

Sea Ducks and Harvest in Alaska

Considerations for Kachemak Bay

- Population Indices
- Harvested Stocks
- Harvest Levels

Alaska Board of Game
Alaska Department of Fish & Game
May 2009

1

Species of Current Concern

SPECTACLED

(ESA List 1993)

STELLER'S EIDER

(ESA List 1997)

KING AND COMMON EIDER

SCOTERS

LONG-TAILED DUCK

HARLEQUIN DUCKS

2

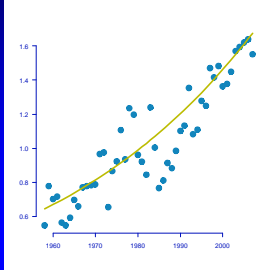
Spring Sea Duck Breeding Indices

- Traditional and supplemental spring surveys tally indices of 500,000 sea ducks in Alaska during the breeding season
- Trends indicate declines in some spp.
 - No populations are at imminent risk
 - Trends vary by species and region
 - Most indices have stabilized since 1990
 - Causes of population changes largely unknown

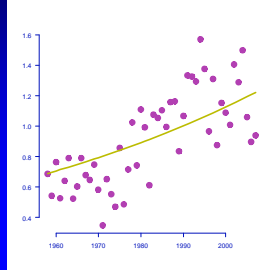
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Status of Sea Ducks – N. America

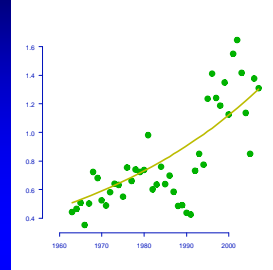
Bufflehead



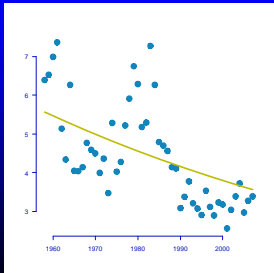
Mergansers



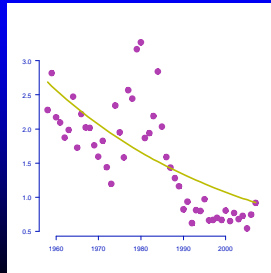
Goldeneyes



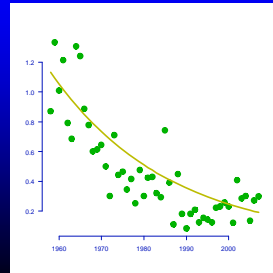
Scoters



Long-tailed Duck



Eiders



4

Status and Trends - Scoters

Breeding Ground Indices

■ North America

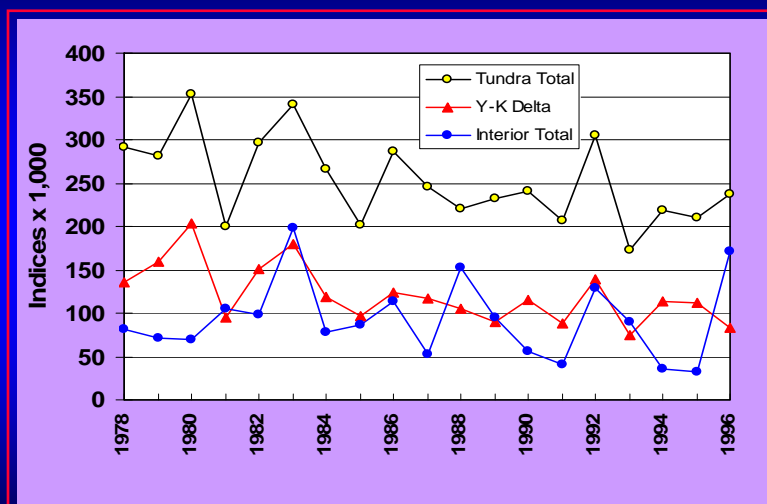
- 50% below early 1970s
- Avg 1,000,000 in the 1990s
- Decline of 1.6% per year since 1957
- Declines in prairies and boreal forest

■ Alaska

- Declined since early 1970s, but not as steep as continental; trends unclear
- Avg 350,000 in 1990s
- Greatest decline on Y-K Delta

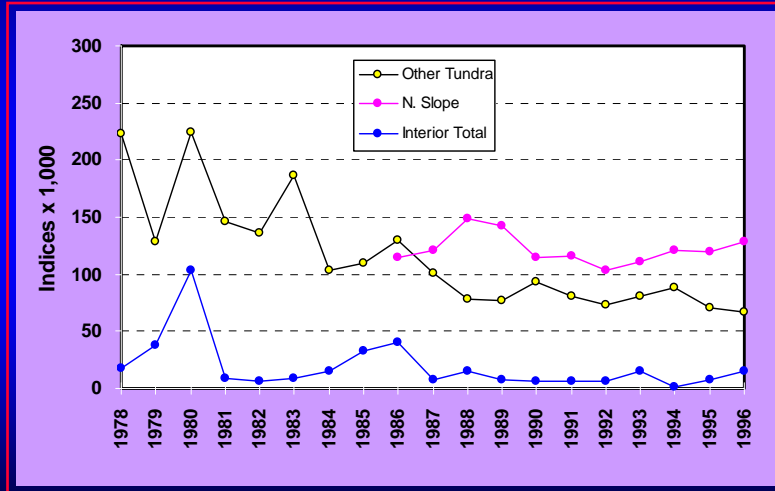
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Spring Indices of Scoters in Alaska



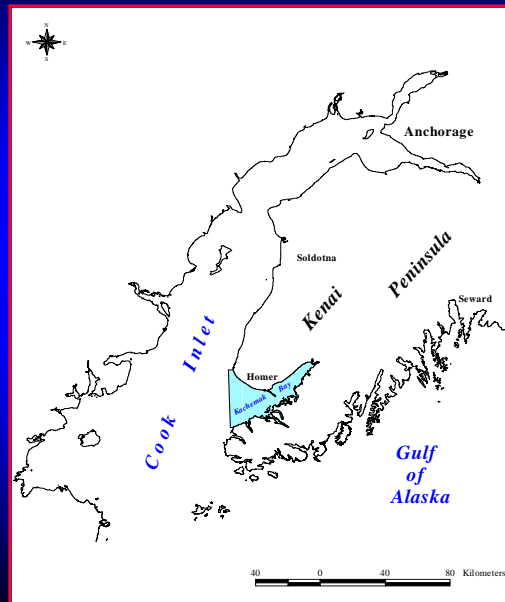
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Spring Indices of Long-tailed Ducks in Alaska with North Slope Surveys



7

Cook Inlet / Kachemak Bay



8

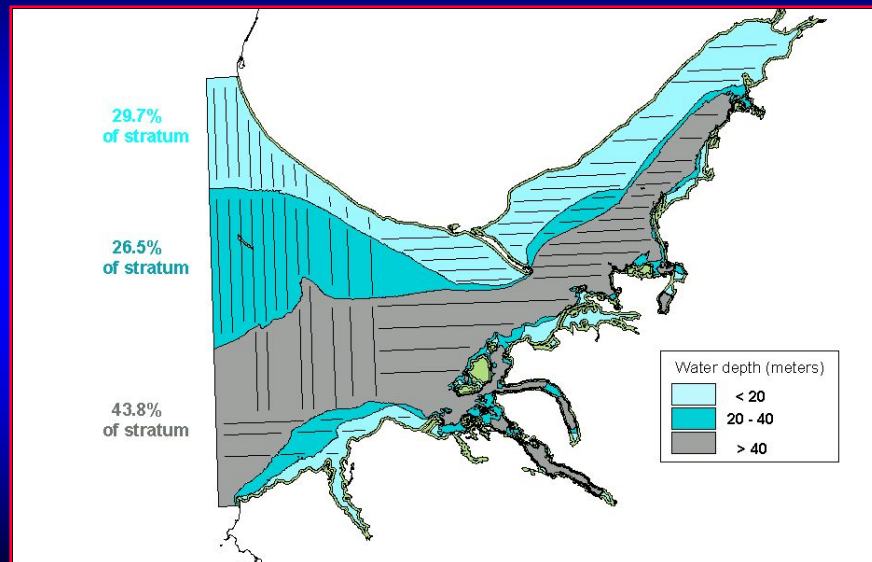
Fall/Winter Sea Duck Surveys

Comparability

- Fall surveys count migrating birds
- Winter surveys count “stable” winter aggregations
- Variation in designs, platforms, timing, frequency
 - Total counts, transects, blocks
 - Boat, aerial
 - Annual indices vs. trends
- Results include survey bias, annual variation, long-term changes

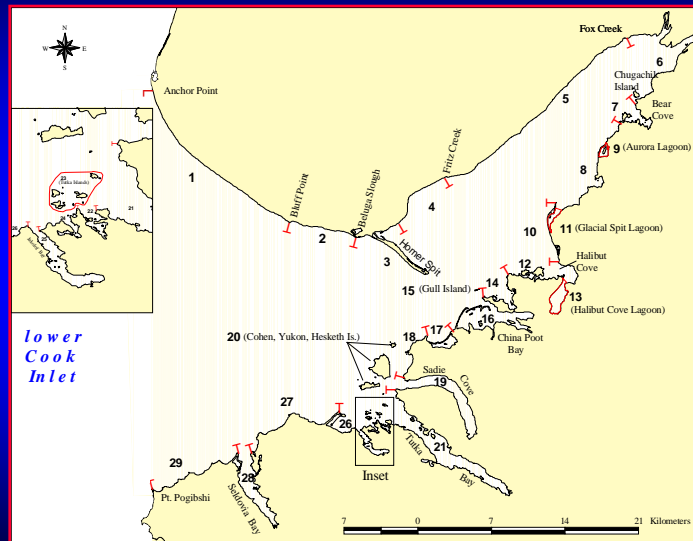
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Kachemak Bay Sea Duck Surveys - Offshore



10

Kachemak Bay Sea Duck Surveys - Shoreline



11

Ranges of Fall/Winter Sea Duck Indices

Kachemak Bay

Low	High	
■ 1,700	2,100	Harlequin
■ 450	4,000	Long-tailed
■ 3,400	22,000	Scoters
■ 30	2,400	Com Eider
■ 800	1,700	Mergansers
■ 3,400	5,500	Goldeneyes
■ 340	800	Bufflehead
18,000	26,400	Total Ducks

Agler et al. 1995 (1994)
Petrula et al. 2006 (1999-2003)

12

Fall/Winter Sea Duck Indices

Cook Inlet

- 30,000 Scoters
- 11,000 Long-tailed
- 4,000? Harlequins

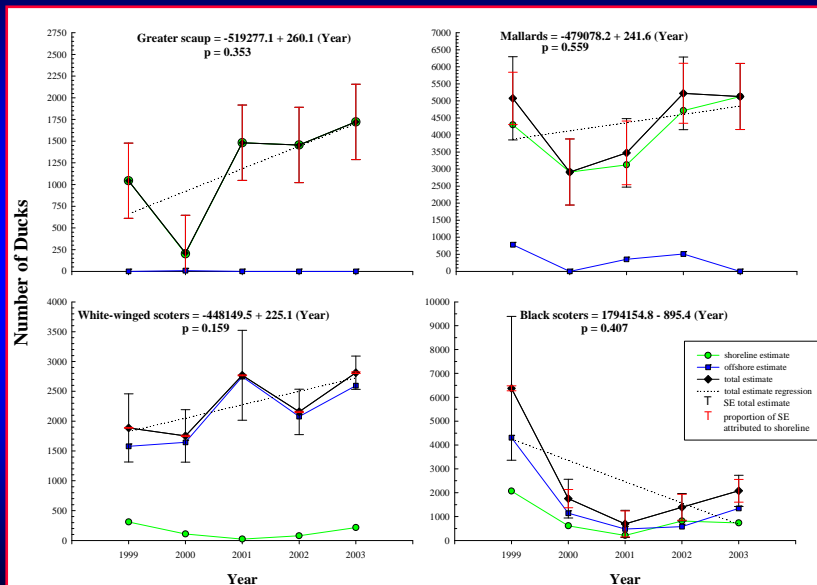
Agler et al. 1995

Kachemak Bay - avg

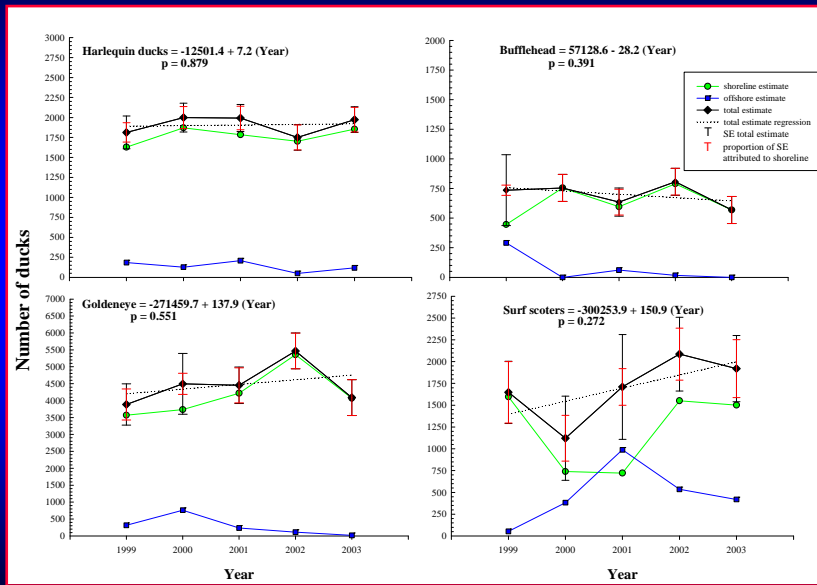
- 1,900 Harlequin
- 900 Long-tailed
- 7,000 Scoters
- 400 Com Eider
- 1,100 Mergansers
- 11,300 Regulation Sea Ducks
- 4,400 Goldeneyes
- 700 Bufflehead
- 16,400 Taxonomic Sea Ducks

Petrula et al. 2006 (1999-2003)

Kachemak Bay Sea Duck Surveys - Trends

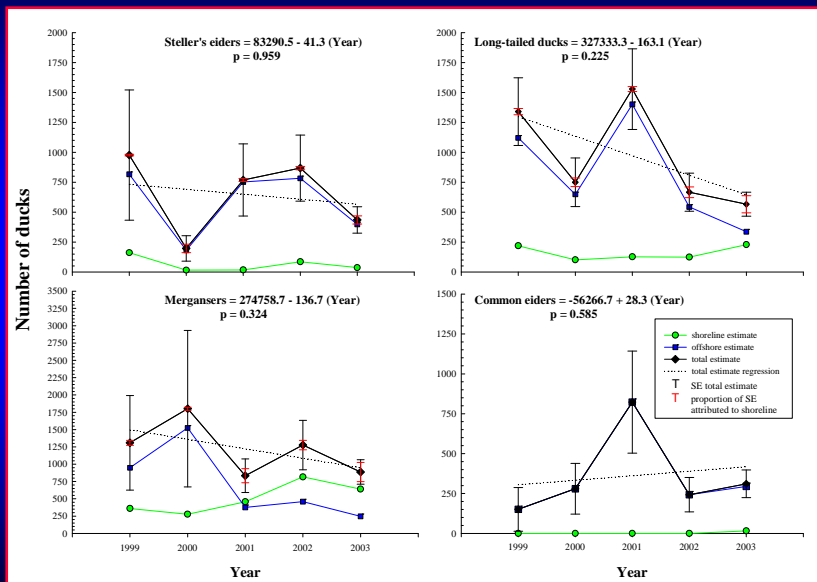


Kachemak Bay Sea Duck Surveys - Trends



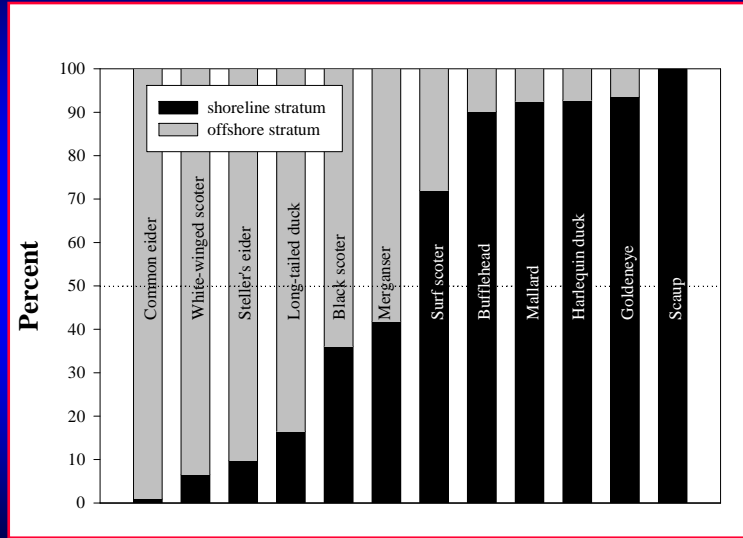
15

Kachemak Bay Sea Duck Surveys - Trends



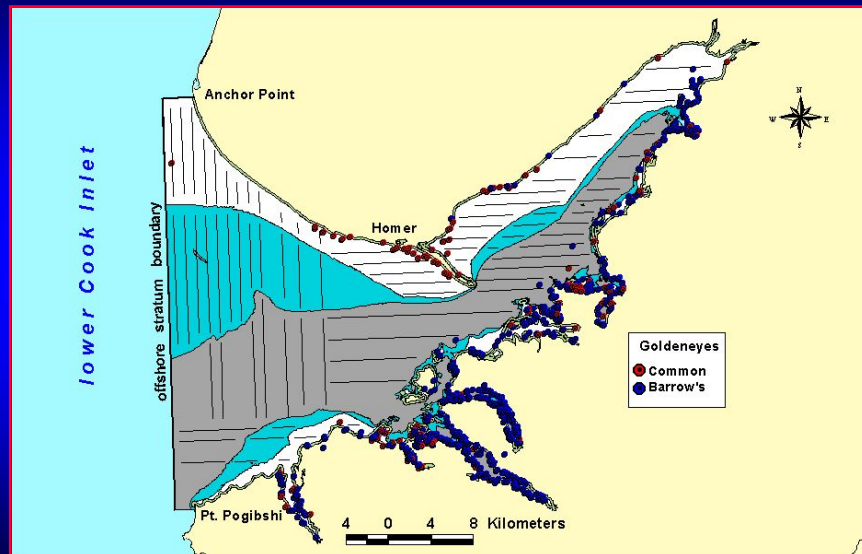
16

Kachemak Bay Sea Duck Surveys - Shoreline



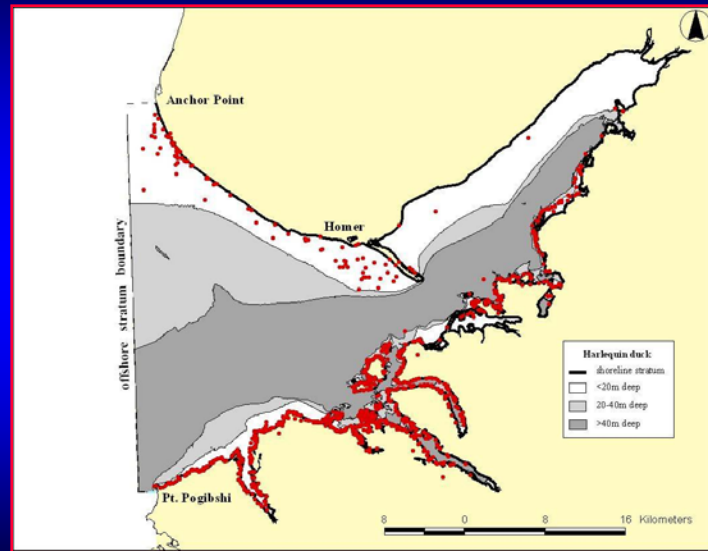
17

Kachemak Bay Sea Duck Surveys – Goldeneyes x Spp



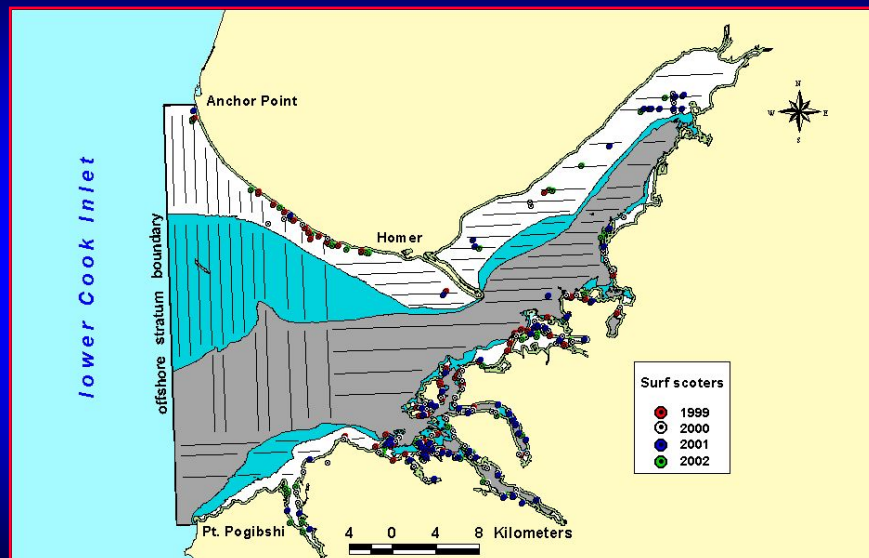
18

Kachemak Bay Sea Duck Surveys – Harlequin



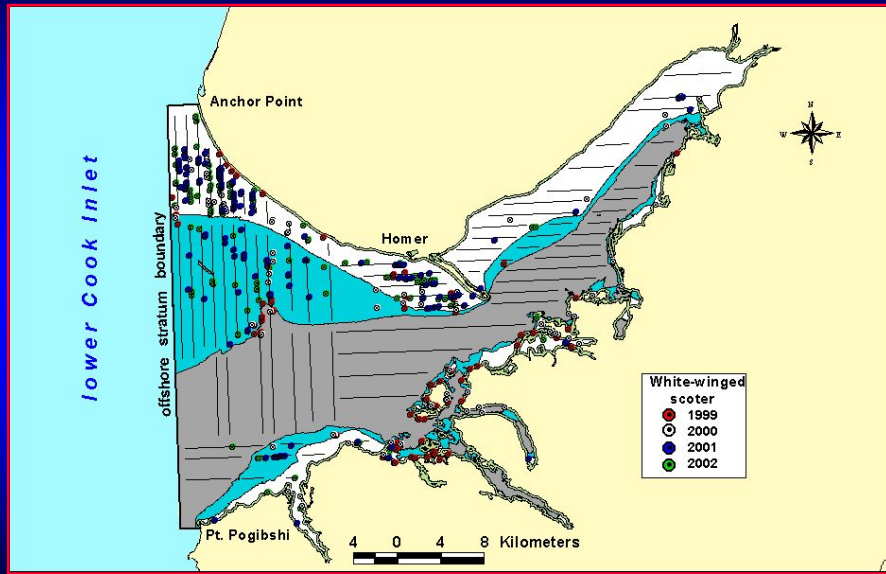
19

Kachemak Bay Sea Duck Surveys – Surf Scoter



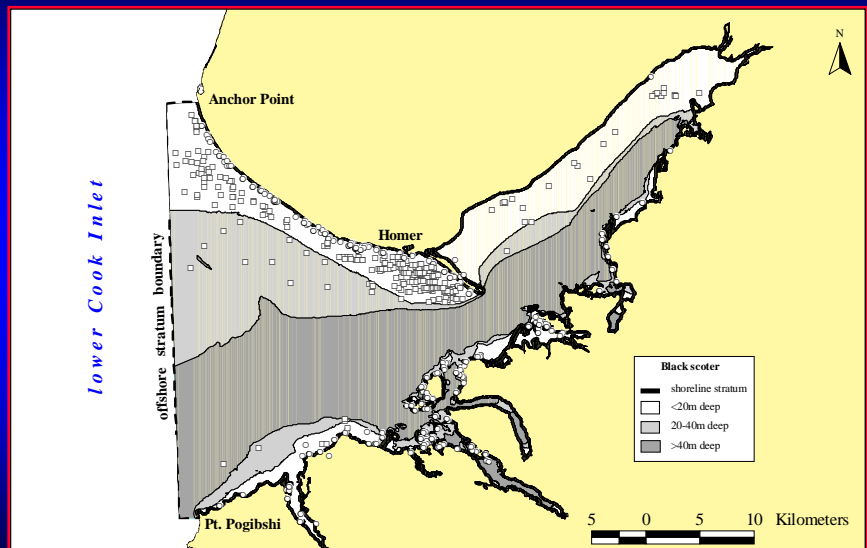
20

Kachemak Bay Sea Duck Surveys – White-w Scoter



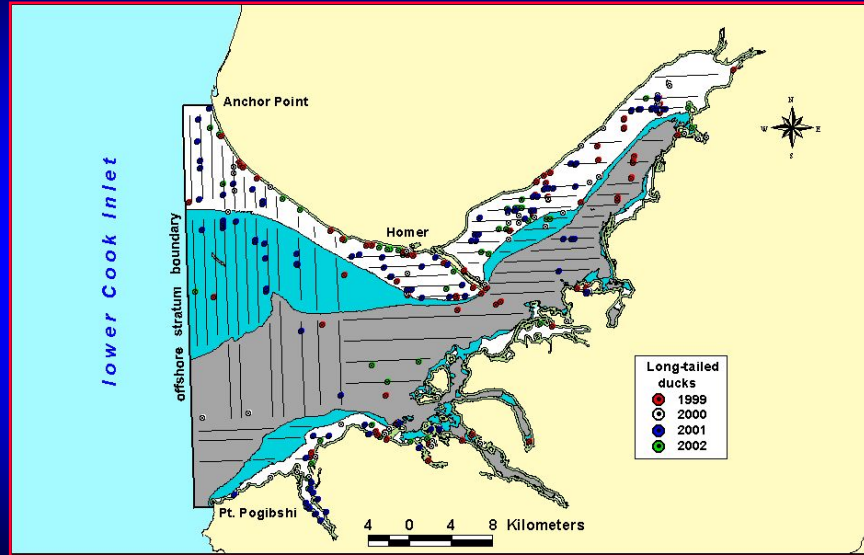
21

Kachemak Bay Sea Duck Surveys – Black Scoter



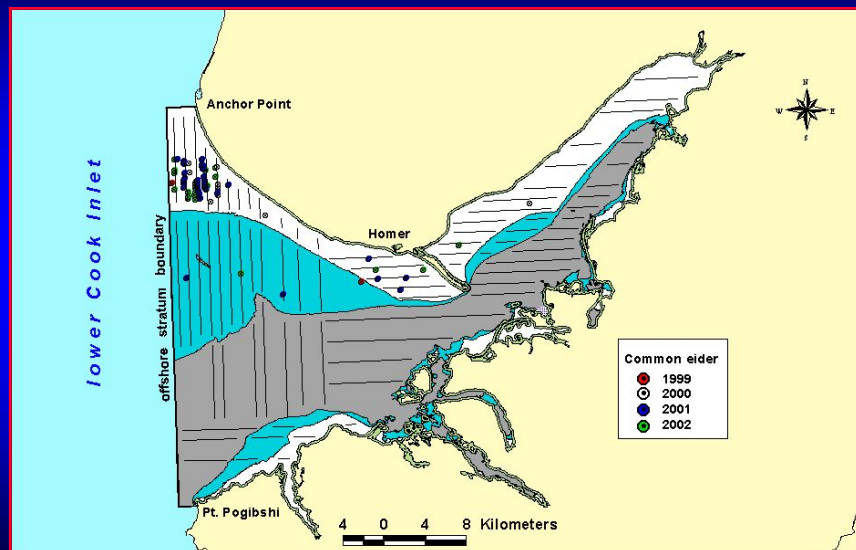
22

Kachemak Bay Sea Duck Surveys – Long-tailed



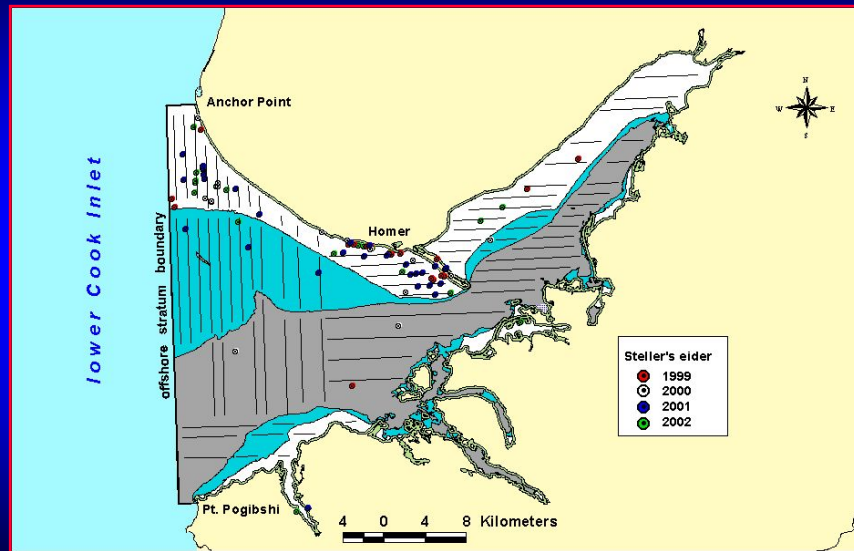
23

Kachemak Bay Sea Duck Surveys – Com Eider



24

Kachemak Bay Sea Duck Surveys – Steller's Eider



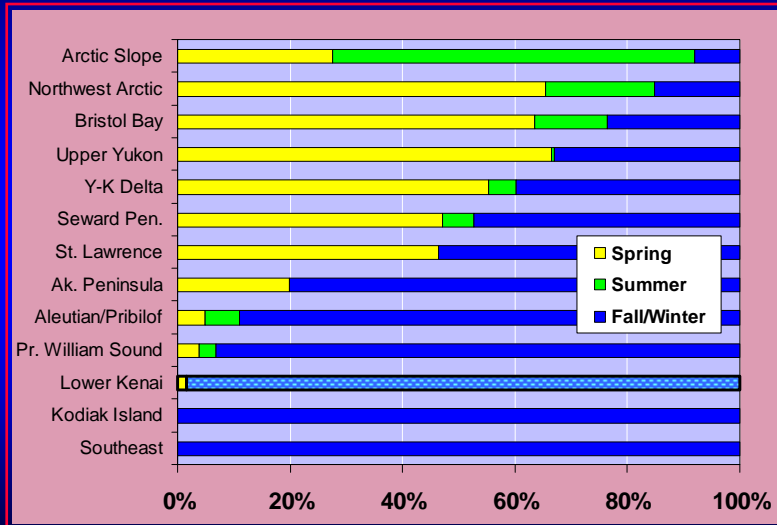
25

HARVEST DERIVATION Different Sources By Season

- Spring Migrants in Subsistence Harvest
- Local Breeding Stocks
AK breeding survey indices = 500,000 sea ducks
- Molt Migration and Molt Aggregations
- Fall Mixed Stocks
- Winter Terminus Aggregations
Alaska winter stocks = 500,000 - 1 million sea ducks

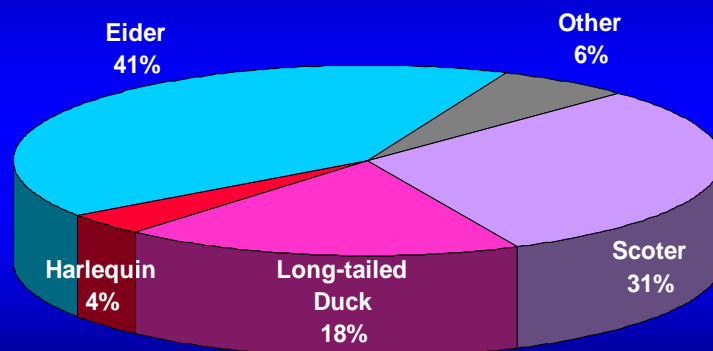
26

Seasonal Distribution of Subsistence Duck Harvest



27

Composition of Subsistence Sea Duck Harvest Subsistence Div. (Paige and Wolfe 1997)



28

Kachemak Subsistence

Community	Avg Pounds Ducks	Avg Pounds Sea Ducks
Seldovia	327	80
Nanwalek	253	146
Port Graham	266	143
TOTAL	846	369

ADF&G Community Subsistence Information System (1987-2003)

29

Kachemak Subsistence

Species	Total Pounds	Percent of Pounds
Eiders	66	5%
Scoters	675	51.4%
Harlequin	24	1.8%
Long-tailed	0	0
Goldeneyes	490	37.3%
Bufflehead	57	4.3
TOTAL	1312	100%

ADF&G Community Subsistence Information System (1987-2003)

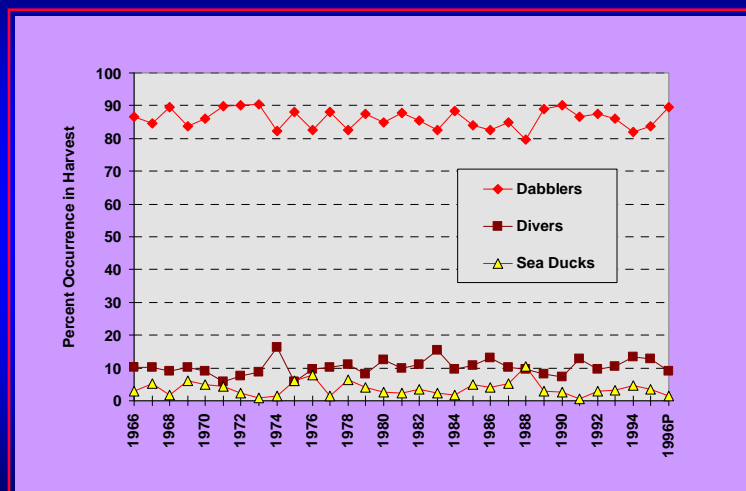
30

FALL / WINTER HARVEST CHARACTERISTICS

- Strong dependence in south and southeast
- In Aleutians, AK Peninsula, Kodiak, Gulf Coast, Southeast 80-100% of annual duck harvest occurs in fall and winter
- 15 % of subsistence sea ducks taken in fall/winter
- Sea ducks comprise a small portion of sport harvest

31

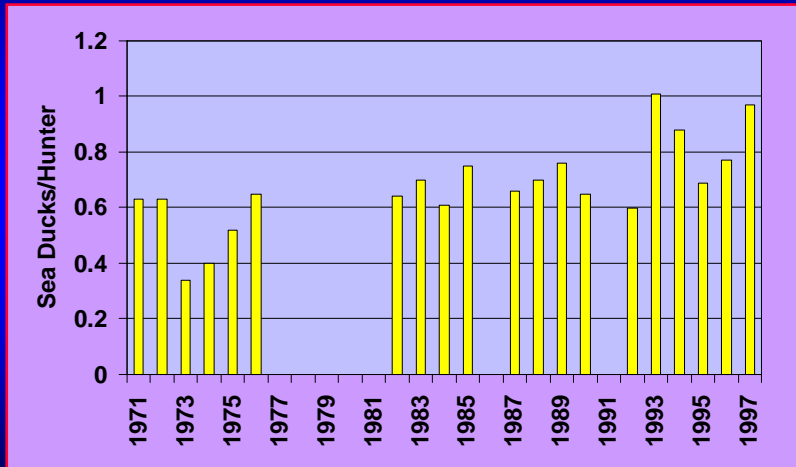
Composition of Alaska Duck Harvest USFWS Parts Collection Surveys



Sea Ducks make up an average of 3.6% of fall duck harvest

32

Sea Ducks/Active Hunter - Alaska State Harvest Survey Data 1971 - 1997



33

Alaska Active Duck Hunters and Harvest

State / Federal Data	Active Hunters	Duck Harvest	Ducks /Hunter
Avg 1970s	11,640	87,833	7.5
Avg 1980s	11,002	85,693	7.8
Avg 1990s	8,871	70,052	7.9

State and Federal Data – 1971-1997

34

Alaska Active Duck Hunters and Harvest

Federal HIP	Active Hunters	±	Duck Harvest	±	Ducks /Hunter
1999	5,600	13%	78,800	18%	14.1
2000	6,000	6%	78,100	11%	13.0
2001	5,600	5%	77,600	12%	13.9
2002	6,000	5%	74,100	9%	12.4
2003	5,700	5%	71,200	10%	12.5
2004	4,800	5%	63,000	10%	13.1
2005	5,700	7%	74,500	14%	13.1
2006	5,100	9%	65,200	16%	12.8
2007	4,800	8%	67,900	12%	14.1
9-Year Avg	5,478	7%	72,267	12%	13.2

Federal HIP Data – 1999 -2007

35

Alaska Active Sea Duck Hunters / Harvest

Active SD Hunters	Sea Duck Harvest	Sea Ducks /SD Hunter	Sea Ducks/ Active Hunter	% Sea Ducks In Harvest
?	5,006	?	0.43	5.7%
?	5,857	?	0.53	6.8%
1,015	4,459	4.4	0.50	6.4%

State and Federal Data – 1971-1997

36

Alaska Active Sea Duck Hunters / Harvest

	Active SD Hunters		Sea Duck Harvest		Sea Ducks /SD Hunter		Sea Ducks/ Duck Hunter	% Sea Ducks In Harvest
		±		±		±		
1999	600	43%	3,800	56%	6.3	71%	0.68	4.8%
2000	900	27%	4,800	53%	5.3	60%	0.80	6.1%
2001	500	28%	2,900	54%	5.3	61%	0.52	3.7%
2002	900	21%	5,700	40%	7.0	45%	0.95	7.7%
2003	1,200	18%	7,300	24%	6.0	30%	1.28	10.3%
2004	900	20%	7,300	24%	7.3	41%	1.52	11.6%
2005	900	34%	5,200	38%	6.1	51%	0.91	7.0%
2006	800	38%	5,600	73%	7.0	80%	1.10	8.6%
2007	1,100	24%	9,500	32%	8.7	40%	1.98	14.0%
9-Year Avg	867	28%	5,789	44%	6.6	53%	1.08	8.2%

Federal HIP Data – 1999 -2007

37

Sea Duck Data from HIP Enrollment

Residents

Hunters w/ Sea Ducks	1997	620 / 8400	(7.4%)
	1998	651 / 7270	(9.0%)

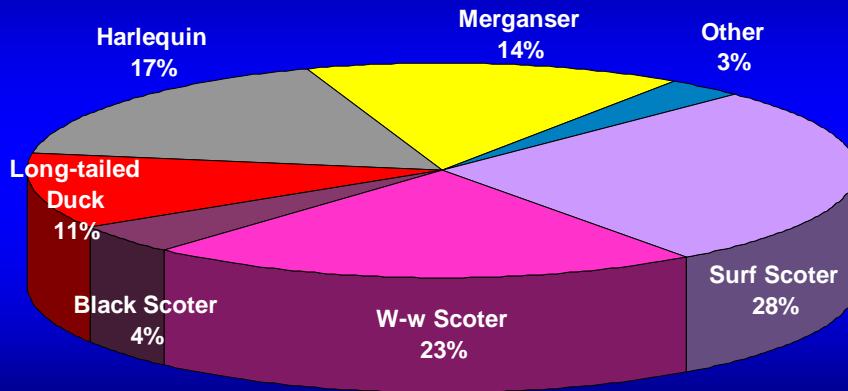
Zone of Residence (1999)	Gulf Coast	47%
	Southeast	28%
	Kodiak	15%

Nonresidents

Hunters w/ Sea Ducks	1997	66
	1998	25

38

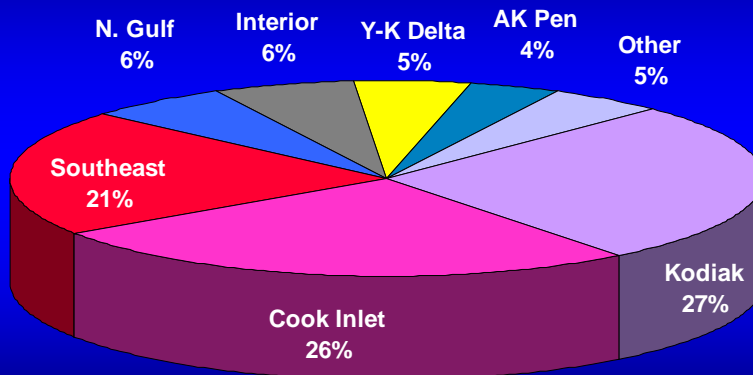
Average Composition of Fall/Winter Sea Duck Harvest Federal Parts Collection Survey 1966-97



Sea Ducks Comprise 3.6% of Alaska Fall Duck Harvest

39

Fall/Winter Sea Duck Harvest Distribution State Harvest Survey Data - Average 1982-94



40

Management of Fall/Winter Harvest Sea Duck Restrictions Implemented 1999

- Excluded long-tailed duck and harlequin from special sea duck limit to reduce daily limits
- Reduced sea duck bag limits.
 - **Residents:** daily sea duck limit reduced from 15 to 10
 - **Non-residents:**
 - sea ducks part of general duck limits (not additional)
 - season limits on sea duck take equal to possession limits
 - species limits of no more than 4 each of any sea duck species per season

41

Changes Implemented in 2001 to Simplify Duck Limits

- Long-tailed duck and harlequin placed back into special sea duck limit to manage the species group.
- Bag Limit Changes
 - **Residents:** sea duck daily bag limit of 10 includes no more than 6 harlequin or 6 long-tailed ducks
 - **Non-residents:**
 - separate general and (smaller) sea duck limits allowed
 - retain season limit on sea duck take
 - retain season limit of 4 for any sea duck species

42

Sea Duck Harvest Valued in Alaska

- Separate Sea Duck Limit Added in 1950
 - Provides equitable opportunity for AK hunters
- Important Late Fall/Winter Tradition
 - Gulf Coast & Southeast Alaska to December 16
 - Kodiak/Aleutian late season to January 22
- Significant Subsistence Resource Values
 - Spring, Summer, Fall, Winter

43

Conclusions

- Sea ducks wintering in all or part of Kachemak Bay are not discrete stocks that can or should be managed separately
- ADF&G has no overall concerns about numbers and trends of sea ducks in Kachemak Bay
- Harvests of sea ducks are low in relation to numbers of wintering birds; further regulatory restrictions are not warranted
- Sport and subsistence harvests constitute important public opportunities and values--recent levels are sustainable

44