009 at 02:19:50

\_\_\_\_\_

Name: Bob Brunke

Address: Po box 877229

City: Wasilla

State: AK

Zip: 99687

Phone: (907)-373-4667

Email: alaskaduckman@yahoo.com

Are you a Resident of the Alaska?: Yes

Do you use the are for other reasons? : Yes

Cert: Bob Brunke

Submit: Submit

Petition 117: Email

Petition\_117\_Form: Petition\_117

\_\_\_\_\_

Below is the result of Petition 117 form comments with electronic signature.. It was submitted on Saturday, April 18, 2009 at 10:43:01

\_\_\_\_\_

Name: Lee Stafford

Address: P.O. Box 984

City: Soldotna

State: AK

Zip: 99669

Phone: (907)262-2286

Email: puffinplumbing@hotmail.com

Do You Hunt Sea Ducks in the Area? : Yes

Are you a Resident of the Area?: Yes

Are you a Resident of the Alaska?: Yes

Do you use the are for other reasons? : Yes

Submit: Submit

Petition 117: Email

Petition\_117\_Form: Petition\_117

Below is the result of Petition 117 form comments with electronic signature.. It was submitted on Sunday, April 19, 2009 at 21:59:08

\_\_\_\_\_

Name: Adam Reid

Address: 3321 Amber Bay Loop

City: Anchorage

State: AK

Zip: 99515

Phone: 907-252-2116

Email: bigreid44@gmail.com

Comments: I would like to see the new regulation reversed or at a minimum tabled until data is sufficient to make an educated regulation.

Do You Hunt Sea Ducks in the Area? : Yes

Are you a Resident of the Area?: Yes

Are you a Resident of the Alaska? : Yes

Do You Just Care About the Biology of the region? : Yes

Cert: Adam T. Reid

Submit: Submit

Petition 117: Email

Petition\_117\_Form: Petition\_117

Below is the result of Petition 117 form comments with electronic signature.. It was submitted on Monday, April 20, 2009 at 10:32:49

\_\_\_\_\_\_

Name: Steve Sharpe

Address: 100 Hickey Lake Drive

City: Jordan

State: MN

Zip: 55352

Phone: 952-758-9241

Email: <a href="mailto:ssharpe@supfrt.com">ssharpe@supfrt.com</a>

Comments: I feel that before any drastic changes are made there must be scientific/bioligical evidence that first there is a problem. Second that the changes made will in fact resolve the problem or a least help improve the situation as drastically as the proposed changes.

Cert: Steve Sharpe

Submit: Submit

Petition 117: Email

Petition\_117\_Form: Petition\_117

Below is the result of Petition 117 form comments with electronic signature.. It was submitted on Monday, April 20, 2009 at 11:51:29

\_\_\_\_\_

Name: CHRIS DAMPMAN

Address: PO BOX 35

City: YULAN

State: NY

Zip: 12792

Email: DEVILDOG76@FRONTIERNET.NET

Comments: AS A FREQUENT VISITOR AND FUTURE RESIDENT OF ALASKA,I AM DISTURBED AND CONCERNED WITH REGARD TO THESE CHANGES AS PROPOSED.IF IN FACT INPUT FROM ALL SECTORS WAS NOT PURSUED OR CONSIDERED,I WOULD LIKE TO SEE THIS ADDRESSED. THE DATA WILL AND SHOULD SUPPORT YOUR DECISIONS,LETS LEAVE THE EMOTIONS AND POLITICS OUT OF IT,AND LET THE FACTS SPEAK FOR THEM SELF. I FISH IN ALASKA AND WILL HUNT WHEN I RELOCATE THERE AND THESE CHANGES WOULD AFFECT MY OPPORTUNITIES TO PURSUE WATERFOWLING IN AND AROUND THE KACHEMACK BAY AREA.

Do You Just Care About the Biology of the region? : Yes

Do you use the are for other reasons? : Yes

Cert: CHRISTOPHER W., DAMPMAN

Submit: Submit

Petition 117: Email

Petition\_117\_Form: Petition\_117

.....

Below is the result of Petition 117 form comments with electronic signature.. It was submitted on Monday, April 20, 2009 at 14:02:09

\_\_\_\_\_\_

Name: Patrick Morse

Address: 1651 W. Olive St.

City: Chicago

State: IL

Zip: 60660

Phone: 618-558-2389

Email: Morse.pa@gmail.com

Comments: I am strongly opposed to the legislation at hand to reduce the sea duck daily limit from 10 birds/day to 2 birds/day without the support of the local biologists. This reduction is being passed without any biological reasoning, and simply to comply to the wants of a special interest individual. Please carefully reconsider this action. Thank you for your time.

Patrick Morse

Do You Just Care About the Biology of the region? : Yes

Cert: Patrick Morse

Submit: Submit

Petition 117: Email

Petition\_117\_Form: Petition\_117

\_\_\_\_\_\_

Below is the result of Petition 117 form comments with electronic signature.. It was submitted on Monday, April 20, 2009 at 14:15:06

\_\_\_\_\_\_

Name: Mark Chase

Address: 756 Oak Glen Circle

City: Fall Branch

State: TN

Zip: 37656

Email: mchase@mounet.com

Comments: I have hunted sea ducks in this area and the ducks that were harvested by my group were put to use. They were eaten and the few select birds were harvested for taxidermy purposes due to the beauty of the birds and the distance I am located from seeing these beautiful birds. We self limited the number of birds taken of certain species such as harliquin ducks to ensure that they would be around for future generations, even though we saw and had numerous oppurtunities to harvest more. Please at least use scientific evidence of harm to the population before changing the limits.

Do You Hunt Sea Ducks in the Area? : Yes

Do You Just Care About the Biology of the region? : Yes

Cert: Mark Chase

Submit: Submit

Petition 117: Email

Petition\_117\_Form: Petition\_117

\_\_\_\_\_\_

Below is the result of Petition 117 form comments with electronic signature.. It was submitted on Monday, April 20, 2009 at 15:03:57

\_\_\_\_\_

Name: steven meyer

Address: po box 2652

City: kenai

State: ak

Zip: 99611

Phone: 907-252-0071

Email: jsoge1@gci.net

Comments: It is difficult to imagine the circumstances, with no legitimate data and without biologist support, that this was passed. Unless of course the agenda was to largely eliminate sea duck hunting in Katchemak Bay for one individual's personal goals.

Do You Hunt Sea Ducks in the Area? : Yes

Are you a Resident of the Area?: Yes

Are you a Resident of the Alaska? : Yes

Do You Just Care About the Biology of the region? : Yes

Do you use the are for other reasons? : Yes

Cert: Steven A. Meyer

Submit: Submit

Petition 117: Email

Petition\_117\_Form: Petition\_117

Below is the result of Petition 117 form comments with electronic signature.. It was submitted on Monday, April 20, 2009 at 17:35:58

\_\_\_\_\_

Name: Graham Wood

Address: 1802 Parkside Drive

City: Anchorage

State: AK

Zip: 99501

Email: <a href="mailto:graham-mary@gci.net">graham-mary@gci.net</a>

Do You Hunt Sea Ducks in the Area? : Yes

Are you a Resident of the Alaska? : Yes

Do you use the are for other reasons? : Yes

Cert: Graham Wood

Submit: Submit

Petition 117: Email

Petition\_117\_Form: Petition\_117

Below is the result of Petition 117 form comments with electronic signature.. It was submitted on Monday, April 20, 2009 at 17:43:33

\_\_\_\_\_\_

Name: David Steckley

Address: 57 Kindle Lane

City: Levittown

State: PA

Zip: 19055

Email: drakesteckey@yahoo.com

Cert: David Steckley

Submit: Submit

Petition 117: Email

Petition\_117\_Form: Petition\_117

Below is the result of Petition 117 form comments with electronic signature.. It was submitted on Wednesday, April 22, 2009 at 15:23:40

\_\_\_\_\_\_

Name: Christopher G Estes

Address: PO Box 1726

City: Palmer

State: AK

Zip: 99645

Email: sharps5090@hotmail.com

Are you a Resident of the Alaska?: Yes

Do You Just Care About the Biology of the region? : Yes

Do you use the are for other reasons? : Yes

Cert: Christopher G Estes

Submit: Submit

Petition 117: Email

Petition\_117\_Form: Petition\_117

Below is the result of Petition 117 form comments with electronic signature.. It was submitted on Wednesday, April 22, 2009 at 15:24:48

\_\_\_\_\_\_

Name: Cynthia A Estes

Address: PO Box 1726

City: Palmer

State: AK

Zip: 99645

Email: estes@mtaonline.net

Are you a Resident of the Alaska?: Yes

Do You Just Care About the Biology of the region? : Yes

Do you use the are for other reasons? : Yes

Cert: Cynthia A Estes

Submit: Submit

Petition 117: Email

Petition\_117\_Form: Petition\_117

Below is the result of Petition 117 form comments with electronic signature.. It was submitted on Friday, April 24, 2009 at 11:10:38

\_\_\_\_\_

Name: Ryan James

Address: 8011 Little Dipper Ave.

City: Anchorage

State: AK

Zip: 99504

Phone: 907-770-2962

Email: rrjfish8@yahoo.com

Comments: How could this pass with no biologist study. I have no with protecting areas that are over hunted K-bay is not one of those areas. When you talk about the size of K-bay and amount of duck there, They are not hunted.

Do You Hunt Sea Ducks in the Area? : Yes

Are you a Resident of the Area?: Yes

Are you a Resident of the Alaska? : Yes

Do you use the are for other reasons? : Yes

Cert: Ryan R. James

Submit: Submit

Petition 117: Email

Petition\_117\_Form: Petition\_117

.....

Below is the result of Petition 117 form comments with electronic signature.. It was submitted on Sunday, April 26, 2009 at 12:56:35

\_\_\_\_\_\_

Name: Patrick Clark

Address: 18213 driftwood bay

City: Eagle River

State: AK

Zip: 99577

Email: laclark@gci.net

Are you a Resident of the Alaska?: Yes

Do You Just Care About the Biology of the region? : Yes

Do you use the are for other reasons? : Yes

Cert: Patrick S. Clark

Submit: Submit

Petition 117: Email

Petition\_117\_Form: Petition\_117

Below is the result of Petition 117 form comments with electronic signature.. It was submitted on Tuesday, April 28, 2009 at 21:40:10

\_\_\_\_\_

Name: Robert J. Shem

Address: 4900 Buckingham Way

City: Anchorage

State: AK

Zip: 99503

Phone: 907 562-4900

Email: bobshem@alaska.com

Comments: Please repeal Proposal 117

Do You Hunt Sea Ducks in the Area? : Yes

Are you a Resident of the Alaska?: Yes

Do You Just Care About the Biology of the region? : Yes

Do you use the are for other reasons? : Yes

Cert: Robert J. Shem

Submit: Submit

Petition 117: Email

Petition\_117\_Form: Petition\_117

\_\_\_\_\_

Below is the result of Petition 117 form comments with electronic signature.. It was submitted on Monday, May 4, 2009 at 13:59:25

\_\_\_\_\_\_

Name: Randy Moseman

Address: 8121 Medellin Circle Unit B

City: Anchorage

State: ak

Zip: 99507

Phone: 907-602-4002

Email: rjmoseman@aol.com

Comments: I support 10/20 bag limits on seaducks in Kachemak bay.

There is no science behind this proposal.

I eat all of the ducks that I get mounted.

Anti-hunters should not manage Alaska's wildlife.

Do You Hunt Sea Ducks in the Area? : Yes

Are you a Resident of the Alaska? : Yes

Do you use the are for other reasons? : Yes

Cert: Randy Moseman

Submit: Submit

Petition 117: Email

Petition\_117\_Form: Petition\_117



## CUSTOMARY AND TRADITIONAL USE WORKSHEET

## Ducks, Game Management Units 1 - 26

## Prepared by the Division of Subsistence Alaska Department of Fish and Gamo

### March 1999

## BACKGROUND:

The state board makes subsistence determinations for game populations as they arise in response to proposals before the board. Proposal No. 161 amends general resident bag limits for certain ducks and sea ducks in all GMUs of the state where there are open seasons. The Board of Game is required to identify game populations or portions of game populations that are customarily and traditionally taken or used for subsistence (AS 16.05,258). The Board has not made this determination for ducks in GMUs 1-26. The following worksheet provides background on uses of ducks in GMUs 1-26 organized according to the Joint Board of Fisheries and Game subsistence procedures (5 AAC 99,010).

## **GAME POPULATION:**

Ducks, including any one of 26 species commonly found in Alaska (including bufflehead, canvasback, common eider, king eider, gadwall, goldeneye, harleguin, mallard. merganser, oldsquaw, pintail, redhead duck, scaup, scoter, shoveler, teal, and wideon) in GMUs 1-26, except for nonsubsistence areas listed in 5 AAC 99.015 (Ketchikan Nonsubsistence Area, Juneau Nonsubsistence Area, Anchorage-Matsu-Kenai Nonsubsistence Area, Fairbanks Nonsubsistence Area, and Valdez Nonsubsistence Area),

- The general category "ducks" includes both "ducks (except sea ducks)" and "sea ducks",
- Spectacled eiders and Steller's eiders are excluded because there is no open season for either species; customary and traditional use findings are only made on populations that can be harvested consistent with sustained yield (16.05.258(b)).
- Ducks in nonsubsistence areas are excluded; customary and traditional use findings are not made for game populations in nonsubsistence areas (AS 16.05;258(a)).

## PATTERN OF USE:

Criterion 1. A long-term consistent pattern of use and reliance on the fish stock or game population that has been established over a reasonable period of time, excluding interruption by circumstances beyond a user's control, such as unavailability of the fish or game caused by migratory patterns.

Alaska residents have used ducks as part of their annual cycle of hunting activities for hundreds of years (Loranger 1985; Wolfe, Palge, and Scott 1990). Observations during the early historic period provide documentation of the use of migratory birds by the state's indigenous cultural groups, as illustrated by historic observations listed in Attachment 1. The use of ducks appears to have continued in Alaska from the early

## ATTACHMENT 8

					DUC	K HA	RVE	STS E	IY RU	JRAL A	REA	, <b>E</b> STI	MATE	) HAF	RVES	T FO	R 199	96 (NL	JMBE	R OF	BIRD	S)			
	Bufflehead	Свпувървск	Common Elder	King Elder	Spectacled Elder	Steller Elder	Gadwall	Goldenaye	Harloquin	Malar	Merganter	Oldsupw	Pintaif	Redhaad Duck	Rogneak Duck	dneos	White-winged scoter	Black Scoter	Surf Scater	Scotes (species unspecified)	Shoveler	Teal	Wigeon	Ducks (species unspeciñed)	Total Ducke
Upper Cook Infat Lower Kenai Peninsala Parks Highway Copper River Basin Prince Wilsam Sougs Akacian-Pribilof Islanda	1 32 32 65 0	0 0 8 0	0 130		D A	0 28	0 0 55 54	53 131 16 30 107 118	0 6 6 460	70 209 81- 452 1,023 313	0 64 67	5 11 0 50	0 108 142	31		9 197 173 5 52	71 0	55 150 147	33	0	1 0 32 50	15 23 170 279 350	6 9 208 293 270		160 720 845 1,491 2,298
St., Lawrence-Chomede Islands Upper Küskokwim Alaska Peninsula Upper Tanana	0 3 236 457	0 50 30	1,253 45	383	¢	a	66	0 344 89	e 3 700	13 525 1,645 2,578	0 21 163	1,231 1,008 87	50 699 751 1,034	24 0,	65	0	رد 192	0	0	0 0 294 10	0 0 80 26 716	450 0 195 1,699 669	12 6 652 207 897		2,857 2,946 4,236 6,499 6,497
Northwest Arctic Kod ak Island Arctic Slope Seward Peninsula-Norton Scuad	0 1,633 0 0	110 8 0 67	3,344 1,195	182 9,192 342	105 762 33	0 295 4	401.	105 2,859 95	5 802 0	2,533 3,237 239 - 1,245	13 246 D 120	558 286 605 605	3,486 173 74 8,660	ļ		641 641 0 620	<b>194</b>	330	17	46 512 0 181	185 0 0 501	:63 355 0 859	1,142 255 0 674		9,550 11,917 14,517 15,207
Bristel Bay Scutheast Archipetago Upper Yukon-Koyukuk-Lower Fanana Yukon-Kuskokwim Deža	51 1,142 11 147	£ 1,623	143 635	2,548 3,394	100 125	69 42		911 776 35 1,243	494 99 11 217	5,760 10,944 8,549 5,351	494 27 80 509	243 33 2,952 1,617	4,251 1,977 7,748 11,348	92	252	30 123 1,639 3,460	548 0 2,51i	758 0 7,010	171 62 685	0 47 3,692 0	167 0 310 811	2,095 2,366 945 1,931	873 3,701 4,122 3,012	1,427	19,704 21,297 32,368 45,478
Tolaï Harvest Percent	3,916 2.2%	1,356 0.7%	6,919 3,5%	16,469 9.3%		436 9.2%	576 23%	6,973 3.5%	2,217 5.1%	44,856 22.7%	1,977	10,341 5,2%	41,016 20.8%	158 0,1%	317 0.2%		3,506	9,451 4.3%	96? 0.5%	4,689	2,881	12,5 <b>6</b> 3	16,415 8.3%	1,427 0.7%	197,571 180,0%

ATTACHMENT 9

ESTIMATED NUMBER OF DUCKS HARVESTED BY RURAL ALASKA COMMUNITIES ADJUSTED TO 1996 COMMUNITY POPULATION

	Buffehead	Canvasback	Common Eider	King Eider Speciacled Eider	Steller Eider	Elder (species unspecified) Gadwall	Goldeneye	Harlequin	Malland Merganser	Oldsquaw	Pintail Redhead Duck	Rngneck Duck	Scaup	White-winged scoler	Black Scoter	Surf Scoter	Scotar (species) unspecified)	Shoveter	Teal	Wigeon Ducks (species	(payloedsun	Tolal Ducks
Saxman Sička Skagway Tenažeo Springs Thome Bay Whale Pess Whilestone Logging Camp* Wracgell Yakutat TOTAL FOR REGION	7, 206 0 3, 35 2 0, 113 70 1,142						3 103 0 3 17 7 33 57 35	0 0 0 0 0 0 0	544 0 1,660 0 78 0 77 0 279 0 17 1 134 0 912 0 561 0 10,944 27	0 0 0 1 0 0	13 386 1 0 65 0 31 212 131 1,977		0 0 4 5 0 0 0 0	0 0 0 0 0	0 0 0 0 0 0	0 0 0 0 0 2 0 0	0 0 0 0 0 0		0 927 9 33 0 0 21 509 313 2,366	30 232 11 13 156 5 31 127 76 3,701	3,5 fr 11 5	103 134 551 39 251 330
PRINCE WILLIAM SOUND Bal, of Condova CSA* Bal, of Prince William Sound CSA* Chenega Bay Coccova Tatillek TOTAL FOR REGION	0 0 0 0	0000	0 0 0	0 0	0 0	0 0 0 55 0 0 0 55	0 0 45 0 62 107	0 0 0 8	12 0 33 1 6 5 934 23 38 38 1,023 67	0 0 0 0	2 5 0 149 0		0 5 0 5	0 0 0	0 0 0 0 150	<b>O</b>	0 7 0 0 7	0 0 0	41 62 0 330 4	51 13 0 353 0	1,8	300
LOWER KENAI PENINSULA Namwatek Port Graham Seldovía TOTAL FOR REGION	5 27 0 32	0 0 0				0 0 0 0 0 0	33 34 124 191	8 0 8	27 46 25 18 157 0 209 64	0 0 11 11	0 0	Page d	13 0 0	66 5 0 71	56 0 0 56	221 11 0 33	0 0 0	0	5 0 18 23	9 0	3	281 128 11 f <b>72</b> 0
KODIAK ISLAND Akhlok Karluk Kodiak City Kodiak Coast Guard Station Kodiak Road Larsen Bay Old Harbox Ouziakle Port Lions  TOTAL FOR REGION	0 21, 1,029 257 26 23 196 51,	8				241 160	1,318 482 135 236 275 330	35 4 425 144 0 39 130 56 802	28 G 29 G 1,408 67 563 128 17 12 766 20 262 18 163 0 3,237 246	2 2 0 194 68 286	0 6 0 0 136 32 0		0 0 157 161 0 281 26 16	0 0 0 21 0 79 95	0 0 0 22 0 219 90	0 0 0 0 0 17 0	59 0 129 0 0 323 0 6	0	0 10 112 113 0 85 8 28	0 0 22 33 0 189 10 0	4,6 2,1 2 2,2 1,4	0 121 234 260 164 198

## Special Session 1. Conserving International Resources of the North Pacific Rim

Chair
ARTHUR M. MARTELL
Canadian Wildlife Service
Delta, British Columbia
Cochair
A. W. "BRLL" PALMISANO
U.S. Fish and Wildlife Service
Anchorage, Alaska

## The Status of Sea Ducks in the North Pacific Rim: Toward Their Conservation and Management

R. Ian Goudie Canadian Wildlife Service Delta, British Columbia Alexander V. Kondratyev
Institute of Biological Problems of the North
Magadon. Russia

Solange Brault
University of Mazsachuseus
Bassan

Margaret R. Petersen
National Biological Survey
Anchorage, Alaska

Bruce Conant U.S. Fish and Wildlife Service Juneau, Alaska Kees Vermeer Canadian Wildlife Service Sidney, British Calumbia

## Background

Species and Status

Sea ducks (tribe Mergini after Johnsgard 1960) are the most northerly distributed ducks, and species diversity is greatest in the North Pacific. They exploit a diversity of inshore and offshore marine habitats during the non-breeding season, and their use of habitat during breeding varies from coastal through freshwater wetlands of the tundra and taiga (Figure 1, Appendix 1). Non-breeding cohorts frequent marine habitats most of the year. Sea ducks thus are important indicators of the quality of freshwater and marine ecosystems of northern biomes.

Of the 17 species discussed in this manuscript, at least 13 are repossed be declining (Appendix 2). However, the basis for many of those assessments a equivocal because there has been little effort to monitor populations. The efforts to more

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at opposite ends of the threshold spectrum, i.e., 0.40 and 0.10 harvest rates, respeclively. He therefore emphasized the need for conservative approaches in the management of hunting kill in the diving ducks (also Pirot and Fox 1990, Hochbaum and Caswell 1978).

We expand this suggestion to include sea ducks. Our analyses indicate that susrainable harvest rates may not exceed about 0.03 of the adult population in some sea duck species. Therefore, our perception of the significance of losses to hunter kill will change based on life history patterns for each species.

## The r-K Continuum

Life history. Waterfowl span the entire r-K continuum, and sea ducks exhibit extreme K-selection relative to other species of ducks (Eadie et al. 1988). Like seabirds, sea ducks have deferred sexual maturity, low annual recruitment rates to breeding age, variable annual rates of non-breeding by adults and high annual adult survival rates (see Rickless 1990). The highly variable environment of the northern marine ecosystem favors a life history strategy of minimized annual investment in reproduction and extended longevity.

Ecological time. Population stability of sea ducks is dependent on high adult survival and a few successful years of reproduction (e.g., Milne 1974, Swennen 1991). This results in population growth that is stepped, and average annual rates of increase can reach 5 to 10 percent. Considerations of ecological time become important because infrequent Arctic ice event can cause mass mortality for some species (Barry 1968), and/or might affect body condition and fitness of birds (see Goudie and Ankney 1986). Hence, gains in populations during a few decades of favorable environmental conditions likely are important to buffer against extimation during harsh conditions.

Species sensitivity. Species which maintain population stability through high adult survival are sensitive to increased mortality (Shaw, 1985). In sea ducks, sensitivity is exacerbated by the relatively high proportionate losses of adults in events such as hunting and oil contamination.

## Population Modeling

Intrinsic differences. We generated theoretical populations of various species of ducks over a 20-year period (figure 2, Appendix 3). In this exercise, the mallard population increased to over 5,000 females, whereas the harlequin duck population increased to 400 females. It is clear that the ability of these populations to sustain mortality and/or recover from population declines are dramatically different. Johnson et al. (1988) pointed out that modelling is no panagea for waterfowl management. but it helps to consolidate our understanding of population dynamics. Here modelling supports the need for a different approach to the management of sea duck populations.

Demography. We modelled theoretical populations of harlequin ducks using a Leslie matrix approach (Caswell 1989). We incorporated data on harlequin ducks from Iceland (see Bengtson 1972, Bengtson and Ulfstrand 1971, Gardansson and Einarsson 1991). Our analysis suggests that population stability occurs when adult survival rates are about 0.85 (Figure 3), a level somewhat less than unbunted popuPOPULATION LEVEL 10 11 12 13 14 15 YEAR

∸ Mallard → Canvasback \* Common Goldeneye → Harlequin Duck

Calculations using a transition mairix approach of data in Appendix 3.

Figure 2. Hypothetical population growth of four species of ducks.

lations of common eiders in Scotland (see Coulson 1984). An increasing population of harlegain ducks, i.e., 9.3 percent per year at Lake Myvatn, feeland from 1975 to 1989) (see Gardarsson and Einarsson 1991), was simulated when adult survival rates approximated 0.95.

Adult survival appears to be the main factor influencing population stability for sea ducks (Appendix 4), suggesting that little can be achieved through management of other biological parameters, such as survival and production of young.

## Defining Sustainable Mortality

Simulating mortality. Simulated annual kills of harlequin ducks suggest that losses exceeding 3 to 5 percent of the initial adult population are not sustainable (Figure 3). This is similar to our earlier estimates of harvest rate thresholds. This finding highlights the need to reduce mortality on some species of sea ducks in areas where harvest rates are high, such as in Alaska, Newfoundland and the eastern United States (see Wentworth 1993, Reed and Erskine 1986, Goudie 1989, Krohn et al. 1992, # Wendt and Silieff 1986) and where chronic oil pollution is severe (Pintt et al. 1990a, Chadwick 1993).

Estimating mortality. Because minor increments of mortality can negatively affect populations of sea ducks, the estimation of mortality is fundamental for wise management decisions. However, precision in these estimates is lacking. For example, estimates of hunter kill of sea docks vary by orders of magnitude depending on the

Status of S nicks

# Acknowledgments

sistance in preparation of some figures. Special thanks to A. Breault, S. Boyd, H. Hogan and G. Kniker for reviewing various drafts of this manuscript. We are grateful to G. E. John Smith for developing the deterministic model of population growth used to compare relative population growth over time. We are very grateful to Shelagh Bucknell for her patience in processing the document especially the tedious tables, and to P. Whitehead for as-

Appendix 1. Population sizes, ranges and trends for sea ducks in the North Pacific Rim.

	Re	ange		,		
Species	Brocding	Wintering	greeding bobajation,	Cuttent 10-year stead	Comments	
Someteria molitzsima v-nigra	From Victoria Is., NWT west along Beaufon Sea & Bering Sea Coasts of AK. Aleutian Islands & Siberis east from Chaun Bay & along Bering Sea Coast	Bering Sea esp. in Bering Strait near Diomede Is. & St. Lawrence Is. Chukchi Sea & east coast of Kamchatka Peninsula	Unknown  Guestimates: 81,500 — W. Can. Arctic 25,500 — AK 20,000+ — Russia	Declining in Russia by three- to four-fold since early 1970s. Thought to be declining in Alaska	Hunted species in autumn and winter and especially for subsistence in spring	
S. speciabilis	Northern Russia, castern Siberia, Alaska and Aretic Canada west of Victoria Is.	Bering Sca. notably near Chukotka coasts, St. Lawtence Is., Pribilof Is., Alaskan Pen. & Aleutian Is.	Unknown Guestimates: >100,000+ — Russin ~! million in central & W. Arctic and Alaska	Thought to be dectining in Alaska & western Arctic. Stable in Russia	Most common marine duck. Heavily hunted in certain portions of its range, especially for spring subsistence	
\$. fischeri	Narrow coastal strip from Yana R. to Chaust Bay in Siberis, Y-K Delta & Pt. Barrow to Prudhoe Bay. Alaska	Unknown but probably Bering Sea toward the Siberian Coast	<50,000	Declining in Alaska & western Arctic at 14 percent per year	Threatened—liating in U.S. Hunting in Siberia & Alaska for spring subsistence	
Polysticta stelleri	In Russia, narrow coastal strip from western Siberian coast to N. of Chukotski Pen., esp. in Lena & Yana deltas, and in AK from Norton Sound to Pt. Barrow	Southern Bering Sea. notably along Aleutian Islands & Alaskan Pen. Occurs along Kamchatka Pen Commander Is. & Pribitof Islands	<100.000	Declining	Threatened—U.S. listing proposed. Hunting in Siberia & AK esp. in spring, Formerly an important component of sport outfitting hunts in AK due to accessibility	

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	R	trige			
Species	Breeding	Wintering	Breeding population <sup>4</sup>	Current to-year trend	Сопинения
Mergellus albellus	Forested zone in Russia, Siberia and Far East	Japan, Korea & China. Coastai & large lakes & rivers	Unknown Guestimates: Russia = 100,000 Dispersed in low densities	Perhaps stable in Russia	Hunted species, incidental to other diving ducks
M. serrator	Throughout southern tundra lakes of boreat Russia except for northern coastal zone. Throughout boreat N.A.	From Kamichatka and Commander Islands to Kurit Is., Japan, Korea, China & Tulwan. Aleutian Islands and S.E. AK to Washington	Unknown Guestimales: W.N.A. = 237,000 Russia = 100,000	Increasing in W.N.A. Possibly stable in Russia	Hunted species of low interest
M. merganser	Closed boreal forests of Eurasia & N.A.	Ateutian Islands to Mexico and from Kamehatka and Kurit Islands south to Japan, Korea, China & Taiwan	Unknown Guestimates: W.N.A. = 641,000 Russia = 140,000	Increasing in W.N.A. Possibly stable in Russia	Hunted species of low interest
М. харатаны	Mid & S. portions of Sikhote—Alirt Range & hilly portions of N.E. Manchuria	Korea, China, Tonkin & Burma moreso on river habitats	Unknown but very small 500 to 1,400	Declining rapidly	Very rare with an extremely restricted range Red Book Category I

"Virtually no estimates of wintering populations exist. Because sea ducks do not breed until two to three years of age, juvenile and subadult cohorts can comprise significant components of non-breeding flocks. Few independent measures of juvenile and subadult cohorts exist, and those reported generally see low, i.e., 5 to 10 percent tree Joenson 1972. Bourget et al. 1986). Larger components assumed to be immatures and subadults may, in part, comprise adults that have deferred breeding (see Bengtson and Ulstrand 1974, Coulson 1984) which can be considerable as some years, Inappropriate assumption of juvenile recruitment/composition can result in gross overestimate of sustainable harvest, for example, see Reed and Ersking (1986) on S.m. borealis,

Sources for Appendix 1 and Appendix 2: Alison 1975, Barry 1986. Bellrose 1976, Bochamokov 1990. Breault and Savard 1991, Brown and Brown 1981, Cassiver et al. 1993, Day 1977. Dementiev and Gladkov 1912, Degtyarev and Lincoln 1982, Dzinbal and Jarvis 1984, Erskine 1972. Fliat and Krivenko 1990. Gabrielson and Lincoln 1989, Gertalmov 1990. Gusakov 1988, Hodges et al. 1994, Johnson and Henter 1989. Kerteil 1991. Kistchinski 1973, 1980, Kistchinski and Flint 1974, Kochl et al. 1984, Kondratyev 1988, 1989, 1990, Kondratyev and Zadornia 1992, Labilini and Revin 1985, Lobkov 1986. Palmer 1976. Portenko 1952. Savard 1988. Stehn et al. 1993. Vermeer 1981, 1982, 1983, Vermeer and Fourne 1984, Vermeer and Tdenberg 1989,

Appendix 2. Aspects of ecology of sea ducks of the North Pacific Rim

			Habitat		
Speciex	Broeding	Wintersng	Molting	Migration	Special Notes
Somataria mollissima v-nigra	Colonial nester on coastal isless & islands. Many hers raise brooks on freshwater lakes and ingoons adjacent to the coast	Shallow coastal waters <20m depth. Extensive use of polynas & leeward open water leads during winter	Poorly documented but occur along Chukcht Sea & Bering Sea count. Some (<(0,000) reported in the Beaufort Sea	May cross land during spring migration e.g., Pt. Barrow, AK and NE. Chukotski Pen, Siberia. Does not migrate very far south, e.g., vagrant in B.C.	Most closely tied to marine habitats than any other sea duck
\$. speciabilis	Arctic tundra meltwater pands & takes in proximity to the coast, Highest densities reported in Lower Lena & Kolyma lowlands of 1 to 2 pr/km² and Prudhoe Bay, AK of 2.3 pr/km². Breeding population of 60,000 reported for Bank's Is.	Somewhat pelagic & occurs at margin of pack ice, polynas & open waters in ice floes up to 60m depth	Poorly documented but overlaps with areas of winter range	Spectacular migration that often cross close to fand in spring & fate summer. from Aleutians, AK to W. Can. Arctic, Occur closer to shore during spring and stages at certain locations e.g., Bristol Bay, AK. Uncommon south of Alaska & Siberia	Rarcly encountered in winter. Inshore individuals are often juveniles & subadults
S. fischeri	Associated with delass and coastal plains of large river systems emptying into the Arctic Ocean and Bering Sea. May sometimes form colonies	Unknown. Thought to be offshore at ice edges & polynas on Russian side of Bering Sea	Unknown, perhaps Bering, Chukchi, and Beaufort Sea	Unknown. Arrive from the morth to the Yukon-Kuskokwim Delta breeding area	Utilize rich planktonic crustaceuns during brood rearing

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Species	Breeding	Wintering	Molung	Мідемкоп	Special Notes
M. deglandi	Deep lakes righ in crustaceans in the boreat parklands of N.A. & mountain plateaus of Asia. Dispersed densities of 0.45/km².reported. Some colonial nesting.	Shallow marine coastal waters <20m over a variety of tocky, pebble & sand substrates	Poorly known & to some extent may coincide with portions of winter range. Moting concentration found in coastal AK & NWT, c.g., Tuktoyuktuk Pen., and B.C.	Poorly known. Some large spring & autumn assemblages observed in the coastal regions of the Queen Charlotte Islands, B.C. Cross continental migration likely in North America. Aggregations over herring spawn noted in spring in B.C. Some spectacular spring migrations of 10s of 1000s along Kamchatka Pen.	Die-offs due to possible food-chain contamination in Cape Yakataga, AK
Bucephala clangula	Obligate (tree) cavity nester of the boreal forest zone	Shallow protected coastal waters <3m as well as interior takes & rivers. Widespread	Poorly known. Males probably molt on marine coasts whereas females & subadultz molt on interior lakes	Poorly known	In winter, roost at night far offshore
3. islandica	Obligate (tree) cavity nester of the boreal forest zone of western North America favoring eutrophic lakes & ponds	Shallow protected coastal water usually of estuarine influence	Totally unknown for adult males. Females & subadults mole on interior europhic lakes	Poorly known	Strong philopatry to natural areas
3. albeola	Obligate (tree) cavity nester of the boreat forest zone of North America favoring eutrophic takes & ponds	Shallow protected coastal waters <5m. Usually feed over cobble, rock & boulder substrates	Totally unknown for adult males. Females & subadults molt on interior europhic lakes	Poorly known	Endemic to North America

## Appendix 2, Continued.

Species	Breeding	Winterrog	Molning	Migration	Special Notes
Lophodytes cuvullatus	Obligate (Iree) cavity noster of western N.A. favoring wetlands of fluvial systems	Shallow prosected temperate coastal waters & interior lakes & rivers	Unknown	Unknown	Endemia to North America
Mergellus albellus	Obligate (tree) cavity nester of forested zones of Russia, Siberia & Far East	Shallow protected temperate coastal waters & rivers	Unknown	Unknown	Endemic to Asia
M. serraine	Widespread on lakes & rivers of n, boreal zone. Frequently nests on islands & can be somewhat colonial. May nest in coastal marine situations	Widespread on shallow coastal marine waters < 10m. May remain far north in winter often to the limit of pack ice	Poorly known	Unknowa	
M, merganser	Obligate (tree) cavity nester of closed boreal forest 20nes	Widespread on shallow coastal marine waters to inland lakes & rivers	Unknown	Unknown	
M. squamatus	Obligate (tree) cavity nester of southern boreal zones of east Asia	Primarily rivers	Unknown	Unknown	Very rare & virtually unstudied. Endemic to Asia

Sources for Appendix 1 and Appendix 2: Alison 1975, Burty 1986, Bellroke 1976, Bochamikov 1990, Breault and Savard 1991. Brown and Brown 1981, Cassiner et al. 1993, Day 1977, Demension and Gladkov 1952, Deglyarev and Lationov 1982, Dzinbai and Jarvik 1984, Erkkine 1972, Film and Krivenko 1990, Gabrielson and Lincolon 1989, Gerasimov 1990, Guxakov 1988, Hodges et al. 1994, Johnson and Hener 1989, Kenell 1991, Kistchinski 1973, 1980, Kistchinski and Flint 1974, Koehi et al. 1984, Koodratyev 1988, 1989, 1990, Kondratyev and Zadorina 1992, Labutin and Revin 1985, Lobkov 1986, Patmer 1976, Portenko 1952, Savard 1988, Stehn et al. 1993, Vermeer 1981, 1982, 1983, Vermeer and Ydenberg 1989,

Status of

- Alison, R. M. 1975. Breeding biology and behavior of the oldsquaw (Changula hyemalis). Omithol. Monter, No. 18.
- Anderson, D. R. and K. P. Burnham, 1976. Population ecology of the mailard: VI. The effect of exploitation of survival, U.S. Fish and Wildl, Serv., Resour, Publ. 128, Washington, D.C. 56 pp. Barry, T. W. 1968. Observations on natural monality and native use of eider ducks along the Beaufort

Sea coast. Can. Field-Nat. 82: 140-144.

-... 1986. Eiders of the western Canadian Arctic. Pages 74-80 in A. Reed, ed., Eider Ducks in Canada, Can. Wildl, Serv. Rept. Series No. 47, Ottawa, Ontario.

Bartonek, J. C. 1993. Sea duck and merganser hunting status, and harvests in Alaska and Pacific coastal states. U.S. Fish and Wildl. Serv., Portland, OR. 23 pp.

Bartonek, J. D., R. J. Blohm, R. K., Brace, F. D. Caswell, K. E. Gambie, H. W. Miller, R. S. Pospahala and M. M. Smith. 1984. Status and needs of the mailard. Trans. No. Am. Wildl. and Natur. Resour. Coaf. 49: 501-518.

Bellrose, F. C. 1976. Ducks, Geese and Swans of North America. Stakpole Books, Harrisburg, PA.

Bengsson, S.-A. 1972. Breeding ecology of the harlequin duck (Histrionicus histrionicus) (L.) in Iceland, Omis Scand, 3: 1-19.

Bengtson, S.-A. and S. Uffstrand, 1971, Food resources and breeding of the harlequin duck (Histrionicus histrionicus) in Iceland. Oikos 22: 235-239.

Bochamikov, V. N. 1990, Current status of waterfowl resources in the southern Far East of the USSR. Page 48 in G. V. T. Matthews, ed., Managing waterfowl populations, IWRB Spec. Publ. No. 12.

Bourgel, A., P. Dupuis and W. R. Whitman, 1986. Eiders wintering in the Gulf of St. Lawrence: Numbers and distribution. Pages 94-99 in A. Reed, ed., Eider ducks in Canada. Can Wildl. Serv. Rept. Ser. No. 47.

Breault, A. M. and J.-P. L. Savard. 1991. Status report on the distribution and ecology of harlequin ducks in British Columbia, Can. Wildl. Serv. Tech. Rept. Ser. No. 110, Can. Wildl. Serv., Pacific and Yukon Region, British Columbia.

Brown, P. W. and M. A. Brown. 1981. Nesting biology of the white-winged scoter. J. Wildi. Manage. 45- 18-45

Cassirer, E. F., A. M. Breault, P. Clarkson, D. L. Genter, R. I. Goudie, W. Hunt, S. C. Latta, G. H. Mittelhauser, M. McCollough, G. Shirato and R. L. Wallen, 1993. Status of harlequin ducks (Histrianicus histrimucus) in North America, Harlequin Duck Working Group, Galiano, British Columbia, Canada.

Caswell, H. 1989. Matrix population models: Construction, analysis and interpretation. Sinauer Associates, Sunderland, MA, 328 pp.

Chadwick, U. II, 1993. Bird of white waters. National Geographic 184(5): 116-132.

Coulson, J. C. 1984. The population dynamics of the eider duck (Somateria mollissima) and evidence of extensive non-breeding by adult ducks. Ibis 126: 525-543.

Dau, C. P. 1977, Observations on the natural history of the Spectacled Eider (Lampronetta fisheri). Dept. Wildl. and Fish, Univ. Alaska Coll., 96 pp. Mimeo.

Dementicy, G. P. and N. A. Gladkov, 1952. Birds of the Soviet Union-Volume IV. G.S. Dept. Interior and Nat. Sci. Found., Washington, D.C. 683 pp.

Degtyarev, A. G. and G. P. Larionov. 1982. Distribution and number of Lamellirostess in Central Yakutia: Migration and ecology of birds in Siberia. Novoibirsk. Pages 87-103.

Doughty, R. W. 1979. Eider husbandry in the north Atlantic: Trends and prospects. Polar Record: 19(122): 447-459,

Dzinbal, K. A. and R. L. Jarvis, 1984. Coastal feeding ecology of harlequin ducks in Prince William Sound, Alaska, during summer, Pages 6-11 in D. N. Neuleship, G. A. Sanger and P. F. Springer, eds. Marine birds: Their feeding ecology and commercial fisheries relationships, Proc. Pacific Seabird Group Symp., Seattle, Washington, Can. Wildl, Serv. Spec. Publ. Ottawa, Canada.

Eadie, J. M., F. P. Kehoe and T. D. Nudds, 1988, Pre-hatch and post-fatch broad amalgamation in north American Analidae: A review of hypotheses. Can J. Zool. 66: 1,709-1,721.

Erskine, A. J. 1972, Buffleheads, Can. Wildl, Serv. Monogr, Ser. 4, 240 pp.

Flint, V. Ye and V. G. Krivenko. 1990. The present status and trends of waterfowl in the USSR. Pages 23-26, in G. V. T. Matthews, ed., Managing Waterfowl Populations, IWRB Spec. Publ. No. 12.

Gabrielson, I. N. and F. C. Lincoln. 1959. The birds of Alaska. The Stackpole Co. and the Wildlift Management Institute, Harrisburg, PA, 922 pp.

Gardarsson, A. and A. Einarsson, 1991. Responses of breeding duck populations to changes in footsupply. Contributed paper, 19-22 August 1991, Conference on Aquatic Birds in the Trophin-Web of Lakes. Sackville, New Brunswick,

Gerasimov, N. N. 1990. Spring migration and number of Anserlformes in Kamchatka, Pages 46-4: N. in G. V. T. Matthews, ed., Managing Waterfowl Populations, IWRB Spec. Publ. No. 12.

Gillelan, G. 11, 1988, Gunning for sea ducks. Tidewater Publishers, Centreville, MD, 129 nn.

Goudie, R. I. 1989. The common eider situation in Newfoundland and Labrador, Pages 35-37 (10) C.-A. Drolet, ed., Workshop on eider management, Can. Wildl, Serv. Tech. Rept. Ser. No. 64. Can. Wildl. Serv., Ouebec Region, Ouebec.

Goudie, R. I. and C. D. Ankney. 1986. Body size, activity budgets, and diets of sea ducks wintering in Newfoundland, Ecology 67: 1,475-1,482.

Gudmundsson, F. 1971. Straumendar (Histrianicus histrionicus) a Islandi ("The harlequia duck it ? Iceland"). Natturufraedinguring 41(1): 1-28, 20: 64-98.

Gusakov E. S. 1988. Landscape and waterfowl population dynamics of Penzhina—Parapol Dale.  $h_{10}^{\omega}$ Chronological changes of game animal numbers in Russia. Moscow.

Henry, C. J., L. J. Blus, R. A. Grave and S. P. Thompson. 1991. Accumulation of trace elements and C. organochlorines by surf acoters wintering in the Pacific Northwest, Northwestern Nat. 72: 43-60.

Henry, C. J., D. D. Rudis and E. Robinson-Wilson, 1994 in press, Contaminants and sea ducks in Alaska and the circumpolar region, Proc. Intern. Symp. on the ecological effects of Arctiairbome contaminants, Reviewovik, Iceland, October 1993.

Hochbaum, G. S. and F. D. Caswell. 1978. A forecast of long-term trends in breeding Mallan populations on the Canadian prairies. Can. Wildi. Serv. Prog. Note No. 90,

Hodges, J. I., J. G. King, B. Conant and H. A. Hansen. 1994. In prep. Water bird population trend. in Alaska derived from aerial observations during the last half of the twentieth century. U.S. Fish and Wildl. Res. and Develop, Tech. Serv. Resour, Publ.

Joensen, A. H. 1972. Studies on oil pollution and seabirds in Denmark, Dan, Rev. Game Biol. 6(9) 1-32.

Johnsgard, P. A. 1960. Classification and evolutionary relationships of the sea ducks. Condor 62

Johnson, D. S., J. D. Nichols, M. J. Conroy and L. M. Cowardin. 1968. Some considerations  $\mathbb{R}^2$ modeling the maliard life cycle. Pages 9-20 in M. W. Weller, ed., Waterfowl in winter, Univ 🗠 Minnesota Press, Minneapolis,

Johnson, S. R. and D. R. Herter, 1989. The birds of the Beaufort Sea. BP Exploration (Alaska) Inc 🖔 Anchorage, Alaska, 372 pp.

Kertell, K. 1991. Disappearance of the Steller's elder from the Yukon-Kuskokwim delta, Alaska Arctic 44(3): 177-187.

Kistchinski, A. A. and V. E. Flint, 1974, On the biology of the Speciacled Elder. Wildfowl 25: 5-15 Koehl, P. S., T. C. Rothe and D. V. Derksen, 1984, Winter fond babils of Barranthers Alaster and Science and S southern Alaska, Pages 1-5 in D. N. Nenlestúp, G. A. Sauger and P.F. Springer, eds., Maria birds: Their feeding ecology and commercial fishery relationships. Proc. Pacific Scabird Group Symp., Seattle, Washington, Can. Wildl. Serv. Spec. Publ., Ottawa.

Kondratyey, A. Ya., 1988, Waterfowl population conditions in maritime tundras of Northern Chakotk. and the porblem of their preservation. Pages 92-105, in Studies and protection of birds in number R ecosystems. Viadivostok: Far East Branch, USSR Acad. Sciences.

Kondratyev, A. V. 1989. A comparative ecology of Melanitto nigra, M. deglandi and Clangule hyemalis in the Anadyr River middle stream basin, Zool. J. 68(8): 93-103.

..... 1990. Waterfowl resources of Magadanskaya Region. Pages 44-45 in G. V. T. Matthews ed., Managing Waterfowl Populations, IWRB Spec. Publ. No. 12.

Kondravev, A. V. and L. V. Zadorina, 1992. Comparative ecology of the king eider (Somaterico) speciabilis) and the speciacled eider (S. fischeri) on the Chaun tundra. Zool. 3. 71: 99-108.

Krohn, W. B., P. O. Corr and A. E. Hutchinson. 1992. Status of the American Eider with specia reference to northern New England, U.S. Fish and Wildl. Serv. Tech. Rept. No. 12.

Labulin, Yu. V., V. 1, Perfilieva and Yu. V. Revin, 1985, Plant and animal world of the Lena Rive 💂 delta, Yakutsk, Siberian Branch, Acad. Sciences, 140 pp.

ok, Far East Branch, Acad. Science

iders at the Sands of Forvie Nationaries.

, 1988. Workshop summary: Hunting eller, ed., Waterfowl in winter, Univ.

88. Workshop summary: Species and W. Weiler, ed., Waterfowl in winter.

Vol 3. Yale Univ. Press, New Haven,

/drocarbon uptaken in Prince William Exran Valdez oil spill. Bird Study No. Anchorage, AK. 98 pp.

storation monitoring study in Prince cuary 1992-January 1993. Restoration AK. 29 pp.

1 Trans No. Amer, Wildl, and Natur.

er Publications, Inc., New York, NY.

il pollution on marine hird populations. ildlife. The Sheridan Press, Hanover,

J. R. Nysewander, 1990b. Immediate k 107: 387-397.

in the Western Palearctic: An analysis 1., Managing Waterfowl Populations.

eiders, Proc. Zool, Inst. Acad. Sci.

eider in eastern North America: Their ks in Canada, Can. Wildl. Serv. Rept.

103-106.

ew York, NY, 279 pp.

ronment: Some speculations. Colonial

listribution and abundance of moulting Wildl, Serv. Tech. Rept. Ser. No. 45. lumbia.

ww-Hill Book Co., Toronto. 316 pp. hagen, Pages 24-25.

is Republic, Novosibirsk; Nauka Publ. К.

tecline of spectacled eiders nesting in

illissima in the Netherlands. J. Omthol.

ler. Auk 31: 14-21. tened wildlife and plants; final rule to 164-27,480. Off. Migratory Bird Manage. Laurel,

ish Columbia, Wildfowl 32: 107-116. : in British Columbia waters. Wildfow)

64(2) 54-57. Vermeer, K. and N. Bourne. 1984. The white-winged scoter diet in British Columbia waters; Resource ⊨ partitioning with other scoters. Pages 30-39 in D. N. Nettleship, G. A. Sanger and P. F Springer, . eds., Marine birds: Their feeding ecology and commercial fishery relationships. Proc. Pacific 🛇 Scabird Group Symp., Seattle, Washington, Can, Wildl, Serv. Spec. Publ., Ottawa.

-. 1983. Diet of the harlequin duck in the Strait of Georgia, Britis

Vermeer, K, and R. C. Ydenberg, 1989. Feeding ecology of marine birds in the Strait of Georgia. Pages 62-73 in X. Vermeer and R. W. Butler, eds., The ecology and status of marine and № shoreline birds in the Strait of Georgia, British Columbia. Can. Wildl. Serv. Spec. Publ., Can. .. WildL Serv., Ottawa,

Wendt, S. 1989. The estimation of eider harvest, Pages 57-66 in C.-A. Drolet, ed., Workshop on eider management, Can. Wildl. Serv. Tech. Rept. Ser. No. 64. Can. Wildl. Serv., Quebec Region, 💍 Ste. Foy, Quebec,

Wendt, S. J. and E. Sifielf. 1986. The kill of eiders and other sea ducks by hunters in eastern Canada. N Pages 147-155 in A. Reed, ed., Eiders in Canada, Can. Wildl. Serv. Rept. Serv. No. 147.

Wentworth, C. 1993. Subsistence waterfow! harvest survey, Yukon-Kuskokwim Delia, 1992 results and comparative data, 1985-92, U.S. Fish and Wilds. Serv., Migratory Bird Manage., AK.

Wolfe, R. J., A. W. Paige and C. L. Scott. 1990. The subsistence harvest of migratory birds in Alaska. 😐 Alaska Dept. Fish and Game, Tech. Pap. No. 197,

## 2

## Special Session 1. Conserving International Resources of the North Pacific Rim

Chair
ARTHUR M. MARTELL.
Canadian Wildlife Service
Delta, British Columbia
Cochair
A. W. "BILL" PALMISANO
U.S. Fish and Wildlife Service
Anchorage, Alaska

## The Status of Sea Ducks in the North Pacific Rim: Toward Their Conservation and Management

R. Ian Goudie Canadian Wildlife Service Delta, British Columbia Alexander V. Kondratyev
Institute of Biological Problems of the North
Mozadan, Russia

Solange Brault
University of Massochusens
Baston

Margaret R. Petersen
National Biological Survey
Anchorage. Alasko

Bruce Conant U.S. Fixh and Wildlife Service Juneau, Alaska Kees Vermeer Canadian Wildlife Service Sidney, British Columbia

## Hackground

## Species and Status

Sea ducks (tribe Mergini after Johnsgard 1960) are the most northerly distributed ducks, and species diversity is greatest in the North Pacific. They exploit a diversity of inshore and offshore marine habitats during the non-breeding season, and their use of habitat during breeding varies from coastal through freshwater wetlands of the lundra and taiga (Figure 1, Appendix 1). Non-breeding cohorts frequent marine habitats most of the year. Sea ducks thus are important indicators of the quality of freshwater and marine ecosystems of northern biomes.

Of the 17 species discussed in this manuscript, at least 13 are reported be declining (Appendix 2). However, the basis for many of those assessments is equivocal because there has been little effort to monitor populations. The efforts to more

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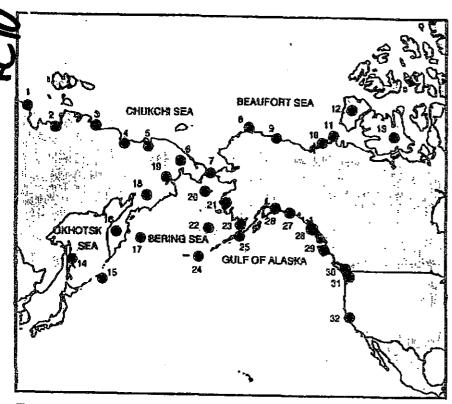


Figure 1. Important sea duck areas of the North Pacific Rim,

25 Alaska Peninsuta 24 Alcutian Islands 28 Alexander Archipelago 19 Anadyr River 12 Banks Island 23 Bristol Bay 11 Cape Bathursi 27 Cape Vakataga 5 Choun Bay 6 Chukotsi Peninsula

17 Commander (stands

29 Heceste Strait 3 Indigirka Deha 16 Kamcharka Pezinsula 4 Kolyma Delta 15 Kuril Islands I Lenz Delta 8 Point Barrow 22 Pribilof Islands 26 Prince William Sound 9 Prudhoe Bay

7 Diomode Islands

31 Paget Sound 20 Saint Lawrence Island 14 Sakhalin Island 32 San Francisco Bay 30 Strait of Georgia 10 Tuktoyuktuk Peninsula 13 Victoria Island 18 Yakusio Koryak 2 Yana Delta 21 Yakan-Kuskokwim Delta

precisely assess their status point to catastrophic declines (Kertell 1991, Stehn et al. 1993). Conservation problems related to sea ducks have a long history throughout the holarctic. For example, the Labrador duck (Camptorynchos labradorius) became extinct in 1875 (Phillips 1925); common eiders (Somateria mullissima) declined seriously throughout the northern hemisphere (Townsend 1914, Phillips 1925, Doughty 1979); hartequin ducks (Histrianicus histrianicus) experienced declines in Iceland and Greenland (Gudmundsson 1971, Salomonson 1950), and more recently have been designated endangered in eastern Canada (Committee On the Status of Endangered Wildlife in Canada 1990). In Russia, all species of eider and harlequin

ducks have been closed to sport hunting since 1981, and Chinese mergansers (Mergur squamatus) presently are extremely rare and fully protected, i.e., category one of the red book (Solomonov 1987).

Current issues. Bartonek (1993) noted an increased concern for the status of sea ducks in the Pacific Flyway due to (1) the listing of the spectacled eider (S. fischeri) as a Threatened species throughout its range in the United States (U.S. Fish and Wildlife Service 1993a); (2) the firsting that the Alaskan nesting population of the Steller's eider (Polysticta stelleri) warranted listing as a Threatened species; (3) losses of harlequin ducks stemming from the Exxon Valdez oil spill; and (4) inexplicable mortality of scoters (Melanitta spp.) summering in the Gulf of Alaska. This concern, however, has not changed management approaches to most sea duck populations. Sca ducks are subjected to extremely liberal hunting regulations enhanced by a perception of little hunting interest and insignificant harvest rates of this group (Bartonek 1993, Gillelan 1988, Reiger 1987, 1989, U.S. Fish and Wildlife Service 1993b), and management of hunting kill may be lacking (e.g., Seller's eiders in Russia prior to 1981), or seriously compromised by conflicting interests in subsistence and aboriginal use (Kondralyev 1988, Nichols et al. 1988, Wentworth 1993, Wolfe et al. 1990).

Conservation of wildlife species requires a fundamental understanding of population status, mortality and natality in order to make informed decisions. This knowledge is lacking for sea duck population. Here we review aspects of life histories and simulate demography of sea ducks. By developing matrix models to integrate life history parameters we analyze the effects of varied mortality rates on population dynamics. We present recommendations that redirect our approach to the management and protection of sea ducks.

## An Ecological Basis For Conservation

## Mortality Theories

Compensation. Patterson (1979) highlighted the need for management based on ecological principles, and integrated theories of compensatory mortality with life history patterns. Empirical evidence suggested that hunting and non-hunting mortality may largely be compensatory for the mallard (Anas platyrhynchos), up to some threshold (after Anderson and Burnham 1976); however, that hypothesis has been  $\geq$ largely repudiated (see Johnson et al. 1988). Patterson (1979) expressed concerns that the mallard would be used as a "yardstick" with which numerical kill of other species is evaluated. Also, Mortalbano et al. (1987) were concerned that compensatory mortality had become a philosophical comerstone of regulatory programs for waterfowl. This philosophy condones an approach to management which can result in over-exploitation of species (Bartonek et al. 1984.).

Additivity. Anderson and Burnham (1976) noted that above a certain level, hunting mortality in the mallard must be additive and this "threshold" must be less than the natural mortality rate. Therefore, species with low natural mortality rates are less capable of "compensating" for hunting mortality than species with high mortality rates. Patterson (1979) noted that mallards and canvasbacks (Ayshya valisneria) are

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at opposite ends of the threshold spectrum, i.e., 0.40 and 0.10 harvest rates, respectively. He therefore emphasized the need for conservative approaches in the management of hunting kill in the diving ducks (also Pirot and Fox 1990, Hochbaum and Caswell 1978).

We expand this suggestion to include sea ducks. Our analyses indicate that sustainable harvest rates may not exceed about 0.03 of the adult population in some sea duck species. Therefore, our perception of the significance of losses to hunter kill will change based on life history patterns for each species.

### The r-K Continuum

Life history. Waterfowl span the entire t-K continuum, and sea ducks exhibit extreme K-selection relative to other species of ducks (Eadie et al. 1988). Like seabirds, sea ducks have deferred sexual maturity, tow annual recruitment rates to breeding age, variable annual rates of non-breeding by adults and high annual adult survival rates (see Ricklefs 1990). The highly variable environment of the northern marine ecosystem favors a life history strategy of minimized annual investment in reproduction and extended longevity.

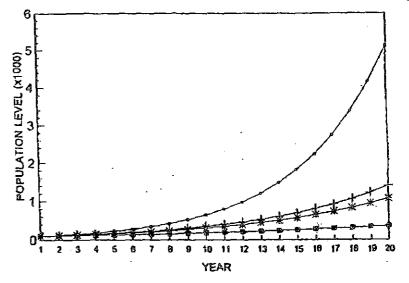
Ecological time. Population stability of sea ducks is dependent on high adult survival and a few successful years of reproduction (e.g., Milne 1974, Swennen 1991). This results in population growth that is stepped, and average annual rates of increase can reach 5 to 10 percent. Considerations of ecological time become important because infrequent Arctic ice event can cause mass mortality for some species (Barry 1968), and/or might affect body condition and fitness of birds (see Goudie and Ankney 1986). Hence, gains in populations during a few decades of favorable environmental conditions likely are important to buffer against extirpation during harsh conditions.

Species sensitivity. Species which maintain population stability through high adult survival are sensitive to increased mortality (Shaw, 1985). In sea docks, sensitivity is exacerbated by the relatively high proportionate losses of adults in events such as hunting and oil contamination.

## Population Modeling

Intrinsic differences. We generated theoretical populations of various species of ducks over a 20-year period (figure 2, Appendix 3). In this exercise, the mailard population increased to over 5,000 females, whereas the harlequin duck population increased to 400 females. It is clear that the ability of these populations to sustain mortality and/or recover from population declines are dramatically different. Johnson et al. (1988) pointed out that modelling is no panacea for waterfowl management, but it helps to consolidate our understanding of population dynamics. Here modelling supports the need for a different approach to the management of sea duck populations.

. Demography. We modelled theoretical populations of harlequin ducks using a Leslie matrix approach (Caswell 1989). We incorporated data on harlequin ducks from Iceland (see Bengtson 1972, Bengtson and Ulfstrand 1971, Gardarsson and Einarsson 1991). Our analysis suggests that population stability occurs when adult survival rates are about 0.85 (Figure 3), a level somewhat less than unbunted popu-



— Mallard → Canvasback \* Common Goldeneye → Hariequin Duck

Calculations using a transition matrix approach of data in Appendix 3.

Figure 2, Hypothetical population growth of four species of ducks.

lations of common eiders in Scotland (see Coulson 1984). An increasing population of harlequin ducks, i.e., 9.3 percent per year at Lake Myvatn, iceland from 1975 to 1989) (see Gardarsson and Einarsson 1991), was simulated when adult survival rates approximated 0.95.

Adult survival appears to be the main factor influencing population stability for sea ducks (Appendix 4), suggesting that fittle can be achieved through management of other biological parameters, such as survival and production of young.

## Defining Sustainable Mortality

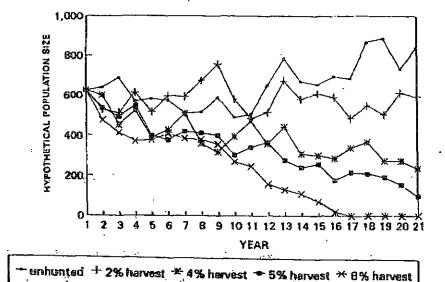
Simulating monality. Simulated annual kills of harlequin ducks suggest that losses exceeding 3 to 5 percent of the initial adult population are not sustainable (Figure 3). This is similar to our earlier estimates of harvest rate thresholds. This finding highlights the need to reduce mortality on some species of sea ducks in areas where harvest rates are high, such as in Alaska, Newfoundland and the eastern United States (see Wentworth 1993, Reed and Erskine 1986, Goudie 1989, Krohn et al. 1992, Wendt and Silieff 1986) and where chronic oil pollution is severe (Pint) et al. 1990a, Chadwick 1993).

Estimating mortality. Because minor increments of mortality can negatively affect populations of sea ducks, the estimation of mortality is fundamental for wise management decisions. However, precision in these estimates is lacking. For example, estimates of hunter kill of sea ducks vary by orders of magnitude depending on the

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## SIMULATED POPULATIONS OF ADULT HARLEQUIN DUCKS

Scenarios of various hunter kills as proportions of initial adult populations



Ses Appendia 2 for damographic data in model

Figure 3. Simulated population growth model for hardequin ducks with and without hunting mortality, fadividual lines represent a mean of 10 simulations with random samual productivity having a mean of 1.95 fledged young per experienced female.

approach to sampling hunters (Goudie 1989, Wendt 1989, Wendt and Silieff 1986, Wentworth 1993, Wolfe et al. 1990). Also, actual losses due to oil spill events are thought to be 5 to 10 times the number of observed corpses (see Piatt et al. 1990), Patten and Crawley 1993). Furthermore, mortality of sea ducks in the North Pacific may be exacerbated through sublethal contamination of food chains (Henny et al. 1991, 1994).

Estimating trends. Managers are reluctant to take action until declining trends can be demonstrated, yet most sea ducks lack sufficient survey coverage for trend analyses (Appendix 2). Trends are difficult to generate for sea ducks because of inherent stochasticity in the populations and high standard errors in aerial survey techniques. It is unlikely that we have the huxury of awaiting such tenuous results. Our simulation corroborate the long recovery time necessary to rehabilitate some stocks (>50 years). Therefore, managers should expect very fittle change in trend statistics over 5 to 10-year periods.

## Conclusions

We suggest that a fundamental realignment of our management of sea ducks is needed. The recent listing under endangered species programs of three species of sea ducks in the northern hemisphere suggests that current management practices are inadequate. The poor effectiveness of past management practices stems from a lack of knowledge of the ecology of sea ducks relative to populations of other waterfowl. Because of high sensitivity of sea ducks to very slight changes in adult mortality, we conclude that managers should adopt conservative measures in the management of mortality. In most cases there is insufficient information on which to base wise management decisions, and therefore managers should take a conservative approach because of the slow recovery rate of sea duck populations.

## Recommendations

## Management

We stress the need for fundamental changes to the current approaches to sea duck management. These include:

- (1) Apply sea duck management at a population level which recognizes the existence of high philopatry and discrete geographic sub-populations.
- (2) Hunting regulations to reduce or curtail unsustainable annual mortality to adult sea ducks.
- (3) Integrate government and subsistence interests to manage spring and summer kills of sea ducks at sustainable levels.
- (4) Integrate "sport" and "subsistence" kills into collective management actions.
- (5) Control chronic oil disposal and catastrophic oil spills in coastal waters.
- (6) identify and protect key habitat areas, and manage them to limit hunting and disturbance, buffer against intertidal and benthic hubitat alteration, minimize contamination and pollution.
- (7) Integrate data on sea duck distribution with coastal zone management to ensure development activities, such as aquaculture, mariculture, commercial fisheries and oil exploration, are sustainable.
- (8) Improve enforcement of existing and future regulations aimed to conserve sea ducks.
- (9) Identify and implement monitoring programs of "indicator" species in suitable geographic areas. These should serve to indicate the status of the guild of sea ducks.

## Research

Very little is known of the ecology of sea ducks. Some approaches to improve our understanding include:

- (1) Review existing literature, and identify information gaps and establish priorities.
- (2) Refine data on basic demographics of sea duck populations in order to improve our ability to model population dynamics.
- (3) Improve our understanding of the trophic web of the marine ecosystems through further studies of the ecology of sea ducks during molt and winter.
- (4) Initiate long-term studies of sea ducks that aim to identify ecological factors controlling the "boom and bust" phenomenon of productivity of young, and the influence of natural mortality that periodically can be catastrophic (e.g., delayed ice break-up and starvation).

Appendia 3. Life History parameters of four duck species in North America (from Relirose 1976, Bengtson 1972, Bengtson and Ulfstrand 1971, Cassiver et al. 1993).

Life History Parameter	Mallerd	Cenverback	Common Galoeneye	Biarloguin.
Popoletion size (a 1000)	10667	642	1469	165
Life spen (years) (y)	7	£D	12	18
Adult survival (S.)	0.6\$	0.75	0.75	0.85
Invenile survival (S,)	0,35	0.40	0.50	0.50
Average age at first breeding (A)	1	1 10 2	2	8
Cintols size	9	7.9	9.8	5.6
Renewing capacity (additional nests			-10	3.0
per pak) (R)	1.15	0.5	0.3	a
Fledged young per female (F)	4	3	3	, ·
Nest success (K).	0.6	0.6	0.8	0.9
Philopatry (probability of return)	0.1	0.75	1	0.9
Rate of son-breeding	0	. 0	Ö	0.44

Where Hig = the size of the population of age / in year / (age 0 indicates a javenile)

and Many = Nuo'S.

N, 4 , 1 = N, S, if 1>0

Thes, the total population in year i (T.) is

 $Y_i = \sum_{j \geq 0} N_{ij}$ 

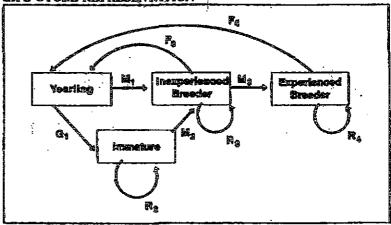
Populations are projected over 20 years once the stable age distribution has been established (Figure 2).

Appendix 4. Life history parameters used in the estimation of the population tate of growth, and diagramatic representation of stage-classified matrix model for the hadequin duck.

Life History Parameter		Value	Elasticity
Yearling survival	(S <sub>1</sub> )	0.5	0.139
Immanus survivai	(S <sub>2</sub> )	0.75	0.2482
Survival of inexperienced breeders	(S <sub>1</sub> )	0.85	0.1434
Survival of experienced breeders	(S <sub>a</sub> )	0.85	0.4706
Probability of yearling materation	(P <sub>1</sub> )	0.05	0.0074
Probability of immature materation	(P <sub>1</sub> )	0.32	0.0657
Proportion of females breeding	(E)	0.66	0.1627
Mean fecundity of inexperienced	(M,)	0.55	0.0134
Mean fecundity of experienced	OM <sub>o</sub> .	1.95	0.1247

<sup>&</sup>quot;The proportional sensitivity of population growth to changes in respective life history parameters.

## LIFE CYCLE REPRESENTATION



 $G_t = S_1 \cdot (1-P_t)$  $R_1 = S_1 \cdot (1 - P_2)$  $M_1 = S_2 \cdot P_2$  $R_1 = S_3 \cdot (1 - P_4)$ M, = S, . E.

 $R_4 = S_\epsilon$  . F, = S, . E, . M, F. = S. E. M.  $M_1 = S_1 \cdot P_1$  where:

S<sub>i</sub> = survival probability at stage i

P, = maturation probability at stage i

M, = mean fecundity at stage i

E = proportion of stage i birds breeding



SERDUCK KACHEMAK BAY

RECEIVED

MAY 1 8 2009

BOARDS

**BOG Members** 

Keep the two sea duck bag in place. This is great. The general duck bag is still set at seven so we can still take nine ducks. That is reasonable. I always thought the 17 ducks a day was excessive. How can you cat seventeen birds in a day. Or even in a week. Thanks for cleaning up this outdated regulation.

Sincerely

Mett Clarken 39570 Brentvark Are, Homer Azasba 99603



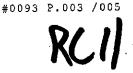
# Hello Board of Game

Lets see what happens with the two a day. This makes sense. I thought commercial hunting was illegal? Ten a day is wasteful it definitely needs to be much lower. These birds are so easy to kill. They are always in the same place so a commercial guide will know where to get what species. This will and has caused bays to get systematically wiped out. Two per day is enough for mounts

May 17th 2009

Letter All Jake P.O. Box 3038 Home, Al 9403

Two a day is more than enough!



Kristy Tibble Board Support Juneau Alaska 99802 5/17/09

Kachemak Bay Seaducks

How many sea ducks does a person need anyway? We eat what we kill. Eating ten seaducks per day would be almost impossible so the waste is tremendous

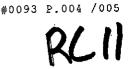
Seaduck hunting at 2 per day lets a hunter get a mount if he wants to but I sure hope they eat them. I don't know many people who do. The Dabbler duck limit is still at 7 per day so people will still have a bag of 9 ducks per day. Thank-you BOG this is logical management that supports the resource.

Sincerely

589 H Allen Way

Alaska 99603

I leaf is a imuch be



5/18/02 BOG Members Cliff Judkins Chair

RE: Seaducks in Kachemak Bay

To the Board:

## Nice Job!

Thanks for getting our bag limit for seaducks down to where it is reasonable. Having a total duck bag limit of 17 ducks is way way overkill. 7 in the general bag with two in the special sea duck makes 9 ducks. That is enough. No other state on the Pacific Flyway has a special seaduck bag limit. 10 per day 20 in possesstion for seaducks begs for abuse. It is a cast and blast ordeal. Crippled birds. wanton waste. Everything we don't want in a hunt. Glad you cleaned it up.

Scot Stacey
Hover AK 99603



We were happy to hear that you stopped the slaughter type hunting and got the bag limit set at 2 seaducks per day. Keep this in place. Pass shooting kills a lot more birds than is aimed at. Lots of cripples. It is a very messy wasteful kind of duck hunting. Seaduck hunting gives the rest of us a bad name.

Thanks for your work

436 Bonanza Ave

Michael E

Honor, AK 99603



5 en Durks (C-Bay

RC 1

# Board of Game

Two sea ducks a day is more than enough. They taste terrible Finally some sense. We can still get nine ducks total. That's more than enough. If people want a mount they can be more careful getting them without blasting the whole flock up. What we have here in Kachemak Bay is rare. So many kinds of seaducks in one of the most Northerly ice free areas. Plus you can drive here. I don't see the sea ducks like in the 50's and the 60's.

Jim Navdelli po Pax 6416 Holibit Cove AL

Holisit Cove

RC 11

Board of Game Support Kristy Tibbles Cliff Judkins Juncau Alaska May 17 2009

Re: Emergency petition Kachemak Bay Sea Ducks

Dear Board Members,

I just heard you are reconsidering the seaduck proposal 117. I think it is a great idea that you lowered the bag limit to two birds. Good Job! 'This kind of "sport" is nasty for the resource. It wings birds, they dive and you can't retrieve them. It make them so skitterish after hunting season you can't even chop wood and they fly around in a frenzy. Plus you can't even eat them. We have tried everything from marinate to milk. Stinks up the whole house. Keep up the good work.

HOMER, AK 99603

Sincerely, JOHN ERICSON

RECEIVED TIME MAY. 18. 10:34AM

Hers Rudert POB 15 TO Homes, AK



Keep the Seaduck Bag limit at two per day

Dear Board of Game Committee,

This kind of sound management keeps the slob hunter out of Alaska. We used to have rafts of seaducks in front of our home in Kasitna Bay. Now we count them in the teens. They shoot near our homes.

Seaduck hunting is a slaughter. Plain and simple. Its almost like people take their aggressions out on the ducks. We watched some of these jokers spinning around in their boat shooting and reloading as fast as they could. It sounded like a war. It looked like a war afterwards ducks floating everywhere. Crippled birds trying to get away. They even shot a loon in the mix.

They can't tell the difference and they don't even try. They are just shooting at whatever moves. What kind of a hunt is this? It made us sick as we ran for cover. Thank-you for making a sound decision. Two birds will let these guys hunt consciously and they still have seven dabbler ducks to have for dinner. This will help this bay to grow back the birds. Thanks

RECEIVED TIME MAY. 18. 10:34AM

#0095 P.004 /005 RC//

Nice Job Board of Game May 18, 2009 I just heard about this emergency petition for seaducks in Kachemak Bay

Keep the regulation at 2 seaducks. Who needs more than 2 unless they are selling skins like that French guy who got caught a number of years ago. Plus he was legal cause he could take 10 per day 20 in possession. This is outrageous. This will help this problem of selling skins and wasting these ducks as if they were clay pigeons.

Yours Truly,

Otivis you Worst - A Homer Spit AD 4306



To the Board of Game Department Juneau Alaska 99802 907-465-4190 fax 5-17-09

# RE; Emergency Petition Keep it at 2 seaducks per day

Seaduck hunting is the low life style of hunting. Its like watching a bunch of kids in a shooting gallery. What kind of fun is that, blasting birds out of the air. Duck hunting used to be a sport that we could be proud of. You get your birds to eat, have a great day out on the flats and go home and cat them. If seaduck hunting were ever filmed it would give all duck hunters a bad name. Thank-you for getting this yahoo style of hunting under control. Hunting a duck means stalking it and killing it not blaring away like a damn fool then picking the choice birds to mount.

Lathleen Jeth Pob 157 Homer A

RECEIVED TIME MAY. 18. 10:34AM

In h - Inot bismuth, physical e special and new e factors non the in 131.50 min (\$4.25 s are not rices on when. pads cost

important. currently; bes is the ive testing ports writrusers are raye about erconcluost never designed sucs under stage, the ether most watertowl Man with if buffered fendency to bisumith im thick wad ty of tungscluce lethal rampe-let's er and tung

of us will be the marsh vailability d to steel's es and pat-Wevenheless, wht provide son thoughts icke choices. on the range

their peller

patterning.

bu box stores are prone to stocking only large shot sizes, even-size shot (2, 4) and mostly heavy leads in some areas it is difficult to find#1 or BB swel for Alaska geese #3 sleef—the opti-mal duck load; and #6 seet f close ducks, wounded birds, day targets. We wonder hund and post stierting

The lectmol is fascinating at want to devote come in. ous study of ballistics. However, it is important for laterally, hunters to educate them. at least alread the pastes of shorgums Nokes and smusbell effectiveness to the damage the entistaction in the field and problem efficient harvest of binastillar a seen of nomessic shot walk/man anchy produced mils for ducon that persists the con-turn a purity sout also provides en to learn how we can use elli (tychnology more effec-within) toxic lead shot. There is a lot of information and help available; through periodic shotgun clinics, written majerials, and trained staff to answer questions. Just call tell-free (800) 478 SHOT

# Hunting Strategies for Waterfowl—Arts and Ethics.

Prior to the Boutte arnetican duck crisis of the 1980's about 5 million people hunted migratory birds annually in the U.S., harvesting 12-15 million ducks and 15 million geese each wear Alaska has averaged about 10,000 waterfowl hunters, taking about 110000 dacks and geese Unfortunately, on average, one in every four waterfowl shot by hunters are not tendered to the game long-they in wounded and lost-they recries survive as injured birds of the Even under ideal circumstances file a study in Illinois where skilled altogras and

envashacks and some grouse species Summer and lea

rea in advance. shooting stand that visibility in your zone The state of the s SAL CHEROMOTOR OF THE PROPERTY OF THE PARTY ka aris not unusual to lose birds on outgoing tides or down-river. Having a boat and dog where they arcarecció is essential.

Hunt Methods - Pass-shooting carresult in bird losses as high as eta, in convasi to more careful americettate shooting avaitable at gioser ranges over decoys. Passshooting at any distance requires good gon-handling and practice and it is the most abused technique of unskilled minters. It may require artificial investiment of time. But far more buds can be bagged -more emovably—through learning the ans of calling and decoying birds nita your effective congo than through all the desperant rapid fire elsy-busing, magnum-thumping anti-aircraft tactics used by those who can't shoot well. In some areas, nump-shooting results in salisfying success from skillful stalking However, the best sneak can be tarnished by birds lost in attempts to shoot beyond effective ranges. Often jump-shooting presents us with a going away bird that is difficult to kill—bones and muscles of the less and pelvis shield vital organisand the tough gizzards of waterfowl protect the heart and lungs. Careful judgement and perhaps a larger shot size are warranted for this kind of hunting.

Hunter Skills - Besides the guides were involved, 15% of the Whecessary knowledge and experi-

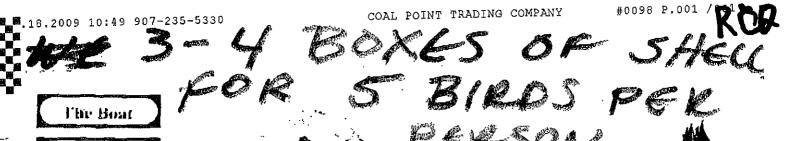
Y #0099 P.001 /006 skills and choses to that life guarantee a clear and bey pr vards/struck/birds/are/lost a.m the tate of builds that are shot a circular congests and the lesse Gerease pineromentally linguage escribe from eine siese mit westerg satisfaction and conservation of migratory game pirtle was onlic that waterforwiers learn the effe tive ranges of their ammunitio how to judge distances in th field, and to shoot only williatil limits of their own shooting and ties. Yet again, off-season were the answer—pattern testing load shooting clay targets and accurat ly visualizing the limits of our sk and technology

# Gun Dogs—the Waterfowler Best Friend

Toffen have reason to re-ev uate my cheace to live with thi active hunting dogs and a spor who prefers dog training or pure leisure (sleep) on the we ends. But as I scroll through "dog-day" memories. Fold Cha the Labrador's midnight sn imo Bill's bunk after a baid by na Plats opening day. Miss Re an making a "pop-fly" catch Ann's first white-led goose and 6-month-old staunchly pointing an cas Oregon chukar, the pleasures purposes of living with budare reaffirmed

Although many nearlesses enthused about feeling that and living in close quancity w rather large cambuscious car manking has detaland unus firm bonds with alogs that scend mere companionship household defense, in my these bonds are most meani in the many uses we have working dog tweeds, and the artful in a bird burners par ship with a trained gun dou

SEE, CHEENHEADS, P



Hunting

Fishing

Location

Reservations

Home Page

Learn About:

Sen Ducks

Cast & Blast

A typical day of sea duck hunting starts at 6:00 AM meeting at the marina and loading your gear into the boat. You should bring your own food, drink, rain gear, sunglasses, shotguns, ammunition and hunting licenses. Your Captain will greet you, ask to see your hunting licenses, give you the safety information then take you to the sea duck hunting zone.

He is required to be no closer than 800 yards off shore. We usually will travel a few miles into an area where lots of ducks

Scoter sea ducks coming in for a landir are active. The boat is then anchored among a stool of decoys and you shoot while st the back of this boat.



Decoys deployed, set-up & anchored.

Yes, the boat is in the open waters at shooting from an anchored boat. The usually have no fear of the boat and a are attracted to it when they see the d rafted in a feeding pattern.

Most sea ducks fly very low to the w are very fast flyers. We recommend at least 3-4 boxes of gun shells to rea limit of 5 birds per person. The dow are retrieved, counted and upon limit the decoys are picked up and boat re the marina.

10.00

tup of page

The Boat | Fishing | Location A Reservations | Home Page

P.W. Tyler PO Box 1281 Homes, AK 99603

RCI3

Board of Game PO BOX 25526 Junear, AK 99802

5/18/09

Dear Manbana:

2 am a full supporter of proposal # 119 which will out down on municer of sea ducks which I do not approve at all. On a 45 year resident of closka I can see that many species of sea ducker (and other) are dropping drast riskly and that this practice its obviously platty to blance. Portionerly Heregine and Old Squaw plan Ender and of approved conferent in mot restrictive anapprox dosesfection! The present stoke proposal is not restrictive another under these anceingtones and in Homer where se many people have access to them.

Thank yon-

P.W. Tyler PO Box 1291 Homos, AK 99603

RC13

Feb 10, 1999

Board of Game PO BOX 25526 Junear, AK 79802

Days Members:

2 am a full supporter of proposal # 159 + 160 which will out down on hunder of sea duches which I do not approve at all. Os a 45 year-resident of clocka I can see that many species of sea ducker (and other) are dropping drast vielly and there thin practice is a bottonedy platty to blance. Portionerly Harlegian and Old Space plan to be and of squesco are approveding sudangered classification. I the present state proposal is not restrictive enough under those arceurstances and in Homer was so many people have occess to them.

Thank you -RW. Tyles They are not that good to eat and they shot them to surpen their hunting eye for puddle lacks and to give their days practice!

And it their gog misses them the take takes them away. I havn't surn an Ider in 20 years.

Done Bruce

May 18 2009 Neptine Bay

Box RDO- Alaska 94603
9149

SEADUCK K-BAY





# RCB

# SEADUCKS: A TIME FOR ACTION SOARDS

Margaret R. Petersen, National Biological Service, Alaska Science Center. 1011 East Tudor Road. Anchorage, AK 99503

Mary E. Hogan, U.S. Fish and Wildlife Service, Migratory Bird Management, 1011 East Tudor Road, Anchorage, AK 99503

Abstract: Seaducks (Tribe Mergini) are a diverse group of birds. In North America, many species nest in boreal or arctic habitats in Canada and Alaska and winter in ice-free coastal, marine, and freshwater habitats. Data from long-term surveys, population studies, and local knowledge suggest that some populations and species of seaducks have declined over the past decades. In most cases, the trend data are sufficient to document population problems, although the precise historic population and number of remaining birds are frequently unknown. As various state, provincial, and federal agencies attempt to address this problem, the need for additional information becomes clear. In the U.S., funding for work on scaducks generally has not been available until a species has been listed or proposed for listing under the Endangered Species Act. It is also clear that the funding sources for waterrowl in general are inadequate to address all of the management needs for both seaducks and more heavily hunted species. However, this is not a satisfactory justification of the general neglect of seaducks. Here we discuss the problems of identifying and prioritizing studies and research of this diverse group and propose a plan of action.

#### INTRODUCTION

Seaducks (Tribe Mergini) are trequently ignored by waterfowl managers. The perception for many years has been that there were plenty of seaducks, harvest pressure was low, and we did not have to worry about them. This in part was reflected by the very liberal season and take throughout their range. Much or the resources available for waterfowl management has focused on declining geese and duck populations (Anatini and Aythyini) and the major changes in their habitats. As a result of this effort, many duck and goose populations have increased (Anonymous 1994).

In Europe, seaducks are considered seabirds. As such, they receive protection and resources for their management with that available for seabirds. In North America, funding for scabirds became available with increased environmental awareness and interest in nongame species. As work on seabirds has increased dramatically over the past 20 years, work on seaducks has remained comparatively static. As waterfowl, they were rarely included in funding initiatives for seabirds. They were rarely included in funding initiatives for waterfowl because of the perception of more pressing needs of popular game species such as geese and dabbling ducks. This negligence of seaducks has come back to haunt us. As managers we were more concerned with the species most in demand by hunters (Anonymous 1986). This focus prevented us from responding to trends in data with regard to seaduck populations. Data from long-term surveys.

population studies, and local knowledge show that some populations and species of scaducks have declined over past decades (Kerrell 1991, Stehn et al. 1993; Hodges et al. 1996). In most cases, trend data are sufficient to document population problems, although the precise historic population and number of remaining birds are frequently unknown. In many species, population trends are not clear. With others, however, populations have declined such that specified eiders (Somateria fischeri) were listed as threatened on 10 May 1993 (Federal Register 58(88); 24474-27480), the eastern North American population of harlequin ducks (Histrionicus histrionicus) was listed as endangered by the Committee on the Status of Endangered Wildlife in Canada (Montevecchi et al. 1995), and the North American nesting population of Steller's eiders (Polysticia stelleri) was proposed for listing as threatened in the U.S. on 14 July 1994 (Federal Register 59(134):35896-35900) and the worldwide population proposed for listing as vulnerable (Green 1995).

The need for further information about seaducks was recognized by Canada, the U.S., and Mexico in the 1994 update of the North American Waterfowl Management Plan (Anonymous 1994): "There is an immediate need to supplement current knowledge of sea ducks with reliable information on population status, production, harvest, and factors affecting mortality and survival." However, work on seaducks continues to be of low priority to most agencies and is generally underfunded.

Seaduck Management-Petersen und Hogan

Our primary objectives are to 1) discuss the problems managers face with attempting to manage seaducks; and 2) present ideas to improve coordination among various state, provincial, federal, native, and private entities in North America interested in seaducks.

We thank J. C. Bartonek for fostering our interests in seaducks in a time when funding was essentially nonexistent. J. G. King provided the impetus for getting people talking about the status of seaduck populations in Alaska, we included. We thank W. I. Butler, Jr., W. D. Eldridge, W. W. Larned, and R. Platte for allowing us to refer to their unpublished information. Discussions with T. Rothe, J. Serie, R. Sparrow, and R. Trost about joint ventures were thought provoking. D. V. Derksen and C. J. Lensink provided comments on this manuscript.

#### STUDY ANIMAL

The Tribe Mergini is a diverse group of ducks consisting of eiders (Somateria spp., Polysticta stelleri), scoters (Melanina spp.), oldsquaw (Clangula hyemalis), haclequin duck, mergansers (Mergus spp., Lophodytes cucullatus), goldeneves (Bucephala spp.) and butflehead (Bucephala albeolas. Seaducks are generally found nesting inland and wintering in manne and treshwater environments. Nesting habitats include aretic tundra, borcai forest, coastal ritin forest, and inland mountain regions. Wintering habitats include coastal estuaries from Mexico to the arctic circle and open water in the pack ice of northern oceans. Little is known about many populations of seaducks. Until 1995, the wintering area of the speciacled eider was unknown, and only recently have more than a few surf scoter (Melanitta perspicillata) nesis been

Nesting areas of most senducks were generally considered untouched as, comparatively speaking, there has been little development and encroachment into the boreal forest and arche tundra. Threats to nesting areas are now recognized as resource-development projects such as large hydroelectric dams, oil and gas development, logging of boreal forests, and logging of old-growth coastal forests that have been proposed and initiated. Lead poisoning has been identified as a problem for seaducks on the Yukon-Kuskokwim Delta, Alaska (Franson et al. 1995). Large die-offs of molting seaducks found off Cape Yakataga, Alaska are still under inves-

tigation (Henny et al. 1995). Few bays and estuaries south of 50° N latitude remain unaffected by dredging or contamination from industrial and urban wastes (Ohlendorf et al. 1991). The effect of these perturbations to seaducks was poorly documented. Few standardized surveys that included habitats used by seaducks were conducted before changes occurred.

#### METHODS

#### Inventories

Several species of seaducks are enumerated during standardized breeding-pair surveys conducted by the U.S. Fish and Wildlife Service (Bellrose 1976, Hodges et al. 1995). This survey samples some of the breeding range of ciders. scoters, goldeneyes, oldsquaws, and mergansers. However, these surveys are not designed to determine numbers of breeding seaducks as similar species are lumped (i.e., surf, black (Melanina meral, and white-winged scoters [M. fusca] are recorded as scoters) and surveys are ill-timed to record peak numbers of senducks. Similarly, standardized winter surveys emphasize dabbling ducks, diving ducks, and goese, thus frequently Jo not adequately sample habitats used by seaducks (i.e., Chesapeake Bay [D. J. Forsell, Abstract. Pacific Seabird Group Annual Meeting. November 19951).

Recent surveys in Arctic Russia (W. D. Eldridge, U.S. Fish and Wildlife Service, unpublished data), the North Slope of Alaska (W. W. Lamed, U.S. Fish and Wildlife Service, unpublished data), and the Yukon-Kuskokwim Delta. Alaska, (W. I. Butler, Jr. and R. Platte, U.S. Fish and Wildlife Service, unpublished data) have delineated the current nesting abundance and disinbution of speciacled and Steller's eiders. Molting and wintering areas of spectacled eiders in Alaskan and Russian waters have recently been identified and surveyed (Petersen et al. 1995; W. W. Lamed, U.S. Fish and Wildlife Service, unpublished data). These studies of nesting eiders in Alaska and Russia resulted from the listing and proposed listing of spectacled and Steller's eiders, respectively. Similarly, recent studies of harlequin ducks in Alaska were prompted by the Exton Valdez oil spill, and work on molting and wintering harlequin ducks at coastal North American locations was prompted by the listing and proposed listing of those populations. Studies on nesting, molting, and wintering seaducks are in progress: however, most work is under-



#### 64 Seaduck Management-Petersen and Hogan

funded and generally not coordinated with other studies of seaducks.

#### Studies and Research

Much of the literature on seaduck biology and ecology has focused on hole nesting species (i.e., goldeneye ducks) or species nesting in colonies (i.e., common eiders (Somateria mollissimal). This literature forms the basis for much of what is known about reproductive biology and recruitment of seaducks. Many populations or seaducks nest in areas not easily accessible (i.e., high arctic, interior boreal forest), winter in extreme habitats (i.e., Aleutian Islands, Bering Sea pack ices, or winter in waters beyond 200 m from shore and accessible only by boar tile... black scoters). Thus, intensive studies of seaducks can be expensive and sometimes not feasible with existing funds or readily available techniques.

Estimates of survival and recruitment of a population can be made only after several years of study. These studies generally involve banding large numbers of adults and young, intensive observations of first-year nesting birds returning to nest, and extended work on nesting, molting, and wintering birds. Few studies of seaduck populations have met those requirements, and information for management and recovery plans was frequently extrapolated from other species (e.g., U.S. Fish and Wildlife Service 1996).

#### RESULTS

# Population Status

The population status of seaducks along the Pacific Rim was recently summarized by Gouore et al. (1994). The current 10-year trend for those species was determined from population indices from the breeding-pair surveys, indices from other surveys, and impressions of biologists and longume residents. A similar analysis for populations wintering in the U.S. and Canada along the Atlantic and in inland waters was based on similar data (Kehoe et al. 1994). In general, the trend was for declining populations (Table 1). In most cases, however, the precise rate of decline could not be established, nor could the reason's for declines be adequately identified. The status for many species in the 4 administrative flyways is unknown.

These and other similar analyses of fragmentary data sets supported the listing of the spec-

Table 1. Status of seaducks (Tribe Mergini) in North America.

	Number of residuct populations of (pecies					
	În- cress- ing	Stable	iuk cusar- De-		Un-	
Atlantic Flyway		1	, 1	1	5	
Mississippi Flyway	1	1	4)	()	,3	
Central Flywny	1	1	()	o	7	
Pacific Flyway	_ 2	<u> 2</u>	8	.1	]	

- Includes species or populations proposed for listing as threatened or endangered in Canada or the U.S.
- \* Gauthier (1993), Kehoe et al. (1994), Anonymous (1994).
- \* Goudie et al. (1994).

tacled eider as threatened, the Steller's eider proposal for listing, and the harlequin duck being declared endangered in easiern Canada. It is probable that more populations and species will be proposed for listing if the current trends continue. Concerns for other species include the easiern North American population of Barrow's goldeneye (B. islandicai (J-P. L. Savard and P. Dupuis, Abstract, Pacific Seabird Group annual meeting, 8-12 November 1995) and oldsquaw, goldeneyes, butflehead, scoters, and greater scaup (Avthva marila) in Alaska (Hodges et al. 1995).

### Current Management Actions

Management of senducks has been based on little or no information regarding the consequences of management actions. Despite this lack of information, managers have had to establish bag and season limits and make decisions regarding proposed changes in habitats. What constitutes a sustainable harvest is unknown for most populations of seaducks and is probably very different from that determined for dabbling ducks. Overharvest may prevent recovery of some species and accelerate-declines of some populations of senducks (Goudie et al. 1994). However, the harvest of seaducks is poorly understood (J. C. Bartonek, Starus, Seasons, and Harvests of Sea Ducks and Mergansers in Alaska and Pacific Flyway Coastal States, U.S. Fish and Wildlife Service, Portland, Oregon, 1993). Standardized harvest surveys are designed to maximize information from the average duck hunter, most of which do not hunt seaducks. An accurate and precise estimate of harvest of seaducks throughout North America is needed,

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Such a statistically-valid harvest survey should target both sport and subsistence hunters who take seaducks.

Habitat management for seaducks is at best a guessing game. General descriptions of breeding distributions and nesting habitats are available for most species. Similarly, general descriptions of habitats used by staging, molting, and wintering seaducks are available when birds are in near-shore or inland waters. However, how birds use these habitats, the importance of various types of habitats, and basic descriptions of offshore habitats are poorly known. This lack of Information has hampered informed decisions regarding the consequences of expanded human use of previously unexploited resources. Examples include: 1) what are the consequences to harlequin ducks in logging old-growth forests in coastal Alaska, 2) what are the effects on harlequin ducks and mergansers from expanded use of rivers by ratters. 3) what are the consequences to hole nesting ducks as a result of expanded logging in the boreal forest. 4) will expanded commercial fishenes in the Bering Sea impact speciacled eiders and other species, 5) what are the effects of low-level oil pollution in the Aleutians, and 6) how will at-sea disposal of mine tailings impact seaducks wintering and molting in those areas? Without information on basic breeding and postnesting ecology and sta-(istically-valid population monitoring, management is based on educated guesses and consequently biased by personal opinion. Obviously, management decisions regarding habitat changes require at least a basic understanding of habitats required by these species and are best detended if based on sound biological information.

#### DISCUSSION

# Seaduck Management Plans

Most waterfowl-management plans adopted by flyway councils are based on a single-species model. These plans contain specific recommendations for management that are derived from data on distribution, abundance, migration routes and timing, long-term reproductive success, annual survival, and other population parameters specific to that species. These documents are used to set bag limits and seasons based on population parameters. They also recommend and prioritize studies specifically to gather information or to understand biological DIOCESSES.

There are no management plans for seaducks that contain specific management recommendations and priorities. Currently, seaduck plans are based on a multi-species, multi-ecosystem model as in the proposed Pacific Flyway management plan and the Atlantic Flyway status report (Kchoe et al. 1994). Attempts to develop meaningful management plans are further confounded by the use of multiple flyways and countries by some species, a general lack of survival and recruitment information, and little species-specific information for management decisions. Obviously, such management plans are of little use to managers for setting bag limits and seasons and responding to permit requests to modify habitats. These plans do however provide a summarization of information and delineate major data gaps of individual species and specific ecosystems. This is a useful exercise if information needs and priorities can be integrated into the local funding process.

#### Recovery Plans

Recovery plans are documents developed for and adopted by the U.S. Fish and Wildlife Service and the Recovery of Nationally Endangered Wildlife. Canada, that outline the steps for delisting a species. When a species is proposed for listing, funds may become available for surveys. inventories, and studies. This has been the case for speciacled and Steller's eiders and harlogum Jucks. As a result, more information has become available on the biology and ecology of those species. However, we question a system of management where actions, or lack of action, results in the listing of a species. It is more cost effeclive to prevent a population from declining than to attempt to recover a population.

# **Funding Decisions**

Senduck projects are rarely funded adequately, although funding is sometimes appropriated in response to precipitous declines in populations or significant die-offs. In this manner. funding for seaduck investigations became available as a result of the Exxon Valdez oil spill ın Alaska (D. W. Crowley, Abstract, Pacific Scabird Group Annual Meeting, November 1995: D. H. Rosenberg, M. J. Petrula, and D. W. Crowley. Abstract. Pacific Scabird Group Annual Meeting, November 1995), the petition to list a species or population (Petersen et al. 1995), or contaminant problems (Ohlendorf et al. 1991,

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Henny et al. 1995). These funds were earmarked for specific species and/or locations and thus were not available for other projects. Decisions were made without considering the needs for all seaduck species, and there was generally no formal process to integrate them with other similar or complimentary studies.

The information currently available for most species of seaducks remains in question. We believe changes in the breeding-pair surveys such as extensions of existing flight lines, addition of flight lines into habitats generally not surveyed, more accurate identification of species, and additional surveys timed to coincide with peak numbers of seaducks are feasible and would not compromise long-term data sets. Accurate and precise trend data from these and similar surveys will enable managers to focus on populations that are truly declining and provide information for biologically-defendable harvest management.

The emphasis on conservation of waterfowl has resulted in success for many dabbling ducks and geese. We want to build on that success for seaducks. This can be facilitated by alerting managers to the need for information so they may consider when data on seaducks can be gathered in conjunction with other projects. Similarly, managers should take advantage of opportunities to coordinate with partners and participate in studies that could include seaducks.

In most state, provincial, and tederal agencies, funds for ongoing surveys, inventories, and studies of migratory birds commue to decline. It is increasingly evident that little of these traditional funds are available for new work on seaducks. We recommend that decisions on funding for all ongoing and new projects be made considering the consequences for all species. This entails reviewing annually the ongoing projects to be sure they are meeting their objectives and redirect funds when objectives are met. This also requires the ability to objectively evaluate the consequences both of doing and not doing projects and the ability to compare those consequences.

# Setting Hunting Limits and Seasons

Federal agencies often ser bag limits and season dates with uncertain data. Frequently decisions are made by states and provinces to continue the harvest as in the previous year without

a means to evaluate the impact of the previous year's take. Until statistically valid information regarding the consequences of harvest becomes available, we recommend that decision analysis (e.g., Keeney, 1983, McAllister and Peterman 1992), which takes into consideration biological and political uncertainties, be used to objectively compare the economic and political consequences of various actions. An important part of the decision-making process should include sensitivity analyses to test the robustness of results to changes in important parameters (e.g., probability of listing; and in the structure of the model (e.g., Powell 1991). After critical, external review, such an analysis provides a clearer picture of probable consequences of proposed actions. Such analyses were made for evaluating various potions within the draft Speciacled Elder Recovery Plan (U.S. Fish and Wildlife Service 1996) and were used for making harvest decisions of rish stocks (Hilborn et al. 1993).

#### Seaduck Joint Venture

Currently several joint ventures address habitat needs of some seaduck species. These include the Eastern Habitat Joint Venture of Canada, which focuses in part on boreal habitats, and the Pacific Coast. Adantic Coast. Gulf Coast, and Lower Great Lakes/St. Lawrence Basin joint ventures, which focus in part on estuarine and coastal-habitat protection and acquisition. Although habitat protection is needed in coastal areas encroached upon by humans and the foreal forest when threatened by major industrial developments, the basic habitat needs for most seaducks are still poorly defined.

We recommend that Canada and the United States form a seaduck joint venture under the North American Waterfowl Management Plan to focus on the needs of seaduck populations in North America and prepare a coordinated-management plan or plan of action. The goal of this joint venture will be to identify needs, set priorities, and improve coordinated research and monitoring of seaduck populations in North America to enhance management of these populations. This includes developing a better understanding of population distributions and trends, harvest rates, production, survival rates, and habitat interactions.

A seaduck joint venture would provide a focus for contacts and cooperators interested in or working on seaducks. This joint venture would

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promote parmerships with the various state. provincial, federal, native groups, and private entities to fund and participate in priority projects. A diverse group of people involved in such a joint venture may improve funding opportunities for work on seaducks through identification of alternative funding sources available through ecosystem-management teams and resources available to seabirds and coastal projects. We also believe that it is important that representatives of indigenous peoples be included in this joint venture. In many cases, they are the people most directly affected by changes in scaduck populations.

We believe that by forming such a joint yenture, a first step will be taken to make managers and the public aware of the need to have a conservation plan for seaducks, it provides an opportunity to set goals and priorities and form partnerships to provide biological information necessary to make sound management decisions and act to prevent species from being listed.

#### LITERATURE CITED

- Anonymous, 1986. North American Watertowl Management Plan. Environment Canada, Canadian Wildlife Service and U.S. Department of Interior, Fish and Wildlife Service, 19pp.
- Anonymous, 1994, 1994 Update to the North Amencan Waterfowl Management Plan, Environment Canada, U.S. Department of Interior, and de Desarrollo Social, Mexico, 43pp.
- Bellrose, F. C. 1976, Ducks, geese and swans or North America, Second edition, Stackpole Books, Harrisburg, Pennsylvania, 544pp.
- Franson, J. C., M. R. Petersen, C. U. Meteyer, and M. R. Smith. 1995. Lead poisoning of speciacied eiders (Somateria fischeri) and of a common cider tSomateria molli-yimai in Alaska, Journal of Wildlife Diseases 31:268-271.
- Gauthier, G. 1993, Bufflehead (Bucephala aibeola). In A. Poole and F. Gill, editors, The Birds of North America, No. 67. The Academy of Natural Sciences. Philadelphia and The American Ornithologists' Union, Washington, D.C.
- Goudie, R. I., S. Brault, B. Conani, A. V. Kondratyev; M. R. Petersen, and K. Vermeer, 1994. The status of sea ducks in the North Pacific Rim: toward their conservation and management. Transactions of the North American Wildlife and Natural Resource Conference 59:27-49.
- Green, A. J. 1995. Taxa for consideration by the

- Threatened Waterrowl Research Group, Threatened Waterfowl Research Group Newsletter 8:3-4.
- Henny, C. J., D. D. Rudis, T. J. Roife, and E. Robinson-Wilson, 1995, Contaminants and sea ducks in Alaska and the circumpolar region. Environmental Health Perspectives 103, Supp. 4:41-49.
- Hilborn, R., E. K. Pikiteh, and R. C. Francis. 1993. Current trends to including risk and uncertainty in stock assessment and harvest decisions. Canadian Journal of Fishenes and Aquatic Science 50:874-\$80.
- Hodges, J. L. J. G. King, B. Conant, and H. A. Hansen. 1996. Aerial surveys of waterpirds in Alaska 1957-1994, population trends and observer vanability, U.S. Fish and Wildlife, Resource Publication, Washington, D.C. In Press.
- Keeney, R. L. 1983. Decision analysis: an overview. Operations Research 30:803-838.
- Kehoe, P., D. Carthamer, J. Myers, R. Burrell, B. Allen. G. Hass, J. Goldsberry, M. Bateman, A. Bourget. and E. Butler. 1994. Status of sea ducks in the Atlantic Flyway, Unpuplished report, Fish and Wildlife Branch, New Brunswick, Canada, 71pp,
- Kertest, K. 1991. Disappearance of the Steller's enter from the Yukon-Kuskokwim Delia, Alaska, Areije 44-177-187
- McAllister, M. R. and R. M. Peterman, 1992. Decision analysis of a farge-scale fishing experiment designed to test for a generic effect of size-selective nshing on British Columbia pink salmon (Oncoconneints corbustitati. Canadian Journal of Fishenes and Aquatic Science 49(1305-1314.
- Montevegeni, W. A., A. Bourget, J. Brasil, R. I. Goudie, A. E. Huichinson, B. C. Johnson, F. Kehoe, P. Lapone, M. A. McCollough, R. Milton, and N. Seymour, 1905. Nationing recovery plan for the tariequia duck in castern Nona America, Regori No. 12. Recovery of Nationally Endangered Wildare Committee, Canada, sopp.
- Ohlendori, H. M., K. C. Marois, R. W. Lowe, T. E. Harvey, and P. R. Kelly, 1991. Trace elements and organochlorides in surf scoters from San Francisco Bay, 1985. Environmental Monitoring and Assessment 18:105-122.
- Petersen, M. R., D. C. Douglas, and D. M. Mulcany. 1995. Use of implanted satellite transmitters to locare spectacled eiders at-sea. Condor 97:276-278.
- Powell, S. G. 1991. A risk analysis of oil development in the Arctic National Wildlife Refuge. The Energy Journal 12:55-76.
- Stehn, R. A., C. P. Dau, B. Conant. and W. J. Butler. Jr. 1993. Decline of spectacled eiders nesting in Western Alaska, Aretic 46:264-277,
- U.S. Fish and Wildlife Service, 1996, Speciacled eider recovery plan. Draft report. Anchorage, Alaska,

RECEIVED TIME MAY, 18, 12:00PM





Dear Board of Game Members

Keep it two per day. This makes sense. Ten birds a day can't be sustainable. Especially with the steel shot. This adds to the deadloss. It makes for a bad day. Sea ducks bunch up together for safety but it works against them cause when you shoot it gets a bunch of them.

Two per day will make people stop and think instead of just shoot with out barely a look at where they are shooting, knowing its legal to do so ....

5/18/09

Bob Struts
PO BOX 1184
Homer AK 99003

RECEIVED

MAY 1 6 2009

BOARDS

#0106 P.002 /002 RC17

Bill Blaine 5247 Lee Street Homes Alaska 99603

Board of Game Support Juneau Alaska

Thank-you for lowering the sea duck bag limit in Kachemak Bay to two sea ducks. This is good. These ducks need to grow back. They are way down from where they used to be.

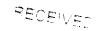
I have seen the same birds off the Homer Spit in the same spot for over twenty years. Black Scoters. They are most always predictably there. Must be good food there. I can see how easy it would be to wipe them out. The spit birds can't be hunted because they are in city limits.

The Center for Alaskan Coastal Studies explained what this was all about. These ducks are really something else. We are really lucky to have them here.

Thank-you for your help

RECEIVED TIME MAY. 18. 11:57AM





MAY 1 8 2009

GOALS

BOARDS

Activities that occur within the Kachemak Bay and Fox River Flacritical habitat areas will reflect the following goals in accordance with the purpose for which the areas were established (AS 16.20.500). All department management decisions in the Kachemak Bay and Fox River Flats critical habitat areas, whether affecting activities undertaken by the department, other agencies or the public, will be in accordance with these goals.

I. Fish and Wildlife Populations and Their Habitat - Manage the critical habitat areas to maintain and enhance fish and wildlife populations and their habitat. Minimize the degradation and loss of habitat values due to habitat fragmentation. Recognize cumulative impacts when considering effects of small incremental developments and action affecting critical habitat area resources.

# A. Wildlife

- 1. Protect important wildlife habitat including water quality.
- 2. Minimize harmful disturbance to wildlife, especially to marine mammals and nesting, rearing, staging and wintering waterfowl, shorebirds, and seabirds.
- 3. Maintain, protect, and if appropriate, enhance the quality and quantity of nesting, rearing, feeding, staging and wintering habitat for resident and migrant waterfowl, shorebirds, and seabirds.
- 4. Protect bald eagle nesting, perching, roosting, and feeding habitat.

#### B. Fish

- 1. Protect natural substrate, aquatic vegetation, water quality and circulation patterns to maintain aquatic habitats.
- Maintain water quality sufficient for the growth and propagation of fish, shellfish, and other aquatic life in fresh, estuarine and marine waters.
- 3. Maintain water quality at a level that would allow for harvest of raw mollusks or other raw aquatic life for human consumption.
- II. <u>Public Use</u> Manage the critical habitat areas to maintain and enhance public use of fish, wildlife and critical habitat are lands and water consistent with the other goals of th management plan.

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16.20.500 Purpose. The purpose of AS 16.20.500 -- 16.20.690 is to protect and preserve habitat areas specially crucial to the perpetuation of fish and wildlife, and to restrict all other uses not compatable with that oroimary purpose (2 ch 140 SLA 1972)

rly 16.21.220

Sec. 16.20.500. Regulations. The Board of Fisheries and the Board of Game, where appropriate, shall adopt regulations they consider advisable for conservation and protection purposes governing the taking of fish and game in state fish and game critical habitat areas. (2ch 140 ASL 1972;am 27ch 206 SLA 1975) Formally 16.20.240

Sec. 16.30.010 Wanton waste of big game animals and wild fowl (a) It is a class A misdemeanor for a person who kills a big game animal or a species of wild fowl to fail intentionally, knowingly, recklessly, or with criminal negligence to salvage for human consumption the edible meat of the animal or fowl.

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Tellina or Macoma) and euphausids are important for buffleheads. Harlequins eat blue mussels, nestling clams, snails, euphausids, and algae.

In winter, the open water and abundant food sources of Kachemak Bay become even more important to waterfowl. The upper end of Kachemak Bay supports 100,000 wintering waterfowl (Lensink 1980) ARM large flock of white-winged scoters, estimated to be 10,000 in 1976, is believed to overwinter in the outer bay (Erikson 1977). Large numbers of scoters and eiders, including Steller's, king, and common eiders, congregate along the coast between Anchor Point and Homer Spit, especially in the vicinity of Bluff Point in winter (G. West, pers. commun.). The most important winter foods for marine waterfowl as a group in the Gulf of Alaska include blue mussels, clams (Protothaca staminea, Spisula polynyma, Macoma spp., and Mya spp.) (Sanger 1983). During a period of heavy ice 7,000 black, surf and white winged scoters overwinter in China Poot was traditionally use the mouth of states. Bay. Flocks of Steller's eiders, mallards, and scoters traditionally use the mouth of China Poot Bay in winter. Resident mallards, large numbers of greater scaup, new gulls, and glaucouswinged qulls are the most abundant birds wintering in Mud Bay. Almost twice as many mallards use Mud Bay in winter than in fall (Lees et al. 1981).

Oldsquaw ducks and white-winged scoters are common overwintering diving ducks in Kachemak Bay. Oldsquaws are found mainly in the northern inner bay over mud-sand substrates, feeding even in moderate amounts of pan and brash ice that build up behind Homer Spit. They have extremely diverse diets (minimum of 61 prey species). The single-most dominant prey item is Pacific sandlance; about 40% of the total prey volume, including sandlances, is buried in the substrate (Sanger and Jones 1984). White-winged scoters feed almost exclusively in areas with shell debris and boulder-cobble substrates, found along the northern outer bay. Their diets are also diverse. The two major prey species are common Pacific littleneck clams (Protothaca staminea) and blue mussels (Sanger and Jones 1984).

Trumpeter swans are common on the Fox River Flats, primarily near the confluence of Bradley River and Sheep Creek, during spring and fall migration (ENTRIX and Stone & Webster 1985). Swans begin to stage in the Fox River Valley in mid-August. Densities during spring and fall average 2.6 swans/mi<sup>2</sup>. Swans are only occasionally observed in summer and winter. The only area where nesting has been observed is on a pond near Clearwater Slough (Lensink 1980, Krasnow 1981).

<u>Shorebirds</u> - A brief pulse of millions of migrating shorebirds each spring provides Kachemak Bay with its largest influx of shorebirds. Several sites in Kachemak Bay provide critical rest stops for migrating shorebirds. Fox River Flats attracts the most migrating

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Table 3. Number and composition of waterfowl counted on transects in the offshore stratum during aerial surveys of Kachemak Bay in March 1999.

Species	Count	Percent of total	estimate	95% CI	Density (birds/km²)
	•				
Mallard	59	6.8	<del>1399</del> 700	357	1.5
Black scoter	358	41.4	-8489 420	<b>∞879</b>	9.2
Surf scoter	4	0.5	95 47	93	0.1
White-winged scoter	132	15.3	<del>3130</del> / 530	534	3.4
Barrow's goldeneye	24	2.8	<del>569</del> 280	228	0.6
Harlequin duck	14	1.6	<del>33</del> 2 150	174	0.4
Bufflehead	. 22	2.5	<del>522</del> 200	218	0.6
Oldsquaw	90	10.4	2 <del>13</del> 4 /09	2 441	2.3
Steller's eider	63	7.3	1493 750	369	1.6
Common eider	13	1.5	308 150	168	0.3
Red breasted merganser	72	8.3	1707 B50	394	1.8
American wigeon	1	0.1	24 12	47	< 0.1
Northern pintail	12	1.4	<del>2</del> 85 /4/2	<b>1</b> 61	0.3
All Waterfowl	864	100.0	£20488	4063	22.2

a Surveyed 39 transects (length = 5.0 km, width = 200m); 4.2% (39 km²) of the total stratum (924.8 km²).

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BILL LAWNED PILOT -NUMBERS WERE DOUBLED BY ACCIDENT IN PAPERWORK