

Subsistence Migratory Bird Harvest Survey



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Yukon - Kuskokwim Delta 2001 – 2005

SUBSISTENCE MIGRATORY BIRD HARVEST SURVEY

YUKON-KUSKOKWIM DELTA

2001-2005

With 1985-2005 Species Tables

by

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DEDICATION

This report is dedicated to my longtime friend Mary Ciuniq Pete of Bethel, and to my colleagues Molly Uuyurasuq Chythlook of Dillingham and Ferdinand Capenaq Sharp of Manakotak. I have been especially inspired and guided by the integrity and wisdom of these fine people as they work to protect the Yup'ik subsistence culture of western Alaska. I hope this report will add to their efforts and the efforts of others, in protecting the birds on which the subsistence way of life depends.

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The following is a list of the village harvest surveyors who gathered the data on which this report is based:

South Coast:	Kipnuk Kongiganak Tuntutuliak Eek	Sarah Mayela, Curtis Paul, Ronnie Peter Nick John Jimmy Lupie, Samantha Wasillie Carl White Jr., John Wharton
Mid-Coast:	Hooper Bay Chevak Toksook Bay Scammon Bay Chefornak Tununak Newtok Nightmute Mekoryuk	Jerry Moses, Agnes Carl Valerie Pingayak, Leonard Ayuluk Bernice Therchik-Pitka Roberta Bell Alexie Flynn Elsie Hooper John Roy John Elizabeth Agnes, Genevieve Anthony Viva Smith, Sonya Weston
North Coast:	Emmonak Alakanuk Kotlik Nunam Iqua	Allen Moore, Albert Moore Hilda Stern Benedict Aparezuk Catherine Kromwall, Vanessa Hunter
Kuskokwim:	Kwethluk Aniak Akiachak Kasigluk Nunapitchuk Tuluksak	Henrietta Nicolai, Bessie Nicori Ralph Kvamme, Teal Albertson, Nick Kameroff Brian Latham Steven Kinagak Eddie Alexie, Jason Twitchell Larry Lamont

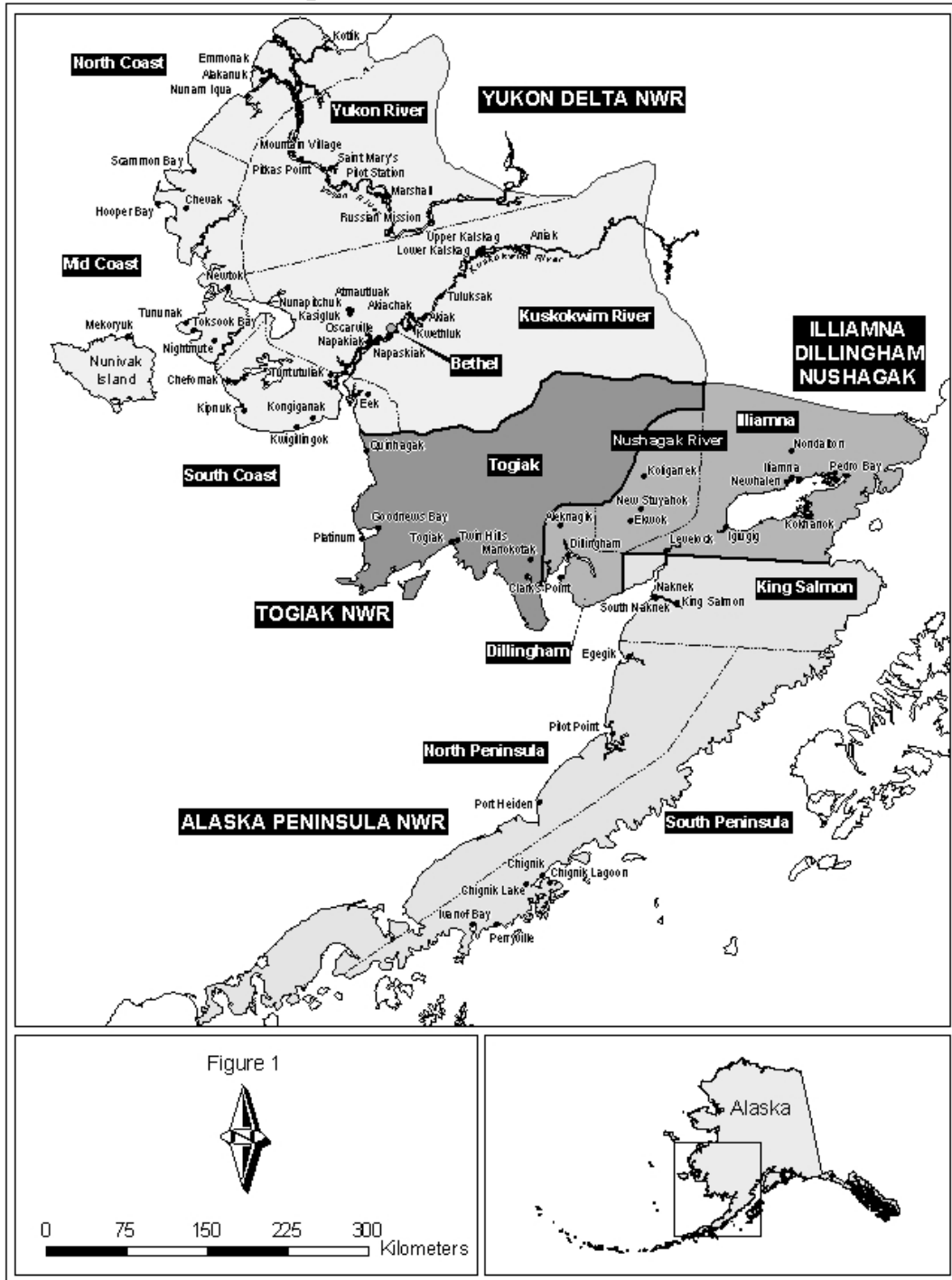
	Napakiak	Anna Middleton
	Napaskiak	Richard Larson, Jr., Wassillie Guy
	Akiak	Carol Hoaglund
	Lower Kalskag	Olga Evan
	Atmautluak	Ralph Pavilla, Nelson “Rocky” Nicolai
	Upper Kalskag	Frank One
	Oscarville	Matthew Jacob
Yukon:	Mt. Village	Valerie Waskey, Bolvania Moses
	Pilot Station	June Alick, Priscilla Heckman
	St. Mary’s	Christopher Mike and Willie Elia,
		Vincent Kinzey
	Marshall	Ellen Alstrom
	Russian Mission	Simeon Housler
	Pitka’s Point	Jimmy Kozevnikoff
Bethel:		Henry and Connie Peter
		Jimmy Andrew and other
		Refuge Information Technicians

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Figure 1

Subsistence Migratory Bird Harvest Survey

Communities and Regions - Southwest Alaska



INTRODUCTION

The following report covers subsistence waterfowl and other migratory bird harvests on the Yukon-Kuskokwim Delta, 2001-2005. The report includes harvest data by species from 1985 through 2005. This report supplements subsistence harvest information contained in the comprehensive reports: Subsistence Migratory Bird Harvest Survey, Yukon-Kuskokwim Delta, 1995-2000. (Wentworth, 2004); Subsistence Waterfowl Harvest Survey, Yukon-Kuskokwim Delta, 1987-1997; (Wentworth, 1998) and Subsistence Waterfowl Harvest Survey, Yukon-Kuskokwim Delta, 1985-1995 (Wentworth and Seim, 1996).

The subsistence harvest survey on the Yukon-Kuskokwim (Y-K) Delta, in the area of the Yukon Delta National Wildlife Refuge, has been conducted area wide since 1985, except for 1988 and 2003, when no surveys were conducted. A summary table of harvest estimates and standard errors for both birds and eggs from 1985 through 2005 is included here (Tables 1, 3). Detailed harvest tables are also included for each species, with estimates by survey period and sub-region, from 1985 through 2005 (Tables D-1–D44).

As in previous years since 1989, the Y-K Delta harvest survey was conducted by Native employees (Refuge Information Technicians and other employees) of the Yukon Delta National Wildlife Refuge, with assistance from the Subsistence Migratory Bird Harvest Survey Coordinator, Migratory Birds and State Programs, Alaska Migratory Bird Co-Management Council, Anchorage. The Native employees of the Refuge conducted the survey in conjunction with annual environmental, public outreach programs. The survey was conducted under the auspices of the Y-K Delta Goose Management Plan (YKDGMP), with support from the Association of Village Council Presidents' (AVCP) Waterfowl Conservation Committee.

The subsistence harvest survey on the Y-K Delta includes a 38 village area (Figure 1). The southernmost villages of the Delta, Quinhagak, Goodnews Bay, and Platinum, are considered part of the Togiak National Wildlife Refuge area and are included in the Togiak subsistence migratory bird harvest survey, which has been conducted since 1995. These Togiak data are included in separate reports on Bristol Bay subsistence migratory bird harvests (Seim and Wentworth, 1996; Norvell and Wentworth, 2004; Wentworth, 2007).

When evaluating Y-K Delta harvest trends from 1985 through 2005, it is important to note that methodology for the harvest survey changed beginning in 2001. Further changes were implemented in 2002. This means that data collected after 2000 (the focus of this report) are not directly comparable with prior years' data (1985-2000). Also, data collected in 2002, 2004, and 2005 are not directly comparable with data collected in 2001.

The reasons for the changes have to do with the Migratory Bird Treaty Act (MBTA) Protocol Amendment (1995), the formation of the Alaska Migratory Bird Co-Management Council (AMBCC) (2000) and the resulting legalization of spring hunting (2003). The MBTA protocol amendment provides for the customary and traditional use of migratory birds and their eggs by Alaska's indigenous inhabitants. The letter of submittal which accompanies the Amendment, calls for the creation of management bodies "to ensure an effective and meaningful role for indigenous inhabitants in the conservation of migratory birds. These management bodies will include Native, Federal and State of Alaska

representatives serving as equals”. As a result of this treaty language, the AMBCC was formed, which consists of the US Fish and Wildlife Service (Service), the Alaska Department of Fish and Game (ADF&G), and eleven Native regional partner organizations. The AVCP Waterfowl Conservation Committee, which had been in existence on the Y-K Delta since the mid 1980’s, became AMBCC’s regional partner organization representing the Y-K Delta when the AMBCC was formed in April 2000.

The Protocol Amendment also states that it is not the intent of the Amendment to cause significant increases in the take of migratory bird species relative to their continental population sizes. The letter of submittal accompanying the Amendment states that harvest estimates will be collected cooperatively by the Service, ADF&G, and Native organizations within subsistence eligible areas: “These management bodies will develop recommendations for harvest monitoring... It is the intention of DOI/FWS and the ADF&G that management information, including traditional knowledge, the number of subsistence hunters and estimates of harvest, will be collected cooperatively for the benefit of management bodies.”

In late 2000, the AMBCC appointed a harvest survey technical committee to design a standardized, annual statewide harvest survey for the subsistence eligible areas of Alaska. Members of the committee wanted the new statewide survey to be accurate, precise, and to cover as many subsistence eligible areas as possible, all within budget constraints. Because the Y-K Delta survey had been conducted since 1985, because it had always been conducted under the auspices of the Y-K Delta Goose Management Plan with support from the AVCP Waterfowl Conservation Committee, and because almost half of statewide spring harvest occurs on the Y-K Delta, the Y-K Delta survey became the logical prototype on which to base a statewide survey design.

Meanwhile, the harvest survey committee learned from the national harvest survey program that there were ways to make the Y-K Delta survey more accurate and efficient, and that these improved methodologies could also be used in a statewide survey design. Therefore, after input from the Refuge Information Technicians at a Bethel meeting in January 2001, changes in survey methodology were begun on the Y-K Delta and in Bristol Bay in 2001. After a harvest survey committee statistical workshop in December 2001, further changes were implemented in 2002 on the Delta, in Bristol Bay, and the Bering Strait Region. No survey was conducted in 2003, because the federal Office of Management and Budget (OMB) had to approve the proposed statewide survey design and new survey forms. This OMB approval was secured in October 2003. Also in October 2003, the AMBCC adopted the statewide survey design recommended by its harvest survey committee. As a result, in 2004 the changes implemented on the Delta in 2001 and 2002 were applied statewide (See Methods: How We Do the Survey”).

The federal Office of Management and Budget (OMB) re-approved the survey in January 2007. This means that OMB approval is good for three more years: until January 2010. Before 2010, it will again be necessary to demonstrate that the survey is following the statewide survey design with statistically correct procedures, and has statistically adequate response rates.

For more detailed information on the environmental and socioeconomic setting of the Y-K Delta, the Yup’ik names of the birds, and the background and purposes of the survey, please

refer to the above cited, 1985-1995 and 1987-1997 comprehensive reports. Information on Yup'ik bird names, meanings, and pronunciations compiled by Charles F. Hunt, the late Native Contact Representative for the Yukon Delta Refuge, is included here in Appendix F. The comprehensive reports contain a more detailed explanation of 1985-2000 methodology in their appendices. For more detailed harvest survey information for the years 1989–2000, please see the 1985-1995 and 1987-1997 comprehensive reports and the 1995-2000 report.

METHODS: HOW WE DO THE SURVEY

The subsistence migratory bird harvest survey is conducted each year by the Yukon Delta National Wildlife Refuge in Bethel, with help from the Subsistence Migratory Bird Harvest Survey Coordinator, Alaska Migratory Bird Co-Management Council (AMBCC), Anchorage. Yukon Delta Refuge Information Technicians establish contracts and train local surveyors in each village who then distribute and collect the survey forms. Local harvest surveyor training usually occurs on the same village visit at which the Refuge Information Technician conducts a local environmental outreach program. Surveyors are paid when they provide the Service with completed survey forms. The Refuge Information Technicians and almost all of the surveyors are bilingual, speaking both English and Yup'ik. All of the surveyors are local residents of their villages.

The Migratory Bird Harvest Survey Coordinator provides overall direction for the survey and for similar surveys in other parts of Alaska, following the statewide methodology adopted by the AMBCC in October 2003. The Alaska Department of Fish and Game, (ADF&G) Division of Subsistence Data Management staff inputs the data and generates the harvest estimates. The Harvest Survey Coordinator analyzes the data and writes the reports.

The Harvest Survey Field Coordinator, who is a Refuge Information Technician or other Native employee on the staff at the Yukon Delta National Wildlife Refuge, supervises the harvest surveyor contracting process, and assists surveyors and processes the paperwork necessary to pay them.

Approval for conducting the harvest survey occurs at three levels, at the regional level by AVCP, at the village level, and at each household. All three must agree to participate before data are actually collected from a particular household.

The Delta is divided into six sampling sub-regions, or strata, based on ecology and geography. The coastal area is divided into the north, mid, and south coast sub-regions, and the interior area into the Yukon River, Kuskokwim River, and Bethel sub-regions (Figure 1). The community of Bethel is its own sub-region and is surveyed every year.

As stated under "Introduction", methodology for the survey changed beginning in 2001. Further changes were implemented in 2002. These changes were recommended by the AMBCC's harvest survey committee and adopted by the AMBCC as part of the Statewide survey beginning in 2004. This means that data collected after 2000 (the focus of this report) are not directly comparable with prior years' data (1985-2000). Also, data collected in 2002, 2004, and 2005 are not directly comparable with data collected in 2001. (A survey was not conducted in 2003).

From 1995 through 2001, the harvest survey covered the period from April 8 until October 15 of every year. These dates approximate the time that waterfowl are present on the Delta, although timing varies somewhat each year depending on weather and other factors. Data were collected over five survey periods that were designed to roughly correspond to major events in the birds' life cycle:

Survey Period	Dates	Life Cycle Event
Spring	April 8 - May 20	arrival and pre-nesting
Early Summer	May 21 - June 24	nesting and incubation
Mid Summer	June 25 - July 29	brood rearing
Late Summer	July 30 - August 31	molting and early flight
Fall	September 1 - October 15	staging and departure

Life cycle events also vary depending on weather and related environmental conditions such as snow melt, time of breakup of rivers and lakes, and freezing of lakes (Copp and Roy 1986).

In 2002, the period of the harvest survey was expanded slightly, beginning on April 1 instead of April 8 and ending October 31 instead of October 15. In addition, the number of survey periods was reduced from five to three, and the dates of the survey periods were changed. These changes were made as part of the development of the statewide survey design, in order to more accurately and efficiently measure and compare subsistence harvest statewide.

Beginning in 2002, the new survey periods and dates are as follows:

Survey Period	Dates	Life Cycle Event
Spring	April 1 – June 30	arrival and pre-nesting nesting and incubation
Summer	July 1 - August 31	brood rearing molting and early flight
Fall	Sept 1 – October 31	staging and departure

It was recognized that the more precise information on the relative annual harvest occurring during nesting and brood rearing would be lost due to this reduction in the number of survey periods. However, given the need to survey more areas of the state without corresponding increases in the harvest survey budget, combined with 15 years of existing data showing the percentages of annual harvest occurring during nesting and brood rearing, it was felt that the benefits of this reduction outweighed the costs and also made the data more usable and comparable on a statewide basis.

From 1995 through 2001, the survey form consisted of five color-coded pages, one page for each of the five survey periods listed above. Each page of the form had black and white line drawings of the 40 species of birds included in the survey with spaces used to mark down the numbers of birds and eggs taken by each household (Wentworth, 2004, Appendix A).

Beginning in 2002, a new survey form was produced, using color images from the National Geographic Society's Field Guide to the Birds of North America. This new form has three pages, one page for each of three survey periods: Spring, Summer, and Fall. Each page of

the form has color images for 49 bird species, plus images for “unidentified duck” and “other bird” Appendix A).

Survey forms are identified by number only; no names are used on the survey forms. The household identified by each number is known only to the local surveyor in each village. No one in Bethel or Anchorage has the list of names of the households, therefore no household can be identified.

Village sampling scheme

From the beginning of this survey in 1985, through 2000, a random sample of villages was selected and asked to participate in the survey. We attempted to survey at least 24 of the Delta’s 38 villages each year between 1989 and 2000, with the number of villages to sample from each sub-region, based on that sub-region’s population relative to the total population of the Delta. The Native employees (Refuge Information Technicians, or RITs) drew each village name out of a hat and placed it into its sub-region until we reached the number of villages targeted for each sub-region. The following table shows the number of villages in each sub-region and the minimum number targeted for inclusion in the survey:

Region	Number of Villages in Region	Number of Villages Targeted
South Coast	5	3
Mid Coast	9	6
North Coast	4	3
Kuskokwim	13	7
Yukon	6	4
Bethel	1	1

We continued to select villages in this manner in 2001, surveying a total of 24 villages. In 2002, in an attempt to better understand village variance in preparation for a statewide survey, we attempted to survey all 38 Y-K Delta villages. We actually surveyed 30.

In 2004, a new village sampling scheme was adopted as part of the new statewide survey. Under this new sampling scheme, the villages in each sub-region were listed in order of their populations, from largest to smallest. Then the villages were numbered off, 1, 2, and 3. In 2004, the 1’s and 2’s were selected to be surveyed. In 2005, the 2’s and 3’s were selected. In 2006, the 1’s and 3’s were selected. This sampling scheme insures that two-thirds of the villages are targeted for the survey every year, and that every village is selected for the survey every other year.

This new village sampling scheme samples about the same number of villages (25 or 26 out of 38) as the former village sampling scheme (24 out of 38). In both sampling schemes, Bethel was and is surveyed every year because it is its own stratum (sub-region).

Household sampling scheme

From 1985 through 2000, households were sampled randomly, by drawing a certain percentage of them out of a hat. Our goal was to survey 25% of the households in each sub-region. Because we did not survey all of the villages in each sub-region, we needed to sample more than 25% of the households in each survey village. The percentage of households drawn was based on the number of villages participating in a particular sub-region, and the populations of those villages. For example, if three villages were targeted to be surveyed in a sub-region of five villages, if we drew the three villages with the largest populations, the percentage of households to survey was smaller than if we drew the villages with smaller populations. (To view this formula, and for a more detailed explanation of the harvest survey methodology from 1995 through 2000, please see Wentworth, 1998, Subsistence Waterfowl Harvest Survey, Yukon-Kuskokwim Delta 1987-1997, Appendix B).

In 2001, we began a new sampling methodology, called activity stratification. We went to this new system because the Service's Native employees (RITs) and the harvest survey committee of the AMBCC decided that this would result in a more accurate harvest survey which would more closely approximate the real number of birds taken for subsistence.

Activity stratification is more sensitive to and reflective of customary and traditional needs and practices than a simple random survey because it targets the high hunters: those who hunt for extended families or for the entire village. With activity stratification, there is much less chance that these food providers will be missed in any given year. As one long time former Yup'ik employee stated: "We need to catch more households who catch more birds". Activity stratification also allows us to sample the rest of the village, including those that don't usually hunt.

Another advantage of activity stratification is its cost effectiveness. It is more cost effective because not as many households need to be sampled in villages that don't have many active hunters. This allows our limited survey budget to stretch further and survey more villages and regions of Alaska in any given year. Finally, because activity stratification is used for the national Migratory Bird Harvest Information Program, using it for the subsistence harvest survey too adds credibility to the subsistence survey and makes the data more directly comparable.

The Yukon Delta National Wildlife Refuge RITs recommended in January 2001, and the AMBCC's harvest survey committee affirmed, that we should have three sampling categories: households who catch lots of birds (more than ten birds per year, all species combined); households who catch a few birds (between one and ten birds per year, all species combined); and households who do not hunt (0 birds per year). These are the same sampling categories that are used for waterfowl hunters all across the country, in the Migratory Bird Harvest Information Program (HIP), except that in HIP these hunting categories are used for individual species groups (ducks, geese, snipe, sea ducks, brant, and cranes).

In order to categorize the hunters, the village surveyor writes down all the households, on Form 1 (OMB Form 7-FW-100), with each household's harvest level, None, Low, or High. Then the surveyor takes each household listed on Form 1, and transfers it to Form 2 (OMB Form 7-FW-101), categorizing it according to activity level, None (0 birds), Low (1-10 birds) or High (>10 birds). (Forms 1 and 2, Appendix A).

To select the households, the surveyor takes the Random Selection Overlay (clear mylar – see Appendix A) and overlays it on Form 2. The household numbers that are visible in the clear areas are those selected to be sampled. The surveyor writes an asterisk (*) next to each household selected. Then the surveyor goes to each household and asks for permission (Permission Slip, OMB Form 7-FW-102, Appendix A). If permission is granted, the surveyor leaves a harvest survey form to be collected at the end of the survey period. If the household decides not to participate, the surveyor writes a NO next to the asterisk (*) and selects an alternate household from the same activity level column. (For more detailed information on the household selection and selection of alternates, see the instructions on the Random Selection Overlay, Appendix A).

The Random Selection Overlay is designed to select 10% of the households in the “None” harvest category, 15% of the households in the “Low” harvest category, and 40% of the households in the “High” harvest category. In some cases it may be necessary to select more households so at least five households are selected from each column. If fewer than eight households are listed in any column, surveyors are instructed to select, at most, one-half of those listed. In cases with few households in a harvest category, the percentages sampled may exceed 10%, 15%, or 40%.

If the household agrees to participate in the survey, a “Yes” permission slip is filled out, and the household is given the three page survey form (OMB Form 7-FW-103, Appendix A). The surveyor returns at the end of each survey period, to collect each page of the form.

Sample survey results in each harvest category are expanded (multiplied) in order to estimate the total harvest for that harvest category. Then the expanded results from each category are added together to get the total harvest estimate for the village. Once estimates are calculated for the surveyed villages, they are expanded in a similar manner to generate a survey estimate for each sub-region. Finally, data from the six sub-regions are added to give a Delta-wide harvest total for each species.

The 2001 and 2002 data were entered into the computer by the Yukon Delta Refuge RITs, with assistance from the Harvest Survey Coordinator. The expanded estimates were generated by Stephanie Martin of the University of Alaska, Institute of Social and Economic Research (ISER). The 2004 and 2005 data were entered into the computer and expanded by ADF&G's Division of Subsistence, Data Management staff, who also generated the estimates.

RESULTS AND DISCUSSION

Birds

An estimated annual average of 115,000 birds was taken for subsistence use on the Y-K Delta between 2001 and 2005 (No survey was conducted in 2003). Of the total harvest, 41,000 birds (36%) were geese, 46,600 (41%) were ducks, 4,500 (4%) were swans, 2,800 (3%) were cranes, 15,700 (14%) were ptarmigan and grouse, and 4,200 (4%) were other birds (primarily shorebirds, gulls and loons) (Table 2).

The average of 115,000 birds taken between 2001 and 2005 is the same as the 1995-2000 average of 115,000 birds. Both exceed the 1990-94 average of 98,000 birds. Between 2001 and 2005, harvests of geese, swans, and cranes were down from 1995-2000 averages, while harvests of ducks and shorebirds were higher than 1995-2000 averages (Tables 1, 2, B-3, B-4).

Converted to usable weights, the subsistence harvest of birds provided an average of 315,000 pounds of food annually to Y-K Delta residents between 2001 and 2005. Of the food harvested, 140,000 pounds (45%) were geese, 83,000 pounds (26%) were ducks, 51,000 pounds (16%) were swans, 19,000 pounds (6%) were cranes, 16,000 pounds (5%) were ptarmigan, and 6,000 pounds (2%) were other birds (Table B-2).

As indicated above, more ducks than geese were taken between 2001 and 2005. However, because most ducks have only one to one and one-half pounds of usable meat and geese have three or four pounds, geese provided almost twice as much meat as ducks. Similarly, even though tundra swans and sandhill cranes made up only 6% of the total bird harvest, they provided 22 % of the meat – 85% as much meat as ducks - because each swan weighs more than ten pounds and each crane weighs approximately seven pounds (Table B-1).

In terms of per household measures, the annual estimated subsistence harvest of birds on the Y-K Delta amounted to 23 birds per household (8 geese, 10 ducks, 1 swan, three ptarmigan, and one other bird). By weight, the subsistence harvest provided about 64 pounds of meat per household (Table 2, B-2, C-4).

Geese: Six different goose species are taken on the Y-K Delta: Pacific white-fronted, lesser Canada, cackling Canada, emperor, black brant, and lesser snow geese. Of these species, snow geese are the only geese that do not nest on the Delta. Pacific white-fronted geese, cackling Canada geese, emperor geese, and black brant are all part of the Yukon-Kuskokwim Delta Goose Management Plan (YKDGMP) (Wentworth, 1998, pp. 88-96).

Since 2001, the total take of geese on the Y-K Delta has averaged 41,000. This compares with an average of 44,000 geese taken between 1995 and 2000, and 28,000 geese taken from 1990 through 1994. Average harvests of white-fronted geese and black brant were higher in the 2001-2005 period compared with the 1995-2000 period, and were almost twice as high as in the early 1990's. Average cackling Canada goose harvests were slightly lower between 2001 and 2005 than between 1995 and 2000, but were still almost twice as high as the early 1990's. On the other hand, average emperor goose harvests between 2001 and 2005 were much lower than in the previous five year periods: 1,162 geese (2001-2005)

compared with 1659 geese (1995-2000) and 2520 geese (1990-1994) (Tables 1, 2, B-3, B-4).

Data on both brant and emperor goose harvests are probably more accurate for the 2001-2005 period than in previous years. This is due to increased participation of south coast and mid coast villages, which are located in proximity to prime emperor and brant habitat and are presumed to harvest these species in greater numbers than other villages. Survey participation from mid coast villages increased markedly beginning in 1994. Participation from south coast villages was first statistically adequate in 2000, and was also statistically adequate in 2002, 2004, and 2005 (Table 5).

Ducks: Pintails, scoters, greater scaup, mallards, and king eiders were the principal duck species taken on the Delta between 2001 and 2005. These species accounted for 75% of all ducks taken during this time period. Other ducks typically taken in large numbers were wigeons, shovelers, canvasbacks, green-winged teals, goldeneyes, and long-tailed ducks (formerly called oldsquaws).

Average total duck harvest increased only slightly from the 1990's: 46,600 ducks (2001-2005) compared with 45,500 ducks average (1995-2000) and 43,000 ducks average (1990-1994) (Tables 1, 2, B-3, B-4). Spectacled and Steller's eider ducks, both listed as threatened species pursuant to the Endangered Species Act of 1973, are taken in small numbers on the Delta (U.S. Fish and Wildlife Service 1993, 1997). The spectacled and Steller's eider harvest estimates are based on reported takes from only a very few households, as these birds are now uncommon and the vast majority of households do not harvest them.

Mean harvests of spectacled eiders have declined since the early 1990's, probably due partially to the environmental outreach programs conducted by the Yup'ik speaking Refuge Information Technicians in conjunction with this survey. Mean estimated take from 1990 through 1994 was 222 spectacled eiders, but dropped to 112 spectacled eiders between 1995 and 2000, and to 37 spectacled eiders between 2001 and 2005.

Mean Steller's eider annual harvest estimate from 1990 to 1994 was 16 eiders, then rose to 51 Steller's eiders (1995-2000), then was 40 Steller's eiders between 2001 and 2005.

Swans and Cranes: Tundra swan harvests averaged 4,500 from 2001 through 2005, compared with 6,400 swans between 1995 and 2000, and 6,200 swans in the early 1990's. Reported harvests were especially high from 1994 to 1996, reaching 9,500 swans in 1995. Crane harvests averaged 2,800 from 2001 through 2005, 3600 cranes from 1995 through 2000, and 3,000 cranes from 1990 through 1994 (Tables 1, 2, B-3, B-4).

Ptarmigan and Grouse: Ptarmigan harvests have been highly variable over the course of this study. Harvests ranged from a low of 9,500 birds to a high of 30,700 birds in the early 1990's, but have been less variable since, averaging 16,000 birds per year in the late 1990's and 15,500 birds per year between 2001 and 2005. Spruce grouse were added to the survey form in 2001. Spruce grouse harvests on the Y-K Delta appear to be relatively low, no higher than 500 birds per year, and occur primarily along the Kuskokwim River (Tables 1, 2, B-3, B-4, B-7).

Other Birds: Other birds taken, in relatively small numbers, include loons, gulls, terns and puffins, and shorebirds. In 2002, several species of shorebirds were added to the survey form, replacing the category “large shorebirds”. Large shorebird species added were bristle-thighed curlew, godwits, whimbrel, and golden plover. In 2002 and 2004, godwits were the large shorebirds taken in greatest numbers. It is reasonable to conclude that in 2001 and years preceding, most of the “large shorebirds” taken were probably godwits. These were probably bar-tailed godwits, since bar-tailed godwits are the godwits found on the Y-K Delta and taken by subsistence hunters (Tables 1, 2).

Because “large shorebirds” were replaced with individual large shorebird species on the survey form beginning in 2002, 2001-2005 harvest averages contain a small amount of double counting of large shorebirds and their eggs (Tables 2, 4, B-2).

Seasonality of Harvest

Spring, when birds first return to the tundra, is the most important time of the year for subsistence harvest of migratory birds. Between 2001 and 2005, 63% of the total annual migratory bird take occurred between April 1 and June 30 which is the Spring survey period (Table B-6). (When ptarmigan and grouse, which do not migrate, are included, this figure rises to 68% of total annual bird take).

During June, when birds begin to nest and become less accessible, hunting decreases sharply in most areas. Bird hunting drops to its lowest point during midsummer when birds are raising their young and people are busy with commercial and subsistence fishing activities. Hunting activity increases again in late August when staging and fall flight begin.

Surveys before 2002 broke the spring survey period of April 1 – June 30, into a spring (April 9 – May 20) and early summer (May 21 – June 24) survey period. (see Wentworth, Subsistence Migratory Bird Harvest Survey, Yukon-Kuskokwim Delta, 1995-2000). These pre-2002 surveys consistently showed that most of the spring birds were taken before May 20. Indeed, in 2001, 57% of the annual migratory bird take (not including ptarmigan and grouse) occurred between April 8 and May 20. Another 21% of the take took place between May 21 and June 24.

The fall survey period (September 1-October 31) is the second most important time after the spring survey period for hunting most migratory birds). From 2001-2005, 26% of migratory birds (not including ptarmigan and grouse) were harvested in the fall period. The remaining 11% of the annual bird take occurred during the summer period, which is July and August (Table B-6).

Although the date of September 1 divides the summer survey period from the fall survey period, some birds from the fall flight are harvested during the summer survey period, that is, July 1 - August 31. The proportion of total annual harvest taken after September 1 can vary substantially from year to year. For example, in 2001, only 14% of the total annual harvest occurred after September 1, whereas in 2005, 40% of the year’s take occurred after

September 1. In 2002 and 2004, the fall harvest represented 22% and 26% of total annual take respectively.

Seasonal hunting patterns vary somewhat depending on bird species, but spring is the most important hunting period for most species. From 2001 through 2005, most geese (69%) were taken in spring and fewer (21%) during the fall survey period. Also taken in spring were 60% of swans and 72% of cranes. Ptarmigan were hunted almost exclusively in late winter and spring, and spruce grouse were harvested mostly in the fall.

Seasonal hunting patterns are different for sea ducks and scaup than for dabbling ducks. Between 2001 and 2005, most sea ducks and scaup (83%) were taken in spring, and only 13% in fall. Almost all (95%) of king eider ducks were hunted in spring and early summer on their northward coastal migration. However, more dabbling ducks were taken in fall (46%) than in spring (35%), and 19% of dabbling ducks were taken during summer months (Table B-6).

Even though the fall survey period (September 1-October 31) is the second most important time for migratory bird hunting after spring, between 2001 and 2005, most migratory birds (74%) were harvested before September 1. This is significant because, until 2003, under terms of the Migratory Bird Treaty of 1916 between the U.S. and Canada, it was not legal to hunt most migratory birds between March 10 and September 1. A protocol amendment to the Treaty was ratified by the U.S. Senate on October 23, 1997 establishing a basis for spring hunting, and the Alaska Migratory Bird Co-Management Council (AMBCC) was formed in 2000 to recommend subsistence hunting regulations for the period between March 10 and September 1. In 2003, once a regulatory system was put in place, the first subsistence season opened. However, there is still a difference in the legal jurisdiction before September 1 and the legal jurisdiction after September 1. Subsistence hunting occurring before September 1 falls under the AMBCC and the new subsistence regulations, whereas subsistence hunting occurring after September 1, falls under the conventional, or “sport” regulatory system.

Between 2001 and 2005, 79% of geese, 72% of ducks, 67% of swans, and 83% of cranes, were taken before September 1. This represents an annual average of about 32,600 geese, 33,800 ducks, 3,100 swans, and 2,300 cranes taken during what was, until 2003, the closed season, a total of 71,800 migratory waterfowl and cranes.

The fall harvest between 2001 and 2005 averaged 8,500 geese, 13,100 ducks, 1,500 swans, and 500 cranes, a total of 23,600 migratory waterfowl and cranes. It follows that most YKDGMP species (79%) were harvested prior to the fall hunting period beginning September 1. (Emperor hunting is closed year round under the subsistence regulations, and has been closed since 1986 under the Y-K Delta Goose Management Plan) (Table B-6).

Finally, even though most migratory birds harvested on the Y-K Delta are taken before September 1, the Y-K Delta has the highest fall subsistence harvest of any of the AMBCC regions in Alaska (Wentworth, 2004; Unpublished data on file; ADF&G, 2006, Estimated Harvests of Birds by Region, 2004 and 2005 Migratory Bird Assessment).

Geographic Area of Harvest

The subsistence migratory bird harvest survey is divided into six sub-regions, or strata, to provide a more accurate picture of size, distribution, and composition of harvest (Figure 1). These sub-regions are based on ecologically similar characteristics. Each sub-region differs somewhat in terms of the species and numbers of birds that nest in, fly over and/or otherwise use that particular sub-region. For example, the coastal sub-regions, especially the mid and south coast sub-regions, contain prime goose nesting, rearing, and staging habitat and tend to have the most geese for the longest time. Ducks, on the other hand, (except for eider ducks) are more evenly spread throughout the Delta.

Regional subsistence harvest patterns are closely related to species distributions and ecological characteristics. Roughly half the Delta's population (excluding the larger community of Bethel) lives in coastal villages (Appendix C), yet coastal residents took 60% of the Delta's geese and 96% of the eider ducks between 1995 and 2000. These same coastal residents took only 27% of the Delta's other ducks. These data correspond to the fact that nesting geese and eider ducks concentrate in coastal areas while other ducks are more broadly distributed throughout the Delta.

Total goose harvests, and eider duck harvests, are highest in the south and mid coast sub-regions. From 2001 through 2005, 54% of all geese, 61% of YKDGMP species geese, and 93% of eider ducks have been taken in the south and mid coast sub-regions. Only 22% of other ducks have been taken in the south and mid coast (Table B-7).

Another difference observed in the mid coast sub-region relates to the seasonal hunting pattern of YKDGMP species. In the mid coast, more goose hunting occurs during the summer period than in other sub-regions (Tables D-1, D-2, D-5, D-6). These data reflect the concentration of nesting YKDGMP geese in the mid coast sub-region as compared with other areas of the Delta. Geese are available to mid coast residents not only during the spring and fall migration, but throughout the summer as they nest and rear young.

While total goose harvests are generally highest in the south and mid coast sub-regions, duck harvests (excluding eiders) tend to be highest in the Kuskokwim sub-region. Between 2001 and 2005, 44% of all ducks (excluding eiders) were taken in the Kuskokwim sub-region. The Kuskokwim and Bethel sub-regions are particularly important for sea ducks other than eiders. During the 2001-2005 period, the Kuskokwim and Bethel sub-regions took 85% of the Delta's scoters, 75% of the harlequins, 88% of the greater scaup, and 79% of the goldeneyes (Table B-7).

Table B-7 suggests that the largest harvests of migratory birds occur in the Kuskokwim and mid coast sub-regions. However, these are also the sub-regions with the largest numbers of villages and residents (Appendix C). Dividing the sub-regional harvest estimates by the number of households in each sub-region (US Census 2000) gives average harvests per household by sub-region. These figures show that annually between 2001 and 2005, south coast residents had the highest average harvest at 49 birds per household, followed by mid coast residents with 37 birds per household, Kuskokwim residents with 31 birds per

household, north coast residents with 18 birds per household, Yukon River residents with 15 birds per household, and Bethel residents with 10 birds per household.

Delta-wide, an average of 23 birds was harvested per household between 2001 and 2005. This is lower than between 1995 and 2000 (when an average of 33 birds per household were harvested) mainly because a higher and more realistic number of households is now being used for Bethel. Since some of the surveyed households do not hunt, averages would be higher for those households that did catch birds. However, since the birds are typically shared with non-hunting households, these averages may be good indicators of how many birds each household actually consumes during a year.

Between 2001 and 2005, the mean annual take per household of different species varied among sub-regions. South coast residents reported taking 19 geese per household. Mid coast residents took 18 geese per household. These compare with Delta-wide averages of 8 geese per household. Kuskokwim residents had the highest take of ducks, averaging 18 per household, as compared with 10 ducks per household Delta-wide.

Harvests for each sub-region of the Delta show a large amount of variability from year to year. Generally, this variability has not been any greater or any less in recent years than in earlier years. That said, two sub-regions of the Delta show generally increased harvests since 2000:

The annual harvest in the south coast sub-region increased from 14,000 birds annually for both the 1990-1994 and 1995-2000 periods, to 20,700 birds annually, 2001-2005. Harvest was also high in 2000: 22,500 birds (Wentworth and Seim, 1996, Appendix F; Wentworth, 2004, Table B-7, E-22; Table B-7. This is probably related to the increased participation of south coast villages beginning in 2000, particularly the villages of Kipnuk and Kongiganak (Table 5).

The Bethel sub-region also shows greatly increased harvests since 2000, largely due to an improved method of surveying Bethel. Up through 2000, only the predominantly Native areas of Bethel were surveyed. However, during the 1990's, the Native population of Bethel became more integrated throughout the community, and the community itself grew, establishing several new subdivisions. Beginning in 2001, attempts were made to sample from the entire community of Bethel. Activity stratification was also employed (see Methodology). These attempts improved in 2004 and 2005, when Refuge Information Technicians (RITs) with strong knowledge and abilities in locating Bethel hunters began conducting the survey. These RITs were also able, when doing the categorizations required by the activity stratification, to identify families from other villages who had recently moved to Bethel. The reported harvests for Bethel in 2004 and 2005, which are much higher than ever reported in the history of the survey (16,800 and 37,500 birds respectively), are probably partially attributable to these efforts.

When analyzing Y-K Delta harvests by geographic area over time, it is also important to look at human population sizes and trends. Previous editions of this report give detailed population information by village (Wentworth and Seim, 1996; Wentworth, 1998; Wentworth, 2004). This information can be compared with Tables C-1 – C-4 in this report to get up to date population trends by village.

The following is a summary of Y-K Delta population trends by sub-region, since 1990:

<u>Sub-region</u>	<u>US Census 1990</u>	<u>US Census 2000</u>	<u>Alaska Dept of Labor Estimate 2005</u>	<u>% growth since</u>
<u>1990</u>				
South Coast	1,596	1,991	2,163	35.6%
Mid Coast	3,376	4,234	4,673	38.5%
North Coast	1,756	2,174	2,175	23.9%
Kuskokwim	4,449	5,211	5,451	22.6%
Yukon	2,232	2,550	2,731	22.4%
Bethel	<u>4,674</u>	<u>5,471</u>	<u>5,953</u>	<u>27.4%</u>
TOTAL	18,083	21,631	23,146	28.0%

These figures show that the south coast and mid coast sub-regions grew by the largest percentages: 35.6% and 38.5% from 1990 to 2005 compared with an overall regional growth rate of 28% for the same period. Between 2000 and 2005, the north coast was the only sub-region in which the population did not grow.

Eggs

Egg gathering from the nests of waterfowl and other birds has traditionally been practiced throughout the Y-K Delta. It has been of greatest importance in the coastal tundra where nesting densities are highest. Egg gathering has declined significantly over the past few decades but remains a culturally valued activity, especially in the same coastal and tundra villages where it was most extensively practiced in the 1960's (Klein 1966).

Unlike migratory bird hunting, which is done almost entirely by men, egg gathering is done chiefly by women. It usually takes place in late spring and early summer in conjunction with the gathering of edible greens. According to a report by Alice Stickney of the Alaska Department of Fish and Game, Division of Subsistence, (1984):

“...store-bought eggs are not considered a substitute for the local eggs whose flavor is prized. The value of wild bird eggs to the people's diet is enhanced by the fact that they are only available for a limited time span. The opportunity to gather eggs and greens is also eagerly anticipated in the waning months of winter as it offers women the first real freedom to spend extensive periods of time out of the house after a long winter. Thus, the gathering of edible greens and bird eggs provide households with valued food items and a culturally valued activity.”

The estimates of Y-K Delta egg take show a high degree of variability from year to year. Standard errors for egg harvests are much higher than for bird harvests because fewer villages and people harvest eggs. Also, the reporting of egg harvests is highly variable from year to year especially from the villages where the most eggging is likely to occur (Table 3).

Keeping this variability in mind, a mean annual harvest of about 23,500 eggs was reported for the 2001-2005 period. This exceeds the mean annual harvest of 15,100 eggs (1995 – 2000; Table B-5), and the mean annual harvest of 10,400 eggs (1990 – 1994; Table 3). The largest increases of egg take occurred in the south coast sub-region. As with bird harvests, this was probably related to the increased participation of south coast villages in the harvest survey beginning in 2000 (Tables 3, 5, B-9; Wentworth, 2004, Table B-9).

Of the 23,500 estimated mean annual egg take, approximately 9,900 (42%) were goose eggs, 3,250 (14%) were duck eggs, and 1,700 (8%) were the eggs of tundra swans and sandhill cranes. Other eggs harvested were those of gulls, terns, loons, murre, shorebirds, and ptarmigan. Annual egg harvest for these species averaged 8,650 or approximately 36% of total egg harvest. Of these species, gull eggs were taken in greatest numbers with a mean annual harvest of 5,370 or 23% of total annual egg harvest (Table 4).

In 2002, 29,700 was the total egg harvest estimate, which was the highest estimate since 1985 when this survey began (Tables 3, 4). Most of this high number was attributable to an increase in the number of gull eggs taken compared with previous or succeeding years. The highest goose egg harvest estimate in the twenty year history of the survey (14,800 eggs) occurred in 2004. The majority of these eggs (67%) were white-front and cackling Canada goose eggs.

Almost all egg taking takes place in spring and early summer. As discussed under Seasonality of Harvest, surveys before 2002 broke the Spring survey period of April 1-June 30, into Spring (April 9 – May 20) and Early Summer (May 21 – June 24). These pre-2002 surveys consistently showed that most egg taking took place between May 21 and June 24. In 2001, 99% of the egg taking occurred during this time period (Table E-11). These data correspond with the breeding cycle of birds on the Delta.

Virtually all egg taking takes place in the coastal sub-regions of the Delta. The south and mid coast sub-regions are where reported egg collection is highest: from 2001-2005 76% of the reported harvests of migratory bird eggs came from the south and mid coasts (Table B-9). Egg collection is highest in the south and mid coast regions because bird nesting densities are generally highest in these areas. This regional harvest pattern is consistent with data from the 1960's in which two-thirds of the egg harvest was estimated to occur in the mid coast region (Klein 1966).

In general, increased participation and increased reporting of egg take by mid coast villages from 1995 to 2000 and participation by more south coast villages beginning in 2000 have made estimates of egg harvests more accurate in recent years. By contrast, in 1989, 75% of the entire reported egg take on the Delta came from Scammon Bay, and in 1990, almost 50% of reported Delta-wide egg take was from Cheforanak. Cheforanak declined to participate in the harvest survey from 1991 to 1994 when drawn for the random sample, but began participating and reporting egg harvest again in 1995. Scammon Bay continued to participate in the harvest survey in 1991 and 1992 but stopped reporting takes of YKDGMP species birds and eggs in 1990, after a swan enforcement incident took place in the village in September of that year. Scammon Bay did not report any more egg harvest until 1997, even though the village participated in the survey in all years except 1993 and 1994. Until 2000, Toksook Bay reported little or no egg harvest in any year, even though egg taking was known to occur. The participation and reporting of egg take by Nightmute, Cheforanak, and Newtok since 1994, the participation of the south coast villages of Kipnuk and Kongiganak beginning in

2000, and increased reporting of egg harvests from Chevak, Hooper Bay, Toksook Bay, Eek and Tuntutuliak have all had an upward effect on egg harvest estimates.

Contribution to Subsistence Food Harvest

Waterfowl and other birds are some of the wild foods produced in the Y-K Delta's subsistence economy. Migratory bird hunting activities are part of the seasonal pattern of subsistence food producing activities (see Socioeconomic Setting: Economy). Bird harvest is most important during spring migrations when birds may be among the first sources of fresh meat available after a winter's diet of dried and frozen fish (Wolfe et al. 1990).

Based on data from this survey, it is estimated that waterfowl and other birds contributed about 315,000 pounds of edible meat per year to the Delta's subsistence food harvest between 2001 and 2005. At a conservatively estimated wild bird replacement cost of \$4.00 per pound, this amounts to 1.26 million dollars per year when valued in the economic terms of western society (see Wentworth, 1998, Socioeconomic Setting: The Subsistence Sector). Geese, ducks, swans, and cranes contribute 93% of the total usable weight of meat harvested each year (Table B-2).

In terms of actual pounds consumed, waterfowl comprise two to six percent of the subsistence diet in most Delta villages. Our survey results show that between 2001 and 2005, Delta-wide, 64 pounds of birds were consumed per household on average, for both harvesting and non-harvesting households.

Even though waterfowl make up a small percentage of the total subsistence food supply during the year, they can make up a large percentage of the spring food supply when birds arrive on the tundra in abundance during spring migration. Birds are also a highly preferred food resource for the people of the Y-K Delta. Along with seal, birds are an early source of fresh meat, and their springtime availability makes them highly prized (Stickney 1984). Some people as young as 50 remember when, in years when seals were scarce, the spring arrival of migratory birds kept them from starving. Thus birds have not only a physiological importance, but a tremendous psychological importance in the diet of Delta residents especially in the spring (Hunt 1992).

As for food production efficiencies, migratory birds tend to be one of the more expensive foods to produce both in terms of money and labor. The higher "price" to obtain food from migratory birds relative to other species indicates the high cultural value of the birds to the Delta's consumers (Wolfe et al. 1990).

Survey Participation and Limitations

Since 1985, when the survey became random and Delta-wide, 17 to 28 of the 38 villages on the Delta have participated in the survey each year (Table 5). The numbers of households participating have ranged from 450 to over 1000.

The numbers of villages and households participating in the survey generally increased from 1985 through 2002. From 1985 through 1994, the average number of villages participating annually was 19. From 1995 through 2002, the average was 27 (Table 5). From 1985 through 1994, household participation (excluding Bethel) averaged 21% of all households on the Delta during the spring

survey period (Wentworth and Seim, 1996, Table 8). From 1995 through 2002, participation averaged 27% of all households (Appendix C).

In 2004, when the statewide survey methodology was officially adopted, it was no longer feasible to survey as many villages on the Y-K Delta. However, except for Bethel, the goal was to attempt to survey two-thirds of the villages, and 40% of the “High” hunting households, 15% of the “Low” hunting households, and 10% of the non-hunting households (See “Methods: How We Do the Survey”). In 2004, 21 of the 37 villages were sampled (57%), and 29% of the households were sampled. In 2005, 26 of the 37 villages were sampled (70%) and 34% of the households were sampled. In Bethel, every fourth house was stratified. Then a sample was picked from this stratification. In 2004, 45 Bethel households were sampled, and in 2005, 225 Bethel households were sampled

Participation in the survey varies by sub-region of the Delta. In the north coast sub-region, we have always achieved the desired sample of villages, and over 20% of the households have usually participated. In the Kuskokwim and mid coast sub-regions, we have sometimes failed to get all the villages we need, but have still gotten over 20% of all households to participate in most years. Participation from the mid coast has improved greatly since 1995, at both the village and household levels, increasing the accuracy of our mid coast estimate. In the Yukon sub-region, we did not achieve the desired sample of villages nor households from 1991 through 1996. This improved significantly beginning in 1997, was inadequate again in 2001 and in 2004, and improved again in 2005. In the south coast sub-region, we achieved the desired village sample for the first time in 2000, and again in 2002, 2004, and 2005 (Table 5, Appendix C).

Increases in village and household participation since 1985 have improved the accuracy and precision of the survey for some sub-regions. However, accuracy still varies by season, sub-region, and year, and bias still occurs. These must be considered when interpreting the survey results.

It is important not just to get enough villages to participate from each sub-region, but to get a random sample from each sub-region. Under the new statewide sampling methodology which was incorporated in 2004, it is important to get the participation of the required two-thirds of the villages which are scheduled to participate from that sub-region (see Methods: How We Do the Survey). By rotating the surveyed villages according to the three year rotation schedule, two-thirds of the villages are surveyed each year, and each village is surveyed every other year. If this schedule is followed, this keeps the survey random, because every community has an equal chance of being selected for participation in the survey over a three year period. In practice, even though every village has an equal chance of being selected, some villages in some sub-regions have consistently declined to participate. Therefore, we substitute with villages not on the schedule in a given year but which participate every time they are asked to. This distorts or biases our sample in favor of cooperative villages. Since the species and numbers of birds taken in these villages may differ somewhat, sub-regional estimates may be distorted by an unknown amount.

Survey biases may occur at the household as well as the village level. The same cooperative households may participate year after year in certain villages, whereas other households may consistently decline participation. This especially becomes a problem when all the households in the village must be asked (as alternates) before the required numbers of households are obtained. Sometimes we fail to obtain the required sample size even when all households have been asked. This situation has occurred in a small minority of villages, usually (but not always) in the south

coast and mid coast sub-regions. The political climate in any particular year helps to influence the degree of household participation within a village. Even though a village may agree to participate year after year, the level of household cooperation within that village can vary considerably from year to year.

A third occasional bias is that some village surveyors, especially those new to the job, have a tendency to survey only the households with active hunters. It is true that under the new activity stratification methodology, active hunters are surveyed at higher rates (See Methods:How We Do the Survey). However, non-hunting households will often decline participation simply because they do not hunt. We instruct the surveyor to include non-hunting households in the household selection process and ask that they explain to non-hunting households that it is okay for them to take part. This problem appears to be diminishing as we get more experienced surveyors, but it has likely influenced past survey results to some extent.

The nature and extent of underreporting on survey forms generally is not known. We suspect that in Scammon Bay in 1990, most of the goose harvest was not reported due to a swan enforcement incident which occurred there in September of that year. Underreporting harvest on survey forms would tend to have the opposite effect on harvest estimates that the inclination to survey households with active hunters would have.

Another way to view survey participation and limitations is through survey response rates. Survey response rates are determined by looking at: 1) whether or not the village agrees to participate in the survey (village response rate); 2) whether or not the household agrees to participate in the survey, as noted by the household permission slip (household response rate). (OMB Form 7-FW-102: See “Methods: How We Do the Survey”).

Each village surveyor fills out a permission slip for each household contact, specifying “yes” if the household agrees to participate, and “no” if the household declines. If a household says “no”, an alternate household is chosen. The proportion of “yes” permission slips to total permission slips filled out equals that village’s response rate. At one extreme, if every household contact says, “yes” to the survey and the surveyor fills out the “yes” permission slip for every household, that village’s household response rate is 100%. At the other extreme, if every household contacted says “no” to the survey and the surveyor completes a “no” permission slip for every household, that village’s household response rate would be zero.

Once both village and household response rates have been determined, the village response rate is multiplied by the household response rate to get the overall survey response rate.

The calculation and portrayal of village and household response rates is required for OMB approval and re-approval every three years (see Introduction). Overall village-household response rates calculated for the Yukon Delta National Wildlife Refuge show an improvement since 2001: 56% in 2001, 62% in 2002, 64% in 2004, and 77% in 2005 (Table C-5). The lack of permission slips for Bethel in 2004 and 2005, however, means uncertainty of the response rate for the Y-K Delta’s largest community.

LITERATURE CITED

- Alaska Department of Fish and Game. 2006. Estimated harvests of birds by region, 2004 and 2005. Migratory bird Assessment. Division of Subsistence. Anchorage.
- Copp, J.D. and G. M. Roy. 1986. Results of the 1985 survey of waterfowl hunting on the Yukon-Kuskokwim Delta, Alaska. Oregon State University, Corvallis. 47 pp.
- Hunt, C. F. 1992. Unpublished data. U.S. Fish and Wildlife Service, Bethel.
- Klein, D. R. 1966. Waterfowl in the economy of the Eskimos of the Yukon-Kuskokwim Delta, Alaska. *Arctic* 19(4):319-336.
- Seim, S. G. and C. Wentworth. 1996. Subsistence migratory bird harvest survey, Bristol Bay, 1995. U.S. Fish and Wildlife Service, Migratory Bird Management, Anchorage. 57 pp.
- Stickney, A. 1984. Coastal ecology and wild resource use in the central Bering sea area: Hooper Bay and Kwigillingok. Alaska Dept. of Fish and Game. Technical Paper 85:91-98,124-135.
- U.S. Fish and Wildlife Service. 1993. Final rule to list spectacled eider as threatened. *Federal Register* 58(88): 27474-27480.
- _____. 1997. Final rule to list Alaska breeding population of Steller's eiders as threatened. *Federal Register* 62 31748.
- _____. 1998. Unpublished data. Migratory Bird Management. Anchorage.
- _____. 2000. Unpublished data. Migratory Bird Management. Anchorage.
- Wentworth, C. and S. Seim. 1996. Subsistence Waterfowl Harvest Survey. Yukon-Kuskokwim Delta. Comprehensive Report 1985-1995. U.S. Fish and Wildlife Service, Migratory Bird Management, Anchorage. 236 pp.
- Wentworth, C. 1998. Subsistence Waterfowl Harvest Survey. Yukon-Kuskokwim Delta. Comprehensive Report 1987-1997. U.S. Fish and Wildlife Service, Migratory Bird Management, Anchorage. 176pp.
- Wentworth, C. 2004. Subsistence Migratory Bird Harvest Survey. Yukon-Kuskokwim Delta, 1995-2000. With 1985-2000 species tables. U.S. Fish and Wildlife Service, Migratory Birds and State Programs, Alaska Migratory Bird Co-Management Council, Anchorage. 201 pp.
- Wentworth, C. 2007. Subsistence Migratory Bird Harvest Survey. Bristol Bay, 2001-2005. With 1995-2005 species tables. U.S. Fish and Wildlife Service, Migratory Birds and State Programs, Alaska Migratory Bird Co-Management Council, Anchorage.
- Wolfe, R. J., A. W. Paige and C. L. Scott. 1990. The subsistence harvest of migratory birds in Alaska. Alaska Department of Fish and Game Technical Paper 197:1-183.

Table 1. Migratory bird subsistence harvest estimates Yukon-Kuskokwim Delta 1985-2005

(Standard errors are in italics and located to the right of estimates.)

	1985	1986	1987	1989	1990	
GEESE	White-fronted Geese	3,803 472	2,806 315	3,722 671	5,324 614	8,287 1,082
	Cackling Canada Geese	1,485 168	2,067 273	3,218 629	3,584 432	5,903 848
	Emperor Geese	4,031 1,052	3,091 439	1,352 415	1,616 403	3,440 670
	Black Brant	2,168 620	1,483 232	1,030 279	2,372 622	3,133 599
	Lesser Canada Geese	4,060 198	3,649 408	4,497 490	5,455 569	4,066 473
	Lesser Snow Geese	1,206 196	2,102 622	5,201 2,520	889 428	1,284 419
	TOTAL GEESE	16,753 1,349	15,198 987	19,020 2,772	19,240 1,273	26,113 1,760
	Tundra Swans	3,531 486	5,363 462	6,721 978	6,034 1,088	5,399 520
	Sandhill Cranes	3,289 363	3,477 469	2,191 485	3,193 480	2,159 241
DUCKS	Pintails	8,090 794	9,934 903	17,540 2,852	6,893 1,294	8,267 817
	Mallards	4,818 581	8,907 1,021	9,073 1,881	6,908 2,269	12,486 1,938
	Unidentified ducks	1,827 424	2,514 333	2,627 465	2,171 490	1,621 337
	Wigeons	1,356 275	1,199 186	2,799 622	824 193	2,886 389
	Shovelers	560 130	1,381 263	2,395 614	806 269	821 148
	Green-winged Teals	2,195 294	1,353 328	4,264 746	1,605 572	2,529 340
	Buffleheads	153 46	298 87	281 70	514 221	231 64
	Harlequins	11 7	179 50	242 128	393 266	141 49
	Greater Scaup	1,783 432	4,554 862	6,256 1,676	2,237 521	1,394 357
	Goldeneyes	310 63	774 161	2,332 546	1,129 425	1,797 521
	Canvasback					
	Long-tailed ducks	2,680 543	2,783 579	2,691 766	4,638 1,530	1,476 273
	White-winged Scoters	767 145	1,136 259	2,143 607	630 156	4,027 824
	Black Scoters	3,163 763	5,079 856	5,987 1,445	4,629 659	4,397 801
	Surf Scoters	256 119	342 98	956 456	462 190	1,848 517
	Common Eiders	571 202	971 237	322 99	634 323	417 121
	King Eiders	4,258 2,246	1,816 464	3,360 1,072	3,107 2,354	2,243 685
	Spectacled Eiders	297 98	321 131	296 110	493 245	272 99
	Steller's Eiders	0 0	* *	* *	* *	* *
	Common Mergansers	32 14	304 133	304 126	118 39	75 21
	Red-breasted Mergansers	61 40	203 54	299 130	187 67	230 56
TOTAL DUCKS	33,188 2,744	45,048 2,101	64,167 4,560	38,378 4,077	47,158 2,719	
	Ptarmigan (non-migratory)		8,926 1,683	15,092 2,922	13,371 2,444	12,579 2,151
	Spruce Grouse (non-migratory)					
OTHER BIRDS	Yellow-billed Loons	132 54	381 132	143 91	88 49	89 37
	Red-throated Loons	50 22	133 66	44 16	463 518	90 46
	Common Loons	362 93	662 132	1,179 349	689 159	352 86
	Arctic Loons	127 38	91 50	42 37	96 60	32 14
	Common Murres	51 33	242 97	354 318	228 223	21 10
	Cormorant					
	Guillemot					
	Golden Plover					
	Small shorebirds	1,975 1,029	604 392	225 105	101 62	48 26
	Godwit					
	Bristle-thighed Curlew					
	Whimbrel					
	Large shorebirds	* *	75 31	124 130	19 14	140 92
	Mew Gulls	5 4	21 14	14 11	0 0	11 8
	Sabines Gulls	30 26	7 5	35 41	0 0	0 0
	Glaucous Gulls	412 136	217 97	287 105	21 13	574 440
	Kittiwake					
	Arctic Terns	21 14	193 109	42 49	0 0	12 11
	Puffin					
Other bird						
TOTAL OTHER BIRDS	3,165 1,045	2,626 477	2,489 525	1,705 595	1,369 463	
	TOTAL BIRDS (w/o ptarmigan or grouse)	59926** 3,288	71,712 2,459	94,588 5,472	68,550 4,473	82,198 3,321
	TOTAL BIRDS (with ptarmigan & grouse)	59926** 3,288	80,638 2,980	109,680 6,204	81,921 5,097	94,777 3,957

*Standard errors not available for 2004 or 2005.

**Does not include ptarmigan

Table 1 (cont.) Migratory bird subsistence harvest estimates Yukon-Kuskokwim Delta 1985-2005

(Standard errors are in italics and located to the right of estimates.)

	1991	1992	1993	1994	1995
GEESE					
White-fronted Geese	5,709 <i>637</i>	9,237 <i>1,413</i>	8,207 <i>1,014</i>	9,570 <i>1,336</i>	11,388 <i>664</i>
Cackling Canada Geese	4,926 <i>576</i>	4,490 <i>498</i>	7,087 <i>796</i>	9,780 <i>875</i>	13,799 <i>1,015</i>
Emperor Geese	2,394 <i>577</i>	2,669 <i>414</i>	2,602 <i>824</i>	1,493 <i>184</i>	2,041 <i>250</i>
Black Brant	2,258 <i>443</i>	2,798 <i>375</i>	2,502 <i>549</i>	2,326 <i>258</i>	4,995 <i>571</i>
Lesser Canada Geese	4,305 <i>402</i>	7,169 <i>1,150</i>	7,086 <i>673</i>	9,541 <i>1,321</i>	14,931 <i>1,183</i>
Lesser Snow Geese	863 <i>384</i>	1,655 <i>470</i>	2,119 <i>371</i>	2,115 <i>573</i>	2,305 <i>349</i>
TOTAL GEESE	20,455 <i>1,255</i>	28,018 <i>2,025</i>	29,603 <i>1,798</i>	34,825 <i>2,174</i>	49,459 <i>1,839</i>
Tundra Swans	4,599 <i>512</i>	7,226 <i>753</i>	5,767 <i>500</i>	8,030 <i>1,065</i>	9,529 <i>730</i>
Sandhill Cranes	3,172 <i>353</i>	4,182 <i>514</i>	2,282 <i>276</i>	3,118 <i>274</i>	5,340 <i>386</i>
DUCKS					
Pintails	7,494 <i>1,445</i>	8,072 <i>1,181</i>	7,474 <i>1,138</i>	6,895 <i>947</i>	12,579 <i>1,104</i>
Mallards	3,603 <i>656</i>	5,079 <i>714</i>	4,671 <i>522</i>	4,949 <i>566</i>	6,971 <i>541</i>
Unidentified ducks	1,995 <i>576</i>	1,369 <i>385</i>	1,993 <i>431</i>	1,881 <i>313</i>	2,615 <i>510</i>
Wigeons	1,926 <i>673</i>	2,141 <i>331</i>	4,358 <i>463</i>	2,950 <i>521</i>	4,525 <i>670</i>
Shovelers	756 <i>224</i>	1,022 <i>221</i>	925 <i>182</i>	770 <i>144</i>	1,314 <i>263</i>
Green-winged Teals	1,500 <i>367</i>	1,223 <i>269</i>	1,103 <i>223</i>	1,268 <i>190</i>	1,557 <i>233</i>
Buffleheads	224 <i>97</i>	284 <i>86</i>	319 <i>91</i>	400 <i>173</i>	363 <i>202</i>
Harlequins	82 <i>28</i>	229 <i>51</i>	354 <i>101</i>	116 <i>38</i>	144 <i>46</i>
Greater Scaup	2,388 <i>815</i>	4,996 <i>847</i>	2,891 <i>680</i>	4,357 <i>484</i>	7,347 <i>1,243</i>
Goldeneyes	1,800 <i>815</i>	1,379 <i>322</i>	1,364 <i>391</i>	1,287 <i>182</i>	1,894 <i>422</i>
Canvasback					
Long-tailed ducks	2,430 <i>566</i>	2,125 <i>348</i>	1,709 <i>378</i>	1,355 <i>189</i>	2,403 <i>468</i>
White-winged Scoters	2,142 <i>981</i>	5,237 <i>1,536</i>	2,153 <i>530</i>	1,572 <i>443</i>	1,918 <i>376</i>
Black Scoters	5,830 <i>1,080</i>	8,191 <i>1,771</i>	7,974 <i>1,385</i>	4,936 <i>737</i>	6,946 <i>965</i>
Surf Scoters	593 <i>224</i>	590 <i>226</i>	493 <i>187</i>	713 <i>198</i>	409 <i>131</i>
Common Eiders	436 <i>105</i>	326 <i>68</i>	583 <i>234</i>	157 <i>72</i>	113 <i>36</i>
King Eiders	2,832 <i>1,169</i>	3,433 <i>1,199</i>	3,753 <i>1,845</i>	1,540 <i>570</i>	1,625 <i>310</i>
Spectacled Eiders	289 <i>131</i>	370 <i>133</i>	28 <i>23</i>	150 <i>63</i>	206 <i>113</i>
Steller's Eiders	21 <i>17</i>	24 <i>16</i>	0 <i>0</i>	18 <i>16</i>	95 <i>67</i>
Common Mergansers	14 <i>16</i>	63 <i>19</i>	123 <i>49</i>	60 <i>27</i>	70 <i>42</i>
Red-breasted Mergansers	398 <i>217</i>	589 <i>112</i>	297 <i>90</i>	148 <i>56</i>	256 <i>114</i>
TOTAL DUCKS	36,753 <i>2,961</i>	46,742 <i>3,202</i>	42,565 <i>2,921</i>	35,522 <i>1,759</i>	53,350 <i>2,355</i>
Ptarmigan (non-migratory)	30,686 <i>3,308</i>	15,648 <i>1,832</i>	19,557 <i>3,304</i>	9,458 <i>1,561</i>	16,095 <i>2,472</i>
Spruce Grouse (non-migratory)					
OTHER BIRDS					
Yellow-billed Loons	102 <i>41</i>	101 <i>28</i>	172 <i>98</i>	93 <i>26</i>	34 <i>17</i>
Red-throated Loons	84 <i>45</i>	97 <i>33</i>	25 <i>15</i>	94 <i>54</i>	18 <i>8</i>
Common Loons	688 <i>146</i>	743 <i>146</i>	657 <i>208</i>	263 <i>65</i>	390 <i>55</i>
Arctic Loons	34 <i>16</i>	114 <i>39</i>	142 <i>91</i>	44 <i>32</i>	20 <i>13</i>
Common Murres	0 <i>0</i>	36 <i>16</i>	29 <i>16</i>	307 <i>238</i>	29 <i>27</i>
Cormorant					
Guillemot					
Golden Plover					
Small shorebirds	152 <i>86</i>	96 <i>68</i>	599 <i>456</i>	53 <i>33</i>	118 <i>55</i>
Godwit					
Bristle-thighed Curlew					
Whimbrel					
Large shorebirds	303 <i>336</i>	12 <i>6</i>	145 <i>101</i>	174 <i>145</i>	138 <i>49</i>
Mew Gulls	25 <i>16</i>	0 <i>0</i>	15 <i>10</i>	0 <i>0</i>	134 <i>68</i>
Sabines Gulls	28 <i>19</i>	39 <i>23</i>	41 <i>24</i>	8 <i>8</i>	101 <i>70</i>
Glaucous Gulls	41 <i>26</i>	100 <i>54</i>	98 <i>72</i>	184 <i>96</i>	72 <i>20</i>
Kittiwake					
Arctic Terns	11 <i>9</i>	10 <i>6</i>	0 <i>0</i>	0 <i>0</i>	15 <i>5</i>
Puffin					
Other bird					
TOTAL OTHER BIRDS	1,468 <i>383</i>	1,348 <i>182</i>	1,923 <i>534</i>	1,220 <i>311</i>	1,069 <i>140</i>
TOTAL BIRDS (w/o ptarmigan or grouse)	66,447 <i>3,298</i>	87,516 <i>3,901</i>	82,140 <i>3,518</i>	82,715 <i>3,021</i>	118,747 <i>3,103</i>
TOTAL BIRDS (with ptarmigan & grouse)	97,133 <i>4,671</i>	103,164 <i>4,310</i>	101,697 <i>4,826</i>	92,173 <i>3,400</i>	134,842 <i>3,968</i>

*Standard errors not available for 2004 or 2005.

**Does not include ptarmigan

Table 1 (cont.) Migratory bird subsistence harvest estimates Yukon-Kuskokwim Delta 1985-2005

(Standard errors are in italics and located to the right of estimates.)

	1996	1997	1998	1999	2000
GEESE					
White-fronted Geese	14,582 <i>1,990</i>	8,528 <i>541</i>	12,359 <i>739</i>	13,320 <i>819</i>	15,438 <i>1,676</i>
Cackling Canada Geese	14,983 <i>2,187</i>	9,921 <i>773</i>	15,173 <i>705</i>	11,145 <i>818</i>	11,533 <i>1,036</i>
Emperor Geese	2,374 <i>418</i>	1,469 <i>167</i>	1,899 <i>130</i>	818 <i>94</i>	1,351 <i>269</i>
Black Brant	3,302 <i>333</i>	3,572 <i>252</i>	4,100 <i>272</i>	2,721 <i>219</i>	4,002 <i>784</i>
Lesser Canada Geese	14,734 <i>2,416</i>	7,877 <i>678</i>	11,338 <i>725</i>	9,352 <i>978</i>	7,908 <i>969</i>
Lesser Snow Geese	3,834 <i>627</i>	1,379 <i>208</i>	2,135 <i>474</i>	1,339 <i>285</i>	1,495 <i>632</i>
TOTAL GEESE	53,809 <i>3,906</i>	32,746 <i>1,218</i>	47,004 <i>1,373</i>	38,695 <i>1,560</i>	41,727 <i>2,431</i>
Tundra Swans	8,860 <i>1,126</i>	5,501 <i>650</i>	5,916 <i>350</i>	5,107 <i>422</i>	3,578 <i>311</i>
Sandhill Cranes	3,899 <i>517</i>	2,370 <i>254</i>	3,907 <i>266</i>	3,539 <i>298</i>	2,517 <i>265</i>
DUCKS					
Pintails	10,952 <i>1,712</i>	5,685 <i>598</i>	8,085 <i>536</i>	5,473 <i>551</i>	5,880 <i>881</i>
Mallards	5,041 <i>440</i>	3,568 <i>451</i>	5,859 <i>429</i>	4,509 <i>759</i>	4,029 <i>393</i>
Unidentified ducks	1,427 <i>249</i>	996 <i>233</i>	2,107 <i>222</i>	1,368 <i>200</i>	1,856 <i>645</i>
Wigeons	2,967 <i>515</i>	3,128 <i>513</i>	2,526 <i>247</i>	2,169 <i>477</i>	1,087 <i>208</i>
Shovelers	804 <i>187</i>	813 <i>192</i>	1,171 <i>139</i>	1,469 <i>353</i>	469 <i>83</i>
Green-winged Teals	1,910 <i>332</i>	1,833 <i>343</i>	1,480 <i>185</i>	1,079 <i>179</i>	996 <i>192</i>
Buffleheads	139 <i>52</i>	156 <i>70</i>	533 <i>132</i>	119 <i>41</i>	164 <i>76</i>
Harlequins	163 <i>56</i>	95 <i>34</i>	350 <i>80</i>	105 <i>30</i>	89 <i>50</i>
Greater Scaup	3,460 <i>797</i>	3,189 <i>829</i>	8,225 <i>1,501</i>	10,229 <i>1,712</i>	2,596 <i>577</i>
Goldeneyes	1,232 <i>309</i>	832 <i>254</i>	2,560 <i>400</i>	2,846 <i>997</i>	960 <i>260</i>
Canvasback					
Long-tailed ducks	1,609 <i>306</i>	2,042 <i>435</i>	3,159 <i>398</i>	2,300 <i>396</i>	575 <i>138</i>
White-winged Scoters	2,511 <i>756</i>	2,011 <i>890</i>	3,053 <i>650</i>	2,511 <i>630</i>	912 <i>359</i>
Black Scoters	6,982 <i>1,277</i>	4,634 <i>1,041</i>	7,579 <i>817</i>	6,289 <i>1,003</i>	3,219 <i>742</i>
Surf Scoters	685 <i>183</i>	217 <i>105</i>	421 <i>114</i>	489 <i>119</i>	402 <i>136</i>
Common Eiders	615 <i>182</i>	494 <i>56</i>	326 <i>32</i>	340 <i>66</i>	528 <i>299</i>
King Eiders	2,752 <i>442</i>	3,424 <i>221</i>	2,262 <i>231</i>	4,808 <i>414</i>	6,993 <i>2,334</i>
Spectacled Eiders	126 <i>50</i>	95 <i>46</i>	82 <i>32</i>	78 <i>49</i>	84 <i>35</i>
Steller's Eiders	43 <i>27</i>	15 <i>8</i>	104 <i>52</i>	42 <i>33</i>	8 <i>8</i>
Common Mergansers	74 <i>43</i>	27 <i>11</i>	185 <i>52</i>	180 <i>89</i>	81 <i>39</i>
Red-breasted Mergansers	145 <i>62</i>	183 <i>67</i>	293 <i>76</i>	142 <i>44</i>	83 <i>46</i>
TOTAL DUCKS	43,637 <i>2,627</i>	33,437 <i>1,981</i>	50,360 <i>2,098</i>	46,545 <i>2,645</i>	31,011 <i>2,846</i>
Ptarmigan (non-migratory)	14,794 <i>2,741</i>	13,022 <i>2,300</i>	16,244 <i>1,800</i>	21,502 <i>2,812</i>	14,955 <i>2,310</i>
Spruce Grouse (non-migratory)					
OTHER BIRDS					
Yellow-billed Loons	188 <i>97</i>	68 <i>17</i>	72 <i>27</i>	40 <i>21</i>	43 <i>16</i>
Red-throated Loons	36 <i>18</i>	17 <i>10</i>	38 <i>12</i>	20 <i>7</i>	14 <i>6</i>
Common Loons	424 <i>98</i>	273 <i>56</i>	237 <i>36</i>	170 <i>45</i>	124 <i>36</i>
Arctic Loons	26 <i>12</i>	39 <i>23</i>	53 <i>20</i>	0 <i>0</i>	17 <i>11</i>
Common Murres	42 <i>29</i>	87 <i>33</i>	6 <i>3</i>	76 <i>30</i>	3 <i>3</i>
Cormorant					
Guillemot					
Golden Plover					
Small shorebirds	76 <i>44</i>	84 <i>33</i>	88 <i>24</i>	87 <i>43</i>	155 <i>77</i>
Godwit					
Bristle-thighed Curlew					
Whimbrel					
Large shorebirds	774 <i>260</i>	485 <i>145</i>	1,867 <i>231</i>	1,696 <i>494</i>	2,014 <i>1,155</i>
Mew Gulls	54 <i>39</i>	0 <i>0</i>	16 <i>8</i>	72 <i>40</i>	13 <i>11</i>
Sabines Gulls	78 <i>58</i>	18 <i>11</i>	20 <i>8</i>	4 <i>3</i>	11 <i>10</i>
Glaucous Gulls	72 <i>50</i>	602 <i>320</i>	307 <i>82</i>	116 <i>45</i>	188 <i>138</i>
Kittiwake					
Arctic Terns	1 <i>1</i>	271 <i>221</i>	87 <i>41</i>	6 <i>4</i>	34 <i>23</i>
Puffin					
Other bird					
TOTAL OTHER BIRDS	1,771 <i>312</i>	1,944 <i>423</i>	2,791 <i>255</i>	2,287 <i>503</i>	2,616 <i>1,167</i>
TOTAL BIRDS (w/o ptarmigan or grouse)	111,976 <i>4,878</i>	75,998 <i>2,465</i>	109,978 <i>2,558</i>	96,173 <i>3,154</i>	81,449 <i>3,942</i>
TOTAL BIRDS (with ptarmigan & grouse)	126,770 <i>5,595</i>	89,020 <i>3,371</i>	126,222 <i>3,128</i>	117,675 <i>4,226</i>	96,404 <i>4,569</i>

*Standard errors not available for 2004 or 2005.

**Does not include ptarmigan

Table 1 (cont.) Migratory bird subsistence harvest estimates Yukon-Kuskokwim Delta 1985-2005

(Standard errors are in italics and located to the right of estimates.)

		2001	2002	2003	2004*	2005*
GEESE	White-fronted Geese	13,904	11,676	No survey	15,143	17,003
	Cackling Canada Geese	10,227	13,442		9,782	14,411
	Emperor Geese	1,078	1,250		1,692	631
	Black Brant	5,769	4,790		3,760	3,895
	Lesser Canada Geese	8,349	6,300		5,535	7,128
	Lesser Snow Geese	3,072	1,871		1,388	1,944
	TOTAL GEESE	42,398	39,329		37,298	45,012
	Tundra Swans	3,775	3,349		6,451	4,574
	Sandhill Cranes	2,899	2,648		3,184	2,456
	DUCKS	Pintails	5,573	7,807		8,587
Mallards		4,711	4,815		8,188	7,751
Unidentified ducks		2,408	1,145		179	107
Wigeons		1,611	2,255		1,443	3,665
Shovelers		833	1,693		1,506	3,055
Green-winged Teals		1,203	1,454		1,159	2,798
Buffleheads		41	332		241	113
Harlequins		147	104		108	51
Greater Scaup		5,100	6,385		10,874	3,197
Goldeneyes		1,438	984		1,773	451
Canvasback			1,151		1,491	1,244
Long-tailed ducks		1,360	2,188		2,288	1,333
White-winged Scoters		2,205	2,119		3,074	802
Black Scoters		4,869	6,782		5,509	4,508
Surf Scoters		687	434		66	1,297
Common Eiders		508	429		415	108
King Eiders		8,049	7,343		6,165	3,195
Spectacled Eiders		25	39		62	20
Steller's Eiders		11	28		71	53
Common Mergansers		70	147		343	47
Red-breasted Mergansers		258	200		150	24
TOTAL DUCKS		41,107	47,835		53,691	43,730
Ptarmigan (non-migratory)		16,594	19,023		8,362	17,837
Spruce Grouse (non-migratory)		149		116	519	
OTHER BIRDS	Yellow-billed Loons	21	183		4	12
	Red-throated Loons	38	29		43	52
	Common Loons	87	272		168	70
	Arctic Loons	350	278		126	98
	Common Murres	57	117		0	71
	Cormorant		90		4	0
	Guillemot		2		0	0
	Golden Plover		90		123	53
	Small shorebirds	76	402		386	12
	Godwit		1,479		1,264	27
	Bristle-thighed Curlew		92		9	0
	Whimbrel		34		154	16
	Large shorebirds	1,714			0	0
	Mew Gulls	188	247		150	0
	Sabines Gulls	1	92		0	0
	Glaucous Gulls	17	246		369	140
	Kittiwake		2		0	0
	Arctic Terns	0	150		26	0
	Puffin		361		0	2
	Other bird		55		43	161
	TOTAL OTHER BIRDS	2,549	4,221		2,868	715
	TOTAL BIRDS (w/o ptarmigan or grouse)	92,727	97,382		103,492	96,488
TOTAL BIRDS (with ptarmigan & grouse)	109,322	116,554		111,971	114,843	

*Standard errors not available for 2004 or 2005.

**Does not include ptarmigan

Table 2. Migratory bird subsistence harvest estimates 2001-2005 with 4-year averages, Yukon-Kuskokwim Delta

		2001*	2002*	2004*	2005*	4-YR AVG	
GEESE	White-fronted Goose	13,904	11,676	15,142	17,003	14,431	
	Cackling Canada Goose	10,226	13,442	9,781	14,410	11,965	
	Emperor Goose	1,078	1,250	1,689	631	1,162	
	Black Brant	5,768	4,790	3,759	3,895	4,553	
	Lesser Canada Goose	8,349	6,300	5,534	7,128	6,828	
	Lesser Snow Goose	3,072	1,871	1,388	1,945	2,069	
	TOTAL GEESE	42,397	39,329	37,293	45,012	41,008	
	Tundra Swan	3,775	3,349	6,451	4,575	4,538	
	Sandhill Crane	2,899	2,648	3,184	2,456	2,797	
	DUCKS	Pintail	5,573	7,807	8,588	9,912	7,970
Mallard		4,711	4,815	8,188	7,752	6,367	
Unidentified ducks		2,407	1,145	180	107	960	
Wigeon		1,611	2,255	1,444	3,665	2,244	
Shoveler		833	1,693	1,506	3,056	1,772	
Canvasback**			1,151	1,492	1,244	1,296	
Green-winged Teal		1,204	1,454	1,159	2,798	1,654	
Bufflehead		41	332	241	114	182	
Harlequin		147	104	108	51	103	
Greater Scaup		5,101	6,385	10,873	3,197	6,389	
Goldeneyes		1,437	984	1,774	452	1,162	
Long-tailed Duck		1,361	2,188	2,288	1,333	1,793	
White-winged Scoter		2,205	2,119	3,074	802	2,050	
Black Scoter		4,868	6,782	5,509	4,508	5,417	
Surf Scoter		686	434	66	1,296	621	
Common Eider		509	429	415	108	365	
King Eider		8,048	7,343	6,164	3,195	6,188	
Spectacled Eider		25	39	63	20	37	
Steller's Eider		11	28	70	52	40	
Common Merganser		66	147	343	45	150	
Red-breasted Merganser		258	200	150	24	158	
TOTAL DUCKS		41,102	47,834	53,695	43,731	46,914	
		Ptarmigan (non-migratory)	16,594	19,023	8,363	17,837	15,454
		Spruce Grouse**		149	116	520	262
OTHER BIRDS		Yellow-billed Loon	21	183	4	12	55
		Red-throated Loon	38	29	43	52	41
	Common Loon	87	272	169	70	150	
	Pacific Loon	350	278	127	98	213	
	Auklets**		0	0	0	0	
	Common Murre	57	117	0	71	61	
	Cormorants**		90	4	0	31	
	Kittiwakes**		2	0	0	1	
	Guillemots**		2	0	0	1	
	Mew Gull	188	247	150	0	146	
	Sabine's Gull	1	92	0	0	23	
	Glaucous Gull	16	246	370	140	193	
	Arctic Tern	0	150	26	0	44	
	Puffins**		361	0	2	121	
	Bristle-thighed curlew**		92	9	0	34	
	Godwits**		1,479	1,264	26	923	
	Whimbrel**		34	154	17	68	
	Golden Plover**		90	123	53	89	
	Small shorebirds	77	402	385	12	219	
	Large shorebirds	1,713				1,713	
	Other Unknown Birds**	0	55	43	161	65	
	TOTAL OTHER BIRDS	2,548	4,221	2,871	714	4,190	
	TOTAL (w/o Ptarm/Grouse)	92,721	97,381	103,494	96,488	99,447	
	TOTAL (w/ Ptarm/Grouse)	109,315	116,553	111,973	114,845	115,162	

*Activity stratification and a new estimation method employed for first time in 2001

**New birds added, 2002

Table 3. Egg subsistence harvest estimates Yukon-Kuskokwim Delta 1985-2005

(Standard errors are in italics and located to the right of estimates.)

	1985	1986	1987	1989	1990
GOOSE EGGS					
White-fronted Geese	15 12	100 135	110 56	1,004 893	722 355
Cackling Canada Geese	42 46	48 46	194 172	244 154	509 173
Emperor Geese	52 31	14 10	43 36	518 692	229 125
Black Brant	42 46	89 65	67 67	278 183	329 215
Lesser Canada Geese	184 160	1,374 1,114	143 132	681 725	442 244
Lesser Snow Geese	0 0	0 0	0 0	0 0	0 0
TOTAL GOOSE EGGS	335 176	1,625 1,125	557 236	2,725 1,364	2,231 527
TUNDRA SWAN EGGS	185 90	505 227	266 212	1,367 1,187	953 207
SANDHILL CRANE EGGS	247 205	677 317	158 82	692 420	874 488
DUCK EGGS					
Pintails	848 353	85 43	500 279	558 385	697 192
Mallards	335 200	908 434	184 166	3,332 4,391	692 352
Unidentified ducks	42 29	249 87	192 109	158 83	107 59
Wigeons	23 20	0 0	81 65	155 131	52 30
Shovelers	104 72	28 20	17 20	231 344	46 37
Green-winged Teals	394 196	45 30	246 167	219 154	197 81
Buffleheads	0 0	0 0	0 0	0 0	0 0
Harlequins	16 14	40 30	28 28	0 0	0 0
Greater Scaup	100 56	715 531	51 41	97 80	0 0
Goldeneyes	0 0	0 0	0 0	112 72	0 0
Canvasback					
Long-tailed ducks	75 62	69 35	15 18	437 615	148 145
White-winged Scoters	0 0	0 0	0 0	0 0	0 0
Black Scoters	0 0	403 310	0 0	110 171	0 0
Surf Scoters	32 36	0 0	0 0	0 0	22 24
Common Eiders	0 0	0 0	0 0	30 40	15 15
King Eiders	0 0	0 0	31 35	64 73	14 15
Spectacled Eiders	71 71	4 4	35 40	0 0	23 24
Steller's Eiders	0 0	* *	no survey *	*	*
Common Mergansers	6 5	0 0	0 0	0 0	0 0
Red-breasted Mergansers	0 0	0 0	0 0	0 0	0 0
TOTAL DUCK EGGS	2,046 472	2,545 761	1,380 394	5,503 4,475	2,013 442
PTARMIGAN EGGS	* *	117 65	551 336	337 121	957 395
SPRUCE GROUSE EGGS					
OTHER BIRD EGGS					
Yellow-billed Loons	0 0	8 7	11 14	9 7	0 0
Red-throated Loons	0 0	99 91	0 0	5 6	0 0
Common Loons	97 66	223 128	12 11	141 100	67 36
Arctic Loons	12 10	30 22	27 31	9 7	0 0
Pacific Loon					
Common Murres	0 0	0 0	12 8	0 0	0 0
Cormorant					
Guillemot					
Golden Plover					
Small Shorebirds	496 239	174 123	705 515	738 264	233 141
Godwit					
Bristle-thighed Curlew					
Whimbrel					
Large Shorebirds	* *	0 0	11 8	5 4	4 4
Mew Gulls	0 207	253 128	7 6	17 14	33 10
Sabines Gulls	86 58	229 104	44 33	56 28	707 531
Glaucous Gulls	142 729	648 338	420 447	765 921	4,292 3,592
Kittiwake					
Arctic Terns	224 155	141 82	31 21	51 38	721 464
Puffin					
Other bird					
TOTAL OTHER BIRD EGGS	2,336 814	1,805 434	1,280 684	1,796 965	6,057 3,663
TOTAL EGGS (w/o ptarmigan)	5,149 984	7,157 1,478	3,641 855	12,083 4,939	12,128 3,765
TOTAL EGGS (w/ptarmigan)	5,149 984	7,274 1,480	4,192 919	12,420 4,941	13,085 3,786

*Standard errors not available for 2004 or 2005.

Table 3 (cont.) Egg subsistence harvest estimates Yukon-Kuskokwim Delta 1985-2005

(Standard errors are in italics and located to the right of estimates.)

	1991	1992	1993	1994	1995
GOOSE EGGS					
White-fronted Geese	257 63	478 229	598 204	667 280	848 232
Cackling Canada Geese	616 195	202 121	375 106	1,005 371	845 212
Emperor Geese	40 26	132 61	411 193	351 135	408 132
Black Brant	0 0	81 53	176 90	801 365	524 180
Lesser Canada Geese	728 315	941 409	681 206	763 428	816 167
Lesser Snow Geese	4 4	19 19	0 0	0 0	0 0
TOTAL GOOSE EGGS	1,645 377	1,853 491	2,241 375	3,587 742	3,441 420
TUNDRA SWAN EGGS	564 207	567 221	961 297	293 110	856 207
SANDHILL CRANE EGGS	721 211	359 120	467 156	276 74	460 124
DUCK EGGS					
Pintails	898 324	852 294	1,100 448	705 191	649 162
Mallards	141 68	361 140	612 379	321 165	409 164
Unidentified ducks	208 116	190 43	373 138	301 103	1,140 418
Wigeons	74 71	60 111	121 77	199 143	54 29
Shovelers	0 0	0 0	65 95	0 0	17 13
Green-winged Teals	42 22	53 25	147 85	50 33	33 20
Buffleheads	0 0	35 26	46 68	0 0	0 0
Harlequins	0 0	0 0	0 0	0 0	0 0
Greater Scaup	40 44	0 0	0 0	119 120	0 0
Goldeneyes	0 0	0 0	0 0	0 0	0 0
Canvasback					
Long-tailed ducks	126 30	24 28	70 95	137 86	154 78
White-winged Scoters	0 0	0 0	0 0	0 0	11 9
Black Scoters	0 0	30 21	0 0	0 0	127 70
Surf Scoters	0 0	0 0	0 0	0 0	59 37
Common Eiders	0 0	12 14	33 25	30 38	64 58
King Eiders	56 29	0 0	29 27	0 0	0 0
Spectacled Eiders	0 0	0 0	0 0	0 0	0 0
Steller's Eiders	0 0	0 0	0 0	0 0	0 0
Common Mergansers	0 0	18 18	0 0	0 0	0 0
Red-breasted Mergansers	0 0	98 98	6 7	0 0	0 0
TOTAL DUCK EGGS	1,585 364	1,733 364	2,602 633	1,862 345	2,717 495
PTARMIGAN EGGS	1,609 821	769 261	1,694 719	532 206	559 233
SPRUCE GROUSE EGGS					
OTHER BIRD EGGS					
Yellow-billed Loons	0 0	19 20	37 32	0 0	0 207
Red-throated Loons	40 12	0 0	12 14	0 0	0 124
Common Loons	48 15	136 79	263 125	11 6	29 0
Arctic Loons	4 5	16 12	0 0	0 0	0 0
Pacific Loon					
Common Murres	0 0	0 0	204 185	0 16	0 0
Cormorant					
Guillemot					
Golden Plover					
Small Shorebirds	129 29	152 100	1,286 595	1,994 758	1,418 411
Godwit					
Bristle-thighed Curlew					
Whimbrel					
Large Shorebirds	0 0	39 37	115 59	174 66	120 51
Mew Gulls	82 67	209 107	1,338 1,504	1,004 785	364 156
Sabines Gulls	297 200	184 154	277 155	145 114	33 18
Glaucous Gulls	1,766 655	443 185	797 344	845 429	1,031 278
Kittiwake					
Arctic Terns	44 32	64 47	597 246	362 176	647 274
Puffin					
Other bird					
TOTAL OTHER BIRD EGGS	2,410 690	1,262 300	4,926 1,695	4,535 1,193	3,642 638
TOTAL EGGS (w/o ptarmigan)	6,925 915	5,774 726	11,197 1,878	10,553 1,453	11,116 942
TOTAL EGGS (w/ptarmigan)	8,534 1,229	6,543 772	12,891 2,011	11,085 1,467	11,675 970

*Standard errors not available for 2004 or 2005.

Table 3 (cont.) Egg subsistence harvest estimates Yukon-Kuskokwim Delta 1985-2005

(Standard errors are in italics and located to the right of estimates.)

	1996	1997	1998	1999	2000
GOOSE EGGS					
White-fronted Geese	454 <i>110</i>	635 <i>112</i>	1,730 <i>367</i>	1,514 <i>336</i>	3,634 <i>945</i>
Cackling Canada Geese	793 <i>182</i>	1,068 <i>162</i>	2,984 <i>494</i>	983 <i>177</i>	4,885 <i>1,834</i>
Emperor Geese	488 <i>143</i>	284 <i>65</i>	448 <i>76</i>	267 <i>142</i>	154 <i>58</i>
Black Brant	622 <i>151</i>	630 <i>140</i>	1,063 <i>204</i>	460 <i>168</i>	1,297 <i>741</i>
Lesser Canada Geese	762 <i>243</i>	792 <i>138</i>	1,766 <i>316</i>	1,731 <i>361</i>	1,590 <i>530</i>
Lesser Snow Geese	5 <i>4</i>	0 <i>0</i>	0 <i>0</i>	19 <i>19</i>	0 <i>0</i>
TOTAL GOOSE EGGS	3,124 <i>384</i>	3,409 <i>286</i>	7,991 <i>725</i>	4,974 <i>569</i>	11,560 <i>2,256</i>
TUNDRA SWAN EGGS	565 <i>154</i>	531 <i>97</i>	1,379 <i>288</i>	766 <i>180</i>	728 <i>176</i>
SANDHILL CRANE EGGS	373 <i>84</i>	326 <i>55</i>	920 <i>152</i>	376 <i>92</i>	582 <i>107</i>
DUCK EGGS					
Pintails	611 <i>181</i>	291 <i>103</i>	1,358 <i>304</i>	573 <i>162</i>	1,770 <i>532</i>
Mallards	272 <i>134</i>	175 <i>39</i>	609 <i>128</i>	236 <i>115</i>	650 <i>205</i>
Unidentified ducks	756 <i>202</i>	260 <i>77</i>	582 <i>134</i>	85 <i>33</i>	364 <i>149</i>
Wigeons	59 <i>32</i>	37 <i>21</i>	73 <i>49</i>	23 <i>21</i>	317 <i>165</i>
Shovelers	0 <i>0</i>	0 <i>27</i>	170 <i>79</i>	0 <i>0</i>	149 <i>72</i>
Green-winged Teals	88 <i>45</i>	58 <i>0</i>	276 <i>86</i>	129 <i>46</i>	307 <i>139</i>
Buffleheads	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	19 <i>22</i>
Harlequins	3 <i>4</i>	0 <i>0</i>	0 <i>0</i>	38 <i>30</i>	0 <i>0</i>
Greater Scaup	79 <i>86</i>	0 <i>0</i>	140 <i>78</i>	154 <i>95</i>	31 <i>30</i>
Goldeneyes	30 <i>33</i>	0 <i>0</i>	148 <i>98</i>	144 <i>123</i>	22 <i>20</i>
Canvasback					
Long-tailed ducks	158 <i>59</i>	30 <i>17</i>	162 <i>83</i>	273 <i>145</i>	112 <i>72</i>
White-winged Scoters	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	36 <i>31</i>	29 <i>31</i>
Black Scoters	0 <i>0</i>	0 <i>0</i>	105 <i>81</i>	48 <i>27</i>	0 <i>0</i>
Surf Scoters	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	161 <i>179</i>
Common Eiders	27 <i>17</i>	0 <i>0</i>	144 <i>46</i>	3 <i>2</i>	29 <i>25</i>
King Eiders	20 <i>15</i>	2 <i>2</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>
Spectacled Eiders	0 <i>0</i>	0 <i>0</i>	67 <i>39</i>	0 <i>0</i>	0 <i>0</i>
Steller's Eiders	0 <i>0</i>	0 <i>0</i>	11 <i>8</i>	0 <i>0</i>	0 <i>0</i>
Common Mergansers	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>
Red-breasted Mergansers	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>
TOTAL DUCK EGGS	2,103 <i>327</i>	853 <i>140</i>	3,845 <i>419</i>	1,742 <i>301</i>	3,960 <i>1,641</i>
PTARMIGAN EGGS	994 <i>338</i>	729 <i>200</i>	1,933 <i>335</i>	1,027 <i>344</i>	1,244 <i>348</i>
SPRUCE GROUSE EGGS					
OTHER BIRD EGGS					
Yellow-billed Loons	10 <i>6</i>	9 <i>4</i>	38 <i>22</i>	19 <i>14</i>	10 <i>8</i>
Red-throated Loons	8 <i>6</i>	0 <i>0</i>	32 <i>15</i>	0 <i>0</i>	21 <i>15</i>
Common Loons	59 <i>20</i>	0 <i>0</i>	109 <i>38</i>	49 <i>28</i>	117 <i>56</i>
Arctic Loons	10 <i>6</i>	0 <i>0</i>	0 <i>0</i>	3 <i>2</i>	19 <i>19</i>
Pacific Loon					
Common Murres	1,740 <i>1,271</i>	0 <i>0</i>	0 <i>0</i>	0 <i>0</i>	7 <i>6</i>
Cormorant					
Guillemot					
Golden Plover					
Small Shorebirds	2,169 <i>657</i>	680 <i>158</i>	1,153 <i>189</i>	431 <i>224</i>	1,493 <i>572</i>
Godwit					
Bristle-thighed Curlew					
Whimbrel					
Large Shorebirds	245 <i>104</i>	92 <i>21</i>	220 <i>54</i>	54 <i>30</i>	192 <i>95</i>
Mew Gulls	347 <i>148</i>	107 <i>65</i>	695 <i>152</i>	613 <i>308</i>	315 <i>146</i>
Sabines Gulls	408 <i>205</i>	242 <i>114</i>	791 <i>142</i>	85 <i>51</i>	502 <i>369</i>
Glaucous Gulls	914 <i>322</i>	564 <i>134</i>	1,958 <i>297</i>	1,831 <i>901</i>	3,364 <i>914</i>
Kittiwake					
Arctic Terns	442 <i>198</i>	27 <i>14</i>	769 <i>182</i>	168 <i>79</i>	233 <i>71</i>
Puffin					
Other bird					
TOTAL OTHER BIRD EGGS	6,352 <i>1,505</i>	1,721 <i>247</i>	5,765 <i>453</i>	3,253 <i>984</i>	6,273 <i>2,271</i>
TOTAL EGGS (w/o ptarmigan)	12,517 <i>1,597</i>	6,840 <i>418</i>	19,900 <i>1,007</i>	11,111 <i>1,193</i>	23,103 <i>3,603</i>
TOTAL EGGS (w/ptarmigan)	13,511 <i>1,632</i>	7,569 <i>463</i>	21,833 <i>1,061</i>	12,138 <i>1,241</i>	24,347 <i>3,620</i>

*Standard errors not available for 2004 or 2005.

Table 3 (cont.) Egg subsistence harvest estimates Yukon-Kuskokwim Delta 1985-2005

(Standard errors are in italics and located to the right of estimates.)

		2001	2002	2003	2004	2005
GOOSE EGGS	White-fronted Geese	1,603 <i>380</i>	3,372 <i>578</i>	No survey	6,206	3,058
	Cackling Canada Geese	2,349 <i>610</i>	3,350 <i>527</i>		3,770	2,518
	Emperor Geese	89 <i>56</i>	235 <i>107</i>		361	104
	Black Brant	1,217 <i>440</i>	1,267 <i>351</i>		1,835	189
	Lesser Canada Geese	1,387 <i>362</i>	1,381 <i>258</i>		2,611	2,554
	Lesser Snow Geese	27 <i>27</i>	53 <i>37</i>		32	0
	TOTAL GOOSE EGGS	6,672 <i>921</i>	9,658 <i>904</i>		14,815	8,424
	TUNDRA SWAN EGGS	571 <i>231</i>	735 <i>131</i>		1,903	1,041
	SANDHILL CRANE EGGS	404 <i>111</i>	641 <i>119</i>		657	816
DUCK EGGS	Pintails	708 <i>242</i>	2,558 <i>523</i>		954	1,606
	Mallards	520 <i>155</i>	836 <i>223</i>		538	612
	Unidentified ducks	532 <i>251</i>	371 <i>115</i>		67	0
	Wigeons	51 <i>33</i>	26 <i>19</i>		0	57
	Shovelers	0 <i>0</i>	82 <i>35</i>		199	433
	Green-winged Teals	188 <i>115</i>	353 <i>122</i>		368	333
	Buffleheads	0 <i>0</i>	0 <i>0</i>		0	13
	Harlequins	0 <i>0</i>	13 <i>13</i>		0	0
	Greater Scaup	221 <i>117</i>	461 <i>291</i>		124	25
	Goldeneyes	11 <i>11</i>	11 <i>11</i>		0	0
	Canvasback		16 <i>16</i>		13	0
	Long-tailed ducks	22 <i>22</i>	58 <i>33</i>		58	0
	White-winged Scoters	0 <i>0</i>	0 <i>0</i>		12	0
	Black Scoters	7 <i>7</i>	0 <i>0</i>		9	19
	Surf Scoters	0 <i>0</i>	7 <i>7</i>		0	0
	Common Eiders	0 <i>0</i>	320 <i>289</i>		10	0
	King Eiders	0 <i>0</i>	15 <i>15</i>		0	0
	Spectacled Eiders	0 <i>0</i>	0 <i>0</i>		0	0
	Steller's Eiders	0 <i>0</i>	122 <i>89</i>		0	0
	Common Mergansers	0 <i>0</i>	17 <i>12</i>		0	0
	Red-breasted Mergansers	0 <i>0</i>	2 <i>2</i>		0	0
	TOTAL DUCK EGGS	2,260 <i>420</i>	5,268 <i>736</i>		2,351	3,097
	PTARMIGAN EGGS	1,111 <i>421</i>	2,204 <i>1,489</i>		520	402
	SPRUCE GROUSE EGGS		66 <i>50</i>		0	0
OTHER BIRD EGGS	Yellow-billed Loons	5 <i>5</i>	6 <i>6</i>		38	6
	Red-throated Loons	0 <i>0</i>	22 <i>11</i>		15	62
	Common Loons	93 <i>39</i>	110 <i>34</i>		37	29
	Arctic Loons	20 <i>14</i>			0	0
	Pacific Loon		172 <i>95</i>		35	154
	Common Murres	10 <i>10</i>	26 <i>19</i>		0	926
	Cormorant				0	0
	Guillemot				0	0
	Golden Plover		102 <i>44</i>		110	191
	Small Shorebirds	901 <i>262</i>	846 <i>209</i>		436	797
	Godwit		89 <i>39</i>		0	87
	Bristle-thighed Curlew		54 <i>38</i>		0	46
	Whimbrel		36 <i>17</i>		16	24
	Large Shorebirds	186 <i>79</i>			0	0
	Mew Gulls	315 <i>90</i>	4,059 <i>449</i>		2,647	2,523
	Sabines Gulls	1,092 <i>517</i>	457 <i>106</i>		7	71
	Glaucous Gulls	3,207 <i>481</i>	4,251 <i>800</i>		1,699	1,151
	Kittiwake		61 <i>35</i>		0	66
	Arctic Terns	468 <i>182</i>	807 <i>142</i>		522	366
	Puffin		13 <i>13</i>		0	0
	Other bird		42 <i>41</i>		17	7
	TOTAL OTHER BIRD EGGS	6,298 <i>871</i>	11,152 <i>1,109</i>		5,582	6,504
	TOTAL EGGS (w/o ptarmigan)	16,205 <i>1,422</i>	27,453 <i>1,688</i>		25,308	19,883
	TOTAL EGGS (w/ptarmigan)	17,316 <i>1,483</i>	29,722 <i>2,251</i>		25,828	20,285

*Standard errors not available for 2004 or 2005.

Table 4 Egg subsistence estimates 2001-2005 with 4-year averages, Yukon-Kuskokwim Delta

	2001*	2002*	2004*	2005*	4-YR AVG
GOOSE EGGS					
White-fronted Goose	1,603	3,372	6,206	3,059	3,560
Cackling Canada Goose	2,349	3,350	3,770	2,518	2,997
Emperor Goose	89	235	361	104	197
Black Brant	1,217	1,267	1,835	189	1,127
Lesser Canada Goose	1,387	1,381	2,610	2,553	1,983
Lesser Snow Goose	27	53	32	0	28
TOTAL GOOSE EGGS	6,672	9,658	14,814	8,423	9,892
Tundra Swan Eggs	571	735	1,903	1,041	1,063
Sandhill Crane Eggs	404	641	657	816	630
DUCK EGGS					
Pintail	708	2,558	954	1,606	1,457
Mallard	520	836	538	612	627
Unidentified ducks	532	371	67	0	243
Wigeon	51	26	0	57	34
Shoveler	0	82	199	433	179
Canvasback**		16	13	0	10
Green-winged Teal	188	353	367	332	310
Bufflehead	0	0	0	13	3
Harlequin	0	13	0	0	3
Greater Scaup	221	461	124	25	208
Goldeneyes	11	11	0	0	6
Long-tailed Duck	22	58	58	0	35
White-winged Scoter	0	0	12	0	3
Black Scoter	7	0	9	19	9
Surf Scoter	0	7	0	0	2
Common Eider	0	320	10	0	83
King Eider	0	15	0	0	4
Spectacled Eider	0	0	0	0	0
Steller's Eider	0	122	0	0	31
Common Merganser	0	17	0	0	4
Red-breasted Merganser	0	2	0	0	1
TOTAL DUCK EGGS	2,260	5,268	2,351	3,097	3,246
Ptarmigan Eggs	1,111	2,204	520	402	1,059
Spruce Grouse Eggs		66	0	0	22
OTHER BIRD EGGS					
Yellow-billed Loon	5	6	38	6	14
Red-throated Loon	0	22	15	62	25
Common Loon	93	110	37	29	67
Pacific Loon	20	172	35	154	95
Auklets**		0	0	0	0
Common Murre	10	26	0	926	241
Cormorants**		0	0	0	0
Kittiwakes**		61	0	66	42
Guillemots**		0	0	0	0
Mew Gull	315	4,059	2,647	2,523	2,386
Sabine's Gull	1,092	457	7	70	407
Glaucous Gull	3,207	4,251	1,699	1,151	2,577
Arctic Tern	468	807	524	367	542
Puffins**		13	0	0	4
Bristle-thighed curlew**		54	0	46	33
Godwits**		89	0	87	59
Whimbrel**		36	16	24	25
Golden Plover**		102	110	191	134
Small shorebirds	901	846	435	798	745
Large shorebirds	186				186
Other Unknown Birds**	140	42	17	7	52
TOTAL OTHER BIRD EGGS	6,437	11,153	5,580	6,507	7,633
TOTAL EGGS (w/o Ptarm/Grouse)	16,344	27,455	25,305	19,884	22,464
TOTAL EGGS(w/ Ptarm/Grouse)	17,455	29,725	25,825	20,286	23,545

* Activity stratification and a new estimation method employed for first time in 2001.

**New birds added 2002.

Table 5. Subsistence migratory bird harvest survey villages, Yukon-Kuskokwim Delta 1985-2005.

Target number of villages to survey in each sub-region noted in top row of each sub-region. An **X** indicates the village was surveyed during that year. An **O** indicates the village was selected but either did not agree to participate in the survey or no surveyor could be found or retained. A blank indicates the village was not selected to participate in the survey. No surveys were conducted in 1988 or in 2003.

REGION	VILLAGES	1985	1986	1987	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002*	2004	2005		
South Coast	Target # villages:	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	3	5	4	3	
	Eek	X	O	O	X	X	O	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
	Kipnuk		O	O	O	O	O	O	X	O	O	O	O		O	X	X	X	X	X	X	
	Kongiganak		O	O	O	O	O	O	O	O	O	O	O		O		O	X			X	
	Kwigillingok	X	O	O	O	O	O	O	O	O	O				O		O	O	O	O	O	
	Tuntutullak		X	X	X	X		X	X	O	O	X	X		X	X	X	X	X	X	X	
	Target # villages:	5	5	5	5	5	5	6	6	6	6	6	6	6	6	6	6	6	9	6	6	
	Chefornak	X				O	X	O	O	O	O	X	X	X	X	X	X	X	X	X	X	
	Chevak	X			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
	Hooper Bay				X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
Mekoryuk					O	O	O	X	O		X	X	X	X	X	X	X	X	O	X		
Newtok				O	O	O	O	X	O		X	X	X	X	X			O			X	
Nightmute			X		O	O	X		O		O	X	X		X	X	X	X	X		X	
Scammon Bay	X	X	X	X	X	X	X	X	O	O	X	X	X	X	X	X	X	X	X		X	
Toksook Bay	X	X	O	O	O	X	X	X	X	O	X	X	X	X	X	X	X	X	X	X	X	
Tununak		X	X	X	O	O	X	O	O	O	O		X	X	X	X	X	X	X	X	X	
Target # villages:	2	2	2	3	3	3	3	3	3	3	3	3	3	3	3	3	3	4	2	3		
Alakanuk				O	X	X	X	X	X	X	X		X	X	X	X	X	X	X		X	
Emmonak	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X		X	
Kotik	X	X	X	X		X	X	X	X	X	X	X	X	X	X	X	X	X		X	X	
Nunam Iqua					X				O	O	X	X	X	X			X				X	

Table 5 (cont). Subsistence migratory bird harvest survey villages, Yukon-Kuskokwim Delta 1985-2005.

REGION	VILLAGES	1985	1986	1987	1989	1990	1991	1992	1993	1994	1995	1996	1997	1998	1999	2000	2001	2002*	2004	2005		
Kuskokwim	Target # villages:	6	6	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	7	9	9	
	Akiak			O				O	O						O				O		X	
	Akiachak			O		X		X	X	X	X	X	X	X	X	X	X	O	X		X	
	Aniak	X		X	X	X	X	X	X	X	O	X	X	X	X	X	X	X	O	X	X	
	Atmautiuk																				O	
	Kasigluk		O	O		O		X							O				X	X	X	
	Kwethluk		X	X			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
	Lower Kalskag						X	X			X	X	X	X	X	X	X	X	X	X		
	Nabakiak			X		X	X	X	X	X	X	X	X	X	X	X	X	X	O	X	O	
	Nabaskiak			X			X		X	O		O	O	O		X		X	O	O	X	
	Nunapitchuk	X			X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	
	Oscarville	X	X	X	X	X	O		X	X	X	X			X		X			X		
	Tuluksak	X	X	X	X	X	X	O	X			X			X		X		X	X	X	
	Upper Kalskag	X				X	X	O	O	O			X				X		X	X	X	
	Yukon River	Target # villages:	4	4	5	4	4	4	4	4	4	4	4	4	4	4	4	4	4	6	4	4
		Marshall	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X
Mountain Village		X	X	X	X		X			X		X				X			O	O	X	
Pilot Station					X	X		X					X	X	X				X		X	
Pitka's Point			X	X	X				X			O	X	X	X	X	X	X	X		X	
Russian Mission		X		X	X		X	X	X	X	X	X	X	X	X	X	X	X	X		X	
Saint Mary's			X	X			X	X	X	O	X	X	X	X	X	X	X	X	X	O	X	
Target # villages:		1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	1	
Bethel	Bethel	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	X	

* In 2002 every village was asked to participate in the survey.

Appendix A. Survey forms and other OMB forms

SUBSISTENCE HOUSEHOLD SURVEY

SPRING (APRIL 1 - JUNE 30)

PLEASE WRITE TOTAL NUMBER OF BIRDS CAUGHT AND EGGS GATHERED.

<p>Tundra Swan birds _____ eggs _____</p> 	<p>Sandhill Crane birds _____ eggs _____</p> 	<p>White-fronted Goose birds _____ eggs _____</p> 	<p>Lesser Canada Goose birds _____ eggs _____</p> 
<p>Cackling Canada Goose birds _____ eggs _____</p> 	<p>Lesser Snow Goose birds _____ eggs _____</p> 	<p>Emperor Goose birds _____ eggs _____</p> 	<p>Black Brant birds _____ eggs _____</p> 
<p>Pintail birds _____ eggs _____</p> 	<p>Mallard birds _____ eggs _____</p> 	<p>Wigeon birds _____ eggs _____</p> 	<p>Shoveler birds _____ eggs _____</p> 
<p>Green-winged Teal birds _____ eggs _____</p> 	<p>Scaup birds _____ eggs _____</p> 	<p>Canvasback birds _____ eggs _____</p> 	<p>Bufflehead birds _____ eggs _____</p> 
<p>Harlequin birds _____ eggs _____</p> 	<p>Goldeneye birds _____ eggs _____</p> 	<p>Long-tailed duck birds _____ eggs _____</p> 	<p>White-winged Scoter birds _____ eggs _____</p> 
<p>Black Scoter birds _____ eggs _____</p> 	<p>Surf Scoter birds _____ eggs _____</p> 	<p>Common Merganser birds _____ eggs _____</p> 	<p>Red-breasted Merganser birds _____ eggs _____</p> 
<p>Common Eider birds _____ eggs _____</p> 	<p>King Eider birds _____ eggs _____</p> 	<p>Spectacled Eider birds _____ eggs _____</p> 	<p>Steller's Eider birds _____ eggs _____</p> 

VH Code: _____

SUBSISTENCE HOUSEHOLD SURVEY

SPRING (APRIL 1 - JUNE 30)

PLEASE WRITE TOTAL NUMBER OF BIRDS CAUGHT AND EGGS GATHERED.

Yellow-billed Loon
birds _____
eggs _____



Red-throated Loon
birds _____
eggs _____



Common Loon
birds _____
eggs _____



Pacific Loon
birds _____
eggs _____



Auklet
birds _____
eggs _____



Murre
birds _____
eggs _____



Cormorant
birds _____
eggs _____



Kittiwake
birds _____
eggs _____



Guillemot
birds _____
eggs _____



Mew Gull
birds _____
eggs _____



Sabine's Gull
birds _____
eggs _____



Glaucous Gull
birds _____
eggs _____



Arctic Tern
birds _____
eggs _____



Puffin
birds _____
eggs _____



Bristle-thighed Curlew
birds _____
eggs _____



Godwit
birds _____
eggs _____



Whimbrel
birds _____
eggs _____



Golden Plover
birds _____
eggs _____



Small Shorebird
birds _____
eggs _____



Unidentified Duck
birds _____
eggs _____



Ptarmigan (non-migratory)
birds _____
eggs _____



Spruce Grouse (non-migratory)
birds _____
eggs _____



Other Bird _____
birds _____
eggs _____



Surveyor Notes _____
Date of Pick-up: _____

Comments: _____

VH Code: _____

FORM 7-FW-103
OMB NO. 1018-0124
APPROVAL EXPIRES 01/31/10

FORM 7-FW-103

SUBSISTENCE HOUSEHOLD SURVEY

SUMMER (JULY 1 - AUG. 31)

PLEASE WRITE TOTAL NUMBER OF BIRDS CAUGHT AND EGGS GATHERED.

<p>Tundra Swan birds _____ eggs _____</p> 	<p>Sandhill Crane birds _____ eggs _____</p> 	<p>White-fronted Goose birds _____ eggs _____</p> 	<p>Lesser Canada Goose birds _____ eggs _____</p> 
<p>Cackling Canada Goose birds _____ eggs _____</p> 	<p>Lesser Snow Goose birds _____ eggs _____</p> 	<p>Emperor Goose birds _____ eggs _____</p> 	<p>Black Brant birds _____ eggs _____</p> 
<p>Pintail birds _____ eggs _____</p> 	<p>Mallard birds _____ eggs _____</p> 	<p>Wigeon birds _____ eggs _____</p> 	<p>Shoveler birds _____ eggs _____</p> 
<p>Green-winged Teal birds _____ eggs _____</p> 	<p>Scaup birds _____ eggs _____</p> 	<p>Canvasback birds _____ eggs _____</p> 	<p>Bufflehead birds _____ eggs _____</p> 
<p>Harlequin birds _____ eggs _____</p> 	<p>Goldeneye birds _____ eggs _____</p> 	<p>Long-tailed duck birds _____ eggs _____</p> 	<p>White-winged Scoter birds _____ eggs _____</p> 
<p>Black Scoter birds _____ eggs _____</p> 	<p>Surf Scoter birds _____ eggs _____</p> 	<p>Common Merganser birds _____ eggs _____</p> 	<p>Red-breasted Merganser birds _____ eggs _____</p> 
<p>Common Eider birds _____ eggs _____</p> 	<p>King Eider birds _____ eggs _____</p> 	<p>Spectacled Eider birds _____ eggs _____</p> 	<p>Steller's Eider birds _____ eggs _____</p> 

VH Code: _____

SUBSISTENCE HOUSEHOLD SURVEY

SUMMER (JULY 1 - AUG. 31)

PLEASE WRITE TOTAL NUMBER OF BIRDS CAUGHT AND EGGS GATHERED.

Yellow-billed Loon
birds _____
eggs _____



Red-throated Loon
birds _____
eggs _____



Common Loon
birds _____
eggs _____



Pacific Loon
birds _____
eggs _____



Auklet
birds _____
eggs _____



Murre
birds _____
eggs _____



Cormorant
birds _____
eggs _____



Kittiwake
birds _____
eggs _____



Guillemot
birds _____
eggs _____



Mew Gull
birds _____
eggs _____



Sabine's Gull
birds _____
eggs _____



Glaucous Gull
birds _____
eggs _____



Arctic Tern
birds _____
eggs _____



Puffin
birds _____
eggs _____



Bristle-thighed Curlew
birds _____
eggs _____



Godwit
birds _____
eggs _____



Whimbrel
birds _____
eggs _____



Golden Plover
birds _____
eggs _____



Small Shorebird
birds _____
eggs _____



Unidentified Duck
birds _____
eggs _____



Ptarmigan (non-migratory)
birds _____
eggs _____



Spruce Grouse (non-migratory)
birds _____
eggs _____



Other Bird _____
birds _____
eggs _____



Surveyor Notes _____

Comments: _____

Date of Pick-up: _____

VH Code: _____

FORM 7-FW-103
OMB NO. 1018-0124
APPROVAL EXPIRES 01/31/10

FORM 7-FW-103.OMG

SUBSISTENCE HOUSEHOLD SURVEY

FALL (SEPT. 1 - OCT. 31)

PLEASE WRITE TOTAL NUMBER OF BIRDS CAUGHT AND EGGS GATHERED.

<p>Tundra Swan birds _____ eggs _____</p> 	<p>Sandhill Crane birds _____ eggs _____</p> 	<p>White-fronted Goose birds _____ eggs _____</p> 	<p>Lesser Canada Goose birds _____ eggs _____</p> 
<p>Cackling Canada Goose birds _____ eggs _____</p> 	<p>Lesser Snow Goose birds _____ eggs _____</p> 	<p>Emperor Goose birds _____ eggs _____</p> 	<p>Black Brant birds _____ eggs _____</p> 
<p>Pintail birds _____ eggs _____</p> 	<p>Mallard birds _____ eggs _____</p> 	<p>Wigeon birds _____ eggs _____</p> 	<p>Shoveler birds _____ eggs _____</p> 
<p>Green-winged Teal birds _____ eggs _____</p> 	<p>Scaup birds _____ eggs _____</p> 	<p>Canvasback birds _____ eggs _____</p> 	<p>Bufflehead birds _____ eggs _____</p> 
<p>Harlequin birds _____ eggs _____</p> 	<p>Goldeneye birds _____ eggs _____</p> 	<p>Long-tailed duck birds _____ eggs _____</p> 	<p>White-winged Scoter birds _____ eggs _____</p> 
<p>Black Scoter birds _____ eggs _____</p> 	<p>Surf Scoter birds _____ eggs _____</p> 	<p>Common Merganser birds _____ eggs _____</p> 	<p>Red-breasted Merganser birds _____ eggs _____</p> 
<p>Common Eider birds _____ eggs _____</p> 	<p>King Eider birds _____ eggs _____</p> 	<p>Spectacled Eider birds _____ eggs _____</p> 	<p>Steller's Eider birds _____ eggs _____</p> 

VH Code:

SUBSISTENCE HOUSEHOLD SURVEY

FALL (SEPT. 1 - OCT. 31)

PLEASE WRITE TOTAL NUMBER OF BIRDS CAUGHT AND EGGS GATHERED.

Yellow-billed Loon
birds _____
eggs _____



Red-throated Loon
birds _____
eggs _____



Common Loon
birds _____
eggs _____



Pacific Loon
birds _____
eggs _____



Auklet
birds _____
eggs _____



Murre
birds _____
eggs _____



Cormorant
birds _____
eggs _____



Kittiwake
birds _____
eggs _____



Guillemot
birds _____
eggs _____



Mew Gull
birds _____
eggs _____



Sabine's Gull
birds _____
eggs _____



Glaucous Gull
birds _____
eggs _____



Arctic Tern
birds _____
eggs _____



Puffin
birds _____
eggs _____



Bristle-thighed Curlew
birds _____
eggs _____



Godwit
birds _____
eggs _____



Whimbrel
birds _____
eggs _____



Golden Plover
birds _____
eggs _____



Small Shorebird
birds _____
eggs _____



Unidentified Duck
birds _____
eggs _____



Ptarmigan (non-migratory)
birds _____
eggs _____



Spruce Grouse (non-migratory)
birds _____
eggs _____



Other Bird _____
birds _____
eggs _____



Surveyor Notes _____ Date of Pick-up: _____ VH Code: _____	Comments: _____
FORM 7-FW-103 OMB NO. 1018-0124 APPROVAL EXPIRES 01/31/10	

SUBSISTENCE HOUSEHOLD SURVEY

SOUTHERN COASTAL ALASKA

SPRING (APRIL 1 - JUNE 30)

PLEASE WRITE TOTAL NUMBER OF BIRDS CAUGHT AND EGGS GATHERED

<p><i>Tundra Swan</i> birds _____ eggs _____</p> 	<p><i>Sandhill Crane</i> birds _____ eggs _____</p> 	<p><i>White-fronted Goose</i> birds _____ eggs _____</p> 	<p><i>Lesser Canada Goose</i> birds _____ eggs _____</p> 
<p><i>Cackling Canada Goose</i> birds _____ eggs _____</p> 	<p><i>Lesser Snow Goose</i> birds _____ eggs _____</p> 	<p><i>Emperor Goose</i> birds _____ eggs _____</p> 	<p><i>Black Brant</i> birds _____ eggs _____</p> 
<p><i>Pintail</i> birds _____ eggs _____</p> 	<p><i>Mallard</i> birds _____ eggs _____</p> 	<p><i>Wigeon</i> birds _____ eggs _____</p> 	<p><i>Shoveler</i> birds _____ eggs _____</p> 
<p><i>Green-winged Teal</i> birds _____ eggs _____</p> 	<p><i>Scaup</i> birds _____ eggs _____</p> 	<p><i>Canvasback</i> birds _____ eggs _____</p> 	<p><i>Bufflehead</i> birds _____ eggs _____</p> 
<p><i>Harlequin</i> birds _____ eggs _____</p> 	<p><i>Goldeneye</i> birds _____ eggs _____</p> 	<p><i>Long-tailed duck</i> birds _____ eggs _____</p> 	<p><i>White-winged Scoter</i> birds _____ eggs _____</p> 
<p><i>Black Scoter</i> birds _____ eggs _____</p> 	<p><i>Surf Scoter</i> birds _____ eggs _____</p> 	<p><i>Common Merganser</i> birds _____ eggs _____</p> 	<p><i>Red-breasted Merganser</i> birds _____ eggs _____</p> 
<p><i>Common Eider</i> birds _____ eggs _____</p> 	<p><i>King Eider</i> birds _____ eggs _____</p> 	<p><i>Spectacled Eider</i> birds _____ eggs _____</p> 	<p><i>Steller's Eider</i> birds _____ eggs _____</p> 

VH Code: _____

SUBSISTENCE HOUSEHOLD SURVEY

SOUTHERN COASTAL ALASKA

SUMMER (JULY 1 - AUG. 31)

PLEASE WRITE TOTAL NUMBER OF BIRDS CAUGHT AND EGGS GATHERED

<p><i>Tundra Swan</i> birds _____ eggs _____</p> 	<p><i>Sandhill Crane</i> birds _____ eggs _____</p> 	<p><i>White-fronted Goose</i> birds _____ eggs _____</p> 	<p><i>Lesser Canada Goose</i> birds _____ eggs _____</p> 
<p><i>Cackling Canada Goose</i> birds _____ eggs _____</p> 	<p><i>Lesser Snow Goose</i> birds _____ eggs _____</p> 	<p><i>Emperor Goose</i> birds _____ eggs _____</p> 	<p><i>Black Brant</i> birds _____ eggs _____</p> 
<p><i>Pintail</i> birds _____ eggs _____</p> 	<p><i>Mallard</i> birds _____ eggs _____</p> 	<p><i>Wigeon</i> birds _____ eggs _____</p> 	<p><i>Shoveler</i> birds _____ eggs _____</p> 
<p><i>Green-winged Teal</i> birds _____ eggs _____</p> 	<p><i>Scaup</i> birds _____ eggs _____</p> 	<p><i>Canvasback</i> birds _____ eggs _____</p> 	<p><i>Bufflehead</i> birds _____ eggs _____</p> 
<p><i>Harlequin</i> birds _____ eggs _____</p> 	<p><i>Goldeneye</i> birds _____ eggs _____</p> 	<p><i>Long-tailed duck</i> birds _____ eggs _____</p> 	<p><i>White-winged Scoter</i> birds _____ eggs _____</p> 
<p><i>Black Scoter</i> birds _____ eggs _____</p> 	<p><i>Surf Scoter</i> birds _____ eggs _____</p> 	<p><i>Common Merganser</i> birds _____ eggs _____</p> 	<p><i>Red-breasted Merganser</i> birds _____ eggs _____</p> 
<p><i>Common Eider</i> birds _____ eggs _____</p> 	<p><i>King Eider</i> birds _____ eggs _____</p> 	<p><i>Spectacled Eider</i> birds _____ eggs _____</p> 	<p><i>Steller's Eider</i> birds _____ eggs _____</p> 

VH Code: _____

SUBSISTENCE HOUSEHOLD SURVEY

SOUTHERN COASTAL ALASKA

SUMMER (JULY 1 - AUG. 31)

PLEASE WRITE TOTAL NUMBER OF BIRDS CAUGHT AND EGGS GATHERED

Yellow-billed Loon
birds _____
eggs _____



Red-throated Loon
birds _____
eggs _____



Common Loon
birds _____
eggs _____



Pacific Loon
birds _____
eggs _____



Auklet
birds _____
eggs _____



Murre
birds _____
eggs _____



Cormorant
birds _____
eggs _____



Guillemot
birds _____
eggs _____



Black-legged Kittiwake
birds _____
eggs _____



Red-legged Kittiwake
birds _____
eggs _____

Herring Gull
birds _____
eggs _____



Glaucous-winged Gull
birds _____
eggs _____



Sabine's Gull
birds _____
eggs _____



Puffin
birds _____
eggs _____

Arctic Tern
birds _____
eggs _____



Black Oystercatcher
birds _____
eggs _____



Godwit
birds _____
eggs _____



Bristle-thighed Curlew
birds _____
eggs _____



Golden Plover
birds _____
eggs _____



Small Shorebird
birds _____
eggs _____



Ptarmigan (non-migratory)
birds _____
eggs _____



Unidentified Duck
birds _____
eggs _____



Other Bird _____
birds _____
eggs _____



<p>Surveyor Notes _____</p> <p>Date of Pick-up: _____</p> <p>VH Code: _____</p>	<p>Comments: _____</p>
<p>FORM 7-FW-103 OMB NO. 1018-0124 APPROVAL EXPIRES 01/31/10</p>	

SUBSISTENCE HOUSEHOLD SURVEY

SOUTHERN COASTAL ALASKA

FALL - WINTER (SEPT. 1 - MARCH 9)

PLEASE WRITE TOTAL NUMBER OF BIRDS CAUGHT AND EGGS GATHERED

Tundra Swan
birds _____
eggs _____



Sandhill Crane
birds _____
eggs _____



White-fronted Goose
birds _____
eggs _____



Lesser Canada Goose
birds _____
eggs _____



Cackling Canada Goose
birds _____
eggs _____



Lesser Snow Goose
birds _____
eggs _____



Emperor Goose
birds _____
eggs _____



Black Brant
birds _____
eggs _____



Pintail
birds _____
eggs _____



Mallard
birds _____
eggs _____



Wigeon
birds _____
eggs _____



Shoveler
birds _____
eggs _____



Green-winged Teal
birds _____
eggs _____



Scaup
birds _____
eggs _____



Canvasback
birds _____
eggs _____



Bufflehead
birds _____
eggs _____



Harlequin
birds _____
eggs _____



Goldeneye
birds _____
eggs _____



Long-tailed duck
birds _____
eggs _____



White-winged Scoter
birds _____
eggs _____



Black Scoter
birds _____
eggs _____



Surf Scoter
birds _____
eggs _____



Common Merganser
birds _____
eggs _____



Red-breasted Merganser
birds _____
eggs _____



Common Eider
birds _____
eggs _____



King Eider
birds _____
eggs _____



Spectacled Eider
birds _____
eggs _____



Steller's Eider
birds _____
eggs _____



VH Code: _____

SUBSISTENCE HOUSEHOLD SURVEY

SOUTHERN COASTAL ALASKA

FALL - WINTER (SEPT. 1 - MARCH 9)

PLEASE WRITE TOTAL NUMBER OF BIRDS CAUGHT AND EGGS GATHERED

Yellow-billed Loon
birds _____
eggs _____



Red-throated Loon
birds _____
eggs _____



Common Loon
birds _____
eggs _____



Pacific Loon
birds _____
eggs _____



Auklet
birds _____
eggs _____



Murre
birds _____
eggs _____



Cormorant
birds _____
eggs _____



Guillemot
birds _____
eggs _____



Black-legged Kittiwake
birds _____
eggs _____



Red-legged Kittiwake
birds _____
eggs _____



Herring Gull
birds _____
eggs _____



Glaucous-winged Gull
birds _____
eggs _____



Sabine's Gull
birds _____
eggs _____



Puffin
birds _____
eggs _____



Bristle-thighed Curlew
birds _____
eggs _____



Golden Plover
birds _____
eggs _____



Arctic Tern
birds _____
eggs _____



Black Oystercatcher
birds _____
eggs _____



Godwit
birds _____
eggs _____



Small Shorebird
birds _____
eggs _____



Ptarmigan (non-migratory)
birds _____
eggs _____



Unidentified Duck
birds _____
eggs _____



Other Bird
birds _____
eggs _____



<p>Surveyor Notes _____</p> <p>Date of Pick-up: _____</p> <p>VH Code: _____</p>	<p>Comments:</p>
<p>FORM 7-FW-103 OMB NO. 1018-0124 APPROVAL EXPIRES 01/31/10</p>	

Village Harvest Survey Household Random Selection Overlay

Sampling Fractions = None 10%, Low 15%, High 40%

Activity Level = NONE		LOW		HIGH = >10 birds	
HH #	household number	HH #	household number	HH #	household number
	27		29		29
	7		4		21
	3		17		24
	16		15		34
	14		36		1
	19		6		11
	30		12		16
	33		31		20
	34		9		39
	8		39		13
	6		21		6
	28		34		15
	29		19		22
	2		7		38
	32		18		4
	35		28		18
	38		8		33
	36		11		17
	22		3		19
	13		40		30
	40		23		23
	26		24		40
	23		16		9
	9		30		3
	17		1		27
	18		5		32
	12		22		37
	1		14		14
	37		32		25
	5		27		28
	11		2		5
	4		35		31
	20		10		36
	31		38		8
	25		26		7
	10		33		26
	24		13		12
	15		20		2
	39		37		10
	21		25		35

The household numbers that are visible in the clear areas are those selected to be sampled. Write a * if the household is selected. Go to each household and ask for permission. If permission is granted, leave a harvest survey form to be collected again at the end of the survey period. If the household decides not to participate, write NO next to the * and select an alternate household from the SAME ACTIVITY LEVEL COLUMN. The alternate selected should be in a light gray box with the lowest available box number. Write * and ALT next to the selected alternate household. This new household number should be added to household survey work check list #4. If less than 5 households are selected in any column, continue selecting light gray and then dark gray boxes in the order of increasing box numbers until a sample of 5 is selected. If fewer than a total of 8 households are listed, select at most one half of those listed. For example, if only 7 houses are listed in the column, select only 3 of these to sample, those with the lowest 3 box numbers.

HOUSEHOLD PERMISSION SLIP

We have accepted the Subsistence Migratory Bird Harvest Survey form. We understand that the harvest surveyor for our village will be back to pick up a page of the survey the first week of July, the first week of September, and the first week of November.

DATE: _____ HOUSEHOLD # _____ YES ___ NO ___
ALTERNATE _____

FORM 7-FW; OMB NO. 1018-124; APPROVAL EXPIRES 01/31/10

Appendix B. Comprehensive Data

Table B-1. Average usable weight (pounds) of birds & eggs reported in subsistence harvest surveys, Yukon-Kuskokwim Delta

		Average Round Weight	Usable Weight (75% round weight)	Egg Weight**	
GEESE	White-fronted Geese	5.65	4.24	0.25 lbs	
	Cackling Canada Geese	3.10	2.33	@	
	Emperor Geese	6.18	4.63	@	
	Black Brant	3.04	2.28	@	
	Taverner=s Canada Geese	5.30	3.98	@	
	Lesser Snow Geese	5.32	3.99	@	
SWANS	Tundra Swan	14.95	11.21	0.63 lbs	
CRANES	Sandhill Crane	9.00	6.75	0.33 lbs	
DUCKS	Pintail	2.02	1.51	0.15 lbs	
	Mallard	2.53	1.90	@	
	Unidentified Ducks	2.00	1.50	@	
	Wigeon	1.70	1.28	@	
	Shoveler	1.40	1.05	@	
	Canvasback	3.00	2.25	@	
	Green-winged Teal	0.69	0.52	@	
	Bufflehead	0.93	0.69	@	
	Harlequin	1.33	1.00	@	
	Greater Scaup	2.21	1.65	@	
	Goldeneye	1.72	1.29	@	
	Oldsquaw	1.78	1.34	@	
	White-winged Scoter	3.05	2.29	@	
	Black Scoter	2.35	1.76	0.15 lbs	
	Surf Scoter	2.12	1.59	@	
	Common Eider	5.53	4.15	@	
	King Eider	3.57	2.67	@	
	Spectacled Eider	3.24	2.43	@	
	Steller=s Eider	1.94	1.46	@	
	Common Merganser	3.05	2.29	@	
	Red-breasted Merganser	1.62	1.21	@	
	PTARMIGAN	Ptarmigan	1.33	1.00	0.10 lbs
	OTHER BIRDS	Yellow-billed Loon	12.00	9.00	0.10 lbs
		Red-throated Loon	3.81	2.86	@
		Common Loon	7.25	5.44	@
		Arctic (Pacific) Loon	4.31	3.23	@
		Auklets	0.50	0.38	@
Common Murre		2.20	1.70	@	
Cormorants		3.90	2.93	@	
Kittiwakes		0.88	0.66	@	
Guillemots		1.00	0.75	@	
Mew Gull		0.93	0.70	@	
Sabines Gull		0.66	0.50	@	
Glaucous Gull		3.75	2.80	@	
Arctic Tern		0.32	0.24	@	
Puffins		1.60	1.20	@	
Bristle Thighed curlew		1.33	1.00	@	
Godwits		0.75	0.56	@	
Whimbrel		1.33	1.00	@	
Golden Plover		0.33	0.25	@	
Small Shorebirds		0.66	0.50	@	
Large Shorebirds		1.33	1.00	@	
Other Unknown Birds		1.33	1.00	@	

* Bellrose 1976 and U.S. Fish and Wildlife Service file; Cornell University Birds of North America website. Average of females, matures and immatures, where given.

** Wolfe et al. 1990, Krapu et al. 1985 and U.S. Fish and Wildlife Service files.

Table B-2 Migratory bird subsistence harvest estimates (pounds) Yukon-Kuskokwim Delta, 2001-2005

		2001*	2002*	2004*	2005*	4-YR AVG
GEESE	White-fronted Goose	58,953	49,506	64,202	72,093	61,189
	Cackling Canada Goose	23,827	31,320	22,790	33,575	27,878
	Emperor Goose	4,991	5,788	7,820	2,922	5,380
	Black Brant	13,151	10,921	8,571	8,881	10,381
	Lesser Canada Goose	33,229	25,074	22,025	28,369	27,174
	Lesser Snow Goose	12,257	7,465	5,538	7,761	8,255
	TOTAL GEESE	146,408	130,074	130,946	153,600	140,257
	Tundra Swan	42,318	37,542	72,316	51,286	50,865
	Sandhill Crane	19,568	17,874	21,492	16,578	18,878
DUCKS	Pintail	8,360	11,711	12,882	14,868	11,955
	Mallard	8,951	9,149	15,557	14,729	12,096
	Unidentified ducks	3,611	1,718	270	161	1,440
	Wigeon	2,062	2,886	1,848	4,691	2,872
	Shoveler	875	1,778	1,581	3,209	1,861
	Canvasback**		2,590	3,357	2,799	2,915
	Green-winged Teal	626	756	603	1,455	860
	Bufflehead	28	229	166	79	126
	Harlequin	147	104	108	51	103
	Greater Scaup	8,417	10,535	17,940	5,275	10,542
	Goldeneyes	1,854	1,269	2,288	583	1,499
	Long-tailed Duck	1,824	2,932	3,066	1,786	2,402
	White-winged Scoter	5,049	4,853	7,039	1,837	4,695
	Black Scoter	8,568	11,936	9,696	7,934	9,533
	Surf Scoter	1,091	690	105	2,061	987
	Common Eider	2,112	1,780	1,722	448	1,516
	King Eider	21,488	19,606	16,458	8,531	16,521
	Spectacled Eider	61	95	153	49	89
	Steller's Eider	16	41	102	76	59
	Common Merganser	151	337	785	103	344
	Red-breasted Merganser	312	242	182	29	191
	TOTAL DUCKS	75,602	85,235	95,910	70,752	82,604
		Ptarmigan (non-migratory)	16,594	19,023	8,363	17,837
	Spruce Grouse**	0	149	116	520	262
OTHER BIRDS	Yellow-billed Loon	189	1,647	36	108	495
	Red-throated Loon	109	83	123	149	116
	Common Loon	473	1,480	919	381	813
	Pacific Loon	1,131	898	410	317	689
	Auklets**		0	0	0	0
	Common Murre	97	199	0	121	104
	Cormorants**		264	12	0	92
	Kittiwakes**		1	0	0	0
	Guillemots**		2	0	0	1
	Mew Gull	132	173	105	0	102
	Sabine's Gull	1	46	0	0	12
	Glaucous Gull	45	689	1,036	392	540
	Arctic Tern	0	36	6	0	11
	Puffins**		433	0	2	145
	Bristle-thighed curlew**		122	12	0	45
	Godwits**		843	720	15	526
	Whimbrel**		45	205	23	91
	Golden Plover**		23	31	13	22
	Small shorebirds	51	265	254	8	145
	Large shorebirds	2,278				2,278
	Other Unknown Birds**	0	55	43	161	65
	TOTAL OTHER BIRDS	4,504	7,303	3,913	1,689	6,291
	TOTAL (w/o Ptarm/Grouse)		288,400	278,029	324,576	293,905
TOTAL (w/ Ptarm/Grouse)		304,994	297,201	333,055	312,262	314,611

*Activity stratification and a new estimation method employed for first time in 2001

**New birds added, 2002

Table B-3 Migratory bird subsistence harvest estimates, Yukon-Kuskokwim Delta, 1990-1994

		1990	1991	1992	1993	1994	5 YR AVG
GEESE	White-fronted Geese	8,287	5,709	9,237	8,207	9,570	8,202
	Cackling Canada Geese	5,903	4,926	4,490	7,087	9,780	6,437
	Emperor Geese	3,440	2,394	2,669	2,602	1,493	2,520
	Black Brant	3,133	2,258	2,798	2,502	2,326	2,603
	Lesser Canada Geese	4,066	4,305	7,169	7,086	9,541	6,433
	Lesser Snow Geese	1,284	863	1,655	2,119	2,115	1,607
	TOTAL GEESE	26,113	20,455	28,018	29,603	34,825	27,803
	Tundra Swans	5,399	4,599	7,226	5,767	8,030	6,204
	Sandhill Cranes	2,159	3,172	4,182	2,282	3,118	2,983
DUCKS	Pintails	8,267	7,494	8,072	7,474	6,895	7,640
	Mallards	12,486	3,603	5,079	4,671	4,949	6,158
	Unidentified ducks	1,621	1,995	1,369	1,993	1,881	1,772
	Wigeons	2,886	1,926	2,141	4,358	2,950	2,852
	Shovelers	821	756	1,022	925	770	859
	Green-winged Teals	2,529	1,500	1,223	1,103	1,268	1,525
	Buffleheads	231	224	284	319	400	292
	Harlequins	141	82	229	354	116	184
	Greater Scaup	1,394	2,388	4,996	2,891	4,357	3,205
	Goldeneyes	1,797	1,800	1,379	1,364	1,287	1,525
	Long-tailed ducks	1,476	2,430	2,125	1,709	1,355	1,819
	White-winged Scoters	4,027	2,142	5,237	2,153	1,572	3,026
	Black Scoters	4,397	5,830	8,191	7,974	4,936	6,266
	Surf Scoters	1,848	593	590	493	713	847
	Common Eiders	417	436	326	583	157	384
	King Eiders	2,243	2,832	3,433	3,753	1,540	2,760
	Spectacled Eiders	272	289	370	28	150	222
	Steller's Eiders		21	24	0	18	16
	Common Mergansers	75	14	63	123	60	67
	Red-breasted Mergansers	230	398	589	297	148	332
TOTAL DUCKS	47,158	36,753	46,742	42,565	35,522	41,748	
	Ptarmigan (non-migratory)	12,579	30,686	15,648	19,557	9,458	17,586
OTHER BIRDS	Yellow-billed Loons	89	102	101	172	93	111
	Red-throated Loons	90	84	97	25	94	78
	Common Loons	352	688	743	657	263	541
	Arctic Loons	32	34	114	142	44	73
	Common Murres	21	0	36	29	307	79
	Small shorebirds	48	152	96	599	53	190
	Large shorebirds	140	303	12	145	174	155
	Mew Gulls	11	25	0	15	0	10
	Sabines Gulls	0	28	39	41	8	23
	Glaucous Gulls	574	41	100	98	184	199
	Arctic Terns	12	11	10	0	0	7
	TOTAL OTHER BIRDS	1,369	1,468	1,348	1,923	1,220	1,466
	TOTAL (w/o Ptarmigan)	82,198	66,447	87,516	82,140	82,715	80,203
	TOTAL (with Ptarmigan)	94,777	97,133	103,164	101,697	92,173	97,789

Table B-4 Migratory bird subsistence harvest estimates, Yukon-Kuskokwim Delta, 1995-2000

	1995	1996	1997	1998	1999	2000	6 YR AVG		
GEESE	White-fronted Geese	11,388	14,582	8,528	12,359	13,320	15,438	12,603	
	Cackling Canada Geese	13,799	14,983	9,921	15,173	11,145	11,531	12,759	
	Emperor Geese	2,041	2,374	1,469	1,899	818	1,353	1,659	
	Black Brant	4,995	3,302	3,572	4,100	2,721	4,002	3,782	
	Lesser Canada Geese	14,931	14,734	7,877	11,338	9,352	7,911	11,024	
	Lesser Snow Geese	2,305	3,834	1,379	2,135	1,339	1,496	2,081	
	TOTAL GEESE	49,459	53,809	32,746	47,004	38,695	41,731	43,907	
	Tundra Swans	9,529	8,860	5,501	5,916	5,107	3,577	6,415	
	Sandhill Cranes	5,340	3,899	2,370	3,907	3,539	2,516	3,595	
DUCKS	Pintails	12,579	10,952	5,685	8,085	5,473	5,881	8,109	
	Mallards	6,971	5,041	3,568	5,859	4,509	4,029	4,996	
	Unidentified ducks	2,615	1,427	996	2,107	1,368	1,855	1,728	
	Wigeons	4,525	2,967	3,128	2,526	2,169	1,087	2,734	
	Shovelers	1,314	804	813	1,171	1,469	470	1,007	
	Green-winged Teals	1,557	1,910	1,833	1,480	1,079	996	1,476	
	Buffleheads	363	139	156	533	119	163	246	
	Harlequins	144	163	95	350	105	89	158	
	Greater Scaup	7,347	3,460	3,189	8,225	10,229	2,595	5,841	
	Goldeneyes	1,894	1,232	832	2,560	2,846	960	1,721	
	Long-tailed ducks	2,403	1,609	2,042	3,159	2,300	575	2,015	
	White-winged Scoters	1,918	2,511	2,011	3,053	2,511	913	2,153	
	Black Scoters	6,946	6,982	4,634	7,579	6,289	3,220	5,942	
	Surf Scoters	409	685	217	421	489	402	437	
	Common Eiders	113	615	494	326	340	529	403	
	King Eiders	1,625	2,752	3,424	2,262	4,808	6,992	3,644	
	Spectacled Eiders	206	126	95	82	78	83	112	
	Steller's Eiders	95	43	15	104	42	8	51	
	Common Mergansers	70	74	27	185	180	81	103	
	Red-breasted Mergansers	256	145	183	293	142	83	184	
TOTAL DUCKS	53,350	43,637	33,437	50,360	46,545	31,011	43,057		
	Ptarmigan (non-migratory)	16,095	14,794	13,022	16,244	21,502	14,955	16,102	
OTHER BIRDS	Yellow-billed Loons	34	188	68	72	40	43	74	
	Red-throated Loons	18	36	17	38	20	15	24	
	Common Loons	390	424	273	237	170	125	270	
	Arctic Loons	20	26	39	53	0	17	26	
	Common Murres	29	42	87	6	76	3	41	
	Small shorebirds	118	76	84	88	87	155	101	
	Large shorebirds	138	774	485	1,867	1,696	2,014	1,162	
	Mew Gulls	134	54	0	16	72	13	48	
	Sabines Gulls	101	78	18	20	4	11	39	
	Glaucous Gulls	72	72	602	307	116	188	226	
	Arctic Terns	15	1	271	87	6	34	69	
	TOTAL OTHER BIRDS	1,069	1,771	1,944	2,791	2,287	2,618	2,080	
		TOTAL (w/o Ptarmigan)	118,747	111,976	75,998	109,978	96,173	81,453	99,054
		TOTAL (with Ptarmigan)	134,842	126,770	89,020	126,222	117,675	96,408	115,156

Table B-5 Egg subsistence harvest estimates, Yukon-Kuskokwim Delta, 1995-2000

	1995	1996	1997	1998	1999	2000	6 YR AVG
GOOSE EGGS							
White-fronted Geese	848	454	635	1,730	1,514	3,634	1,469
Cackling Canada Geese	845	793	1,068	2,984	983	4,885	1,926
Emperor Geese	408	488	284	448	267	154	342
Black Brant	524	622	630	1,063	460	1,296	766
Lesser Canada Geese	816	762	792	1,766	1,731	1,590	1,243
Lesser Snow Geese	0	5	0	0	19	0	4
TOTAL GOOSE EGGS	3,441	3,124	3,409	7,991	4,974	11,559	5,750
TUNDRA SWAN EGGS	856	565	531	1,379	766	728	804
SANDHILL CRANE EGGS	460	373	326	920	376	582	506
DUCK EGGS							
Pintails	649	611	291	1,358	573	1,769	875
Mallards	409	272	175	609	236	650	392
Unidentified ducks	1,140	756	260	582	85	364	531
Wigeons	54	59	37	73	23	317	94
Shovelers	17	0	0	170	0	149	56
Green-winged Teals	33	88	58	276	129	307	149
Buffleheads	0	0	0	0	0	19	3
Harlequins	0	3	0	0	38	0	7
Greater Scaup	0	79	0	140	154	31	67
Goldeneyes	0	30	0	148	144	22	57
Long-tailed ducks	154	158	30	162	273	112	148
White-winged Scoters	11	0	0	0	36	29	13
Black Scoters	127	0	0	105	48	0	47
Surf Scoters	59	0	0	0	0	161	37
Common Eiders	64	27	0	144	3	29	45
King Eiders	0	20	2	0	0	0	4
Spectacled Eiders	0	0	0	67	0	0	11
Stellers' Eiders	0	0	0	11	0	0	2
Common Mergansers	0	0	0	0	0	0	0
Red-breasted Mergansers	0	0	0	0	0	0	0
TOTAL DUCK EGGS	2,717	2,103	853	3,845	1,742	3,959	2,537
PTARMIGAN EGGS	559	994	729	1,933	1,027	1,243	1,081
OTHER BIRD EGGS							
Yellow-billed Loons	0	10	9	38	19	10	14
Red-throated Loons	0	8	0	32	0	21	10
Common Loons	29	59	0	109	49	117	61
Arctic Loons	0	10	0	0	3	19	5
Common Murres	0	1,740	0	0	0	7	291
Small Shorebirds	1,418	2,169	680	1,153	431	1,493	1,224
Large Shorebirds	120	245	92	220	54	192	154
Mew Gulls	364	347	107	695	613	315	407
Sabines Gulls	33	408	242	791	85	502	344
Glaucous Gulls	1,031	914	564	1,958	1,831	3,364	1,610
Arctic Terns	647	442	27	769	168	233	381
TOTAL OTHER BIRD EGGS	3,642	6,352	1,721	5,765	3,253	6,273	4,501
TOTAL EGGS (w/o Ptarmigan)	11,116	12,517	6,840	19,900	11,111	23,101	14,098
TOTAL EGGS (with Ptarmigan)	11,675	13,511	7,569	21,833	12,138	24,344	15,178

Table B-6 Average bird harvest estimates by survey period, Yukon-Kuskokwim Delta 2001-2005

		Spring	Summer	Fall	Total	
GEESE	White-fronted Goose	10,697	1,401	2,334	14,432	
	Cackling Canada Goose	6,819	1,355	3,792	11,965	
	Emperor Goose	860	215	88	1,163	
	Black Brant	3,263	804	487	4,554	
	Lesser Canada Goose	4,733	681	1,414	6,828	
	Lesser Snow Goose	1,718	8	343	2,069	
	TOTAL GEESE	28,089	4,464	8,457	41,010	
	Tundra Swan	2,736	330	1,471	4,537	
	Sandhill Crane	2,005	308	484	2,797	
	DUCKS	Pintail	2,816	1,590	3,564	7,970
Mallard		2,598	1,005	2,763	6,366	
Unidentified ducks		353	275	332	960	
Wigeon		686	338	1,221	2,244	
Shoveler		582	297	893	1,772	
Canvasback*		946	51	298	1,295	
Green-winged Teal		349	370	934	1,653	
Bufflehead		95	12	75	182	
Harlequin		87	4	12	103	
Greater Scaup		4,909	347	1,134	6,389	
Goldeneyes		711	78	373	1,161	
Long-tailed Duck		1,390	159	244	1,793	
White-winged Scoter		1,762	83	205	2,050	
Black Scoter		4,579	192	647	5,418	
Surf Scoter		511	9	101	621	
Common Eider		306	18	42	366	
King Eider		5,858	158	172	6,188	
Spectacled Eider		34	0	4	37	
Steller's Eider		7	3	30	41	
Common Merganser		99	4	48	151	
Red-breasted Merganser		125	6	27	158	
TOTAL DUCKS		28,803	4,996	13,116	46,914	
Ptarmigan		14,964	110	380	15,454	
Spruce Grouse*		46	3	213	261	
OTHER BIRDS		Yellow-billed Loon	28	22	5	55
		Red-throated Loon	34	1	5	40
		Common Loon	97	44	9	149
	Pacific Loon	99	35	79	213	
	Auklets*	0	0	0	0	
	Common Murre	42	20	0	61	
	Cormorants*	30	0	1	31	
	Kittiwakes*	1	0	0	1	
	Guillemots*	1	0	0	1	
	Mew Gull	135	8	4	146	
	Sabine's Gull	23	0	0	23	
	Glaucous Gull	127	52	14	193	
	Arctic Tern	43	1	0	44	
	Puffins*	121	0	0	121	
	Bristle-thighed curlew*	29	0	5	34	
	Godwits*	27	444	452	923	
	Whimbrel*	6	54	8	69	
	Golden Plover*	85	0	3	89	
	Small shorebirds	191	6	22	219	
	Large shorebirds	50	522	1,141	1,713	
	Other Unknown Birds*	28	11	27	65	
	TOTAL OTHER BIRDS	1,196	1,219	1,775	4,190	
	TOTAL(w/o Ptarm/Grouse)	62,828	11,316	25,303	99,447	
TOTAL (with Ptarm/Grouse)	77,838	11,429	25,896	115,163		

*new species added, 2002

Table B-7 Average bird harvest estimates by sub-region, Yukon-Kuskokwim Delta, 2001-2005

	South Coast	Mid Coast	North Coast	Kuskokwim	Yukon	Bethel	Total
GEESE							
White-fronted Goose	3,099	4,340	780	2,210	1,230	2,773	14,431
Cackling Canada Goose	2,588	4,064	891	2,392	759	1,271	11,965
Emperor Goose	221	818	55	66	0	3	1,162
Black Brant	1,010	3,286	102	120	7	29	4,553
Lesser Canada Goose	1,144	1,409	955	1,686	843	791	6,828
Lesser Snow Goose	12	234	1,319	88	392	25	2,069
TOTAL GEESE	8,073	14,150	4,103	6,561	3,230	4,891	41,008
Tundra Swan	840	546	482	918	944	808	4,537
Sandhill Crane	813	587	358	515	104	420	2,797
DUCKS							
Pintail	1,142	1,682	1,258	1,532	816	1,541	7,970
Mallard	964	968	676	1,639	768	1,353	6,366
Unidentified ducks	9	257	80	168	434	11	960
Wigeon	143	329	159	744	288	581	2,244
Shoveler	274	190	112	485	253	459	1,772
Canvasback*	33	13	27	837	19	366	1,295
Green-winged Teal	162	341	168	535	115	333	1,654
Bufflehead	12	5	0	158	2	6	182
Harlequin	4	7	0	53	16	24	103
Greater Scaup	564	160	2	5,018	79	566	6,389
Goldeneyes	134	24	2	656	93	254	1,162
Long-tailed Duck	85	403	11	985	11	298	1,792
White-winged Scoter	122	37	2	1,029	37	823	2,050
Black Scoter	717	78	4	3,349	204	1,067	5,417
Surf Scoter	44	1	0	313	9	255	621
Common Eider	82	262	4	5	2	10	365
King Eider	3,623	2,487	0	21	4	53	6,187
Spectacled Eider	13	19	0	4	1	0	37
Steller's Eider	3	27	3	7	0	0	40
Common Merganser	19	6	25	96	6	0	151
Red-breasted Merganser	6	2	2	126	11	12	158
TOTAL DUCKS	8,152	7,296	2,534	17,759	3,166	8,008	46,916
Ptarmigan	2,078	4,438	426	4,389	230	3,894	15,455
Spruce Grouse*	0	0	0	124	39	99	262
OTHER BIRDS							
Yellow-billed Loon	0	25	3	20	1	6	55
Red-throated Loon	0	21	3	13	4	0	41
Common Loon	13	54	1	74	7	0	149
Pacific Loon	11	51	0	151	0	0	213
Auklets*	0	0	0	0	0	0	0
Common Murre	0	51	0	11	0	0	62
Cormorants*	21	2	5	0	0	3	31
Kittiwakes*	0	0	0	1	0	0	1
Guillemots*	0	0	0	1	0	0	1
Mew Gull	90	2	32	23	0	0	147
Sabine's Gull	16	5	0	2	0	0	23
Glaucous Gull	28	76	73	11	4	2	193
Arctic Tern	24	0	5	15	0	0	44
Puffins*	113	4	1	4	0	0	121
Bristle-thighed curlew*	22	0	6	5	0	0	34
Godwits*	58	838	11	8	2	7	923
Whimbrel*	0	61	2	6	0	0	69
Golden Plover*	79	3	0	6	0	0	89
Small shorebirds	157	48	6	9	0	0	219
Large shorebirds	117	1,579	18	0	0	0	1,714
Other Unknown Birds*	8	14	3	40	0	0	65
TOTAL OTHER BIRDS	755	2,833	170	399	17	18	4,192
TOTAL(w/o Ptarm/Grouse)	18,633	25,412	7,646	26,152	7,460	14,146	99,449
TOTAL (with Ptarm/Grouse)	20,710	29,850	8,072	30,665	7,730	18,138	115,165

*new species added, 2002

Table B-8 Average egg harvest estimates by survey period, Yukon-Kuskokwim Delta 2001-2005

		Spring	Summer	Fall	Total	
GOOSE EGGS	White-fronted Goose	3,515	36	10	3,560	
	Cackling Canada Goose	2,919	78	0	2,997	
	Emperor Goose	173	24	0	197	
	Black Brant	1,088	13	26	1,127	
	Lesser Canada Goose	1,937	24	22	1,983	
	Lesser Snow Goose	28	0	0	28	
	TOTAL GOOSE EGGS	9,661	174	57	9,892	
	Tundra Swan Eggs	998	58	7	1,063	
	Sandhill Crane Eggs	607	20	3	629	
DUCK EGGS	Pintail	1,406	38	13	1,457	
	Mallard	605	17	4	627	
	Unidentified ducks	243	0	0	243	
	Wigeon	34	0	0	34	
	Shoveler	175	3	0	178	
	Canvasback*	10	0	0	10	
	Green-winged Teal	299	8	2	310	
	Bufflehead	3	0	0	3	
	Harlequin	3	0	0	3	
	Greater Scaup	189	19	0	208	
	Goldeneyes	6	0	0	6	
	Long-tailed Duck	35	0	0	35	
	White-winged Scoter	1	2	0	3	
	Black Scoter	7	2	0	9	
	Surf Scoter	2	0	0	2	
	Common Eider	83	0	0	83	
	King Eider	4	0	0	4	
	Spectacled Eider	0	0	0	0	
	Steller's Eider	31	0	0	31	
	Common Merganser	4	0	0	4	
	Red-breasted Merganser	1	0	0	1	
	TOTAL DUCK EGGS	3,137	89	19	3,245	
		Ptarmigan Eggs	1,046	14	0	1,059
		Spruce Grouse Eggs*	22	0	0	22
	OTHER BIRD EGGS	Yellow-billed Loon	14	0	0	14
Red-throated Loon		25	0	0	25	
Common Loon		67	0	0	67	
Pacific Loon		66	29	0	95	
Auklets*		0	0	0	0	
Common Murre		241	0	0	241	
Cormorants*		0	0	0	0	
Kittiwakes*		38	4	0	42	
Guillemots*		0	0	0	0	
Mew Gull		2,253	129	5	2,386	
Sabine's Gull		405	2	0	407	
Glaucous Gull		2,509	56	12	2,577	
Arctic Tern		528	13	0	541	
Puffins*		4	0	0	4	
Bristle-thighed curlew*		33	0	0	33	
Godwits*		59	0	0	59	
Whimbrel*		25	0	0	25	
Golden Plover*		134	0	0	134	
Small shorebirds		724	21	0	745	
Large shorebirds		175	12	0	187	
Other Unknown Birds*		52	0	0	52	
TOTAL OTHER BIRD EGGS		7,351	266	16	7,633	
		TOTAL(w/o Ptarm/Grouse)	21,754	607	101	22,462
		TOTAL (with Ptarm/Grouse)	22,822	621	101	23,543

*new species added, 2002

Table B-9 Average egg harvest estimates by sub-region, Yukon-Kuskokwim Delta, 2001-2005

	South Coast	Mid Coast	North Coast	Kuskokwim	Yukon	Bethel	Total	
GOOSE EGGS	White-fronted Goose	1,190	1,973	335	46	12	4	3,560
	Cackling Canada Goose	858	1,263	772	64	30	10	2,997
	Emperor Goose	0	180	9	8	0	0	197
	Black Brant	9	1,112	2	5	0	0	1,127
	Lesser Canada Goose	562	428	878	101	0	15	1,983
	Lesser Snow Goose	0	0	28	0	0	0	28
	TOTAL GOOSE EGGS	2,618	4,956	2,023	224	43	29	9,892
	Tundra Swan Eggs	501	308	109	96	42	7	1,062
	Sandhill Crane Eggs	387	82	98	40	13	10	629
DUCK EGGS	Pintail	849	222	228	104	47	7	1,457
	Mallard	370	141	64	24	28	0	627
	Unidentified ducks	10	134	70	12	17	0	243
	Wigeon	17	1	12	4	0	0	34
	Shoveler	129	5	12	33	0	0	178
	Canvasback*	5	0	0	4	0	0	10
	Green-winged Teal	148	68	13	53	2	26	310
	Bufflehead	3	0	0	0	0	0	3
	Harlequin	0	0	0	3	0	0	3
	Greater Scaup	185	10	0	13	0	0	208
	Goldeneyes	0	0	0	6	0	0	6
	Long-tailed Duck	0	20	0	14	0	0	35
	White-winged Scoter	2	1	0	0	0	0	3
	Black Scoter	2	5	0	2	0	0	9
	Surf Scoter	0	0	0	2	0	0	2
	Common Eider	78	2	0	3	0	0	83
	King Eider	0	0	0	4	0	0	4
	Spectacled Eider	0	0	0	0	0	0	0
	Steller's Eider	24	0	2	5	0	0	31
	Common Merganser	0	0	0	4	0	0	4
	Red-breasted Merganser	0	0	0	1	0	0	1
	TOTAL DUCK EGGS	1,822	609	400	288	94	33	3,246
		Ptarmigan Eggs	390	165	20	459	13	13
	Spruce Grouse Eggs*	16	0	0	6	0	0	22
OTHER BIRD EGGS	Yellow-billed Loon	10	2	0	3	0	0	14
	Red-throated Loon	19	3	0	3	0	0	25
	Common Loon	32	15	4	9	8	0	68
	Pacific Loon	82	6	1	6	0	0	95
	Auklets*	0	0	0	0	0	0	0
	Common Murre	239	0	0	2	0	0	241
	Cormorants*	0	0	0	0	0	0	0
	Kittiwakes*	35	7	0	0	0	0	42
	Guillemots*	0	0	0	0	0	0	0
	Mew Gull	951	848	286	181	109	12	2,386
	Sabine's Gull	69	291	32	13	2	0	407
	Glaucous Gull	922	1,200	334	114	7	0	2,577
	Arctic Tern	186	190	71	47	43	5	541
	Puffins*	0	0	0	4	0	0	4
	Bristle-thighed curlew*	26	3	0	5	0	0	33
	Godwits*	41	5	10	4	0	0	59
	Whimbrel*	8	5	8	4	0	0	25
	Golden Plover*	85	26	0	23	0	0	134
	Small shorebirds	292	294	46	41	0	73	745
	Large shorebirds	0	167	12	7	0	0	186
Other Unknown Birds*	0	39	12	1	0	0	52	
TOTAL OTHER BIRD EGGS	2,996	3,098	815	465	168	91	7,633	
	TOTAL (w/o Ptarm/Grouse)	8,324	9,052	3,445	1,114	359	169	22,463
	TOTAL (with Ptarm/Grouse)	8,730	9,217	3,465	1,579	372	182	23,544

*new species added, 2002

Appendix C. Population and village household survey participation,
Yukon-Kuskokwim Delta, 2001-2005

Table C-1 Population, total households by hunting category, and households sampled by survey period, Yukon-Kuskokwim Delta 2001

	Population * Total Households				Households Sampled									
	Total	Uncl	None	Low High	# Spring	% Spring	# Esum	% Esum	# Msum	% Msum	# Lsum	% Lsum	# Fall	% Fall
South Coast														
Eek	280	76	76	0	0	0								
Kipnuk	644	133	3	21	66	43	56	42%	55	41%	59	44%	60	45%
Kongiganak	359	72	72	0	0	0								
Kwigillingok	338	73	73	0	0	0								
Tuntutuliak	370	81	0	10	22	49	26	32%	8	10%	26	32%	26	32%
Region Total	1991	435	224	31	88	92	82	19%	63	15%	85	20%	86	20%
Mid Coast														
Cheforinak	394	64	1	6	22	35	8	13%	20	31%	20	31%	20	31%
Chevak	765	152	152	0	0	0								
Hooper Bay	1014	210	210	0	0	0	63	30%	64	31%	64	31%	61	29%
Mekoryuk	210	70	0	22	18	30	20	29%	20	29%	21	30%	20	29%
Newtok	321	63	63	0	0	0								
Nightmute	208	39	39	0	0	0								
Scammon Bay	465	89	22	10	15	42	29	33%	16	18%	16	18%	no data	no data
Tununak	325	67	67	0	0	0	20	30%	21	31%	no data	21	31%	20
Toksook Bay	532	103	4	20	22	57	31	30%	32	31%	32	31%	32	32%
Region Total	4234	857	558	58	77	164	171	20%	173	20%	153	18%	154	18%
North Coast														
Alakanuk	652	139	66	9	16	48	39	28%	39	28%	40	29%	40	29%
Emmonak	767	168	110	4	7	47	50	30%	50	30%	50	30%	50	29%
Kotlik	591	110	17	20	32	41	29	26%	30	27%	30	27%	30	26%
Nunam Iqua	164	33	6	6	2	19	28	85%	29	88%	28	85%	28	88%
Region Total	2174	450	199	39	57	155	146	32%	148	33%	148	33%	148	33%

Table C-1 (cont.) Population, total households by hunting category, and households sampled by survey period Yukon-Kuskokwim Delta 2001

	Population * Total Households				Households Sampled												
	Total	Uncl	None	Low High	#	%	#	%	#	%	#	%	#	%	#	%	
Kuskokwim	Akiachak	585	133	133	0	0	0	0	0	0	0	0	0	0	0	0	
	Akiak	309	65	65	0	0	0	0	0	0	0	0	0	0	0	0	
	Aniak	572	138	37	36	31	34	33	24%	33	24%	33	24%	33	24%	34	25%
	Atmautluak	294	52	2	9	40	1	5	10%	5	10%	5	10%	no data	no data	no data	
	Kasigluk	543	92	92	0	0	0	0	0	0	0	0	0	0	0	0	
	Kwethluk	713	128	5	39	29	55	63	49%	63	49%	30	23%	56	44%	56	44%
	Lower Kalskag	267	62	0	26	21	15	32	52%	32	52%	32	52%	32	52%	32	52%
	Napakiak	353	89	89	0	0	0	0	0	0	0	0	0	0	0	0	
	Napaskiak	390	80	4	20	16	40	21	26%	21	26%	21	26%	21	26%	no data	
	Nunapitchuk	466	104	25	10	23	46	45	43%	45	43%	45	43%	44	42%	45	43%
	Oscarville	61	15	15	0	0	0	0	0	0	0	0	0	0	0	0	
	Tuluksak	428	83	47	0	11	25	25	30%	35	42%	35	42%	35	52%	35	42%
	Upper Kalskag	230	48	4	21	23	0	20	42%	21	44%	21	44%	21	44%	22	46%
	Region Total	5211	1089	518	161	194	216	244	22%	255	23%	222	20%	242	22%	224	21%
Yukon River	Marshall	349	82	82	0	0	0	0	0	0	0	0	0	0	0	0	
	Mountain Village	755	155	155	0	0	0	0	0	0	0	0	0	0	0	0	
	Pilot Station	550	109	109	0	0	0	0	0	0	0	0	0	0	0	0	
	Pitka's Point	125	26	1	7	5	13	10	38%	9	35%	8	31%	9	35%	9	35%
	Russian Mission	296	70	31	2	9	28	13	19%	12	17%	no data	no data	no data	no data	no data	
	Saint Mary's	475	134	48	15	21	50	54	40%	46	34%	46	34%	34	25%	35	26%
	Region Total	2550	576	426	24	35	91	77	13%	67	12%	54	9%	43	7%	44	8%
Bethel	Bethel	5471	1333	552	544	97	140	148	11%	no survey	no survey	no survey	no survey	no survey	149	11%	
TOTAL w/o Bethel		16,160	3,407	1,925	313	451	718	720	21%	706	21%	662	19%	673	20%	629	18%
TOTAL with Bethel		21,631	4,740	2,477	857	548	858	868	18%	no survey	no survey	no survey	no survey	no survey	778	16%	

*U.S. Census 2000. As cited in Alaska Department of Labor, Research and Analysis Website: www.labor.state.ak.us/research
 **Total households occupied on year-round basis. This differs from U.S. Census 2000 figure in some cases. For villages surveyed in 2001, it is based on actual household counts by Refugee Information Technicians and village surveyors. For villages not surveyed in 2001, it is based on estimates from previous years' surveys and conversations with tribal and city governments.

Table C-2 Population, total households by hunting category, and households sampled by survey period Yukon-Kuskokwim Delta, 2002

	Population* Total Households					Households sampled						
	Total	Uncl	None	Low	High	Spring # %	Summer # %	Fall # %				
South Coast												
Eek	290	72	0	7	24	41	24	32%	24	32%		
Kipnuk	646	133	133	0	0	0	33	25%	38	29%		
Kongiganak	372	76	1	7	42	26	64	84%	22	29%		
Kwigillingok	338	73	73	0	0	0			75	99%		
Tuntutuliak	378	78	0	6	20	52	18	23%	21	27%		
Region Total	2024	432	207	20	86	119	139	33%	105	25%	158	38%
Mid Coast												
Cheformak	420	62	0	10	29	23	16	26%	16	26%		
Chevak	853	173	0	50	74	49	54	31%	50	29%	36	21%
Hooper Bay	1074	208	0	75	63	70	46	22%	45	22%	45	22%
Mekoryuk	204	60	0	22	20	18	16	27%	16	27%	16	27%
Newtok	326	63	63	0	0	0						
Nightmute	224	35	0	5	6	24	12	34%	12	34%	12	34%
Scammon Bay	492	40	0	2	9	29	24	60%	27	68%	27	68%
Tununak	323	67	0	12	35	20	19	28%	15	22%	15	22%
Toksook Bay	549	96	0	21	16	59	28	29%	28	29%	28	29%
Region Total	4465	804	63	197	252	292	215	27%	209	26%	195	24%
North Coast												
Alakanuk	658	145	0	24	50	71	41	28%	41	28%	41	28%
Emmonak	744	168	168	0	0	0	26	15%	40	24%	39	23%
Kotlik	633	110	110	0	0	0	27	25%	30	27%	33	30%
Nunam Iqua	157	34	0	30	2	2	26	76%	26	76%	26	76%
Region Total	2192	457	278	54	52	73	120	27%	137	30%	139	31%

Table C-2(cont.) Population, total households by hunting category, and households sampled by survey period Yukon-Kuskokwim Delta, 2002

	Population* Total Households						Households sampled					
	Total	Uncl	None	Low	High	Spring	Summer	Fall				
Kuskokwim	624	114	-	11	11	92	38	33%	41	36%	40	35%
Akiachak	345	65	65	-	-	-	-	-	-	-	-	-
Akiak	540	138	138	-	-	-	-	-	-	-	-	-
Aniak	291	52	52	-	-	-	34	65%	28	54%	25	48%
Atmautluak	528	92	92	-	-	-	40	43%	no data	no data	no data	no data
Kasigluk	695	128	128	-	-	-	64	50%	64	50%	60	47%
Kwethluk	263	68	-	28	27	13	15	22%	15	22%	15	22%
Lower Kalskag	352	81	-	13	21	47	19	23%	27	33%	26	32%
Napakiak	419	80	80	-	-	-	16	22%	16	22%	16	22%
Napaskiak	512	72	-	7	60	5	17	26%	no data	no data	no data	no data
Nunapitchuk	62	15	15	-	-	-	11	26%	11	26%	11	26%
Oscarville	463	66	-	7	39	20	11	26%	11	26%	11	26%
Tuluksak	246	42	-	29	12	1	254	23%	202	19%	193	18%
Upper Kalskag	5,340	1,013	570	95	170	178	20	24%	17	21%	no data	no data
Region Total												
Yukon River	364	82	82	-	-	-	40	37%	no data	no data	no data	no data
Marshall	756	155	155	-	-	-	15	75%	15	75%	15	75%
Mountain Village	546	109	109	-	-	-	29	47%	29	47%	29	47%
Pilot Station	102	20	-	6	6	8	14	15%	no data	no data	14	15%
Pitka's Point	329	62	-	12	17	33	118	23%	61	12%	58	11%
Russian Mission	546	93	-	17	40	36	136	10%	no survey	no survey	134	10%
Saint Mary's	2,643	521	346	35	63	77	846	26%	714	22%	743	23%
Region Total							982	22%	no survey	no survey	877	19%
Bethel	5,739	1,333	552	544	97	140	136	10%	no survey	no survey	134	10%
Bethel	16,664	3,227	1,464	401	623	739	846	26%	714	22%	743	23%
TOTAL w/o Bethel	22,403	4,560	2,016	945	720	879	982	22%	no survey	no survey	877	19%
TOTAL with Bethel												

*U.S. Census 2000. As cited in Alaska Department of Labor, Research and Analysis Website:www.labor.state.ak.us.research

**Total households occupied on year-round basis. This differs from U.S. Census 2000 figure in some cases. For villages surveyed in 2001, it is based on actual household counts by Refuge Information Technicians and village surveyors. For villages not surveyed in 2001, it is based on estimates from previous years' surveys and conversations with tribal and city governments.

Table C-3 Population, total households, and households sampled by hunting category*, Yukon-Kuskokwim Delta, 2004

Geographic Strata (Region)	Population est*	Households		Community total		None (no birds)		Low (1-10 birds)		High (>= 10 birds)	
		Census 2000 Recorded	Sample	Total	Sample	Total	Sample	Total	Sample	Total	
South Coast											
Eek	292	72	75	20	75	1	14	2	24	17	37
Kipnuk	662	133	133	40	40	16	16	19	19	5	5
Kongiganak	413	63									
Kwigillingok	362	73									
Tuntutulak	400	78	78	33	30	13	10	4	5	16	15
Subregion Total	2,129	419	286	93	145	30	40	25	48	38	57
Mid Coast											
Chefomak	440	62	66	20	66	1	12	9	40	10	14
Chevak	901	173	138	35	138	5	9	12	84	18	45
Hooper Bay	1,128	208	224	44	223	13	102	12	69	19	52
Mekoryuk	199	60									
Newtok	309	63									
NIGHTMUTE	233	35	32	6	32	3	12	2	14	1	6
Scammon Bay	487	40									
Toksook Bay	563	96	101	28	101	3	27	9	23	16	51
Tununak	329	67	68	24	68	missing	missing	missing	missing	missing	missing
Subregion Total	4,589	804	629	157	628	25	162	44	230	64	168
North Coast											
Alakanuk	669	145	133	44	133	5	28	13	51	26	54
Emmonak	764	168									
Kotik	589	110	61	30	61	-	-	20	35	10	26
Nunam Iqua	165	34									
Subregion Total	2,187	457	194	74	194	5	28	33	86	36	80

Table C-3(cont.) Population, total households sampled by hunting category*, Yukon-Kuskokwim Delta, 2004

Geographic Strata (Region)	Population est* Census 2000	Households Recorded	Community total		None (no birds)		Low (1-10 birds)		High (>= 10 birds)	
			Sample	Total	Sample	Total	Sample	Total	Sample	Total
Kuskokwim River	618	114								
Akiachak			65							
Akiak	368									
Aniak	534	138	103	11	103	4	84	5	17	2
Atmaultiak	286	52	53	20	48	0	0	6	28	14
Kasigluk	530	98	98	30	98	1	24	26	65	3
Kwethluk	697	128	121	32	121	7	36	10	41	15
Lower Kalsksag	262	68	75	15	75	5	33	5	27	5
Napakakiak	361	61								
Napaskiak	440	80								
Nunapitchuk	529	72	73	31	73	4	7	23	60	4
Oscarville	56	15	15	4	15	missing	missing	missing	missing	missing
Tuluksak	471	66								
Upper Kalsksag	264	42								
Subregion Total	5416	993	538	143	533	21	184	75	238	43
Yukon River										
Marshall	365	82	85	20	85	5	31	6	34	9
Mountain Village	770	155								
Pilot Station	561	109								
Pitkas Point	111	20	26	15	26	4	13	5	6	6
Russian Mission	335	62								
Saint Mary's	537	93								
Subregion Total	2679	521	111	35	111	9	44	11	40	15
Bethel	5449	1741	782	45	1874	missing	missing	missing	missing	missing
Total	22,449	4,935	2,540	547	3,485	90	458	188	642	196

*Alaska Department of Labor, July 1, 2004 estimate

Table C-4 Population, total households by hunting category, and households sampled by survey period: Yukon-Kuskokwim Delta, 2005.

Geographic Subregion	Population est* Census 2000	Households Recorded	Community Sample	Community Total	None (no birds)		Low (1-10 birds)		High (>= 10 birds)	
					Sample	Total	Sample	Total	Sample	Total
South Coast										
Eek	291	72	26	72	0	20	5	20	21	32
Kipnuk	687	133	51	141	16	65	19	54	16	22
Kongiganak	426	63	49	82	29	58	20	21	1	3
Kw/gillingok	361	73								
Tuntutlialak	398	78								
Subregion Total	2,163	419	126	295	45	143	44	95	38	57
Mid Coast										
Chefornak	457	62								
Chevak	915	173								
Hooper Bay	1,131	208								
Mekoryuk	192	60								
Newtok	314	63								
Nightmute	234	35								
Scammon Bay	507	40								
Toksook Bay	595	96								
Tununak	328	67								
Subregion Total	4,673	804	168	495	27	126	31	151	78	178
North Coast										
Alakanuk	676	145								
Emmonak	739	168								
Kotik	608	110								
Nunam Iqua	152	34								
Subregion Total	2,175	457	108	180	7	79	24	77	77	124

Table C-4(cont.) Population, total households by hunting category, and households sampled by survey period. Yukon-Kuskokwim Delta, 2005.

Geographic Subregion	Population est* Census 2000	Households		Community total	None (no birds)	Low (1-10 birds)		High (>= 10 birds)			
		Recorded	Sampled			Sample	Total	Sample	Total	Sample	Total
Kuskokwim River	644	114	114	34	114	4	12	11	16	22	29
Akiachak	378	65	57	37	57	4	11	7	16	14	49
Aniak	527	138	163	27	163	6	55	7	59	14	49
Atmautluak	303	52	52	27	52	6	55	7	59	14	49
Kasigluk	534	92	92	28	92	8	48	11	58	9	28
Kwethluk	694	128	134	28	134	8	48	11	58	9	28
Lower Kalsksag	252	68	68	28	68	8	48	11	58	9	28
Napaktiak	373	61	61	30	61	4	11	4	21	22	58
Napaskiak	426	80	90	40	90	4	11	4	21	22	58
Nunapitchuk	516	72	50	40	50	7	8	18	23	15	19
Oscarville	62	15	15	40	62	7	8	18	23	15	19
Tuluksak	466	66	57	17	57	4	4	7	40	6	13
Upper Kalsksag	276	42	52	14	52	3	29	6	13	5	10
Subregion Total	5,451	993	717	227	717	36	167	64	230	93	206
Yukon River											
Yukon River											
Marshall	374	82	86	20	86	5	23	4	24	11	39
Mountain Village	784	155	101	23	101	7	30	9	44	7	27
Pilot Station	564	109	122	40	122	4	33	9	31	27	58
Pitkas Point	118	20	20	40	118	4	33	9	31	27	58
Russian Mission	330	62	60	21	60	2	15	1	8	18	37
Saint Mary's	561	93	100	33	100	11	10	3	40	19	50
Subregion Total	2,731	521	469	137	469	29	111	26	147	82	211
Bethel	5,953	1,741	1,739	225	1,739	59	626	66	700	100	776
Total	23,146	4,935	4,027	991	3,895	203	626	255	700	468	776

*Alaska Department of Labor, July 1, 2004 estimate

Table C-5. Village and household response rates, Yukon-Kuskokwim Delta 2001-2005

Year	Unit	Villages Attempted		Villages Sampled		Villages Non-Resp		Village RespRate		Hhs Attempted		Hhs Sampled		Hh Non-Resp		Hh RespRate		VillKwHh RespRate	
		Villages	Attempted	Villages	Sampled	Villages	Non-Resp	RespRate	Attempted	Hhs	Sampled	Non-Resp	Hh	RespRate	Hh	VillKwHh			
2001	South Coast	5	2	3	40%	150	86	64	57%	23%									
	Mid Coast	6	6	0	100%	163	153	10	94%	94%									
	North Coast	4	4	0	100%	157	146	11	93%	93%									
	Kuskokwim	11	7	4	64%	372	255	117	69%	44%									
	Yukon	6	3	3	50%	95	77	18	81%	41%									
	Bethel	1	1	0	100%	149	149	0	100%	100%									
	Total	33	23	10	70%	1086	866	220	80%	56%									
2002	South Coast	5	4	1	80%	202	147	55	73%	58%									
	Mid Coast	9	8	1	89%	288	215	73	75%	67%									
	North Coast	4	4	0	100%	228	137	91	60%	60%									
	Kuskokwim	13	9	4	70%	288	223	65	77%	62%									
	Yukon	6	5	1	84%	160	118	42	74%	62%									
	Bethel	1	1	0	100%	136	136	0	100%	100%									
	Total	38	31	7	82%	1302	976	326	75%	62%									
2004	South Coast	4	3	1	75%	105	93	12	89%	67%									
	Mid Coast	6	6	0	100%	187	157	30	84%	84%									
	North Coast	2	2	0	100%	131	74	57	56%	56%									
	Kuskokwim	9	7	2	78%	172	143	29	83%	65%									
	Yukon	4	2	2	50%	42	35	7	83%	42%									
	Bethel	1	1	0	100%	unknown	[45]	unknown	unknown	unknown									
	Total	26	21	5	81%	637	502	135	79%	64%									
2005	South Coast	3	3	0	100%	126	126	0	100%	100%									
	Mid Coast	6	6	0	100%	198	168	30	85%	85%									
	North Coast	3	3	0	100%	208	108	100	52%	52%									
	Kuskokwim	10	8	2	80%	261	227	34	87%	70%									
	Yukon	5	5	0	100%	131	137	0	100%	100%									
	Bethel	1	1	0	100%	unknown	[225]	unknown	unknown	unknown									
	Total	28	26	2	93%	924	766	164	83%	77%									

Appendix D Detailed harvest estimates by species

Table D-1 Detailed harvest estimates, White-fronted Goose, 1985-2005

Total Take by Season								Total Take by Region						
	Spring	ESum	MSum	LSum	Summer	Fall	Total	South	Mid-	North	Kusko	Yukon	Bethel	Total
1985	2582	818	11	92		300	3803	816	1352	282	745	493	115	3803
1986	1865	560	81	99		203	2808	515	505	440	675	508	165	2808
1987	2640	221	0	272		588	3721	672	730	571	1193	422	133	3721
1989	3431	1034	239	215		404	5323	1369	2062	372	690	738	92	5323
1990	3620	741	497	1229		2201	8288	1886	3931	713	1271	421	66	8288
1991	4661	376	85	194		393	5709	1273	1955	498	836	1104	43	5709
1992	7223	740	134	583		557	9237	1521	3075	424	3195	866	156	9237
1993	4773	442	52	346		2593	8206	708	1522	409	1603	3712	253	8207
1994	5294	623	281	1313		2059	9570	1270	2599	482	1174	3816	229	9570
1995	5921	2216	645	926		1680	11388	1518	3355	710	2428	3169	208	11388
1996	8587	1005	193	1511		3289	14585	1609	3146	696	2464	6487	183	14585
1997	5537	1039	200	906		848	8530	988	3310	970	1411	1720	131	8530
1998	7536	1184	356	1420		1863	12359	1865	4465	800	2967	1953	310	12360
1999	9614	1910	626	518		652	13320	2168	4428	1216	3503	1552	453	13320
2000	11123	1021	468	1395		1431	15438	3787	6898	1113	1394	1727	519	15438
2001	11024	1796	118	408		558	13904	1798	4399	906	3513	2082	1206	13904
2002	8346				1833	1496	11676	2369	4416	643	2119	604	1523	11676
2003			no survey							no survey				
2004	10499				1973	2671	15143	2660	5661	314	1324	935	4248	15143
2005	11122				1274	4608	17003	5567	2882	1256	1884	1299	4115	17003

South Coast: Take by Season								Mid Coast: Take by Season						
	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total
1985	636	143	11	0		26	816	753	417	0	5		177	1352
1986	209	306	0	0		0	515	277	130	45	21		32	505
1987	638	34	0	0		0	672	279	44	0	85		322	730
1989	1153	178	0	8		30	1369	769	692	158	155		288	2062
1990	315	0	0	217		1354	1886	1524	582	463	813		549	3931
1991	1137	50	48	0		38	1273	1257	274	33	158		233	1955
1992	1515	6	0	0		0	1521	1481	529	74	522		469	3075
1993	650	15	0	33		11	709	1063	142	52	104		161	1522
1994	1164	26	0	26		53	1269	1605	288	126	206		374	2599
1995	1421	46	0	38		14	1519	1595	670	639	221		230	3355
1996	1458	6	0	27		118	1609	1774	257	189	344		582	3146
1997	954	5	0	0		29	988	2265	422	137	266		220	3310
1998	1490	260	0	91		24	1865	2594	370	152	569		780	4465
1999	1913	216	0	4		35	2168	2542	792	567	352		175	4428
2000	2818	178	148	412		230	3786	4810	629	277	633		549	6898
2001	1428	321	41	5		3	1798	2999	859	37	279		224	4399
2002	1545				383	440	2369	2954				1130	332	4416
2003			no survey							no survey				
2004	1982				196	483	2660	4242				1107	312	5661
2005	2988				298	2282	5567	2082				215	584	2882

Table D-1(cont.) Detailed harvest estimates, White-fronted Goose, 1985-2005

North Coast: Take by Season								Kuskokwim: Take by Season							
	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total	
1985	190	39	0	35		18	282	610	114	0	0		21	745	
1986	352	46	0	37		5	440	644	0	31	0		0	675	
1987	475	14	0	32		50	571	1019	32	0	72		70	1193	
1989	273	54	0	0		45	372	520	72	74	0		24	690	
1990	526	40	3	26		118	713	1033	108	31	38		61	1271	
1991	451	0	0	0		47	498	792	32	4	8		0	836	
1992	296	110	0	0		18	424	3026	95	25	0		49	3195	
1993	293	104	0	3		8	408	1269	128	0	8		198	1603	
1994	393	27	13	9		40	482	880	152	0	34		108	1174	
1995	528	15	7	101		59	710	1371	712	0	182		163	2428	
1996	274	366	0	17		39	696	1883	277	4	200		100	2464	
1997	727	71	5	45		122	970	905	235	8	114		149	1411	
1998	512	134	26	65		63	800	2160	336	161	148		161	2966	
1999	942	172	59	4		40	1217	2647	519	0	142		195	3503	
2000	895	82	7	38		92	1114	1267	40	36	47		4	1394	
2001	695	149	37	10		16	906	3134	296	3	19		61	3513	
2002	469				62	112	643	1764				168	187	2119	
2003			no survey							no survey					
2004	194				4	117	314	1275				4	45	1324	
2005	975				182	99	1256	1620				10	254	1884	

Yukon: Take by Season								Bethel: Take by Season							
	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total	
1985	369	22	0	52		50	493	24	83	0	0		8	115	
1986	273	47	5	41		142	508	110	31	0	0		24	165	
1987	198	11	0	83		130	422	31	86	0	0		16	133	
1989	626	38	5	52		17	738	90	0	2	0		0	92	
1990	174	11	0	135		101	421	48	0	0	0		18	66	
1991	1008	20	0	28		48	1104	16	0	0	0		27	43	
1992	770	0	35	61		0	866	135	0	0	0		21	156	
1993	1272	54	0	198		2188	3712	225	0	0	0		28	253	
1994	1086	130	142	1037		1421	3816	165	0	0	0		63	228	
1995	854	774	0	384		1157	3169	151	0	0	0		57	208	
1996	3061	99	0	923		2404	6487	137	0	0	0		46	183	
1997	639	306	50	481		244	1720	47	0	0	0		84	131	
1998	544	83	17	547		762	1953	236	0	0	0		74	310	
1999	1198	210	0	16		127	1551	372	0	0	0		81	453	
2000	876	92	0	264		494	1726	457	0	0	0		62	519	
2001	1678	170	0	95		138	2082	1090	0	0	0		115	1206	
2002	379				89	136	604	1235					288	1523	
2003			no survey							no survey					
2004	184				662	90	935	2624				0	1624	4248	
2005	788				152	359	1299	2669				416	1030	4115	

Table D-2 Detailed harvest estimates, Cackling Canada Goose, 1985-2005

Total Take by Season								Total Take by Region							
	Spring	ESum	MSum	LSum	Summer	Fall	Total	South	Mid-	North	Kusko	Yukon	Bethel	Total	
1985	965	375	0	28		118	1486	177	565	275	224	132	113	1486	
1986	1232	421	55	91		264	2063	48	680	263	653	403	16	2063	
1987	2002	293	80	343		501	3219	437	425	812	854	372	319	3219	
1989	2323	457	137	175		492	3584	1031	1055	304	535	579	80	3584	
1990	2620	330	526	1133		1295	5904	564	2953	714	1193	413	67	5904	
1991	3589	252	77	491		517	4926	1029	1479	604	1481	315	18	4926	
1992	2867	859	125	338		298	4487	319	1564	611	1515	436	42	4487	
1993	4234	170	58	444		2181	7087	614	710	839	1715	2941	268	7087	
1994	4796	983	348	1161		2492	9780	2527	2282	593	1507	2769	102	9780	
1995	5602	2856	591	1680		3070	13799	1343	3514	804	2389	5536	212	13798	
1996	7235	991	191	2093		4474	14984	1644	3633	1083	2039	6342	243	14984	
1997	5554	1122	175	1164		1905	9920	1411	4110	1341	1380	1439	239	9920	
1998	8079	1444	412	1860		3378	15173	2591	5016	1738	3274	2294	259	15172	
1999	6640	1345	221	832		2108	11146	1723	4137	1193	2969	753	371	11146	
2000	6135	616	352	1587		2843	11533	2614	4598	770	2132	1123	294	11531	
2001	6956	1284	173	502		1311	10226	900	3516	584	3212	1521	492	10226	
2002	8566				2009	2867	13442	2041	4389	1131	3204	743	1934	13442	
2003			no survey							no survey					
2004	4688				1585	3509	9782	1140	4904	791	1847	141	958	9782	
2005	5780				1149	7482	14411	6270	3448	1058	1304	629	1701	14411	

South Coast: Take by Season								Mid Coast: Take by Season							
	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total	
1985	177	0	0	0		0	177	285	200	0	19		61	565	
1986	48	0	0	0		0	48	162	261	24	41		192	680	
1987	235	17	0	34		151	437	107	55	8	191		64	425	
1989	851	51	0	8		121	1031	340	293	121	114		187	1055	
1990	163	0	0	87		314	564	853	122	476	843		659	2953	
1991	1007	10	0	12		0	1029	662	193	58	357		209	1479	
1992	284	24	0	0		11	319	529	494	113	278		150	1564	
1993	469	22	0	58		65	614	244	92	58	125		191	710	
1994	1204	198	0	93		1032	2527	1257	252	158	361		255	2283	
1995	815	4	0	181		343	1343	1457	537	571	402		547	3514	
1996	1229	54	0	68		293	1644	1212	397	128	1040		856	3633	
1997	1145	10	0	16		240	1411	2126	481	153	594		756	4110	
1998	2125	220	0	32		214	2591	1760	402	270	996		1589	5017	
1999	942	72	0	352		357	1723	1611	678	169	384		1295	4137	
2000	1741	46	38	264		526	2615	1435	322	212	900		1730	4599	
2001	814	0	0	0		86	900	1463	856	0	353		844	3516	
2002	832				466	743	2041	1853				1364	1172	4389	
2003					No survey							No survey			
2004	646				75	418	1140	1802				1325	1777	4904	
2005	1053				327	4890	6270	1758				581	1110	3448	

Table D-2(cont.) Detailed harvest estimates, Cackling Canada Goose, 1985-2005

North Coast: Take by Season								Kuskokwim: Take by Season							
	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total	
1985	114	95	0	9		57	275	194	30	0	0		0	224	
1986	194	16	5	16		32	263	555	90	0	8		0	653	
1987	590	0	44	28		150	812	739	21	6	18		70	854	
1989	212	39	0	37		16	304	449	49	9	0		28	535	
1990	525	56	50	23		60	714	878	86	0	109		120	1193	
1991	231	11	4	107		251	604	1404	29	15	15		18	1481	
1992	309	186	5	11		100	611	1355	149	0	0		11	1515	
1993	581	7	0	32		219	839	1640	49	0	0		26	1715	
1994	256	81	13	74		169	593	1090	269	0	56		93	1508	
1995	453	46	0	95		210	804	1499	644	20	153		73	2389	
1996	436	161	0	0		486	1083	1307	361	63	194		114	2039	
1997	644	67	14	235		381	1341	1033	162	8	74		103	1380	
1998	997	311	7	189		234	1738	2200	475	82	227		292	3276	
1999	704	185	18	25		261	1193	2506	356	34	68		5	2969	
2000	406	66	69	21		209	771	1742	122	32	236		0	2132	
2001	254	36	169	3		122	584	2790	310	4	56		53	3212	
2002	613				57	461	1131	2832				97	276	3204	
2003				No survey							No survey				
2004	322				0	470	791	1539				48	261	1847	
2005	547				203	308	1058	1206				0	98	1304	

Yukon: Take by Season								Bethel: Take by Season							
	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total	
1985	132	0	0	0		0	132	63	50	0	0		0	113	
1986	257	54	26	26		40	403	16	0	0	0		0	16	
1987	238	37	22	72		3	372	93	163	0	0		63	319	
1989	416	25	5	16		117	579	55	0	2	0		23	80	
1990	167	66	0	71		109	413	34	0	0	0		33	67	
1991	274	9	0	0		32	315	11	0	0	0		7	18	
1992	374	6	7	49		0	436	16	0	0	0		26	42	
1993	1057	0	0	229		1655	2941	243	0	0	0		25	268	
1994	940	184	177	578		890	2769	49	0	0	0		53	102	
1995	1293	1625	0	850		1768	5536	84	0	0	0		128	212	
1996	2907	18	0	791		2626	6342	144	0	0	0		99	243	
1997	495	402	0	245		297	1439	111	0	0	0		128	239	
1998	863	36	53	416		926	2294	135	0	0	0		124	259	
1999	622	54	0	3		74	753	255	0	0	0		116	371	
2000	568	61	0	167		327	1123	244	0	0	0		50	294	
2001	1175	82	0	90		174	1521	460	0	0	0		32	492	
2002	701				26	15	743	1735				0	199	1934	
2003				No survey							No survey				
2004	87				54	0	141	292				83	583	958	
2005	357				16	256	629	859				22	820	1701	

Table D-3. Detailed harvest estimates, Lesser Canada goose, 1985-2005

	Total Take by Season							Total Take by Region						
	Spring	ESum	MSum	LSum	Summer	Fall	Total	South	Mid-	North	Kusko	Yukon	Bethel	Total
1985	2894	826	29	68		242	4059	348	207	765	1415	948	376	4059
1986	2349	709	169	174		246	3647	514	267	1014	840	973	39	3647
1987	3297	211	54	346		587	4495	739	489	632	1547	866	222	4495
1989	3770	688	97	182		721	5458	1499	988	966	921	923	159	5456
1990	2965	240	114	218		531	4068	66	415	1144	1568	729	146	4068
1991	3274	163	50	187		630	4304	777	658	987	915	879	88	4304
1992	5665	430	214	449		409	7167	1707	1131	702	2647	805	175	7167
1993	4234	170	58	444		2180	7086	613	711	840	1715	2940	268	7087
1994	4594	272	425	1782		2285	9358	1151	1177	1010	1237	4632	151	9358
1995	6422	3000	414	1638		3454	14928	1741	2391	1479	2308	6847	162	14928
1996	7094	1318	99	2004		4286	14801	1544	1575	1697	1848	7939	198	14801
1997	4207	1017	208	800		1643	7875	1118	1637	1465	1592	1819	244	7875
1998	6429	1160	402	1225		2122	11338	2247	2173	1600	3065	2098	155	11338
1999	6155	1430	285	495		988	9353	1886	1233	1405	3128	1360	341	9353
2000	4683	610	170	508		1937	7908	2535	1351	992	1415	1312	306	7911
2001	5729	900	91	220		1409	8349	1078	959	928	3081	1720	583	8349
2002	4376				966	959	6300	1287	1222	739	1831	643	578	6300
2003			no survey							no survey				
2004	3700				803	1032	5535	904	2486	660	1009	475	0	5535
2005	4228				643	2257	7128	1308	970	1494	824	532	2001	7128
1985	308	11	29	0		0	348	78	99	0	0		30	207
1986	241	241	0	0		32	514	48	80	55	34		50	267
1987	638	67	0	0		34	739	71	4	0	270		144	489
1989	1056	138	0	0		305	1499	345	396	87	64		96	988
1990	22	0	0	33		11	66	221	18	53	59		64	415
1991	718	10	24	0		25	777	257	49	22	166		164	658
1992	1648	59	0	0		0	1707	267	190	139	262		273	1131
1993	469	22	0	58		65	614	244	92	58	125		191	710
1994	913	0	0	13		225	1151	479	123	93	357		125	1177
1995	1407	58	4	79		193	1741	705	466	409	240		571	2391
1996	1097	67	0	27		353	1544	537	317	43	140		538	1575
1997	934	41	0	0		143	1118	612	180	94	335		416	1637
1998	1856	181	0	96		114	2247	764	149	157	139		964	2173
1999	1118	158	0	323		287	1886	548	231	79	33		342	1233
2000	1440	170	0	236		689	2535	486	224	98	72		471	1351
2001	502	43	0	9		523	1078	450	59	15	59		378	959
2002	728				310	249	1287	515				437	270	1222
2003			no survey							no survey				
2004	458				62	383	904	1540				724	222	2486
2005	687				169	452	1308	386				308	276	970

Table D-3 (cont.) Detailed harvest estimates, Lesser Canada goose, 1985-2005

North Coast: Take by Season								Kuskokwim: Take by Season							
	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total	
1985	363	257	0	35		110	765	1255	125	0	0		35	1415	
1986	744	142	5	86		37	1014	604	147	80	0		9	840	
1987	383	50	9	57		133	632	1385	53	0	0		109	1547	
1989	739	65	0	96		66	966	828	75	5	0		14	921	
1990	842	65	44	50		143	1144	1307	116	17	34		94	1568	
1991	584	32	0	3		368	987	860	32	4	4		15	915	
1992	446	62	3	102		89	702	2486	110	44	0		7	2647	
1993	581	7	0	32		219	839	1640	49	0	0		26	1715	
1994	570	50	13	95		282	1010	1133	0	0	69		35	1237	
1995	694	34	0	190		561	1479	1466	624	1	129		88	2308	
1996	599	535	0	217		346	1697	1305	245	48	135		115	1848	
1997	700	216	24	58		467	1465	987	337	0	111		157	1592	
1998	749	112	89	525		125	1600	1747	631	117	156		414	3065	
1999	731	471	73	47		83	1405	2433	426	48	82		139	3128	
2000	759	71	0	40		122	992	1204	79	73	28		31	1415	
2001	684	115	77	23		29	928	2379	400	0	94		208	3081	
2002	481				31	227	739	1527				130	174	1831	
2003			no survey							no survey					
2004	234				0	426	660	992				17	0	1009	
2005	953				55	486	1494	655				25	144	824	

Yukon: Take by Season								Bethel: Take by Season							
	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total	
1985	811	61	0	33		43	948	79	273	0	0		24	376	
1986	673	99	29	54		118	973	39	0	0	0		0	39	
1987	711	27	45	19		64	866	109	10	0	0		103	222	
1989	671	14	5	22		212	923	131	0	0	0		28	159	
1990	495	41	0	42		151	729	78	0	0	0		68	146	
1991	807	40	0	14		18	879	48	0	0	0		40	88	
1992	667	9	28	85		16	805	151	0	0	0		24	175	
1993	1057	0	0	229		1655	2941	243	0	0	0		25	268	
1994	1400	99	319	1248		1565	4631	99	0	0	0		53	152	
1995	2002	1818	0	1000		2027	6847	148	0	0	0		14	162	
1996	3457	154	8	1485		2835	7939	99	0	0	0		99	198	
1997	884	243	90	296		306	1819	90	0	0	0		154	244	
1998	1185	88	39	309		478	2099	128	0	0	0		27	155	
1999	1058	144	85	10		63	1360	267	0	0	0		74	341	
2000	520	67	0	132		593	1312	275	0	0	0		31	306	
2001	1195	284	0	35		206	1720	519	0	0	0		64	583	
2002	556				58	29	643	568					10	578	
2003			no survey							no survey					
2004	475				0	0	475	0				0	0	0	
2005	402				36	94	532	1145				51	805	2001	

Table D-4. Detailed harvest estimates, Lesser Snow Goose, 1985-2005

Total Take by Season								Total Take by Region						
	Spring	ESum	MSum	LSum	Summer	Fall	Total	South	Mid-	North	Kusko	Yukon	Bethel	Total
1985	679	180	0	26		320	1205	86	289	444	83	303	0	1205
1986	1042	199	28	12		823	2104	32	677	1126	23	246	0	2104
1987	1471	220	0	19		3492	5202	0	2928	1918	14	200	142	5202
1989	403	158	0	14		314	889	126	363	81	53	266	0	889
1990	631	15	0	78		560	1284	33	525	524	17	176	9	1284
1991	445	0	4	0		415	864	0	178	665	0	21	0	864
1992	644	115	9	92		796	1656	24	498	710	57	333	34	1656
1993	1514	102	0	118		384	2118	20	116	804	19	1085	74	2118
1994	1394	87	142	149		343	2115	0	58	1010	11	1030	7	2116
1995	1245	553	5	20		482	2305	4	194	1056	18	1034	0	2306
1996	2233	311	14	361		916	3835	77	2056	935	246	510	11	3835
1997	953	88	21	9		307	1378	29	167	1077	20	85	0	1378
1998	1267	177	40	19		632	2135	3	546	1409	12	163	0	2133
1999	996	163	9	16		154	1338	0	18	808	28	480	4	1338
2000	1308	165	0	0		22	1495	0	0	1344	132	20	0	1496
2001	2261	664	18	0		128	3071	0	140	1412	248	1247	25	3071
2002	1135	0	0	0	0	736	1871	17	591	1006	45	142	69	1871
2003					No survey								No survey	
2004	1150	0	0	0	0	238	1388	19	0	1266	0	103	0	1388
2005	1660	0	0	0	16	269	1944	11	203	1592	57	75	7	1944

South Coast: Take by Season								Mid Coast: Take by Season							
	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total	
1985	60	0	0	0		26	86	8	5	0	26		250	289	
1986	32	0	0	0		0	32	0	0	0	7		670	677	
1987	0	0	0	0		0	0	0	0	0	0		2928	2928	
1989	68	58	0	0		0	126	21	75	0	0		267	363	
1990	0	0	0	33		0	33	4	0	0	11		510	525	
1991	0	0	0	0		0	0	7	0	0	0		171	178	
1992	6	18	0	0		0	24	13	0	0	30		455	498	
1993	20	0	0	0		0	20	0	5	0	0		112	117	
1994	0	0	0	0		0	0	3	0	0	0		55	58	
1995	0	4	0	0		0	4	0	6	3	0		185	194	
1996	77	0	0	0		0	77	953	0	0	286		817	2056	
1997	0	0	0	0		29	29	0	0	0	0		167	167	
1998	0	3	0	0		0	3	0	0	0	6		540	546	
1999	0	0	0	0		0	0	0	0	0	0		18	18	
2000	0	0	0	0		0	0	0	0	0	0		0	0	
2001	0	0	0	0		0	0	0	42	0	0		98	140	
2002	15				0	2	17	14				0	577	591	
2003					No survey							No survey			
2004	19				0	0	19	0				0	0	0	
2005	6				4	0	11	53				0	150	203	

Table D-4 (cont.) Detailed harvest estimates, Lesser Snow Goose, 1985-2005

North Coast: Take by Season								Kuskokwim: Take by Season							
	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total	
1985	264	136	0	0		44	444	65	18	0	0		0	83	
1986	842	190	0	5		89	1126	0	0	23	0		0	23	
1987	1275	207	0	19		417	1918	14	0	0	0		0	14	
1989	51	16	0	0		14	81	53	0	0	0		0	53	
1990	444	0	0	34		46	524	13	0	0	0		4	17	
1991	417	0	4	0		244	665	0	0	0	0		0	0	
1992	288	97	9	62		254	710	57	0	0	0		0	57	
1993	434	97	0	118		154	803	19	0	0	0		0	19	
1994	826	41	0	7		135	1009	11	0	0	0		0	11	
1995	755	24	2	20		255	1056	0	0	0	0		18	18	
1996	521	291	0	61		62	935	190	14	14	14		14	246	
1997	912	54	0	0		111	1077	3	8	0	9		0	20	
1998	1118	166	40	13		73	1410	10	3	0	0		0	13	
1999	574	73	9	16		136	808	28	0	0	0		0	28	
2000	1179	150	0	0		15	1344	109	15	0	0		7	131	
2001	1038	326	18	0		30	1412	223	25	0	0		0	248	
2002	910					96	1006	45					0	45	
2003					No survey							No survey			
2004	1028				0	238	1266	0					0	0	
2005	1526				11	55	1592	0					0	57	

Yukon: Take by Season								Bethel: Take by Season							
	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total	
1985	282	21	0	0		0	303	0	0	0	0		0	0	
1986	168	9	5	0		64	246	0	0	0	0		0	0	
1987	182	13	0	0		5	200	0	0	0	0		142	142	
1989	210	9	0	14		33	266	0	0	0	0		0	0	
1990	161	15	0	0		0	176	9	0	0	0		0	9	
1991	21	0	0	0		0	21	0	0	0	0		0	0	
1992	265	0	0	0		68	333	15	0	0	0		19	34	
1993	1030	0	0	0		55	1085	11	0	0	0		63	74	
1994	547	46	142	142		153	1030	7	0	0	0		0	7	
1995	490	520	0	0		24	1034	0	0	0	0		0	0	
1996	492	6	0	0		12	510	0	0	0	0		11	11	
1997	38	26	21	0		0	85	0	0	0	0		0	0	
1998	140	4	0	0		19	163	0	0	0	0		0	0	
1999	390	90	0	0		0	480	4	0	0	0		0	4	
2000	20	0	0	0		0	20	0	0	0	0		0	0	
2001	976	271	0	0		0	1247	25	0	0	0		0	25	
2002	142				0	0	142	10	0	0	0		60	69	
2003					No survey							No survey			
2004	103				0	0	103	0					0	0	
2005	75				0	0	75	0					0	7	

Table D-5. Detailed harvest estimates, Emperor Goose, 1985-2005

Total Take by Season								Total Take by Region						
	Spring	ESum	MSum	LSum	Summer	Fall	Total	South	Mid-	North	Kusko	Yukon	Bethel	Total
1985	2351	1172	69	133		306	4031	934	2975	112	6	4	0	4031
1986	1899	536	217	278		162	3092	80	2642	218	59	38	55	3092
1987	676	146	17	378		135	1352	51	909	75	170	81	66	1352
1989	781	394	87	202		150	1614	151	1248	77	18	72	48	1614
1990	1501	613	372	653		301	3440	87	2896	325	82	29	21	3440
1991	1372	295	61	465		200	2393	0	2124	180	20	64	5	2393
1992	1247	526	132	491		273	2669	64	2076	262	222	45	0	2669
1993	1724	274	91	303		210	2602	1066	1208	108	136	84	0	2602
1994	786	189	102	350		67	1494	265	996	58	71	93	11	1494
1995	1074	316	74	476		101	2041	81	1666	171	47	26	49	2040
1996	1246	264	99	551		215	2375	13	1680	284	344	36	18	2375
1997	907	138	14	317		93	1469	10	1273	112	8	66	0	1469
1998	1299	112	62	283		143	1899	17	1715	20	104	39	4	1899
1999	527	130	5	120		35	817	23	608	47	16	123	0	817
2000	1092	142	7	87		23	1351	360	563	98	100	232	0	1353
2001	692	259	70	47		9	1078	12	799	87	180	0	0	1078
2002	839	0	0	0	274	138	1251	143	1033	8	66	0	0	1251
2003					No survey						No survey			
2004	1240	0	0	0	335	117	1692	643	937	98	13	0	0	1692
2005	407	0	0	0	134	90	631	85	502	30	4	0	10	631

South Coast: Take by Season								Mid Coast: Take by Season							
	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total	
1985	723	190	0	0		21	934	1591	923	69	133		259	2975	
1986	64	16	0	0		0	80	1636	410	204	256		136	2642	
1987	34	17	0	0		0	51	392	112	13	290		102	909	
1989	151	0	0	0		0	151	473	390	73	188		124	1248	
1990	0	0	0	0		87	87	1209	600	322	599		166	2896	
1991	0	0	0	0		0	0	1190	295	54	465		120	2124	
1992	46	18	0	0		0	64	694	491	127	491		273	2076	
1993	943	98	0	25		0	1066	472	169	91	266		210	1208	
1994	265	0	0	0		0	265	368	154	102	350		22	996	
1995	81	0	0	0		0	81	807	312	74	424		50	1667	
1996	13	0	0	0		0	13	823	201	99	464		93	1680	
1997	10	0	0	0		0	10	844	120	0	276		33	1273	
1998	10	7	0	0		0	17	1187	78	62	258		130	1715	
1999	0	0	0	0		23	23	370	112	5	114		7	608	
2000	311	39	3	7		0	360	395	74	4	81		10	564	
2001	7	5	0	0		0	12	495	187	64	43		9	799	
2002	121				21	1	143	679				217	137	1033	
2003					No survey							No survey			
2004	643				0	0	643	584				335	19	937	
2005	85				0	0	85	291				123	88	502	

Table D-5 (cont.) Detailed harvest estimates, Emperor Goose, 1985-2005

North Coast: Take by Season								Kuskokwim: Take by Season							
	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total	
1985	27	59	0	0		26	112	6	0	0	0		0	6	
1986	91	94	0	22		11	218	51	0	8	0		0	59	
1987	39	0	0	36		0	75	161	0	0	0		9	170	
1989	64	4	0	0		9	77	18	0	0	0		0	18	
1990	185	13	50	50		27	325	68	0	0	0		14	82	
1991	112	0	7	0		61	180	16	0	0	0		4	20	
1992	240	17	5	0		0	262	222	0	0	0		0	222	
1993	108	0	0	0		0	108	118	7	0	12		0	137	
1994	39	13	0	0		5	57	57	14	0	0		0	71	
1995	67	4	0	49		51	171	43	0	0	4		0	47	
1996	70	40	0	87		87	284	340	4	0	0		0	344	
1997	44	18	14	30		6	112	3	0	0	5		0	8	
1998	16	1	0	3		0	20	69	27	0	9		0	105	
1999	19	17	0	6		5	47	16	0	0	0		0	16	
2000	76	9	0	0		13	98	100	0	0	0		0	100	
2001	54	24	7	3		0	87	136	44	0	0		0	180	
2002	8				0	0	8	31				36		66	
2003					No survey							No survey			
2004	0				0	98	98	13				0	0	13	
2005	17				11	2	30	4				0	0	4	

Yukon: Take by Season								Bethel: Take by Season							
	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total	
1985	4	0	0	0		0	4	0	0	0	0		0	0	
1986	18	0	5	0		15	38	39	16	0	0		0	55	
1987	8	17	4	52		0	81	42	0	0	0		24	66	
1989	30	0	14	14		14	72	45	0	0	0		3	48	
1990	18	0	0	4		7	29	21	0	0	0		0	21	
1991	54	0	0	0		10	64	0	0	0	0		5	5	
1992	45	0	0	0		0	45	0	0	0	0		0	0	
1993	84	0	0	0		0	84	0	0	0	0		0	0	
1994	46	8	0	0		39	93	11	0	0	0		0	11	
1995	26	0	0	0		0	26	49	0	0	0		0	49	
1996	0	19	0	0		17	36	0	0	0	0		18	18	
1997	6	0	0	6		54	66	0	0	0	0		0	0	
1998	13	0	0	13		13	39	4	0	0	0		0	4	
1999	123	0	0	0		0	123	0	0	0	0		0	0	
2000	211	20	0	0		0	231	0	0	0	0		0	0	
2001							0							0	
2002							0							0	
2003					No survey							No survey			
2004	0				0	0	0	0				0	0	0	
2005	0				0	0	0	10				0	0	10	

Table D-6. Detailed harvest estimates, Black Brant, 1985-2005

Total Take by Season								Total Take by Region						
	Spring	ESum	MSum	LSum	Summer	Fall	Total	South	Mid-	North	Kusko	Yukon	Bethel	Total
1985	1272	693	51	12		140	2168	751	1225	146	21	25	0	2168
1986	519	299	138	175		352	1483	96	1134	170	0	13	70	1483
1987	383	244	43	312		49	1031	0	827	24	176	4	0	1031
1989	1005	502	243	184		437	2371	61	2140	107	0	33	30	2371
1990	1412	496	357	605		264	3134	11	2794	133	172	18	6	3134
1991	1002	235	83	609		329	2258	0	2050	72	134	0	2	2258
1992	1136	676	201	475		308	2796	103	2126	291	204	43	29	2796
1993	1226	217	85	529		445	2502	715	1453	146	135	0	53	2502
1994	911	374	433	419		189	2326	609	1583	76	55	0	4	2327
1995	2134	927	937	664		334	4996	220	4362	225	178	0	11	4996
1996	1521	600	393	477		312	3303	193	2866	59	163	22	0	3303
1997	1981	343	440	504		304	3572	49	3357	97	38	31	0	3572
1998	1611	495	588	714		691	4099	73	3606	77	314	26	4	4100
1999	1370	478	148	388		339	2723	34	2339	202	59	15	74	2723
2000	2242	502	87	537		634	4002	1338	2447	73	125	11	8	4002
2001	2666	1973	56	731		342	5769	595	4906	115	91	0	62	5769
2002	2773	118	0	0	1635	264	4790	1189	3337	0	255	9	0	4790
2003					No survey						No survey			
2004	2723	0	0	0	606	430	3760	643	2901	137	78	0	0	3760
2005	2915	0	0	0	452	528	3895	1612	2000	157	56	18	52	3895

South Coast: Take by Season							Mid Coast: Take by Season						
	Spring	ESum	MSum	LSum	Fall	Total	Spring	ESum	MSum	LSum	Fall	Total	
1985	590	130	0	0	31	751	657	505	51	12	0	1225	
1986	80	16	0	0	0	96	306	168	138	175	347	1134	
1987	0	0	0	0	0	0	201	235	43	312	36	827	
1989	61	0	0	0	0	61	825	494	224	184	413	2140	
1990	11	0	0	0	0	11	1269	463	357	498	207	2794	
1991	0	0	0	0	0	0	827	213	83	609	318	2050	
1992	51	12	23	0	17	103	689	517	178	475	267	2126	
1993	309	76	0	196	134	715	625	123	85	309	311	1453	
1994	185	159	159	40	66	609	621	203	272	380	107	1583	
1995	205	4	0	11	0	220	1787	864	917	515	278	4361	
1996	71	0	0	0	122	193	1282	525	393	477	189	2866	
1997	49	0	0	0	0	49	1855	327	434	476	265	3357	
1998	27	7	0	4	36	74	1513	320	453	682	637	3605	
1999	34	0	0	0	0	34	1069	416	148	388	318	2339	
2000	1075	181	16	63	3	1338	1056	250	72	475	595	2448	
2001	470	125	0	0	0	595	2037	1781	33	724	331	4906	
2002	689	118			382	0	1820				1254	264	3337
2003					No survey						No survey		
2004	643				0	0	1960				606	335	2901
2005	1413				81	118	1285				330	385	2000

Table D-6 (cont.) Detailed harvest estimates, Black Brant, 1985-2005

North Coast: Take by Season								Kuskokwim: Take by Season							
	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total	
1985	0	58	0	0		88	146	0	0	0	0		21	21	
1986	125	45	0	0		0	170	0	0	0	0		0	0	
1987	19	5	0	0		0	24	163	0	0	0		13	176	
1989	75	8	0	0		24	107	0	0	0	0		0	0	
1990	89	29	0	0		15	133	34	0	0	100		38	172	
1991	61	0	0	0		11	72	112	22	0	0		0	134	
1992	208	83	0	0		0	291	140	64	0	0		0	204	
1993	122	0	0	24		0	146	117	17	0	0		0	134	
1994	50	8	3	0		16	77	51	4	0	0		0	55	
1995	108	7	0	58		52	225	23	51	20	80		4	178	
1996	49	9	0	0		1	59	119	44	0	0		0	163	
1997	16	16	6	20		39	97	33	0	0	5		0	38	
1998	18	31	0	28		0	77	45	134	134	0		0	313	
1999	175	14	0	0		13	202	11	48	0	0		0	59	
2000	20	18	0	0		36	74	72	53	0	0		0	125	
2001	33	52	23	7		0	115	64	16	0	0		11	91	
2002								255					0	255	
2003					No survey							No survey			
2004	42				0	95	137	78					0	78	
2005	105				41	12	157	56					0	56	

Yukon: Take by Season								Bethel: Take by Season							
	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total	
1985	25	0	0	0		0	25	0	0	0	0		0	0	
1986	8	0	0	0		5	13	0	70	0	0		0	70	
1987	0	4	0	0		0	4	0	0	0	0		0	0	
1989	14	0	19	0		0	33	30	0	0	0		0	30	
1990	7	4	0	7		0	18	2	0	0	0		4	6	
1991	0	0	0	0		0	0	2	0	0	0		0	2	
1992	43	0	0	0		0	43	5	0	0	0		24	29	
1993	0	0	0	0		0	0	53	0	0	0		0	53	
1994	0	0	0	0		0	0	4	0	0	0		0	4	
1995	0	0	0	0		0	0	11	0	0	0		0	11	
1996	0	22	0	0		0	22	0	0	0	0		0	0	
1997	28	0	0	3		0	31	0	0	0	0		0	0	
1998	9	3	0	0		14	26	0	0	0	0		4	4	
1999	15	0	0	0		0	15	66	0	0	0		8	74	
2000	11	0	0	0		0	11	8	0	0	0		0	8	
2001	0	0	0	0		0	0	62	0	0	0		0	62	
2002	9				0	0	9								
2003					No survey							No survey			
2004	0				0	0	0	0					0	0	
2005	5				0	14	18	52					0	52	

Table D-7. Detailed harvest estimates, Tundra Swan, 1985-2005

Total Take by Season								Total Take by Region						
	Spring	ESum	MSum	LSum	Summer	Fall	Total	South	Mid-	North	Kusko	Yukon	Bethel	Total
1985	1842	512	40	155		983	3532	324	1028	448	791	933	8	3532
1986	2628	937	300	469		1029	5363	290	1978	887	953	1161	94	5363
1987	3837	480	117	723		1565	6722	974	1718	697	1976	1187	170	6722
1989	2824	935	305	358		1611	6033	874	2282	778	1079	951	69	6033
1990	2794	400	90	668		1448	5400	597	1262	982	1582	915	62	5400
1991	3173	174	70	275		906	4598	615	914	822	1024	1202	21	4598
1992	4667	1231	91	286		952	7227	1137	1080	1271	2585	1084	70	7227
1993	2924	216	41	454		2132	5767	235	653	854	1268	2680	77	5767
1994	3454	663	489	1047		2377	8030	1151	814	813	1586	3575	92	8031
1995	3505	1907	240	976		2901	9529	837	1629	1203	2415	3338	106	9528
1996	4126	660	179	851		3044	8860	799	1047	642	1899	4399	74	8860
1997	2697	711	89	477		1345	5319	180	683	1054	2111	1211	80	5319
1998	3386	552	201	650		1127	5916	698	793	679	2402	1255	89	5916
1999	3424	732	32	259		660	5107	369	415	713	1636	1842	132	5107
2000	2307	266	50	220		735	3578	596	474	436	506	1399	166	3577
2001	2501	483	46	135		610	3775	97	341	360	1068	1713	196	3775
2002	2009	0	0	0	375	965	3349	336	596	496	1118	556	246	3349
2003					No survey						No survey			
2004	3408	0	0	0	322	2721	6451	2002	709	363	754	416	2207	6451
2005	2542	0	0	0	442	1591	4574	924	536	709	733	1089	584	4574

South Coast: Take by Season								Mid Coast: Take by Season							
	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total	
1985	145	33	11	0		135	324	161	198	23	93		553	1028	
1986	113	161	0	16		0	290	495	430	260	313		480	1978	
1987	521	84	0	50		319	974	206	81	68	554		809	1718	
1989	502	136	0	8		228	874	350	541	269	283		839	2282	
1990	228	11	0	163		195	597	262	110	70	294		526	1262	
1991	568	10	12	0		25	615	187	69	54	177		427	914	
1992	913	24	6	0		194	1137	242	186	38	235		379	1080	
1993	188	0	11	0		37	236	154	35	19	121		324	653	
1994	450	66	40	13		582	1151	134	53	18	222		387	814	
1995	373	38	8	11		408	838	304	210	209	385		520	1628	
1996	360	33	0	54		352	799	154	100	124	170		499	1047	
1997	180	0	0	0		0	180	232	72	24	46		309	683	
1998	492	46	0	7		132	677	251	78	33	123		307	792	
1999	273	8	0	15		73	369	126	49	0	70		170	415	
2000	518	13	22	26		17	596	115	67	12	101		178	473	
2001	79	14	4	0		0	97	193	43	0	24		80	341	
2002	188				23	126	336	99				323	174	596	
2003					No survey							No survey			
2004	613				66	1322	2002	168				180	361	709	
2005	266				178	480	924	188				42	306	536	

Table D-7 (cont.) Detailed harvest estimates, Tundra Swan, 1985-2005

North Coast: Take by Season								Kuskokwim: Take by Season							
	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total	
1985	154	88	0	30		176	448	594	152	6	25		14	791	
1986	343	66	0	97		381	887	797	82	32	25		17	953	
1987	402	19	0	26		250	697	1628	191	18	41		98	1976	
1989	449	20	0	17		292	778	762	142	23	5		147	1079	
1990	530	95	6	59		292	982	1127	140	14	107		194	1582	
1991	398	56	4	91		273	822	971	16	0	7		30	1024	
1992	451	747	38	11		24	1271	2142	225	4	40		174	2585	
1993	654	20	3	50		127	854	1097	62	8	12		90	1269	
1994	275	55	5	100		378	813	1157	253	0	4		172	1586	
1995	490	92	9	164		448	1203	1321	542	14	115		423	2415	
1996	186	171	0	113		172	642	1295	275	8	105		216	1899	
1997	456	151	32	88		327	1054	1103	244	24	194		546	2111	
1998	344	95	13	171		56	679	1515	249	100	208		330	2402	
1999	397	108	24	31		153	713	1101	286	0	139		110	1636	
2000	273	46	3	14		100	436	436	27	8	28		7	506	
2001	215	62	38	11		34	360	769	137	4	75		83	1068	
2002	267				13	217	496	866				16	236	1118	
2003					No survey							No survey			
2004	136				8	218	363	600				13	141	754	
2005	378				180	151	709	478				15	240	733	

Yukon: Take by Season								Bethel: Take by Season							
	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total	
1985	788	33	0	7		105	933	0	8	0	0		0	8	
1986	849	182	8	18		104	1161	31	16	0	0		47	94	
1987	1023	47	31	52		34	1187	57	58	0	0		55	170	
1989	709	96	13	45		88	951	52	0	0	0		17	69	
1990	620	44	0	45		206	915	27	0	0	0		35	62	
1991	1030	23	0	0		149	1202	19	0	0	0		2	21	
1992	870	49	5	0		160	1084	49	0	0	0		21	70	
1993	783	100	0	271		1526	2680	49	0	0	0		28	77	
1994	1379	236	426	708		826	3575	60	0	0	0		32	92	
1995	958	1024	0	301		1055	3338	60	0	0	0		46	106	
1996	2082	81	47	409		1780	4399	49	0	0	0		25	74	
1997	694	244	9	149		115	1211	32	0	0	0		48	80	
1998	727	83	55	120		270	1255	58	0	0	0		31	89	
1999	1430	281	9	3		119	1842	97	0	0	0		35	132	
2000	806	114	4	52		424	1400	159	0	0	0		8	167	
2001	1132	227		25		329	1713	113	0	0	0		83	196	
2002	384				0	172	556	206				0	40	246	
2003					No survey							No survey			
2004	350				54	11	416	1541				0	666	2207	
2005	892				27	170	1089	340				0	244	584	

Table D-8. Detailed harvest estimates, Sandhill Crane, 1985-2005

Total Take by Season								Total Take by Region						
	Spring	ESum	MSum	LSum	Summer	Fall	Total	South	Mid-	North	Kusko	Yukon	Bethel	Total
1985	2269	642	141	106		132	3290	801	1172	512	339	354	112	3290
1986	1636	951	289	407		193	3476	579	1695	424	599	101	78	3476
1987	1213	316	63	432		166	2190	505	641	351	456	189	48	2190
1989	2050	481	275	124		262	3192	900	1003	516	534	219	20	3192
1990	1101	471	119	325		145	2161	532	853	395	322	24	35	2161
1991	2530	199	140	158		147	3174	1194	796	303	587	276	18	3174
1992	2726	624	151	314		365	4180	945	1678	703	786	26	42	4180
1993	1491	240	99	306		198	2334	525	526	535	478	108	162	2334
1994	1923	500	246	241		207	3117	1085	1030	343	476	152	32	3118
1995	2324	1035	302	735		944	5340	733	1411	714	1052	1349	81	5340
1996	2333	593	149	287		536	3898	778	718	335	845	1145	77	3898
1997	1249	452	140	254		275	2370	394	407	377	774	345	73	2370
1998	2446	691	141	431		197	3906	761	1193	431	1084	314	124	3907
1999	2748	491	39	169		91	3538	522	898	612	886	504	116	3538
2000	1940	231	92	184		70	2517	901	795	283	253	110	174	2516
2001	1989	579	133	133	0	65	2899	504	900	512	596	232	155	2899
2002	1884	0	0	31	428	304	2648	634	587	233	908	119	167	2648
2003					No survey						No survey			
2004	1871	0	0	0	237	1076	3184	931	396	333	403	38	1083	3184
2005	1698	0	0	0	270	488	2456	1183	463	354	152	28	276	2456

South Coast: Take by Season								Mid Coast: Take by Season							
	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total	
1985	572	100	102	11		16	801	653	371	25	61		62	1172	
1986	225	354	0	0		0	579	421	497	260	354		163	1695	
1987	336	118	0	34		17	505	150	73	8	376		34	641	
1989	674	169	0	17		40	900	446	270	158	66		63	1003	
1990	271	33	0	228		0	532	358	300	83	61		51	853	
1991	1137	20	12	12		13	1194	433	155	49	81		78	796	
1992	916	18	11	0		0	945	673	228	115	310		352	1678	
1993	259	49	34	106		77	525	259	49	34	106		77	525	
1994	701	212	79	26		66	1084	600	120	115	163		33	1031	
1995	537	99	23	38		36	733	464	213	142	288		304	1411	
1996	643	65	6	0		64	778	385	81	46	137		69	718	
1997	330	5	15	5		39	394	165	59	71	50		62	407	
1998	542	170	4	18		26	760	787	158	70	163		16	1194	
1999	491	19	0	8		4	522	662	184	3	34		15	898	
2000	777	23	35	53		14	902	539	124	42	60		29	794	
2001	343	113	34	14		0	504	522	285	54	39		0	900	
2002	434				105	94	634	265				311	12	587	
2003					No survey							No survey			
2004	728				76	127	931	318				37	40	396	
2005	755				136	293	1183	373				29	61	463	

Table D-8 (cont.) Detailed harvest estimates, Sandhill Crane, 1985-2005

North Coast: Take by Season								Kuskokwim: Take by Season							
	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total	
1985	394	67	8	21		22	512	277	49	6	0		7	339	
1986	391	0	0	11		22	424	508	32	17	42		0	599	
1987	257	21	17	6		50	351	377	56	23	0		0	456	
1989	389	20	16	4		87	516	350	10	101	32		41	534	
1990	225	72	29	32		37	395	215	62	7	4		34	322	
1991	246	7	18	18		14	303	549	17	0	12		9	587	
1992	438	252	13	0		0	703	650	120	12	4		0	786	
1993	378	40	7	94		16	535	411	51	12	0		5	479	
1994	220	40	8	24		51	343	281	129	0	16		50	476	
1995	320	91	12	116		175	714	621	331	8	53		39	1052	
1996	74	134	0	0		127	335	600	167	4	74		0	845	
1997	153	106	39	25		54	377	432	221	8	87		26	774	
1998	269	80	10	69		4	432	619	229	49	144		43	1084	
1999	445	103	32	19		13	612	722	40	3	102		19	886	
2000	246	36	0	0		0	282	172	9	16	57		0	254	
2001	406	45	42	19		0	512	466	94	3	15		17	596	
2002	166				1	65	233	828			31		49	908	
2003					No survey						No survey				
2004	98				4	231	333	351				4	48	403	
2005	189				101	65	354	149				0	3	152	

Yukon: Take by Season								Bethel: Take by Season							
	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total	
1985	294	22	0	13		25	354	79	33	0	0		0	112	
1986	60	29	12	0		0	101	31	39	0	0		8	78	
1987	72	29	15	16		57	189	21	19	0	0		8	48	
1989	173	10	0	5		31	219	18	2	0	0		0	20	
1990	4	4	0	0		16	24	28	0	0	0		7	35	
1991	149	0	61	35		31	276	16	0	0	0		2	18	
1992	20	6	0	0		0	26	29	0	0	0		13	42	
1993	40	51	12	0		5	108	144	0	0	0		18	162	
1994	97	0	44	11		0	152	25	0	0	0		7	32	
1995	326	301	117	240		365	1349	56	0	0	0		25	81	
1996	575	146	93	76		255	1145	56	0	0	0		21	77	
1997	144	61	7	87		46	345	25	0	0	0		48	73	
1998	135	54	9	38		77	313	93	0	0	0		31	124	
1999	339	145	0	7		13	504	89	0	0	0		27	116	
2000	30	39	0	15		26	110	174	0	0	0		0	174	
2001	105	42	0	45		40	232	148	0	0	0		7	155	
2002	44				11	64	119	147				0	20	167	
2003					No survey						No survey				
2004	0				32	6	38	375				83	625	1083	
2005	24				4	0	28	209				0	67	276	

Table D-9. Detailed harvest estimates, Northern Pintail, 1985-2005

Total Take by Season								Total Take by Region						
	Spring	ESum	MSum	LSum	Summer	Fall	Total	South	Mid-	North	Kusko	Yukon	Bethel	Total
1985	2332	1443	733	1124		2459	8091	1493	2616	905	1717	1164	196	8091
1986	3704	1744	716	1621		2148	9933	643	3104	1790	2534	1116	746	9933
1987	7353	1739	1207	2943		4297	17539	2486	2999	2411	6587	1711	1345	17539
1989	2594	1188	827	496		1790	6895	1277	2062	1285	1519	503	249	6895
1990	3517	505	351	749		3146	8268	1528	927	978	3691	745	399	8268
1991	4650	403	236	465		1738	7492	504	1131	959	3774	795	329	7492
1992	4746	524	317	692		1795	8074	302	1361	630	4821	522	438	8074
1993	3363	429	395	1002		2286	7475	1618	604	1237	2407	1344	264	7474
1994	2843	760	210	545		2538	6896	913	341	968	1572	2812	289	6895
1995	3141	2335	996	2487		3619	12578	707	1225	1288	3718	5322	318	12578
1996	3792	1336	1317	1386		3119	10950	425	1125	1390	2067	5672	271	10950
1997	1461	524	784	1166		1749	5684	216	1576	1266	1751	674	201	5684
1998	2497	885	1274	1170		2259	8085	319	2219	2068	2549	737	193	8085
1999	1737	588	1302	546		1299	5472	339	1763	1253	1500	424	193	5472
2000	1606	419	1202	997		1656	5880	1249	1676	998	1018	696	244	5881
2001	1594	1010	770	593		1606	5573	216	797	958	1680	1793	130	5573
2002	2287	281	0	0	1723	3516	7807	1440	2350	1025	2181	514	297	7807
2003					No survey						No survey			
2004	3447	0	0	0	1683	3457	8587	529	2509	1413	1224	373	2540	8587
2005	2929	0	0	0	1308	5676	9912	2384	1073	1634	1041	584	3196	9912

South Coast: Take by Season								Mid Coast: Take by Season						
	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total
1985	420	247	125	142		559	1493	80	443	515	515		1063	2616
1986	225	306	16	64		32	643	71	622	239	1090		1082	3104
1987	790	302	168	403		823	2486	179	86	96	1214		1424	2999
1989	546	103	0	91		537	1277	286	822	216	219		519	2062
1990	271	0	0	119		1138	1528	189	44	35	270		389	927
1991	459	20	0	0		25	504	104	115	5	387		520	1131
1992	210	0	0	6		86	302	142	127	199	452		441	1361
1993	124	0	25	751		718	1618	159	17	9	77		342	604
1994	503	0	0	0		410	913	12	40	25	68		197	342
1995	194	42	4	129		338	707	231	195	351	263		184	1224
1996	231	13	0	34		147	425	32	49	367	346		331	1125
1997	88	0	5	0		123	216	24	48	404	397		703	1576
1998	136	23	0	47		112	318	67	81	737	262		1071	2218
1999	118	8	0	37		176	339	68	44	961	182		508	1763
2000	156	3	349	424		317	1249	62	17	457	393		747	1676
2001	14	7	104	5		86	216	35	0	0	162		600	797
2002	210				402	828	1440	151				1161	1038	2350
2003					No survey							No survey		
2004	158				92	279	529	103				1116	1290	2509
2005	198				146	2039	2384	132				306	635	1073

Table D-9 (cont.) Detailed harvest estimates, Northern Pintail, 1985-2005

North Coast: Take by Season								Kuskokwim: Take by Season							
	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total	
1985	353	202	0	146		204	905	956	342	93	139		187	1717	
1986	751	69	295	238		437	1790	1814	344	70	146		160	2534	
1987	701	475	626	309		300	2411	4416	391	189	685		906	6587	
1989	641	58	111	81		394	1285	597	84	491	85		262	1519	
1990	281	105	217	71		304	978	2167	229	77	184		1034	3691	
1991	320	32	123	24		460	959	2997	173	88	54		462	3774	
1992	360	113	70	40		47	630	3364	233	12	194		1018	4821	
1993	454	125	289	149		221	1238	2032	190	0	4		181	2407	
1994	312	51	8	151		446	968	858	246	0	207		261	1572	
1995	276	41	540	325		105	1287	1523	664	146	551		834	3718	
1996	273	246	239	235		397	1390	1445	219	48	121		234	2067	
1997	294	100	129	345		398	1266	858	183	78	311		321	1751	
1998	524	434	353	443		313	2067	1305	278	156	358		452	2549	
1999	298	231	334	58		332	1253	889	175	7	269		160	1500	
2000	231	35	359	114		258	997	838	125	0	0		55	1018	
2001	225	72	523	24		113	958	747	286	0	124		522	1680	
2002	249	281				495	1025	1267				160	754	2181	
2003					No survey							No survey			
2004	1033				0	379	1413	661				26	537	1224	
2005	906				374	354	1634	521				85	435	1041	

Yukon: Take by Season								Bethel: Take by Season							
	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total	
1985	523	151	0	126		364	1164	0	58	0	56		82	196	
1986	521	216	96	83		200	1116	322	187	0	0		237	746	
1987	1090	254	88	200		79	1711	177	231	40	132		765	1345	
1989	358	97	9	20		19	503	166	24	0	0		59	249	
1990	382	127	22	105		109	745	227	0	0	0		172	399	
1991	593	63	20	0		119	795	177	0	0	0		152	329	
1992	427	51	36	0		8	522	243	0	0	0		195	438	
1993	400	98	71	21		754	1344	194	0	0	0		70	264	
1994	982	423	177	119		1111	2812	176	0	0	0		113	289	
1995	776	1392	390	1220		1545	5323	141	0	0	0		178	319	
1996	1737	809	663	650		1813	5672	74	0	0	0		197	271	
1997	179	193	168	113		21	674	18	0	0	0		183	201	
1998	372	68	28	59		210	737	93	0	0	0		101	194	
1999	271	130	0	0		23	424	93	0	0	0		100	193	
2000	192	239	36	66		163	696	128	0	0	0		116	244	
2001	492	645	143	279		235	1793	80	0	0	0		50	130	
2002	312				0	202	514	98				0	199	297	
2003					No survey							No survey			
2004	75				242	56	373	1416				208	916	2540	
2005	490				0	94	584	681				397	2118	3196	

Table D-10. Detailed harvest estimates, Mallard, 1985-2005

Total Take by Season								Total Take by Region						
	Spring	ESum	MSum	LSum	Summer	Fall	Total	South	Mid-	North	Kusko	Yukon	Bethel	Total
1985	954	811	105	542		2407	4819	565	1413	254	1425	1025	137	4819
1986	1741	1542	844	2162		2618	8907	32	4865	791	1678	1219	322	8907
1987	3122	697	269	2591		2395	9074	336	2459	334	4412	851	682	9074
1989	1826	1511	791	612		2171	6911	235	3642	363	1969	582	120	6911
1990	2641	858	649	2641		5700	12489	2590	4283	701	3906	678	331	12489
1991	1923	183	54	184		1260	3604	0	635	483	1865	520	101	3604
1992	2141	426	227	628		1655	5077	286	1289	587	2316	320	279	5077
1993	2283	307	192	229		1662	4673	176	527	849	1543	1361	215	4671
1994	1840	474	214	229		2192	4949	1191	340	469	1256	1454	239	4949
1995	1582	1038	336	1314		2701	6971	967	1056	820	2223	1747	159	6972
1996	2048	354	159	777		1704	5042	518	747	263	1846	1467	201	5042
1997	1062	370	162	666		1307	3567	201	580	675	1533	454	124	3567
1998	2184	674	403	886		1713	5860	329	654	643	2930	1221	81	5858
1999	1247	503	27	736		1997	4510	460	532	336	2325	590	267	4510
2000	1484	368	288	550		1339	4029	670	947	260	1272	462	418	4029
2001	1809	925	406	507		1064	4711	516	371	148	1917	1215	543	4711
2002	1980	0	0	0	707	2127	4815	639	1091	582	1753	355	395	4815
2003					No survey						No survey			
2004	3266	0	0	0	1405	3516	8188	1109	1588	985	1440	692	2374	8188
2005	2412	0	0	0	996	4343	7751	1590	821	989	1445	808	2099	7751

South Coast: Take by Season								Mid Coast: Take by Season							
	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total	
1985	65	23	0	164		313	565	100	322	0	77		914	1413	
1986	0	0	0	0		32	32	225	1016	485	1465		1674	4865	
1987	134	84	17	34		67	336	212	148	159	1315		625	2459	
1989	71	17	0	50		97	235	573	1230	422	492		925	3642	
1990	228	0	0	336		2026	2590	338	335	513	1594		1503	4283	
1991	0	0	0	0		0	0	96	46	5	62		426	635	
1992	189	0	0	0		97	286	115	71	156	473		474	1289	
1993	126	0	0	7		43	176	119	20	30	70		288	527	
1994	569	0	0	0		622	1191	0	11	33	22		275	341	
1995	102	31	8	173		652	966	63	184	208	317		285	1057	
1996	214	7	0	41		256	518	35	78	101	306		227	747	
1997	50	19	10	0		122	201	131	62	56	100		231	580	
1998	145	24	0	64		96	329	67	20	737	262		478	1564	
1999	106	19	0	90		245	460	76	46	6	36		368	532	
2000	169	33	129	155		185	671	10	11	91	300		535	947	
2001	0	3	256	43		214	516	42	0	14	165		151	371	
2002	92				175	372	639	145				313	633	1091	
2003															
2004	319				387	403	1109	118				383	1087	1588	
2005	161				228	1201	1590	159				227	435	821	

Table D-10 (cont.) Detailed harvest estimates, Mallard, 1985-2005

North Coast: Take by Season								Kuskokwim: Take by Season							
	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total	
1985	62	66	79	11		36	254	457	263	26	101		578	1425	
1986	216	84	47	241		203	791	961	156	169	143		249	1678	
1987	129	67	0	88		50	334	2315	267	40	680		1110	4412	
1989	197	0	0	8		158	363	678	150	360	57		724	1969	
1990	97	73	63	229		239	701	1655	320	17	421		1493	3906	
1991	164	25	11	73		210	483	1263	90	28	21		463	1865	
1992	225	186	10	119		47	587	1297	100	0	12		907	2316	
1993	439	74	34	98		204	849	1115	130	0	43		256	1544	
1994	124	13	83	70		177	467	594	175	25	83		379	1256	
1995	326	23	10	129		331	819	731	399	96	212		784	2222	
1996	34	6	0	70		153	263	1192	97	23	239		295	1846	
1997	110	62	76	181		246	675	599	154	4	279		497	1533	
1998	177	134	7	295		30	643	1378	403	178	324		648	2931	
1999	76	75	14	64		107	336	466	226	7	521		1105	2325	
2000	102	31	7	43		77	260	871	194	28	13		165	1271	
2001	39	57	27	14		12	148	922	366	7	144		478	1917	
2002	114				115	353	582	1180				89	485	1753	
2003				No survey							No survey				
2004	222				0	762	985	770				239	431	1440	
2005	390				221	378	989	681				17	746	1445	

Yukon: Take by Season								Bethel: Take by Season							
	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total	
1985	223	120	0	181		501	1025	47	17	0	8		65	137	
1986	284	130	143	313		349	1219	55	156	0	0		111	322	
1987	327	121	53	318		32	851	5	10	0	156		511	682	
1989	263	97	9	5		208	582	44	17	0	0		59	120	
1990	243	130	56	61		188	678	80	0	0	0		251	331	
1991	352	22	10	28		108	520	48	0	0	0		53	101	
1992	158	69	61	24		8	320	157	0	0	0		122	279	
1993	368	83	128	10		772	1361	116	0	0	0		99	215	
1994	429	275	72	54		623	1453	123	0	0	0		116	239	
1995	286	401	14	482		564	1747	74	0	0	0		85	159	
1996	474	166	35	121		671	1467	99	0	0	0		102	201	
1997	158	73	16	106		101	454	14	0	0	0		110	124	
1998	433	93	156	144		396	1222	15	0	0	0		66	81	
1999	402	137	0	25		26	590	120	0	0	0		147	267	
2000	76	100	33	39		214	462	255	0	0	0		163	418	
2001	368	500	102	141		105	1215	439	0	0	0		105	543	
2002	252				16	86	355	196				0	199	395	
2003				No survey							No survey				
2004	421				271	0	692	1416				125	833	2374	
2005	457				69	282	808	564				233	1302	2099	

Table D-11. Detailed harvest estimates, unidentified duck, 1985-2005

Total Take by Season								Total Take by Region						
	Spring	ESum	MSum	LSum	Summer	Fall	Total	South	Mid-	North	Kusko	Yukon	Bethel	Total
1985	121	50	269	615		772	1827	148	823	270	145	246	195	1827
1986	489	424	314	646		641	2514	418	475	410	540	522	149	2514
1987	619	88	219	700		998	2624	118	496	951	553	370	136	2624
1989	503	82	615	107		863	2170	187	330	105	959	531	58	2170
1990	261	40	225	298		799	1623	0	617	266	373	345	22	1623
1991	352	146	163	191		1145	1997	0	1337	53	351	249	7	1997
1992	205	105	84	316		659	1369	145	680	78	367	73	26	1369
1993	504	183	521	308		476	1992	220	513	165	366	639	92	1995
1994	711	161	59	207		744	1882	741	552	247	182	159	0	1881
1995	224	467	220	332		1372	2615	197	1319	66	910	88	35	2615
1996	185	167	75	472		458	1357	115	477	285	277	164	39	1357
1997	132	65	20	201		578	996	24	281	496	106	89	0	996
1998	516	332	162	465		632	2107	54	600	132	828	489	4	2107
1999	521	119	0	277		452	1369	48	466	6	488	310	51	1369
2000	214	102	68	162		1310	1856	13	1117	148	110	467	0	1855
2001	358	415	265	410		959	2408	0	305	146	199	1714	44	2408
2002	532	0	0	0	358	254	1145	37	575	143	375	15	0	1145
2003					No survey						No survey			
2004	99	0	0	0	67	14	179	0	148	32	0	0	0	179
2005	8	0	0	0	0	99	107	0	0	0	99	8	0	107

South Coast: Take by Season								Mid Coast: Take by Season						
	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total
1985	0	0	0	0		148	148	22	5	190	357		249	823
1986	32	258	64	32		32	418	7	21	76	153		218	475
1987	34	0	0	34		50	118	30	9	49	150		258	496
1989	30	0	0	0		157	187	45	0	0	65		220	330
1990	0	0	0	0		0	0	0	14	158	144		301	617
1991	0	0	0	0		0	0	47	0	32	187		1071	1337
1992	0	47	0	29		69	145	48	10	53	280		289	680
1993	52	30	0	91		46	219	32	0	143	139		199	513
1994	476	0	0	0		265	741	22	18	7	102		403	552
1995	77	0	0	47		73	197	47	114	61	78		1019	1319
1996	0	0	0	0		115	115	5	29	71	226		146	477
1997	0	0	0	0		24	24	18	41	8	37		177	281
1998	16	0	0	10		27	53	25	22	51	136		367	601
1999	40	4	0	0		4	48	200	0	0	89		177	466
2000	0	3	0	10		0	13	10	52	37	76		943	1118
2001							0	52	40	61	10		142	305
2002	21					15	37	0				344	231	575
2003					No survey							No survey		
2004	0				0	0	0	67				67	14	148
2005	0				0	0	0	0				0	0	0

Table D-11 (cont.) Detailed harvest estimates, unidentified duck, 1985-2005

Year	North Coast: Take by Season							Kuskokwim: Take by Season						
	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total
1985	60	0	30	37		143	270	24	40	49	0		32	145
1986	115	5	70	55		165	410	217	31	0	199		93	540
1987	158	10	117	249		417	951	276	23	8	147		99	553
1989	26	0	0	17		62	105	254	46	580	21		58	959
1990	72	3	42	66		83	266	142	0	25	0		206	373
1991	23	16	0	0		14	53	208	0	131	4		8	351
1992	4	43	31	0		0	78	148	0	0	7		212	367
1993	45	0	0	35		85	165	245	21	4	23		72	365
1994	87	27	51	13		70	248	115	61	0	0		7	183
1995	8	6	0	0		52	66	57	347	159	207		141	911
1996	49	109	0	0		127	285	81	29	4	163		0	277
1997	5	15	3	149		324	496	47	9	0	6		44	106
1998	29	87	13	3		0	132	254	145	81	169		179	828
1999	0	0	0	6		0	6	171	88	0	110		119	488
2000	16	0	0	53		78	147	101	0	0	0		9	110
2001	70	26	33	17		0	146	133	56	0	10		0	199
2002	136					7	143	360				15	0	375
2003					No survey						No survey			
2004	32				0	0	32	0				0	0	0
2005	0				0	0	0	0				0	99	99

Year	Yukon: Take by Season							Bethel: Take by Season						
	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total
1985	15	5	0	165		61	246	0	0	0	56		139	195
1986	102	47	96	207		70	522	16	62	8	0		63	149
1987	111	46	45	120		48	370	10	0	0	0		126	136
1989	113	31	35	4		348	531	35	5	0	0		18	58
1990	45	23	0	88		189	345	2	0	0	0		20	22
1991	69	130	0	0		50	249	5	0	0	0		2	7
1992	0	5	0	0		68	73	5	0	0	0		21	26
1993	111	132	375	21		0	639	18	0	0	0		74	92
1994	11	55	0	93		0	159	0	0	0	0		0	0
1995	0	0	0	0		88	88	35	0	0	0		0	35
1996	46	0	0	83		35	164	4	0	0	0		35	39
1997	62	0	9	9		9	89	0	0	0	0		0	0
1998	192	77	18	147		55	489	0	0	0	0		4	4
1999	67	28	0	71		144	310	43	0	0	0		8	51
2000	88	46	31	23		279	467	0	0	0	0		0	0
2001	59	294	171	373		817	1714	44	0	0	0		0	44
2002	15				0	0	15	0				0	0	0
2003					No survey						No survey			
2004	0				0	0	0	0				0	0	0
2005	8				0	0	8	0				0	0	0

Table D-12. Detailed harvest estimates, American Wigeon, 1985-2005

Total Take by Season								Total Take by Region						
	Spring	ESum	MSum	LSum	Summer	Fall	Total	South	Mid-	North	Kusko	Yukon	Bethel	Total
1985	243	248	0	177		689	1357	36	418	42	397	407	57	1357
1986	371	308	23	226		269	1197	96	48	194	421	195	243	1197
1987	1121	338	370	380		588	2797	17	234	33	1979	323	211	2797
1989	260	111	19	98		337	825	5	227	131	100	302	60	825
1990	885	98	32	301		1571	2887	715	288	190	1476	143	75	2887
1991	1021	239	0	376		289	1925	0	164	306	1029	330	96	1925
1992	1077	132	98	166		669	2142	12	165	72	1719	140	34	2142
1993	929	92	240	248		2849	4358	322	171	67	1338	2340	120	4358
1994	1060	352	185	490		863	2950	450	124	143	1146	942	144	2949
1995	1097	330	294	948		1856	4525	85	163	169	2411	1670	28	4526
1996	1074	210	231	252		1200	2967	72	506	145	1381	732	131	2967
1997	781	201	292	671		1184	3129	627	369	133	1326	663	11	3129
1998	868	261	312	275		808	2524	73	476	153	1363	387	74	2526
1999	690	208	89	386		798	2171	49	164	155	1613	167	23	2171
2000	318	109	54	137		469	1087	81	337	91	436	115	27	1087
2001	639	339	135	116		382	1611	104	94	42	644	652	74	1611
2002	603	0	0	0	360	1292	2255	93	426	94	1439	94	109	2255
2003					No survey						No survey			
2004	406	0	0	0	122	915	1443	247	601	153	323	120	0	1443
2005	754	0	0	0	669	2241	3665	126	195	347	570	287	2140	3665

South Coast: Take by Season								Mid Coast: Take by Season						
	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total
1985	0	0	0	0		36	36	0	0	0	34		384	418
1986	0	80	0	16		0	96	0	0	0	48		0	48
1987	0	17	0	0		0	17	23	13	4	43		151	234
1989	5	0	0	0		0	5	11	52	6	88		70	227
1990	0	0	0	119		596	715	16	20	0	37		215	288
1991	0	0	0	0		0	0	11	12	0	77		64	164
1992	6	0	0	0		6	12	3	0	11	75		76	165
1993	0	0	0	141		181	322	0	0	12	0		159	171
1994	172	132	0	0		146	450	4	0	0	45		76	125
1995	7	0	0	34		43	84	0	18	9	75		60	162
1996	46	13	0	0		13	72	6	0	88	134		278	506
1997	0	0	5	63		559	627	26	0	29	93		221	369
1998	13	7	26	17		24	87	0	13	19	34		410	476
1999	7	23	0	0		19	49	15	0	21	60		68	164
2000	29	0	0	0		52	81	0	0	9	0		327	336
2001	0	0	0	14		90	104	4	14	0	0		76	94
2002					69	25	93	4				59	362	426
2003					No survey						No survey			
2004	26				8	213	247	23				86	492	601
2005	55				0	70	126	0				12	183	195

Table D-12 (cont.) Detailed harvest estimates, American Wigeon, 1985-2005

North Coast: Take by Season								Kuskokwim: Take by Season							
	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total	
1985	24	9	0	9		0	42	190	150	0	25		32	397	
1986	38	0	16	43		97	194	237	83	0	75		26	421	
1987	14	0	19	0		0	33	1058	227	292	236		166	1979	
1989	85	11	0	0		35	131	65	30	5	0		0	100	
1990	26	10	0	96		58	190	750	64	32	0		630	1476	
1991	48	34	0	185		39	306	885	9	0	63		72	1029	
1992	37	0	35	0		0	72	976	100	16	67		560	1719	
1993	47	7	0	14		0	68	843	85	0	51		360	1339	
1994	61	0	8	10		64	143	622	43	0	212		270	1147	
1995	40	0	6	41		81	168	886	311	279	400		534	2410	
1996	35	42	45	0		23	145	832	119	98	86		246	1381	
1997	34	0	0	41		58	133	527	133	123	269		274	1326	
1998	63	63	17	0		10	153	549	152	271	193		197	1362	
1999	37	43	14	13		48	155	528	97	51	313		624	1613	
2000	9	9	17	14		42	91	232	80	12	108		4	436	
2001	19	0	3	6		14	42	370	80	22	47		124	644	
2002	41				53	0	94	486				180	773	1439	
2003					No survey							No survey			
2004	39				0	114	153	287				13	23	323	
2005	228				0	119	347	184				41	345	570	

Yukon: Take by Season								Bethel: Take by Season							
	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total	
1985	29	72	0	93		213	407	0	17	0	16		24	57	
1986	33	44	7	44		67	195	63	101	0	0		79	243	
1987	26	43	55	101		98	323	0	38	0	0		173	211	
1989	57	10	8	10		217	302	37	8	0	0		15	60	
1990	75	4	0	49		15	143	18	0	0	0		57	75	
1991	65	184	0	51		30	330	12	0	0	0		84	96	
1992	40	32	36	24		8	140	15	0	0	0		19	34	
1993	29	0	228	42		2041	2340	11	0	0	0		109	120	
1994	177	177	177	224		187	942	25	0	0	0		120	145	
1995	164	0	0	397		1109	1670	0	0	0	0		28	28	
1996	56	36	0	32		608	732	99	0	0	0		32	131	
1997	194	68	135	205		61	663	0	0	0	0		11	11	
1998	213	26	6	32		109	386	15	0	0	0		58	73	
1999	103	45	3	0		16	167	0	0	0	0		23	23	
2000	48	20	15	15		16	114	0	0	0	0		27	27	
2001	196	245	109	48		54	652	49	0	0	0		25	74	
2002	61				0	33	94	10					99	109	
2003					No survey							No survey			
2004	32				16	73	120	0				0	0	0	
2005	162				46	80	287	125				570	1444	2140	

Table D-13. Detailed harvest estimates, Northern Shoveler, 1985-2005

Total Take by Season								Total Take by Region						
	Spring	ESum	MSum	LSum	Summer	Fall	Total	South	Mid-	North	Kusko	Yukon	Bethel	Total
1985	106	162	7	82		203	560	27	149	5	243	46	90	560
1986	387	92	155	476		272	1382	0	677	78	345	234	48	1382
1987	499	189	342	941		424	2395	101	825	172	927	245	125	2395
1989	292	204	133	59		118	806	31	415	45	231	59	25	806
1990	335	112	91	64		219	821	0	178	242	157	165	79	821
1991	259	73	169	43		210	754	0	166	76	317	144	51	754
1992	521	123	20	40		318	1022	6	136	12	696	143	29	1022
1993	218	109	85	145		367	924	65	24	276	208	235	116	924
1994	346	114	7	141		161	769	93	76	130	170	140	162	771
1995	347	109	3	214		641	1314	50	362	253	563	65	21	1314
1996	300	131	7	195		171	804	39	112	37	420	174	22	804
1997	244	197	57	134		182	814	39	44	154	519	54	4	814
1998	321	275	97	153		327	1173	63	76	221	417	305	89	1171
1999	263	88	577	394		148	1470	19	165	102	1093	37	54	1470
2000	217	50	26	71		105	469	26	40	47	150	60	147	470
2001	165	259	164	165		80	833	0	9	13	244	534	32	833
2002	627	0	0	0	283	783	1693	104	371	181	872	48	118	1693
2003					No survey						No survey			
2004	603	0	0	0	303	600	1506	214	272	140	544	253	83	1506
2005	672	0	0	0	273	2110	3054	775	109	114	281	175	1601	3054

South Coast: Take by Season								Mid Coast: Take by Season						
	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total
1985	0	11	0	6		10	27	0	76	7	36		30	149
1986	0	0	0	0		0	0	0	0	130	397		150	677
1987	0	0	0	101		0	101	84	16	31	494		200	825
1989	25	6	0	0		0	31	70	150	115	0		80	415
1990	0	0	0	0		0	0	95	40	18	0		25	178
1991	0	0	0	0		0	0	13	12	0	10		131	166
1992	6	0	0	0		0	6	19	0	3	40		74	136
1993	3	0	0	51		11	65	5	0	5	3		12	25
1994	93	0	0	0		0	93	18	22	7	15		15	77
1995	21	0	0	4		25	50	3	3	0	34		322	362
1996	20	0	0	0		19	39	3	0	0	109		0	112
1997	5	5	0	0		29	39	3	5	16	10		10	44
1998	30	10	0	7		16	63	0	8	0	32		36	76
1999	0	19	0	0		0	19	8	10	78	40		29	165
2000	26	0	0	0		0	26	4	0	16	20		0	40
2001	0	0	0	0		0	0	0	0	0	0		9	9
2002	56				25	22	104	22				135	214	371
2003					No survey							No survey		
2004	48				71	95	214	26				126	121	272
2005	97				4	674	775	22				4	82	109

Table D-13 (cont.) Detailed harvest estimates, Northern Shoveler, 1985-2005

North Coast: Take by Season								Kuskokwim: Take by Season							
	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total	
1985	5	0	0	0		0	5	97	70	0	6		70	243	
1986	5	0	0	68		5	78	248	71	0	0		26	345	
1987	52	0	0	70		50	172	269	59	298	188		113	927	
1989	14	0	0	4		27	45	132	30	14	55		0	231	
1990	65	49	42	14		72	242	117	0	0	0		40	157	
1991	13	0	56	0		7	76	181	0	73	33		30	317	
1992	12	0	0	0		0	12	453	118	17	0		108	696	
1993	51	87	0	79		59	276	135	14	0	12		47	208	
1994	39	37	0	36		17	129	104	32	0	16		17	169	
1995	38	17	3	115		80	253	261	90	0	61		151	563	
1996	2	29	0	0		6	37	197	102	7	77		37	420	
1997	65	0	7	42		40	154	150	172	24	79		94	519	
1998	62	68	0	35		56	221	132	83	35	56		111	417	
1999	48	9	0	19		26	102	183	37	499	336		38	1093	
2000	26	0	7	14		0	47	90	27	0	33		0	150	
2001	6	3	0	3		0	13	85	89	16	49		5	244	
2002	65					115	181	341				123	408	872	
2003				No survey							No survey				
2004	50				0	90	140	281				21	242	544	
2005	32				18	63	114	117				26	138	281	

Yukon: Take by Season								Bethel: Take by Season							
	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total	
1985	4	5	0	26		11	46	0	0	0	8		82	90	
1986	126	5	25	11		67	234	8	16	0	0		24	48	
1987	68	47	13	88		29	245	26	67	0	0		32	125	
1989	36	13	4	0		6	59	15	5	0	0		5	25	
1990	8	23	31	50		53	165	50	0	0	0		29	79	
1991	43	61	40	0		0	144	9	0	0	0		42	51	
1992	24	5	0	0		114	143	7	0	0	0		22	29	
1993	0	7	81	0		147	235	25	0	0	0		92	117	
1994	43	23	0	74		0	140	49	0	0	0		113	162	
1995	9	0	0	0		56	65	14	0	0	0		7	21	
1996	60	0	0	9		105	174	18	0	0	0		4	22	
1997	17	15	10	3		9	54	4	0	0	0		0	4	
1998	39	105	61	23		76	304	58	0	0	0		31	89	
1999	24	13	0	0		0	37	0	0	0	0		54	54	
2000	18	23	4	4		12	61	54	0	0	0		93	147	
2001	55	167	148	113		52	534	18	0	0	0		14	32	
2002	25					22	48	118				0	0	118	
2003				No survey							No survey				
2004	157				85	11	253	42				0	42	83	
2005	126				14	35	175	277				206	1117	1601	

Table D-14. Detailed harvest estimates, Green-winged Teal, 1985-2005

Total Take by Season								Total Take by Region						
	Spring	ESum	MSum	LSum	Summer	Fall	Total	South	Mid-	North	Kusko	Yukon	Bethel	Total
1985	342	227	77	438		1110	2194	271	348	38	850	386	301	2194
1986	599	354	87	422		894	2356	48	590	15	776	564	363	2356
1987	820	156	108	1721		1460	4265	488	504	259	1987	516	511	4265
1989	438	253	246	111		560	1608	161	847	241	141	136	82	1608
1990	538	172	70	500		1247	2527	596	485	228	899	170	149	2527
1991	475	74	20	283		648	1500	0	360	99	543	342	156	1500
1992	418	38	39	89		640	1224	0	184	43	929	12	56	1224
1993	374	12	22	79		616	1103	13	152	83	394	319	141	1102
1994	353	112	7	165		631	1268	53	254	205	532	68	155	1267
1995	271	70	6	312		898	1557	106	383	197	587	89	195	1557
1996	618	83	21	444		743	1909	26	342	293	898	128	222	1909
1997	414	167	139	290		823	1833	327	81	131	887	246	161	1833
1998	242	94	121	169		854	1480	10	215	119	640	241	255	1480
1999	134	45	4	171		723	1077	78	160	131	312	36	360	1077
2000	278	58	28	145		487	996	19	316	94	272	113	182	996
2001	358	141	169	121		415	1203	0	217	85	571	164	167	1203
2002	300	0	0	0	449	706	1454	140	555	202	414	55	89	1454
2003					No survey						No survey			
2004	153	0	0	0	209	797	1159	331	206	201	322	99	0	1159
2005	447	0	0	0	534	1818	2798	177	385	184	834	143	1075	2798

South Coast: Take by Season								Mid Coast: Take by Season						
	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total
1985	0	39	23	58		151	271	0	19	26	47		256	348
1986	32	0	0	0		16	48	21	137	55	274		103	590
1987	17	0	0	269		202	488	4	30	14	200		256	504
1989	66	0	0	17		78	161	111	156	238	17		325	847
1990	0	0	0	184		412	596	105	40	55	129		156	485
1991	0	0	0	0		0	0	29	17	0	129		185	360
1992	0	0	0	0		0	0	48	7	0	69		60	184
1993	0	0	0	0		13	13	0	5	0	5		143	153
1994	0	0	0	0		53	53	0	0	7	46		201	254
1995	0	0	0	11		94	105	3	3	6	27		344	383
1996	13	0	0	0		13	26	0	6	21	188		127	342
1997	0	0	16	0		311	327	0	0	8	13		60	81
1998	0	0	0	4		7	11	24	0	0	50		141	215
1999	40	19	0	0		19	78	10	0	0	44		106	160
2000	0	0	0	0		19	19	15	0	4	20		277	316
2001	0	0	0	0		0	0	16	10	85	24		82	217
2002	27				52	61	140	0				291	264	555
2003					No survey							No survey		
2004	5				46	279	331	0				124	81	206
2005	0				0	177	177	24				51	310	385

Table D-14 (cont.) Detailed harvest estimates, Green-winged Teal, 1985-2005

North Coast: Take by Season							Kuskokwim: Take by Season							
	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total
1985	7	3	0	19		9	38	289	79	24	25		433	850
1986	5	0	10	0		0	15	441	78	0	42		215	776
1987	9	0	0	250		0	259	685	49	0	669		584	1987
1989	115	8	0	24		94	241	68	30	0	23		20	141
1990	19	87	0	10		112	228	360	38	0	75		426	899
1991	28	0	0	0		71	99	273	17	0	83		170	543
1992	8	0	35	0		0	43	335	31	4	20		539	929
1993	34	0	0	14		35	83	222	7	0	40		125	394
1994	52	78	0	10		64	204	198	26	0	108		200	532
1995	45	0	0	33		119	197	197	53	0	240		97	587
1996	7	12	0	0		274	293	528	65	0	213		92	898
1997	66	13	0	38		14	131	301	90	20	213		263	887
1998	4	0	0	39		76	119	137	85	108	58		27	415
1999	0	0	0	6		125	131	62	20	4	104		122	312
2000	36	0	0	19		39	94	150	45	12	59		5	271
2001	0	5	48	1		31	85	322	66	3	33		147	571
2002	3				17	182	202	188				89	137	414
2003				No survey							No survey			
2004	28				0	172	201	65				39	219	322
2005	79				18	86	184	142				45	646	834

Yukon: Take by Season							Bethel: Take by Season							
	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total
1985	46	21	4	193		122	386	0	66	0	96		139	301
1986	37	92	22	106		307	564	63	47	0	0		253	363
1987	74	77	94	185		86	516	31	0	0	148		332	511
1989	38	37	8	30		23	136	40	22	0	0		20	82
1990	33	7	15	102		13	170	21	0	0	0		128	149
1991	120	40	20	71		91	342	25	0	0	0		131	156
1992	12	0	0	0		0	12	15	0	0	0		41	56
1993	19	0	22	21		257	319	99	0	0	0		42	141
1994	61	7	0	0		0	68	42	0	0	0		113	155
1995	9	14	0	0		66	89	18	0	0	0		178	196
1996	35	0	0	43		50	128	35	0	0	0		187	222
1997	33	64	95	26		28	246	14	0	0	0		147	161
1998	23	9	12	20		177	241	54	0	0	0		201	255
1999	10	6	0	17		3	36	12	0	0	0		348	360
2000	11	12	12	46		31	112	66	0	0	0		116	182
2001	8	60	33	63		0	164	12	0	0	0		156	167
2002	42				0	13	55	39				0	50	89
2003				No survey							No survey			
2004	54				0	45	99	0				0	0	0
2005	107				0	36	143	94				419	562	1075

Table D-15. Detailed harvest estimates, Bufflehead, 1985-2005

Total Take by Season								Total Take by Region						
	Spring	ESum	MSum	LSum	Summer	Fall	Total	South	Mid-	North	Kusko	Yukon	Bethel	Total
1985	34	59	0	41		19	153	0	10	0	119	0	24	153
1986	64	85	0	50		100	299	0	62	0	163	18	56	299
1987	109	30	79	44		19	281	0	31	0	186	32	32	281
1989	120	48	28	9		311	516	8	113	0	393	0	2	516
1990	123	38	0	5		64	230	0	16	3	188	7	16	230
1991	122	77	0	9		16	224	0	5	0	141	72	6	224
1992	88	19	4	0		173	284	0	16	0	264	4	0	284
1993	129	18	0	10		162	319	3	0	54	254	5	4	320
1994	260	56	0	4		80	400	26	187	8	119	0	60	400
1995	276	23	0	0		64	363	0	4	0	336	23	0	363
1996	79	25	0	23		12	139	13	0	0	126	0	0	139
1997	49	0	0	17		90	156	15	5	0	104	14	18	156
1998	245	113	10	12		153	533	23	5	11	476	7	12	534
1999	60	22	0	5		32	119	8	20	0	91	0	0	119
2000	75	85	0	4		0	164	0	77	0	82	4	0	163
2001	38	0	3	0		0	42	0	5	0	15	0	22	42
2002	154	0	0	0	29	149	332	14	0	0	315	3	0	332
2003					No survey						No survey			
2004	132	0	0	0	0	109	241	0	16	0	225	0	0	241
2005	71	0	0	0	2	41	113	33	0	0	76	5	0	113

South Coast: Take by Season								Mid Coast: Take by Season						
	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total
1985	0	0	0	0		0	0	5	5	0	0	0	0	10
1986	0	0	0	0		0	0	0	21	0	41	0	0	62
1987	0	0	0	0		0	0	13	0	4	14	0	0	31
1989	8	0	0	0		0	8	61	27	0	0	0	25	113
1990	0	0	0	0		0	0	0	16	0	0	0	0	16
1991	0	0	0	0		0	0	0	0	0	5	0	0	5
1992	0	0	0	0		0	0	16	0	0	0	0	0	16
1993	3	0	0	0		0	3	0	0	0	0	0	0	0
1994	26	0	0	0		0	26	179	0	0	0	0	7	186
1995	0	0	0	0		0	0	4	0	0	0	0	0	4
1996	13	0	0	0		0	13	0	0	0	0	0	0	0
1997	0	0	0	0		15	15	5	0	0	0	0	0	5
1998	16	0	0	0		7	23	3	3	0	0	0	0	6
1999	8	0	0	0		0	8	20	0	0	0	0	0	20
2000	0	0	0	0		0	0	19	58	0	0	0	0	77
2001	0	0	0	0		0	0	5	0	0	0	0	0	5
2002	14				0	0	14	0				0	0	0
2003					No survey						No survey			
2004	0				0	0	0	16				0	0	16
2005	7				0	26	33	0				0	0	0

Table D-15 (cont.) Detailed harvest estimates, Bufflehead, 1985-2005

North Coast: Take by Season							Kuskokwim: Take by Season						
1985	0	0	0	0	0	0	29	54	0	17	19	119	
1986	0	0	0	0	0	0	40	56	0	0	67	163	
1987	0	0	0	0	0	0	96	21	23	27	19	186	
1989	0	0	0	0	0	0	51	19	28	9	286	393	
1990	3	0	0	0	0	3	99	22	0	5	62	188	
1991	0	0	0	0	0	0	109	16	0	4	12	141	
1992	0	0	0	0	0	0	68	19	4	0	173	264	
1993	40	0	0	10	4	54	77	18	0	0	159	254	
1994	0	8	0	0	0	8	47	48	0	4	20	119	
1995	0	0	0	0	0	0	249	23	0	0	64	336	
1996	0	0	0	0	0	0	66	25	0	23	12	126	
1997	0	0	0	0	0	0	32	0	0	17	55	104	
1998	0	0	0	0	11	11	209	109	10	12	135	475	
1999	0	0	0	0	0	0	33	21	0	5	32	91	
2000	0	0	0	0	0	0	55	27	0	0	0	82	
2001							12	0	3	0	0	15	
2002							137				29	149	315
2003				No survey						No survey			
2004	0			0	0	0	116			0	109	225	
2005	0			0	0	0	59			2	15	76	

Yukon: Take by Season							Bethel: Take by Season						
1985	0	0	0	0	0	0	0	0	0	24	0	24	
1986	0	0	0	9	9	18	24	8	0	0	24	56	
1987	0	9	20	3	0	32	0	0	32	0	0	32	
1989	0	0	0	0	0	0	0	2	0	0	0	2	
1990	7	0	0	0	0	7	14	0	0	0	2	16	
1991	11	61	0	0	0	72	2	0	0	0	4	6	
1992	4	0	0	0	0	4	0	0	0	0	0	0	
1993	5	0	0	0	0	5	4	0	0	0	0	4	
1994	0	0	0	0	0	0	7	0	0	0	53	60	
1995	23	0	0	0	0	23	0	0	0	0	0	0	
1996	0	0	0	0	0	0	0	0	0	0	0	0	
1997	12	0	0	0	2	14	0	0	0	0	18	18	
1998	7	0	0	0	0	7	12	0	0	0	0	12	
1999	0	0	0	0	0	0	0	0	0	0	0	0	
2000	0	0	0	4	0	4	0	0	0	0	0	0	
2001	0	0	0	0	0	0	22	0	0	0	0	22	
2002	3				0	0	0				0	0	
2003				No survey						No survey			
2004	0			0	0	0	0			0	0	0	
2005	5			0	0	5	0			0	0	0	

Table D-16. Detailed harvest estimates, Harlequin, 1985-2005

Total Take by Season								Total Take by Region						
	Spring	ESum	MSum	LSum	Summer	Fall	Total	South	Mid-	North	Kusko	Yukon	Bethel	Total
1985	0	0	6	0		5	11	0	11	0	0	0	0	11
1986	61	65	0	0		56	182	0	0	0	67	36	79	182
1987	45	20	4	115		58	242	0	120	0	99	7	16	242
1989	144	10	32	18		188	392	23	214	8	135	9	3	392
1990	108	27	3	0		4	142	0	10	0	107	23	2	142
1991	59	4	0	5		13	81	0	21	0	41	15	4	81
1992	141	61	5	0		23	230	0	39	5	182	4	0	230
1993	237	11	0	8		100	356	0	9	0	342	0	4	355
1994	74	15	0	0		27	116	13	22	15	49	0	18	117
1995	74	47	0	0		24	145	32	40	0	58	14		144
1996	105	42	0	17		0	164	0	0	0	164	0	0	164
1997	65	10	3	0		18	96	10	21	0	43	22	0	96
1998	84	35	93	116		22	350	21	45	44	236	0	4	350
1999	38	35	0	20		12	105	4	25	6	61	9	0	105
2000	47	0	0	0		42	89	0	42	0	47	0	0	89
2001	90	49	0	0		8	147	0	4	0	73	62	7	147
2002	75	0	0	0	14	16	105	14	13	0	76	2	0	105
2003					No survey						No survey			
2004	98	0	0	0	0	10	108	0	10	0	56	0	42	108
2005	36	0	0	0	0	15	51	0	0	0	5	0	46	51

South Coast: Take by Season								Mid Coast: Take by Season						
	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total
1985	0	0	0	0		0	0	0	0	6	0		5	11
1986	0	0	0	0		0	0	0	0	0	0		0	0
1987	0	0	0	0		0	0	4	13	4	99		0	120
1989	15	0	0	0		8	23	38	0	0	0		176	214
1990	0	0	0	0		0	0	7	0	3	0		0	10
1991	0	0	0	0		0	0	11	0	0	5		5	21
1992	0	0	0	0		0	0	19	17	0	0		3	39
1993	0	0	0	0		0	0	0	3	0	0		6	9
1994	0	0	0	0		13	13	22	0	0	0		0	22
1995	32	0	0	0		0	32	16	0	0	0		24	40
1996	0	0	0	0		0	0	0	0	0	0		0	0
1997	0	0	0	0		10	10	13	0	0	0		8	21
1998	3	0	0	18		0	21	8	0	0	37		0	45
1999	4	0	0	0		0	4	15	6	0	2		2	25
2000	0	0	0	0		0	0	0	0	0	0		42	42
2001	0	0	0	0		0	0	4	0	0	0		0	4
2002	0				14	0	14	13					0	13
2003					No survey							No survey		
2004	0				0	0	0	0				0	10	10
2005	0				0	0	0	0				0	0	0

Table D-16 (cont.) Detailed harvest estimates, Harlequin, 1985-2005

	North Coast: Take by Season							Kuskokwim: Take by Season						
	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total
1985	0	0	0	0		0	0	0	0	0	0		0	0
1986	0	0	0	0		0	0	14	44	0	0		9	67
1987	0	0	0	0		0	0	41	0	0	0		58	99
1989	0	0	0	4		4	8	79	10	32	14		0	135
1990	0	0	0	0		0	0	84	23	0	0		0	107
1991	0	0	0	0		0	0	33	4	0	0		4	41
1992	0	0	5	0		0	5	118	44	0	0		20	182
1993	0	0	0	0		0	0	233	8	0	8		94	343
1994	0	15	0	0		0	15	49	0	0	0		0	49
1995	0	0	0	0		0	0	11	47	0	0		0	58
1996	0	0	0	0		0	0	105	42	0	17		0	164
1997	0	0	0	0		0	0	36	7	0	0		0	43
1998	0	0	0	44		0	44	72	35	93	18		18	236
1999	0	6	0	0		0	6	11	22	0	18		10	61
2000	0	0	0	0		0	0	47	0	0	0		0	47
2001	0	0	0	0		0	0	25	49	0	0		0	73
2002	0	0	0	0		0	0	62					14	76
2003					No survey							No survey		
2004	0				0	0	0	56				0	0	56
2005	0				0	0	0	5				0	0	5

	Yukon: Take by Season							Bethel: Take by Season						
	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total
1985	0	0	0	0		0	0	0	0	0	0		0	0
1986	16	5	0	0		15	36	31	16	0	0		32	79
1987	0	7	0	0		0	7	0	0	0	16		0	16
1989	9	0	0	0		0	9	3	0	0	0		0	3
1990	15	4	0	0		4	23	2	0	0	0		0	2
1991	15	0	0	0		0	15	0	0	0	0		4	4
1992	4	0	0	0		0	4	0	0	0	0		0	0
1993	0	0	0	0		0	0	4	0	0	0		0	4
1994	0	0	0	0		0	0	4	0	0	0		14	18
1995	14	0	0	0		0	14	0	0	0	0		0	0
1996	0	0	0	0		0	0	0	0	0	0		0	0
1997	16	3	3	0		0	22	0	0	0	0		0	0
1998	0	0	0	0		0	0	0	0	0	0		4	4
1999	9	0	0	0		0	9	0	0	0	0		0	0
2000	0	0	0	0		0	0	0	0	0	0		0	0
2001	54	0	0	0		8	62	7	0	0	0		0	7
2002						2	2							0
2003					No survey							No survey		
2004	0				0	0	0	42				0	0	42
2005	0				0	0	0	31				0	15	46

Table D-17. Detailed harvest estimates, Greater Scaup, 1985-2005

Total Take by Season								Total Take by Region						
	Spring	ESum	MSum	LSum	Summer	Fall	Total	South	Mid-	North	Kusko	Yukon	Bethel	Total
1985	157	835	270	187		332	1781	367	245	3	705	35	426	1781
1986	1055	1474	840	424		761	4554	177	761	27	3322	80	187	4554
1987	1932	652	2363	636		675	6258	673	383	34	4064	132	972	6258
1989	581	529	163	642		322	2237	839	251	11	1020	20	96	2237
1990	541	337	74	117		325	1394	0	76	30	1141	70	77	1394
1991	1839	98	0	203		246	2386	90	165	45	2043	5	38	2386
1992	2779	1221	120	106		768	4994	155	160	0	4641	0	38	4994
1993	2206	153	201	134		197	2891	267	36	18	2446	103	21	2891
1994	1510	1627	0	72		1148	4357	2805	36	53	1421	0	42	4357
1995	2848	2255	56	933		1255	7347	1461	7	48	5760	0	71	7347
1996	2324	792	11	63		258	3448	921	90	22	2322	5	88	3448
1997	1110	578	21	442		1036	3187	607	55	16	2345	16	148	3187
1998	4447	2330	337	316		796	8226	961	31	36	7141	29	27	8226
1999	5203	1245	885	1322		1574	10229	702	25	0	9382	0	120	10229
2000	1431	132	647	218		168	2596	276	67	0	1886	37	329	2596
2001	2165	2119	359	71		387	5101	5	37	0	4353	215	491	5101
2002	4930	0	0	0	559	896	6385	405	74	0	5398	48	461	6385
2003					No survey						No survey			
2004	8710	0	0	0	359	1804	10874	1566	484	5	8639	54	125	10874
2005	1712	0	0	0	38	1447	3197	279	46	4	1681	0	1187	3197

South Coast: Take by Season								Mid Coast: Take by Season							
	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total	
1985	70	135	102	0		60	367	0	35	34	0		176	245	
1986	0	64	0	0		113	177	0	150	82	351		178	761	
1987	34	118	202	218		101	673	41	26	16	114		186	383	
1989	324	310	0	25		180	839	75	11	114	0		51	251	
1990	0	0	0	0		0	0	27	7	4	13		25	76	
1991	90	0	0	0		0	90	7	0	0	55		103	165	
1992	63	35	0	0		57	155	18	0	108	0		34	160	
1993	247	0	0	0		20	267	0	0	0	29		7	36	
1994	728	1125	0	53		900	2806	0	0	0	7		28	35	
1995	621	302	0	34		504	1461	0	3	0	0		4	7	
1996	568	289	0	0		64	921	0	4	0	0		86	90	
1997	194	187	5	0		221	607	0	0	8	23		24	55	
1998	474	438	0	0		50	962	3	7	0	2		18	30	
1999	481	73	0	97		51	702	0	0	14	7		4	25	
2000	248	0	0	0		28	276	0	0	0	5		62	67	
2001	5	0	0	0		0	5	18	0	0	0		19	37	
2002	311				66	28	405	7				18	48	74	
2003					No survey							No survey			
2004	902				65	600	1566	10				0	473	484	
2005	184				0	95	279	17				0	30	46	

Table D-17 (cont.) Detailed harvest estimates, Greater Scaup, 1985-2005

Year	North Coast: Take by Season							Kuskokwim: Take by Season						
	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total
1985	0	3	0	0		0	3	55	372	134	72		72	705
1986	5	0	0	0		22	27	1034	1070	754	40		424	3322
1987	6	0	0	28		0	34	1827	384	1295	209		349	4064
1989	0	7	0	0		4	11	172	130	37	617		64	1020
1990	13	7	0	0		10	30	458	308	32	104		239	1141
1991	0	0	0	14		31	45	1723	98	0	134		88	2043
1992	0	0	0	0		0	0	2682	1186	12	106		655	4641
1993	0	0	0	0		18	18	1949	153	98	105		142	2447
1994	0	13	0	0		40	53	782	489	0	12		138	1421
1995	10	0	0	0		39	49	2218	1950	56	899		638	5761
1996	0	22	0	0		0	22	1703	477	11	63		68	2322
1997	1	0	0	4		11	16	824	391	8	415		707	2345
1998	4	0	0	32		0	36	3929	1883	333	269		728	7142
1999	0	0	0	0		0	0	4664	1172	871	1218		1457	9382
2000	0	0	0	0		0	0	908	125	647	206		0	1886
2001	0	0	0	0		0	0	1748	2112	359	56		78	4353
2002								4103				475	821	5398
2003					No survey							No survey		
2004	5				0	0	5	7668				240	731	8639
2005	4				0	0	4	1455				38	188	1681

Year	Yukon: Take by Season							Bethel: Take by Season						
	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total
1985	0	0	0	35		0	35	32	290	0	80		24	426
1986	16	11	4	33		16	80	0	179	0	0		8	187
1987	8	9	41	67		7	132	16	115	809	0		32	972
1989	0	8	12	0		0	20	10	63	0	0		23	96
1990	8	15	38	0		9	70	35	0	0	0		42	77
1991	5	0	0	0		0	5	14	0	0	0		24	38
1992	0	0	0	0		0	0	16	0	0	0		22	38
1993	0	0	103	0		0	103	11	0	0	0		11	22
1994	0	0	0	0		0	0	0	0	0	0		42	42
1995	0	0	0	0		0	0	0	0	0	0		71	71
1996	0	0	0	0		5	5	53	0	0	0		35	88
1997	16	0	0	0		0	16	75	0	0	0		73	148
1998	10	2	4	13		0	29	27	0	0	0		0	27
1999	0	0	0	0		0	0	58	0	0	0		62	120
2000	7	7	0	7		15	36	267	0	0	0		62	329
2001	11	7	0	15		183	215	384	0	0	0		107	491
2002	48				0	0	48	461				0	0	461
2003					No survey							No survey		
2004	0				54	0	54	125				0	0	125
2005	0				0	0	0	52				0	1135	1187

Table D-18. Detailed harvest estimates, Goldeneye, 1985-2005

Total Take by Season								Total Take by Region						
	Spring	ESum	MSum	LSum	Summer	Fall	Total	South	Mid-	North	Kusko	Yukon	Bethel	Total
1985	71	173	0	16		51	311	0	0	5	202	39	65	311
1986	217	333	39	93		93	775	0	96	22	491	56	110	775
1987	1179	283	85	248		537	2332	67	195	17	1838	79	136	2332
1989	244	30	137	613		103	1127	15	192	4	852	14	50	1127
1990	457	469	32	64		774	1796	0	10	13	1592	144	37	1796
1991	1523	43	0	126		108	1800	50	13	14	1571	15	137	1800
1992	917	115	37	0		309	1378	135	45	0	1086	73	39	1378
1993	783	144	0	43		395	1365	58	112	3	1161	19	11	1364
1994	653	146	12	8		335	1154	357	29	31	650	13	74	1154
1995	928	162	16	330		459	1895	132	40	9	1552	162	0	1895
1996	684	158	112	103		175	1232	85	14	16	972	36	109	1232
1997	380	179	4	121		147	831	24	32	7	701	63	4	831
1998	1195	560	287	181		337	2560	316	8	6	2150	69	12	2561
1999	457	438	396	125		1430	2846	207	15	0	2544	41	39	2846
2000	472	47	6	104		331	960	418	4	2	482	8	46	960
2001	534	585	3	34		281	1438	311	0	0	715	231	180	1438
2002	588	2	0	0	116	278	983	26	23	7	813	46	69	983
2003					No survey						No survey			
2004	890	0	0	0	130	750	1770	140	71	0	844	11	705	1770
2005	247	0	0	0	22	181	451	57	0	0	251	85	59	451

South Coast: Take by Season								Mid Coast: Take by Season							
	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total	
1985	0	0	0	0		0	0	0	0	0	0	0	0	0	
1986	0	0	0	0		0	0	0	55	0	41		0	96	
1987	0	67	0	0		0	67	22	13	7	131		22	195	
1989	15	0	0	0		0	15	50	0	73	23		46	192	
1990	0	0	0	0		0	0	0	10	0	0		0	10	
1991	50	0	0	0		0	50	13	0	0	0		0	13	
1992	118	0	17	0		0	135	19	4	0	0		22	45	
1993	38	0	0	0		20	58	5	0	0	0		107	112	
1994	119	0	0	0		238	357	7	0	0	0		22	29	
1995	106	0	0	19		7	132	0	0	0	0		40	40	
1996	7	27	0	0		51	85	0	0	0	14		0	14	
1997	0	5	0	0		19	24	0	0	0	27		5	32	
1998	137	148	0	11		20	316	2	0	0	0		6	8	
1999	103	0	0	0		104	207	0	0	0	15		0	15	
2000	48	0	0	104		266	418	4	0	0	0		0	4	
2001		311				0	311	0	0				0	0	
2002					26		26	22	2			0		23	
2003					No survey						No survey				
2004	0				0	140	140	7				55	9	71	
2005	3				0	54	57	0				0	0	0	

Table D-18 (cont.) Detailed harvest estimates, Goldeneye, 1985-2005

	North Coast: Take by Season							Kuskokwim: Take by Season						
	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total
1985	5	0	0	0	0	0	5	66	113	0	0	0	23	202
1986	0	22	0	0	0	0	22	157	221	39	45	0	29	491
1987	0	0	0	0	0	17	17	1126	203	0	108	0	401	1838
1989	0	0	0	0	0	4	4	165	10	64	590	0	23	852
1990	10	3	0	0	0	0	13	399	422	32	45	0	694	1592
1991	0	0	0	0	0	14	14	1381	43	0	126	0	21	1571
1992	0	0	0	0	0	0	0	730	97	0	0	0	259	1086
1993	0	0	0	3	0	0	3	714	144	0	39	0	264	1161
1994	0	18	5	8	0	0	31	472	128	7	0	0	43	650
1995	0	0	0	9	0	0	9	817	157	16	283	0	279	1552
1996	0	16	0	0	0	0	16	582	115	112	89	0	74	972
1997	0	0	0	0	0	7	7	340	150	4	91	0	116	701
1998	6	0	0	0	0	0	6	1020	399	275	147	0	307	2148
1999	0	0	0	0	0	0	0	318	424	396	110	0	1296	2544
2000	2	0	0	0	0	0	2	387	47	6	0	0	41	481
2001						0	0	268	205	3	34	0	204	715
2002						7	7	497				90	225	813
2003				No survey								No survey		
2004	0				0	0	0	675				25	143	844
2005	0				0	0	0	175				22	53	251

	Yukon: Take by Season							Bethel: Take by Season						
	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total
1985	0	19	0	16	0	4	39	0	41	0	0	0	24	65
1986	5	4	0	7	0	40	56	55	31	0	0	0	24	110
1987	15	0	13	9	0	42	79	16	0	65	0	0	55	136
1989	14	0	0	0	0	0	14	0	20	0	0	0	30	50
1990	37	34	0	19	0	54	144	11	0	0	0	0	26	37
1991	15	0	0	0	0	0	15	64	0	0	0	0	73	137
1992	39	14	20	0	0	0	73	11	0	0	0	0	28	39
1993	19	0	0	0	0	0	19	7	0	0	0	0	4	11
1994	13	0	0	0	0	0	13	42	0	0	0	0	32	74
1995	5	5	0	19	0	133	162	0	0	0	0	0	0	0
1996	11	0	0	0	0	25	36	84	0	0	0	0	25	109
1997	36	24	0	3	0	0	63	4	0	0	0	0	0	4
1998	23	13	12	21	0	0	69	8	0	0	0	0	4	12
1999	24	14	0	0	0	3	41	12	0	0	0	0	27	39
2000	7	0	0	0	0	0	7	23	0	0	0	0	23	46
2001	125	69	0	0	0	37	231	141	0	0	0	0	39	180
2002	0				0	46	46	69				0	0	69
2003				No survey								No survey		
2004	0				11	0	11	208				39	458	705
2005	69				0	15	85	0				0	59	59

Table D-19. Detailed harvest estimates, Canvasbacks, 1985-2005

	Total Take by Season							Total Take by Region						
	Spring	ESum	MSum	LSum	Summer	Fall	Total	South	Mid-	North	Kusko	Yukon	Bethel	Total
1985														
1986														
1987														
1989														
1990														
1991														
1992														
1993														
1994														
1995														
1996														
1997														
1998														
1999														
2000														
2001	0	0	0	0		0	0	0	0	0	0	0	0	0
2002	824	13	6	0	26	300	1150	19	3	16	1092	0	20	1150
2003				No survey							No survey			
2004	1054	0	0	0	100	337	1491	60	32	65	1168	0	167	1491
2005	960	0	0	0	26	258	1244	19	4	0	252	58	911	1244

	South Coast: Take by Season							Mid Coast: Take by Season						
	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total
1985														
1986														
1987														
1989														
1990														
1991														
1992														
1993														
1994														
1995														
1996														
1997														
1998														
1999														
2000														
2001														
2002	0				13	6	19	3						3
2003				No survey							No survey			
2004	31				10	19	60	0				32	0	32
2005	13				6	0	19	0				0	4	4

Table D-19 (cont.) Detailed harvest estimates, Canvasbacks, 1985-2005

	North Coast: Take by Season							Kuskokwim: Take by Season						
	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total
1985														
1986														
1987														
1989														
1990														
1991														
1992														
1993														
1994														
1995														
1996														
1997														
1998														
1999														
2000														
2001														
2002	16						16	785				13	294	1092
2003					No survey						No survey			
2004	47				0	18	65	893				59	217	1168
2005	0				0	0	0	147				20	85	252

	Yukon: Take by Season							Bethel: Take by Season						
	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total
1985														
1986														
1987														
1989														
1990														
1991														
1992														
1993														
1994														
1995														
1996														
1997														
1998														
1999														
2000														
2001														
2002							0	20						20
2003					No survey						No survey			
2004	0				0	0	0	83				0	83	167
2005	10				0	48	58	789				0	121	911

Table D-20. Detailed harvest estimates, Long-tailed Duck, 1985-2005

Total Take by Season								Total Take by Region						
	Spring	ESum	MSum	LSum	Summer	Fall	Total	South	Mid-	North	Kusko	Yukon	Bethel	Total
1985	413	1532	287	94		354	2680	161	1272	13	1118	33	83	2680
1986	301	985	137	560		799	2782	112	2138	53	294	91	94	2782
1987	1321	335	311	624		101	2692	51	1428	0	953	38	222	2692
1989	1493	1439	565	521		620	4638	256	2994	40	1324	0	24	4638
1990	534	365	64	250		265	1478	109	697	36	440	181	15	1478
1991	2007	106	51	69		196	2429	786	540	0	1036	46	21	2429
1992	1120	864	27	99		17	2127	159	356	16	1570	0	26	2127
1993	893	268	110	282		156	1709	9	573	54	1013	33	28	1710
1994	561	356	74	116		247	1354	252	434	68	491	8	102	1355
1995	1200	656	318	75		155	2404	112	1173	7	1040	0	71	2403
1996	1132	299	11	21		146	1609	133	587	0	853	8	28	1609
1997	859	488	430	69		197	2043	29	1165	48	680	110	11	2043
1998	1898	756	173	168		165	3160	296	1035	45	1736	28	19	3159
1999	818	913	71	413		85	2300	54	371	13	1852	10	0	2300
2000	260	47	73	19		176	575	29	257	21	214	4	50	575
2001	260	854	28	44		176	1361	129	317	5	782	15	112	1360
2002	1774	86	145	0	48	185	2188	129	674	3	1284	10	88	2188
2003					No survey						No survey			
2004	1794	0	0	0	96	398	2288	25	589	31	1643	0	0	2288
2005	997	0	0	0	332	4	1333	55	33	5	232	18	990	1333

South Coast: Take by Season								Mid Coast: Take by Season							
	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total	
1985	0	45	79	0		37	161	357	524	39	94		258	1272	
1986	80	32	0	0		0	112	30	654	137	560		757	2138	
1987	34	17	0	0		0	51	661	76	66	563		62	1428	
1989	233	23	0	0		0	256	976	720	533	185		580	2994	
1990	11	0	0	98		0	109	274	186	51	73		113	697	
1991	728	10	36	12		0	786	223	58	15	57		187	540	
1992	136	0	23	0		0	159	197	64	4	91		0	356	
1993	9	0	0	0		0	9	171	29	63	204		105	572	
1994	159	0	0	0		93	252	86	65	58	100		124	433	
1995	60	52	0	0		0	112	695	79	294	47		59	1174	
1996	133	0	0	0		0	133	399	51	0	6		131	587	
1997	0	19	0	0		10	29	585	77	412	18		73	1165	
1998	182	111	0	0		3	296	893	81	6	22		33	1035	
1999	39	15	0	0		0	54	266	56	13	0		36	371	
2000	26	3	0	0		0	29	84	4	16	5		148	257	
2001	5	125					129	61						256	317
2002	79				0	50	129	493				48	133	674	
2003					No survey							No survey			
2004	0				6	19	25	168				81	339	589	
2005	55				0	0	55	29				0	4	33	

Table D-20 (cont.) Detailed harvest estimates, Long-tailed Duck, 1985-2005

North Coast: Take by Season								Kuskokwim: Take by Season							
	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total	
1985	3	10	0	0		0	13	45	845	169	0		59	1118	
1986	20	0	0	0		33	53	84	201	0	0		9	294	
1987	0	0	0	0		0	0	522	232	181	18		0	953	
1989	0	0	0	0		40	40	282	674	32	336		0	1324	
1990	23	0	0	0		13	36	200	84	13	56		87	440	
1991	0	0	0	0		0	0	998	38	0	0		0	1036	
1992	16	0	0	0		0	16	749	800	0	8		13	1570	
1993	0	54	0	0		0	54	659	185	47	78		44	1013	
1994	37	8	0	8		16	69	183	284	16	8		0	491	
1995	4	0	0	0		3	7	392	525	24	28		72	1041	
1996	0	0	0	0		0	0	572	248	11	15		7	853	
1997	18	7	18	0		5	48	220	304	0	51		105	680	
1998	7	35	0	3		0	45	797	529	167	127		117	1737	
1999	9	0	0	4		0	13	494	842	58	409		49	1852	
2000	0	0	0	0		21	21	103	40	57	14		0	214	
2001						5	5	252	458	28	44			782	
2002						3	3	1103	86	95				1284	
2003					No survey							No survey			
2004	0				0	31	31	1626				9	8	1643	
2005	5				0	0	5	232				0	0	232	

Yukon: Take by Season								Bethel: Take by Season							
	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total	
1985	8	25	0	0		0	33	0	83	0	0		0	83	
1986	40	51	0	0		0	91	47	47	0	0		0	94	
1987	0	10	24	4		0	38	104	0	40	39		39	222	
1989	0	0	0	0		0	0	2	22	0	0		0	24	
1990	15	95	0	23		48	181	11	0	0	0		4	15	
1991	46	0	0	0		0	46	12	0	0	0		9	21	
1992	0	0	0	0		0	0	22	0	0	0		4	26	
1993	33	0	0	0		0	33	21	0	0	0		7	28	
1994	8	0	0	0		0	8	88	0	0	0		14	102	
1995	0	0	0	0		0	0	49	0	0	0		21	70	
1996	0	0	0	0		8	8	28	0	0	0		0	28	
1997	29	81	0	0		0	110	7	0	0	0		4	11	
1998	0	0	0	16		12	28	19	0	0	0		0	19	
1999	10	0	0	0		0	10	0	0	0	0		0	0	
2000	4	0	0	0		0	4	43	0	0	0		8	51	
2001		15					15	80					32	112	
2002	10				0	0	10	88				0	0	88	
2003					No survey							No survey			
2004	0				0	0	0	0				0	0	0	
2005	18				0	0	18	658				332	0	990	

Table D-21. Detailed harvest estimates, White-winged Scoter, 1985-2005

Total Take by Season								Total Take by Region						
	Spring	ESum	MSum	LSum	Summer	Fall	Total	South	Mid-	North	Kusko	Yukon	Bethel	Total
1985	35	229	61	44		398	767	75	179	0	423	82	8	767
1986	128	524	5	239		242	1138	128	227	11	597	9	166	1138
1987	730	701	13	73		626	2143	151	106	46	1634	4	202	2143
1989	177	254	28	13		159	631	172	52	32	251	28	96	631
1990	1244	584	14	47		2137	4026	1246	50	0	2478	14	238	4026
1991	1600	297	15	23		207	2142	123	4	0	1858	35	122	2142
1992	968	4120	5	0		145	5238	487	18	0	4537	0	196	5238
1993	1492	546	8	0		107	2153	54	0	108	1894	5	92	2153
1994	700	740	45	0		87	1572	397	40	0	955	0	180	1572
1995	495	1010	194	81		137	1917	282	13	3	1505	0	116	1919
1996	1370	899	0	4		237	2510	0	79	75	2141	0	215	2510
1997	820	1145	0	4		43	2012	252	25	4	1669	55	7	2012
1998	1336	1068	51	214		384	3053	496	51	0	2356	34	116	3053
1999	371	1885	33	13		209	2511	756	8	0	1728	0	19	2511
2000	231	597	45	0		39	912	473	5	0	361	12	62	913
2001	693	1172	10	109		220	2204	24	70	8	1448	50	604	2204
2002	1880	26	0	0	112	127	2119	108	46	1	1767	70	127	2119
2003					No survey						No survey			
2004	2909	0	0	0	64	101	3074	290	0	0	660	0	2124	3074
2005	443	0	0	0	37	322	802	67	30	0	242	27	436	802

South Coast: Take by Season								Mid Coast: Take by Season						
	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total
1985	0	0	0	0		75	75	23	50	14	26		66	179
1986	0	0	0	48		80	128	0	55	0	96		76	227
1987	67	0	0	0		84	151	40	0	13	0		53	106
1989	58	0	0	0		114	172	46	0	0	0		6	52
1990	163	43	0	0		1040	1246	27	0	0	8		15	50
1991	100	0	0	23		0	123	4	0	0	0		0	4
1992	292	195	0	0		0	487	13	0	5	0		0	18
1993	38	3	0	0		13	54	0	0	0	0		0	0
1994	384	0	0	0		13	397	0	0	0	0		36	36
1995	113	26	96	0		47	282	0	0	0	13		0	13
1996	0	0	0	0		0	0	16	0	0	0		63	79
1997	0	223	0	0		29	252	5	12	0	0		8	25
1998	70	185	0	50		191	496	0	0	0	31		20	51
1999	64	514	0	13		165	756	5	3	0	0		0	8
2000	35	438	0	0		0	473	0	0	0	0		5	5
2001	24	0	0	0		0	24	0	42	0	0		28	70
2002	82				26	0	108	11				35	0	46
2003					No survey							No survey		
2004	147				64	79	290	0				0	0	0
2005	34				33	0	67	6				4	20	30

Table D-21 (cont.) Detailed harvest estimates, White-winged Scoter, 1985-2005

North Coast: Take by Season								Kuskokwim: Take by Season							
	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total	
1985	0	0	0	0	0	0	0	0	119	47	0	0	257	423	
1986	0	0	0	0	0	11	11	6	453	0	95	0	43	597	
1987	0	0	0	46	0	0	46	576	639	0	27	0	392	1634	
1989	0	0	0	13	19	0	32	5	218	28	0	0	0	251	
1990	0	0	0	0	0	0	0	844	541	14	39	0	1040	2478	
1991	0	0	0	0	0	0	0	1386	266	15	0	0	191	1858	
1992	0	0	0	0	0	0	0	506	3925	0	0	0	106	4537	
1993	100	0	0	0	0	8	108	1265	543	8	0	0	79	1895	
1994	0	0	0	0	0	0	0	147	740	45	0	0	23	955	
1995	0	3	0	0	0	0	3	266	982	98	68	0	90	1504	
1996	0	75	0	0	0	0	75	1164	824	0	4	0	149	2141	
1997	0	0	0	4	0	0	4	781	882	0	0	0	6	1669	
1998	0	0	0	0	0	0	0	1169	883	51	133	0	119	2355	
1999	0	0	0	0	0	0	0	302	1369	33	0	0	24	1728	
2000	0	0	0	0	0	0	0	160	155	45	0	0	0	360	
2001	0	3	0	0	0	5	8	108	1127	10	109	0	94	1448	
2002	0				0	1	1	1590				51	126	1767	
2003				No survey							No survey				
2004	0				0	0	0	638				0	22	660	
2005	0				0	0	0	213				0	29	242	

Yukon: Take by Season								Bethel: Take by Season							
	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total	
1985	12	52	0	18	0	0	82	0	8	0	0	0	0	8	
1986	4	0	5	0	0	0	9	118	16	0	0	0	32	166	
1987	0	4	0	0	0	0	4	47	58	0	0	0	97	202	
1989	28	0	0	0	0	0	28	40	36	0	0	0	20	96	
1990	14	0	0	0	0	0	14	196	0	0	0	0	42	238	
1991	4	31	0	0	0	0	35	106	0	0	0	0	16	122	
1992	0	0	0	0	0	0	0	157	0	0	0	0	39	196	
1993	5	0	0	0	0	0	5	84	0	0	0	0	7	91	
1994	0	0	0	0	0	0	0	165	0	0	0	0	14	179	
1995	0	0	0	0	0	0	0	116	0	0	0	0	0	116	
1996	0	0	0	0	0	0	0	190	0	0	0	0	25	215	
1997	27	28	0	0	0	0	55	7	0	0	0	0	0	7	
1998	4	0	0	0	0	31	35	93	0	0	0	0	8	101	
1999	0	0	0	0	0	0	0	0	0	0	0	0	19	19	
2000	8	4	0	0	0	0	12	27	0	0	0	0	35	62	
2001	50	0	0	0	0	0	50	512	0	0	0	0	93	604	
2002	70				0	0	70	127				0	0	127	
2003			no survey								no survey				
2004	0				0	0	0	2124				0	0	2124	
2005	12				0	14	27	178				0	259	436	

Table D-22. Detailed harvest estimates, Black Scoter, 1985-2005

Total Take by Season								Total Take by Region						
	Spring	ESum	MSum	LSum	Summer	Fall	Total	South	Mid-	North	Kusko	Yukon	Bethel	Total
1985	296	2100	221	163		383	3163	685	603	10	1659	157	49	3163
1986	591	2283	866	492		847	5079	579	263	0	3863	194	180	5079
1987	2361	1955	17	535		1117	5985	1780	88	61	3416	118	522	5985
1989	2991	1359	52	44		184	4630	1662	138	28	2253	119	430	4630
1990	2830	631	58	186		692	4397	412	7	39	3411	174	354	4397
1991	5230	331	36	60		174	5831	2283	4	68	3093	22	361	5831
1992	2935	4995	33	19		209	8191	1139	0	8	6583	95	366	8191
1993	5131	1183	12	8		1641	7975	281	39	94	4743	2388	429	7974
1994	2482	1771	159	103		422	4937	2196	57	54	2242	20	366	4935
1995	2730	3378	118	176		542	6944	996	54	42	5506	68	279	6945
1996	4582	1950	12	153		284	6981	1375	97	58	5058	63	330	6981
1997	2716	1401	117	97		302	4633	937	35	18	3026	414	203	4633
1998	3622	2583	251	504		618	7578	1854	67	51	4855	532	221	7580
1999	1853	3651	155	514		116	6289	988	50	15	5124	42	70	6289
2000	1910	1123	78	5		103	3219	1225	75	0	1425	15	480	3220
2001	1683	2678	38	120		349	4869	565	21	3	3024	247	1009	4869
2002	5848	76	187	0	225	710	6782	667	108	2	5373	113	519	6782
2003					No survey						No survey			
2004	4830	0	0	0	237	441	5509	1297	125	11	3993	0	83	5509
2005	3276	0	0	0	145	1086	4508	337	57	0	1004	454	2656	4508

South Coast: Take by Season								Mid Coast: Take by Season						
	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total
1985	70	458	136	6		15	685	115	118	9	125		236	603
1986	0	531	0	0		48	579	0	51	27	23		162	263
1987	67	571	0	386		756	1780	18	22	17	0		31	88
1989	1406	210	0	0		46	1662	47	6	6	30		49	138
1990	282	0	0	130		0	412	0	7	0	0		0	7
1991	2134	90	36	23		0	2283	0	4	0	0		0	4
1992	761	361	17	0		0	1139	0	0	0	0		0	0
1993	267	0	0	0		13	280	9	0	0	0		31	40
1994	1416	357	79	53		291	2196	27	16	0	0		15	58
1995	464	345	8	26		155	998	3	0	0	47		4	54
1996	956	419	0	0		0	1375	66	0	0	7		24	97
1997	450	355	29	0		103	937	0	24	10	1		0	35
1998	909	555	0	134		256	1854	3	3	3	20		38	67
1999	121	867	0	0		0	988	16	16	0	0		18	50
2000	451	754	19	0		0	1224	7	0	0	0		67	74
2001	0	560	5	0		0	565	21	0	0	0		0	21
2002	404				76	187	667	86				22	0	108
2003					No survey						No survey			
2004	1062				141	95	1297					10	115	125
2005	179				51	107	337	57				0	0	57

Table D-22 (cont.) Detailed harvest estimates, Black Scoter, 1985-2005

North Coast: Take by Season								Kuskokwim: Take by Season							
	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total	
1985	0	0	6	4		0	10	37	1457	54	17		94	1659	
1986	0	0	0	0		0	0	497	1505	836	464		561	3863	
1987	0	0	0	28		33	61	2157	1098	0	4		157	3416	
1989	0	0	0	0		28	28	1154	1018	46	14		21	2253	
1990	13	23	0	0		3	39	2254	601	58	56		442	3411	
1991	14	0	0	0		54	68	2775	237	0	37		44	3093	
1992	8	0	0	0		0	8	1883	4563	16	19		102	6583	
1993	56	14	0	0		24	94	3364	1169	12	8		190	4743	
1994	23	8	0	13		11	55	666	1391	79	37		70	2243	
1995	3	0	0	3		37	43	2007	3035	111	100		254	5507	
1996	21	0	0	0		37	58	3286	1531	12	146		83	5058	
1997	0	0	0	0		18	18	1981	921	27	57		40	3026	
1998	36	10	0	5		0	51	2040	1987	207	345		276	4855	
1999	0	8	0	3		4	15	1638	2760	155	504		67	5124	
2000	0	0	0	0		0	0	975	366	58	5		20	1424	
2001	0	0	0	0		3	3	690	1942	33	120		240	3024	
2002	0				0	2	2	4766				126	480	5373	
2003				No survey							No survey				
2004	11				0	0	11	3675				87	231	3993	
2005	0				0	0	0	869				50	85	1004	

Yukon: Take by Season								Bethel: Take by Season							
	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total	
1985	74	50	0	11		22	157	0	17	16	0		16	49	
1986	0	134	3	5		52	194	94	62	0	0		24	180	
1987	26	62	0	0		30	118	93	202	0	117		110	522	
1989	79	40	0	0		0	119	305	85	0	0		40	430	
1990	8	0	0	0		166	174	273	0	0	0		81	354	
1991	22	0	0	0		0	22	285	0	0	0		76	361	
1992	24	71	0	0		0	95	259	0	0	0		107	366	
1993	1156	0	0	0		1232	2388	278	0	0	0		151	429	
1994	20	0	0	0		0	20	331	0	0	0		35	366	
1995	64	0	0	0		5	69	190	0	0	0		89	279	
1996	0	0	0	0		63	63	253	0	0	0		77	330	
1997	159	101	51	39		64	414	126	0	0	0		77	203	
1998	421	28	41	0		41	531	213	0	0	0		8	221	
1999	35	0	0	7		0	42	43	0	0	0		27	70	
2000	12	2	0	0		0	14	464	0	0	0		15	479	
2001	36	176	0	0		35	247	937	0	0	0		71	1009	
2002	72				0	41	113	519				0	0	519	
2003				No survey							No survey				
2004	0				0	0	0	83						83	
2005	439				0	15	454	1733				44	880	2656	

Table D-23. Detailed harvest estimates, Surf Scoter, 1985-2005

Total Take by Season								Total Take by Region						
	Spring	ESum	MSum	LSum	Summer	Fall	Total	South	Mid-	North	Kusko	Yukon	Bethel	Total
1985	4	150	0	6		96	256	45	129	0	82	0	0	256
1986	20	138	0	113		71	342	16	212	38	9	20	47	342
1987	575	169	14	134		66	958	34	178	42	668	15	21	958
1989	171	139	40	78		33	461	18	210	0	119	0	114	461
1990	1039	112	0	62		633	1846	108	39	10	1613	0	76	1846
1991	413	0	0	4		177	594	10	4	7	519	15	39	594
1992	197	394	0	0		0	591	99	0	0	459	0	33	591
1993	369	115	0	3		5	492	3	0	3	441	0	46	493
1994	306	381	7	19		0	713	132	16	10	428	0	127	713
1995	252	94	0	30		32	408	79	17	6	279	0	28	409
1996	335	198	0	18		133	684	70	34	0	410	72	98	684
1997	181	10	0	8		19	218	19	8	0	135	16	40	218
1998	192	54	8	53		114	421	61	24	1	335	0	0	421
1999	207	251	0	0		29	487	37	0	0	450	0	0	487
2000	159	73	6	36		128	402	145	121	7	125	0	4	402
2001	114	376	0	15		181	687	128	0	0	527	0	32	687
2002	373	0	6	0	19	42	434	9	0	0	405	0	20	434
2003					No survey						No survey			
2004	66	0	0	0	0	0	66	38	0	0	28	0	0	66
2005	1148	0	0	0	0	148	1297	0	2	0	292	35	967	1297

South Coast: Take by Season								Mid Coast: Take by Season						
	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total
1985	0	45	0	0		0	45	4	99	0	6		20	129
1986	0	0	0	16		0	16	0	82	0	75		55	212
1987	0	0	0	0		34	34	9	12	14	134		9	178
1989	18	0	0	0		0	18	0	95	40	60		15	210
1990	108	0	0	0		0	108	27	12	0	0		0	39
1991	10	0	0	0		0	10	4	0	0	0		0	4
1992	46	53	0	0		0	99	0	0	0	0		0	0
1993	3	0	0	0		0	3	0	0	0	0		0	0
1994	132	0	0	0		0	132	7	0	0	8		0	15
1995	35	0	0	11		32	78	0	0	0	17		0	17
1996	51	19	0	0		0	70	0	0	0	0		34	34
1997	0	0	0	0		19	19	0	0	0	8		0	8
1998	43	0	0	18		0	61	0	0	0	0		24	24
1999	4	33	0	0		0	37	0	0	0	0		0	0
2000	55	54	0	36		0	145	0	0	0	0		121	121
2001	4	125	0	0		0	128	0	0	0	0		0	0
2002	3				0	6	9						0	0
2003					No survey						No survey			
2004	38				0	0	38	0				0	0	0
2005	0				0	0	0	2				0	0	2

Table D-23 (cont.) Detailed harvest estimates, Surf Scoter, 1985-2005

	North Coast: Take by Season							Kuskokwim: Take by Season						
	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total
1985	0	0	0	0	0	0	0	0	6	0	0	0	76	82
1986	0	0	0	22	0	16	38	0	9	0	0	0	0	9
1987	9	33	0	0	0	0	42	548	120	0	0	0	0	668
1989	0	0	0	0	0	0	0	46	37	0	18	0	18	119
1990	0	0	0	0	0	10	10	830	100	0	62	0	621	1613
1991	7	0	0	0	0	0	7	356	0	0	4	0	159	519
1992	0	0	0	0	0	0	0	118	341	0	0	0	0	459
1993	0	0	0	3	0	0	3	321	115	0	0	0	5	441
1994	0	0	0	10	0	0	10	40	381	7	0	0	0	428
1995	4	0	0	2	0	0	6	185	94	0	0	0	0	279
1996	0	0	0	0	0	0	0	207	179	0	0	0	24	410
1997	0	0	0	0	0	0	0	125	10	0	0	0	0	135
1998	0	0	0	1	0	0	1	149	54	8	34	0	90	335
1999	0	0	0	0	0	0	0	203	218	0	29	0	0	450
2000	0	0	0	0	0	7	7	100	19	6	0	0	0	125
2001								79	252	0	15	0	181	527
2002								350				19	36	405
2003				No survey								No survey		
2004	0				0	0	0	28				0	0	28
2005	0				0	0	0	284				0	8	292

	Yukon: Take by Season							Bethel: Take by Season						
	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total
1985	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1986	20	0	0	0	0	0	20	0	47	0	0	0	0	47
1987	4	4	0	0	0	7	15	5	0	0	0	0	16	21
1989	0	0	0	0	0	0	0	107	7	0	0	0	0	114
1990	0	0	0	0	0	0	0	74	0	0	0	0	2	76
1991	15	0	0	0	0	0	15	21	0	0	0	0	18	39
1992	0	0	0	0	0	0	0	33	0	0	0	0	0	33
1993	0	0	0	0	0	0	0	46	0	0	0	0	0	46
1994	0	0	0	0	0	0	0	127	0	0	0	0	0	127
1995	0	0	0	0	0	0	0	28	0	0	0	0	0	28
1996	0	0	0	18	0	54	72	77	0	0	0	0	21	98
1997	16	0	0	0	0	0	16	40	0	0	0	0	0	40
1998	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1999	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2000	0	0	0	0	0	0	0	4	0	0	0	0	0	4
2001	0	0	0	0	0	0	0	32	0	0	0	0	0	32
2002								20						20
2003				No survey								No survey		
2004	0				0	0	0	0				0	0	0
2005	35				0	0	35	827				0	140	967

Table D-24. Detailed harvest estimates, Common Eider 1985-2005

Table D-24. Detailed harvest estimates, Common Eider, 1985-2005

	Total Take by Season							Total Take by Region						
	Spring	ESum	MSum	LSum	Summer	Fall	Total	South	Mid-	North	Kusko	Yukon	Bethel	Total
1985	164	35	115	52		205	571	33	534	4	0	0	0	571
1986	340	212	75	235		110	972	177	750	30	8	7	0	972
1987	120	64	21	66		53	324	0	280	0	12	16	16	324
1989	466	43	6	6		114	635	0	582	8	26	0	19	635
1990	342	7	0	8		61	418	0	354	10	19	0	35	418
1991	250	130	0	0		56	436	0	349	17	0	31	39	436
1992	247	49	19	0		12	327	29	205	0	60	6	27	327
1993	634	15	0	0		56	705	221	217	0	109	0	158	705
1994	92	4	54	7		0	157	0	157	0	0	0	0	157
1995	23	27	7	6		22	85	0	36	18	31	0	0	85
1996	479	21	0	23		92	615	0	450	0	165	0	0	615
1997	424	44	0	13		13	494	0	480	3	8	3	0	494
1998	270	9	0	12		34	325	0	306	0	0	20	0	326
1999	318	8	0	6		9	341	12	326	3	0	0	0	341
2000	482	0	0	26		20	528	77	440	0	12	0	0	529
2001	469	2	0	0		37	508	150	343	2	5	8	0	508
2002	368	0	0	0	19	42	429	72	337	4	15	0	0	429
2003				No survey							No survey			
2004	333	0	0	0	43	38	415	76	330	9	0	0	0	415
2005	48	0	0	0	10	50	108	30	38	0	0	0	40	108

	South Coast: Take by Season							Mid Coast: Take by Season						
	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total
1985	18	0	0	0		15	33	142	35	115	52		190	534
1986	177	0	0	0		0	177	151	212	75	205		107	750
1987	0	0	0	0		0	0	105	64	21	53		37	280
1989	0	0	0	0		0	0	423	43	6	6		104	582
1990	0	0	0	0		0	0	291	4	0	8		51	354
1991	0	0	0	0		0	0	203	94	0	0		52	349
1992	29	0	0	0		0	29	159	15	19	0		12	205
1993	221	0	0	0		0	221	161	0	0	0		56	217
1994	0	0	0	0		0	0	92	4	54	7		0	157
1995	0	0	0	0		0	0	19	0	7	0		10	36
1996	0	0	0	0		0	0	335	0	0	23		92	450
1997	0	0	0	0		0	0	421	33	0	13		13	480
1998	0	0	0	0		0	0	270	9	0	12		15	306
1999	12	0	0	0		0	12	306	8	0	3		9	326
2000	50	0	0	26		0	76	420	0	0	0		20	440
2001	150	0	0	0		0	150	306	0	0	0		37	343
2002	72						72	277				19	42	337
2003				No survey							No survey			
2004	76				0	0	76	249				43	38	330
2005	13				0	17	30	25				10	4	38

Table D-24 (cont.) Detailed harvest estimates, Common Eider 1985-2005

	North Coast: Take by Season							Kuskokwim: Take by Season						
	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total
1985	4	0	0	0		0	4	0	0	0	0		0	0
1986	0	0	0	30		0	30	8	0	0	0		0	8
1987	0	0	0	0		0	0	12	0	0	0		0	12
1989	0	0	0	0		8	8	26	0	0	0		0	26
1990	0	0	0	0		10	10	16	3	0	0		0	19
1991	12	5	0	0		0	17	0	0	0	0		0	0
1992	0	0	0	0		0	0	26	34	0	0		0	60
1993	0	0	0	0		0	0	94	15	0	0		0	109
1994	0	0	0	0		0	0	0	0	0	0		0	0
1995	0	0	0	6		12	18	4	27	0	0		0	31
1996	0	0	0	0		0	0	144	21	0	0		0	165
1997	3	0	0	0		0	3	0	8	0	0		0	8
1998	0	0	0	0		0	0	0	0	0	0		0	0
1999	0	0	0	3		0	3	0	0	0	0		0	0
2000	0	0	0	0		0	0	12	0	0	0		0	12
2001	0	2	0	0		0	2	5	0	0	0		0	5
2002	4		0	0		0	4	15					0	15
2003					No survey							No survey		
2004	9				0	0	9	0				0	0	0
2005	0				0	0	0	0				0	0	0

	Yukon: Take by Season							Bethel: Take by Season						
	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total
1985	0	0	0	0		0	0	0	0	0	0		0	0
1986	4	0	0	0		3	7	0	0	0	0		0	0
1987	3	0	0	13		0	16	0	0	0	0		16	16
1989	0	0	0	0		0	0	17	0	0	0		2	19
1990	0	0	0	0		0	0	35	0	0	0		0	35
1991	0	31	0	0		0	31	35	0	0	0		4	39
1992	6	0	0	0		0	6	27	0	0	0		0	27
1993	0	0	0	0		0	0	158	0	0	0		0	158
1994	0	0	0	0		0	0	0	0	0	0		0	0
1995	0	0	0	0		0	0	0	0	0	0		0	0
1996	0	0	0	0		0	0	0	0	0	0		0	0
1997	0	3	0	0		0	3	0	0	0	0		0	0
1998	0	0	0	0		20	20	0	0	0	0		0	0
1999	0	0	0	0		0	0	0	0	0	0		0	0
2000	0	0	0	0		0	0	0	0	0	0		0	0
2001	8	0	0	0		0	8						0	0
2002							0							0
2003					No survey							No survey		
2004	0				0	0	0	0				0	0	0
2005	0				0	0	0	10				0	30	40

Table D-25. Detailed harvest estimates, King Eider, 1985-2005

Total Take by Season								Total Take by Region						
	Spring	ESum	MSum	LSum	Summer	Fall	Total	South	Mid-	North	Kusko	Yukon	Bethel	Total
1985	3459	448	12	13		326	4258	3047	1211	0	0	0	0	4258
1986	1510	179	14	110		5	1818	435	808	0	350	5	220	1818
1987	2858	393	0	86		24	3361	437	1746	0	842	0	336	3361
1989	3031	0	64	0		11	3106	20	3031	0	0	5	50	3106
1990	2195	44	0	4		0	2243	0	2046	0	38	0	159	2243
1991	2569	148	25	5		83	2830	20	2132	0	541	0	137	2830
1992	3109	288	17	0		19	3433	34	3209	0	127	0	63	3433
1993	3509	230	0	3		11	3753	2466	891	0	238	0	158	3753
1994	1302	156	0	26		10	1494	106	1345	5	38	0	0	1494
1995	1598	10	0	10		7	1625	157	1326	0	107	0	35	1625
1996	2637	24	0	12		80	2753	0	2502	7	234	6	4	2753
1997	3279	120	0	5		20	3424	0	3380	0	8	0	36	3424
1998	2183	57	0	2		20	2262	4	2201	0	54	0	4	2263
1999	4418	389	0	0		0	4807	60	4648	0	99	0	0	4807
2000	6353	454	0	166		20	6993	2970	3998	0	24	0	0	6992
2001	7649	324	0	0		75	8049	4630	3404	0	0	0	14	8049
2002	6679	407	93	0	560	104	7343	4371	2845	0	83	14	29	7343
2003					No survey						No survey			
2004	6142	0	0	0	0	23	6165	3063	3101	0	0	0	0	6165
2005	2638	0	0	0	73	484	3195	2429	599	0	0	0	167	3195

South Coast: Take by Season								Mid Coast: Take by Season						
	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total
1985	2835	200	12	0		0	3047	624	248	0	13		326	1211
1986	435	0	0	0		0	435	505	179	14	110		0	808
1987	437	0	0	0		0	437	1267	393	0	86		0	1746
1989	20	0	0	0		0	20	2956	0	64	0		11	3031
1990	0	0	0	0		0	0	1998	44	0	4		0	2046
1991	20	0	0	0		0	20	1907	148	25	5		47	2132
1992	34	0	0	0		0	34	2921	271	17	0		0	3209
1993	2357	109	0	0		0	2466	755	121	0	3		11	890
1994	106	0	0	0		0	106	1161	156	0	21		7	1345
1995	157	0	0	0		0	157	1299	10	0	10		7	1326
1996	0	0	0	0		0	0	2398	12	0	12		80	2502
1997	0	0	0	0		0	0	3243	112	0	5		20	3380
1998	3	0	0	0		0	3	2125	9	0	2		20	2156
1999	60	0	0	0		0	60	4358	290	0	0		0	4648
2000	2508	296	0	166		0	2970	3820	158	0	0		20	3998
2001	4400	230	0	0		0	4630	3234	94	0	0		75	3404
2002	3871				407	93	4371	2682				153	10	2845
2003					No survey						No survey			
2004	3063				0	0	3063	3079				0	23	3101
2005	1872				73	484	2429	599				0	0	599

Table D-25 (cont.) Detailed harvest estimates, King Eider, 1985-2005

North Coast: Take by Season								Kuskokwim: Take by Season							
	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total	
1985	0	0	0	0		0	0	0	0	0	0		0	0	
1986	0	0	0	0		0	0	350	0	0	0		0	350	
1987	0	0	0	0		0	0	842	0	0	0		0	842	
1989	0	0	0	0		0	0	0	0	0	0		0	0	
1990	0	0	0	0		0	0	38	0	0	0		0	38	
1991	0	0	0	0		0	0	541	0	0	0		0	541	
1992	0	0	0	0		0	0	110	17	0	0		0	127	
1993	0	0	0	0		0	0	238	0	0	0		0	238	
1994	0	0	0	5		0	5	35	0	0	0		3	38	
1995	0	0	0	0		0	0	107	0	0	0		0	107	
1996	7	0	0	0		0	7	222	12	0	0		0	234	
1997	0	0	0	0		0	0	0	8	0	0		0	8	
1998	0	0	0	0		0	0	51	3	0	0		0	54	
1999	0	0	0	0		0	0	0	99	0	0		0	99	
2000	0	0	0	0		0	0	24	0	0	0		0	24	
2001	0	0	0	0		0	0	0	0	0	0		0	0	
2002	0	0	0	0		0	0	83					0	83	
2003					No survey							No survey			
2004								0					0	0	
2005								0					0	0	

Yukon: Take by Season								Bethel: Take by Season							
	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total	
1985	0	0	0	0		0	0	0	0	0	0		0	0	
1986	0	0	0	0		5	5	220	0	0	0		0	220	
1987	0	0	0	0		0	0	312	0	0	0		24	336	
1989	5	0	0	0		0	5	50	0	0	0		0	50	
1990	0	0	0	0		0	0	159	0	0	0		0	159	
1991	0	0	0	0		0	0	101	0	0	0		36	137	
1992	0	0	0	0		0	0	44	0	0	0		19	63	
1993	0	0	0	0		0	0	158	0	0	0		0	158	
1994	0	0	0	0		0	0	0	0	0	0		0	0	
1995	0	0	0	0		0	0	35	0	0	0		0	35	
1996	6	0	0	0		0	6	4	0	0	0		0	4	
1997	0	0	0	0		0	0	36	0	0	0		0	36	
1998	0	0	0	0		0	0	4	0	0	0		0	4	
1999	0	0	0	0		0	0	0	0	0	0		0	0	
2000	0	0	0	0		0	0	0	0	0	0		0	0	
2001								14						14	
2002	14				0	0	14	29					0	29	
2003					No survey							No survey			
2004	0				0	0	0	0					0	0	
2005	0				0	0	0	167					0	167	

Table D-26. Detailed harvest estimates, Spectacled Eider, 1985-2005

Total Take by Season								Total Take by Region						
	Spring	ESum	MSum	LSum	Summer	Fall	Total	South	Mid-	North	Kusko	Yukon	Bethel	Total
1985	71	154	22	12		38	297	0	297	0	0	0	0	297
1986	30	209	60	5		16	320	0	260	37	0	15	8	320
1987	165	48	0	43		40	296	0	268	28	0	0	0	296
1989	391	46	6	0		49	492	0	452	40	0	0	0	492
1990	234	0	10	7		20	271	0	194	28	49	0	0	271
1991	191	24	0	5		68	288	0	166	0	122	0	0	288
1992	343	19	7	0		0	369	11	338	20	0	0	0	369
1993	24	0	0	4		0	28	0	24	0	4	0	0	28
1994	69	48	0	0		33	150	0	110	8	32	0	0	150
1995	182	3	0	21		0	206	0	172	26	8	0	0	206
1996	124	2	0	0		0	126	0	65	0	54	0	7	126
1997	30	20	0	39		8	97	0	46	12	35	0	4	97
1998	55	5	0	2		21	83	13	24	3	0	43	0	83
1999	69	10	0	0		0	79	62	10	0	7	0	0	79
2000	81	3	0	0		0	84	0	71	0	12	0	0	83
2001	26	0	0	0		0	26	20	6	0	0	0	0	26
2002	40	0	0	0	0	0	40	8	13	0	16	3	0	40
2003					No survey						No survey			
2004	55	0	0	0	0	7	62	12	51	0	0	0	0	62
2005	16	0	0	0	0	4	20	13	7	0	0	0	0	20

South Coast: Take by Season							Mid Coast: Take by Season						
	Spring	ESum	MSum	LSum	Fall	Total	Spring	ESum	MSum	LSum	Fall	Total	
1985	0	0	0	0	0	0	71	154	22	12	38	297	
1986	0	0	0	0	0	0	7	198	55	0	0	260	
1987	0	0	0	0	0	0	146	48	0	34	40	268	
1989	0	0	0	0	0	0	359	46	6	0	41	452	
1990	0	0	0	0	0	0	177	0	10	7	0	194	
1991	0	0	0	0	0	0	69	24	0	5	68	166	
1992	11	0	0	0	0	11	312	19	7	0	0	338	
1993	0	0	0	0	0	0	24	0	0	0	0	24	
1994	0	0	0	0	0	0	61	16	0	0	33	110	
1995	0	0	0	0	0	0	172	0	0	0	0	172	
1996	0	0	0	0	0	0	63	2	0	0	0	65	
1997	0	0	0	0	0	0	26	20	0	0	0	46	
1998	13	0	0	0	0	13	20	2	0	2	0	24	
1999	62	0	0	0	0	62	7	3	0	0	0	10	
2000	0	0	0	0	0	0	68	3	0	0	0	71	
2001	20	0	0	0	0	20	6	0	0	0	0	6	
2002	8				0	8	13				0	13	
2003					No survey						No survey		
2004	12				0	12	43				0	51	
2005	13				0	13	3				0	7	

Table D-26 (cont.) Detailed harvest estimates, Spectacled Eider, 1985-2005

North Coast: Take by Season								Kuskokwim: Take by Season							
	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total	
1985	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
1986	11	0	5	5		16	37	0	0	0	0		0	0	
1987	19	0	0	9		0	28	0	0	0	0		0	0	
1989	32	0	0	0		8	40	0	0	0	0		0	0	
1990	8	0	0	0		20	28	49	0	0	0		0	49	
1991	0	0	0	0		0	0	122	0	0	0		0	122	
1992	20	0	0	0		0	20	0	0	0	0		0	0	
1993	0	0	0	0		0	0	0	0	0	4		0	4	
1994	8	0	0	0		0	8	0	32	0	0		0	32	
1995	3	3	0	21		0	27	8	0	0	0		0	8	
1996	0	0	0	0		0	0	54	0	0	0		0	54	
1997	0	0	0	4		8	12	0	0	0	35		0	35	
1998	0	3	0	0		0	3	0	0	0	0		0	0	
1999	0	0	0	0		0	0	0	7	0	0		0	7	
2000	0	0	0	0		0	0	12	0	0	0		0	12	
2001	0	0	0	0		0	0	0	0	0	0		0	0	
2002	0	0	0	0		0	0	16				0	0	16	
2003				No survey							No survey				
2004	0				0	0	0	0				0	0	0	
2005	0				0	0	0	0				0	0	0	
Avg	5	0	0	2	0	3	11	14	2	0	2	0	0	18	
Pct	50%	3%	3%	21%	0%	26%	1	77%	14%	0%	14%	0%	0%	1	

Yukon: Take by Season								Bethel: Take by Season							
	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total	
1985	0	0	0	0		0	0	0	0	0	0		0	0	
1986	4	11	0	0		0	15	8	0	0	0		0	8	
1987	0	0	0	0		0	0	0	0	0	0		0	0	
1989	0	0	0	0		0	0	0	0	0	0		0	0	
1990	0	0	0	0		0	0	0	0	0	0		0	0	
1991	0	0	0	0		0	0	0	0	0	0		0	0	
1992	0	0	0	0		0	0	0	0	0	0		0	0	
1993	0	0	0	0		0	0	0	0	0	0		0	0	
1994	0	0	0	0		0	0	0	0	0	0		0	0	
1995	0	0	0	0		0	0	0	0	0	0		0	0	
1996	0	0	0	0		0	0	7	0	0	0		0	7	
1997	0	0	0	0		0	0	4	0	0	0		0	4	
1998	22	0	0	0		21	43	0	0	0	0		0	0	
1999	22	0	0	0		21	43	0	0	0	0		0	0	
2000	0	0	0	0		0	0	0	0	0	0		0	0	
2001	0	0	0	0		0	0	0	0	0	0		0	0	
2002	3	0	0	0		0	3	0	0	0	0		0	0	
2003				No survey							No survey				
2004	0				0	0	0	0				0	0	0	
2005	0				0	0	0	0				0	0	0	

Table D-27. Detailed harvest estimates, Stellers Eider, 1985-2005

	Total Take by Season							Total Take by Region						
	Spring	ESum	MSum	LSum	Summer	Fall	Total	South	Mid-	North	Kusko	Yukon	Bethel	Total
1985	0	0	0	0		0	0	0	0	0	0	0	0	0
1986	*	*	*	*		*	*	*	*	*	*	*	*	*
1987	*	*	*	*		*	*	*	*	*	*	*	*	*
1989	*	*	*	*		*	*	*	*	*	*	*	*	*
1990	*	*	*	*		*	*	*	*	*	*	*	*	*
1991	11	0	0	10		0	21	0	10	0	11	0	0	21
1992	24	0	0	0		21	45	0	17	0	21	0	7	45
1993	0	0	0	0		0	0	0	0	0	0	0	0	0
1994	18	0	0	0		0	18	0	18	0	0	0	0	18
1995	34	0	0	0		62	96	0	96	0	0	0	0	96
1996	42	0	0	0		0	42	0	35	0	7	0	0	42
1997	0	7	0	0		8	15	0	15	0	0	0	0	15
1998	86	0	0	7		12	105	0	75	0	30	0	0	105
1999	42	0	0	0		0	42	0	42	0	0	0	0	42
2000	8	0	0	0		0	8	0	8	0	0	0	0	8
2001	4	3	4	0		0	11	4	0	7	0	0	0	11
2002	11				0	17	28	0	17	0	11	0	0	28
2003				No survey							No survey			
2004	10	0	0	0	0	61	71	0	66	4	0	0	0	71
2005	0	0	0	0	9	44	53	9	25	0	18	0	0	53

	South Coast: Take by Season							Mid Coast: Take by Season						
	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total
1985	0	0	0	0		0	0	0	0	0	0	0	0	0
1986	*	*	*	*		*	*	*	*	*	*	*	*	*
1987	*	*	*	*		*	*	*	*	*	*	*	*	*
1989	*	*	*	*		*	*	*	*	*	*	*	*	*
1990	*	*	*	*		*	*	*	*	*	*	*	*	*
1991	0	0	0	0		0	0	0	0	0	10	0	0	10
1992	0	0	0	0		0	0	17	0	0	0	0	0	17
1993	0	0	0	0		0	0	0	0	0	0	0	0	0
1994	0	0	0	0		0	0	18	0	0	0	0	0	18
1995	0	0	0	0		0	0	34	0	0	0	0	62	96
1996	0	0	0	0		0	0	35	0	0	0	0	0	35
1997	0	0	0	0		0	0	0	7	0	0	0	8	15
1998	0	0	0	0		0	0	56	0	0	6	12	74	74
1999	0	0	0	0		0	0	42	0	0	0	0	42	42
2000	0	0	0	0		0	0	8	0	0	0	0	8	8
2001	4	0	0	0		0	4	0	0	0	0	0	0	4
2002	0	0	0	0	0	0	0	0	0	0	0	0	17	17
2003				No survey							No survey			
2004	0				0	0	0	10				0	57	66
2005	0				9	0	9	0				0	25	25

Table D-27 (cont.) Detailed harvest estimates, Stellers Eider, 1985-2005

	North Coast: Take by Season							Kuskokwim: Take by Season						
	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total
1985	0	0	0	0		0	0	0	0	0	0		0	0
1986	*	*	*	*		*	*	*	*	*	*		*	*
1987	*	*	*	*		*	*	*	*	*	*		*	*
1989	*	*	*	*		*	*	*	*	*	*		*	*
1990	*	*	*	*		*	*	*	*	*	*		*	*
1991	0	0	0	0		0	0	11	0	0	0		0	11
1992	0	0	0	0		0	0	0	0	0	0		21	21
1993	0	0	0	0		0	0	0	0	0	0		0	0
1994	0	0	0	0		0	0	0	0	0	0		0	0
1995	0	0	0	0		0	0	0	0	0	0		0	0
1996	0	0	0	0		0	0	7	0	0	0		0	7
1997	0	0	0	0		0	0	0	0	0	0		0	0
1998	0	0	0	0		0	0	30	0	0	0		0	30
1999	0	0	0	0		0	0	0	0	0	0		0	0
2000	0	0	0	0		0	0	0	0	0	0		0	0
2001	0	3	4	0		0	7	0	0	0	0		0	0
2002							0	11					0	11
2003					No survey							No survey		
2004	0				0	4	4	0				0	0	0
2005	0				0	0	0	0				0	18	18

	Yukon: Take by Season							Bethel: Take by Season						
	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total
1985	0	0	0	0		0	0	0	0	0	0		0	0
1986	*	*	*	*		*	*	*	*	*	*		*	*
1987	*	*	*	*		*	*	*	*	*	*		*	*
1989	*	*	*	*		*	*	*	*	*	*		*	*
1990	*	*	*	*		*	*	*	*	*	*		*	*
1991	0	0	0	0		0	0	0	0	0	0		0	0
1992	0	0	0	0		0	0	7	0	0	0		0	7
1993	0	0	0	0		0	0	0	0	0	0		0	0
1994	0	0	0	0		0	0	0	0	0	0		0	0
1995	0	0	0	0		0	0	0	0	0	0		0	0
1996	0	0	0	0		0	0	0	0	0	0		0	0
1997	0	0	0	0		0	0	0	0	0	0		0	0
1998	0	0	0	0		0	0	0	0	0	0		0	0
1999	0	0	0	0		0	0	0	0	0	0		0	0
2000	0	0	0	0		0	0	0	0	0	0		0	0
2001	0	0	0	0		0	0	0	0	0	0		0	0
2002														
2003					No survey							No survey		
2004	0				0	0	0	0				0	0	0
2005	0				0	0	0	0				0	0	0

Table D-28. Detailed harvest estimates, Common Merganser, 1985-2005

Total Take by Season							Total Take by Region							
	Spring	ESum	MSum	LSum	Summer	Fall	Total	South	Mid-	North	Kusko	Yukon	Bethel	Total
1985	12	14	0	6		0	32	0	6	0	6	20	0	32
1986	121	178	5	0		0	304	258	0	0	37	9	0	304
1987	115	0	0	26		163	304	67	0	0	181	56	0	304
1989	61	29	0	0		28	118	15	12	7	67	0	17	118
1990	38	6	0	4		27	75	0	10	7	43	15	0	75
1991	0	0	14	0		0	14	0	0	14	0	0	0	14
1992	27	28	0	0		7	62	0	13	0	42	0	7	62
1993	110	0	0	6		7	123	3	11	14	64	0	32	124
1994	56	4	0	0		0	60	0	22	0	31	0	7	60
1995	19	44	0	0		7	70	0	3	0	60	0	7	70
1996	40	0	0	0		33	73	0	2	7	59	5	0	73
1997	9	0	0	3		16	28	10	6	1	5	6	0	28
1998	44	75	0	0		66	185	36	15	10	98	11	15	185
1999	174	7	0	0		0	181	0	0	0	33	148	0	181
2000	64	0	0	17		0	81	0	0	31	50	0	0	81
2001	14	34	3	4		14	69	0	0	6	44	19	0	69
2002	93	0	0	0	2	53	148	0	2	0	146	0	0	148
2003					No survey						No survey			
2004	244	0	0	0	8	91	343	77	6	91	169	0	0	343
2005	12	0	0	0	0	33	45	0	14	0	27	4	0	45

South Coast: Take by Season							Mid Coast: Take by Season							
	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total
1985	0	0	0	0		0	0	0	0	0	6		0	6
1986	97	161	0	0		0	258	0	0	0	0		0	0
1987	0	0	0	0		67	67	0	0	0	0		0	0
1989	15	0	0	0		0	15	0	12	0	0		0	12
1990	0	0	0	0		0	0	7	3	0	0		0	10
1991	0	0	0	0		0	0	0	0	0	0		0	0
1992	0	0	0	0		0	0	6	7	0	0		0	13
1993	3	0	0	0		0	3	5	6	0	0		0	11
1994	0	0	0	0		0	0	22	0	0	0		0	22
1995	0	0	0	0		0	0	3	0	0	0		0	3
1996	0	0	0	0		0	0	2	0	0	0		0	2
1997	0	0	0	0		10	10	0	0	0	3		3	6
1998	0	0	0	0		36	36	0	0	0	0		15	15
1999	0	0	0	0		0	0	0	0	0	0		0	0
2000	0	0	0	0		0	0	0	0	0	0		0	0
2001							0							0
2002	0				0	0	0	0				2	0	2
2003					No survey						No survey			
2004	77				0	0	77	0				0	6	6
2005	0				0	0	0	4				0	10	14

Table D-28 (cont.) Detailed harvest estimates, Common Merganser, 1985-2005

	North Coast: Take by Season							Kuskokwim: Take by Season						
	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total
1985	0	0	0	0		0	0	0	6	0	0		0	6
1986	0	0	0	0		0	0	20	17	0	0		0	37
1987	0	0	0	0		0	0	67	0	0	18		96	181
1989	0	7	0	0		0	7	36	10	0	0		21	67
1990	0	0	0	0		7	7	20	3	0	0		20	43
1991	0	0	14	0		0	14	0	0	0	0		0	0
1992	0	0	0	0		0	0	21	21	0	0		0	42
1993	7	0	0	0		7	14	64	0	0	0		0	64
1994	0	0	0	0		0	0	27	4	0	0		0	31
1995	0	0	0	0		0	0	16	44	0	0		0	60
1996	0	0	0	0		7	7	38	0	0	0		21	59
1997	1	0	0	0		0	1	5	0	0	0		0	5
1998	10	0	0	0		0	10	34	64	0	0		0	98
1999	0	0	0	0		0	0	33	0	0	0		0	33
2000	14	0	0	17		0	31	50	0	0	0		0	50
2001	0	0	3	0		3	6	14	15	0	4		11	44
2002	0				0	0	0	93				0	53	146
2003					No survey						No survey			
2004	69				0	23	91	98				8	62	169
2005	0				0	0	0	8				0	19	27

	Yukon: Take by Season							Bethel: Take by Season						
	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total
1985	12	8	0	0		0	20	0	0	0	0		0	0
1986	4	0	5	0		0	9	0	0	0	0		0	0
1987	48	0	0	8		0	56	0	0	0	0		0	0
1989	0	0	0	0		0	0	10	0	0	0		7	17
1990	11	0	0	4		0	15	0	0	0	0		0	0
1991	0	0	0	0		0	0	0	0	0	0		0	0
1992	0	0	0	0		0	0	0	0	0	0		7	7
1993	0	0	0	0		0	0	32	0	0	0		0	32
1994	0	0	0	0		0	0	7	0	0	0		0	7
1995	0	0	0	0		0	0	0	0	0	0		7	7
1996	0	0	0	0		5	5	0	0	0	0		0	0
1997	3	0	0	0		3	6	0	0	0	0		0	0
1998	0	11	0	0		0	11	0	0	0	0		15	15
1999	141	7	0	0		0	148	0	0	0	0		0	0
2000	0	0	0	0		0	0	0	0	0	0		0	0
2001	0	19	0	0		0	19	0	0	0	0		0	0
2002	0				0	0	0	0				0	0	0
2003					No survey						No survey			
2004	0				0	0	0	0				0	0	0
2005	0				0	4	4	0				0	0	0

Table D-29. Detailed harvest estimates, Red-breasted Merganser, 1985-2005

Total Take by Season							Total Take by Region							
	Spring	ESum	MSum	LSum	Summer	Fall	Total	South	Mid-	North	Kusko	Yukon	Bethel	Total
1985	42	14	0	0		5	61	0	41	0	12	8	0	61
1986	88	43	16	41		17	205	0	14	0	116	35	40	205
1987	144	10	0	112		33	299	0	4	11	263	21	0	299
1989	102	8	0	0		76	186	37	23	4	66	50	6	186
1990	76	25	0	13		116	230	43	7	3	92	85	0	230
1991	269	35	92	0		2	398	0	11	4	258	123	2	398
1992	240	103	0	30		215	588	23	127	12	399	23	4	588
1993	203	7	0	28		59	297	12	10	78	184	0	14	298
1994	122	0	5	16		5	148	0	0	10	133	5	0	148
1995	144	20	0	13		79	256	0	4	9	243	0	0	256
1996	94	0	0	0		44	138	6	0	0	121	11	0	138
1997	94	61	0	18		10	183	0	3	14	160	6	0	183
1998	169	19	24	14		67	293	10	21	3	211	36	12	293
1999	52	53	14	9		14	142	0	11	19	112	0	0	142
2000	41	4	38	0		0	83	0	4	38	37	4	0	83
2001	121	23	0	24		91	259	0	0	0	209	43	7	259
2002	194	0	0	0	2	4	200	19	2	0	179	0	0	200
2003			no survey							no survey				
2004	150	0	0	0	0	0	150	0	0	4	104	0	42	150
2005	12	0	0	0	0	13	24	6	4	2	12	0	0	24

South Coast: Take by Season							Mid Coast: Take by Season							
	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total
1985	0	0	0	0		0	0	36	0	0	0		5	41
1986	0	0	0	0		0	0	0	0	0	14		0	14
1987	0	0	0	0		0	0	4	0	0	0		0	4
1989	20	0	0	0		17	37	18	0	0	0		5	23
1990	0	0	0	0		43	43	0	7	0	0		0	7
1991	0	0	0	0		0	0	7	4	0	0		0	11
1992	23	0	0	0		0	23	10	0	0	30		87	127
1993	12	0	0	0		0	12	0	0	0	0		10	10
1994	0	0	0	0		0	0	0	0	0	0		0	0
1995	0	0	0	0		0	0	0	0	0	0		4	4
1996	6	0	0	0		0	6	0	0	0	0		0	0
1997	0	0	0	0		0	0	0	0	0	0		3	3
1998	0	3	7	0		0	10	0	0	13	0		8	21
1999	0	0	0	0		0	0	4	0	0	0		7	11
2000	0	0	0	0		0	0	4	0	0	0		0	4
2001	0	0	0	0		0	0	0				0	0	0
2002	19				0	0	19					0	2	2
2003				No survey							No survey			
2004	0				0	0	0	0				0	0	0
2005	6				0	0	6	0				0	4	4

Table D-29 (cont.) Detailed harvest estimates, Red-breasted Merganser, 1985-2005

North Coast: Take by Season								Kuskokwim: Take by Season							
	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total	
1985	0	0	0	0		0	0	6	6	0	0		0	12	
1986	0	0	0	0		0	0	56	35	16	0		9	116	
1987	11	0	0	0		0	11	126	6	0	108		23	263	
1989	0	0	0	0		4	4	61	5	0	0		0	66	
1990	3	0	0	0		0	3	65	3	0	13		11	92	
1991	4	0	0	0		0	4	258	0	0	0		0	258	
1992	8	4	0	0		0	12	176	99	0	0		124	399	
1993	40	0	0	24		14	78	152	7	0	4		21	184	
1994	5	0	5	0		0	10	112	0	0	16		5	133	
1995	0	0	0	9		0	9	144	20	0	4		75	243	
1996	0	0	0	0		0	0	88	0	0	0		33	121	
1997	0	0	0	7		7	14	88	61	0	11		0	160	
1998	3	0	0	0		0	3	148	15	0	0		47	210	
1999	0	5	14	0		0	19	48	48	0	9		7	112	
2000	0	0	38	0		0	38	34	4	0	0		0	38	
2001	0	0	0	0		0	0	91	23	0	4		91	209	
2002	0				0	0	0	175				0	4	179	
2003				No survey							No survey				
2004	4				0	0	4	104				0	0	104	
2005	2				0	0	2	4				0	9	12	

Yukon: Take by Season								Bethel: Take by Season							
	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total	
1985	0	8	0	0		0	8	0	0	0	0		0	0	
1986	24	0	0	11		0	35	8	8	0	16		8	40	
1987	3	4	0	4		10	21	0	0	0	0		0	0	
1989	0	0	0	0		50	50	3	3	0	0		0	6	
1990	8	15	0	0		62	85	0	0	0	0		0	0	
1991	0	31	92	0		0	123	0	0	0	0		2	2	
1992	23	0	0	0		0	23	0	0	0	0		4	4	
1993	0	0	0	0		0	0	0	0	0	0		14	14	
1994	5	0	0	0		0	5	0	0	0	0		0	0	
1995	0	0	0	0		0	0	0	0	0	0		0	0	
1996	0	0	0	0		11	11	0	0	0	0		0	0	
1997	6	0	0	0		0	6	0	0	0	0		0	0	
1998	11	0	11	14		0	36	0	0	0	0		11	11	
1999	0	0	0	0		0	0	0	0	0	0		0	0	
2000	4	0	0	0		0	4	0	0	0	0		0	0	
2001	23	0	0	20		0	43	7	0	0	0		0	7	
2002							0							0	
2003				No survey							No survey				
2004	0				0	0	0	42				0	0	42	
2005	0				0	0	0	0				0	0	0	

Table D-30. Detailed harvest estimates, Ptarmigan, 1985-2005

Total Take by Season								Total Take by Region						
	Spring	ESum	MSum	LSum	Summer	Fall	Total	South	Mid-	North	Kusko	Yukon	Bethel	Total
	*	*	*	*		*	*	*	*	*	*	*	*	0
1985														
1986	6771	1579	174	60		339	8923	1513	4730	263	639	1527	251	8923
1987	12553	1016	8	505		1011	15093	4132	2354	1309	4304	547	2447	15093
1989	11785	617	12	5		952	13371	2715	4955	1843	1447	1352	1059	13371
1990	11222	98	11	350		898	12579	11	2809	2142	6309	200	1108	12579
1991	27748	1355	428	490		664	30685	11008	5226	775	9933	2769	974	30685
1992	14929	359	37	85		238	15648	1397	6768	1521	5187	93	682	15648
1993	18748	639	12	27		130	19556	900	5698	2746	5573	567	4073	19557
1994	8176	685	4	92		501	9458	794	4177	1329	2858	65	236	9459
1995	15416	535	56	57		31	16095	2649	3355	1165	7858	48	1021	16096
1996	13198	1309	0	150		136	14793	781	3679	3010	6860	47	416	14793
1997	11873	607	3	119		419	13021	635	5956	1694	3828	598	310	13021
1998	14840	601	27	142		635	16245	1482	5192	763	7288	964	553	16242
1999	18938	1842	0	440		282	21502	884	7627	1295	9025	991	1680	21502
2000	14335	490	0	6		124	14955	2481	7054	992	1643	103	2682	14955
2001	16164	212	84	36		97	16594	801	8239	249	3970	150	3186	16594
2002	18756	91	7	0	159	108	19023	3964	4295	541	8540	214	1470	19023
2003					No survey						No survey			
2004	7391	0	0	0	57	915	8362	1670	2275	209	3776	433	0	8362
2005	17332	0	0	0	105	400	17837	1875	2944	705	1269	124	10920	17837

South Coast: Take by Season								Mid Coast: Take by Season						
	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total
	*	*	*	*		*	*	*	*	*	*	*	*	0
1985														
1986	370	1095	32	0		16	1513	4295	287	41	27		80	4730
1987	3931	67	0	0		134	4132	1721	79	8	198		348	2354
1989	2524	166	0	0		25	2715	4192	386	12	0		365	4955
1990	0	0	11	0		0	11	2363	91	0	29		326	2809
1991	11008	0	0	0		0	11008	4243	838	0	62		83	5226
1992	1391	6	0	0		0	1397	6265	248	37	85		133	6768
1993	897	0	0	0		3	900	5244	371	5	6		73	5699
1994	794	0	0	0		0	794	3635	470	0	53		18	4176
1995	2494	102	31	4		19	2650	3247	60	21	23		4	3355
1996	781	0	0	0		0	781	3237	239	0	150		53	3679
1997	635	0	0	0		0	635	5657	269	3	27		0	5956
1998	1434	0	20	21		7	1482	4828	240	7	24		93	5192
1999	807	0	0	0		77	884	6601	946	0	39		41	7627
2000	2390	91	0	0		0	2481	6581	399	0	0		74	7054
2001	801	0	0	0		0	801	7876	208	82	20		52	8239
2002	3865				91	7	3964	4193				67	34	4295
2003					No survey						No survey			
2004	856				0	814	1670	2128				57	90	2275
2005	1619				87	168	1875	2888				17	38	2944

Table D-30 (cont.) Detailed harvest estimates, Ptarmigan, 1985-2005

North Coast: Take by Season								Kuskokwim: Take by Season							
	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total	
1985	*	*	*	*		*	*	*	*	*	*	*	*	*	
1986	263	0	0	0		0	263	474	0	101	33		31	639	
1987	1076	33	0	200		0	1309	3781	147	0	81		295	4304	
1989	1605	40	0	5		193	1843	1332	0	0	0		115	1447	
1990	2089	7	0	0		46	2142	5586	0	0	321		402	6309	
1991	775	0	0	0		0	775	9903	30	0	0		0	9933	
1992	1469	52	0	0		0	1521	5113	53	0	0		21	5187	
1993	2573	135	0	13		24	2745	5398	133	8	8		26	5573	
1994	896	0	0	3		431	1330	2551	215	4	36		52	2858	
1995	986	176	0	0		3	1165	7625	197	5	31		0	7858	
1996	1964	995	0	0		51	3010	6771	75	0	0		14	6860	
1997	1494	118	0	0		82	1694	3625	24	0	90		89	3828	
1998	654	46	0	44		20	764	6648	314	0	52		274	7288	
1999	1234	16	0	3		42	1295	7817	756	0	399		53	9025	
2000	979	0	0	6		7	992	1609	0	0	0		34	1643	
2001	189	0	2	17		41	249	3966	4	0	0		0	3970	
2002	514				0	27	541	8499				0	40	8540	
2003					No survey							No survey			
2004	198				0	11	209	3776				0	0	3776	
2005	600				0	105	705	1246				0	23	1269	

Yukon: Take by Season								Bethel: Take by Season							
	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total	
1985	*	*	*	*		*	*	*	*	*	*	*	*	*	
1986	1267	174	0	0		86	1527	102	23	0	0		126	251	
1987	383	46	0	10		108	547	1661	644	0	16		126	2447	
	1088	25	0	0		239	1352	1044	0	0	0		15	1059	
1990	83	0	0	0		117	200	1101	0	0	0		7	1108	
1991	959	487	428	428		467	2769	860	0	0	0		114	974	
1992	93	0	0	0		0	93	598	0	0	0		84	682	
1993	567	0	0	0		0	567	4069	0	0	0		4	4073	
1994	65	0	0	0		0	65	236	0	0	0		0	236	
1995	42	0	0	0		5	47	1021	0	0	0		0	1021	
1996	47	0	0	0		0	47	398	0	0	0		18	416	
1997	394	196	0	2		6	598	68	0	0	0		242	310	
1998	746	0	0	0		218	964	530	0	0	0		23	553	
1999	863	125	0	0		3	991	1614	0	0	0		66	1680	
2000	94	0	0	0		8	102	2682	0	0	0		0	2682	
2001	150	0	0	0		0	150	3182	0	0	0		4	3186	
2002	214						214	1470				0	0	1470	
2003					No survey							No survey			
2004	433				0	0	433	0				0	0	0	
2005	59				0	66	124	10920				0	0	10920	

Table D-31. Detailed harvest estimates, Spruce Grouse 1985-2005

Year	Total Take by Season							Total Take by Region						Total
	Spring	ESum	MSum	LSum	Summer	Fall	Total	South	Mid-	North	Kusko	Yukon	Bethel	
1985	*	*	*	*		*	*	*	*	*	*	*	*	0
1986	*	*	*	*		*	*	*	*	*	*	*	*	0
1987	*	*	*	*		*	*	*	*	*	*	*	*	0
1989	*	*	*	*		*	*	*	*	*	*	*	*	0
1990	*	*	*	*		*	*	*	*	*	*	*	*	0
1991	*	*	*	*		*	*	*	*	*	*	*	*	0
1992	*	*	*	*		*	*	*	*	*	*	*	*	0
1993	*	*	*	*		*	*	*	*	*	*	*	*	0
1994	*	*	*	*		*	*	*	*	*	*	*	*	0
1995	*	*	*	*		*	*	*	*	*	*	*	*	0
1996	*	*	*	*		*	*	*	*	*	*	*	*	0
1997	*	*	*	*		*	*	*	*	*	*	*	*	0
1998	*	*	*	*		*	*	*	*	*	*	*	*	0
1999	*	*	*	*		*	*	*	*	*	*	*	*	0
2000	*	*	*	*		*	*	*	*	*	*	*	*	0
2001							0							0
2002	31	0	0	0	0	118	149	0	0	0	102	47	0	149
2003				No survey							No survey			
2004	108	0	0	0	8	0	116	0	0	0	62	54	0	116
2005	0	0	0	0	0	520	520	0	0	0	208	16	296	520

Year	South Coast: Take by Season						Mid Coast: Take by Season						
	Spring	ESum	MSum	LSum	Fall	Total	Spring	ESum	MSum	LSum	Fall	Total	
1985	*	*	*	*	*	*	*	*	*	*	*	*	
1986	*	*	*	*	*	*	*	*	*	*	*	*	
1987	*	*	*	*	*	*	*	*	*	*	*	*	
1989	*	*	*	*	*	*	*	*	*	*	*	*	
1990	*	*	*	*	*	*	*	*	*	*	*	*	
1991	*	*	*	*	*	*	*	*	*	*	*	*	
1992	*	*	*	*	*	*	*	*	*	*	*	*	
1993	*	*	*	*	*	*	*	*	*	*	*	*	
1994	*	*	*	*	*	*	*	*	*	*	*	*	
1995	*	*	*	*	*	*	*	*	*	*	*	*	
1996	*	*	*	*	*	*	*	*	*	*	*	*	
1997	*	*	*	*	*	*	*	*	*	*	*	*	
1998	*	*	*	*	*	*	*	*	*	*	*	*	
1999	*	*	*	*	*	*	*	*	*	*	*	*	
2000	*	*	*	*	*	*	*	*	*	*	*	*	
2001													
2002						0							
2003				No survey						No survey			
2004	0				0	0	0				0	0	0
2005	0				0	0	0	0			0	0	0

Table D-31 (cont.) Detailed harvest estimates, Spruce Grouse 1985-2005

	North Coast: Take by Season							Kuskokwim: Take by Season						
	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total
1985	*	*	*	*		*	*	*	*	*	*		*	*
1986	*	*	*	*		*	*	*	*	*	*		*	*
1987	*	*	*	*		*	*	*	*	*	*		*	*
1989	*	*	*	*		*	*	*	*	*	*		*	*
1990	*	*	*	*		*	*	*	*	*	*		*	*
1991	*	*	*	*		*	*	*	*	*	*		*	*
1992	*	*	*	*		*	*	*	*	*	*		*	*
1993	*	*	*	*		*	*	*	*	*	*		*	*
1994	*	*	*	*		*	*	*	*	*	*		*	*
1995	*	*	*	*		*	*	*	*	*	*		*	*
1996	*	*	*	*		*	*	*	*	*	*		*	*
1997	*	*	*	*		*	*	*	*	*	*		*	*
1998	*	*	*	*		*	*	*	*	*	*		*	*
1999	*	*	*	*		*	*	*	*	*	*		*	*
2000	*	*	*	*		*	*	*	*	*	*		*	*
2001							0							0
2002							0	22					80	102
2003				No survey							No survey			
2004	0				0	0	0	54				8	0	62
2005	0				0	0	0	0				0	208	208

	Yukon: Take by Season							Bethel: Take by Season						
	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total
1985	*	*	*	*		*	*	*	*	*	*		*	*
1986	*	*	*	*		*	*	*	*	*	*		*	*
1987	*	*	*	*		*	*	*	*	*	*		*	*
1989	*	*	*	*		*	*	*	*	*	*		*	*
1990	*	*	*	*		*	*	*	*	*	*		*	*
1991	*	*	*	*		*	*	*	*	*	*		*	*
1992	*	*	*	*		*	*	*	*	*	*		*	*
1993	*	*	*	*		*	*	*	*	*	*		*	*
1994	*	*	*	*		*	*	*	*	*	*		*	*
1995	*	*	*	*		*	*	*	*	*	*		*	*
1996	*	*	*	*		*	*	*	*	*	*		*	*
1997	*	*	*	*		*	*	*	*	*	*		*	*
1998	*	*	*	*		*	*	*	*	*	*		*	*
1999	*	*	*	*		*	*	*	*	*	*		*	*
2000	*	*	*	*		*	*	*	*	*	*		*	*
2001	0					0	0						0	0
2002	9					38	47	0	0	0	0		0	0
2003				No survey							No survey			
2004	54				0	0	54	0				0	0	0
2005	0				0	16	16	0				0	296	296

Table D-32. Detailed harvest estimates, Yellow-billed Loon, 1985-2005

Total Take by Season								Total Take by Region						
	Spring	ESum	MSum	LSum	Summer	Fall	Total	South	Mid-	North	Kusko	Yukon	Bethel	Total
1985	12	79	0	0		41	132	43	41	0	36	12	0	132
1986	215	109	37	16		3	380	129	34	16	117	37	47	380
1987	130	2	4	4		4	144	0	59	0	79	6	0	144
1989	41	16	0	6		25	88	8	68	0	10	0	2	88
1990	56	7	3	15		7	88	0	19	3	51	7	9	89
1991	62	0	35	0		28	125	10	38	0	26	42	9	125
1992	59	21	4	17		0	101	0	42	0	55	0	4	101
1993	157	15	0	0		0	172	0	5	84	52	31	0	172
1994	18	51	13	11		0	93	0	18	10	58	6	0	92
1995	21	0	0	0		13	34	0	0	0	0	34	0	34
1996	145	40	0	0		3	188	0	0	48	96	43	0	187
1997	13	7	37	0		13	70	5	30	26	5	0	4	70
1998	17	31	6	13		4	71	4	3	4	47	10	4	72
1999	0	36	0	4		0	40	0	4	0	36	0	0	40
2000	26	7	0	0		10	43	6	25	0	12	0	0	43
2001	4	3	5	0		9	21	0	5	12	0	0	4	21
2002	92				83	7	183	0	90	0	70	3	20	183
2003					No survey						No survey			
2004	4	0	0	0	0	0	4	0	4	0	0	0	0	4
2005	8	0	0	0	1	3	12	0	0	1	11	0	0	12

South Coast: Take by Season								Mid Coast: Take by Season						
	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total
1985	0	43	0	0		0	43	0	0	0	0		41	41
1986	32	97	0	0		0	129	0	0	34	0		0	34
1987	0	0	0	0		0	0	51	0	4	4		0	59
1989	8	0	0	0		0	8	31	6	0	6		25	68
1990	0	0	0	0		0	0	0	0	3	15		0	18
1991	10	0	0	0		0	10	10	0	4	0		24	38
1992	0	0	0	0		0	0	21	0	4	17		0	42
1993	0	0	0	0		0	0	5	0	0	0		0	5
1994	0	0	0	0		0	0	0	0	7	11		0	18
1995	0	0	0	0		0	0	0	0	0	0		0	0
1996								0	0	0	0		0	0
1997	5	0	0	0		0	5	0	3	22	0		5	30
1998	0	0	0	4		0	4	0	0	0	3		0	3
1999	0	0	0	0		0	0	0	0	0	4		0	4
2000	6	0	0	0		0	6	7	7	0	0		10	24
2001	0	0	0	0		0	0	0	0	5	0		0	5
2002	0				0	0	0	7				83	0	90
2003					No survey							No survey		
2004	0				0	0	0	4				0	0	4
2005	0				0	0	0	0				0	0	0

Table D-32(cont.). Detailed harvest estimates, Yellow-billed Loon, 1985-2005

	North Coast: Take by Season							Kuskokwim: Take by Season						
	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total
1985	0	0	0	0		0	0	0	36	0	0		0	36
1986	11	0	0	5		0	16	117	0	0	0		0	117
1987	0	0	0	0		0	0	79	0	0	0		0	79
1989	0	0	0	0		0	0	0	10	0	0		0	10
1990	0	3	0	0		0	3	48	3	0	0		0	51
1991	0	0	0	0		0	0	26	0	0	0		0	26
1992	0	0	0	0		0	0	34	21	0	0		0	55
1993	84	0	0	0		0	84	37	15	0	0		0	52
1994	10	0	0	0		0	10	8	51	0	0		0	59
1995	0	0	0	0		0	0	0	0	0	0		0	0
1996	42	3	0	0		3	48	59	37	0	0		0	96
1997	3	4	15	0		4	26	5	0	0	0		0	5
1998	1	3	0	0		0	4	13	28	6	0		0	47
1999	0	0	0	0		0	0	0	36	0	0		0	36
2000	0	0	0	0		0	0	12	0	0	0		0	12
2001	0	3	0	0		9	12	0	0	0	0		0	0
2002							0	62				0	7	70
2003				No survey								No survey		
2004	0				0	0	0	0				0	0	0
2005	0				1	0	1	8				0	3	11

	Yukon: Take by Season							Bethel: Take by Season						
	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total
1985	12	0	0	0		0	12	0	0	0	0		0	0
1986	8	12	3	11		3	37	47	0	0	0		0	47
1987	0	2	0	0		4	6	0	0	0	0		0	0
1989	0	0	0	0		0	0	2	0	0	0		0	2
1990	0	0	0	0		7	7	9	0	0	0		0	9
1991	11	0	31	0		0	42	5	0	0	0		4	9
1992	0	0	0	0		0	0	4	0	0	0		0	4
1993	31	0	0	0		0	31	0	0	0	0		0	0
1994	0	0	6	0		0	6	0	0	0	0		0	0
1995	21	0	0	0		13	34	0	0	0	0		0	0
1996	43	0	0	0		0	43	0	0	0	0		0	0
1997	0	0	0	0		0	0	0	0	0	0		4	4
1998	3	0	0	7		0	0	0	0	0	0		4	4
1999	0	0	0	0		0	0	0	0	0	0		0	0
2000	0	0	0	0		0	0	0	0	0	0		0	0
2001							0	4	0	0	0		0	4
2002	3						3	20				0	0	20
2003				No survey								No survey		
2004	0				0	0	0	0				0	0	0
2005	0				0	0	0	0				0	0	0

Table D-33. Detailed harvest estimates, Red-throated Loon, 1985-2005

Total Take by Season								Total Take by Region						
	Spring	ESum	MSum	LSum	Summer	Fall	Total	South	Mid-	North	Kusko	Yukon	Bethel	Total
1985	20	6	12	18		0	56	0	18	0	12	26	0	56
1986	30	64	0	8		31	133	64	0	0	48	21	0	133
1987	21	10	0	4		8	43	0	12	0	20	11	0	43
1989	410	30	6	0		0	446	0	416	0	26	4	0	446
1990	68	7	0	0		14	89	0	19	3	67	0	0	89
1991	60	0	22	0		2	84	0	26	0	56	0	2	84
1992	85	4	7	0		0	96	0	28	0	68	0	0	96
1993	22	3	0	0		0	25	0	3	0	22	0	0	25
1994	77	13	0	4		0	94	0	7	0	87	0	0	94
1995	14	0	0	0		4	18	0	4	0	14	0	0	18
1996							36	0	11	0	25	0	0	36
1997	0	4	0	0		14	18	0	3	0	0	4	11	18
1998	24	0	4	10		0	38	3	7	3	15	2	8	38
1999	13	4	0	3		0	20	0	8	0	8	0	4	20
2000	7	7	0	0		0	14	0	4	0	7	4	0	15
2001	28	10	0	0		0	38	0	5	0	23	10	0	38
2002	25				3	0	28	0	6	0	18	4	0	28
2003					No survey						No survey			
2004	39	0	0	0	0	3	43	0	28	11	4	0	0	43
2005	34	0	0	0	0	18	52	0	43	1	8	0	0	52

South Coast: Take by Season								Mid Coast: Take by Season						
	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total
1985	0	0	0	0		0	0	0	0	0	18		0	18
1986	0	64	0	0		0	64	0	0	0	0		0	0
1987	0	0	0	0		0	0	4	0	0	4		4	12
1989	0	0	0	0		0	0	410	0	6	0		0	416
1990	0	0	0	0		0	0	10	0	0	0		9	19
1991	0	0	0	0		0	0	4	0	22	0		0	26
1992	0	0	0	0		0	0	21	0	7	0		0	28
1993	0	0	0	0		0	0	0	3	0	0		0	3
1994	0	0	0	0		0	0	0	4	0	4		0	8
1995	0	0	0	0		0	0	0	0	0	0		4	4
1996	0	0	0	0		0	0	0	11	0	0		0	11
1997	0	0	0	0		0	0	0	0	0	0		3	3
1998	3	0	0	0		0	3	0	0	4	3		0	7
1999	0	0	0	0		0	0	5	0	0	3		0	8
2000	0	0	0	0		0	0	0	4	0	0		0	4
2001	0	0	0	0		0	0	5	0	0	0		0	5
2002	0	0	0	0	0	0	0	3				3	0	6
2003					No survey							No survey		
2004	0				0	0	0	24				0	3	28
2005	0				0	0	0	33				0	10	43

Table D-33 (cont.) Detailed harvest estimates, Red-throated Loon, 1985-2005

North Coast: Take by Season							Kuskokwim: Take by Season							
	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total
1985	0	0	0	0		0	0	0	6	6	0		0	12
1986	0	0	0	0		0	0	14	0	0	8		26	48
1987	0	0	0	0		0	0	14	6	0	0		0	20
1989	0	0	0	0		0	0	0	26	0	0		0	26
1990	3	0	0	0		0	3	55	7	0	0		6	68
1991	0	0	0	0		0	0	56	0	0	0		0	56
1992	0	0	0	0		0	0	64	4	0	0		0	68
1993	0	0	0	0		0	0	22	0	0	0		0	22
1994	0	0	0	0		0	0	77	10	0	0		0	87
1995	0	0	0	0		0	0	14	0	0	0		0	14
1996								21	0	0	0		4	25
1997	0	0	0	0		0	0	0	0	0	0		0	0
1998	1	0	0	1		0	2	11	0	0	4		0	15
1999	0	0	0	0		0	0	4	4	0	0		0	8
2000	0	0	0	0		0	0	4	4	0	0		0	8
2001	0	0	0	0		0	0	23	0	0	0		0	23
2002	0	0	0	0		0	0	18				0	0	18
2003					No survey							No survey		
2004	11				0	0	11	4				0	0	4
2005	1				0	0	1	0				0	8	8

Yukon: Take by Season							Bethel: Take by Season							
	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total
1985	20	0	6	0		0	26	0	0	0	0		0	0
1986	16	0	0	0		5	21	0	0	0	0		0	0
1987	3	4	0	0		4	11	0	0	0	0		0	0
1989	0	4	0	0		0	4	0	0	0	0		0	0
1990	0	0	0	0		0	0	0	0	0	0		0	0
1991	0	0	0	0		0	0	0	0	0	0		2	2
1992	0	0	0	0		0	0	0	0	0	0		0	0
1993	0	0	0	0		0	0	0	0	0	0		0	0
1994	0	0	0	0		0	0	0	0	0	0		0	0
1995	0	0	0	0		0	0	0	0	0	0		0	0
1996	0	0	0	0		0	0	0	0	0	0		0	0
1997	0	4	0	0		0	4	0	0	0	0		11	11
1998	0	0	0	2		0	2	8	0	0	0		0	8
1999	0	0	0	0		0	0	4	0	0	0		0	4
2000	4	0	0	0		0	4	0	0	0	0		0	0
2001	0	10	0	0		0	10	0	0	0	0		0	0
2002	4				0	0	4	0	0	0	0		0	0
2003					No survey							No survey		
2004	0				0	0	0	0				0	0	0
2005	0				0	0	0	0				0	0	0

Table D-34. Detailed harvest estimates, Common Loon, 1985-2005

Total Take by Season								Total Take by Region						
	Spring	ESum	MSum	LSum	Summer	Fall	Total	South	Mid-	North	Kusko	Yukon	Bethel	Total
1985	20	157	89	64		32	362	11	224	9	98	20	0	362
1986	79	141	106	73		262	661	64	379	27	91	84	16	661
1987	387	310	41	383		57	1178	370	462	14	228	66	39	1179
1989	287	104	57	132		115	695	117	371	94	77	19	17	695
1990	77	45	35	91		105	353	11	223	26	64	29	0	353
1991	393	45	56	167		26	687	203	265	3	202	5	9	687
1992	325	217	108	68		24	742	17	347	0	369	5	4	742
1993	337	116	59	61		84	657	18	230	60	289	31	28	656
1994	98	51	15	63		36	263	26	176	3	48	0	11	264
1995	114	110	55	78		33	390	18	173	75	98	27	0	391
1996							424	74	117	25	203	5	0	424
1997	37	57	34	40		104	272	10	159	9	76	0	18	272
1998	105	88	24	16		4	237	33	85	7	108	3	0	236
1999	29	65	12	56		8	170	7	58	37	64	4	0	170
2000	55	24	40	0		5	124	9	65	0	51	0	0	125
2001	46	15	8	18		0	86	3	15	1	62	5	0	86
2002	169				95	7	272	31	127	0	114	0	0	272
2003					No survey						No survey			
2004	119	0	0	0	50	0	168	17	64	4	84	0	0	168
2005	38	0	0	0	4	28	70	0	10	0	37	23	0	70

South Coast: Take by Season								Mid Coast: Take by Season						
	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total
1985	0	11	0	0	0	0	11	0	90	60	55	19	0	224
1986	0	64	0	0	0	0	64	0	27	96	41	0	215	379
1987	118	185	0	67	0	0	370	34	83	33	290	0	22	462
1989	109	0	0	8	0	0	117	92	69	57	80	0	73	371
1990	0	0	0	0	0	11	11	21	31	14	80	0	77	223
1991	179	0	24	0	0	0	203	20	33	28	163	0	21	265
1992	17	0	0	0	0	0	17	87	65	103	68	0	24	347
1993	15	0	4	0	0	0	19	12	35	56	61	0	65	229
1994	26	0	0	0	0	0	26	32	36	11	63	0	33	175
1995	11	7	0	0	0	0	18	24	39	48	48	0	13	172
1996								10	31	22	27	0	27	117
1997	10	0	0	0	0	0	10	15	26	33	18	0	67	159
1998	23	10	0	0	0	0	33	18	31	18	15	0	4	86
1999	7	0	0	0	0	0	7	3	6	12	29	0	8	58
2000	6	0	3	0	0	0	9	23	8	29	0	0	5	65
2001	0	0	3	0	0	0	3	0	0	5	10	0	0	15
2002	31				0	0	31	33				90	4	127
2003					No survey							No survey		
2004	11				6	0	17	20				44	0	64
2005	0				0	0	0	4				4	2	10

Table D-34 (cont.) Detailed harvest estimates, Common Loon, 1985-2005

Year	North Coast: Take by Season							Kuskokwim: Take by Season						
	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total
1985	0	0	0	9		0	9	0	56	29	0		13	98
1986	11	0	0	5		11	27	52	31	0	8		0	91
1987	14	0	0	0		0	14	209	12	0	7		0	228
1989	42	0	0	24		28	94	20	35	0	15		7	77
1990	6	3	3	3		10	25	50	3	3	7		0	63
1991	0	3	0	0		0	3	185	9	4	4		0	202
1992	0	0	0	0		0	0	217	152	0	0		0	369
1993	40	20	0	0		0	60	224	60	0	0		5	289
1994	0	0	0	0		3	3	29	15	4	0		0	48
1995	6	30	3	26		10	75	52	34	4	4		4	98
1996	0	20	0	0		4	24	100	75	4	19		5	203
1997	3	1	1	0		4	9	9	30	0	22		15	76
1998	1	4	0	1		0	6	59	43	6	0		0	108
1999	0	37	0	0		0	37	19	18	0	27		0	64
2000	0	0	0	0		0	0	27	16	8	0		0	51
2001	1	0	0	0		0	1	45	10	0	8		0	62
2002	0				0	0	0	106				5	3	114
2003				No survey							No survey			
2004	4				0	0	4	84				0	0	84
2005	0				0	0	0	15				0	22	37

Year	Yukon: Take by Season							Bethel: Take by Season						
	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total
1985	20	0	0	0		0	20	0	0	0	0		0	0
1986	16	3	10	19		36	84	0	16	0	0		0	16
1987	7	21	0	19		19	66	5	10	8	0		16	39
1989	14	0	0	5		0	19	10	0	0	0		7	17
1990	0	7	15	0		7	29	0	0	0	0		7	
1991	5	0	0	0		0	5	4	0	0	0		5	9
1992	0	0	5	0		0	5	4	0	0	0		0	4
1993	31	0	0	0		0	31	14	0	0	0		14	28
1994	0	0	0	0		0	0	11	0	0	0		0	11
1995	21	0	0	0		7	28	0	0	0	0		0	0
1996	0	0	0	0		5	5	0	0	0	0		0	0
1997	0	0	0	0		0	0	0	0	0	0		18	18
1998	3	0	0	0		0	3	0	0	0	0		0	0
1999	0	4	0	0		0	4	0	0	0	0		0	0
2000	0	0	0	0		0	0	0	0	0	0		0	0
2001	0	5	0	0		0	5	0	0	0	0		0	0
2002								0				0	0	0
2003				No survey							No survey			
2004	0				0	0	0	0				0	0	0
2005	19				0	4	23	0				0	0	0

Table D-35. Detailed harvest estimates, Arctic Loon, 1985-2005

Total Take by Season								Total Take by Region						
	Spring	ESum	MSum	LSum	Summer	Fall	Total	South	Mid-	North	Kusko	Yukon	Bethel	Total
1985	19	12	6	12		79	128	0	28	3	62	35	0	128
1986	21	70	0	0		0	91	0	0	0	91	0	0	91
1987	9	0	0	0		33	42	0	0	0	42	0	0	42
1989	60	0	35	0		0	95	45	40	0	10	0	0	95
1990	18	6	7	0		0	31	0	18	3	10	0	0	31
1991	25	4	0	5		0	34	10	13	0	11	0	0	34
1992	47	7	0	27		33	114	0	73	0	41	0	0	114
1993	53	86	0	3		0	142	0	12	0	126	0	4	142
1994	11	32	0	0		0	43	0	0	0	44	0	0	44
1995	13	0	3	4		0	20	0	7	0	13	0	0	20
1996	20	0	3	0		4	27	0	13	0	10	0	4	27
1997	21	16	3	0		0	40	16	6	0	18	0	0	40
1998	18	0	0	6		28	52	7	3	0	24	20	0	54
1999	0	0	0	0		0	0	0	0	0	0	0	0	0
2000	17	0	0	0		0	17	0	0	9	4	0	4	17
2001	11	5	0	26		308	350	5	0	0	345	0	0	350
2002	199				69	9	277	1	87	0	189	0	0	277
2003				No survey							No survey			
2004	126	0	0	0	0	0	126	32	33	0	62	0	0	126
2005	52	0	0	0	46	0	98	6	84	0	8	0	0	98

South Coast: Take by Season								Mid Coast: Take by Season						
	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total
1985	0	0	0	0		0	0	0	0	6	12		10	28
1986	0	0	0	0		0	0	0	0	0	0		0	0
1987	0	0	0	0		0	0	0	0	0	0		0	0
1989	45	0	0	0		0	45	5	0	35	0		0	40
1990	0	0	0	0		0	0	7	4	7	0		0	18
1991	10	0	0	0		0	10	4	4	0	5		0	13
1992	0	0	0	0		0	0	6	7	0	27		33	73
1993	0	0	0	0		0	0	9	0	0	3		0	12
1994	0	0	0	0		0	0	0	0	0	0		0	0
1995	0	0	0	0		0	0	0	0	3	4		0	7
1996	0	0	0	0		0	0	9	0	3	0		0	12
1997	0	16	0	0		0	16	3	0	3	0		0	6
1998	3	0	0	4		0	7	0	0	0	3		0	3
1999	0	0	0	0		0	0	0	0	0	0		0	0
2000	0	0	0	0		0	0	0	0	0	0		0	0
2001	0	5	0	0		0	5	0	0	0	0		0	0
2002	0	0				1	1	18				63	5	87
2003				No survey							No survey			
2004	32				0	0	32	33				0	0	33
2005	6				0	0	6	38				46	0	84

Table D-35 (cont.) Detailed harvest estimates, Arctic Loon, 1985-2005

	North Coast: Take by Season							Kuskokwim: Take by Season						
	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total
1985	3	0	0	0		0	3	0	12	0	0		50	62
1986	0	0	0	0		0	0	21	70	0	0		0	91
1987	0	0	0	0		0	0	9	0	0	0		33	42
1989	0	0	0	0		0	0	10	0	0	0		0	10
1990	3	0	0	0		0	3	8	3	0	0		0	11
1991	0	0	0	0		0	0	11	0	0	0		0	11
1992	0	0	0	0		0	0	41	0	0	0		0	41
1993	0	0	0	0		0	0	40	86	0	0		0	126
1994	0	0	0	0		0	0	11	32	0	0		0	43
1995	0	0	0	0		0	0	13	0	0	0		0	13
1996	0	0	0	0		0	0	10	0	0	0		0	10
1997	0	0	0	0		0	0	18	0	0	0		0	18
1998	0	0	0	0		0	0	15	0	0	0		9	24
1999	0	0	0	0		0	0	0	0	0	0		0	0
2000	9	0	0	0		0	9	4	0	0	0		0	4
2001	0	0	0	0		0	0	11	0	0	26		308	345
2002	0				0	0	0	181				5	3	189
2003					No survey						No survey			
2004	0				0	0	0	62				0	0	62
2005	0				0	0	0	8				0	0	8

	Yukon: Take by Season							Bethel: Take by Season						
	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total
1985	16	0	0	0		19	35	0	0	0	0		0	0
1986	0	0	0	0		0	0	0	0	0	0		0	0
1987	0	0	0	0		0	0	0	0	0	0		0	0
1989	0	0	0	0		0	0	0	0	0	0		0	0
1990	0	0	0	0		0	0	0	0	0	0		0	0
1991	0	0	0	0		0	0	0	0	0	0		0	0
1992	0	0	0	0		0	0	0	0	0	0		0	0
1993	0	0	0	0		0	0	4	0	0	0		0	4
1994	0	0	0	0		0	0	0	0	0	0		0	0
1995	0	0	0	0		0	0	0	0	0	0		0	0
1996	0	0	0	0		0	0	0	0	0	0		4	4
1997	0	0	0	0		0	0	0	0	0	0		0	0
1998	0	0	0	0		20	20	0	0	0	0		0	0
1999	0	0	0	0		0	0	0	0	0	0		0	0
2000	0	0	0	0		0	0	4	0	0	0		0	4
2001	0	0	0	0		0	0	0	0	0	0		0	0
2002														
2003					No survey						No survey			
2004	0	0	0	0		0	0	0	0	0	0		0	0
2005	0	0	0	0		0	0	0	0	0	0		0	0

Table D-36. Detailed harvest estimates, Common Murre, 1985-2005

Total Take by Season							Total Take by Region						
	Spring	ESum	MSum	LSum	Fall	Total	South	Mid-	North	Kusko	Yukon	Bethel	Total
1985	0	18	33	0	0	51	0	0	0	18	0	33	51
1986	21	30	72	5	114	242	0	207	0	13	14	8	242
1987	10	0	336	8	0	354	336	10	0	8	0	0	354
1989	219	0	0	0	9	228	0	224	4	0	0	0	228
1990	4	4	0	0	14	22	0	8	0	6	8	0	22
1991	0	0	0	0	0	0	0	0	0	0	0	0	0
1992	21	15	0	0	0	36	0	36	0	0	0	0	36
1993	25	4	0	0	0	29	0	0	0	29	0	0	29
1994	77	0	160	71	0	308	0	308	0	0	0	0	308
1995	0	2	0	0	27	29	0	27	2	0	0	0	29
1996	42	0	0	0	0	42	0	16	0	26	0	0	42
1997	22	31	0	14	21	88	0	42	11	20	0	15	88
1998	2	0	0	4	0	6	0	5	1	0	0	0	6
1999	32	14	14	15	0	75	0	68	0	7	0	0	75
2000	3	0	0	0	0	3	3	0	0	0	0	0	3
2001	39	18	0	0	0	57	0	23	0	34	0	0	57
2002	110				7	117	0	110	0	7	0	0	117
2003				No survey						No survey			
2004	0	0	0	0	0	0	0	0	0	0	0	0	0
2005	0	0	0	0	71	0	71	0	71	0	0	0	71

South Coast: Take by Season							Mid Coast: Take by Season							
	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total
1985	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1986	0	0	0	0	0	0	0	0	30	63	5		109	207
1987	0	0	336	0	0	0	336	10	0	0	0	0	0	10
1989	0	0	0	0	0	0	0	219	0	0	0	0	5	224
1990	0	0	0	0	0	0	0	4	4	0	0	0	0	8
1991	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1992	0	0	0	0	0	0	0	21	15	0	0	0	0	36
1993	0	0	0	0	0	0	0	0	0	0	0	0	0	0
1994	0	0	0	0	0	0	0	77	0	160	71	0	0	308
1995	0	0	0	0	0	0	0	0	0	0	0	0	27	27
1996	0	0	0	0	0	0	0	16	0	0	0	0	0	16
1997	0	0	0	0	0	0	0	18	24	0	0	0	0	42
1998	0	0	0	0	0	0	0	2	0	0	3	0	0	5
1999	0	0	0	0	0	0	0	25	14	14	15	0	0	68
2000	3	0	0	0	0	0	3	0	0	0	0	0	0	0
2001	0	0	0	0	0	0	0	23	0	0	0	0	0	23
2002								103				7	0	110
2003				No survey							No survey			
2004	0				0	0	0	0				0	0	0
2005	0				0	0	0	0				71	0	71

Table D-36 (cont.) Detailed harvest estimates, Common Murre, 1985-2005

North Coast: Take by Season							Kuskokwim: Take by Season						
1985	0	0	0	0	0	0	0	18	0	0	0	18	
1986	0	0	0	0	0	0	13	0	0	0	0	13	
1987	0	0	0	0	0	0	0	0	0	8	0	8	
1989	0	0	0	0	4	4	0	0	0	0	0	0	
1990	0	0	0	0	0	0	0	0	0	0	6	6	
1991	0	0	0	0	0	0	0	0	0	0	0	0	
1992	0	0	0	0	0	0	0	0	0	0	0	0	
1993	0	0	0	0	0	0	25	4	0	0	0	29	
1994	0	0	0	0	0	0	0	0	0	0	0	0	
1995	0	2	0	0	0	2	0	0	0	0	0	0	
1996	0	0	0	0	0	0	26	0	0	0	0	26	
1997	4	7	0	0	0	11	0	0	0	14	6	20	
1998	0	0	0	1	0	1	0	0	0	0	0	0	
1999	0	0	0	0	0	0	7	0	0	0	0	7	
2000	0	0	0	0	0	0	0	0	0	0	0	0	
2001	0	0	0	0	0	0	16	18	0	0	0	34	
2002	0				0	0	7				0	7	
2003				No survey						No survey			
2004							0				0	0	
2005							0				0	0	

Yukon: Take by Season							Bethel: Take by Season						
1985	0	0	0	0	0	0	0	0	33	0	0	33	
1986	0	0	9	0	5	14	8	0	0	0	0	8	
1987	0	0	0	0	0	0	0	0	0	0	0	0	
1989	0	0	0	0	0	0	0	0	0	0	0	0	
1990	0	0	0	0	8	8	0	0	0	0	0	0	
1991	0	0	0	0	0	0	0	0	0	0	0	0	
1992	0	0	0	0	0	0	0	0	0	0	0	0	
1993	0	0	0	0	0	0	0	0	0	0	0	0	
1994	0	0	0	0	0	0	0	0	0	0	0	0	
1995	0	0	0	0	0	0	0	0	0	0	0	0	
1996							0	0	0	0	0	0	
1997	0	0	0	0	0	0	0	0	0	0	15	15	
1998	0	0	0	0	0	0	0	0	0	0	0	0	
1999	0	0	0	0	0	0	0	0	0	0	0	0	
2000	0	0	0	0	0	0	0	0	0	0	0	0	
2001	0	0	0	0	0	0	0	0	0	0	0	0	
2002													
2003				No survey						No survey			
2004	0				0	0	0				0	0	
2005	0				0	0	0				0	0	

Table D-37. Detailed harvest estimates, small shorebirds, 1985-2005

Total Take by Season							Total Take by Region						
	Spring	ESum	MSum	LSum	Fall	Total	South	Mid-	North	Kusko	Yukon	Bethel	Total
1985	51	235	20	1088	579	1973	223	1711	11	24	4	0	1973
1986	54	481	4	19	47	605	0	19	77	487	22	0	605
1987	80	15	9	122	0	226	0	153	0	42	31	0	226
1989	80	16	0	0	5	101	80	17	4	0	0	0	101
1990	0	25	0	19	4	48	0	11	22	15	0	0	48
1991	17	51	0	0	83	151	0	11	31	109	0	0	151
1992	29	4	0	0	64	97	0	39	0	0	58	0	97
1993	57	380	139	0	23	599	82	512	0	5	0	0	599
1994	44	3	0	7	0	54	0	0	32	22	0	0	54
1995	55	0	27	0	36	118	27	58	29	4	0	0	118
1996	11	3	55	3	4	76	0	70	0	6	0	0	76
1997	44	0	3	27	10	84	5	72	7	0	0	0	84
1998	39	8	30	15	0	92	13	40	10	14	0	15	92
1999	16	0	51	4	0	71	0	71	0	0	0	0	71
2000	57	39	0	0	60	156	91	60	5	0	0	0	156
2001	32	0	19	0	19	70	15	38	20	4	0	0	77
2002	397				5	402	373	0	0	29	0	0	402
2003				No survey						No survey			
2004	316			0	70	385	226	155	4	0	0	0	385
2005	12	0	0	0	0	12	12	0	0	0	0	0	12

South Coast: Take by Season							Mid Coast: Take by Season							
	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total
1985	20	192	11	0	0	0	223	23	12	9	1088		579	1711
1986	0	0	0	0	0	0	0	15	0	4	0		0	19
1987	0	0	0	0	0	0	0	22	0	9	122		0	153
1989	80	0	0	0	0	0	80	0	12	0	0		5	17
1990	0	0	0	0	0	0	0	0	3	0	4		4	11
1991	0	0	0	0	0	0	0	7	4	0	0		0	11
1992	0	0	0	0	0	0	0	29	4	0	0		6	39
1993	57	22	0	0	3	82	82	0	358	139	0		15	512
1994	0	0	0	0	0	0	0	0	0	0	0		0	0
1995	0	0	27	0	0	27	27	51	0	0	0		7	58
1996	0	0	0	0	0	0	0	8	0	55	3		4	70
1997	5	0	0	0	0	5	5	32	0	3	27		10	72
1998	0	0	13	0	0	13	13	0	8	17	15		0	40
1999	0	0	0	0	0	0	0	16	0	51	4		0	71
2000	52	39	0	0	0	91	91	0	0	0	0		60	60
2001	15					15	15	0	0	19	0		19	38
2002	373				0	373	373	0				0	0	0
2003				No survey							No survey			
2004	157				0	70	226	155				0	0	155
2005	12				0	0	12	0				0	0	0

Table D-37 (cont.) Detailed harvest estimates, small shorebirds, 1985-2005

	North Coast: Take by Season							Kuskokwim: Take by Season						
	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total
1985	8	3	0	0		0	11	0	24	0	0		0	24
1986	33	0	0	0		44	77	6	481	0	0		0	487
1987	0	0	0	0		0	0	33	9	0	0		0	42
1989	0	4	0	0		0	4	0	0	0	0		0	0
1990	0	22	0	0		0	22	0	0	0	15		0	15
1991	0	0	0	0		31	31	10	47	0	0		52	109
1992	0	0	0	0		0	0	0	0	0	0		0	0
1993	0	0	0	0		0	0	0	0	0	0		5	5
1994	32	0	0	0		0	32	12	3	0	7		0	22
1995	0	0	0	0		29	29	4	0	0	0		0	4
1996	0	0	0	0		0	0	3	3	0	0		0	6
1997	7	0	0	0		0	7	0	0	0	0		0	0
1998	10	0	0	0		0	10	14	0	0	0		0	14
1999	0	0	0	0		0	0	0	0	0	0		0	0
2000	5	0	0	0		0	5	0	0	0	0		0	0
2001	13				7	0	20	4				0	0	4
2002	0				0	0	0	24				5	0	29
2003				No survey							No survey			
2004	4				0	0	4	0				0	0	0
2005	0				0	0	0	0				0	0	0

	Yukon: Take by Season							Bethel: Take by Season						
	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total
1985	0	4	0	0		0	4	0	0	0	0		0	0
1986	0	0	0	19		3	22	0	0	0	0		0	0
1987	25	6	0	0		0	31	0	0	0	0		0	0
1989	0	0	0	0		0	0	0	0	0	0		0	0
1990	0	0	0	0		0	0	0	0	0	0		0	0
1991	0	0	0	0		0	0	0	0	0	0		0	0
1992	0	0	0	0		58	58	0	0	0	0		0	0
1993	0	0	0	0		0	0	0	0	0	0		0	0
1994	0	0	0	0		0	0	0	0	0	0		0	0
1995	0	0	0	0		0	0	0	0	0	0		0	0
1996	0	0	0	0		0	0	0	0	0	0		0	0
1997	0	0	0	0		0	0	0	0	0	0		0	0
1998	0	0	0	0		0	0	15	0	0	0		0	15
1999						0	0	0	0	0	0		0	0
2000	0	0	0	0		0	0	0	0	0	0		0	0
2001						0	0							0
2002	0				0	0	0	0				0	0	0
2003				No survey							No survey			
2004	0				0	0	0	0				0	0	0
2005	0				0	0	0	0				0	0	0

Table D-38. Detailed harvest estimates, Bristle-thighed Curlew, 1985-2005

Year	Total Take by Season							Total Take by Region						
	Spring	ESum	MSum	LSum	Summer	Fall	Total	South	Mid-	North	Kusko	Yukon	Bethel	Total
1985														
1986														
1987														
1989														
1990														
1991														
1992														
1993														
1994														
1995														
1996														
1997														
1998														
1999														
2000														
2001														
2002	77				0	15	92	67	0	10	15	0	0	92
2003				No survey							No survey			
2004	9	0	0	0	0	0	9	0	0	9	0	0	0	9
2005	0	0	0	0	0	0	0	0	0	0	0	0	0	0

Year	South Coast: Take by Season							Mid Coast: Take by Season						
	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total
1985														
1986														
1987														
1989														
1990														
1991														
1992														
1993														
1994														
1995														
1996														
1997														
1998														
1999														
2000														
2001														
2002	62					5	67							0
2003				No survey							No survey			
2004	0				0	0	0	0				0	0	0
2005	0				0	0	0	0				0	0	0

Table D-38 (cont.) Detailed harvest estimates, Bristle-thighed Curlew, 1985-2005

	North Coast: Take by Season							Kuskokwim: Take by Season						
	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total
1985														
1986														
1987														
1989														
1990														
1991														
1992														
1993														
1994														
1995														
1996														
1997														
1998														
1999														
2000														
2001														
2002						10	10	15				0	0	15
2003				No survey						No survey				
2004	9				0	0	9							
2005	0				0	0	0							

	Yukon: Take by Season							Bethel: Take by Season						
	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total
1985							0							0
1986							0							0
1987							0							0
1989							0							0
1990							0							0
1991							0							0
1992							0							0
1993							0							0
1994							0							0
1995							0							0
1996							0							0
1997							0							0
1998							0							0
1999							0							0
2000							0							0
2001							0							0
2002							0							0
2003			no survey							no survey				
2004	0				0	0	0	0				0	0	0
2005	0				0	0	0	0				0	0	0

Table D-39. Detailed harvest estimates, Whimbrel, 1985-2005

Total Take by Season								Total Take by Region						
	Spring	ESum	MSum	LSum	Summer	Fall	Total	South	Mid-	North	Kusko	Yukon	Bethel	Total
1985														0
1986														0
1987														0
1989														0
1990														0
1991														0
1992														0
1993														0
1994														0
1995														0
1996														0
1997														0
1998														0
1999														0
2000														0
2001														0
2002	18				0	17	35	0	17	0	18	0	0	35
2003				No survey							No survey			
2004	0	0	0	0	154	0	154	0	154	0	0	0	0	154
2005	0	0	0	0	9	8	16	0	12	5	0	0	0	16

South Coast: Take by Season								Mid Coast: Take by Season						
	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total
1985							0							0
1986							0							0
1987							0							0
1989							0							0
1990							0							0
1991							0							0
1992							0							0
1993							0							0
1994							0							0
1995							0							0
1996							0							0
1997							0							0
1998							0							0
1999							0							0
2000							0							0
2001							0							0
2002	0				0	0	0	0				0	17	17
2003				No survey							No survey			
2004	0				0	0	0	0				154	0	154
2005	0				0	0	0	0				4	8	12

Table D-39 (cont.) Detailed harvest estimates, Whimbrel, 1985-2005

	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total
1985														
1986														
1987														
1989														
1990														
1991														
1992														
1993														
1994														
1995														
1996														
1997														
1998														
1999														
2000														
2001														
2002	0				0	0		18				0	0	18
2003				No survey							No survey			
2004	0				0	0	0					0	0	0
2005	0				5	0	5					0	0	0

Yukon: Take by Season

	Spring	ESum	MSum	LSum	Summer	Fall	Total
1985							0
1986							0
1987							0
1989							0
1990							0
1991							0
1992							0
1993							0
1994							0
1995							0
1996							0
1997							0
1998							0
1999							0
2000							0
2001	0	0	0	0	0	0	0
2002	0				0	0	0
2003				No survey			
2004	0				0	0	0
2005	0				0	0	0

Bethel: Take by Season

	Spring	ESum	MSum	LSum	Summer	Fall	Total
1985							0
1986							0
1987							0
1989							0
1990							0
1991							0
1992							0
1993							0
1994							0
1995							0
1996							0
1997							0
1998							0
1999							0
2000							0
2001	0	0	0	0	0	0	0
2002	0				0	0	0
2003				No survey			
2004	0				0	0	0
2005	0				0	0	0

Table D-40. Detailed harvest estimates, Large shorebirds, 1985-2005

Total Take by Season								Total Take by Region						
	Spring	ESum	MSum	LSum	Summer	Fall	Total	South	Mid-	North	Kusko	Yukon	Bethel	Total
	*	*	*	*		*	*	*	*	*	*	*	*	*
1985														0
1986	19	24	0	0		32	75	0	10	33	0	16	16	75
1987	4	2	0	7		111	124	0	122	0	0	2	0	124
1989	0	11	0	0		8	19	0	11	8	0	0	0	19
1990	0	0	0	37		103	140	0	140	0	0	0	0	140
1991	0	0	0	277		26	303	0	303	0	0	0	0	303
1992	11	0	0	0		0	11	0	6	0	5	0	0	11
1993	27	0	0	37		81	145	0	96	42	7	0	0	145
1994	4	4	0	21		145	174	0	163	0	10	0	0	173
1995	22	0	52	25		39	138	30	97	11	0	0	0	138
1996	0	3	0	626		145	774	0	770	0	3	0	0	773
1997	5	39	42	355		44	485	44	429	12	0	0	0	485
1998	79	0	3	802		984	1868	0	1787	1	75	4	0	1867
1999	36	0	0	744		915	1695	0	1688	0	7	0	0	1695
2000	0	18	0	1215		781	2014	95	1901	0	18	0	0	2014
2001	50	0	8	514		1142	1715	117	1579	19	0	0	0	1715
2002	0				0	0	0	0	0	0	0	0	0	0
2003				No survey							No survey			
2004	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2005	0	0	0	0	0	0	0	0	0	0	0	0	0	0

South Coast: Take by Season								Mid Coast: Take by Season						
	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total
	*	*	*	*		*	*	*	*	*	*	*	*	*
1985														
1986	0	0	0	0		0	0	0	0	0	0		10	10
1987	0	0	0	0		0	0	4	0	0	7		111	122
1989	0	0	0	0		0	0	0	11	0	0		0	11
1990	0	0	0	0		0	0	0	0	0	37		103	140
1991	0	0	0	0		0	0	0	0	0	277		26	303
1992	0	0	0	0		0	0	6	0	0	0		0	6
1993	0	0	0	0		0	0	0	0	0	33		63	96
1994	0	0	0	0		0	0	0	4	0	15		145	164
1995	0	0	19	0		11	30	17	0	33	25		22	97
1996	0	0	0	0		0	0	0	0	0	626		145	771
1997	5	39	0	0		0	44	0	0	30	355		44	429
1998	0	0	0	0		0	0	3	0	3	802		980	1788
1999	0	0	0	0		0	0	29	0	0	744		915	1688
2000	0	0	0	66		29	95	0	0	0	1149		752	1901
2001	0	0	0	65		52	117	47	0	0	442		1090	1579
2002														0
2003				No survey							No survey			
2004	0				0	0	0	0				0	0	0
2005	0				0	0	0	0				0	0	0

Table D-40 (cont.) Detailed harvest estimates, Large shorebirds, 1985-2005

Year	North Coast: Take by Season							Kuskokwim: Take by Season						
	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total
1985	*	*	*	*		*	*	*	*	*	*		*	*
1986	11	0	0	0		22	33	0	0	0	0		0	0
1987	0	0	0	0		0	0	0	0	0	0		0	0
1989	0	0	0	0		8	8	0	0	0	0		0	0
1990	0	0	0	0		0	0	0	0	0	0		0	0
1991	0	0	0	0		0	0	0	0	0	0		0	0
1992	0	0	0	0		0	0	5	0	0	0		0	5
1993	24	0	0	0		18	42	3	0	0	4		0	7
1994	0	0	0	0		0	0	4	0	0	7		0	11
1995	6	0	0	0		6	12	0	0	0	0		0	0
1996	0	0	0	0		0	0	0	3	0	0		0	3
1997	0	0	12	0		0	12	0	0	0	0		0	0
1998	0	0	0	0		0	0	7	0	0	0		0	7
1999	0	0	0	0		0	0	0	0	0	0		0	0
2000	0	0	0	0		0	0	0	18	0	0		0	18
2001	3	0	8	7		1	19	0	0	0	0		0	0
2002														
2003				No survey							No survey			
2004	0				0	0	0	0				0	0	0
2005	0				0	0	0	0	0			0	0	0

Year	Yukon: Take by Season							Bethel: Take by Season						
	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total
1985	*	*	*	*		*	*	*	*	*	*		*	*
1986	8	8	0	0		0	16	0	16	0	0		0	16
1987	0	2	0	0		0	2	0	0	0	0		0	0
1989	0	0	0	0		0	0	0	0	0	0		0	0
1990	0	0	0	0		0	0	0	0	0	0		0	0
1991	0	0	0	0		0	0	0	0	0	0		0	0
1992	0	0	0	0		0	0	0	0	0	0		0	0
1993	0	0	0	0		0	0	0	0	0	0		0	0
1994	0	0	0	0		0	0	0	0	0	0		0	0
1995	0	0	0	0		0	0	0	0	0	0		0	0
1996	0	0	0	0		0	0	0	0	0	0		0	0
1997	0	0	0	0		0	0	0	0	0	0		0	0
1998	0	0	0	0		48	48	0	0	0	0		0	0
1999	0	0	0	0		0	0	0	0	0	0		0	0
2000	0	0	0	0		0	0	0	0	0	0		0	0
2001	0	0	0	0		0	0	0	0	0	0		0	0
2002	0	0			0	0	0	0				0	0	0
2003				No survey							No survey			
2004								0				0	0	0
2005								0				0	0	0

Table D-41. Detailed harvest estimates, Mew Gull, 1985-2005

Total Take by Season							Total Take by Region							
	Spring	ESum	MSum	LSum	Summer	Fall	Total	South	Mid-	North	Kusko	Yukon	Bethel	Total
1985	5	0	0	0		0	5	0	5	0	0	0	0	5
1986	0	17	4	0		0	21	0	4	0	17	0	0	21
1987	9	5	0	0		0	14	0	5	0	9	0	0	14
1989	0	0	0	0		0	0	0	0	0	0	0	0	0
1990	11	0	0	0		0	11	0	0	11	0	0	0	11
1991	0	8	10	0		7	25	0	14	7	4	0	0	25
1992	0	0	0	0		0	0	0	0	0	0	0	0	0
1993	8	7	0	0		0	15	7	0	0	8	0	0	15
1994	0	0	0	0		0	0	0	0	0	0	0	0	0
1995	7	127	0	0		0	134	42	0	92	0	0	0	134
1996	52	2	0	0		0	54	0	54	0	0	0	0	54
1997	0	0	0	0		0	0	0	0	0	0	0	0	0
1998	0	3	6	0		7	16	4	0	0	6	7	0	17
1999	3	25	0	44		0	72	0	13	0	59	0	0	72
2000	0	13	0	0		0	13	13	0	0	0	0	0	13
2001	0	179	9	0		0	188	172	9	7	0	0	0	188
2002	230				0	17	247	156	0	0	91	0	0	247
2003					No survey						No survey			
2004	129	0	0	0	21	0	150	30	0	120	0	0	0	150
2005	0	0	0	0	0	0	0	0	0	0	0	0	0	0

South Coast: Take by Season							Mid Coast: Take by Season							
	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total
1985	0	0	0	0		0	0	5	0	0	0		0	5
1986	0	0	0	0		0	0	0	0	4	0		0	4
1987	0	0	0	0		0	0	0	5	0	0		0	5
1989	0	0	0	0		0	0	0	0	0	0		0	0
1990	0	0	0	0		0	0	0	0	0	0		0	0
1991	0	0	0	0		0	0	0	4	10	0		0	14
1992	0	0	0	0		0	0	0	0	0	0		0	0
1993	0	7	0	0		0	7	0	0	0	0		0	0
1994	0	0	0	0		0	0	0	0	0	0		0	0
1995	7	35	0	0		0	42	0	0	0	0		0	0
1996	0	0	0	0		0	0	52	2	0	0		0	54
1997	0	0	0	0		0	0	0	0	0	0		0	0
1998	0	3	0	0		0	3	0	0	0	0		0	0
1999	0	3	0	0		0	3	3	10	0	0		0	13
2000	0	13	0	0		0	13	0	0	0	0		0	0
2001	0	172	0	0		0	172	0	0	9	0		0	9
2002	156				0	0	156						0	0
2003					No survey							No survey		
2004	9				21	0	30	0				0	0	0
2005	0				0	0	0	0				0	0	0

Table D-41 (cont) Detailed harvest estimates, Mew Gull, 1985-2005

Year	North Coast: Take by Season							Kuskokwim: Take by Season						
	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total
1985	0	0	0	0		0	0	0	0	0	0		0	0
1986	0	0	0	0		0	0	0	17	0	0		0	17
1987	0	0	0	0		0	0	9	0	0	0		0	9
1989	0	0	0	0		0	0	0	0	0	0		0	0
1990	11	0	0	0		0	11	0	0	0	0		0	0
1991	0	0	0	0		7	7	0	4	0	0		0	4
1992	0	0	0	0		0	0	0	0	0	0		0	0
1993	0	0	0	0		0	0	8	0	0	0		0	8
1994	0	0	0	0		0	0	0	0	0	0		0	0
1995	0	92	0	0		0	92	0	0	0	0		0	0
1996	0	0	0	0		0	0	0	0	0	0		0	0
1997	0	0	0	0		0	0	0	0	0	0		0	0
1998	0	0	0	0		0	0	0	0	0	0		0	0
1999	0	0	0	0		0	0	0	15	0	44		0	59
2000	0	0	0	0		0	0	0	0	0	0		0	0
2001	0	7	0	0		0	7	0	0	0	0		0	0
2002	0				0	0	0	74				0	17	91
2003				No survey							No survey			
2004	120				0	0	120	0				0	0	0
2005	0				0	0	0	0				0	0	0

Year	Yukon: Take by Season							Bethel: Take by Season						
	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total
1985	0	0	0	0		0	0	0	0	0	0		0	0
1986	0	0	0	0		0	0	0	0	0	0		0	0
1987	0	0	0	0		0	0	0	0	0	0		0	0
1989	0	0	0	0		0	0	0	0	0	0		0	0
1990	0	0	0	0		0	0	0	0	0	0		0	0
1991	0	0	0	0		0	0	0	0	0	0		0	0
1992	0	0	0	0		0	0	0	0	0	0		0	0
1993	0	0	0	0		0	0	0	0	0	0		0	0
1994	0	0	0	0		0	0	0	0	0	0		0	0
1995	0	0	0	0		0	0	0	0	0	0		0	0
1996	0	0	0	0		0	0	0	0	0	0		0	0
1997	0	0	0	0		0	0	0	0	0	0		0	0
1998	0	0	0	0		7	7	0	0	0	0		0	0
1999	0	0	0	0		7	7	0	0	0	0		0	0
2000	0	0	0	0		0	0	0	0	0	0		0	0
2001														
2002														
2003				No survey							No survey			
2004	0				0	0	0	0				0	0	0
2005	0				0	0	0	0				0	0	0

Table D-42. Detailed harvest estimates, Sabine's Gull 1985-2005

Total Take by Season							Total Take by Region							
	Spring	ESum	MSum	LSum	Summer	Fall	Total	South	Mid-	North	Kusko	Yukon	Bethel	Total
1985	6	0	0	0		24	30	0	24	0	6	0	0	30
1986	0	7	0	0		0	7	0	7	0	0	0	0	7
1987	0	0	0	0		35	35	0	35	0	0	0	0	35
1989	0	0	0	0		0	0	0	0	0	0	0	0	0
1990	0	0	0	0		0	0	0	0	0	0	0	0	0
1991	7	0	5	0		16	28	0	12	14	0	0	2	28
1992	32	0	0	0		7	39	0	32	0	7	0	0	39
1993	30	7	0	4		0	41	29	0	8	4	0	0	41
1994	8	0	0	0		0	8	0	0	8	0	0	0	8
1995	0	0	101	0		0	101	0	0	101	0	0	0	101
1996	71	7	0	0		0	78	0	7	71	0	0	0	78
1997	0	11	0	0		8	19	0	11	0	8	0	0	19
1998	0	3	11	6		0	20	10	10	0	0	0	0	20
1999	0	0	0	4		0	4	0	4	0	0	0	0	4
2000	11	0	0	0		0	11	0	0	0	0	11	0	11
2001	0	0	0	1		0	1	0	0	1	0	0	0	1
2002	92				0	0	92	62	21	0	9	0	0	92
2003					No survey						No survey			
2004	0	0	0	0	0	0	0	0	0	0	0	0	0	0
2005	0	0	0	0	0	0	0	0	0	0	0	0	0	0

South Coast: Take by Season							Mid Coast: Take by Season							
	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total
1985	0	0	0	0		0	0	0	0	0	0		24	24
1986	0	0	0	0		0	0	0	7	0	0		0	7
1987	0	0	0	0		0	0	0	0	0	0		35	35
1989	0	0	0	0		0	0	0	0	0	0		0	0
1990	0	0	0	0		0	0	0	0	0	0		0	0
1991	0	0	0	0		0	0	7	0	5	0		0	12
1992	0	0	0	0		0	0	32	0	0	0		0	32
1993	22	7	0	0		0	29	0	0	0	0		0	0
1994	0	0	0	0		0	0	0	0	0	0		0	0
1995	0	0	0	0		0	0	0	0	0	0		0	0
1996	0	0	0	0		0	0	0	7	0	0		0	7
1997	0	0	0	0		0	0	0	3	0	0		8	11
1998	0	3	0	7		0	10	0	0	4	6		0	10
1999	0	0	0	0		0	0	0	0	0	4		0	4
2000	0	0	0	0		0	0	0	0	0	0		0	0
2001	0	0	0	0		0	0	0	0	0	0		0	0
2002	62				0	0	62	21				0	0	21
2003					No survey							No survey		
2004	0				0	0	0	0				0	0	0
2005	0				0	0	0	0				0	0	0

Table D-42 (cont.) Detailed harvest estimates, Sabine's Gull 1985-2005

	North Coast: Take by Season							Kuskokwim: Take by Season							
	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total	
1985	0	0	0	0		0	0	6	0	0	0		0	6	
1986	0	0	0	0		0	0	0	0	0	0		0	0	
1987	0	0	0	0		0	0	0	0	0	0		0	0	
1989	0	0	0	0		0	0	0	0	0	0		0	0	
1990	0	0	0	0		0	0	0	0	0	0		0	0	
1991	0	0	0	0		14	14	0	0	0	0		0	0	
1992	0	0	0	0		0	0	0	0	0	0		7	7	
1993	8	0	0	0		0	8	0	0	0	4		0	4	
1994	8	0	0	0		0	8	0	0	0	0		0	0	
1995	0	0	101	0		0	101	0	0	0	0		0	0	
1996	71	0	0	0		0	71	0	0	0	0		0	0	
1997	0	0	0	0		0	0	0	8	0	0		0	8	
1998	0	0	0	0		0	0	0	0	0	0		0	0	
1999	0	0	0	0		0	0	0	0	0	0		0	0	
2000	0	0	0	0		0	0	0	0	0	0		0	0	
2001	0	0	0	1		0	1	0	0	0	0		0	0	
2002	0				0	0	0	9				0	0	9	
2003				No survey							No survey				
2004												0	0	0	
2005												0	0	0	

	Yukon: Take by Season							Bethel: Take by Season							
	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total	
1985	0	0	0	0		0	0	0	0	0	0		0	0	
1986	0	0	0	0		0	0	0	0	0	0		0	0	
1987	0	0	0	0		0	0	0	0	0	0		0	0	
1989	0	0	0	0		0	0	0	0	0	0		0	0	
1990	0	0	0	0		0	0	0	0	0	0		0	0	
1991	0	0	0	0		0	0	0	0	0	0		2	2	
1992	0	0	0	0		0	0	0	0	0	0		0	0	
1993	0	0	0	0		0	0	0	0	0	0		0	0	
1994	0	0	0	0		0	0	0	0	0	0		0	0	
1995	0	0	0	0		0	0	0	0	0	0		0	0	
1996	0	0	0	0		0	0	0	0	0	0		0	0	
1997	0	0	0	0		0	0	0	0	0	0		0	0	
1998	0	0	0	0		0	0	0	0	0	0		0	0	
1999	0	0	0	0		0	0	0	0	0	0		0	0	
2000	11	0	0	0		0	11	0	0	0	0		0	0	
2001	0	0	0	0		0	0	0	0	0	0		0	0	
2002															
2003				No survey							No survey				
2004	0					0	0	0				0	0	0	
2005	0					0	0	0	0			0	0	0	

Table D-43. Detailed harvest estimates, Glaucous Gulls, 1985-2005

Total Take by Season								Total Take by Region						
	Spring	ESum	MSum	LSum	Summer	Fall	Total	South	Mid-	North	Kusko	Yukon	Bethel	Total
1985	31	40	90	76		176	413	121	59	53	10	137	33	413
1986	103	92	0	0		22	217	0	99	16	87	15	0	217
1987	86	89	29	79		4	287	84	83	0	29	91	0	287
1989	0	0	0	6		15	21	0	6	12	0	0	3	21
1990	25	381	0	16		153	575	11	536	24	4	0	0	575
1991	0	17	20	0		4	41	0	28	0	13	0	0	41
1992	69	9	17	6		0	101	0	73	0	23	5	0	101
1993	8	60	9	7		14	98	0	74	21	4	0	0	99
1994	0	16	54	3		110	183	0	109	11	64	0	0	184
1995	15	16	9	21		10	71	0	27	20	21	5	0	73
1996	0	10	42	17		3	72	6	0	0	66	0	0	72
1997	52	44	441	60		5	602	5	379	12	0	206	0	602
1998	85	87	20	74		40	306	95	39	37	63	73	0	307
1999	9	74	0	3		29	115	0	40	23	49	3	0	115
2000	6	131	3	33		15	188	49	139	0	0	0	0	188
2001	7	0	9	0		0	16	0	9	0	0	0	7	16
2002	102				142	1	245	19	189	1	36	0	0	245
2003				No survey							No survey			
2004	259	0	0	0	58	53	369	93	15	254	8	0	0	369
2005	140	0	0	0	0	0	140	0	89	36	0	15	0	140

South Coast: Take by Season								Mid Coast: Take by Season						
	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total
1985	0	23	68	0		30	121	4	0	17	32		6	59
1986	0	0	0	0		0	0	87	0	0	0		12	99
1987	0	67	17	0		0	84	0	0	0	79		4	83
1989	0	0	0	0		0	0	0	0	0	6		0	6
1990	11	0	0	0		0	11	9	377	0	0		150	536
1991	0	0	0	0		0	0	0	8	20	0		0	28
1992	0	0	0	0		0	0	52	4	11	6		0	73
1993	0	0	0	0		0	0	5	9	60	0		0	74
1994	0	0	0	0		0	0	0	0	15	0		94	109
1995	0	0	0	0		0	0	0	3	9	15		0	27
1996	0	6	0	0		0	6	0	0	0	0		0	0
1997	0	5	0	0		0	5	0	0	379	0		0	379
1998	3	71	3	0		0	77	13	0	17	9		0	39
1999	0	0	0	0		0	0	6	5	0	0		29	40
2000	6	7	3	33		0	49	0	124	0	0		15	139
2001	0	0	0	0		0	0	0	0	9	0		0	9
2002	19				0	0	19	47				142	0	189
2003				No survey							No survey			
2004	15				46	32	93	0				11	3	15
2005	0				0	0	0	89				0	0	89

Table D-43 (cont.) Detailed harvest estimates, Glaucous Gulls, 1985-2005

	North Coast: Take by Season							Kuskokwim: Take by Season						
	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total
1985	4	0	5	44		0	53	10	0	0	0		0	10
1986	16	0	0	0		0	16	0	87	0	0		0	87
1987	0	0	0	0		0	0	17	0	12	0		0	29
1989	0	0	0	0		12	12	0	0	0	0		0	0
1990	5	0	0	16		3	24	0	4	0	0		0	4
1991	0	0	0	0		0	0	0	9	0	0		4	13
1992	0	0	0	0		0	0	17	0	6	0		0	23
1993	0	0	0	7		14	21	4	0	0	0		0	4
1994	0	0	0	0		11	11	0	16	40	3		5	64
1995	8	0	0	6		6	20	8	13	0	0		0	21
1996	0	0	0	0		0	0	0	4	42	17		4	67
1997	1	0	6	0		5	12	0	0	0	0		0	0
1998	17	0	0	20		0	37	3	17	0	17		27	64
1999	0	20	0	3		0	23	0	49	0	0		0	49
2000	0	0	0	0		0	0	0	0	0	0		0	0
2001	0	0	0	0		0	0	0	0	0	0		0	0
2002	0				0	1	1	36				0	0	36
2003				No survey							No survey			
2004	236				0	18	254	8				0	0	8
2005	36				0	0	36	0				0	0	0

	Yukon: Take by Season							Bethel: Take by Season						
	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total
1985	13	0	0	0		124	137	0	17	0	0		16	33
1986	0	5	0	0		10	15	0	0	0	0		0	0
1987	69	22	0	0		0	91	0	0	0	0		0	0
1989	0	0	0	0		0	0	0	0	0	0		3	3
1990	0	0	0	0		0	0	0	0	0	0		0	0
1991	0	0	0	0		0	0	0	0	0	0		0	0
1992	0	5	0	0		0	5	0	0	0	0		0	0
1993	0	0	0	0		0	0	0	0	0	0		0	0
1994	0	0	0	0		0	0	0	0	0	0		0	0
1995	0	0	0	0		5	5	0	0	0	0		0	0
1996	0	0	0	0		0	0	0	0	0	0		0	0
1997	51	39	56	60		0	206	0	0	0	0		0	0
1998	49	0	0	11		13	73	0	0	0	0		0	0
1999	3	0	0	0		0	3	0	0	0	0		0	0
2000	0	0	0	0		0	0	0	0	0	0		0	0
2001	0	0	0	0		0	0	7	0	0	0		0	7
2002														
2003				No survey							No survey			
2004	0				0	0	0	0				0	0	0
2005	15				0	0	15	0				0	0	0

Table D-44. Detailed harvest estimates, Arctic Tern, 1985-2005

Total Take by Season							Total Take by Region							
	Spring	ESum	MSum	LSum	Summer	Fall	Total	South	Mid-	North	Kusko	Yukon	Bethel	Total
1985	4	16	0	0		0	20	16	0	0	0	4	0	20
1986	0	114	0	0		79	193	0	79	0	114	0	0	193
1987	0	3	0	39		0	42	0	39	0	0	3	0	42
1989	0	0	0	0		0	0	0	0	0	0	0	0	0
1990	3	0	0	0		9	12	0	9	3	0	0	0	12
1991	7	4	0	0		0	11	0	11	0	0	0	0	11
1992	6	4	0	0		0	10	0	10	0	0	0	0	10
1993	0	0	0	0		0	0	0	0	0	0	0	0	0
1994	0	0	0	0		0	0	0	0	0	0	0	0	0
1995	7	6	0	0		2	15	0	0	15	0	0	0	15
1996	0	0	0	0		1	1	0	0	0	0	0	0	0
1997	5	1	262	3		0	271	0	264	7	0	0	0	271
1998	3	36	45	3		0	87	3	9	0	6	68	0	86
1999	0	7	0	0		0	7	0	3	0	4	0	0	7
2000	15	19	0	0		0	34	0	26	0	4	4	0	34
2001	0	0	0	0		0	0	0	0	0	0	0	0	0
2002	149				0	0	149	93	0	0	56	0	0	149
2003					No survey						No survey			
2004	23	0	0	0	3	0	26	3	0	21	2	0	0	26
2005	0	0	0	0	0	0	0	0	0	0	0	0	0	0

South Coast: Take by Season							Mid Coast: Take by Season							
	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total
1985	0	16	0	0		0	16	0	0	0	0		0	0
1986	0	0	0	0		0	0	0	0	0	0		79	79
1987	0	0	0	0		0	0	0	0	0	39		0	39
1989	0	0	0	0		0	0	0	0	0	0		0	0
1990	0	0	0	0		0	0	0	0	0	0		9	9
1991	0	0	0	0		0	0	7	4	0	0		0	11
1992	0	0	0	0		0	0	6	4	0	0		0	10
1993	0	0	0	0		0	0	0	0	0	0		0	0
1994	0	0	0	0		0	0	0	0	0	0		0	0
1995	0	0	0	0		0	0	0	0	0	0		0	0
1996	0	0	0	0		0	0	0	0	0	0		0	0
1997	0	0	0	0		0	0	0	0	261	3		0	264
1998	0	3	0	0		0	3	3	0	3	3		0	9
1999	0	0	0	0		0	0	0	3	0	0		0	3
2000	0	0	0	0		0	0	7	19	0	0		0	26
2001	0	0	0	0		0	0	0	0	0	0		0	0
2002	93				0	0	93	0	0	0	0		0	0
2003			no survey							no survey				
2004	0				3	0	3	0				0	0	0
2005	0				0	0	0	0				0	0	0

Table D-44 (cont.) Detailed harvest estimates, Arctic Tern, 1985-2005

	North Coast: Take by Season							Kuskokwim: Take by Season						
	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total
1985	0	0	0	0		0	0	0	0	0	0		0	0
1986	0	0	0	0		0	0	0	114	0	0		0	114
1987	0	0	0	0		0	0	0	0	0	0		0	0
1989	0	0	0	0		0	0	0	0	0	0		0	0
1990	3	0	0	0		0	3	0	0	0	0		0	0
1991	0	0	0	0		0	0	0	0	0	0		0	0
1992	0	0	0	0		0	0	0	0	0	0		0	0
1993	0	0	0	0		0	0	0	0	0	0		0	0
1994	0	0	0	0		0	0	0	0	0	0		0	0
1995	7	6	0	0		2	15	0	0	0	0		0	0
1996	0	0	0	0		1	1	0	0	0	0		0	0
1997	5	1	1	0		0	7	0	0	0	0		0	0
1998	0	0	0	0		0	0	0	0	6	0		0	6
1999	0	0	0	0		0	0	0	4	0	0		0	4
2000	0	0	0	0		0	0	4	0	0	0		0	4
2001	0	0	0	0		0	0	0	0	0	0		0	0
2002	0				0	0	0	56				0	0	56
2003					No survey							No survey		
2004	21				0	0	21	2				0	0	2
2005	0				0	0	0	0				0	0	0

	Yukon: Take by Season							Bethel: Take by Season						
	Spring	ESum	MSum	LSum	Summer	Fall	Total	Spring	ESum	MSum	LSum	Summer	Fall	Total
1985	4	0	0	0		0	4	0	0	0	0		0	0
1986	0	0	0	0		0	0	0	0	0	0		0	0
1987	0	3	0	0		0	3	0	0	0	0		0	0
1989	0	0	0	0		0	0	0	0	0	0		0	0
1990	0	0	0	0		0	0	0	0	0	0		0	0
1991	0	0	0	0		0	0	0	0	0	0		0	0
1992	0	0	0	0		0	0	0	0	0	0		0	0
1993	0	0	0	0		0	0	0	0	0	0		0	0
1994	0	0	0	0		0	0	0	0	0	0		0	0
1995	0	0	0	0		0	0	0	0	0	0		0	0
1996	0	0	0	0		0	0	0	0	0	0		0	0
1997	0	0	0	0		0	0	0	0	0	0		0	0
1998	0	33	36	0		0	69	0	0	0	0		0	0
1999	0	0	0	0		0	0	0	0	0	0		0	0
2000	4	0	0	0		0	4	0	0	0	0		0	0
2001	0	0	0	0		0	0	0	0	0	0		0	0
2002	0				0	0	0	0				0	0	0
2003					No survey							No survey		
2004	0				0	0	0	0				0	0	0
2005	0				0	0	0	0				0	0	0

Appendix E. Annual bird and egg harvest estimates, 1995-1996
and 2001-2005

Note: 1995-1996 estimates are included here as revisions from: Wentworth, 2004, Subsistence Migratory Bird Harvest Survey. Yukon-Kuskokwim Delta, 1995-2000. For 1997-2000 estimates, see Wentworth, 2004.

Table E-1. Bird harvest estimates by survey period, Yukon-Kuskokwim Delta, 1995.

	Spring	ESum	MSum	LSum	Fall	Total
GEESE						
White-fronted Geese	5,921	2,216	645	926	1,680	11,388
Cackling Canada Geese	5,602	2,856	591	1,680	3,070	13,799
Emperor Geese	1,074	316	74	476	101	2,041
Black Brant	2,134	927	937	664	334	4,996
Lesser Canada Geese	6,422	2,999	417	1,638	3,455	14,931
Lesser Snow Geese	1,245	553	5	20	482	2,305
TOTAL GEESE	22,398	9,867	2,669	5,404	9,122	49,460
Tundra Swans	3,505	1,907	240	976	2,901	9,529
Sandhill Cranes	2,324	1,035	302	735	944	5,340
DUCKS						
Pintails	3,141	2,335	996	2,487	3,619	12,578
Mallards	1,582	1,038	336	1,314	2,701	6,971
Unidentified ducks	224	467	220	332	1,372	2,615
Wigeons	1,097	330	294	948	1,856	4,525
Shovelers	347	109	3	214	641	1,314
Green-winged Teals	271	70	6	312	898	1,557
Buffleheads	276	23	0	0	64	363
Harlequins	74	47	0	0	24	145
Greater Scaup	2,848	2,255	56	933	1,255	7,347
Goldeneyes	928	162	16	329	460	1,895
Long-tailed ducks	1,200	656	318	75	155	2,404
White-winged Scoters	495	1,010	194	81	137	1,917
Black Scoters	2,730	3,378	118	176	542	6,944
Surf Scoters	252	94	0	30	32	408
Common Eiders	52	27	7	6	22	114
King Eiders	1,598	10	0	10	7	1,625
Spectacled Eiders	182	3	0	21	0	206
Steller's Eiders	34	0	0	0	62	96
Common Mergansers	19	44	0	0	7	70
Red-breasted Mergansers	144	20	0	13	79	256
TOTAL DUCKS	17,494	12,078	2,564	7,281	13,933	53,350
Ptarmigan	15,416	535	56	57	31	16,095
OTHER BIRDS						
Yellow-billed Loons	21	0	0	0	13	34
Red-throated Loons	14	0	0	0	4	18
Common Loons	114	110	55	78	33	390
Arctic Loons	13	0	3	4	0	20
Common Murres	0	2	0	0	27	29
Small shorebirds	55	0	27	0	37	119
Large shorebirds	22	0	52	25	39	138
Mew Gulls	7	127	0	0	0	134
Sabines Gulls	0	0	101	0	0	101
Glaucous Gulls	15	16	9	21	10	71
Arctic Terns	7	6	0	0	2	15
TOTAL OTHER BIRDS	268	261	247	128	165	1,069
TOTAL (w/o Ptarmigan)	45,989	25,148	6,022	14,524	27,065	118,748
TOTAL (with Ptarmigan)	61,405	25,683	6,078	14,581	27,096	134,843

Table E-2 Bird harvest estimates by region, Yukon-Kuskokwim Delta, 1995.

	South Coast	Mid-Coast	North Coast	Kusko	Yukon	Bethel	Total
GEESE							
White-fronted Geese	1,519	3,355	710	2,428	3,169	208	11,389
Cackling Canada Geese	1,343	3,514	804	2,389	5,536	212	13,798
Emperor Geese	81	1,666	171	47	26	49	2,040
Black Brant	220	4,362	225	178	0	11	4,996
Lesser Canada Geese	1,741	2,391	1,479	2,311	6,847	162	14,931
Lesser Snow Geese	4	194	1,056	18	1,034	0	2,306
TOTAL GEESE	4,908	15,482	4,445	7,371	16,612	642	49,460
Tundra Swans	837	1,629	1,203	2,415	3,338	106	9,528
Sandhill Cranes	733	1,411	714	1,052	1,349	81	5,340
DUCKS							
Pintails	707	1,225	1,288	3,718	5,322	319	12,579
Mallards	967	1,056	820	2,223	1,747	159	6,972
Unidentified ducks	197	1,319	66	910	88	35	2,615
Wigeons	85	163	169	2,411	1,670	28	4,526
Shovelers	50	362	253	563	65	21	1,314
Green-winged Teals	106	383	197	587	89	195	1,557
Buffleheads	0	4	0	336	23	0	363
Harlequins	32	40	0	58	14	0	144
Greater Scaup	1,461	7	48	5,760	0	71	7,347
Goldeneyes	132	40	9	1,552	161	0	1,894
Long-tailed Ducks	112	1,173	7	1,040	0	71	2,403
White-winged Scoters	282	13	3	1,505	0	116	1,919
Black Scoters	996	54	42	5,506	68	279	6,945
Surf Scoters	79	17	6	279	0	28	409
Common Eiders	0	66	17	30	0	0	113
King Eiders	157	1,326	0	107	0	35	1,625
Spectacled Eiders	0	172	26	8	0	0	206
Steller's Eiders	0	96	0	0	0	0	96
Common Mergansers	0	3	0	60	0	7	70
Red-breasted Mergansers	0	4	9	243	0	0	256
TOTAL DUCKS	5,363	7,523	2,960	26,896	9,247	1,364	53,353
Ptarmigan	2,649	3,355	1,165	7,858	48	1,021	16,096
OTHER BIRDS							
Yellow-billed Loons	0	0	0	0	34	0	34
Red-throated Loons	0	4	0	14	0	0	18
Common Loons	18	173	75	98	27	0	391
Arctic Loons	0	7	0	13	0	0	20
Common Murres	0	27	2	0	0	0	29
Small shorebirds	27	58	29	4	0	0	118
Large shorebirds	30	97	11	0	0	0	138
Mew Gulls	42	0	92	0	0	0	134
Sabines Gulls	0	0	101	0	0	0	101
Glaucous Gulls	0	27	20	21	5	0	73
Arctic Terns	0	0	15	0	0	0	15
TOTAL OTHER BIRDS	117	393	345	150	66	0	1,071
TOTAL (w/o Ptarmigan)	11,958	26,438	9,667	37,884	30,612	2,193	118,752
TOTAL (with Ptarmigan)	14,607	29,793	10,832	45,742	30,660	3,214	134,848

Table E-3. Egg harvest estimates by survey period, Yukon-Kuskokwim Delta, 1995.

	Spring	ESum	MSum	LSum	Fall	Total
GOOSE EGGS						
White-fronted Geese	142	682	24	0	0	848
Cackling Canada Geese	536	309	0	0	0	845
Emperor Geese	84	323	0	0	0	407
Black Brant	67	456	0	0	0	523
Lesser Canada Geese	476	340	0	0	0	816
Lesser Snow Geese	0	0	0	0	0	0
TOTAL GOOSE EGGS	1,305	2,110	24	0	0	3,439
Tundra Swan Eggs	462	364	16	14	0	856
Sandhill Crane Eggs	151	281	4	24	0	460
DUCK EGGS						
Pintails						
Mallards						
Unidentified ducks	89	461	40	29	29	648
Wigeons	87	322	0	0	0	409
Shovelers	43	1,097	0	0	0	1,140
Green-winged Teals	0	54	0	0	0	54
Buffleheads	17	0	0	0	0	17
Harlequins	0	24	0	0	9	33
Greater Scaup	0	0	0	0	0	0
Goldeneyes	0	0	0	0	0	0
Long-tailed ducks	0	0	0	0	0	0
White-winged Scoters	0	0	0	0	0	0
Black Scoters	0	154	0	0	0	154
Surf Scoters	0	0	11	0	0	11
Common Eiders	15	23	88	0	0	126
King Eiders	41	0	0	0	18	59
Spectacled Eiders	64	0	0	0	0	64
Stellers' Eiders	0	0	0	0	0	0
Common Mergansers	0	0	0	0	0	0
Red-breasted Mergansers	0	0	0	0	0	0
TOTAL DUCK EGGS	356	2,135	139	29	56	2,715
Ptarmigan Eggs	269	290	0	0	0	559
OTHER BIRD EGGS						
Yellow-billed Loons	0	0	0	0	0	0
Red-throated Loons	0	0	0	0	0	0
Common Loons	5	25	0	0	0	30
Arctic Loons	0	0	0	0	0	0
Common Murres	0	0	0	0	0	0
Small shorebirds	421	997	0	0	0	1,418
Large shorebirds	39	65	15	0	0	119
Mew Gulls	149	215	0	0	0	364
Sabines Gulls	26	7	0	0	0	33
Glaucous Gulls	377	603	51	0	0	1,031
Arctic Terns	140	507	0	0	0	647
TOTAL OTHER BIRD EGGS	1,157	2,419	66	0	0	3,642
TOTAL EGGS (w/o Ptarmigan)	3,431	7,309	249	67	56	11,112
TOTAL EGGS (with Ptarmigan)	3,700	7,599	249	67	56	11,671

Table E-4. Egg harvest estimates by region, Yukon-Kuskokwim Delta, 1995.

	South Coast	Mid-Coast	North Coast	Kusko	Yukon	Bethel	Total
GOOSE EGGS							
White-fronted Geese	25	705	65	39	14	0	848
Cackling Canada Geese	0	301	185	283	75	0	844
Emperor Geese	0	402	5	0	0	0	407
Black Brant	0	524	0	0	0	0	524
Lesser Canada Geese	28	321	239	131	97	0	816
Lesser Snow Geese	0	0	0	0	0	0	0
TOTAL GOOSE EGGS	53	2,253	494	453	186	0	3,439
Tundra Swan Eggs	94	219	242	286	14	0	855
Sandhill Crane Eggs	50	151	197	48	14	0	460
DUCK EGGS							
Pintails	0	339	43	28	0	0	410
Mallards	4	1,136	0	0	0	0	1,140
Unidentified ducks	0	54	0	0	0	0	54
Wigeons	0	0	17	0	0	0	17
Shovelers	0	24	9	0	0	0	33
Green-winged Teals	0	0	0	0	0	0	0
Buffleheads	0	0	0	0	0	0	0
Harlequins	0	0	0	0	0	0	0
Greater Scaup	0	0	0	0	0	0	0
Goldeneyes	0	154	0	0	0	0	154
Long-tailed ducks	11	0	0	0	0	0	11
White-winged Scoters	112	0	0	15	0	0	127
Black Scoters	0	0	41	18	0	0	59
Surf Scoters	0	0	0	64	0	0	64
Common Eiders	0	0	0	0	0	0	0
King Eiders	0	0	0	0	0	0	0
Spectacled Eiders	0	0	0	0	0	0	0
Steller's Eiders	0	0	0	0	0	0	0
Common Mergansers	0	0	0	0	0	0	0
Red-breasted Mergansers	0	0	0	0	0	0	0
TOTAL DUCK EGGS	161	2,075	221	260	0	0	2,717
Ptarmigan Eggs	25	109	19	406	0	0	559
OTHER BIRD EGGS							
Yellow-billed Loons	0	0	0	0	0	0	0
Red-throated Loons	0	0	0	0	0	0	0
Common Loons	0	25	5	0	0	0	30
Arctic Loons	0	0	0	0	0	0	0
Common Murres	0	0	0	0	0	0	0
Small shorebirds	75	768	214	298	64	0	1,419
Large shorebirds	37	72	11	0	0	0	120
Mew Gulls	35	51	25	253	0	0	364
Sabines Gulls	14	19	0	0	0	0	33
Glaucous Gulls	106	346	130	324	125	0	1,031
Arctic Terns	0	93	141	286	127	0	647
TOTAL OTHER BIRD EGGS	267	1,374	526	1,161	316	0	3,644
TOTAL EGGS(w/o Ptarmigan)	625	6,072	1,680	2,208	530	0	11,115
TOTAL EGGS(with Ptarmigan)	650	6,181	1,699	2,614	530	0	11,674

Table E-5. Bird harvest estimates by survey period, Yukon-Kuskokwim Delta, 1996.

GEESE	Spring	ESum	MSum	LSum	Fall	Total
White-fronted Geese	8,587	1,004	192	1,511	3,288	14,582
Cackling Canada Geese	7,236	991	191	2,092	4,473	14,983
Emperor Geese	1,247	264	99	551	214	2,375
Black Brant	1,521	599	393	477	312	3,302
Lesser Canada Geese	7,093	1,319	114	2,003	4,204	14,733
Lesser Snow Geese	2,232	311	14	361	915	3,833
TOTAL GEESE	27,916	4,488	1,003	6,995	13,406	53,808
Tundra Swans	4,125	660	178	852	3,045	8,860
Sandhill Cranes	2,334	593	149	287	536	3,899
DUCKS						
Pintails	3,792	1,336	1,318	1,386	3,120	10,952
Mallards	2,048	353	159	776	1,704	5,040
Unidentified ducks	185	167	76	472	527	1,427
Wigeons	1,074	211	231	252	1,200	2,968
Shovelers	301	130	7	194	171	803
Green-winged Teals	619	83	21	444	742	1,909
Buffleheads	79	25	0	23	12	139
Harlequins	105	42	0	17	0	164
Greater Scaup	2,324	803	11	63	259	3,460
Goldeneyes	684	158	112	103	174	1,231
Long-tailed ducks	1,133	299	11	20	146	1,609
White-winged Scoters	1,371	899	0	4	237	2,511
Black Scoters	4,582	1,951	12	154	285	6,984
Surf Scoters	336	198	0	18	133	685
Common Eiders	479	21	0	23	92	615
King Eiders	2,636	25	0	12	80	2,753
Spectacled Eiders	124	2	0	0	0	126
Steller's Eiders	43	0	0	0	0	43
Common Mergansers	41	0	0	0	33	74
Red-breasted Mergansers	94	0	6	0	44	144
TOTAL DUCKS	22,050	6,703	1,964	3,961	8,959	43,637
Ptarmigan	13,198	1,310	0	150	136	14,794
OTHER BIRDS						
Yellow-billed Loons	145	40	0	0	3	188
Red-throated Loons	21	11	0	0	4	36
Common Loons	184	126	26	46	42	424
Arctic Loons	20	0	3	0	4	27
Common Murres	42	0	0	0	0	42
Small shorebirds	12	3	55	3	4	77
Large shorebirds	0	3	0	626	145	774
Mew Gulls	52	2	0	0	0	54
Sabines Gulls	71	7	0	0	0	78
Glaucous Gulls	0	10	42	17	3	72
Arctic Terns	0	0	0	0	1	1
TOTAL OTHER BIRDS	547	202	126	692	206	1,773
TOTAL(w/o Ptarmigan)	56,972	12,646	3,420	12,787	26,152	111,977
TOTAL (with Ptarmigan)	70,170	13,956	3,420	12,937	26,288	126,771

Table E-6. Bird harvest estimates by region, Yukon-Kuskokwim Delta, 1996.

	South Coast	Mid Coast	North Coast	Kusko	Yukon	Bethel	Total
GEESE							
White-fronted Geese	1,609	3,145	696	2,463	6,486	183	14,582
Cackling Canada Geese	1,644	3,633	1,083	2,038	6,342	243	14,983
Emperor Geese	13	1,678	284	344	36	18	2,373
Black Brant	193	2,865	60	162	22	0	3,302
Lesser Canada Geese	1,545	1,575	1,698	1,847	7,953	116	14,734
Lesser Snow Geese	77	2,055	935	247	510	11	3,835
TOTAL GEESE	5,081	14,951	4,756	7,101	21,349	571	53,809
Tundra Swans	799	1,046	642	1,900	4,399	74	8,860
Sandhill Cranes	778	718	336	845	1,145	77	3,899
DUCKS							
Pintails	426	1,126	1,390	2,068	5,672	271	10,953
Mallards	517	746	263	1,847	1,467	201	5,041
Unidentified ducks	115	478	286	277	232	39	1,427
Wigeons	72	505	145	1,381	733	130	2,966
Shovelers	39	112	37	420	174	21	803
Green-winged Teals	26	342	293	899	129	222	1,911
Buffleheads	13	0	0	126	0	0	139
Harlequins	0	0	0	163	0	0	163
Greater Scaup	921	91	33	2,322	5	88	3,460
Goldeneyes	85	14	16	972	36	109	1,232
Long-tailed ducks	133	587	0	853	8	28	1,609
White-winged Scoters	0	79	75	2,142	0	215	2,511
Black Scoters	1,375	97	59	5,058	63	331	6,983
Surf Scoters	70	34	0	410	72	99	685
Common Eiders	0	450	0	165	0	0	615
King Eiders	0	2,502	7	234	6	4	2,753
Spectacled Eiders	0	65	0	54	0	7	126
Steller's Eiders	0	35	0	7	0	0	42
Common Mergansers	0	2	7	59	5	0	73
Red-breasted Mergansers	6	6	0	121	11	0	144
TOTAL DUCKS	3,798	7,271	2,611	19,578	8,613	1,765	43,636
Ptarmigan	781	3,679	3,011	6,861	47	415	14,794
OTHER BIRDS							
Yellow-billed Loons	0	0	48	96	43	0	187
Red-throated Loons	0	11	0	25	0	0	36
Common Loons	74	117	25	203	5	0	424
Arctic Loons	0	13	0	10	0	4	27
Common Murres	0	16	0	26	0	0	42
Small shorebirds	0	69	0	7	0	0	76
Large shorebirds	0	770	0	3	0	0	773
Mew Gulls	0	54	0	0	0	0	54
Sabines Gulls	0	7	71	0	0	0	78
Glaucous Gulls	6	0	0	66	0	0	72
Arctic Terns	0	0	1	0	0	0	1
TOTAL OTHER BIRDS	80	1,057	145	436	48	4	1,770
TOTAL(w/o Ptarmigan)	10,536	25,043	8,490	29,860	35,554	2,491	111,974
TOTAL (with Ptarmigan)	11,317	28,722	11,501	36,721	35,601	2,906	126,768

Table E-7. Egg harvest estimates by survey period, Yukon-Kuskokwim Delta, 1996.

	Spring	ESum	MSum	LSum	Fall	Total
GOOSE EGGS						
White-fronted Geese	20	416	18	0	0	454
Cackling Canada Geese	125	647	22	0	0	794
Emperor Geese	8	480	0	0	0	488
Black Brant	8	614	0	0	0	622
Lesser Canada Geese	197	566	0	0	0	763
Lesser Snow Geese	0	5	0	0	0	5
TOTAL GOOSE EGGS	358	2,728	40	0	0	3,126
Tundra Swan Eggs	323	220	22	0	0	565
Sandhill Crane Eggs	119	214	41	0	0	374
DUCK EGGS						
Pintails	228	355	28	0	0	611
Mallards	87	185	0	0	0	272
Unidentified ducks	190	566	0	0	0	756
Wigeons	7	52	0	0	0	59
Shovelers	0	0	0	0	0	0
Green-winged Teals	20	68	0	0	0	88
Buffleheads	0	0	0	0	0	0
Harlequins	3	0	0	0	0	3
Greater Scaup	79	0	0	0	0	79
Goldeneyes	0	30	0	0	0	30
Long-tailed ducks	0	158	0	0	0	158
White-winged Scoters	0	0	0	0	0	0
Black Scoters	0	0	0	0	0	0
Surf Scoters	0	0	0	0	0	0
Common Eiders	0	27	0	0	0	27
King Eiders	0	20	0	0	0	20
Spectacled Eiders	0	0	0	0	0	0
Stellers' Eiders	0	0	0	0	0	0
Common Mergansers	0	0	0	0	0	0
Red-breasted Mergansers	0	0	0	0	0	0
TOTAL DUCK EGGS	614	1,461	28	0	0	2,103
Ptarmigan Eggs	316	679	0	0	0	995
OTHER BIRD EGGS						
Yellow-billed Loons	0	10	0	0	0	10
Red-throated Loons	0	8	0	0	0	8
Common Loons	0	59	0	0	0	59
Arctic Loons	0	10	0	0	0	10
Common Murres	1,110	623	6	0	0	1,739
Small shorebirds	674	1,426	69	0	0	2,169
Large shorebirds	23	216	6	0	0	245
Mew Gulls	122	207	19	0	0	348
Sabines Gulls	257	101	49	0	0	407
Glaucous Gulls	232	486	196	0	0	914
Arctic Terns	103	339	0	0	0	442
TOTAL OTHER BIRD EGGS	2,521	3,485	345	0	0	6,351
TOTAL EGGS (w/o Ptarmigan)	3,935	8,108	476	0	0	12,519
TOTAL EGGS (with Ptarmigan)	4,251	8,787	476	0	0	13,514

Table E-8. Egg harvest estimates by region, Yukon-Kuskokwim Delta, 1996.

	South Coast	Mid Coast	North Coast	Kusko	Yukon	Bethel	Total
GOOSE EGGS							
White-fronted Geese	34	402	0	18	0	0	454
Cackling Canada Geese	94	605	72	22	0	0	793
Emperor Geese	0	488	0	0	0	0	488
Black Brant	0	622	0	0	0	0	622
Lesser Canada Geese	54	362	240	107	0	0	763
Lesser Snow Geese	0	5	0	0	0	0	5
TOTAL GOOSE EGGS	182	2,484	312	147	0	0	3,125
Tundra Swan Eggs	142	156	33	180	54	0	565
Sandhill Crane Eggs	99	101	23	151	0	0	374
DUCK EGGS							
Pintails	38	413	0	51	109	0	611
Mallards	0	185	0	0	87	0	272
Unidentified ducks	0	546	17	46	147	0	756
Wigeons	7	22	0	30	0	0	59
Shovelers	0	0	0	0	0	0	0
Green-winged Teals	7	41	0	40	0	0	88
Buffleheads	0	0	0	0	0	0	0
Harlequins	0	0	0	3	0	0	3
Greater Scaup	0	0	0	79	0	0	79
Goldeneyes	0	0	0	30	0	0	30
Long-tailed ducks	0	158	0	0	0	0	158
White-winged Scoters	0	0	0	0	0	0	0
Black Scoters	0	0	0	0	0	0	0
Surf Scoters	0	0	0	0	0	0	0
Common Eiders	0	27	0	0	0	0	27
King Eiders	0	20	0	0	0	0	20
Spectacled Eiders	0	0	0	0	0	0	0
Stellers' Eiders	0	0	0	0	0	0	0
Common Mergansers	0	0	0	0	0	0	0
Red-breasted Mergansers	0	0	0	0	0	0	0
TOTAL DUCK EGGS	52	1,412	17	279	343	0	2,103
Ptarmigan Eggs	0	368	0	228	398	0	994
OTHER BIRD EGGS							
Yellow-billed Loons	0	4	6	0	0	0	10
Red-throated Loons	0	8	0	0	0	0	8
Common Loons	0	59	0	0	0	0	59
Arctic Loons	0	10	0	0	0	0	10
Common Murres	6	0	0	1,733	0	0	1,739
Small shorebirds	86	1,705	14	43	320	0	2,168
Large shorebirds	6	232	0	7	0	0	245
Mew Gulls	19	173	0	85	71	0	348
Sabines Gulls	26	172	0	36	174	0	408
Glaucous Gulls	51	255	166	214	228	0	914
Arctic Terns	0	216	0	17	209	0	442
TOTAL OTHER BIRD EGGS	194	2,834	186	2,135	1,002	0	6,351
TOTAL EGGS (w/o Ptarmigan)	669	6,987	571	2,892	1,399	0	12,518
TOTAL EGGS (with Ptarmigan)	669	7,355	571	3,120	1,797	0	13,512

Table E-9. Bird harvest estimates by survey period, Yukon-Kuskokwim Delta, 2001.

	Spring	Early Summer	Mid Summer	Late Summer	Fall	Total
GEESE						
White-fronted Goose	11,024	1,796	118	408	558	13,904
Cackling Canada Goose	6,956	1,284	173	502	1,311	10,226
Emperor Goose	692	260	70	47	9	1,078
Black Brant	2,666	1,973	56	731	342	5,768
Lesser Canada Goose	5,729	900	91	220	1,409	8,349
Lesser Snow Goose	2,262	664	18	0	128	3,072
TOTAL GEESE	29,329	6,877	526	1,908	3,757	42,397
Tundra Swan	2,501	483	46	135	610	3,775
Sandhill Crane	1,989	579	133	133	65	2,899
DUCKS						
Pintail	1,594	1,010	770	593	1,606	5,573
Mallard	1,809	925	406	507	1,064	4,711
Unidentified ducks	358	415	265	410	959	2,407
Wigeon	639	339	135	116	382	1,611
Shoveler	165	259	164	165	80	833
Canvasback*	0	0	0	0	0	0
Green-winged Teal	358	141	169	121	415	1,204
Bufflehead	38	0	3	0	0	41
Harlequin	90	49	0	0	8	147
Greater Scaup	2,165	2,119	359	71	387	5,101
Goldeneyes	534	585	3	34	281	1,437
Long-tailed Duck	398	598	28	44	293	1,361
White-winged Scoter	643	1,172	10	109	271	2,205
Black Scoter	1,683	2,678	38	120	349	4,868
Surf Scoter	82	376	0	15	213	686
Common Eider	470	2	0	0	37	509
King Eider	7,649	324	0	0	75	8,048
Spectacled Eider	25	0	0	0	0	25
Steller's Eider	4	3	4	0	0	11
Common Merganser	14	34	0	4	14	66
Red-breasted Merganser	121	23	0	23	91	258
TOTAL DUCKS	18,839	11,052	2,354	2,332	6,525	41,102
Ptarmigan	16,165	212	84	36	97	16,594
Spruce Grouse*	0	0	0	0	0	0
OTHER BIRDS						
Yellow-billed Loon	4	3	5	0	9	21
Red-throated Loon	28	10	0	0	0	38
Common Loon	46	15	9	17	0	87
Pacific Loon	11	5	0	26	308	350
Auklets*	0	0	0	0	0	0
Common Murre	39	18	0	0	0	57
Cormorants*	0	0	0	0	0	0
Kittiwakes*	0	0	0	0	0	0
Guillemots*	0	0	0	0	0	0
Mew Gull	0	179	9	0	0	188
Sabine's Gull	0	0	0	1	0	1
Glaucous Gull	7	0	9	0	0	16
Arctic Tern	0	0	0	0	0	0
Puffins*	0	0	0	0	0	0
Bristle-thighed curlew*	0	0	0	0	0	0
Godwits*	0	0	0	0	0	0
Whimbrel*	0	0	0	0	0	0
Golden Plover*	0	0	0	0	0	0
Small shorebirds	13	26	19	0	19	77
Large shorebirds	50	0	8	514	1,141	1,713
Other Unknown Birds*	0	0	0	0	0	0
TOTAL OTHER BIRDS	198	256	59	558	1,477	2,548
TOTAL(w/o Ptarm/Grouse)	52,856	19,247	3,118	5,066	12,434	92,721
TOTAL (with Ptarm/Grouse)	69,021	19,459	3,202	5,102	12,531	109,315
*new species added, 2002						

Table E-10. Bird harvest estimates by sub-region, Yukon-Kuskokwim Delta, 2001.

	South Coast	Mid Coast	North Coast	Kusko	Yukon	Bethel	Total
GEESE							
White-fronted Goose	1,798	4,399	906	3,513	2,082	1,206	13,904
Cackling Canada Goose	901	3,516	584	3,212	1,521	492	10,226
Emperor Goose	13	799	87	180	0	0	1,079
Black Brant	595	4,906	115	91	0	62	5,769
Lesser Canada Goose	1,078	959	928	3,081	1,720	583	8,349
Lesser Snow Goose	0	140	1,412	248	1,247	25	3,072
TOTAL GEESE	4,385	14,719	4,032	10,325	6,570	2,368	42,399
Tundra Swan	97	341	360	1,068	1,713	196	3,775
Sandhill Crane	504	900	512	596	232	155	2,899
DUCKS							
Pintail	216	797	958	1,680	1,793	130	5,574
Mallard	516	371	148	1,917	1,215	543	4,710
Unidentified ducks	0	305	146	199	1,714	44	2,408
Wigeon	104	94	42	644	652	74	1,610
Shoveler	0	9	13	244	534	32	832
Canvasback*							
Green-winged Teal	0	217	85	571	164	167	1,204
Bufflehead	0	5	0	15	0	22	42
Harlequin	0	4	0	73	62	7	146
Greater Scaup	5	37	0	4,353	215	491	5,101
Goldeneyes	311	0	0	715	231	180	1,437
Long-tailed Duck	129	317	5	782	15	112	1,360
White-winged Scoter	24	70	8	1,448	50	604	2,204
Black Scoter	565	21	3	3,024	247	1,009	4,869
Surf Scoter	128	0	0	527	0	32	687
Common Eider	150	343	2	5	8	0	508
King Eider	4,630	3,404	0	0	0	14	8,048
Spectacled Eider	20	6	0	0	0	0	26
Steller's Eider	4	0	7	0	0	0	11
Common Merganser	0	0	7	44	19	0	70
Red-breasted Merganser	0	0	0	209	42	7	258
TOTAL DUCKS	6,802	6,000	1,424	16,450	6,961	3,468	41,105
Ptarmigan	801	8,239	249	3,970	150	3,186	16,595
Spruce Grouse*							
OTHER BIRDS							
Yellow-billed Loon	0	5	12	0	0	4	21
Red-throated Loon	0	5	0	23	10	0	38
Common Loon	3	15	0	62	5	0	85
Pacific Loon	5	0	0	345	0	0	350
Auklets*							
Common Murre	0	23	0	35	0	0	58
Cormorants*							
Kittiwakes*							
Guillemots*							
Mew Gull	172	9	7	0	0	0	188
Sabine's Gull	0	0	1	0	0	0	1
Glaucous Gull	0	9	0	0	0	7	16
Arctic Tern	0	0	0	0	0	0	0
Puffins*							
Bristle-thighed curlew*							
Godwits*							
Whimbrel*							
Golden Plover*							
Small shorebirds	15	38	20	4	0	0	77
Large shorebirds	117	1,579	18	0	0	0	1,714
Other Unknown Birds*	0	0	0	0	0	0	0
TOTAL OTHER BIRDS	312	1,683	58	469	15	11	2,548
TOTAL(w/o Ptarm/Grouse)	12,100	23,643	6,386	28,908	15,491	6,198	92,726
TOTAL (with Ptarm/Grouse)	12,901	31,882	6,635	32,878	15,641	9,384	109,321
*new species added, 2002							

Table E-11. Egg harvest estimates by survey period, Yukon-Kuskokwim Delta, 2001.

	Spring	Early Summer	Mid Summer	Late Summer	Fall	Total
GOOSE EGGS						
White-fronted Goose	0	1,603	0	0	0	1,603
Cackling Canada Goose	5	2,344	0	0	0	2,349
Emperor Goose	0	89	0	0	0	89
Black Brant	0	1,217	0	0	0	1,217
Lesser Canada Goose	7	1,380	0	0	0	1,387
Lesser Snow Goose	27	0	0	0	0	27
TOTAL GOOSE EGGS	39	6,633	0	0	0	6,672
Tundra Swan Eggs	26	545	0	0	0	571
Sandhill Crane Eggs	9	395	0	0	0	404
DUCK EGGS						
Pintail	0	705	3	0	0	708
Mallard	0	520	0	0	0	520
Unidentified ducks	0	532	0	0	0	532
Wigeon	0	51	0	0	0	51
Shoveler	0	0	0	0	0	0
Canvasback*	0	0	0	0	0	0
Green-winged Teal	0	186	0	0	0	186
Bufflehead	0	0	0	0	0	0
Harlequin	0	0	0	0	0	0
Greater Scaup	0	221	0	0	0	221
Goldeneyes	0	11	0	0	0	11
Long-tailed Duck	0	22	0	0	0	22
White-winged Scoter	0	0	0	0	0	0
Black Scoter	0	7	0	0	0	7
Surf Scoter	0	0	0	0	0	0
Common Eider	0	0	0	0	0	0
King Eider	0	0	0	0	0	0
Spectacled Eider	0	0	0	0	0	0
Steller's Eider	0	0	0	0	0	0
Common Merganser	0	0	0	0	0	0
Red-breasted Merganser	0	0	0	0	0	0
TOTAL DUCK EGGS	0	2,255	3	0	0	2,258
Ptarmigan Eggs	11	1,078	22	0	0	1,111
Spruce Grouse Eggs*	0	0	0	0	0	0
OTHER BIRD EGGS						
Yellow-billed Loon	5	0	0	0	0	5
Red-throated Loon	0	0	0	0	0	0
Common Loon	0	93	0	0	0	93
Pacific Loon	0	20	0	0	0	20
Auklets*	0	0	0	0	0	0
Common Murre	0	10	0	0	0	10
Cormorants*	0	0	0	0	0	0
Kittiwakes*	0	0	0	0	0	0
Guillemots*	0	0	0	0	0	0
Mew Gull	0	315	0	0	0	315
Sabine's Gull	0	1,092	0	0	0	1,092
Glaucous Gull	4	3,144	58	0	0	3,206
Arctic Tern	0	468	0	0	0	468
Puffins*	0	0	0	0	0	0
Bristle-thighed curlew*	0	0	0	0	0	0
Godwits*	0	0	0	0	0	0
Whimbrel*	0	0	0	0	0	0
Golden Plover*	0	0	0	0	0	0
Small shorebirds	0	886	15	0	0	901
Large shorebirds	0	175	12	0	0	187
Other Unknown Birds*	0	140	0	0	0	140
TOTAL OTHER BIRD EGGS	9	6,343	85	0	0	6,437
TOTAL(w/o Ptarm/Grouse)	83	16,171	88	0	0	16,342
TOTAL (with Ptarm/Grouse)	94	17,249	110	0	0	17,453

*new species added, 2002

Table E-12. Egg harvest estimates by sub-region, Yukon-Kuskokwim Delta, 2001.

	South Coast	Mid Coast	North Coast	Kusko	Yukon	Bethel	Total
GOOSE EGGS							
White-fronted Goose	683	651	149	91	30	0	1,604
Cackling Canada Goose	170	1,034	1,145	0	0	0	2,349
Emperor Goose	0	69	20	0	0	0	89
Black Brant	7	1,211	0	0	0	0	1,218
Lesser Canada Goose	232	183	847	125	0	0	1,387
Lesser Snow Goose	0	0	27	0	0	0	27
TOTAL GOOSE EGGS	1,092	3,148	2,188	216	30	0	6,674
Tundra Swan Eggs	113	272	54	16	116	0	571
Sandhill Crane Eggs	197	34	99	23	50	0	403
DUCK EGGS							
Pintail	193	315	197	3	0	0	708
Mallard	380	95	46	0	0	0	521
Unidentified ducks	0	455	39	38	0	0	532
Wigeon	0	5	46	0	0	0	51
Shoveler	0	0	0	0	0	0	0
Canvasback*							
Green-winged Teal	100	74	4	10	0	0	188
Bufflehead	0	0	0	0	0	0	0
Harlequin	0	0	0	0	0	0	0
Greater Scaup	213	5	0	3	0	0	221
Goldeneyes	0	0	0	11	0	0	11
Long-tailed Duck	0	0	0	22	0	0	22
White-winged Scoter	0	0	0	0	0	0	0
Black Scoter	0	0	0	7	0	0	7
Surf Scoter	0	0	0	0	0	0	0
Common Eider	0	0	0	0	0	0	0
King Eider	0	0	0	0	0	0	0
Spectacled Eider	0	0	0	0	0	0	0
Steller's Eider	0	0	0	0	0	0	0
Common Merganser	0	0	0	0	0	0	0
Red-breasted Merganser	0	0	0	0	0	0	0
TOTAL DUCK EGGS	886	949	332	94	0	0	2,261
Ptarmigan Eggs	690	252	55	103	0	11	1,111
Spruce Grouse Eggs*							
OTHER BIRD EGGS							
Yellow-billed Loon	0	0	0	5	0	0	5
Red-throated Loon	0	0	0	0	0	0	0
Common Loon	54	30	10	0	0	0	94
Pacific Loon	10	10	0	0	0	0	20
Auklets*							
Common Murre	10	0	0	0	0	0	10
Cormorants*							
Kittiwakes*							
Guillemots*							
Mew Gull	154	56	71	0	34	0	315
Sabine's Gull	159	887	46	0	0	0	1,092
Glaucous Gull	1,193	1,531	271	189	23	0	3,207
Arctic Tern	87	352	29	0	0	0	468
Puffins*							
Bristle-thighed curlew*							
Godwits*							
Whimbrel*							
Golden Plover*							
Small shorebirds	269	614	15	3	0	0	901
Large shorebirds	0	167	12	7	0	0	186
Other Unknown Birds*	0	140	0	0	0	0	140
TOTAL OTHER BIRD EGGS	1,936	3,787	454	204	57	0	6,438
TOTAL(w/o Ptarm/Grouse)	4,224	8,190	3,127	553	253	0	16,347
TOTAL (with Ptarm/Grouse)	4,914	8,442	3,182	656	253	11	17,458

*new species added, 2002

Table E-13. Bird harvest estimates by survey period, Yukon-Kuskokwim Delta, 2002.

	Spring	Summer	Fall	Total
GEESE				
White-fronted Goose	8,346	1,833	1,497	11,676
Cackling Canada Goose	8,566	2,009	2,867	13,442
Emperor Goose	839	274	137	1,250
Black Brant	2,773	1,372	645	4,790
Lesser Canada Goose	4,376	966	959	6,301
Lesser Snow Goose	1,135	0	736	1,871
TOTAL GEESE	26,035	6,454	6,841	39,330
Tundra Swan	2,009	375	965	3,349
Sandhill Crane	1,884	459	304	2,647
DUCKS				
Pintail	2,287	2,004	3,516	7,807
Mallard	1,980	707	2,127	4,814
Unidentified ducks	533	358	254	1,145
Wigeon	603	307	1,344	2,254
Shoveler	627	283	783	1,693
Canvasback*	824	26	300	1,150
Green-winged Teal	300	449	706	1,455
Bufflehead	140	43	149	332
Harlequin	75	14	15	104
Greater Scaup	4,930	559	896	6,385
Goldeneyes	588	118	278	984
Long-tailed Duck	1,774	134	281	2,189
White-winged Scoter	1,880	112	127	2,119
Black Scoter	5,848	225	710	6,783
Surf Scoter	373	19	42	434
Common Eider	369	19	42	430
King Eider	6,679	560	104	7,343
Spectacled Eider	39	0		39
Steller's Eider	11	0	17	28
Common Merganser	93	2	53	148
Red-breasted Merganser	194	2	4	200
TOTAL DUCKS	30,147	5,941	11,748	47,836
Ptarmigan	18,756	159	108	19,023
Spruce Grouse*	31	0	118	149
OTHER BIRDS				
Yellow-billed Loon	92	83	7	182
Red-throated Loon	26	3	0	29
Common Loon	169	95	7	271
Pacific Loon	199	69	9	277
Auklets*	0	0	0	0
Common Murre	110	7	0	117
Cormorants*	90	0	0	90
Kittiwakes*	2	0	0	2
Guillemots*	2	0	0	2
Mew Gull	230	0	17	247
Sabine's Gull	92	0	0	92
Glaucous Gull	103	142	1	246
Arctic Tern	150	0	0	150
Puffins*	361	0	0	361
Bristle-thighed curlew*	78	0	15	93
Godwits*	44	694	741	1,479
Whimbrel*	18	0	17	35
Golden Plover*	80	0	10	90
Small shorebirds	397	5	0	402
Large shorebirds				
Other Unknown Birds*	31	13	11	55
TOTAL OTHER BIRDS	2,274	1,111	835	4,220
TOTAL(w/o Ptarm/Grouse)	62,349	14,340	20,693	97,382
TOTAL (with Ptarm/Grouse)	81,136	14,499	20,919	116,554

*new species added, 2002

Table E-14. Bird harvest estimates by sub-region, Yukon-Kuskokwim Delta, 2002.

	South Coast	Mid Coast	North Coast	Kusko	Yukon	Bethel	Total
GEESE							
White-fronted Goose	2,369	4,416	644	2,119	604	1,523	11,675
Cackling Canada Goose	2,041	4,389	1,131	3,204	743	1,934	13,442
Emperor Goose	142	1,033	8	66	0	0	1,249
Black Brant	1,189	3,337	0	255	9	0	4,790
Lesser Canada Goose	1,287	1,222	739	1,831	643	578	6,300
Lesser Snow Goose	17	591	1,006	45	142	69	1,870
TOTAL GEESE	7,045	14,988	3,528	7,520	2,141	4,104	39,326
Tundra Swan	336	596	496	1,118	556	246	3,348
Sandhill Crane	634	587	233	908	119	167	2,648
DUCKS							
Pintail	1,440	2,350	1,025	2,181	514	297	7,807
Mallard	639	1,091	582	1,753	355	395	4,815
Unidentified ducks	37	575	143	375	15	0	1,145
Wigeon	93	426	94	1,439	94	109	2,255
Shoveler	104	371	181	872	48	118	1,694
Canvasback*	19	3	16	1,092	0	20	1,150
Green-winged Teal	140	555	202	414	55	89	1,455
Bufflehead	14	0	0	315	3	0	332
Harlequin	14	13	0	76	2	0	105
Greater Scaup	405	74	0	5,398	48	461	6,386
Goldeneyes	26	23	7	813	46	69	984
Long-tailed Duck	129	674	3	1,284	10	88	2,188
White-winged Scoter	108	46	1	1,767	70	127	2,119
Black Scoter	667	108	2	5,373	113	519	6,782
Surf Scoter	9	0	0	405	0	20	434
Common Eider	72	337	4	15	0	0	428
King Eider	4,371	2,845	0	83	14	29	7,342
Spectacled Eider	8	13	0	16	3	0	40
Steller's Eider	0	17	0	11	0	0	28
Common Merganser	0	2	0	145	0	0	147
Red-breasted Merganser	19	2	0	179	0	0	200
TOTAL DUCKS	8,314	9,525	2,260	24,006	1,390	2,341	47,836
Ptarmigan	3,964	4,295	541	8,540	214	1,470	19,024
Spruce Grouse*	0	0	0	102	47	0	149
OTHER BIRDS							
Yellow-billed Loon	0	90	0	70	3	20	183
Red-throated Loon	0	7	0	18	4	0	29
Common Loon	31	127	0	114	0	0	272
Pacific Loon	1	87	0	189	0	0	277
Auklets*	0	0	0	0	0	0	0
Common Murre	0	110	0	7	0	0	117
Cormorants*	62	2	16	0	0	10	90
Kittiwakes*	0	0	0	2	0	0	2
Guillemots*	0	0	0	2	0	0	2
Mew Gull	156	0	0	92	0	0	248
Sabine's Gull	62	21	0	9	0	0	92
Glaucous Gull	19	190	1	36	0	0	246
Arctic Tern	93	0	0	56	0	0	149
Puffins*	338	9	4	11	0	0	362
Bristle-thighed curlew*	67	0	10	15	0	0	92
Godwits*	122	1,312	1	24	0	20	1,479
Whimbrel*	0	17	0	18	0	0	35
Golden Plover*	62	10	0	18	0	0	90
Small shorebirds	373	0	0	30	0	0	403
Large shorebirds							
Other Unknown Birds*	31	24	0	0	0	0	55
TOTAL OTHER BIRDS	1,417	2,006	32	711	7	50	4,223
TOTAL(w/o Ptarm/Grouse)	17,746	27,702	6,549	34,263	4,213	6,908	97,381
TOTAL (with Ptarm/Grouse)	21,710	31,997	7,090	42,905	4,474	8,378	116,554

*new species added, 2002

Table E-15. Egg harvest estimates by survey period, Yukon-Kuskokwim Delta, 2002.

	Spring	Summer	Fall	Total
GOOSE EGGS				
White-fronted Goose	3,340	32	0	3,372
Cackling Canada Goose	3,286	64	0	3,350
Emperor Goose	235	0	0	235
Black Brant	1,234	33	0	1,267
Lesser Canada Goose	1,363	19	0	1,382
Lesser Snow Goose	53	0	0	53
TOTAL GOOSE EGGS	9,511	148	0	9,659
Tundra Swan Eggs	702	33	0	735
Sandhill Crane Eggs	591	49	0	640
DUCK EGGS				
Pintail	2,469	89	0	2,558
Mallard	823	13	0	836
Unidentified ducks	371	0	0	371
Wigeon	26	0	0	26
Shoveler	68	13	0	81
Canvasback*	16	0	0	16
Green-winged Teal	312	33	8	353
Bufflehead	0	0	0	0
Harlequin	13	0	0	13
Greater Scaup	455	5	0	460
Goldeneyes	11	0	0	11
Long-tailed Duck	58	0	0	58
White-winged Scoter	0	0	0	0
Black Scoter	0	0	0	0
Surf Scoter	7	0	0	7
Common Eider	320	0	0	320
King Eider	15	0	0	15
Spectacled Eider	0	0	0	0
Steller's Eider	122	0	0	122
Common Merganser	17	0	0	17
Red-breasted Merganser	2	0	0	2
TOTAL DUCK EGGS	5,105	153	8	5,266
Ptarmigan Eggs	2,171	33	0	2,204
Spruce Grouse Eggs*	66	0	0	66
OTHER BIRD EGGS				
Yellow-billed Loon	6	0	0	6
Red-throated Loon	22	0	0	22
Common Loon	110	0	0	110
Pacific Loon	65	107	0	172
Auklets*	0	0	0	0
Common Murre	26	0	0	26
Cormorants*	0	0	0	0
Kittiwakes*	47	13	0	60
Guillemots*	0	0	0	0
Mew Gull	3,641	418	0	4,059
Sabine's Gull	457	0	0	457
Glaucous Gull	4,185	66	0	4,251
Arctic Tern	807	0	0	807
Puffins*	13	0	0	13
Bristle-thighed curlew*	54	0	0	54
Godwits*	89	0	0	89
Whimbrel*	36	0	0	36
Golden Plover*	102	0	0	102
Small shorebirds	776	70	0	846
Large shorebirds				
Other Unknown Birds*	42	0	0	42
TOTAL OTHER BIRD EGGS	10,478	674	0	11,152
TOTAL (w/o Ptarm/Grouse)	26,387	1,057	8	27,452
TOTAL (with Ptarm/Grouse)	28,624	1,090	8	29,722

*new species added, 2002

Table E-16. Egg harvest estimates by sub-region, Yukon-Kuskokwim Delta, 2002.

	South Coast	Mid Coast	North Coast	Kusko	Yukon	Bethel	Total
GOOSE EGGS							
White-fronted Goose	921	2,013	391	47	0	0	3,372
Cackling Canada Goose	367	1,711	1,134	76	22	39	3,349
Emperor Goose	0	210	16	9	0	0	235
Black Brant	10	1,237	0	20	0	0	1,267
Lesser Canada Goose	501	268	486	68	0	59	1,382
Lesser Snow Goose	0	0	53	0	0	0	53
TOTAL GOOSE EGGS	1,799	5,439	2,080	220	22	98	9,658
Tundra Swan Eggs	352	93	136	102	22	29	734
Sandhill Crane Eggs	280	140	108	74	0	39	641
DUCK EGGS							
Pintail	1,527	449	379	174	0	29	2,558
Mallard	393	201	127	79	36	0	836
Unidentified ducks	39	14	240	11	67	0	371
Wigeon	11	0	0	15	0	0	26
Shoveler	25	10	24	22	0	0	81
Canvasback*	16	0	0	0	0	0	16
Green-winged Teal	161	138	0	46	8	0	353
Bufflehead	0	0	0	0	0	0	0
Harlequin	0	0	0	13	0	0	13
Greater Scaup	421	35	0	5	0	0	461
Goldeneyes	0	0	0	11	0	0	11
Long-tailed Duck	0	23	0	35	0	0	58
White-winged Scoter	0	0	0	0	0	0	0
Black Scoter	0	0	0	0	0	0	0
Surf Scoter	0	0	0	7	0	0	7
Common Eider	309	0	0	11	0	0	320
King Eider	0	0	0	15	0	0	15
Spectacled Eider	0	0	0	0	0	0	0
Steller's Eider	96	0	8	18	0	0	122
Common Merganser	0	0	0	17	0	0	17
Red-breasted Merganser	0	0	0	2	0	0	2
TOTAL DUCK EGGS	2,998	870	778	481	111	29	5,267
Ptarmigan Eggs	489	94	8	1,520	53	39	2,203
Spruce Grouse Eggs*	48	0		18	0	0	66
OTHER BIRD EGGS							
Yellow-billed Loon	0	0	0	6	0	0	6
Red-throated Loon	10	0	0	12	0	0	22
Common Loon	38	28	7	28	9	0	110
Pacific Loon	142	0	5	24	0	0	171
Auklets*	0	0	0	0	0	0	0
Common Murre	19	0	0	7	0	0	26
Cormorants*	0	0	0	0	0	0	0
Kittiwakes*	39	22	0	0	0	0	61
Guillemots*	0	0	0	0	0	0	0
Mew Gull	1,702	1,423	455	291	187	0	4,058
Sabine's Gull	83	264	57	53	0	0	457
Glaucous Gull	1,206	2,720	232	88	4	0	4,250
Arctic Tern	416	157	155	46	31	0	805
Puffins*	0	0	0	13	0	0	13
Bristle-thighed curlew*	39	0	0	15	0	0	54
Godwits*	40	14	24	11	0	0	89
Whimbrel*	25	0	0	11	0	0	36
Golden Plover*	29	55	0	18	0	0	102
Small shorebirds	292	379	132	44	0	0	847
Large shorebirds							
Other Unknown Birds*	0	2	41	0	0	0	43
TOTAL OTHER BIRD EGGS	4,080	5,064	1,108	667	231	0	11,150
TOTAL (w/o Ptarm/Grouse)	9,509	11,606	4,210	1,544	386	195	27,450
TOTAL (with Ptarm/Grouse)	10,046	11,700	4,218	3,082	439	234	29,719

*new species added, 2002

Table E-17. Bird harvest estimates by season, Yukon-Kuskokwim Delta, 2004.

	Spring	Summer	Fall	Total
GEESE				
White-fronted Goose	10,501	1,973	2,671	15,145
Cackling Canada Goose	4,688	1,585	3,509	9,782
Emperor Goose	1,240	335	117	1,692
Black Brant	2,723	606	430	3,759
Lesser Canada Goose	3,699	803	1,031	5,533
Lesser Snow Goose	1,150	0	238	1,388
TOTAL GEESE	24,001	5,302	7,996	37,299
Tundra Swan	3,408	321	2,719	6,448
Sandhill Crane	1,870	236	1,077	3,183
DUCKS				
Pintail	3,446	1,684	3,457	8,587
Mallard	3,266	1,405	3,516	8,187
Unidentified ducks	99	67	14	180
Wigeon	407	123	915	1,445
Shoveler	604	303	601	1,508
Canvasback*	1,054	101	337	1,492
Green-winged Teal	152	209	796	1,157
Bufflehead	132	0	109	241
Harlequin	98	0	10	108
Greater Scaup	8,710	359	1,804	10,873
Goldeneyes	890	133	750	1,773
Long-tailed Duck	1,794	96	397	2,287
White-winged Scoter	2,909	64	101	3,074
Black Scoter	4,831	238	441	5,510
Surf Scoter	66	0	0	66
Common Eider	334	43	38	415
King Eider	6,142	0	23	6,165
Spectacled Eider	55	0	7	62
Steller's Eider	10	0	61	71
Common Merganser	244	8	91	343
Red-breasted Merganser	150	0	0	150
TOTAL DUCKS	35,393	4,833	13,468	53,694
Ptarmigan	7,391	57	915	8,363
Spruce Grouse*	108	8	0	116
OTHER BIRDS				
Yellow-billed Loon	4	0	0	4
Red-throated Loon	39	0	3	42
Common Loon	119	50	0	169
Pacific Loon	127	0	0	127
Auklets*	0	0	0	0
Common Murre	0	0	0	0
Cormorants*	0	0	4	4
Kittiwakes*	0	0	0	0
Guillemots*	0	0	0	0
Mew Gull	129	21	0	150
Sabine's Gull	0	0	0	0
Glaucous Gull	259	57	53	369
Arctic Tern	23	3	0	26
Puffins*	0	0	0	0
Bristle-thighed curlew*	9	0	0	9
Godwits*	31	638	595	1,264
Whimbrel*	0	154	0	154
Golden Plover*	123	0	0	123
Small shorebirds	316	0	70	386
Large shorebirds				
Other Unknown Birds*	13	30	0	43
TOTAL OTHER BIRDS	1,192	953	725	2,870
TOTAL(w/o Ptarm/Grouse)	65,864	11,645	25,985	103,494
TOTAL (with Ptarm/Grouse)	73,363	11,710	26,900	111,973

*new species added, 2002

Table E-18. Bird harvest estimates by sub-region, Yukon-Kuskokwim Delta, 2004.

	South Coast	Mid Coast	North Coast	Kusko	Yukon	Bethel	Total
GEESE							
White-fronted Goose	2,660	5,661	314	1,324	935	4,248	15,142
Cackling Canada Goose	1,140	4,904	791	1,847	141	958	9,781
Emperor Goose	643	937	96	13	0	0	1,689
Black Brant	643	2,901	137	78	0	0	3,759
Lesser Canada Goose	904	2,486	660	1,009	475	0	5,534
Lesser Snow Goose	19	0	1,266	0	103	0	1,388
TOTAL GEESE	6,009	16,889	3,264	4,271	1,654	5,206	37,293
Tundra Swan	2,002	709	363	754	416	2,207	6,451
Sandhill Crane	931	396	333	403	38	1,083	3,184
DUCKS							
Pintail	529	2,509	1,413	1,224	373	2,540	8,588
Mallard	1,109	1,588	985	1,440	692	2,374	8,188
Unidentified ducks	0	148	32	0	0	0	180
Wigeon	247	601	153	323	120	0	1,444
Shoveler	214	272	140	544	253	83	1,506
Canvasback*	60	32	65	1,168	0	167	1,492
Green-winged Teal	331	206	201	322	99	0	1,159
Bufflehead	0	16	0	225	0	0	241
Harlequin	0	10	0	56	0	42	108
Greater Scaup	1,566	484	5	8,639	54	125	10,873
Goldeneyes	140	71	0	844	11	708	1,774
Long-tailed Duck	25	589	31	1,643	0	0	2,288
White-winged Scoter	290	0	0	660	0	2,124	3,074
Black Scoter	1,297	125	11	3,993	0	83	5,509
Surf Scoter	38	0	0	28	0	0	66
Common Eider	76	330	9	0	0	0	415
King Eider	3,063	3,101	0	0	0	0	6,164
Spectacled Eider	12	51	0	0	0	0	63
Steller's Eider	0	66	4	0	0	0	70
Common Merganser	77	6	91	169	0	0	343
Red-breasted Merganser	0	0	4	104	0	42	150
TOTAL DUCKS	9,074	10,205	3,144	21,382	1,602	8,288	53,695
Ptarmigan	1,670	2,275	209	3,776	433	0	8,363
Spruce Grouse*	0	0	0	62	54	0	116
OTHER BIRDS							
Yellow-billed Loon	0	4	0	0	0	0	4
Red-throated Loon	0	28	11	4	0	0	43
Common Loon	17	64	4	84	0	0	169
Pacific Loon	32	33	0	62	0	0	127
Auklets*	0	0	0	0	0	0	0
Common Murre	0	0	0	0	0	0	0
Cormorants*	0	4	0	0	0	0	4
Kittiwakes*	0	0	0	0	0	0	0
Guillemots*	0	0	0	0	0	0	0
Mew Gull	30	0	120	0	0	0	150
Sabine's Gull	0	0	0	0	0	0	0
Glaucous Gull	93	15	254	8	0	0	370
Arctic Tern	3	0	21	2	0	0	26
Puffins*	0	0	0	0	0	0	0
Bristle-thighed curlew*	0	0	9	0	0	0	9
Godwits*	32	1,201	31	0	0	0	1,264
Whimbrel*	0	154	0	0	0	0	154
Golden Plover*	123	0	0	0	0	0	123
Small shorebirds	226	155	4	0	0	0	385
Large shorebirds							
Other Unknown Birds*	0	0	13	30	0	0	43
TOTAL OTHER BIRDS	556	1,658	467	190	0	0	2,871
TOTAL(w/o Ptarm/Grouse)	18,572	29,857	7,571	27,000	3,710	16,784	103,494
TOTAL (with Ptarm/Grouse)	20,242	32,132	7,780	30,838	4,197	16,784	111,973

*new species added, 2002

Table E-19. Egg harvest estimates by season, Yukon-Kuskokwim Delta, 2004.

	Spring	Summer	Fall	Total
GOOSE EGGS				
White-fronted Goose	6,129	77	0	6,206
Cackling Canada Goose	3,732	39	0	3,771
Emperor Goose	265	96	0	361
Black Brant	1,749	0	86	1,835
Lesser Canada Goose	2,446	77	86	2,609
Lesser Snow Goose	32	0	0	32
TOTAL GOOSE EGGS	14,353	289	172	14,814
Tundra Swan Eggs	1,845	58	0	1,903
Sandhill Crane Eggs	657	0	0	657
DUCK EGGS				
Pintail	902	0	52	954
Mallard	509	29	0	538
Unidentified ducks	67	0	0	67
Wigeon	0	0	0	0
Shoveler	199	0	0	199
Canvasback*	13	0	0	13
Green-winged Teal	367	0	0	367
Bufflehead	0	0	0	0
Harlequin	0	0	0	0
Greater Scaup	55	69	0	124
Goldeneyes	0	0	0	0
Long-tailed Duck	58	0	0	58
White-winged Scoter	3	9	0	12
Black Scoter	0	9	0	9
Surf Scoter	0	0	0	0
Common Eider	10	0	0	10
King Eider	0	0	0	0
Spectacled Eider	0	0	0	0
Steller's Eider	0	0	0	0
Common Merganser	0	0	0	0
Red-breasted Merganser	0	0	0	0
TOTAL DUCK EGGS	2,183	116	52	2,351
Ptarmigan Eggs	520	0	0	520
Spruce Grouse Eggs*	0	0	0	0
OTHER BIRD EGGS				
Yellow-billed Loon	38	0	0	38
Red-throated Loon	15	0	0	15
Common Loon	37	0	0	37
Pacific Loon	35	0	0	35
Auklets*	0	0	0	0
Common Murre	0	0	0	0
Cormorants*	0	0	0	0
Kittiwakes*	0	0	0	0
Guillemots*	0	0	0	0
Mew Gull	2,601	46	0	2,647
Sabine's Gull	7	0	0	7
Glaucous Gull	1,659	40	0	1,699
Arctic Tern	524	0	0	524
Puffins*	0	0	0	0
Bristle-thighed curlew*	0	0	0	0
Godwits*	0	0	0	0
Whimbrel*	16	0	0	16
Golden Plover*	110	0	0	110
Small shorebirds	435	0	0	435
Large shorebirds				
Other Unknown Birds*	17	0	0	17
TOTAL OTHER BIRD EGGS	5,494	86	0	5,580
TOTAL (w/o Ptarm/Grouse)	24,532	549	224	25,305
TOTAL (with Ptarm/Grouse)	25,052	549	224	25,825

*new species added, 2002

Table E-20. Egg harvest estimates by sub-region, Yukon-Kuskokwim Delta, 2004.

	South Coast	Mid Coast	North Coast	Kusko	Yukon	Bethel	Total
GOOSE EGGS							
White-fronted Goose	1,085	4,840	235	46	0	0	6,206
Cackling Canada Goose	847	2,084	624	141	74	0	3,770
Emperor Goose	0	337	0	24	0	0	361
Black Brant	17	1,818	0	0	0	0	1,835
Lesser Canada Goose	881	1,228	392	109	0	0	2,610
Lesser Snow Goose	0	0	32	0	0	0	32
TOTAL GOOSE EGGS	2,830	10,307	1,283	320	74	0	14,814
Tundra Swan Eggs	795	747	178	183	0	0	1,903
Sandhill Crane Eggs	462	61	78	56	0	0	657
DUCK EGGS							
Pintail	552	96	147	159	0	0	954
Mallard	292	214	32	0	0	0	538
Unidentified ducks	0	67	0	0	0	0	67
Wigeon	0	0	0	0	0	0	0
Shoveler	154	0	0	45	0	0	199
Canvasback*	0	0	0	13	0	0	13
Green-winged Teal	180	31	0	156	0	0	367
Bufflehead	0	0	0	0	0	0	0
Harlequin	0	0	0	0	0	0	0
Greater Scaup	81	0	0	43	0	0	124
Goldeneyes	0	0	0	0	0	0	0
Long-tailed Duck	0	58	0	0	0	0	58
White-winged Scoter	9	3	0	0	0	0	12
Black Scoter	9	0	0	0	0	0	9
Surf Scoter	0	0	0	0	0	0	0
Common Eider	3	7	0	0	0	0	10
King Eider	0	0	0	0	0	0	0
Spectacled Eider	0	0	0	0	0	0	0
Steller's Eider	0	0	0	0	0	0	0
Common Merganser	0	0	0	0	0	0	0
Red-breasted Merganser	0	0	0	0	0	0	0
TOTAL DUCK EGGS	1,280	476	179	416	0	0	2,351
Ptarmigan Eggs	289	62	0	169	0	0	520
Spruce Grouse Eggs*	0	0	0	0	0	0	0
OTHER BIRD EGGS							
Yellow-billed Loon	38	0	0	0	0	0	38
Red-throated Loon	15	0	0	0	0	0	15
Common Loon	31	0	0	6	0	0	37
Pacific Loon	32	3	0	0	0	0	35
Auklets*	0	0	0	0	0	0	0
Common Murre	0	0	0	0	0	0	0
Cormorants*	0	0	0	0	0	0	0
Kittiwakes*	0	0	0	0	0	0	0
Guillemots*	0	0	0	0	0	0	0
Mew Gull	1,040	1,246	187	153	21	0	2,647
Sabine's Gull	7	0	0	0	0	0	7
Glaucous Gull	755	368	576	0	0	0	1,699
Arctic Tern	127	175	73	85	64	0	524
Puffins*	0	0	0	0	0	0	0
Bristle-thighed curlew*	0	0	0	0	0	0	0
Godwits*	0	0	0	0	0	0	0
Whimbrel*	0	16	0	0	0	0	16
Golden Plover*	35	24	0	51	0	0	110
Small shorebirds	173	162	0	100	0	0	435
Large shorebirds							
Other Unknown Birds*	0	13	0	4	0	0	17
TOTAL OTHER BIRD EGGS	2,253	2,007	836	399	85	0	5,580
TOTAL (w/o Ptarm/Grouse)	7,620	13,598	2,554	1,374	159	0	25,305
TOTAL (with Ptarm/Grouse)	7,909	13,660	2,554	1,543	159	0	25,825

*new species added, 2002

Table E-21. Bird harvest estimates by season, Yukon-Kuskokwim Delta, 2005.

	Spring	Summer	Fall	Total
GEESE				
White-fronted Goose	11,122	1,273	4,608	17,003
Cackling Canada Goose	5,780	1,149	7,482	14,411
Emperor Goose	407	134	90	631
Black Brant	2,916	452	529	3,897
Lesser Canada Goose	4,228	644	2,257	7,129
Lesser Snow Goose	1,660	15	269	1,944
TOTAL GEESE	26,113	3,667	15,235	45,015
Tundra Swan	2,542	442	1,591	4,575
Sandhill Crane	1,699	270	489	2,458
DUCKS				
Pintail	2,928	1,308	5,675	9,911
Mallard	2,412	995	4,344	7,751
Unidentified ducks	8	0	99	107
Wigeon	754	669	2,241	3,664
Shoveler	671	272	2,109	3,052
Canvasback*	959	26	258	1,243
Green-winged Teal	446	533	1,817	2,796
Bufflehead	71	2	41	114
Harlequin	36	0	15	51
Greater Scaup	1,712	38	1,448	3,198
Goldeneyes	247	22	181	450
Long-tailed Duck	997	332	4	1,333
White-winged Scoter	443	37	322	802
Black Scoter	3,277	145	1,087	4,509
Surf Scoter	1,148	0	148	1,296
Common Eider	48	10	51	109
King Eider	2,638	73	484	3,195
Spectacled Eider	16	0	4	20
Steller's Eider	0	9	43	52
Common Merganser	12	0	35	47
Red-breasted Merganser	12	0	13	25
TOTAL DUCKS	18,835	4,471	20,419	43,725
Ptarmigan	17,332	104	400	17,836
Spruce Grouse*	0	0	520	520
OTHER BIRDS				
Yellow-billed Loon	8	1	3	12
Red-throated Loon	34	0	18	52
Common Loon	38	4	28	70
Pacific Loon	52	46	0	98
Auklets*	0	0	0	0
Common Murre	0	71	0	71
Cormorants*	0	0	0	0
Kittiwakes*	0	0	0	0
Guillemots*	0	0	0	0
Mew Gull	0	0	0	0
Sabine's Gull	0	0	0	0
Glaucous Gull	140	0	0	140
Arctic Tern	0	0	0	0
Puffins*	2	0	0	2
Bristle-thighed curlew*	0	0	0	0
Godwits*	7	0	19	26
Whimbrel*	0	9	8	17
Golden Plover*	53	0	0	53
Small shorebirds	12	0	0	12
Large shorebirds				
Other Unknown Birds*	66	0	95	161
TOTAL OTHER BIRDS	412	131	171	714
TOTAL(w/o Ptarm/Grouse)	49,601	8,981	37,905	96,487
TOTAL (with Ptarm/Grouse)	66,933	9,085	38,825	114,843

*new species added, 2002

Table E-22. Bird harvest estimates by sub-region, Yukon-Kuskokwim Delta, 2005.

	South Coast	Mid Coast	North Coast	Kusko	Yukon	Bethel	Total
GEESE							
White-fronted Goose	5,567	2,882	1,256	1,884	1,299	4,115	17,003
Cackling Canada Goose	6,270	3,448	1,058	1,304	629	1,701	14,410
Emperor Goose	85	502	30	4	0	10	631
Black Brant	1,612	2,000	157	56	18	52	3,895
Lesser Canada Goose	1,308	970	1,493	824	532	2,001	7,128
Lesser Snow Goose	11	203	1,592	57	75	7	1,945
TOTAL GEESE	14,853	10,005	5,586	4,129	2,553	7,886	45,012
Tundra Swan	924	536	709	733	1,089	584	4,575
Sandhill Crane	1,183	463	354	152	28	276	2,456
DUCKS							
Pintail	2,384	1,073	1,634	1,041	584	3,196	9,912
Mallard	1,590	821	989	1,445	808	2,099	7,752
Unidentified ducks	0	0	0	99	8	0	107
Wigeon	126	195	347	570	287	2,140	3,665
Shoveler	776	109	114	281	175	1,601	3,056
Canvasback*	19	4	0	252	58	911	1,244
Green-winged Teal	177	385	184	834	143	1,075	2,798
Bufflehead	33	0	0	76	5	0	114
Harlequin	0	0	0	5	0	46	51
Greater Scaup	279	46	4	1,681	0	1,187	3,197
Goldeneyes	57	0	0	251	85	59	452
Long-tailed Duck	55	33	5	232	18	990	1,333
White-winged Scoter	67	30	0	242	27	436	802
Black Scoter	337	57	0	1,004	454	2,656	4,508
Surf Scoter	0	2	0	292	35	967	1,296
Common Eider	30	38	0	0	0	40	108
King Eider	2,429	599	0	0	0	167	3,195
Spectacled Eider	13	7	0	0	0	0	20
Steller's Eider	9	25	0	18	0	0	52
Common Merganser	0	14	0	27	4	0	45
Red-breasted Merganser	6	4	2	12	0	0	24
TOTAL DUCKS	8,387	3,442	3,279	8,362	2,691	17,570	43,731
Ptarmigan	1,875	2,944	705	1,269	124	10,920	17,837
Spruce Grouse*	0	0	0	208	16	296	520
OTHER BIRDS							
Yellow-billed Loon	0	0	1	11	0	0	12
Red-throated Loon	0	43	1	8	0	0	52
Common Loon	0	10	0	37	23	0	70
Pacific Loon	6	84	0	8	0	0	98
Auklets*	0	0	0	0	0	0	0
Common Murre	0	71	0	0	0	0	71
Cormorants*	0	0	0	0	0	0	0
Kittiwakes*	0	0	0	0	0	0	0
Guillemots*	0	0	0	0	0	0	0
Mew Gull	0	0	0	0	0	0	0
Sabine's Gull	0	0	0	0	0	0	0
Glaucous Gull	0	89	36	0	15	0	140
Arctic Tern	0	0	0	0	0	0	0
Puffins*	0	2	0	0	0	0	2
Bristle-thighed curlew*	0	0	0	0	0	0	0
Godwits*	19	0	0	0	7	0	26
Whimbrel*	0	12	5	0	0	0	17
Golden Plover*	53	0	0	0	0	0	53
Small shorebirds	12	0	0	0	0	0	12
Large shorebirds							
Other Unknown Birds*	0	31	0	130	0	0	161
TOTAL OTHER BIRDS	90	342	43	194	45	0	714
TOTAL (w/o Ptarm/Grouse)	25,437	14,788	9,971	13,570	6,406	26,316	96,488
TOTAL (with Ptarm/Grouse)	27,312	17,732	10,676	15,047	6,546	37,532	114,845

*new species added, 2002

Table E-23. Egg harvest estimates by season, Yukon-Kuskokwim Delta, 2005.

	Spring	Summer	Fall	Total
GOOSE EGGS				
White-fronted Goose	2,987	33	38	3,058
Cackling Canada Goose	2,310	208	0	2,518
Emperor Goose	104	0	0	104
Black Brant	153	18	18	189
Lesser Canada Goose	2,553	0	0	2,553
Lesser Snow Goose	0	0	0	0
TOTAL GOOSE EGGS	8,107	259	56	8,422
Tundra Swan Eggs	873	142	26	1,041
Sandhill Crane Eggs	777	29	10	816
DUCK EGGS				
Pintail	1,548	58	0	1,606
Mallard	569	26	17	612
Unidentified ducks	0	0	0	0
Wigeon	57	0	0	57
Shoveler	433	0	0	433
Canvasback*	0	0	0	0
Green-winged Teal	332	0	0	332
Bufflehead	13	0	0	13
Harlequin	0	0	0	0
Greater Scaup	25	0	0	25
Goldeneyes	0	0	0	0
Long-tailed Duck	0	0	0	0
White-winged Scoter	0	0	0	0
Black Scoter	19	0	0	19
Surf Scoter	0	0	0	0
Common Eider	0	0	0	0
King Eider	0	0	0	0
Spectacled Eider	0	0	0	0
Steller's Eider	0	0	0	0
Common Merganser	0	0	0	0
Red-breasted Merganser	0	0	0	0
TOTAL DUCK EGGS	2,996	84	17	3,097
Ptarmigan Eggs	402	0	0	402
Spruce Grouse Eggs*	0	0	0	0
OTHER BIRD EGGS				
Yellow-billed Loon	6	0	0	6
Red-throated Loon	62	0	0	62
Common Loon	29	0	0	29
Pacific Loon	145	9	0	154
Auklets*	0	0	0	0
Common Murre	926	0	0	926
Cormorants*	0	0	0	0
Kittiwakes*	66	0	0	66
Guillemots*	0	0	0	0
Mew Gull	2,454	51	18	2,523
Sabine's Gull	63	7	0	70
Glaucous Gull	1,045	60	46	1,151
Arctic Tern	314	52	0	366
Puffins*	0	0	0	0
Bristle-thighed curlew*	46	0	0	46
Godwits*	87	0	0	87
Whimbrel*	24	0	0	24
Golden Plover*	191	0	0	191
Small shorebirds	798	0	0	798
Large shorebirds				
Other Unknown Birds*	7	0	0	7
TOTAL OTHER BIRD EGGS	6,263	179	64	6,506
TOTAL (w/o Ptarm/Grouse)	19,016	693	173	19,882
TOTAL (with Ptarm/Grouse)	19,418	693	173	20,284

*new species added, 2002

Table E-24. Egg harvest estimates by sub-region, Yukon-Kuskokwim Delta, 2005.

	South Coast	Mid Coast	North Coast	Kusko	Yukon	Bethel	Total
GOOSE EGGS							
White-fronted Goose	2,072	389	563	0	19	16	3,059
Cackling Canada Goose	2,047	223	184	39	25	0	2,518
Emperor Goose	0	104	0	0	0	0	104
Black Brant	0	182	7	0	0	0	189
Lesser Canada Goose	632	31	1,788	102	0	0	2,553
Lesser Snow Goose	0	0	0	0	0	0	0
TOTAL GOOSE EGGS	4,751	929	2,542	141	44	16	8,423
Tundra Swan Eggs	743	119	68	82	29	0	1,041
Sandhill Crane Eggs	610	91	107	8	0	0	816
DUCK EGGS							
Pintail	1,122	29	188	78	189	0	1,606
Mallard	416	53	50	17	76	0	612
Unidentified ducks	0	0	0	0	0	0	0
Wigeon	57	0	0	0	0	0	57
Shoveler	335	10	25	63	0	0	433
Canvasback*	0	0	0	0	0	0	0
Green-winged Teal	151	30	47	0	0	104	332
Bufflehead	13	0	0	0	0	0	13
Harlequin	0	0	0	0	0	0	0
Greater Scaup	25	0	0	0	0	0	25
Goldeneyes	0	0	0	0	0	0	0
Long-tailed Duck	0	0	0	0	0	0	0
White-winged Scoter	0	0	0	0	0	0	0
Black Scoter	0	19	0	0	0	0	19
Surf Scoter	0	0	0	0	0	0	0
Common Eider	0	0	0	0	0	0	0
King Eider	0	0	0	0	0	0	0
Spectacled Eider	0	0	0	0	0	0	0
Steller's Eider	0	0	0	0	0	0	0
Common Merganser	0	0	0	0	0	0	0
Red-breasted Merganser	0	0	0	0	0	0	0
TOTAL DUCK EGGS	2,119	141	310	158	265	104	3,097
Ptarmigan Eggs	91	250	18	43	0	0	402
Spruce Grouse Eggs*	0	0	0	0	0	0	0
OTHER BIRD EGGS							
Yellow-billed Loon	0	6	0	0	0	0	6
Red-throated Loon	51	11	0	0	0	0	62
Common Loon	6	0	0	0	23	0	29
Pacific Loon	143	11	0	0	0	0	154
Auklets*	0	0	0	0	0	0	0
Common Murre	926	0	0	0	0	0	926
Cormorants*	0	0	0	0	0	0	0
Kittiwakes*	66	0	0	0	0	0	66
Guillemots*	0	0	0	0	0	0	0
Mew Gull	907	665	430	280	193	48	2,523
Sabine's Gull	26	11	25	0	8	0	70
Glaucous Gull	535	182	255	179	0	0	1,151
Arctic Tern	115	75	25	55	76	21	367
Puffins*	0	0	0	0	0	0	0
Bristle-thighed curlew*	38	8	0	0	0	0	46
Godwits*	82	0	5	0	0	0	87
Whimbrel*	0	0	24	0	0	0	24
Golden Plover*	191	0	0	0	0	0	191
Small shorebirds	433	19	37	16	0	293	798
Large shorebirds							
Other Unknown Birds*	0	0	7	0	0	0	7
TOTAL OTHER BIRD EGGS	3,519	988	808	530	300	362	6,507
TOTAL (w/o Ptarm/Grouse)	11,742	2,268	3,835	919	638	482	19,884
TOTAL (with Ptarm/Grouse)	11,833	2,518	3,853	962	638	482	20,286

*new species added, 2002

Appendix F Yup'ik names and pronunciation of
Yukon-Kuskokwim Delta birds

Table F-1 Names of Yukon Kuskokwim Delta Birds

Yup'ik Names of Shorebirds

<u>English Name</u>	<u>Yup'ik Names, Meaning</u>
Semi-palmated Plover	Uyarr'uyaq (call)
Black-bellied Plover	Tuusiik (call) (common)
Lesser Golden Plover	Tuusiik (call)
Bar-tailed Godwit	Kayaruaq (pretend kayak) (P)
Bristle-thighed Curlew	Ciivikaaq, Pipipiaq (call) (common)
Whimbrel	Pipipiaq (call)
Lesser Yellowlegs	Tuntussiik (call)
Spotted Sandpiper	Elagayuli (behavior,) (digger)
Northern Phalarope	cepirluraq (call) (P), imarcarraq
Red Phalarope	augtuarq (Do not know meaning)
Common Snipe	Quququaq (sound) (common)
Ruddy Turnstone	Ciilmak (Do not know meaning)
Black Turnstone	Ciilmak
Dunlin	Curemraq (tobacco pouch) (P), cenairpak
Western Sandpiper	ellunyaraq (P), iisuraaraq
Pectoral Sandpiper	Temtentaq (call)
Arctic Tern	Tegalquasaraq (P), teqiyauq (call)
Mew Gull	Naruyaq, narusaq(P) (common)
Glaucous Gull	Kukisvak(P), narusvak (large gull) (common)
Long-tailed Jaeger	Yunaq, yunarpaq(P) (large jaeger) (common)
Parasitic Jaeger	Yunaq, yunarpaq (large jaeger) (common)
Pomarine Jaeger	Uquiraq (?)

Table F-1 (cont.) Names of Yukon-Kuskokwim Delta Birds

Glaucous-winged Gull	Kukisvak, narusvak (large gull) (common)
Black-legged Kittiwake	Arliaq, naruyacuaq (little gull)
Sabine's Gull	Nacallngaraq (plumage) (hat) (common)

Yup'ik Names of Passerines

<u>English Name</u>	<u>Yup'ik Names, Meaning</u>
Belted Kingfisher	No name found in dictionary
Tree Swallow	Kauturyaq (to reach in) (common) curliqcurlaraaq(P) (song)
Cliff Swallow	Ekvigtaaraq (bank dweller)
Common Raven	Qer'qaalleraq (song) (common) tulukaruk (The black one) (common)
Black-capped Chickadee	Cekpiipiiaraq, cekpiipiiq (song) (common)
Gray-cheeked Thrush	Viuq (song)
Varied Thrush	Ciitaarayuli (song)
American Robin	Curcurliq (song) (common)
Northern Shrike	Kanguruaq (pretend snow goose) Kopanuaq
Yellow Warbler	Ciicivciuk (song)
Northern Waterthrush	Iqiqcaraq (Behavior, bobbing tail)
Savannah Sparrow	Tekciuk, cicingaq(P) (song)
American Tree Sparrow	Tekciuk, cicingaq (song)
White-crowned Sparrow	Uipinipaaq (song)
Fox Sparrow	Elagayuli (Behavior) (Digger)
Lapland Longspur	Tekciulugraq, (song) silusilusiaraq (P) (song)
McKay's Snow Bunting	Cilumcuksugaq
Rusty Blackbird	Cukaarpaq (P) (song) (common)

Table F-1 (cont.) Names of Yukon-Kuskokwim Delta Birds

Common/Hoary Redpoll	Tuiraq (P) (song)
Downy woodpecker	puugtuyuli (one that pecks) (behavior)
Yellow Wagtail	Ikigcaq (bobbing tail) (behavior)

Yup'ik Names of Ducks

<u>English Name</u>	<u>Yup'ik Names, Meaning</u>
Mallard	Uqsuqerpak (large duck)
Green-winged Teal	Kemeksungaraq (P), tengesqaaraq (little meat) (little duck)
American Widgeon	Auuguraq(P) (call), qatkeggliq (plumage)
Pintail	Uqsuqaq, Uutkaa, uqulegaq (common)
Northern Shoveler	Cugg'erpak, qasuuciaq* (appearance) (large bill), [spoon(P)*]
Canvasback	No name found in dictionary
Greater Scaup	Kep'alek, Athneraq(P) (appearance) (with patch), (mukluk sole patch)
Common Eider	metraq
King Eider	Qengallek (one with nose) (appearance)
Spectacled Eider	Qaugeq
Steller's Eider	Caqiaraq, aanarnissaraq (smell of droppings)
Black Scoter	Kukumyaraq (whistler) (call) (common)
White-winged Scoter	akacakayak
Surf Scoter	akacakayak
Harlequin Duck	Cetuskarag
Oldsquaw	Aa'aaliq(P), aarraanqiiyak (call)
Common Goldeneye	Anarnilnguq, gamiqurpak (large (appearance) head)

Table F-1 (cont.) Names of Yukon-Kuskokwim Delta Birds

Bufflehead	Pugtaqutayagaq (small net float) (appearance)
Common Merganser	Payiq
Red-breasted Merganser	Payiq
Hooded Merganser	Payiq

Yup'ik Names of Geese

<u>English Name</u>	<u>Yup'ik Names</u>
White-fronted Goose	Leqleq, neqleq (call) lagilugpiaq (largest goose, appearance)
Lesser Snow Goose	Kanguq (common Yup'ik name)
Emperor Goose	Nacullek (hat, cap) (appearance)
Cackling Canada Goose	Tuutalgucik(P), Tuutangayak (common)
Lesser Canada Goose	Tengmiaq, (one that flies) tuutangayak (common) Lagiq (call) (common)
Taverner's Goose	Tengmiaq (Yukon, common)
Black Brant	Neqlernaq (call) (common) Leqlernaq (call,P)

Yup'ik Names of Swans

<u>English Name</u>	<u>Yup'ik Names</u>
Tundra Swan	Qugyuk (call) (common)

Yup'ik Names of Cranes

<u>English Name</u>	<u>Yup'ik Names</u>
Lesser Sandhill Crane	Qut'raaq, qucillgaq (call) (common)

Yup'ik Names of Loons/Grebes

<u>English Name</u>	<u>Yup'ik Names</u>
Common Loon	Tuullek (common)
Yellow-billed Loon	Tuullek
Pacific Loon	Tuullek

Table F-1 (cont.) Names of Yukon-Kuskokwim Delta Birds

Arctic Loon	Tunutellek (mark on back of head)
Red-throated Loon	Qaqatak, qaqacuk(P) (call)
Red-necked Grebe	Aatititaaq(P), aarayuli (call)
Horned Grebe	Qaleqcuuk (call)
Eared Grebe	Qaleqcuuk (call)

Yup'ik Names of Cormorant

<u>English Name</u>	<u>Yup'ik Names</u>
Pelagic Cormorant	Agasuuq(P) (It is praying), uyalek (long neck)
Double-crested cormorant	Yualegpak (large cormorant)

Yup'ik Names of Hawks and Owls

<u>English Name</u>	<u>Yup'ik Names, Meaning</u>
Boreal Owl	Takvialnguarag (sharp eyed)
Great Gray Owl	Atkuliggiq (one with parka) (appearance)
Great Horned Owl	Ihassuli (call) (common)
Short-eared Owl	Mengqucivak (common)
Snowy Owl	Anipaq (common)
Goshawk	Cekaviaq(P), eskaviaq (common)
Sharp-shinned Hawk	Tengmiacuarag (little bird)
Marsh Hawk	Cekaviaq, qaku'urtaq

Yup'ik Names of Ptarmigan

<u>English Name</u>	<u>Yup'ik Names, Meaning</u>
Willow Ptarmigan	Kangqiiq (perching on top of trees, willows) (behavior) aqesgiq (sneezing bird) (call)
Rock Ptarmigan	Elciayuli (expert burber) (call)
White-tailed Ptarmigan	Taqikataq
Spruce Grouse	Egtuk
Ruffed Grouse	Egelruciyuli, elciayuli (call)

Table F-1 (cont.) Names of Yukon-Kuskokwim Delta Birds

Yup'ik Names of Seabirds

<u>English Name</u>	<u>Yup'ik Names, Meaning</u>
Common Murre	Alpa
Horned Puffin	Qengacuarag (little nose) (appearance)
Tufted Puffin	Qengacuarag (?)
Pigeon Guillemot	Qayagpagayuli (loud yellor?) (call)
Ancient Murrelet	Ciquraq
Parakeet Auklet	No name found in dictionary
Crested Auklet	No name found in dictionary

Yup'ik Names of Eagles

<u>English Name</u>	<u>Yup'ik Names, Meaning</u>
Bald Eagle	Tengmirpak (large bird) (appearance)
Golden Eagle	Tengmirpak (same as bald eagle)
Osprey	Angllurayuli (diving bird) (behavior)

NOTE:

Most of the names of the birds listed above were taken from the Yup'ik Eskimo Dictionary compiled by Steven A. Jacobson, printed in 1984 by Universtity of Alaska, Alaska Native Language Center, Fairbanks, Alaska.

Depending on Yup'ik dialect location (Yukon, Kuskokwim, Hooper Bay, Nelson Island, etc.), there are many names for different species of birds in the Y-K Delta. Some bird names I have written down because their names were taught to me by my parents while growing up in Pastolik, Alaska. Therefore, these are signified by a (P) for Pastolik.

Many of the bird names may be misspelled due to my lack of training in the written Yup'ik language. But they are written as close as I can, modifying some of the names written in the Yup'ik Eskimo Dictionary.

Many of the bird names are names through their sounds, calls, behavior, and appearance, such as whimbrel (call) [pipipiaq] and common snipe (sound) [Quququaq]. These are identified beside the Yup'ik name(sound, call, behavior) and the Yup'ik meaning of the names. Many bird names are (common) throughout the Yup'ik regions such as the name of swans [Qugyuk] and lesser sandhill

Table F-1 (cont.) Names of Yukon-Kuskokwim Delta Birds

cranes [Qut'raaq, qucillgaq]. Many Yup'ik bird names have to do with the plumage of the bird such as emperor [natcullek, meaning "head covering] or their behavior such as the fox sparrow [elagayuli, meaning expert digger].

The names of some birds such as kingfisher and seabirds are not found in the Yup'ik Dictionary. This may be because only those Yup'ik people in isolated areas such as Nunivak Island, Nelson Island, Hooper Bay, Chevak, Scammon Bay, Goodnews Bay, and Togiak (for seabirds) have those species of birds. Kwethluk, Akiak, Tuluksak, and Aniak may only encounter these birds (kingfishers) in their areas. The Yup'ik people and their elders in these villages would have to be consulted to write down the birds names and their meanings.

Yup'ik pronunciations are much different than that of the English language. Such names as Elagayuli (fox sparrow), the 'e' is silent. The letter 'g' in some cases may sound like the letter 'r' mixed with the 'g' sound, such as the name Agasuug (pelagic cormorant). The letter 's' also in some cases may sound or be pronounced with the sound of 'z' such as the name tuusiik (golden or black-bellied plover). The 'c' in most cases is pronounced as 'ch'.

There is no name found for the diving duck "Canvasback" as this bird mostly likely was not common or seen in the Y-K Delta until as recent as 15 years ago. But, the more interior villages of the Y-K Delta may have a name for it because there may have been incidental observations of this duck. But, it may be mistaken for greater scaup (Kep'alek, Athnermaq) at times.

Compiled by Charles F. Hunt
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Yukon Delta National Wildlife Refuge
July 13, 1998

Table F-2 Pronunciation of Yup'ik names of birds

<u>Yup'ik Name</u>	<u>Pronunciation</u>	<u>English Name</u>
Uyarr'uyaq	Oo-yar-ooyak	Semi-palmate Plover
Tuusiik	Doo-zeek	Golden/Black-bellied Plover
Kayaruqaq	Ga-yahr-oo-wak	Bar-tailed Godwit
Ciivikaaq	Gee-vick-ahk	Bristle-thighed Curlew
Pipipiaq	Be-be-beyak	Whimbrel
Tuntussiik	Dun-dus-zeek	Lesser Yellowlegs
Elagayuli*	lahgr-ah-you-lee	Spotted Sandpiper
Cepirluraq	Chep-er-luth-rak	Northern Phalarope
Imarcarraq	Emur-chaar-raq	Northern Phalarope
Quququaq	Goo-goo-gowak	Common Snipe
Ciilmak	Chill-mak	Ruddy/Black Turnstone
Curemraq	Chew-rem-rak	Dunlin
Cenairpak	Chin-iiar-pak	Dunlin
Ellunyarqaq	Ethun-yar-rak	Western Sandpiper
Temtemtaaq	Dem-dem-daak	Pectoral Sandpiper
Tegalquasaraq	Dek-geth-qua-za-rak	Arctic Tern
Teqiyauq**	Dek-kee-yowk	Arctic Tern
Naruyak	Nah-roo-yak	Mew Gull
Narusaq	Nah-roo-zak	Mew Gull
Kukisvak	Koo-kiz-vak	Glaucous Gull
Narusvak	Na-rooz-vak	Glaucous Gull
Yunaq	You-nak	Long-tailed Jaeger
Yunarpak	You-nark-bak	Long-tailed Jaeger
Naruyacuqaq	Na-roo-yet-chu-ak	Black-legged Kittiwake
Nacallngaraq	Na-chal-na-rak	Sabine's Gull
*Silent "E"	**Children's name for bird	

Table F-2 (cont.) Pronunciation of Yup'ik names of birds

<u>Yup'ik Name</u>	<u>Pronunciation</u>	<u>English Name</u>
Katurayaq	Kau-dor-yak	Tree Swallow
Curliqcurlaraaq	Chur-lick-chur-lair-rak " "	" "
Qer'qaalleraq	Ker-ka-ler-rak	Common Raven
Tulukaruk	Dul-lou-ka-rook	Common Raven
Ekvigtaaraq	Ek-vick-daa-rak	Bank Swallow
Cekpiipiiraq	Chik-bee-bee-rak	Blk-capped Chickadee
Cekpiipiiq	Chik-bee-beek	Blk-capped Chickadee
Viug	View-k	Gray-cheeked Thrush
Ciitaarayuli	Cheet-dar-ah-you-le	Varied Thrush
Curcurliq	Chuk-chur-lik	American Robin
Kanguruqaq	Gung-oo-ro-wak	Northern Shrike
Kopanuaq	Ko-ban-o-wak	Northern Shrike
Iqiqcaraq	Ee-gig-cha-rak	N. Waterthrush
Tekciuk	Tik-che-uk	Savannah Sparrow
Cicingaq	Chich-ching-ak	Tree/Savannah Sparrow
Uipinipaaq	Wee-bin-nee-baak	White-crowned Sparrow
Elagayuli*	Laar-ah-you-lee	Fox Sparrow
Tekciulugraq	Dik-chu-luur-rak	Lapland Longspur
Silusilusiaraq	Zelu-zelu-ziah-rak	Lapland Longspur
Cilumcuksugaq	Chelum-chuk-zu-rak	McKay's Snow Bunting
Cukaarpaq	Chuk-kaar-pak	Rusty Blackbird
Tuiraq	Duwee-rak	Red/Hoary Poll
Ikigcaqaq	Ekick-char-rak	Yellow Wagtail
Uqsuqerpak	Oog-sue-ker-pak	Mallard
Kemeksungaraq	Kemek-suung-air-rak	Green-winged Teal
*Silent "E"		

Table F-2 (cont.) Pronunciation of Yup'ik names of birds

<u>Yup'ik Name</u>	<u>Pronunciation</u>	<u>English Name</u>
Tengesqaaraq	Deng-esh-kaa-rak	Green-winged Teal
Auuguraq	Ow-giew-rak	American Widgeon
Uqsuqaq	Oog-sue-kag	Northern Pintail
Uutkaaq	Oot-kaaq	Northern Pintail
Uqulegaq	Oo-gu-leg-ak	Northern Pintail
Cugg'erpak	Chew-er-pak	Northern Shoveler
Qasuuciaq	Kas-zoo-chi-yak	Northern Shoveler
Kep'alek	Keb-ah-lik	Greater Scaup
Athnernaq	Ath-gner-nak	Greater Scaup
Metraq	Met-rak	Common Eider
Qengallek	Keng-ah-lik	King Eider
Caqiaraq	Cha-keah-rak	Steller's Eider
Aanarnissaraq	Ah-nar-nish-sha-rak	Steller's Eider
Kukumyaraq	Goo-gom-yar-ak	Black Scoter
Akacakayak	Ahga-cha-guy-yak	White-winged/surf Scoter
Cetuskaraq	Chet-tuska-rak	Harlequin Duck
Aa'aaliq	Ah-ah-lik	Oldsquaw
Aaraanqiiyak	Ah-hrung-ee-yak	Oldsquaw
Qamiqurpak	Gummi-kurr-pak	Common Goldeneye
Pugtaqutayagaq	Bogh-da-goo-da-yar-rak	Bufflehead
Payiq	Ba-yeek	Common Merganser
Nuuyalik	New-yah-lik	Common Merganser
Leqleq, Neqleq	lek-lek, nek-leq	White-fronted Goose
Kanguq	Gung-ok	Snow Goose
Natcullek	Nut-chow-lik	Emperor Goose
Tuutalgucik	Do-dahl-gu-chik	Cackling Canada Goose

Table F-2 (cont.) Pronunciation of Yup'ik names of birds

<u>Yup'ik Name</u>	<u>Pronunciation</u>	<u>English Name</u>
Tuutangayak	Doo-dung-ai-yak	Cackling Canada Goose
Tengmiaq	Ding-mei-yak	Lesser Canada Goose
Lagiq	La-rrik	Lesser Canada Goose
Neqlernaq	Nik-ler-nak	Pacific Black Brant
Qugyuk	Gor-youk	Tundra Swan
Qut'raaq	Kut-raak	Lesser Sandhill Crane
Qucillgaq	Ku-chil-nawk	Lesser Sandhill Crane
Tuullek	Doo-lek	Common, Yellow-billed, & Pacific Loon
Tunutellek	Doo-noo-da-lik	Arctic Loon
Qaqatak	Ka-ka-duck	Red-throated Loon
Qaqacuk	Ka-ka-chuk	Red-throated Loon
Aatititaaq	Ah-dit-dit-daak	Red-necked Grebe
Aarayuli	Ah-rah-you-le	Red-necked Grebe
Qaleqcuuk	Kal-lik-chuk	Horned/Eared Grebe
Agasuuq	Ah-rah-zook	Pelagic Cormorant
Uyalek	Oo-ya-lik	Pelagic Cormorant
Uyalegpak	Oo-ya-lik-bak	Double-crested Cormorant
Takvialnguarraq	Tuk-viel-nu-rah-rak	Boreal Owl
Atkukiggiq	Aut-goo-ki-reek	Great Gray Owl
Ihassuli	eh-has-zoo-le	Great-horned Owl
Mengqucivak	Mung-goo-chee-vak	Short-eared Owl
Anipaq	Ah-nee-bak	Snowy Owl
Cekaviaq	Chik-gov-viak	Marsh/Goshawk
Eskaviaq	esh-gov-vaik	Marsh/Goshawk
Tengmiacuarraq	Ding-mei-chuwa-rak	Sharp-shinned Hawk

Table F-2 (cont.) Pronunciation of Yup'ik names of birds

<u>Yup'ik Name</u>	<u>Pronunciation</u>	<u>English Name</u>
Kangqiiq	Gung-keeg	Willow Ptarmigan
Aqesgiq	Ah-kis-reek	Willow Ptarmigan
Elciayuli	Eth-chei-you-le	Rock Ptarmigan Ruffed Grouse
Taqikataq	Dah-ki-ka-dag	White-tailed Ptarmigan
Egtuk	Er-dook	Spruce Grouse
Alpa	Ahl-ba	Common Murre
Qengacuarag	Ken-ah-chua-rak	Horned/Tufted Puffin
Qayagpagayuli	Kayar-ba-ka-you-li	Pigeon Guillemot
Ciquraq	Chik-goo-rak	Ancient Murrelet