Subsistence Migratory Bird Harvest Survey

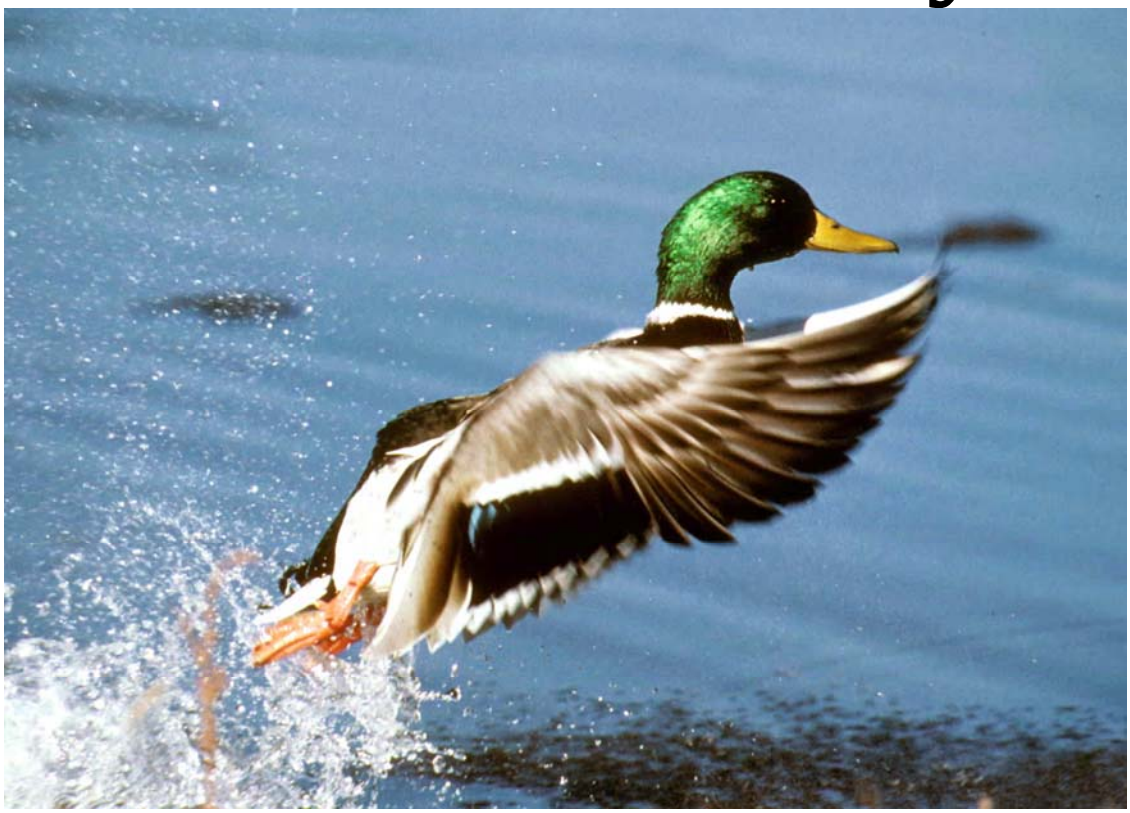

Photo Credit: Edwin & Peggy Bauer, USFWS

Bristol Bay
2001 – 2005

SUBSISTENCE MIGRATORY BIRD HARVEST SURVEY

BRISTOL BAY

2001-2005
With 1995-2005 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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ACKNOWLEDGMENTS

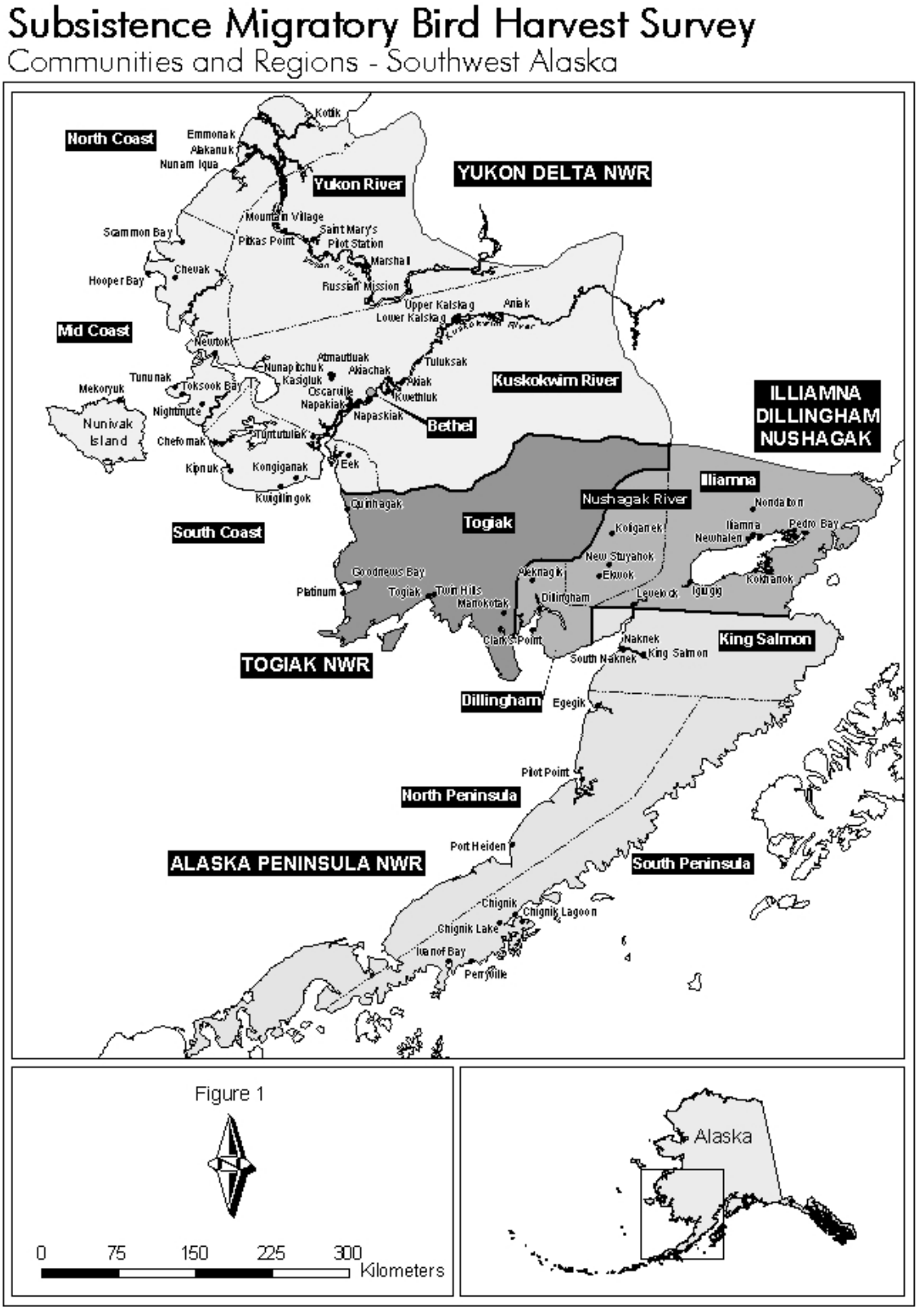
Many people helped gather, report, input, and manage the harvest data that are the basis of this report. The author acknowledges the Togiak National Wildlife Refuge and Bristol Bay Native Association employees who conducted the survey from 2001 through 2005: Ferdinand Sharp, Jon Dyasuk, Pete Abraham, and John Mark (Togiak Refuge); and Hans Nicholson and Kenny Wilson (Bristol Bay Native Association). These employees persuaded villages and households to participate in the survey, contracted with and assisted village harvest surveyors, and helped get the survey forms turned in and paid for. In some cases, they surveyed the villages themselves. In 2001 and 2002, Ferdinand Sharp and Hans Nicholson entered the data into the computer data base.

In 2006, Bristol Bay Native Association employee and Alaska Migratory Bird Co-Management Council representative Molly Chythlook helped the harvest survey coordinator determine response rates for the 2004 and 2005 harvest data.

The author thanks employees of the Alaska Department of Fish and Game, Division of Subsistence, who provided technical assistance and oversight and harvest data management for the survey for 2004 and 2005: Mary Ciuniq Pete, Director; Ted Krieg, Ron Stanek, Bridget Easley, Brian Davis, and David Koster.

The author also thanks Stephanie Martin of the University of Alaska, Institute of Social and Economic Research, for statistical analysis and assistance with this report.

Figure 1.


Subsistence Migratory Bird Harvest Survey
Communities and Regions - Southwest Alaska
North Coast
Mid Coast
South Coast
Yukon River
YUKON DELTA NWR
Kuskokwim River
ILLIAMNA
DILLINGHAM
NUSHAGAK
Iliamna
Nushagak River
Togiak
TOGIAK NWR
Dillingham
King Salmon
North Peninsula
South Peninsula
ALASKA PENINSULA NWR
Bethel
Kotlik
Emmonak
Alakanuk
Nunam Iqua
Mountain Village
Scammon Bay
Pitkas Point
Saint Mary's
Pilot Station
Marshall
Hooper Bay
Chevak
Russian Mission
Upper Kalskag
Lower Kalskag
Aniak
Atmautluak
Nunapitchuk
Kasigluk
Akiachak
Akiak
Tuluksak
Tununak
Toksook Bay
Oscarville
Napakiak
Kwethluk
Napaskiak
Mekoryuk
Nightmute
Nunivak Island
Chefornak
Tuntutuliak
Kipnuk
Kongiganak
Eek
Kwigillingok
Quinhagak
Goodnews Bay
Platinum
Togiak
Twin Hills
Manokotak
Clarks Point
Dillingham
Aleknagik
New Stuyahok
Ekwok
Levelock
Igiugig
Koliganek
Nondalton
Iliamna
Newhalen
Pedro Bay
Kokhanok
Naknek
South Naknek
King Salmon
Egegik
Pilot Point
Port Heiden
Chignik
Chignik Lagoon
Chignik Lake
Ivanof Bay
Perryville
Figure 1
0
75
150
225
300
Kilometers
Alaska

INTRODUCTION

The following report covers subsistence migratory bird harvests in Bristol Bay, 2001-2005. The report includes harvest data by species from 1995 through 2005. This report supplements subsistence harvest information contained in previous reports: Subsistence Migratory Bird Harvest Survey, Bristol Bay, 1995-2000. (Norvell and Wentworth, 2004); and Subsistence Migratory Bird Harvest Survey, 1995 (Seim and Wentworth, 1996).

The subsistence harvest survey in Bristol Bay has been conducted for eight years: 1995, 1997, 1999, 2000, 2001, 2002, 2004, and 2005. On the Togiak National Wildlife Refuge (Refuge), the survey has been conducted for ten years, 1995-2005. (No survey was conducted in Bristol Bay in 2003). Summary tables of Bristol Bay bird and egg harvests from 1995-2005 are included here. Summary tables of harvests for each sub-region: Togiak, Nushagak-Dillingham-Iliamna (including King Salmon-Naknek), and Alaska Peninsula, 2001-2005, are also included (Tables 1-6). Detailed harvest tables are included for each species, with estimates by survey period and sub-region, from 1995 through 2005 (Tables D-1–D44).

From 1995 through 2001, the Bristol Bay survey was conducted by the Bristol Bay Native Association (BBNA) and by the Native employees (Refuge Information Technicians) of the Alaska Peninsula/Becharof and Togiak National Wildlife Refuges (Refuges). In 2002, BBNA began surveying some Alaska Peninsula villages (King Salmon, Naknek, and South Naknek), and in 2004 and 2005 BBNA surveyed all of the Alaska Peninsula villages, due to Alaska Peninsula/Becharof Refuge staff changes. The Togiak Refuge Native employees continued surveying the Togiak Refuge villages in 2002, 2004, and 2005.

BBNA resource specialists and the Refuge Information Technicians (RITs) conducted the survey, with assistance from the Subsistence Migratory Bird Harvest Survey Coordinator, Migratory Birds and State Programs, Alaska Migratory Bird Co-Management Council, Anchorage, and the Subsistence Resource Specialist, Alaska Department of Fish and Game, Division of Subsistence, Dillingham. The Togiak employees conducted the survey in conjunction with environmental, public outreach programs.

The survey in the Togiak Refuge villages of Quinhagak, Goodnews Bay, and Platinum was conducted with support from the Yukon-Kuskokwim Delta's Association of Village Council Presidents (AVCP) Waterfowl Conservation Committee. In the rest of the Bristol Bay villages, it was conducted with support from Yaqullrit Kelutisti. Both of these groups are regional migratory bird councils of the Alaska Migratory Bird Co-Management Council.

The subsistence harvest survey in Bristol Bay includes 30 villages (Figure 1). Six of the communities are in the Togiak sub-region, 16 are in the Nushagak- Dillingham- Iliamna sub-region, and eight are in the Alaska Peninsula sub-region.

When evaluating Bristol Bay harvest trends from 1995 through 2005, is it 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 (1995-2000). 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. Yaqullrit Kelutisti Council became AMBCC's regional partner organization representing Bristol Bay after the AMBCC was formed in April 2000. The Association of Village Council Presidents (AVCP), the regional partner organization for the Y-K Delta, represents the three Bristol Bay villages of Quinhagak, Goodnews Bay, and Platinum.

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 Bristol Bay survey had been conducted since 1995, and because it had always been conducted with the support of the Bristol Bay Native Association, and because the Bristol Bay region has one of the highest bird and egg harvests in Alaska, the Bristol Bay survey along with 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 Bristol Bay 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 Bristol Bay and bird harvests there, please the earlier reports cited above.

METHODS: HOW WE DO THE SURVEY

The subsistence migratory bird harvest survey is conducted each year by the Togiak National Wildlife Refuge, and at least every other year by the Bristol Bay Native Association (BBNA), both in Dillingham. It is conducted with help from the Subsistence Migratory Bird Harvest Survey Coordinator, Alaska Migratory Bird Co-Management Council (AMBCC), Anchorage, and the Subsistence Resource Specialist, Alaska Department of Fish and Game, Division of Subsistence, Dillingham. BBNA contractors and Togiak Refuge Information Technicians establish contracts and train local surveyors in each village who then distribute and collect the survey forms. On the Togiak Refuge, local harvest surveyor training usually occurs on the same village visit at which the Refuge Information Technician conducts a local environmental outreach program.

The Togiak Refuge Information Technicians and surveyors are bilingual, speaking both Yup'ik and English. Some of the BBNA employees are similarly bilingual. Some of the other Bristol Bay villages speak Yup'ik; others are of mixed ethnicity. The village of Nondalton is Athabaskan. In the Alaska Peninsula villages, the people are Alutiiq and speak the Suqpiaq dialect of Yup'ik.

All of the Bristol Bay surveyors are local residents of their villages. Surveyors are paid when they provide the Service with completed survey forms.

After BBNA and Togiak Refuge employees collect the survey forms, the ADF&G Division of Subsistence in Dillingham reviews the forms for technical accuracy, readying them for input to ADF&G's Division of Data Management in Anchorage.

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.

Approval for conducting the survey occurs at three levels: at the regional level, by the Yaqullrit Kelutisti Council and by the AVCP Waterfowl Conservation Committee; at the village level; and at each household. All three must agree to participate before data are actually collected from a particular household.

Bristol Bay is divided into three sampling strata, or sub-regions, which are based on ecology and geography. These are the Togiak Refuge, the Dillingham-Nushagak River-Iliamna Lake-Naknek area, and the Alaska Peninsula (Figure 1). Starting in 2005, the hub community of Dillingham was considered its own sub-region and distinct survey results were generated.

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 (1995-2000). Also, data collected in 2002, 2004, and 2005 are not directly comparable with data collected in 2001. (A survey was not conducted in 2003). It should be noted that in 2001, the communities of King Salmon, Naknek, and South Naknek were not surveyed. Data collected for the Nushagak-Dillingham-Iliamna sub-region were not expanded to account for these three communities.

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 migratory birds are present in most areas of Bristol Bay, although timing varies somewhat each year depending on weather and other factors. In the central Bristol Bay villages, households were surveyed during three survey periods: spring, summer and fall. Due to the higher subsistence harvest activities in the Togiak sub-region, the summer survey period was divided into early, mid and late summer, resulting in five survey periods. On the south side of the Alaska Peninsula, a winter survey period was added, making four survey periods.

The survey periods 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 seasonal coverage for the harvest survey was expanded slightly, beginning on April 1 instead of April 8 and ending October 31 instead of October 15 in most areas. For the south side of the Alaska Peninsula, the fall-winter survey periods were combined, ending on March 9 of the following year. In addition, the number of survey periods was reduced from five to three on the Togiak Refuge as well as in the rest of Bristol Bay. 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
Fall-Winter (south side Alaska Peninsula)	September 1 – March 9	staging and departure; resident birds

From 1995 through 2001, the survey form consisted of color-coded pages, one page for each of the survey periods. 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 (Seim and Wentworth, 1996).

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 (Fall and Winter for the south side of the Alaska Peninsula: see above). Each page of the form has color images for 49 bird species, plus images for "unidentified duck" and "other bird".

Whereas most of Bristol Bay uses the main, western coastal Alaska survey form (OMB Form 7-FW-103, Appendix A), the south side of the Alaska Peninsula uses the Southern Coastal Alaska survey form. (OMB Form 7-FW-103b Appendix A). This latter form differs slightly from the main form in that its third page extends all the way through fall and winter, to accommodate both fall and winter hunting in southern coastal areas. The species pictured on the form also differ slightly: glaucous gull, mew gull, whimbrel, and spruce grouse are not on the form, whereas black-legged and red-legged kittiwake (as opposed to just kittiwake), herring gull, black oystercatcher, and glaucous-winged gull, are on the form.

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 Dillingham or Anchorage has the list of names of the households, therefore no household can be identified except by the local surveyor.

Village sampling scheme

From the beginning of this survey in 1995, through 2002, all of the villages in Bristol Bay were asked to participate in the survey. Beginning in 2004, with implementation of the

statewide survey design, a new village sampling scheme was adopted. 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 2007, 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.

Household sampling scheme

From 1995 through 2000, households were sampled randomly, by drawing a certain percentage of them out of a hat. Our goal was to survey at least 25% of the households in each village (Norvell and Wentworth, 2004, Tables B1-B6).

In 2001, we began a new sampling methodology, called activity stratification. We went to this new system because the Service's Native employees (Refuge Information Technicians, or 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 former long time 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, activity stratification is used for the national Harvest Information Program (HIP). Using it for the subsistence harvest survey 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 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) (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 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: Togiak, Nushagak-Dillingham-Iliamna-Naknek, and Alaska Peninsula. Finally, data from the three sub-regions are added to give a Bristol Bay wide harvest total for each species.

The 2001 and 2002 data were entered into the computer by the Togiak 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 37,500 birds was taken for subsistence use in Bristol Bay between 2001 and 2005 (No survey was conducted in 2003). Of the total harvest, 16,100 birds (43%) were ducks, and 7,500 birds (20%) were geese. Approximately 8,200 birds (22%) were ptarmigan and 3,600 (10%) were spruce grouse. An additional 640 (2%) were swans, 574 (2%) were cranes, and 860 (2%) were other birds (Table 2).

The mean harvest estimate of 37,500 birds taken between 2001 and 2005 was slightly higher than the 1995-2000 mean of 34,800 birds. Between 2001 and 2005, average harvests of geese, ducks, swans, cranes, and ptarmigan were all similar to 1995-2000 averages. However, the spruce grouse estimate for 2001-2005 was 3,600 birds, several times higher than the 1995-2000 estimate, probably because beginning in 2001, more emphasis was placed on recording spruce grouse harvests. (Tables 1, 2, B-3).

Converted to usable weights, the subsistence harvest of birds provided an average of 75,000 pounds of meat annually to Bristol Bay residents between 2001 and 2005. Of the meat harvested, 25,000 pounds (34%) were geese, 25,000 pounds (34%) were ducks, 7,000 pounds (9%) were swans, 4,000 pounds (5%) were cranes, 12,000 pounds (16%) were ptarmigan and grouse, and 2,000 pounds (2%) were other birds (Table B-2).

As indicated above, over twice as many ducks as 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 an equal amount of meat as ducks. Similarly, even though tundra swans and sandhill cranes made up less than 3% of total bird harvest, they provided 15 % of the meat, 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 in Bristol Bay amounted to 15 birds per household (3 geese, 6 ducks, 5 ptarmigan, and one other bird). By weight, the subsistence harvest provided about 30 pounds of meat per household (Tables 2, B-2, C-4).

Geese: Since 2001, overall goose harvests in Bristol Bay have averaged 7,400, very similar to 1995-2000 averages. However, white-fronted goose harvests have been higher in the 2001-2005 period, and emperor goose harvests and lesser Canada goose harvests have declined since the 1995-2000 period (Tables 2, B-3).

Ducks: Mallards, pintails, green-winged teals, and shovelers were the principal duck species taken in Bristol Bay between 2001 and 2005. These species accounted for 69% of all ducks taken during this time period. Other ducks typically taken in large numbers were wigeons, goldeneyes, and king eiders.

Average total duck harvest decreased slightly from the 1990's: 16,100 ducks (2001-2005) compared with 17,500 ducks average (1995-2000). Spectacled and Steller's eider ducks, both listed as threatened species pursuant to the Endangered Species Act of 1973, are taken in small numbers in Bristol Bay (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 and Steller's eiders have declined since the late 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 takes from 1995 through 2000 were 91 spectacled eiders and 48 Steller's eiders, but dropped to 59 spectacled eiders and 9 Steller's eiders between 2001 and 2005 (Tables 1, 2, 5, B-3).

Swans and Cranes: Tundra swan harvests averaged 640 from 2001 through 2005, compared with 370 swans between 1995 and 2000. Crane harvests averaged 570 from 2001 through 2005, and 410 cranes from 1995 through 2000 (Tables 1, 2, 5,B-3).

Ptarmigan and Grouse: Ptarmigan harvests have been highly variable over the course of this study. However, average harvests between 2001 and 2005 (8,200 birds) were only slightly higher than average harvests between 1995 and 2000 (7,900 birds). Spruce grouse harvests were sometimes reported in the Bristol Bay surveys through 2000, but spruce grouse were added to the survey form in 2001. Spruce grouse harvests averaged 3,600 birds between 2001 and 2005, compared with the reported annual average of 900 spruce grouse from 1995 through 2000 (Tables 1, 2, 5, B-3).

Other Birds: Other birds taken, in relatively small numbers, include gulls, loons, and terns, 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. Since 2002, a few of each of these species have been reported taken (Table 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. From 2001 through 2005, an average 56% of the total annual migratory bird take occurred between early April and the end of June (Table B-5). (When ptarmigan and grouse, which do not migrate, are included, this figure is still 56% of total annual bird take occurring in the spring).

During June, when birds begin to nest and become less accessible, hunting decreases sharply. 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.

The fall survey period, beginning September 1, is the second most important time after the spring survey period for hunting most migratory birds (Table B-5). During the 2001-2005 period, 28% of migratory birds (not including ptarmigan and grouse) were harvested between September 1 and October 31. The remaining 15% of the annual migratory bird take occurred during July and August.

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.

Seasonal hunting patterns vary somewhat depending on bird species, but spring is the most important hunting period for most species (Table B-5). From 2001 through 2005, most geese (67%) were taken in spring and fewer (24%) during the fall survey period. Also taken in spring were 63% of swans and 50% of cranes. Ptarmigan were hunted mostly in late winter and spring, and spruce grouse were harvested mostly in the fall.

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 (71%) 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, 77% of geese, 69% of ducks, 67% of swans, and 87% of cranes, were taken before September 1. This represents an annual average of about 5,800 geese, 11,000 ducks, 400 swans, and 500 cranes taken during what was, until 2003, the closed season, a total of 17,700 migratory waterfowl and cranes. It follows that most Y-K Delta Goose Management Plan species (75%) were harvested prior to the fall hunting period beginning September 1. (Goose Management Plan species are Pacific white-fronted geese, cackling Canada geese, emperor geese, and black brant. For copy of Goose Management Plan, see Wentworth and Seim, 1996, and Wentworth, 1998).

The fall harvest between 2001 and 2005 averaged 1,800 geese, 5,100 ducks, 200 swans, and 75 cranes, a total of 7,175 migratory waterfowl and cranes. (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-5).

Most of the villages in Bristol Bay have seasonal harvest patterns similar to those described above. However, on the Alaska Peninsula, where a small percentage of the Bristol Bay birds are taken, seasonal harvest patterns are different. Whereas in most Bristol Bay villages, most birds are taken in spring and summer, in Alaska Peninsula villages, most birds are taken in the fall (see Geographic Area of Harvest, below).

Geographic Area of Harvest

The subsistence migratory bird harvest survey is divided into three sub-regions, or strata, to provide a more accurate picture of size, distribution, composition, and timing of harvest (Figure 1). These sub-regions are the Togiak National Wildlife Refuge Area, the Nushagak- Dillingham- Iliamna Lake and King Salmon- Naknek area, and the Alaska Peninsula/Becharof National Wildlife Refuge Area.

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 Togiak sub-region is closer to prime goose nesting, rearing, and staging habitat and tends to have the most geese for the longest time. Ducks, on the other hand, (except for eider ducks) are relatively more available in other parts of Bristol Bay.

As stated above, in Bristol Bay, seasonal harvests differ by sub-region. In the Togiak sub-region, 60% of the migratory bird harvest occurs in the spring, and in the Nushagak-Dillingham-Iliamna sub-region, 57% of the harvest occurs in the spring. In the Alaska Peninsula sub-region, however, most of the migratory bird harvest is in the fall. Only one-quarter (25%) of the migratory birds are taken in the spring (Tables B-7, B-9, B-11).

Total goose harvests, and eider duck harvests, are highest in the Togiak sub-region. From 2001 through 2005, 58% of all geese, 61% of Y-K Delta Goose Management Plan species geese, and 88% of eider ducks have been taken in the Togiak sub-region. Only 28% of other ducks have been taken in the Togiak sub-region.

While total goose harvests are generally highest in the Togiak sub-region, duck harvests (excluding eiders) are highest in the Nushagak-Dillingham-Iliamna sub-region. Between 2001 and 2005, 65% of all ducks (excluding eiders) were taken in the Nushagak-Dillingham-Iliamna sub-region (Table 5).

Table 5 shows that the largest harvests of migratory birds occur in the Nushagak-Dillingham-Iliamna sub-region. However, this is also the sub-region 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 (Table C-4) gives average harvests per household by sub-region. These figures show that annually between 2001 and 2005, Togiak residents had the highest average harvest at 26 birds per household. Alaska Peninsula residents averaged 15 birds per household, and Nushagak-Dillingham-Iliamna residents averaged 12 birds per household. Togiak's higher average household harvest is reflective of a more traditional and subsistence dependent area, which is more homogenous in its Yup'ik population and where the Yup'ik language is still commonly spoken.

Bristol Bay -wide, an average of 15 birds was harvested per household between 2001 and 2005. Because some of the surveyed households do not hunt, averages would be higher for those households that did harvest 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.

Harvests for each sub-region of Bristol Bay 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, harvests for both the Nushagak-Dillingham-Iliamna and Togiak sub-regions were particularly high in 2005. Some of this may be related to increased participation of villages and households in 2005, most notably in Dillingham (Table C-4).

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

The following is a summary of Bristol Bay population trends by sub-region, since 1990:

Sub-region	US Census 1990	US Census 2000	Alaska Dept of Labor Est. 2005	% change since 1990
Ak Peninsula	813	791	657	-19.2%
Nush-Dill-Iliamna	5,218	5,684	5,405	3.6%
Togiak	1,870	2,103	2,204	17.9%
TOTAL	7,901	8,578	8,266	4.7%

These figures show that the Togiak sub-region grew by about 18% from 1990 to 2005, compared with an overall regional growth rate of about 5% for the same period. The Alaska Peninsula sub-region lost population between 1990 and 2005.

Between 2000 and 2005, the overall population of Bristol Bay decreased, even though the population of the Togiak sub-region grew. While population trends may give an idea of where future harvests may occur, it is difficult to tie any of these recent population trends to recent harvest trends in any of the sub-regions.

Eggs

Egg gathering from the nests of waterfowl, seabirds, and shorebirds has traditionally been practiced in Bristol Bay. Unlike on the Y-K Delta, where waterfowl egging predominates, in Bristol Bay the vast majority of eggs taken are seabird eggs, primarily gull eggs.

An estimated mean annual harvest of about 28,800 eggs was reported for Bristol Bay for the 2001-2005 period. Of these, 28,000 were eggs of gulls, murres, terns, shorebirds, and a few kittiwakes and loons. About 750 waterfowl eggs were estimated taken, mostly duck eggs.

Even though the Y-K Delta took about three times as many birds as Bristol Bay between 2001 and 2005, and 19 times as many waterfowl eggs, Bristol Bay still took more total bird eggs than the Y-K Delta (28,800 eggs for Bristol Bay compared with 23,500 eggs for the Y-K Delta). This is due to much higher harvests of seabird eggs in Bristol Bay than in the Y-K Delta. Between 2001 and 2005, Bristol Bay residents took an average of 3,800 murre eggs and 21,600 gull eggs, compared with 240 murre eggs and 5,400 gull eggs taken on the Y-K Delta (Table 4).

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. However, some gull eggs are taken in July and August (Table B-6). Very few eggs are taken on the Alaska Peninsula. Most eggs are taken in the Nushagak-Dillingham-Iliamna area. However, Togiak residents take the largest number of eggs per household: 17 eggs per household compared with 10 eggs per household for the Nushagak-Dillingham-Iliamna area. Togiak area residents also take most of the goose, swan, and crane eggs, and almost all of the murre eggs (Table 6).

Contribution to Subsistence Food Harvest

Migratory birds and their eggs are some of the wild foods produced in Bristol Bay's subsistence economy. Migratory bird hunting activities are part of the seasonal pattern of subsistence food producing activities (see Wentworth, 1998, 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 migratory birds contributed over 75,000 pounds of edible meat per year to Bristol Bay's subsistence food harvest between 2001 and 2005. At a conservatively estimated wild bird replacement cost of $4.00 per pound, this amounts to $300,000 per year when valued in the economic terms of western society (see Wentworth, 1998, Socioeconomic Setting: The Subsistence Sector). Geese,

ducks, swans and cranes contributed 93% of the total usable weight of meat harvested each year (Table B-2).

Our survey results show that between 2001 and 2005, Bristol Bay-wide, 30 pounds of birds were consumed per household on average, for both harvesting and non-harvesting households (Tables C-1 thru C-4).

Even though migratory birds 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 Bristol Bay. Along with seal, birds are an early source of fresh meat, and their springtime availability makes them highly prized (Stickney 1984).

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 Bristol Bay consumers (Wolfe et al. 1990).

Survey Participation and Limitations

From 1995 through 2002, at least 26 of the 30 Bristol Bay communities participated in the survey each year that the survey was conducted area-wide (1995, 1997, 1999, 2001, 2002). Households sampled during these years, ranged from 700 to 1375 (Norvell and Wentworth, 2004).

In 2004, when the statewide survey and survey methodology was officially adopted, it was no longer feasible to survey as many Bristol Bay communities. The goal was to attempt to survey two-thirds of the communities in each sub-region, and to survey Dilllingham. The goal was also to survey 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, 19 of the 30 communities were surveyed. Dillingham was not surveyed. In 2005, 20 communities including Dillingham were surveyed.

In general, survey participation from Bristol Bay communities has been very good. Alaska Peninsula communities have almost always participated in the survey when asked, as have the Nushagak-Dillingham-Iliamna area communities. In 2001, King Salmon, Naknek and South Naknek were not included in the survey due to lack of a survey coordinator. In 2002, the Bristol Bay Native Association took over surveying these three communities and the Alaska Peninsula communities, which had heretofore been surveyed by Alaska Peninsula/Becharof Refuge personnel. (In 2001, survey results were NOT expanded to account for King Salmon, Naknek, and South Naknek).

On the Togiak Refuge, the villages of Goodnews Bay and Platinum did not agree to participate in the survey until 1998. The village of Twin Hills would not participate until 2002. The decision of these three villages to begin participating in the survey, was the result of many environmental education presentations and persuasive attempts by the Refuge's Native employees.

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 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.

In practice, the Bristol Bay survey in 2004 and 2005 was fairly random, with most of the scheduled villages participating each year. In the Alaska Peninsula, we were short one village in 2004 (Ivanof Bay) and one village in 2005 (Chignik Lagoon). In the Nushagak-Dillingham-Iliamna sub-region, the scheduled village of Igiugig would not participate in either 2004 or 2005. Dillingham did not participate in 2004. In the Togiak sub-region, required participation was achieved, even though in 2004 the scheduled village of Platinum did not participate.

When 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. However, judging by overall household response rates (see below) survey biases at the household level have been less than in Bristol Bay than on the Y-K Delta because fewer households have refused to participate in the survey when asked.

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.

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 each household agrees to participate in the survey, as noted by the household permission slip (household response rate). (The household permission slip is 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, is 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 in the village, that village's household response rate would be zero.

Once both village and household response rates have been established, the village response rate is multiplied by the household response rate to get the overall harvest 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 Bristol Bay were 81% in 2001, 84% in 2002, 66% in 2004, and 71% in 2005. Response rates for 2002, 2004 and 2005 are somewhat misleading, especially for 2004, because permission slips were not obtained so household response rates could not be calculated for some of the communities (Table C-5). In 2004, no permission slips were obtained for anywhere in Bristol Bay except the Togiak Refuge, which contains only 14% of the households in Bristol Bay. In addition, no harvest survey was conducted in Dillingham in 2004.

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Table 1. Migratory bird subsistence harvest estimates Bristol Bay 1995-2005
(Standard errors for 2001 and 2002 are in italics and to the right of the estimates)

		1995	1996	1997	1998	1999	2000
GEESE	White-fronted Geese	1,691	no survey	1,431	no survey	1,662	no survey
	Cackling Canada Geese	1,493	BBNA	1,722	BBNA	1,466	BBNA
	Emperor Geese	439		320		422	
	Black Brant	1,015		657		1,839	
	Lesser Canada Geese	2,327		1,375		2,145	
	Lesser Snow Geese	191		140		89	
	TOTAL GEESE	7,156		5,645		7,623	
	Tundra Swans	340		179		507	
	Sandhill Cranes	785		233		522	
DUCKS	Pintails	4,760	no survey	2,779	no survey	2,602	no survey
	Mallards	6,610	BBNA	4,386	BBNA	3,839	BBNA
	Unidentified ducks	2,316		1,203		207	
	Wigeons	936		424		501	
	Shovelers	202		215		308	
	Canvasbacks	15		10		0	
	Green-winged Teals	2,520		1,962		1,837	
	Buffleheads	48		175		92	
	Harlequins	606		314		115	
	Greater Scaup	35		100		60	
	Goldeneyes	980		626		567	
	Long-tailed Ducks	383		333		145	
	White-winged Scoters	515		127		179	
	Black Scoters	779		411		458	
	Surf Scoters	160		70		26	
	Common Eiders	191		104		175	
	King Eiders	3,888		1,067		698	
	Spectacled Eiders	94		136		23	
	Steller's Eiders	65		90		4	
	Common Mergansers	123		344		180	
	Red-breasted Mergansers	520		534		471	
	TOTAL DUCKS	25,746		15,410		12,487	
	Ptarmigan	13,187	no survey	5,615	no survey	7,823	no survey
	Spruce Grouse	295	BBNA	0	BBNA	2,514	BBNA
OTHER BIRDS	Yellow-billed Loons	222	no survey	10	no survey	12	no survey
	Red-throated Loons	0	BBNA	0	BBNA	0	BBNA
	Common Loons	111		15		18	
	Pacific Loons	3		0		0	
	Auklets**						
	Common Murres	0		16		9	
	Cormorants	0		0		0	
	Guillemots**	0		0		0	
	Golden Plover**						
	Small shorebirds	25		86		0	
	Godwit**						
	Bristle-thighed Curlews**						
	Whimbrel**						
	Large shorebirds	12		68		6	
	Mew Gulls	335		0		4	
	Sabines Gulls	227		17		19	
	Glaucous Gulls	227		0		4	
	Herring Gulls**						
	Glaucous-winged Gulls	0		0		0	
	Kittiwake**	0		0		0	
	Arctic Terns	20		14		0	
	Puffin	0		0		0	
	Other unknown birds**						
	TOTAL OTHER BIRDS	1,182		226		72	
	TOTAL BIRDS (w/o Ptarmigan & Grouse)	35,209		21,693		21,211	
	TOTAL BIRDS (w/Ptarmigan & Grouse)	48,691		27,308		31,548	

*Activity stratification and new estimation method employed beginning in 2001.
** New species added 2002.

Table 1 (cont.) Migratory bird subsistence harvest estimates Bristol Bay 1995-2005
(Standard errors for 2001 and 2002 are in italics and to the right of the estimates)

		2001*		2002*		2003	2004*	2005*
GEESE	White-fronted Geese	2,416	*148*	2,047	*299*	no survey	1,899	3,641
	Cackling Canada Geese	1,948	*91*	1,791	*247*		1,675	2,865
	Emperor Geese	123	*7*	167	*40*		203	181
	Black Brant	1,106	*32*	683	*96*		2,102	833
	Lesser Canada Geese	1,597	*71*	1,308	*160*		974	2,394
	Lesser Snow Geese	59	*7*	139	*23*		17	17
	TOTAL GEESE	7,249	*206*	6,136	*436*		6,870	9,930
	Tundra Swans	138	*14*	399	*63*		792	1,229
	Sandhill Cranes	248	*8*	285	*63*		348	1,415
DUCKS	Pintails	2,670	*195*	2,705	*229*	no survey	2,093	6,167
	Mallards	3,920	*244*	3,822	*261*		4,247	7,761
	Unidentified ducks	753	*229*	14	*3*		51	294
	Wigeons	805	*74*	527	*61*		153	1,821
	Shovelers	192	*32*	644	*90*		1,180	2,075
	Canvasbacks	24	*0*	586	*106*		70	354
	Green-winged Teals	984	*69*	1,339	*167*		1,480	3,073
	Buffleheads	197	*38*	354	*39*		47	41
	Harlequins	238	*29*	262	*53*		218	430
	Greater Scaup	35	*4*	121	*47*		150	605
	Goldeneyes	600	*50*	317	*23*		513	982
	Long-tailed Ducks	239	*25*	45	*7*		34	50
	White-winged Scoters	207	*59*	31	*1*		14	278
	Black Scoters	332	*39*	222	*40*		317	780
	Surf Scoters	120	*29*	96	*48*		98	378
	Common Eiders	129	*0*	178	*38*		451	22
	King Eiders	837	*0*	641	*106*		593	454
	Spectacled Eiders	61	*13*	18	*3*		156	0
	Steller's Eiders	9	*0*	5			5	18
	Common Mergansers	143	*4*	607	*118*		548	157
	Red-breasted Mergansers	195	*10*	235	*76*		345	343
	TOTAL DUCKS	12,689	*421*	12,767	*478*		12,760	26,084
	Ptarmigan	8,177	*348*	11,043	*877*	no survey	4,635	9,060
	Spruce Grouse	2,482	*316*	3,051	*251*		1,021	7,851
OTHER BIRDS	Yellow-billed Loons	26	*0*	269	*25*	no survey	10	5
	Red-throated Loons	15	*0*	27	*6*		10	0
	Common Loons	24	*0*	0	*0*		14	18
	Pacific Loons	4	*0*	2	*0*		10	0
	Auklets**	0		0			0	0
	Common Murres	9	*0*	0	*0*		7	0
	Cormorants	0	*0*	0	*0*		0	0
	Guillemots**	0	*0*	7			0	0
	Golden Plover**	0	*0*	2	*0*		13	0
	Small shorebirds	25	*0*	0	*0*		0	426
	Godwit**	0	*0*	0	*0*		77	0
	Bristle-thighed Curlews**	0	*0*	94	*48*		0	95
	Whimbrel**	0	*0*	103	*16*		0	11
	Large shorebirds	12	*0*	0			0	0
	Mew Gulls	20	*0*	290	*122*		98	169
	Sabines Gulls	0	*20*	0	*0*		0	0
	Glaucous Gulls	341	*0*	327	*124*		212	132
	Herring Gulls**	0		0			0	0
	Glaucous-winged Gulls	0	*9*	0	*0*		0	0
	Kittiwake**	0	*0*	0	*0*		0	0
	Arctic Terns	0	*0*	45	*43*		0	0
	Puffin	0	*0*	0	*0*		0	0
	Other unknown birds**	0		0			33	210
	TOTAL OTHER BIRDS	475	*22*	1,165	*194*		484	1,065
	TOTAL BIRDS (w/o Ptarmigan & Grouse)	20,799	*547*	20,751	*770*		21,254	39,723
	TOTAL BIRDS (w/Ptarmigan & Grouse)	31,458	*799*	34,847	*1,360*		26,909	56,634

*Activity stratification and new estimation method employed beginning in 2001.
** New species added 2002.

Table 2. Migratory bird subsistence harvest estimates with 4-year averages, Bristol Bay, 2001-2005

		2001*	2002*	2004*	2005*	4-YEAR AVERAGE
GEESE	White-fronted Goose	2,416	2,047	1,900	3,641	2,501
	Cackling Canada Goose	1,948	1,791	1,674	2,865	2,070
	Emperor Goose	122	167	202	180	168
	Black Brant	1,106	683	2,102	834	1,181
	Lesser Canada Goose	1,597	1,308	974	2,395	1,569
	Lesser Snow Goose	59	139	17	17	58
	TOTAL GEESE	7,248	6,135	6,869	9,932	7,546
	Tundra Swan	138	399	792	1,229	640
	Sandhill Crane	247	285	348	1,414	574
DUCKS	Pintail	2,670	2,705	2,093	6,168	3,409
	Mallard	3,920	3,822	4,247	7,761	4,938
	Unidentified ducks	753	14	51	294	278
	Wigeon	805	527	153	1,822	827
	Shoveler	192	644	1,180	2,075	1,023
	Canvasback**	23	586	70	354	258
	Green-winged Teal	984	1,339	1,481	3,073	1,719
	Bufflehead	196	354	46	41	159
	Harlequin	239	262	217	429	287
	Greater Scaup	34	121	150	605	228
	Goldeneyes	600	317	512	982	603
	Long-tailed Duck	238	45	34	50	92
	White-winged Scoter	208	31	14	278	133
	Black Scoter	333	222	317	780	413
	Surf Scoter	120	96	98	379	173
	Common Eider	129	178	450	22	195
	King Eider	838	641	593	454	632
	Spectacled Eider	61	18	156	0	59
	Steller's Eider	9	5	5	18	9
	Common Merganser	144	607	548	157	364
	Red-breasted Merganser	196	235	345	343	280
	TOTAL DUCKS	12,692	12,769	12,760	26,085	16,077
	Ptarmigan (non-migratory)	8,177	11,044	4,635	9,060	8,229
	Spruce Grouse	2,483	3,051	1,021	7,851	3,602
OTHER BIRDS	Yellow-billed Loon	26	269	10	5	78
	Red-throated Loon	15	27	10	0	13
	Common Loon	24	0	14	18	14
	Pacific Loon	4	2	10	0	4
	Auklets**		0	0	0	0
	Common Murre	9	0	7	0	4
	Kittiwakes**		0	0	0	0
	Guillemots**		7	0	0	2
	Mew Gull	20	290	98	169	144
	Sabine's Gull	0	0	0	0	0
	Glaucous Gull	341	351	212	132	259
	Herring Gull**		0	0	0	0
	Arctic Tern	0	45	0	0	11
	Bristle-thighed curlew**		70	0	95	55
	Godwits**		0	77	0	26
	Whimbrel**		103	0	11	38
	Golden Plover**		2	13	0	5
	Small shorebirds	25	0	0	425	113
	Large shorebirds	12				12
	Cormorants		0	0	0	0
	Other Unknown Birds**		0	33	210	81
	TOTAL OTHER BIRDS	476	1,166	484	1,065	859
	TOTAL (w/o Ptarmigan & Grouse)	20,801	20,754	21,253	39,725	25,694
	TOTAL (with Ptarmigan & Grouse)	31,461	34,849	26,909	56,636	37,525

*Activity stratification and new estimation method employed 2001.
**New birds added, 2002

Table 3. Egg subsistence harvest estimates Bristol Bay 1995-2005
(Standard errors for 2001 and 2002 are in italics and to the right of the estimates)

		1995	1996	1997	1998	1999	2000
GOOSE EGGS	White-fronted Geese	30	192	0	0	0	0
	Cackling Canada Geese	286	114	27	96	0	0
	Emperor Geese	0	0	0	0	0	8
	Black Brant	128	0	0	0	9	0
	Lesser Canada Geese	141	68	40	74	46	0
	Lesser Snow Geese	0	0	0	0	0	0
	TOTAL GEESE	586	375	67	170	55	8
	Tundra Swans	79	0	24	88	0	0
	Sandhill Cranes	143	0	5	0	17	0
DUCK EGGS	Pintails	183	160	60	0	12	0
	Mallards	361	16	108	75	52	0
	Unidentified ducks	1,390	26	0	24	0	0
	Wigeons	0	0	0	0	0	0
	Shovelers	0	0	0	0	0	0
	Canvasbacks	0	0	0	0	0	0
	Green-winged Teals	0	0	0	0	0	0
	Buffleheads	0	0	0	0	0	0
	Harlequins	10	0	0	0	0	0
	Greater Scaup	20	0	0	0	0	0
	Goldeneyes	0	0	29	0	0	0
	Long-tailed Ducks	0	0	145	0	0	0
	White-winged Scoters	0	0	0	0	0	0
	Black Scoters	0	0	0	0	0	0
	Surf Scoters	0	0	0	88	0	0
	Common Eiders	0	0	0	0	6	0
	King Eiders	51	0	0	0	165	0
	Spectacled Eiders	252	0	0	0	24	0
	Steller's Eiders	0	0	0	0	0	0
	Common Mergansers	0	0	0	49	291	0
	Red-breasted Mergansers	58	0	28	0	0	0
	TOTAL DUCKS	2,235	202	285	195	518	0
	Ptarmigan	312	82	87	145	27	149
	Spruce Grouse	0	0	0	0	0	0
OTHER BIRD EGGS	Yellow-billed Loons	0	0	27	0	0	0
	Red-throated Loons	0	0	0	0	0	0
	Common Loons	83	0	1	0	15	6
	Arctic Loons	0	0	1,438	0	0	0
	Pacific Loons	0	0	0	0	0	0
	Common Murres	1,519	6,644	7,147	7,881	7,658	1,027
	Cormorants	0	0	0	0	0	0
	Guillemot	0	0	0	0	0	0
	Golden Plover	0	0	0	0	0	0
	Small shorebirds	0	0	48	14	0	24
	Godwit	0	0	0	0	0	0
	Bristle-thighed Curlews	0	0	0	0	0	0
	Whimbrel	0	0	0	0	0	0
	Large shorebirds	0	0	260	5	4	0
	Mew Gulls	5,844	515	2,098	858	116	199
	Sabines Gulls	4,439	835	1,255	108	494	477
	Glaucous Gulls	11,108	996	8,311	6,763	7,140	15,116
	Glaucous-winged Gulls	1,382	4,350	27	0	0	20
	Herring gull						
	Kittiwake	0	0	0	0	0	0
	Arctic Terns	595	124	159	327	1,034	884
	Puffin	0	0	0	0	0	0
	Other unknown birds						
	TOTAL OTHER BIRDS	24,970	13,464	17,965	15,958	16,461	17,752
	TOTAL (w/o Ptarmigan & Grouse)	28,103	14,042	18,403	16,454	17,083	17,760
	TOTAL (w/ Ptarmigan & Grouse)	28,415	14,124	18,490	16,599	17,110	17,909

*Activity stratification and new estimation method employed beginning in 2001.

** New species added 2002.

Table 3 (cont.) Egg subsistence harvest estimates Bristol Bay 1995-2005
(Standard errors for 2001 and 2002 are in italics and to the right of the estimates)

		2001*		2002*		2003*	2004*	2005*
GOOSE EGGS	White-fronted Geese	26	*21*	0	*0*	no survey	13	57
	Cackling Canada Geese	20	*14*	0	*0*		262	135
	Emperor Geese	0	*0*	0	*0*		0	8
	Black Brant	0	*0*	0	*0*		0	0
	Lesser Canada Geese	0	*0*	29	*20*		40	69
	Lesser Snow Geese	0	*0*	0	*0*		0	0
	TOTAL GEESE	46	*25*	29	21		315	269
	Tundra Swans	47	*27*	24	*17*		168	93
	Sandhill Cranes	0	*0*	2	*2*		74	17
DUCK EGGS	Pintails	171	*76*	132	*66*		124	231
	Mallards	166	*73*	190	*119*		248	183
	Unidentified ducks	356	*139*	0	*0*		40	0
	Wigeons	0	*0*	0	*0*		0	28
	Shovelers	0	*0*	0	*0*		0	0
	Canvasbacks	0	.	0	*0*		0	0
	Green-winged Teals	0	*0*	0	*0*		0	5
	Buffleheads	0	*0*	26	*18*		0	0
	Harlequins	0	*0*	0	*0*		0	0
	Greater Scaup	0	*0*	0	*0*		20	0
	Goldeneyes	49	*34*	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	*0*	0	*0*		0	0
	Surf Scoters	0	*0*	0	*0*		0	0
	Common Eiders	0	*0*	0	*0*		0	0
	King Eiders	0	*0*	0	*0*		0	0
	Spectacled Eiders	0	*0*	0	*0*		0	0
	Steller's Eiders	0	.	0	*0*		0	0
	Common Mergansers	0	*0*	0	*0*		0	0
	Red-breasted Mergansers	24	*24*	0	*0*		0	0
	TOTAL DUCKS	766	*186*	348	*137*		432	447
	Ptarmigan	0	*0*	22	*18*		50	104
	Spruce Grouse	0	*0*	0	*0*		0	0
OTHER BIRD EGGS	Yellow-billed Loons	0	*0*	0	*0*		0	0
	Red-throated Loons	0	*0*	0	*0*		0	0
	Common Loons	0	*0*	0	*0*		3	87
	Arctic Loons	0	*0*	0	*0*		0	0
	Pacific Loons	0	*0*	0	*0*		0	17
	Common Murres	2,472	*1,170*	3,140	*988*		8,777	898
	Cormorants	0	*0*	0	*0*		0	13
	Guillemot	0	*0*	0	*0*		0	0
	Golden Plover	0	*0*	0	*0*		0	52
	Small shorebirds	0	*0*	8	*0*		54	376
	Godwit	0	*0*	36	*10*		0	18
	Bristle-thighed Curlews	0	*0*	1,288	*94*		0	1,611
	Whimbrel	0	*0*	0	*0*		0	960
	Large shorebirds	0	*0*	0	*0*		0	0
	Mew Gulls	5,891	*2,233*	9,833	*1,781*		5,536	15,680
	Sabines Gulls	1,136	*314*	6	*0*		0	0
	Glaucous Gulls	17,827	*1,957*	8,577	*1,371*		7,710	12,928
	Glaucous-winged Gulls	0	*0*	0	*0*		0	0
	Herring gull	0	*0*	0	*0*		0	43
	Kittiwake	0	*0*	0	*0*		257	10
	Arctic Terns	736	*197*	1,750	*423*		2,504	813
	Puffin	0	*0*	0	*0*		0	0
	Other unknown birds	0	*0*	0	*0*		0	31
	TOTAL OTHER BIRDS	28,061	*3,304*	24,639	*2,684*		24,842	33,535
	TOTAL (w/o Ptarmigan & Grouse)	28,920	*3,775*	25,064	*3,001*		25,832	34,361
	TOTAL (w/ Ptarmigan & Grouse)	28,920	*3,777*	25,064	*3,001*		25,882	34,465

*Activity stratification and new estimation method employed beginning in 2001.
** New species added 2002.

Table 4 Egg subsistence estimates with 4-year averages, Bristol Bay, 2001-2005

		2001*	2002*	2004*	2005*	4 Year Avg
GOOSE EGGS	White-fronted Goose	26	0	13	57	24
	Cackling Canada Goose	20	0	262	135	104
	Emperor Goose	0	0	0	8	2
	Black Brant	0	0	0	0	0
	Lesser Canada Goose	0	29	40	69	35
	Lesser Snow Goose	0	0	0	0	0
	TOTAL GEESE	46	29	315	269	165
	Tundra Swan	47	24	168	94	83
	Sandhill Crane	0	2	74	17	23
DUCK EGGS	Pintail	171	132	124	231	165
	Mallard	166	190	248	182	197
	Unidentified ducks	357	0	40	0	99
	Wigeon	0	0	0	28	7
	Shoveler	0	0	0	0	0
	Canvasback**	0	0	0	0	0
	Green-winged Teal	0	0	0	5	1
	Bufflehead	0	26	0	0	7
	Harlequin	0	0	0	0	0
	Greater Scaup	0	0	20	0	5
	Goldeneyes	49	0	0	0	12
	Long-tailed Duck	0	0	0	0	0
	White-winged Scoter	0	0	0	0	0
	Black Scoter	0	0	0	0	0
	Surf Scoter	0	0	0	0	0
	Common Eider	0	0	0	0	0
	King Eider	0	0	0	0	0
	Spectacled Eider	0	0	0	0	0
	Steller's Eider	0	0	0	0	0
	Common Merganser	0	0	0	0	0
	Red-breasted Merganser	24	0	0	0	6
	TOTAL DUCK EGGS	767	348	432	446	498
	Ptarmigan Eggs	0	18	50	105	43
	Grouse Eggs	0	0	0	0	0
OTHER BIRD EGGS	Yellow-billed Loon	0	0	0	0	0
	Red-throated Loon	0	0	0	0	0
	Common Loon	0	0	3	87	23
	Pacific Loon	0	0	0	17	4
	Auklets**		0	0	0	0
	Common Murre	2,420	3,140	8,778	898	3,809
	Kittiwakes**		0	257	10	89
	Guillemots**		0	0	0	0
	Mew Gull	5,840	9,833	5,536	15,679	9,222
	Sabine's Gull	1,136	6	0	0	286
	Glaucous Gull	17,633	9,865	7,710	12,927	12,034
	Herring Gull**		0	69	43	37
	Arctic Tern	735	1,750	2,504	813	1,451
	Bristle-thighed curlew**		0	0	1,611	537
	Godwits**		36	0	18	18
	Whimbrel**		0	0	960	320
	Golden Plover**		4	0	52	19
	Small Shorebirds	0	8	54	376	110
	Large shorebirds	0			0	0
	Cormorants		0	0	13	4
	Other Unknown Birds**		0	0	31	10
	TOTAL OTHER BIRD EGGS	27,764	24,642	24,911	33,535	27,972
	TOTAL (w/o Ptarmigan & Grouse)	28,624	25,045	25,900	34,361	28,741
	TOTAL (with Ptarmigan & Grouse)	28,624	25,063	25,950	34,466	28,784

*Activity stratification and new estimation method employed 2001
**New birds added, 2002

Table 5. Average bird harvest by sub-region, Bristol Bay, 2001-2005

		Alaska Pen. NWR	Nush, Dill, Illiamna	Togiak NWR	TOTAL
GEESE	White-fronted Goose	6	1,041	1,455	2,501
	Cackling Canada Goose	96	810	1,164	2,070
	Emperor Goose	62	20	86	168
	Black Brant	89	182	910	1,181
	Lesser Canada Goose	56	817	696	1,569
	Lesser Snow Goose	1	37	21	58
	TOTAL GEESE	308	2,906	4,333	7,547
	Tundra Swan	1	317	323	640
	Sandhill Crane	9	302	262	574
DUCKS	Pintail	176	2,233	1,001	3,409
	Mallard	286	3,898	753	4,938
	Unidentified ducks	16	251	17	284
	Wigeon	51	555	222	827
	Shoveler	58	716	249	1,023
	Canvasback**	57	152	49	258
	Green-winged Teal	213	1,356	150	1,719
	Bufflehead	102	48	10	160
	Harlequin	23	193	71	287
	Greater Scaup	3	101	124	228
	Goldeneyes	68	493	43	603
	Long-tailed Duck	50	35	8	92
	White-winged Scoter	0	62	71	133
	Black Scoter	25	101	287	413
	Surf Scoter	11	95	68	174
	Common Eider	28	89	78	195
	King Eider	4	3	625	631
	Spectacled Eider	3	15	40	59
	Steller's Eider	1	0	8	9
	Common Merganser	38	11	315	364
	Red-breasted Merganser	3	42	235	280
	TOTAL DUCKS	1,215	10,445	4,422	16,082
	Ptarmigan (non-migratory)	1,290	4,030	2,909	8,229
	Spruce Grouse	0	3,541	61	3,601
OTHER BIRDS	Yellow-billed Loon	66	1	12	78
	Red-throated Loon	7	0	6	13
	Common Loon	0	0	14	14
	Pacific Loon	0	0	4	4
	Auklets**	0	0	0	0
	Common Murre	0	0	4	4
	Kittiwakes**	0	0	0	0
	Guillemots**	0	2	0	2
	Mew Gull	0	144	0	144
	Sabine's Gull	0	0	0	0
	Glaucous Gull	83	119	58	259
	Herring Gull**	0	0	0	0
	Arctic Tern	0	11	0	11
	Bristle-thighed curlew**	21	35	0	56
	Godwits**	0	0	26	26
	Whimbrel**	0	38	0	38
	Golden Plover**	0	0	5	5
	Small shorebirds	14	91	8	113
	Large shorebirds	0	0	12	12
	Cormorants	0	0	0	0
	Other Unknown Birds**	1	80	0	81
	TOTAL OTHER BIRDS	192	520	147	859
	TOTAL (w/o Ptarmigan & Grouse)	1,724	14,490	9,487	25,701
	TOTAL (with Ptarmigan & Grouse)	3,014	22,061	12,456	37,531

** Activity stratification and new estimation method employed 2001; new birds added, 2002

Table 6. Average egg harvest estimates by sub-region, Bristol Bay, 2001-2005

		Alaska Pen. NWR	Nush, Dill, Illiamna	Togiak NWR	TOTAL
GOOSE EGGS	White-fronted Goose	0	2	23	24
	Cackling Canada Goose	0	22	83	104
	Emperor Goose	0	2	0	2
	Black Brant	0	0	0	0
	Lesser Canada Goose	0	0	35	35
	Lesser Snow Goose	0	0	0	0
	TOTAL GEESE	0	25	140	165
	Tundra Swan	1	14	68	83
	Sandhill Crane	0	0	23	23
DUCK EGGS	Pintail	0	95	70	165
	Mallard	0	151	46	197
	Unidentified ducks	0	84	15	99
	Wigeon	7	0	0	7
	Shoveler	0	0	0	0
	Canvasback**	0	0	0	0
	Green-winged Teal	0	1	0	1
	Bufflehead	7	0	0	7
	Harlequin	0	0	0	0
	Greater Scaup	0	0	5	5
	Goldeneyes	0	12	0	12
	Long-tailed Duck	0	0	0	0
	White-winged Scoter	0	0	0	0
	Black Scoter	0	0	0	0
	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	6	0	6
	TOTAL DUCK EGGS	14	349	136	498
	Ptarmigan Eggs	0	12	31	43
	Grouse Eggs	0	0	0	0
OTHER BIRD EGGS	Yellow-billed Loon	0	1	0	1
	Red-throated Loon	0	0	0	0
	Common Loon	0	0	23	23
	Pacific Loon	0	0	4	4
	Auklets**	0	0	0	0
	Common Murre	0	67	3,741	3,808
	Kittiwakes**	0	3	86	89
	Guillemots**	0	0	0	0
	Mew Gull	11	7,716	1,495	9,222
	Sabine's Gull	0	285	0	286
	Glaucous Gull	793	8,979	2,262	12,034
	Herring Gull**	37	0	0	37
	Arctic Tern	4	1,053	394	1,450
	Bristle-thighed curlew**	0	537	0	537
	Godwits**	0	18	0	18
	Whimbrel**	0	320	0	320
	Golden Plover**	0	0	19	19
	Small Shorebirds	0	0	110	110
	Large shorebirds	0	0	0	0
	Cormorants	0	4	0	4
	Other Unknown Birds**	0	0	10	10
	TOTAL OTHER BIRD EGGS	836	18,764	8,142	27,971
	TOTAL (w/o Ptarmigan & Grouse)	850	19,153	8,508	28,741
	TOTAL (with Ptarmigan & Grouse)	850	19,165	8,539	28,784

** Activity stratification and new estimation method employed 2001; new birds added, 2002

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.

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
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_____

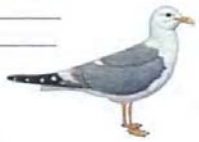
Murre
birds_____
eggs_____

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:_____

VH Code:_____

Comments:

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.

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
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_____
Date of Pick-up:_____

VH Code:_____

Comments:

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

FORM 7-FW-103 OM

SUBSISTENCE HOUSEHOLD SURVEY
FALL (SEPT. 1 - OCT. 31)

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:_____

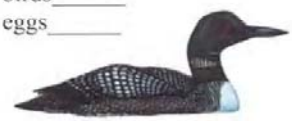
SUBSISTENCE HOUSEHOLD SURVEY
FALL (SEPT. 1 - OCT. 31)

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

FORM 7-FW-103 OMB

SUBSISTENCE HOUSEHOLD SURVEY

SOUTHERN COASTAL ALASKA

SPRING (APRIL 1 - JUNE 30)

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

SUMMER (JULY 1 - AUG. 31)

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_____

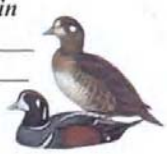
Green-winged Teal
birds_____
eggs_____

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

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*_____

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*_____

*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-103B OX

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*_____

*Surveyor Notes*_____
*Date of Pick-up:*_____

Comments:

*VH Code:*_____

FORM 7-FW-103B O...

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

Village Harvest Survey Household Enrollment Form 1

Village___________________**Village #**_____**Surveyor**_____________________________**Year**_____**Total Houses**___

	…………....Complete listing of all households in the village…………..	**Activity Level**
house number	household name	**None / Low / High**

Harvest Activity Level is based on surveyor's knowledge of a typical or approximate number of birds of all species that are likely to be taken in this household during the entire year. The surveyor may use his or her own knowledge, or ask a household member, or ask someone else. NONE = probably no birds will be taken by this household, LOW = 1 to 10 birds are likely to be taken, HIGH = more than 10 birds are likely to be taken during the entire year. Make sure that the number of houses you write down equals the total houses in the village.

Village Harvest Survey Household Selection List by Activity Level # 2

Village__________________Village #_____Surveyor___________________________Year_____Total Houses_____

	Activity Level = 0 birds	Activity Level = 1-10 birds			Activity Level = >10 birds
HH #	**NONE**	**HH #**	**LOW**	**HH #**	**HIGH**

Every household number should be entered only once in 1 of the 3 activity level columns based on any information available. This completed form is to be used with the random selection overlay sheet #3. Indicate the selected houses by writing a * after the household number. Write NO after the * if the household then refuses permission. Write ALT after the * if the household is selected as an alternate. Make sure this information is the same as what is on the permission slips. This form MUST be turned in to the harvest survey coordinator for your area.

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, Bristol Bay

		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 in pounds, Bristol Bay, 2001-2005

		2001	2,002	2,004	2,005	4-YEAR AVERAGE
GEESE	White-fronted Goose	10,244	8,679	8,056	15,438	10,604
	Cackling Canada Goose	4,539	4,173	3,900	6,675	4,822
	Emperor Goose	565	773	935	833	777
	Black Brant	2,522	1,557	4,793	1,902	2,693
	Lesser Canada Goose	6,356	5,206	3,877	9,532	6,243
	Lesser Snow Goose	235	555	68	68	231
	TOTAL GEESE	24,461	20,943	21,629	34,448	25,370
	Tundra Swan	1,547	4,473	8,878	13,777	7,169
	Sandhill Crane	1,667	1,924	2,349	9,545	3,871
DUCKS	Pintail	4,005	4,058	3,140	9,252	5,114
	Mallard	7,448	7,262	8,069	14,746	9,381
	Unidentified ducks	1,130	21	77	441	417
	Wigeon	1,030	675	196	2,332	1,058
	Shoveler	202	676	1,239	2,179	1,074
	Canvasback*	52	1,319	158	797	581
	Green-winged Teal	512	696	770	1,598	894
	Bufflehead	135	244	32	28	110
	Harlequin	239	262	217	429	287
	Greater Scaup	56	200	248	998	375
	Goldeneyes	774	409	660	1,267	778
	Long-tailed Duck	319	60	46	67	123
	White-winged Scoter	476	71	32	637	304
	Black Scoter	586	391	558	1,373	727
	Surf Scoter	191	153	156	603	275
	Common Eider	535	739	1,868	91	808
	King Eider	2,237	1,711	1,583	1,212	1,686
	Spectacled Eider	148	44	379	0	143
	Steller's Eider	13	7	7	26	14
	Common Merganser	330	1,390	1,255	360	834
	Red-breasted Merganser	237	284	417	415	338
	TOTAL DUCKS	20,655	20,671	21,105	38,850	25,320
	Ptarmigan (non-migratory)	8,177	11,044	4,635	9,060	8,229
	Spruce Grouse*	2,483	3,051	1,021	7,851	3,602
OTHER BIRDS	Yellow-billed Loon	234	2,421	90	45	698
	Red-throated Loon	43	77	29	0	37
	Common Loon	131	0	76	98	76
	Pacific Loon	13	6	32	0	13
	Auklets*		0	0	0	0
	Common Murre	15	0	12	0	7
	Kittiwakes**		0	0	0	0
	Guillemots**		5	0	0	2
	Mew Gull		203	69	118	101
	Sabine's Gull	0	0	0	0	0
	Glaucous Gull	955	983	594	370	725
	Herring Gull**	0	0	0	0	0
	Arctic Tern	0	11	0	0	3
	Bristle-thighed curlew**		93	0	126	73
	Godwits**		0	44	0	15
	Whimbrel**		137	0	15	51
	Golden Plover**		1	3	0	1
	Small shorebirds		0	0	106	28
	Large shorebirds	8	0	0	0	8
	Cormorants	0	0	0	0	0
	Other Unknown Birds**	0	0	33	210	81
	TOTAL OTHER BIRDS	1,398	3,937	981	1,088	1,918
	TOTAL (w/o Ptarmigan & Grouse)	49,729	51,948	54,943	97,708	63,648
	TOTAL (with Ptarmigan & Grouse)	60,389	66,043	60,599	114,619	75,479

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

** New birds, added 2002.

Table B-3 Average bird harvest estimates, Bristol Bay and sub-regions, 1995-2000

		Togiak NWR 6-yr Avg 1995-2000	Dillingham, Nushagak River, Iliamna 3-yr Avg 1995, 1997 & 1999	AK Pen/Becharof NWR 6-yr Avg 1995-2000	Bristol Bay Totals
GEESE	White-fronted Geese	739	757	153	1,649
	Cackling Canada Geese	1078	546	262	1,886
	Emperor Geese	168	58	170	397
	Black Brant	826	231	178	1,236
	TOTAL GMP SPECIES	2812	1592	763	5,167
	Lesser Canada Geese	957	788	264	2,010
	Lesser Snow Geese	30	86	12	127
	TOTAL GEESE	3799	2466	1,039	7,304
	Tundra Swans	290	72	9	371
	Sandhill Cranes	291	94	28	413
DUCKS	Pintails	674	2161	613	3,448
	Mallards	773	3399	756	4,927
	Unidentified Ducks	426	452	63	941
	Wigeons	72	455	157	684
	Shovelers	48	97	33	177
	Canvasbacks	0	8	0	8
	Green-winged Teals	125	1424	606	2,155
	Buffleheads	5	57	61	123
	Harlequins	107	163	21	291
	Greater Scaup	15	34	17	66
	Goldeneyes	78	531	182	791
	Long-tailed Ducks	53	87	232	372
	White-winged Scoters	70	244	21	335
	Black Scoters	186	327	35	548
	Surf Scoters	22	59	3	84
	Common Eiders	111	20	39	170
	King Eiders	1344	97	16	1,456
	Spectacled Eiders	35	33	22	91
	Steller's Eiders	16	29	2	48
	Common Mergansers	149	64	31	244
	Red-breasted Mergansers	373	79	58	511
	TOTAL DUCKS	4683	9927	2,967	17,578
	Ptarmigan (non-migratory)	2724	3621	1,544	7,889
	Spruce Grouse (non-migratory)	0	936	0	936
OTHER BIRDS	Yellow-billed Loons	43	1	0	44
	Red-throated Loons	3	0	0	3
	Common Loons	22	8	0	30
	Arctic Loons	0	1	0	1
	Common Murres	14	0	1	15
	Small Shorebirds	4	7	17	27
	Large Shorebirds	11	11	22	44
	Mew Gulls	56	0	1	57
	Sabine's Gulls	11	8	0	19
	Glaucous Gulls	1	102	0	103
	Glaucous-winged Gulls	0	0	0	0
	Arctic Terns	0	11	0	11
	TOTAL OTHER BIRDS	165	158	41	363
	TOTAL BIRDS (w/o Ptarmigan and Spruce Grouse)	9,228	12,717	4,084	26,029
	TOTAL BIRDS (w/ Ptarmigan and Spruce Grouse)	11,952	17,274	5,628	34,854

Table B-4 Average egg harvest estimates, Bristol Bay and sub-regions, 1995-2000

		Togiak NWR 6-yr Avg 1995-2000	Dillingham, Nushagak River, Iliamna 3-yr Avg 1995, 1997 & 1999	AK Pen/Becharof NWR 6-yr Avg 1995-2000	Bristol Bay Avg Annual Totals
GOOSE EGGS	White-fronted Geese	36	14	0	51
	Cackling Canada Geese	86	0	1	87
	Emperor Geese	0	0	1	1
	Black Brant	23	0	0	23
	TOTAL GMP SPECIES EGGS	145	14	2	161
	Lesser Canada Geese	58	8	2	68
	Lesser Snow Geese	0	0	0	0
	TOTAL GOOSE EGGS	348	22	4	374
	Tundra Swan Eggs	23	0	4	28
	Sandhill Crane Eggs	28	1	0	29
DUCK EGGS	Pintails	51	67	9	127
	Mallards	82	126	10	218
	Unidentified Ducks	225	191	8	423
	Wigeons	0	0	0	0
	Shovelers	0	0	0	0
	Canvasbacks	0	0	0	0
	Green-winged Teals	0	0	0	0
	Buffleheads	0	0	0	0
	Harlequins	0	0	1	1
	Greater Scaup	0	0	2	2
	Goldeneyes	5	0	0	5
	Long-tailed Ducks	24	30	0	54
	White-winged Scoters	0	0	0	0
	Black Scoters	0	5	0	5
	Surf Scoters	15	0	0	15
	Common Eiders	1	0	0	1
	King Eiders	33	2	2	36
	Spectacled Eiders	42	5	2	49
	Steller's Eiders	0	1	0	1
	Common Mergansers	53	10	2	65
	Red-breasted Mergansers	10	4	2	16
	TOTAL DUCK EGGS	541	441	37	1,019
	Ptarmigan Eggs	75	77	29	181
	Spruce Grouse Eggs	0	0	0	0
OTHER BIRD EGGS	Yellow-billed Loons	4	0	0	4
	Red-throated Loons	0	0	0	0
	Common Loons	17	2	0	19
	Arctic Loons	240	0	0	240
	Common Murres	5,313	39	0	5,352
	Small Shorebirds	14	5	0	19
	Large Shorebirds	45	0	0	45
	Mew Gulls	1,372	1,610	116	3,099
	Sabine's Gulls	1,250	1,651	9	2,910
	Glaucous Gulls	5,552	6,631	1,343	13,527
	Glaucous-winged Gulls	733	1,312	115	2,160
	Arctic Terns	376	1,214	72	1,662
	TOTAL OTHER BIRD EGGS	14,916	12,464	1,657	29,037
	TOTAL BIRD EGGS (w/o Ptarmigan and Spruce Grouse)	15,856	12,928	1,701	30,485
	TOTAL BIRD EGGS (w/ Ptarmigan and Spruce Grouse)	15,931	13,005	1,731	30,666

Table B-5 Migratory birds, average seasonal harvest estimates, Bristol Bay, 2001-2005*

		SPRING	SUMMER	FALL	TOTAL
GEESE	White-fronted Goose	1,863	196	441	2,501
	Cackling Canada Goose	1,110	230	730	2,069
	Emperor Goose	108	13	47	168
	Black Brant	841	91	249	1,181
	Lesser Canada Goose	1,108	194	267	1,569
	Lesser Snow Goose	15	3	40	58
	TOTAL GEESE	5,044	727	1,774	7,545
	Tundra Swan	401	40	199	640
	Sandhill Crane	286	212	75	574
DUCKS	Pintail	1,900	693	816	3,409
	Mallard	2,546	743	1,649	4,937
	Unidentified ducks	124	88	67	278
	Wigeon	342	245	240	827
	Shoveler	394	327	301	1,023
	Canvasback**	80	24	155	258
	Green-winged Teal	701	373	645	1,719
	Bufflehead	43	12	104	159
	Harlequin	182	11	94	287
	Greater Scaup	157	8	63	228
	Goldeneyes	260	148	196	604
	Long-tailed Duck	20	3	70	92
	White-winged Scoter	54	15	65	133
	Black Scoter	286	8	119	413
	Surf Scoter	89	13	73	174
	Common Eider	65	48	48	160
	King Eider	532	38	62	631
	Spectacled Eider	17	0	42	59
	Steller's Eider	9	0	1	9
	Common Merganser	221	26	152	399
	Red-breasted Merganser	155	18	107	280
	TOTAL DUCKS	8,172	2,838	5,066	16,075
	Ptarmigan (non-migratory)	5,566	747	1,917	8,229
	Spruce Grouse	793	816	1,993	3,601
OTHER BIRDS	Yellow-billed Loon	11	4	63	78
	Red-throated Loon	11	0	3	13
	Common Loon	13	1	0	14
	Pacific Loon	3	0	1	4
	Auklets**	0	0	0	0
	Common Murre	2	2	0	4
	Kittiwakes**	0	0	0	0
	Guillemots**	2	0	0	2
	Mew Gull	131	13	0	144
	Sabine's Gull	0	0	0	0
	Glaucous Gull	246	14	0	259
	Herring Gull**	0	0	0	0
	Arctic Tern	11	0	0	11
	Bristle-thighed curlew**	4	27	23	55
	Godwits**	0	0	26	26
	Whimbrel**	8	25	5	38
	Golden Plover**	1	0	4	5
	Small shorebirds	89	11	14	113
	Large shorebirds	0	12	0	12
	Cormorants	0	0	0	0
	Other Unknown Birds**	35	22	23	81
	TOTAL OTHER BIRDS	566	125	162	853
	TOTAL (w/o Ptarmigan & Grouse)	14,469	3,942	7,276	25,687
	TOTAL (with Ptarmigan & Grouse)	20,828	5,504	11,185	37,517

*Activity stratification and new estimation method employed 2001
**New birds added, 2002

Table B-6 Eggs, average seasonal harvest estimates, Bristol Bay, 2001-2005*

		SPRING	SUMMER	FALL	TOTAL
GOOSE EGGS	White-fronted Goose	21	0	3	24
	Cackling Canada Goose	96	0	9	104
	Emperor Goose	2	0	0	2
	Black Brant	0	0	0	0
	Lesser Canada Goose	25	0	10	35
	Lesser Snow Goose	0	0	0	0
	TOTAL GEESE	143	0	22	165
	Tundra Swan	57	0	26	83
	Sandhill Crane	23	0	0	23
DUCK EGGS	Pintail	159	5	0	165
	Mallard	182	15	0	197
	Unidentified ducks	37	52	10	99
	Wigeon	7	0	0	7
	Shoveler	0	0	0	0
	Canvasback**	0	0	0	0
	Green-winged Teal	1	0	0	1
	Bufflehead	7	0	0	7
	Harlequin	0	0	0	0
	Greater Scaup	5	0	0	5
	Goldeneyes	12	0	0	12
	Long-tailed Duck	0	0	0	0
	White-winged Scoter	0	0	0	0
	Black Scoter	0	0	0	0
	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
		0	6	0	6
	TOTAL DUCK EGGS	411	78	10	498
	Ptarmigan Eggs	31	0	13	43
	Grouse Eggs	0	0	0	0
OTHER BIRD EGGS	Yellow-billed Loon	0	0	0	0
	Red-throated Loon	0	0	0	0
	Common Loon	23	0	0	23
	Pacific Loon	4	0	0	4
	Auklets**	0	0	0	0
	Common Murre	3,760	49	0	3,809
	Kittiwakes**	89	0	0	89
	Guillemots**	0	0	0	0
	Mew Gull	7,907	1,252	64	9,223
	Sabine's Gull	99	187	0	286
	Glaucous Gull	10,308	1,626	100	12,034
	Herring Gull**	37	0	0	37
	Arctic Tern	1,188	262	0	1,450
	Bristle-thighed curlew**	198	339	0	537
	Godwits**	18	0	0	18
	Whimbrel**	0	320	0	320
	Golden Plover**	19	0	0	19
	Small Shorebirds	110	0	0	110
	Large shorebirds	0	0	0	0
	Cormorants	0	3	0	3
	Other Unknown Birds**	8	2	0	10
	TOTAL OTHER BIRD EGGS	23,703	3,875	164	27,971
	TOTAL (w/o Ptarmigan & Grouse)	24,336	3,953	222	28,740
	TOTAL (with Ptarmigan & Grouse)	24,367	3,953	235	28,784

*Activity stratification and new estimation method employed 2001
**New birds added, 2002

Table B-7 Migratory birds, average seasonal harvest estimates, Bristol Bay, 2001-2005* Alaska Peninsula/Becharof National Wildlife area

		SPRING	SUMMER	FALL	TOTAL
GEESE	White-fronted Goose	0	1	5	6
	Cackling Canada Goose	12	1	83	95
	Emperor Goose	19	2	41	62
	Black Brant	4	24	61	89
	Lesser Canada Goose	2	6	48	56
	Lesser Snow Goose	0	0	1	1
	TOTAL GEESE	37	33	238	308
	Tundra Swan	0	0	1	1
	Sandhill Crane	1	3	5	9
DUCKS	Pintail	63	5	108	175
	Mallard	149	7	131	286
	Unidentified ducks	3	0	13	16
	Wigeon	4	0	47	51
	Shoveler	4	1	54	58
	Canvasback**	7	0	50	57
	Green-winged Teal	50	8	155	213
	Bufflehead	1	3	98	102
	Harlequin	0	0	23	23
	Greater Scaup	0	0	3	3
	Goldeneyes	4	6	58	68
	Long-tailed Duck	3	3	45	50
	White-winged Scoter	0	0	0	0
	Black Scoter	0	2	23	25
	Surf Scoter	1	0	10	11
	Common Eider	7	0	21	28
	King Eider	0	0	4	4
	Spectacled Eider	0	0	3	3
	Steller's Eider	1	0	1	1
	Common Merganser	1	3	35	38
	Red-breasted Merganser	0	3	0	3
	TOTAL DUCKS	297	39	879	1,215
	Ptarmigan (non-migratory)	152	37	1,101	1,290
	Spruce Grouse	0	0	0	0
OTHER BIRDS	Yellow-billed Loon	4	1	61	66
	Red-throated Loon	7	0	0	7
	Common Loon	0	0	0	0
	Pacific Loon	0	0	0	0
	Auklets**	0	0	0	0
	Common Murre	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	83	0	0	83
	Herring Gull**	0	0	0	0
	Arctic Tern	0	0	0	0
	Bristle-thighed curlew**	0	20	0	20
	Godwits**	0	0	0	0
	Whimbrel**	0	0	0	0
	Golden Plover**	0	0	0	0
	Small shorebirds	0	0	14	14
	Large shorebirds	0	0	0	0
	Cormorants	0	0	0	0
	Other Unknown Birds**	0	0	1	1
	TOTAL OTHER BIRDS	94	17	76	186
	TOTAL (w/o Ptarmigan & Grouse)	429	92	1,198	1,719
	TOTAL (with Ptarmigan & Grouse)	581	129	2,299	3,008

*Activity stratification and new estimation method employed 2001
**New birds added 2002

Table B-8 Eggs, average seasonal harvest estimates, Bristol Bay, 2001-2005*
Alaska Peninsula/Becharof National Wildlife area

		SPRING	SUMMER	FALL	TOTAL
GOOSE EGGS	White-fronted Goose	0	0	0	0
	Cackling Canada Goose	0	0	0	0
	Emperor Goose	0	0	0	0
	Black Brant	0	0	0	0
	Lesser Canada Goose	0	0	0	0
	Lesser Snow Goose	0	0	0	0
	TOTAL GEESE	0	0	0	0
	Tundra Swan	0	0	1	1
	Sandhill Crane	0	0	0	0
DUCK EGGS	Pintail	0	0	0	0
	Mallard	0	0	0	0
	Unidentified ducks	0	0	0	0
	Wigeon	7	0	0	7
	Shoveler	0	0	0	0
	Canvasback**	0	0	0	0
	Green-winged Teal	0	0	0	0
	Bufflehead	7	0	0	7
	Harlequin	0	0	0	0
	Greater Scaup	0	0	0	0
	Goldeneyes	0	0	0	0
	Long-tailed Duck	0	0	0	0
	White-winged Scoter	0	0	0	0
	Black Scoter	0	0	0	0
	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
		0	0	0	0
	TOTAL DUCK EGGS	14	0	0	14
	Ptarmigan Eggs	0	0	0	0
	Grouse Eggs	0	0	0	0
OTHER BIRD EGGS	Yellow-billed Loon	0	0	0	0
	Red-throated Loon	0	0	0	0
	Common Loon	0	0	0	0
	Pacific Loon	0	0	0	0
	Auklets**	0	0	0	0
	Common Murre	0	0	0	0
	Kittiwakes**	0	0	0	0
	Guillemots**	0	0	0	0
	Mew Gull	11	0	0	11
	Sabine's Gull	0	0	0	0
	Glaucous Gull	703	15	75	793
	Herring Gull**	37	0	0	37
	Arctic Tern	4	0	0	4
	Bristle-thighed curlew**	0	0	0	0
	Godwits**	0	0	0	0
	Whimbrel**	0	0	0	0
	Golden Plover**	0	0	0	0
	Small Shorebirds	0	0	0	0
	Large shorebirds	0	0	0	0
	Cormorants	0	0	0	0
	Other Unknown Birds**	0	0	0	0
	TOTAL OTHER BIRD EGGS	746	15	75	835
	TOTAL (w/o Ptarmigan & Grouse)	759	15	76	850
	TOTAL (with Ptarmigan & Grouse)	759	15	76	850

*Activity stratification and new estimation method employed 2001
** New birds added, 2002

Table B-9 Migratory birds, average seasonal harvest estimates, Bristol Bay, 2001-2005*
Nushagak, Dillingham, and Illiamna areas

		SPRING	SUMMER	FALL	TOTAL
GEESE	White-fronted Goose	888	90	63	1,040
	Cackling Canada Goose	544	50	215	810
	Emperor Goose	18	2	1	20
	Black Brant	153	7	22	182
	Lesser Canada Goose	623	99	95	817
	Lesser Snow Goose	11	3	23	36
	TOTAL GEESE	2,236	251	418	2,905
	Tundra Swan	248	25	43	316
	Sandhill Crane	85	199	19	302
DUCKS	Pintail	1,281	570	382	2,233
	Mallard	2,013	668	1,218	3,898
	Unidentified ducks	118	86	47	251
	Wigeon	279	151	125	554
	Shoveler	271	318	127	716
	Canvasback**	44	24	85	152
	Green-winged Teal	584	337	435	1,356
	Bufflehead	36	9	3	48
	Harlequin	157	11	26	193
	Greater Scaup	81	8	12	101
	Goldeneyes	230	139	124	493
	Long-tailed Duck	10	0	25	34
	White-winged Scoter	22	15	26	62
	Black Scoter	83	0	18	101
	Surf Scoter	69	13	13	94
	Common Eider	8	36	10	54
	King Eider	1	1	1	3
	Spectacled Eider	15	0	0	15
	Steller's Eider	0	0	0	0
	Common Merganser	41	0	4	46
	Red-breasted Merganser	26	0	17	42
	TOTAL DUCKS	5,367	2,384	2,694	10,445
	Ptarmigan (non-migratory)	2,823	652	556	4,030
	Spruce Grouse	775	807	1,959	3,541
OTHER BIRDS	Yellow-billed Loon	1	0	0	1
	Red-throated Loon	0	0	0	0
	Common Loon	0	0	0	0
	Pacific Loon	0	0	0	0
	Auklets**	0	0	0	0
	Common Murre	0	0	0	0
	Kittiwakes**	0	0	0	0
	Guillemots**	2	0	0	2
	Mew Gull	131	13	0	144
	Sabine's Gull	0	0	0	0
	Glaucous Gull	105	14	0	119
	Herring Gull**	0	0	0	0
	Arctic Tern	11	0	0	11
	Bristle-thighed curlew**	4	7	23	35
	Godwits**	0	0	0	0
	Whimbrel**	8	25	5	38
	Golden Plover**	0	0	0	0
	Small shorebirds	82	9	0	91
	Large shorebirds	0	0	0	0
	Cormorants	0	0	0	0
	Other Unknown Birds**	35	22	22	80
	TOTAL OTHER BIRDS	380	90	51	520
	TOTAL (w/o Ptarmigan & Grouse)	8,316	2,949	3,224	14,489
	TOTAL (with Ptarmigan & Grouse)	11,913	4,408	5,738	22,059

*Activity stratification and new estimation method employed 2001.
**New birds added 2002.

Table B-10 Eggs, average seasonal harvest estimates, Bristol Bay, 2001-2005*
Nushagak, Dillingham, and Illiamna areas

		SPRING	SUMMER	FALL	TOTAL
GOOSE EGGS	White-fronted Goose	2	0	0	2
	Cackling Canada Goose	22	0	0	22
	Emperor Goose	2	0	0	2
	Black Brant	0	0	0	0
	Lesser Canada Goose	0	0	0	0
	Lesser Snow Goose	0	0	0	0
	TOTAL GEESE	25	0	0	25
	Tundra Swan	14	0	0	14
	Sandhill Crane	0	0	0	0
DUCK EGGS	Pintail	90	5	0	95
	Mallard	144	6	0	151
	Unidentified ducks	32	52	0	84
	Wigeon	0	0	0	0
	Shoveler	0	0	0	0
	Canvasback**	0	0	0	0
	Green-winged Teal	1	0	0	1
	Bufflehead	0	0	0	0
	Harlequin	0	0	0	0
	Greater Scaup	0	0	0	0
	Goldeneyes	12	0	0	12
	Long-tailed Duck	0	0	0	0
	White-winged Scoter	0	0	0	0
	Black Scoter	0	0	0	0
	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
		0	6	0	6
	TOTAL DUCK EGGS	280	70	0	349
	Ptarmigan Eggs	12	0	0	12
	Grouse Eggs	0	0	0	0
OTHER BIRD EGG	Yellow-billed Loon	0	0	0	0
	Red-throated Loon	0	0	0	0
	Common Loon	0	0	0	0
	Pacific Loon	0	0	0	0
	Auklets**	0	0	0	0
	Common Murre	65	4	0	69
	Kittiwakes**	3	0	0	3
	Guillemots**	0	0	0	0
	Mew Gull	6,594	1,123	0	7,716
	Sabine's Gull	98	187	0	285
	Glaucous Gull	7,566	1,414	0	8,980
	Herring Gull**	0	0	0	0
	Arctic Tern	800	254	0	1,053
	Bristle-thighed curlew**	198	339	0	537
	Godwits**	18	0	0	18
	Whimbrel**	0	320	0	320
	Golden Plover**	0	0	0	0
	Small Shorebirds	0	0	0	0
	Large shorebirds	0	0	0	0
	Cormorants	0	3	0	3
	Other Unknown Birds**	0	0	0	0
	TOTAL OTHER BIRD EGGS	15,287	3,478	0	18,765
	TOTAL (w/o Ptarmigan & Grouse)	15,605	3,548	0	19,153
	TOTAL (with Ptarmigan & Grouse)	15,618	3,548	0	19,165

*Activity stratification and new estimation method employed 2001.
**New birds added 2002.

Table B-11 Migratory birds, average seasonal harvest estimates, Bristol Bay, 2001-2005*
Togiak National Wildlife Refuge area

		SPRING	SUMMER	FALL	TOTAL
GEESE	White-fronted Goose	975	106	374	1,455
	Cackling Canada Goose	554	179	432	1,164
	Emperor Goose	71	10	6	86
	Black Brant	684	60	166	910
	Lesser Canada Goose	483	89	124	696
	Lesser Snow Goose	4	1	16	21
	TOTAL GEESE	2,771	443	1,118	4,332
	Tundra Swan	152	15	156	323
	Sandhill Crane	201	10	51	262
DUCKS	Pintail	556	118	327	1,001
	Mallard	385	68	300	753
	Unidentified ducks	3	2	7	11
	Wigeon	59	94	69	222
	Shoveler	120	9	121	249
	Canvasback**	29	0	20	49
	Green-winged Teal	67	29	55	150
	Bufflehead	7	0	3	10
	Harlequin	25	0	46	71
	Greater Scaup	76	0	48	124
	Goldeneyes	26	4	14	43
	Long-tailed Duck	8	0	0	8
	White-winged Scoter	32	0	40	71
	Black Scoter	203	6	78	287
	Surf Scoter	18	0	50	68
	Common Eider	50	12	17	78
	King Eider	531	37	58	625
	Spectacled Eider	1	0	39	40
	Steller's Eider	8	0	0	8
	Common Merganser	178	24	113	315
	Red-breasted Merganser	129	15	91	235
	TOTAL DUCKS	2,508	415	1,493	4,416
	Ptarmigan (non-migratory)	2,592	58	260	2,910
	Spruce Grouse	19	8	34	61
OTHER BIRDS	Yellow-billed Loon	7	2	3	12
	Red-throated Loon	3	0	3	6
	Common Loon	13	1	0	14
	Pacific Loon	3	0	1	4
	Auklets**	0	0	0	0
	Common Murre	2	2	0	4
	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	58	0	0	58
	Herring Gull**	0	0	0	0
	Arctic Tern	0	0	0	0
	Bristle-thighed curlew**	0	0	0	0
	Godwits**	0	0	26	26
	Whimbrel**	0	0	0	0
	Golden Plover**	1	0	4	5
	Small shorebirds	6	2	0	8
	Large shorebirds	0	12	0	12
	Cormorants	0	0	0	0
	Other Unknown Birds**	0	0	0	0
	TOTAL OTHER BIRDS	92	19	36	147
	TOTAL (w/o Ptarmigan & Grouse)	5,724	902	2,854	9,479
	TOTAL (with Ptarmigan & Grouse)	8,334	968	3,148	12,450

*Activity stratification and new estimation method employed 2001.
**New birds added 2002.

Table B-12 Eggs, average seasonal harvest estimates, Bristol Bay, 2001-2005*
Togiak National Wildlife Refuge area

		SPRING	SUMMER	FALL	TOTAL
GOOSE EGGS	White-fronted Goose	19	0	3	23
	Cackling Canada Goose	74	0	9	83
	Emperor Goose	0	0	0	0
	Black Brant	0	0	0	0
	Lesser Canada Goose	25	0	10	35
	Lesser Snow Goose	0	0	0	0
	TOTAL GEESE	118	0	22	140
	Tundra Swan	43	0	25	68
	Sandhill Crane	23	0	0	23
DUCK EGGS	Pintail	70	0	0	70
	Mallard	38	8	0	46
	Unidentified ducks	5	0	10	15
	Wigeon	0	0	0	0
	Shoveler	0	0	0	0
	Canvasback**	0	0	0	0
	Green-winged Teal	0	0	0	0
	Bufflehead	0	0	0	0
	Harlequin	0	0	0	0
	Greater Scaup	5	0	0	5
	Goldeneyes	0	0	0	0
	Long-tailed Duck	0	0	0	0
	White-winged Scoter	0	0	0	0
	Black Scoter	0	0	0	0
	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	117	8	10	136
	Ptarmigan Eggs	19	0	13	31
	Grouse Eggs	0	0	0	0
OTHER BIRD EGGS	Yellow-billed Loon	0	0	0	0
	Red-throated Loon	0	0	0	0
	Common Loon	23	0	0	23
	Pacific Loon	4	0	0	4
	Auklets**	0	0	0	0
	Common Murre	3,696	45	0	3,741
	Kittiwakes**	86	0	0	86
	Guillemots**	0	0	0	0
	Mew Gull	1,302	129	64	1,495
	Sabine's Gull	0	0	0	0
	Glaucous Gull	2,039	197	25	2,262
	Herring Gull**	0	0	0	0
	Arctic Tern	385	9	0	393
	Bristle-thighed curlew**	0	0	0	0
	Godwits**	0	0	0	0
	Whimbrel**	0	0	0	0
	Golden Plover**	19	0	0	19
	Small Shorebirds	110	0	0	110
	Large shorebirds	0	0	0	0
	Cormorants	0	0	0	0
	Other Unknown Birds**	8	2	0	10
	TOTAL OTHER BIRD EGGS	7,671	382	89	8,142
	TOTAL (w/o Ptarmigan & Grouse)	7,972	390	146	8,508
	TOTAL (with Ptarmigan & Grouse)	7,990	390	159	8,539

*Activity stratification and new estimation method employed 2001.
**New birds added 2002.

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Appendix C. Population and village household survey participation, Bristol Bay, 2001-2005

Table C-1 Population, total households by hunting category, and households sampled by survey period, Bristol Bay 2001

		Population*	Total Households**					Households sampled							
			Total	Uncl	None	Low	High	Spring		Sum		Fall		Winter	
								#	%	#	%	#	%	#	%
Alaska Peninsula	Chignik City	79	21	21				21	100%	21	100%	21	100%	21	100%
	Chignik Lake	145	35	35				35	100%	35	100%	35	100%	35	100%
	Chignik Lagoon	103	15	15				15	100%	15	100%	15	100%	15	100%
	Egegik	116	45	45				45	100%	45	100%	45	100%	44	97%
	Ivanof Bay	22	9	9				8	89%	8	89%	9	100%	8	89%
	Perryville	107	37	37				37	100%	37	100%	37	100%	37	100%
	Pilot Point	100	31	31				31	100%	31	100%	31	100%	31	100%
	Port Heiden	119	35	35				35	100%	35	100%	35	100%	35	100%
	Sub-region Total	791	228	228				227	100%	227	100%	228	100%	226	99%
Nushagak, Dillingham, Illiamna	Aleknagik	221	55	-	5	14	36	26	47%	26	47%	26	47%	no survey	
	Clarks Point	75	30	1	2	2	25	14	47%	14	47%	14	47%	no survey	
	Dillingham	2,466	686	-	356	196	134	152	22%	152	22%	153	22%	no survey	
	Ekwok	130	31	-	25	2	4	7	23%	7	23%	7	23%	no survey	
	Igiugig	53	10	-	3	-	7	6	60%	6	60%	6	60%	no survey	
	Iliamna	102	29	-	-	17	12	9	31%	9	31%	9	31%	no survey	
	KingSalmon	442	134	134	-	-	-	no survey		no survey		no survey		no survey	
	Kokhanak	174	36	-	19	17	-	8	22%	8	22%	8	22%	no survey	
	Koliganek	182	42	-	3	26	13	13	31%	13	31%	13	31%	no survey	
	Levelock	122	26	-	8	8	10	14	54%	14	54%	14	54%	no survey	
	Naknek	678	202	202	-	-	-	no survey		no survey		no survey		no survey	
	New Stuyahok	471	94	-	35	25	34	27	29%	27	29%	27	29%	no survey	
	Newhalen	160	36	-	-	10	26	19	53%	19	53%	19	53%	no survey	
	Nondalton	221	37	-	16	10	11	16	43%	16	43%	16	43%	no survey	
	Pedro Bay	50	18	-	5	6	7	8	44%	8	44%	8	44%	no survey	
	South Naknek	137	54	54	-	-	-	no survey		no survey		no survey		no survey	
	Sub-region Total	5,684	1,520	391	477	333	319	319	21%	319	21%	320	21%		
Togiak	Goodnews Bay	230	56	-	21	10	25	21	37%	21	37%	21	37%	no survey	
	Manakotak	399	84	-	23	11	50	32	38%	32	38%	32	38%	no survey	
	Platinum	41	17	-	7	-	10	12	71%	12	71%	12	71%	no survey	
	Quinhagak	555	113	-	40	25	48	33	29%	33	29%	33	29%	no survey	
	Togiak	809	157	-	47	46	62	49	31%	49	31%	49	31%	no survey	
	Twin Hills	69	26	2	1	7	18	no survey		no survey		no survey		no survey	
	Sub-region Total	2,103	453	2	139	99	213	147	32%	147	32%	147	32%		
	TOTAL	8,578	2,201	621	472	418	690	693	31%	693	31%	695	32%		

*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-2 Population, total households by hunting category, and households sampled by survey period Bristol Bay, 2002

		Population*	Total Households**					Households sampled							
			Total	Uncl	None	Low	High	Spring		Sum		Fall		Winter	
								#	%	#	%	#	%	#	%
Alaska Peninsula	Chignik City	77	24	24				24	100%	24	100%	24	100%	24	100%
	Chignik Lake	115	32	32				32	100%	32	100%	32	100%	32	100%
	Chignik Lagoon	88	16	16				16	100%	16	100%	16	100%	16	100%
	Egegik	87	33	33				33	100%	33	100%	33	100%	33	100%
	Ivanof Bay	3	9	9				9	89%	9	89%	9	89%	9	89%
	Perryville	111	34	34				34	100%	34	100%	34	100%	34	100%
	Pilot Point	75	16	16				16	100%	16	100%	16	100%	16	100%
	Port Heiden	108	22	22				22	100%	22	100%	22	100%	22	100%
	Sub-region Total	664	186	186	0	0	0	186	100%	186	100%	186	100%	186	100%
Nushagak, Dillingham, Iliamna	Aleknagik	220	50	0	12	8	30	19	38%	19	38%	19	38%	no survey	
	Clarks Point	65	25	0	2	2	21	11	44%	11	44%	11	44%	no survey	
	Dillingham	2468	793	0	305	248	240	152	22%	152	22%	153	22%	no survey	
	Ekwok	116	33	0	9	14	10	12	36%	12	36%	12	36%	no survey	
	Igiugig	43	13	0	0	3	10	12	92%	12	92%	12	92%	no survey	
	Iliamna	98	24	0	13	6	5	9	31%	9	31%	9	31%	no survey	
	KingSalmon	397	31	0	1	12	18	16	52%	16	52%	16	52%	no survey	
	Kokhanak	179	35	0	24	5	6	11	31%	11	31%	11	31%	no survey	
	Koliganek	187	42	42	0	0	0	no survey		no survey		no survey		no survey	
	Levelock	83	25	0	5	13	7	9	36%	9	36%	8	32%	no survey	
	Naknek	642	180	0	59	64	57	39	22%	39	22%	38	21%	no survey	
	New Stuyahok	483	89	0	32	36	21	21	24%	21	24%	20	22%	no survey	
	Newhalen	166	36	36	0	0	0	19	53%	19	53%	19	53%	no survey	
	Nondalton	206	36	0	11	11	14	16	44%	16	44%	16	44%	no survey	
	Pedro Bay	46	20	0	5	13	2	9	45%	9	45%	9	45%	no survey	
	South Naknek	120	36	0	19	13	4	10	28%	10	28%	10	28%	no survey	
	Sub-region total	5519	1468	78	497	448	445	365	25%	365	25%	363	25%		
Togiak	Goodnews Bay	234	60	0	16	9	35	23	38%	23	38%	23	38%	no survey	
	Manakotak	407	85	0	38	24	23	31	36%	31	36%	31	36%	no survey	
	Platinum	38	17	17	0	0	0	17	100%	17	100%	17	100%	no survey	
	Quinhagak	573	126	0	35	42	49	36	29%	36	29%	36	29%	no survey	
	Togiak	809	173	0	59	55	59	32	18%	32	18%	32	18%	no survey	
	Twin Hills	77	26	0	8	14	4	26	100%	26	100%	26	100%	no survey	
	Sub-region Total	2138	487	17	156	144	170	165	34%	165	34%	165	34%		
	TOTAL	8321	2141	281	604	589	667	716	33%	716	33%	714	33%		

*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, Bristol Bay, 2004

Geographic Strata (Sub-region)	Population estimate*	Households		Households sampled		Households sampled by hunting category**					
		Census 2000	Recorded	Community Total		None		Low		High	
				Sample	Total	Sample	Total	Sample	Total	Sample	Total
Alaska Peninsula Becharof NWR											
Chignik Bay	92	24	26	19	26	12	17	1	3	6	6
Chignik Lake	113	32	29	5	13	0	0	1	4	4	9
Chignik Lagoon	82	16	?	18	22	7	10	6	7	5	5
Egegik	77	38									
Ivanof Bay	5	9									
Perryville	110	34	33	27	34	8	8	9	11	10	15
Pilot Point	76	29									
Port Heiden	90	22		10	22	missing	missing	missing	missing	missing	missing
Sub-region Total	645	204	88	79	117	27	35	17	25	25	35
Nushagak-Dillingham-Iliamna-Naknek											
Aleknagik	233	50	56	18	56	1	6	4	18	13	32
Clarks Point	63	25	24	10	24	0	0	2	7	8	17
Dillingham	2404	874				no survey					
Ekwok	127	33	33	9	33	1	4	3	18	5	11
Igiugig	54	13		5	13	missing	missing	missing	missing	missing	missing
Iliamna	90	43									
King Salmon	396	196	40	8	40	2	15	2	15	4	10
Kokhanok	166	35	33	8	33	2	19	2	9	4	5
Koliganek	188	55									
Levelock	58	25	23	9	23	0	0	1	4	8	19
Naknek	612	247	199	48	199	6	52	11	71	31	76
New Stuyahok	471	105									
Newhalen	184	36	36	12	36	1	4	3	14	8	18
Nondalton	206	36	34	11	34	0	0	2	15	9	19
Pedro Bay	46	19									
South Naknek	89	47									
Sub-region Total	5387	1839	478	138	491	13	100	30	171	90	207
Togiak NWR											
Goodnews Bay	237	60		11	60	missing	missing	missing	missing	missing	missing
Manakotak	407	91									
Platinum	39	19									
Quinhagak	614	126	132	30	132	4	41	5	36	21	55
Togiak	802	173	174	47	174	5	49	2	22	40	103
Twin Hills	68	17	32	9	23	3	16	0	0	6	7
Sub-region Total	2167	486	338	97	389	12	106	7	58	67	165
TOTAL, ALL SUB-REGIONS	8199	2529	904	314	997	52	241	54	254	182	407

*Alaska Department of Labor, July 1, 2004 estimate

**None= 0 Birds; Low=1-10 Birds; High=>10 Birds

Table C-4 Population, total households, and households sampled by hunting category, Bristol Bay, 2005

Geographic Strata (Sub-region)	Population estimate*	Households Census 2000	Households sampled Recorded	Households sampled Community	Households sampled Total	Households sampled by hunting category** None		Low		High	
Alaska Peninsula Becharof NWR											
Chignik Bay	95	24									
Chignik Lake	117	32									
Chignik Lagoon	86	16									
Egegik	81	38	24	7	24	2	11	2	7	3	6
Ivanof Bay	2	9	21	21	21	13	13	6	6	2	2
Perryville	114	34									
Pilot Point	73	29	29	9	29	2	10	2	3	5	16
Port Heiden	89	22	32	10	32	2	17	3	5	5	10
Sub-region Total	657	204	106	47	106	19	51	13	21	15	34
Nushagak-Dillingham-Iliamna-Naknek											
Aleknagik	238	50									
Clarks Point	65	25	20	19	20	1	2	7	7	11	11
Dillingham	2,368	874	846	108	846	19	339	23	217	66	290
Ekwok	118	33									
Igiugig	50	13									
Iliamna	86	43	24	6	24	3	15	2	6	1	1
King Salmon	518	196	196	24	196	4	50	6	71	14	75
Kokhanok	178	35	31	12	31	4	17	2	7	6	7
Koliganek	168	55	42	9	42	2	17	4	14	3	11
Levelock	54	25	16	5	16	1	9	4	7	-	-
Naknek	581	247									
New Stuyahok	461	105	95	26	95	5	48	6	17	15	30
Newhalen	180	36	45	8	45	2	12	3	14	3	7
Nondalton	203	36	34	11	34	4	8	2	8	5	18
Pedro Bay	61	19	14	5	14	1	2	2	7	2	5
South Naknek	76	47	35	9	35	3	29	5	5	1	1
Sub-region Total	5,405	1,839	1,398	242	1,398	49	548	66	380	127	456
Togiak NWR											
Goodnews Bay	238	60									
Manakotak	437	91	79	22	79	2	39	1	5	19	35
Platinum	38	19	14	14	14	4	4	5	5	5	5
Quinhagak	642	126	122	30	122	4	31	7	46	19	45
Togiak	778	173									
Twin Hills	71	17	20	12	20	2	6	6	8	4	6
Sub-region Total	2,204	486	235	78	235	12	80	19	64	47	91
TOTAL, ALL SUB-REGIONS	8,266	2,529	1,739	367	1,739	80	679	98	465	189	581

*Alaska Department of Labor, July 1, 2004 estimate

**None= 0 Birds; Low=1-10 Birds; High=>10 Birds

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

	Villages Attempted	Villages Sampled	Villages Non-Resp	Village RespRate	Hhs Attempted	Hhs Sampled	Hh Non-Resp	Hh RespRate	Vill*Hh RespRate
2001									
AKPen/Bech NWR	8	8	0	100%	227	227	0	100%	100%
Nushagak-Dillingham-Iliamna	13	13	0	100%	392	319	73	81%	81%
Togiak NWR	6	5	1	83%	202	147	55	73%	61%
TOTAL 2001	27	26	1	96%	821	693	128	84%	81%
2002*									
AKPen/Bech NWR	8	8	0	100%	186	186	0	100%	100%
Nushagak-Dillingham-Iliamna	15	14	1	93%	269	212	57	79%	73%
Dillingham	1	1	0	100%	unknown	[152]	unknown	unknown	unknown
Togiak NWR	6	6	0	100%	195	165	30	85%	85%
TOTAL, 2002*	30	29	1	97%	650	563	87	87%	84%
2004*									
AKPen/Bech NWR	6	5	1	83%	unknown	[79]	unknown	unknown	unknown
Nushagak-Dillingham-Iliamna	10	10	0	100%	unknown	[138]	unknown	unknown	unknown
Dillingham	1	0	1	0%	0	0		0%	0%
Togiak NWR	4	4	0	100%	137	98	39	72%	72%
TOTAL, 2004*	21	19	2	91%	137	98	39	72%	66%
2005*									
AKPen & Nush-Dill-Iliamna Vill with Permission Slips	12	11	1	92%	194	141	53	73%	67%
AKPen & Nush-Dill-Iliamna Vill w/o Permission Slips	4	4	0	100%	unknown	[40]	unknown	unknown	unknown
Dillingham	1	1	0	100%	143	108	35	76%	76%
Togiak NWR	4	4	0	100%	100	78	22	78%	78%
TOTAL, 2005*	21	20	1	95%	437	327	110	75%	71%

* Total response rates are misleading due to the lack of permission slips where noted, and the lack of participation of Dillingham in 2004.

Appendix D Detailed harvest estimates by species

Note: In 2001, the title "region" was changed to "sub-region". However, we retained the original title "region" in the tables in this appendix.

Table D-1 Detailed harvest estimates, White-fronted Goose, 1995-2005

Total Take by Season

	Spring	Summer	Fall	Winter	Total
1995	1,375	141	175	-	1,691
1996	631	17	185	-	no survey BBNA
1997	1,175	57	200	-	1,432
1998	492	48	92	11	no survey BBNA
1999	1,224	305	121	12	1,662
2000	871	198	290	-	no survey BBNA
2001	1,943	380	84	9	2,416
2002	1,527	96	424	-	2,047
2003			no survey		
2004	916	167	817	-	1,900
2005	3,066	144	431	-	3,641
Avg	1,604	184	322	3	2,113
Pct	76%	9%	15%	0%	

Total Take by Region

	Togiak	BBNA	AkPen	Total
1995	553	980	158	1,691
1996	670	n/a	163	no BBNA
1997	664	645	123	1,432
1998	526	n/a	117	no BBNA
1999	889	647	126	1,662
2000	1,135	n/a	224	no BBNA
2001	865	1,532	19	2,416
2002	888	1,159	-	2,047
2003			no survey	
2004	1,497	400	3	1,900
2005	2,570	1,071	-	3,641
Avg	1,026	919	93	2,113
Pct	49%	44%	4%	

Togiak: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	387	83	83	n/a	553
1996	512	15	143	n/a	670
1997	583	13	68	n/a	664
1998	444	48	34	n/a	526
1999	599	246	44	n/a	889
2000	730	160	245	n/a	1,135
2001	785	44	36	n/a	865
2002	523	93	271	n/a	888
2003			no survey		
2004	523	157	817		1,497
2005	2,070	128	372		2,570
Avg	716	99	211		1,026
Pct	70%	10%	21%		100%

BBNA: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	881	54	45		980
1996	n/a	n/a	n/a		n/a
1997	503	44	98		645
1998	n/a	n/a	n/a		n/a
1999	554	57	36		647
2000	n/a	n/a	n/a		n/a
2001	1,157	336	39		1,532
2002	1,003	2	153		1,159
2003			no survey		
2004	393	7	-		400
2005	997	15	59		1,071
Avg	784	74	61		919
Pct	85%	8%	7%		100%

AkPen: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	107	4	47	-	158
1996	119	2	42	-	163
1997	89	-	34	-	123
1998	48	-	58	11	117
1999	71	2	41	12	126
2000	141	38	45	-	224
2001	1	-	9	9	19
2002	-	-	-	-	-
2003			no survey		
2004	-	3	-		3
2005	-	-	-		-
					-
Avg	58	5	28	4	93
Pct	62%	5%	30%	4%	100%

Table D-2 Detailed harvest estimates, Cackling Canada Goose, 1995-2005

Total Take by Season

	Spring	Summer	Fall	Winter	Total
1995	1,001	127	366	-	1,494
1996	800	89	480	120	no survey BBNA
1997	918	87	671	46	1,722
1998	931	246	458	13	no survey BBNA
1999	662	229	519	57	1,467
2000	1,041	165	573	30	no survey BBNA
2001	1,054	393	484	17	1,948
2002	953	293	544	-	1,791
2003			no survey		
2004	522	152	1,001	-	1,675
2005	1,908	82	875	-	2,865
Avg	1,003	195	637	17	1,852
Pct	54%	11%	34%	1%	100%

Total Take by Region

	Togiak	BBNA	AkPen	Total
1995	947	448	99	1,494
1996	1,115	-	374	no BBNA
1997	739	778	205	1,722
1998	1,168	-	480	no BBNA
1999	888	412	167	1,467
2000	1,613	-	196	no BBNA
2001	1,041	810	97	1,948
2002	1,142	649	-	1,791
2003			no survey	
2004	1,248	295	131	1,675
2005	1,226	1,484	154	2,865
Avg	1,113	697	190	1,852
Pct	60%	38%	10%	108%

Togiak: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	705	75	167	n/a	947
1996	752	76	287	n/a	1,115
1997	470	71	198	n/a	739
1998	839	202	127	n/a	1,168
1999	384	155	349	n/a	888
2000	964	109	540	n/a	1,613
2001	515	265	261	n/a	1,041
2002	465	291	386	n/a	1,142
2003			no survey		
2004	383	129	736		1,248
2005	851	31	345		1,226
Avg	633	140	340		1,113
Pct	57%	13%	31%		100%

BBNA: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	263	52	133	n/a	448
1996	n/a	n/a	n/a	n/a	-
1997	426	10	342	n/a	778
1998	n/a	n/a	n/a	n/a	-
1999	241	62	109	n/a	412
2000	n/a	n/a	n/a	n/a	-
2001	529	128	153		810
2002	488	2	158		649
2003			no survey		
2004	139	20	137		295
2005	1,020	51	413		1,484
Avg	444	46	207		697
Pct	64%	7%	30%		100%

AkPen: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	33	-	66	-	99
1996	48	13	193	120	374
1997	22	6	131	46	205
1998	92	44	331	13	480
1999	37	12	61	57	167
2000	77	56	33	30	196
2001	10	-	70	17	97
2002	-	-	-	-	-
2003			no survey		
2004	-	3	128		$ 131
2005	37	-	116		154
					-
Avg	36	13	113	35	190
Pct	19%	7%	59%	19%	100%

Table D-3. Detailed harvest estimates, Lesser Canada goose, 1995-2005

Total Take by Season

	Spring	Summer	Fall	Winter	Total
1995	1,279	329	719	-	2,327
1996	486	164	362	-	no survey BBNA
1997	811	73	491	-	1,375
1998	953	240	601	35	no survey BBNA
1999	1,213	340	577	15	2,145
2000	641	135	219	-	no survey BBNA
2001	1,112	323	110	50	1,596
2002	865	90	353	-	1,308
2003			no survey		
2004	578	111	223	-	912
2005	1,873	228	293	-	2,394
Avg	1,105	213	395		1,722
Pct	64%	12%	23%	0%	

Total Take by Region

	Togiak	BBNA	AkPen	Total
1995	1,034	856	437	2,327
1996	826	-	186	no BBNA
1997	413	662	300	1,375
1998	1,478	-	351	no BBNA
1999	1,166	847	132	2,145
2000	827	-	168	no BBNA
2001	824	691	81	1,596
2002	693	616	-	1,308
2003			no survey	
2004	518	363	31	912
2005	749	1,596	49	2,394
Avg	853	804	173	1,722
Pct	50%	47%	10%	

Togiak: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	613	201	220	n/a	1,034
1996	427	161	238	n/a	826
1997	310	54	49	n/a	413
1998	910	229	339	n/a	1,478
1999	630	309	227	n/a	1,166
2000	582	107	138	n/a	827
2001	598	183	43		824
2002	459	53	181		693
2003			no survey		
2004	222	104	192		518
2005	654	15	80		749
Avg	540	142	171		853
Pct	63%	17%	20%		100%

BBNA: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	560	87	209	n/a	856
1996	n/a	n/a	n/a	n/a	-
1997	462	19	181	n/a	662
1998	n/a	n/a	n/a	n/a	-
1999	543	30	274	n/a	847
2000	n/a	n/a	n/a	n/a	-
2001	507	140	43		691
2002	407	37	172		616
2003			no survey		
2004	356	7	-		363
2005	1,219	213	165		1,596
Avg	579	76	149		804
Pct	72%	9%	19%		100%

AkPen: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	106	41	290	-	437
1996	59	3	124	-	186
1997	39	-	261	-	300
1998	43	11	262	35	351
1999	40	1	76	15	132
2000	59	28	81	-	168
2001	7	-	24	50	81
2002	-	-	-	-	-
2003			no survey		
2004	-	-	31		31
2005	-	-	49		49
					-
Avg	35	8	120	13	173
Pct	20%	5%	69%	7%	100%

Table D-4. Detailed harvest estimates, Lesser Snow Goose, 1995-2005

Total Take by Season

	Spring	Summer	Fall	Winter	Total
1995	89	43	60	-	192
1996	-	-	19	-	no survey BBNA
1997	26	5	109	-	140
1998	13	-	45	-	no survey BBNA
1999	72	-	17	-	89
2000	7	2	-	-	no survey BBNA
2001	32	13	11	3	60
2002	-	-	139	-	139
2003			no survey		
2004	10	-	7	-	17
2005	17	-	-	-	17
Avg	35	9	49		93
Pct	38%	9%	53%	0%	

Total Take by Region

	Togiak	BBNA	AkPen	Total
1995	144	47	1	192
1996	-	-	19	no BBNA
1997	10	130	-	140
1998	13	-	45	no BBNA
1999	9	80	-	89
2000	3	-	6	no BBNA
2001	10	47	3	60
2002	57	82	-	139
2003		no survey		
2004	17	-	-	17
2005	-	17	-	17
Avg	26	58	7	93
Pct	28%	62%	8%	

Togiak: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	58	43	43	n/a	144
1996	-	-	-	n/a	-
1997	5	5	-	n/a	10
1998	6	-	7	n/a	13
1999	6	-	3	n/a	9
2000	3	-	-	n/a	3
2001	7	3	-		10
2002	-	-	57		57
2003			no survey		
2004	10	-	7		17
2005	-	-	-		-
Avg	10	5	12		26
Pct	36%	19%	44%		100%

BBNA: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	30	-	17	n/a	47
1996	n/a	n/a	n/a	n/a	-
1997	21	-	109	n/a	130
1998	n/a	n/a	n/a	n/a	-
1999	66	-	14	n/a	80
2000	n/a	n/a	n/a	n/a	-
2001	25	10	11		47
2002	-	-	82		82
2003			no survey		
2004	-	-	-		-
2005	17	-	-		17
Avg	23	1	33		58
Pct	39%	3%	58%		100%

AkPen: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	1	-	-	-	1
1996	-	-	19	-	19
1997	-	-	-	-	-
1998	7	-	38	-	45
1999	-	-	-	-	-
2000	4	2	-	-	6
2001	-	-	-	3	3
2002	-	-	-	-	-
2003			no survey		
2004	-	-	-		-
2005	-	-	-		-
					-
Avg	1	0	6	0	7
Pct	16%	3%	77%	5%	100%

Table D-5. Detailed harvest estimates, Emperor Goose, 1995-2005

Total Take by Season

	Spring	Summer	Fall	Winter	Total
1995	223	43	173	-	439
1996	30	4	26	37	no survey BBNA
1997	119	50	143	8	320
1998	495	59	81	1	no survey BBNA
1999	124	119	106	73	422
2000	59	51	125	26	no survey BBNA
2001	43	7	45	28	123
2002	118	38	11	-	167
2003			no survey		
2004	93	7	103	-	203
2005	178	-	2	-	181
Avg	128	38	83	16	265
Pct	48%	14%	31%	6%	100%

Total Take by Region

	Togiak	BBNA	AkPen	Total
1995	186	123	130	439
1996	30	-	67	no BBNA
1997	105	16	199	320
1998	517	-	119	no BBNA
1999	113	36	273	422
2000	59	-	202	no BBNA
2001	15	37	71	123
2002	152	14	1	167
2003			no survey	
2004	50	15	137	203
2005	128	15	37	181
Avg	136	37	124	265
Pct	51%	14%	47%	

Togiak: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	160	-	26	n/a	186
1996	26	4	-	n/a	30
1997	57	48	-	n/a	105
1998	445	45	27	n/a	517
1999	99	6	8	n/a	113
2000	11	6	42	n/a	59
2001	15	-	-		15
2002	104	38	10		152
2003			no survey		
2004	36	-	14		50
2005	128	-	-		128
Avg	108	15	13		136
Pct	80%	11%	9%		100%

BBNA: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	59	11	53	n/a	123
1996	n/a	n/a	n/a	n/a	-
1997	13	2	1	n/a	16
1998	n/a	n/a	n/a	n/a	-
1999	13	20	3	n/a	36
2000	n/a	n/a	n/a	n/a	-
2001	28	7	2		37
2002	14	-	-		14
2003			no survey		
2004	15	-	-		15
2005	15	-	-		15
Avg	22	6	8		37
Pct	61%	16%	23%		100%

AkPen: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	4	32	94	-	130
1996	4	-	26	37	67
1997	49	-	142	8	199
1998	50	14	54	1	119
1999	12	93	95	73	273
2000	48	45	83	26	202
2001	-	-	43	28	71
2002	-	-	1	-	1
2003			no survey		
2004	42	7	89		137
2005	35	-	2		37
					-
Avg	24	19	63	22	124
Pct	20%	15%	51%	17%	100%

Table D-6. Detailed harvest estimates, Black Brant, 1995-2005

Total Take by Season

	Spring	Summer	Fall	Winter	Total
1995	492	193	330	-	1,015
1996	152	153	69	34	no survey BBNA
1997	459	119	77	3	658
1998	1,135	221	147	25	no survey BBNA
1999	1,321	286	206	26	1,839
2000	463	115	551	105	no survey BBNA
2001	571	224	252	58	1,105
2002	589	21	73	-	683
2003			no survey		
2004	1,563	-	539	-	2,102
2005	640	119	74	-	833
Avg	805	137	222	12	1,176
Pct	68%	12%	19%	1%	

Total Take by Region

	Togiak	BBNA	AkPen	Total
1995	553	421	41	1,015
1996	331	-	77	no BBNA
1997	433	83	142	658
1998	1,378	-	150	no BBNA
1999	1,384	189	266	1,839
2000	878	-	356	no BBNA
2001	817	112	176	1,105
2002	567	61	55	683
2003			no survey	
2004	1,979	92	31	2,102
2005	277	463	94	833
Avg	860	203	139	1,176
Pct	73%	17%	12%	

Togiak: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	239	188	126	n/a	553
1996	143	133	55	n/a	331
1997	297	115	21	n/a	433
1998	1,071	213	94	n/a	1,378
1999	1,149	184	51	n/a	1,384
2000	427	39	412	n/a	878
2001	457	212	148	n/a	817
2002	542	21	4	n/a	567
2003			no survey		
2004	1,481	-	498		1,979
2005	255	6	15		277
Avg	606	111	142		860
Pct	71%	13%	17%		100%

BBNA: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	236	4	181	n/a	421
1996	n/a	n/a	n/a	n/a	-
1997	69	4	10	n/a	83
1998	n/a	n/a	n/a	n/a	-
1999	143	11	35	n/a	189
2000	n/a	n/a	n/a	n/a	-
2001	98	10	4		112
2002	47	-	14		61
2003			no survey		
2004	82	-	10		92
2005	385	19	59		463
Avg	151	7	45		203
Pct	75%	3%	22%		100%

AkPen: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	17	1	23	-	41
1996	9	20	14	34	77
1997	93	-	46	3	142
1998	64	8	53	25	150
1999	29	91	120	26	266
2000	36	76	139	105	356
2001	16	2	100	58	176
2002	-	-	55	-	55
2003			no survey		
2004	-	-	31		31
2005	-	94	-		94
					-
Avg	26	29	58	31	139
Pct	19%	21%	42%	23%	100%

Table D-7. Detailed harvest estimates, Tundra Swan, 1995-2005

Total Take by Season

	Spring	Summer	Fall	Winter	Total
1995	192	52	96	-	340
1996	133	-	45	3	no survey BBNA
1997	133	27	17	3	180
1998	316	141	112	6	no survey BBNA
1999	116	108	282	1	507
2000	99	17	107	-	no survey BBNA
2001	90	24	23	1	138
2002	260	28	111	-	399
2003			no survey		
2004	276	29	488	-	792
2005	976	80	174	-	1,230
Avg	292	50	170	1	512
Pct	57%	10%	33%	0%	

Total Take by Region

	Togiak	BBNA	AkPen	Total
1995	226	110	4	340
1996	177	-	4	no BBNA
1997	102	71	7	180
1998	555	-	20	no BBNA
1999	460	35	12	507
2000	218	-	5	no BBNA
2001	61	75	2	138
2002	215	184	-	399
2003		no survey		
2004	555	237	-	792
2005	459	771	-	1,230
Avg	303	212	5	512
Pct	59%	41%	1%	

Togiak: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	100	43	83	n/a	226
1996	132	-	45	n/a	177
1997	73	26	3	n/a	102
1998	306	141	108	n/a	555
1999	81	105	274	n/a	460
2000	95	17	106	n/a	218
2001	45	8	9		61
2002	124	15	76		215
2003			no survey		
2004	148	20	388		555
2005	292	15	151		459
Avg	140	39	124		303
Pct	46%	13%	41%		100%

BBNA: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	90	9	11	n/a	110
1996	n/a	n/a	n/a	n/a	-
1997	59	-	12	n/a	71
1998	n/a	n/a	n/a	n/a	-
1999	26	3	6	n/a	35
2000	n/a	n/a	n/a	n/a	-
2001	45	16	13		75
2002	136	13	35		184
2003			no survey		
2004	128	8	100		237
2005	684	64	23		771
Avg	167	16	29		212
Pct	79%	8%	13%		100%

AkPen: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	2	-	2	-	4
1996	1	-	-	3	4
1997	1	1	2	3	7
1998	10	-	4	6	20
1999	9	-	2	1	12
2000	4	-	1	-	5
2001	-	-	1	1	2
2002	-	-	-	-	-
2003			no survey		
2004	-	-	-		-
2005	-	-	-		-
					-
Avg	3	0	1	2	5
Pct	50%	2%	22%	32%	100%

Table D-8. Detailed harvest estimates, Sandhill Crane, 1995-2005

Total Take by Season

	Spring	Summer	Fall	Winter	Total
1995	413	169	203	-	785
1996	134	33	12	1	no survey BBNA
1997	154	25	55	1	235
1998	146	25	10	-	no survey BBNA
1999	258	40	216	8	522
2000	212	48	33	-	no survey BBNA
2001	196	35	16	-	247
2002	196	22	67	-	285
2003			no survey		
2004	133	30	185	-	348
2005	621	763	31	-	1,415
Avg	281	155	110	1	548
Pct	1	0	0	0	

Total Take by Region

	Togiak	BBNA	AkPen	Total
1995	630	140	15	785
1996	164	-	16	no BBNA
1997	146	71	18	235
1998	151	-	30	no BBNA
1999	433	70	19	522
2000	224	-	69	no BBNA
2001	182	50	16	247
2002	154	126	5	285
2003		no survey		
2004	283	65	-	348
2005	430	968	16	1,415
Avg	280	213	20	548
Pct	1	0	0	

Togiak: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	352	135	143	n/a	630
1996	129	31	4	n/a	164
1997	112	18	16	n/a	146
1998	131	20	-	n/a	151
1999	221	19	193	n/a	433
2000	191	17	16	n/a	224
2001	155	25	1	n/a	182
2002	141	2	11	n/a	154
2003			no survey		
2004	98	7	178		283
2005	408	7	15		430
Avg	194	28	58		280
Pct	69%	10%	21%		100%

BBNA: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	53	34	53	n/a	140
1996	n/a	n/a	n/a	n/a	-
1997	34	6	31	n/a	71
1998	n/a	n/a	n/a	n/a	-
1999	30	20	20	n/a	70
2000	n/a	n/a	n/a	n/a	-
2001	41	7	2		50
2002	55	20	51		126
2003			no survey		
2004	34	23	8		65
2005	208	747	13		968
Avg	65	123	25		213
Pct	31%	58%	12%		100%

AkPen: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	8	-	7	-	15
1996	5	2	8	1	16
1997	8	1	8	1	18
1998	15	5	10	-	30
1999	7	1	3	8	19
2000	21	31	17	-	69
2001	-	3	13	-	16
2002	-	-	5	-	5
2003			no survey		
2004	-	-	-		-
2005	5	8	3		16
					-
Avg	7	5	7	1	20
Pct	34%	25%	36%	6%	100%

Table D-9. Detailed harvest estimates, Northern Pintail, 1995-2005

Total Take by Season

	Spring	Summer	Fall	Winter	Total
1995	2,754	713	1,293	-	4,760
1996	430	98	416	185	no survey BBNA
1997	1,532	224	677	347	2,780
1998	626	110	300	100	no survey BBNA
1999	1,468	249	826	59	2,602
2000	742	314	517	75	no survey BBNA
2001	1,513	677	410	70	2,670
2002	1,741	367	564	33	2,705
2003			no survey		
2004	418	299	1,376	-	2,093
2005	3,929	1,429	810	-	6,167
Avg	1,908	565	851	73	3,397
Pct	56%	17%	25%	2%	

Total Take by Region

	Togiak	BBNA	AkPen	Total
1995	810	3,518	432	4,760
1996	478	-	651	no BBNA
1997	385	1,508	887	2,780
1998	680	-	456	no BBNA
1999	700	1,457	445	2,602
2000	995	-	653	no BBNA
2001	444	2,057	169	2,670
2002	941	1,527	237	2,705
2003			no survey	
2004	1,013	1,010	70	2,093
2005	1,606	4,336	226	6,167
Avg	805	2,202	423	3,397
Pct	24%	65%	12%	

Togiak: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	310	248	252	n/a	810
1996	350	55	73	n/a	478
1997	227	57	101	n/a	385
1998	562	71	47	n/a	680
1999	453	73	174	n/a	700
2000	592	117	286	n/a	995
2001	297	118	29		444
2002	650	180	111		941
2003			no survey		
2004	159	54	800		1,013
2005	1,119	120	366		1,606
Avg	472	109	224		805
Pct	59%	14%	28%		100%

BBNA: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	2,390	404	724	n/a	3,518
1996	n/a	n/a	n/a	n/a	-
1997	1,039	89	380	n/a	1,508
1998	n/a	n/a	n/a	n/a	-
1999	953	61	443	n/a	1,457
2000	n/a	n/a	n/a	n/a	-
2001	1,205	541	311		2,057
2002	1,059	187	282		1,527
2003			no survey		
2004	259	245	506		1,010
2005	2,599	1,308	428		4,336
Avg	1,358	405	439		2,202
Pct	62%	18%	20%		100%

AkPen: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	54	61	317	-	432
1996	80	43	343	185	651
1997	266	78	196	347	887
1998	64	39	253	100	456
1999	62	115	209	59	445
2000	150	197	231	75	653
2001	11	18	70	70	169
2002	32	-	171	33	237
2003			no survey		
2004	-	-	70		70
2005	210	-	16		226
					-
Avg	93	55	188	109	423
Pct	22%	13%	44%	26%	100%

Table D-10. Detailed harvest estimates, Mallard, 1995-2005

Total Take by Season

	Spring	Summer	Fall	Winter	Total
1995	3,544	806	2,259	-	6,609
1996	373	145	451	143	no survey BBNA
1997	2,229	339	1,676	140	4,384
1998	576	174	595	236	no survey BBNA
1999	1,975	409	1,237	218	3,839
2000	565	409	623	82	no survey BBNA
2001	2,219	810	833	57	3,920
2002	2,260	218	1,345	-	3,822
2003			no survey		
2004	1,236	543	2,467	-	4,247
2005	4,469	1,400	1,892	-	7,761
Avg	2,562	647	1,673	59	4,940
Pct	52%	13%	34%	1%	

Total Take by Region

	Togiak	BBNA	AkPen	Total
1995	1,593	4,463	553	6,609
1996	573	-	539	no BBNA
1997	574	3,060	750	4,384
1998	648	-	933	no BBNA
1999	479	2,672	688	3,839
2000	771	-	908	no BBNA
2001	612	3,028	280	3,920
2002	599	3,223	-	3,822
2003		no survey		
2004	805	3,254	188	4,247
2005	996	6,088	677	7,761
Avg	765	3,684	552	4,940
Pct	15%	75%	11%	

Togiak: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	743	201	649	n/a	1,593
1996	312	101	160	n/a	573
1997	234	128	212	n/a	574
1998	459	100	89	n/a	648
1999	250	76	153	n/a	479
2000	403	120	248	n/a	771
2001	358	204	50		612
2002	398	49	152		599
2003			no survey		
2004	159	10	635		805
2005	623	10	363		996
Avg	394	100	271		765
Pct	51%	13%	35%		100%

BBNA: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	2,718	555	1,190	n/a	4,463
1996	n/a	n/a	n/a	n/a	-
1997	1,775	117	1,168	n/a	3,060
1998	n/a	n/a	n/a	n/a	-
1999	1,617	208	847	n/a	2,672
2000	n/a	n/a	n/a	n/a	-
2001	1,807	595	625		3,028
2002	1,862	169	1,192		3,223
2003			no survey		
2004	1,077	524	1,653		3,254
2005	3,305	1,382	1,400		6,088
Avg	2,023	507	1,154		3,684
Pct	55%	14%	31%		100%

AkPen: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	83	50	420	-	553
1996	61	44	291	143	539
1997	220	94	296	140	750
1998	117	74	506	236	933
1999	108	125	237	218	688
2000	162	289	375	82	908
2001	54	11	158	57	280
2002	-	-	-	-	-
2003			no survey		
2004	-	9	179		188
2005	540	8	129		677
					-
Avg	135	70	259	110	552
Pct	24%	13%	47%	20%	100%

Table D-11. Detailed harvest estimates, unidentified duck, 1995-2005

Total Take by Season

	Spring	Summer	Fall	Winter	Total
1995	1,087	543	686	-	2,316
1996	9	54	39	17	no survey BBNA
1997	184	134	868	17	1,203
1998	81	43	55	-	no survey BBNA
1999	66	38	103	-	207
2000	101	59	87	8	no survey BBNA
2001	373	230	150	-	752
2002	11	-	3	-	14
2003			no survey		
2004	25	-	26	-	51
2005	108	120	66	-	294
Avg	265	152	272	2	691
Pct	0	0	0	0	

Total Take by Region

	Togiak	BBNA	AkPen	Total
1995	2,087	208	21	2,316
1996	75	-	44	no BBNA
1997	26	1,068	109	1,203
1998	57	-	122	no BBNA
1999	125	81	1	207
2000	184	-	71	no BBNA
2001	23	703	26	752
2002	-	14	-	14
2003		no survey		
2004	-	12	39	51
2005	21	273	-	294
Avg	260	337	43	691
Pct	0	0	0	

Togiak: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	972	504	611	n/a	2,087
1996	9	34	32	n/a	75
1997	-	10	16	n/a	26
1998	47	3	7	n/a	57
1999	66	38	21	n/a	125
2000	88	29	67	n/a	184
2001	11	6	6	n/a	23
2002	-	-	-	n/a	-
2003			no survey		
2004	-	-	-		-
2005	21	-	-		21
Avg	121	62	76		260
Pct	47%	24%	29%		100%

BBNA: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	115	39	54	n/a	208
1996	n/a	n/a	n/a	n/a	-
1997	184	106	778	n/a	1,068
1998	n/a	n/a	n/a	n/a	-
1999	-	-	81	n/a	81
2000	n/a	n/a	n/a	n/a	-
2001	362	224	118		703
2002	11	-	3		14
2003			no survey		
2004	12	-	-		12
2005	87	120	66		273
Avg	110	70	157		337
Pct	33%	21%	47%		100%

AkPen: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	-	-	21	-	21
1996	-	20	7	17	44
1997	-	18	74	17	109
1998	34	40	48	-	122
1999	-	-	1	-	1
2000	13	30	20	8	71
2001	-	-	26	-	26
2002	-	-	-	-	-
2003			no survey		
2004	13	-	26		39
2005	-	-	-		-
					-
Avg	6	11	22	5	43
Pct	14%	25%	52%	12%	100%

Table D-12. Detailed harvest estimates, American Wigeon, 1995-2005

Total Take by Season

	Spring	Summer	Fall	Winter	Total
1995	560	133	243	-	936
1996	8	13	255	2	no survey BBNA
1997	211	43	138	31	423
1998	59	29	136	10	no survey BBNA
1999	176	9	316	-	501
2000	56	64	233	6	no survey BBNA
2001	277	380	107	40	805
2002	151	62	260	53	527
2003			no survey		
2004	-	7	146	-	153
2005	936	530	355	-	1,822
Avg	330	166	224	18	738
Pct	45%	23%	30%	2%	

Total Take by Region

	Togiak	BBNA	AkPen	Total
1995	43	780	113	936
1996	82	-	196	no BBNA
1997	62	251	110	423
1998	51	-	183	no BBNA
1999	85	334	82	501
2000	111	-	248	no BBNA
2001	288	476	41	805
2002	120	266	141	527
2003			no survey	
2004	98	40	15	153
2005	380	1,436	6	1,822
Avg	132	512	114	738
Pct	18%	69%	15%	

Togiak: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	-	43	-	n/a	43
1996	-	-	82	n/a	82
1997	13	23	26	n/a	62
1998	37	14	-	n/a	51
1999	21	9	55	n/a	85
2000	25	-	86	n/a	111
2001	53	226	9	n/a	288
2002	45	42	33	n/a	120
2003			no survey		
2004	-	7	91	n/a	98
2005	139	100	141	n/a	380
Avg	33	46	52		132
Pct	25%	35%	40%		100%

BBNA: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	553	41	186	n/a	780
1996	n/a	n/a	n/a	n/a	-
1997	182	20	49	n/a	251
1998	n/a	n/a	n/a	n/a	-
1999	140	-	194	n/a	334
2000	n/a	n/a	n/a	n/a	-
2001	223	154	98		476
2002	99	20	147		266
2003			no survey		
2004	-	-	40		40
2005	791	430	214		1,436
Avg	284	95	133		512
Pct	55%	19%	26%		100%

AkPen: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	7	49	57	-	113
1996	8	13	173	2	196
1997	16	-	63	31	110
1998	22	15	136	10	183
1999	15	-	67	-	82
2000	31	64	147	6	248
2001	1	-	-	40	41
2002	8	-	80	53	141
2003			no survey		
2004	-	-	15		15
2005	6	-	-		6
					-
Avg	11	14	74	18	114
Pct	10%	12%	65%	16%	100%

Table D-13. Detailed harvest estimates, Northern Shoveler, 1995-2005

Total Take by Season

	Spring	Summer	Fall	Winter	Total
1995	156	16	30	-	202
1996	9	-	21	-	no survey BBNA
1997	64	9	142	-	215
1998	2	24	5	-	no survey BBNA
1999	186	9	105	8	308
2000	61	59	59	-	no survey BBNA
2001	107	53	19	13	192
2002	324	54	226	40	644
2003			no survey		
2004	78	378	725	-	1,180
2005	1,069	825	181	-	2,075
Avg	283	192	204	9	688
Pct	41%	28%	30%	1%	

Total Take by Region

	Togiak	BBNA	AkPen	Total
1995	51	127	24	202
1996	5	-	25	no BBNA
1997	24	186	5	215
1998	26	-	5	no BBNA
1999	119	171	18	308
2000	60	-	119	no BBNA
2001	25	148	19	192
2002	201	250	193	644
2003		no survey		
2004	415	745	20	1,180
2005	354	1,721	-	2,075
Avg	128	478	43	688
Pct	19%	70%	6%	

Togiak: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	51	-	-	n/a	51
1996	5	-	-	n/a	5
1997	-	9	15	n/a	24
1998	2	24	-	n/a	26
1999	107	9	3	n/a	119
2000	45	-	15	n/a	60
2001	19	-	6		25
2002	165	21	14		201
2003			no survey		
2004	41	13	361		415
2005	253	-	101		354
Avg	69	8	51		128
Pct	54%	6%	40%		100%

BBNA: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	100	16	11	n/a	127
1996	n/a	n/a	n/a	n/a	-
1997	62	-	124	n/a	186
1998	n/a	n/a	n/a	n/a	-
1999	79	-	92	n/a	171
2000	n/a	n/a	n/a	n/a	-
2001	88	53	7		148
2002	142	31	77		250
2003			no survey		
2004	37	364	344		745
2005	816	825	80		1,721
Avg	189	184	105		478
Pct	40%	38%	22%		100%

AkPen: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	5	-	19	-	24
1996	4	-	21	-	25
1997	2	-	3	-	5
1998	-	-	5	-	5
1999	-	-	10	8	18
2000	16	59	44	-	119
2001	-	-	6	13	19
2002	16	2	135	40	193
2003			no survey		
2004	-	-	20		20
2005	-	-	-		-
					-
Avg	4	6	26	8	43
Pct	10%	14%	62%	18%	100%

Table D-14. Detailed harvest estimates, Green-winged Teal, 1995-2005

Total Take by Season

	Spring	Summer	Fall	Winter	Total
1995	970	283	1,268	-	2,521
1996	155	52	324	175	no survey BBNA
1997	825	103	683	351	1,962
1998	104	85	246	112	no survey BBNA
1999	690	360	710	78	1,838
2000	175	196	459	95	no survey BBNA
2001	397	157	341	88	983
2002	556	171	612	-	1,339
2003			no survey		
2004	120	482	878	-	1,480
2005	1,730	683	660	-	3,073
Avg	755	320	736	74	1,885
Pct	40%	17%	39%	4%	

Total Take by Region

	Togiak	BBNA	AkPen	Total
1995	129	1,915	477	2,521
1996	122	-	584	no BBNA
1997	170	1,005	787	1,962
1998	83	-	464	no BBNA
1999	30	1,352	456	1,838
2000	218	-	707	no BBNA
2001	50	595	339	983
2002	112	1,223	4	1,339
2003			no survey	
2004	128	1,110	242	1,480
2005	309	2,496	268	3,073
Avg	132	1,385	368	1,885
Pct	7%	73%	19%	

Togiak: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	43	9	77	n/a	129
1996	97	16	9	n/a	122
1997	38	70	62	n/a	170
1998	25	44	14	n/a	83
1999	18	-	12	n/a	30
2000	6	28	184	n/a	218
2001	28	22	-		50
2002	34	56	22		112
2003			no survey		
2004	14	-	114		128
2005	190	36	83		309
Avg	49	28	58		135
Pct	36%	21%	43%		100%

BBNA: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	873	258	784	n/a	1,915
1996	n/a	n/a	n/a	n/a	-
1997	700	17	288	n/a	1,005
1998	n/a	n/a	n/a	n/a	-
1999	637	218	497	n/a	1,352
2000	n/a	n/a	n/a	n/a	-
2001	325	110	159		595
2002	522	115	586		1,223
2003			no survey		
2004	106	475	529		1,110
2005	1,384	647	465		2,496
Avg	650	263	473		1,385
Pct	47%	19%	34%		100%

AkPen: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	54	16	407	-	477
1996	58	36	315	175	584
1997	87	16	333	351	787
1998	79	41	232	112	464
1999	35	142	201	78	456
2000	169	168	275	95	707
2001	44	25	182	88	339
2002	-	-	4	-	4
2003	no survey				
2004	-	7	235		242
2005	156	-	112		268
Avg	68	45	230	112	433
Pct	16%	10%	53%	26%	100%

Table D-15. Detailed harvest estimates, Bufflehead, 1995-2005

Total Take by Season

	Spring	Summer	Fall	Winter	Total
1995	41	1	6	-	48
1996	12	2	9	6	no survey BBNA
1997	92	14	26	43	175
1998	8	-	34	-	no survey BBNA
1999	66	12	14	-	92
2000	16	39	79	32	no survey BBNA
2001	108	37	16	35	197
2002	38	12	158	146	354
2003			no survey		
2004	-	-	47	-	47
2005	27	-	14	-	41
Avg	53	11	40	32	136
Pct	39%	8%	29%	24%	

Total Take by Region

	Togiak	BBNA	AkPen	Total
1995	-	47	1	48
1996	18	-	11	no BBNA
1997	13	38	124	175
1998	-	-	42	no BBNA
1999	-	86	6	92
2000	-	-	166	no BBNA
2001	26	120	51	197
2002	-	34	320	354
2003		no survey		
2004	9	-	37	47
2005	4	37	-	41
Avg	7	52	77	136
Pct	5%	38%	57%	

Togiak: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	-	-	-	n/a	-
1996	9	-	9	n/a	18
1997	-	-	13	n/a	13
1998	-	-	-	n/a	-
1999	-	-	-	n/a	-
2000	-	-	-	n/a	-
2001	26	-	-		26
2002	-	-	-		-
2003			no survey		
2004	-	-	9		9
2005	-	-	4		4
Avg	4	-	4		7
Pct	50%	0%	50%		100%

BBNA: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	41	-	6	n/a	47
1996	n/a	n/a	n/a	n/a	-
1997	16	14	8	n/a	38
1998	n/a	n/a	n/a	n/a	-
1999	66	7	13	n/a	86
2000	n/a	n/a	n/a	n/a	-
2001	82	37	-		120
2002	34	-	-		34
2003			no survey		
2004	-	-	-		-
2005	27	-	10		37
Avg	38	8	5		52
Pct	74%	16%	10%		100%

AkPen: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	-	1	-	-	1
1996	3	2	-	6	11
1997	76	-	5	43	124
1998	8	-	34	-	42
1999	-	5	1	-	6
2000	16	39	79	32	166
2001	-	-	16	35	51
2002	4	12	158	146	320
2003			no survey		
2004	-	-	37		37
2005	-	-	-		-
Avg	11	6	33	33	76
Pct	14%	8%	44%	43%	100%

Table D-16. Detailed harvest estimates, Harlequin, 1995-2005

Total Take by Season

	Spring	Summer	Fall	Winter	Total
1995	302	300	3	-	605
1996	15	10	-	-	no survey BBNA
1997	248	18	48	-	314
1998	51	3	7	10	no survey BBNA
1999	56	39	19	-	114
2000	45	56	12	8	no survey BBNA
2001	143	38	57	-	238
2002	205	4	53	-	262
2003			no survey		
2004	3	-	214	-	218
2005	378	-	52	-	430
Avg	191	57	64	-	312
Pct	61%	18%	20%	0%	

Total Take by Region

	Togiak	BBNA	AkPen	Total
1995	339	261	5	605
1996	15	-	10	no BBNA
1997	148	154	12	314
1998	58	-	13	no BBNA
1999	41	73	-	114
2000	37	-	84	no BBNA
2001	32	206	-	238
2002	34	221	7	262
2003			no survey	
2004	146	-	71	218
2005	71	347	12	430
Avg	116	180	15	312
Pct	37%	58%	5%	

Togiak: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	83	256	-	n/a	339
1996	15	-	-	n/a	15
1997	135	-	13	n/a	148
1998	51	-	7	n/a	58
1999	14	26	1	n/a	41
2000	37	-	-	n/a	37
2001	32	-	-	n/a	32
2002	34	-	-	n/a	34
2003			no survey		
2004	3	-	143		146
2005	31	-	40		71
Avg	44	28	20		92
Pct	47%	31%	22%		100%

BBNA: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	214	44	3	n/a	261
1996	n/a	n/a	n/a	n/a	-
1997	107	18	29	n/a	154
1998	n/a	n/a	n/a	n/a	-
1999	42	13	18	n/a	73
2000	n/a	n/a	n/a	n/a	-
2001	111	38	57		206
2002	171	4	46		221
2003			no survey		
2004	-	-	-		-
2005	347	-	-		347
Avg	142	17	22		180
Pct	79%	9%	12%		100%

AkPen: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	5	-	-	-	5
1996	-	10	-	-	10
1997	6	-	6	-	12
1998	-	3	-	10	13
1999	-	-	-	-	-
2000	8	56	12	8	84
2001	-	-	-	-	-
2002	-	-	7	-	7
2003			no survey		
2004	-	-	71		71
2005	-	-	12		12
					-
Avg	2	7	11	2	22
Pct	9%	32%	51%	10%	100%

Table D-17. Detailed harvest estimates, Greater Scaup, 1995-2005

Total Take by Season

	Spring	Summer	Fall	Winter	Total
1995	15	-	20	-	35
1996	-	4	13	-	no survey BBNA
1997	19	13	61	8	101
1998	19	-	7	-	no survey BBNA
1999	21	-	39	-	60
2000	52	-	4	-	no survey BBNA
2001	23	7	4	-	35
2002	109	4	9	-	121
2003			no survey		
2004	40	-	110	-	150
2005	385	-	90	-	474
Avg	87	3	47	1	139
Pct	63%	2%	34%	1%	

Total Take by Region

	Togiak	BBNA	AkPen	Total
1995	-	28	7	35
1996	-	-	17	no BBNA
1997	29	42	30	101
1998	9	-	17	no BBNA
1999	3	32	25	60
2000	52	-	4	no BBNA
2001	23	11	-	35
2002	52	65	4	121
2003			no survey	
2004	143	-	7	150
2005	348	216	40	605
Avg	86	56	16	158
Pct	54%	36%	10%	

Togiak: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	-	-	-	n/a	-
1996	-	-	-	n/a	-
1997	11	13	5	n/a	29
1998	9	-	-	n/a	9
1999	3	-	-	n/a	3
2000	52	-	-	n/a	52
2001	23	-	-		23
2002	52	-	-		52
2003			no survey		
2004	40	-	103		143
2005	187	-	90		277
Avg	38	1	20		59
Pct	64%	2%	34%		100%

BBNA: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	10	-	18	n/a	28
1996	n/a	n/a	n/a	n/a	-
1997	6	-	36	n/a	42
1998	n/a	n/a	n/a	n/a	-
1999	18	-	14	n/a	32
2000	n/a	n/a	n/a	n/a	-
2001	-	7	4		11
2002	56	4	5		65
2003			no survey		
2004	-	-	-		-
2005	198	-	-		198
Avg	41	2	11		54
Pct	77%	3%	20%		100%

AkPen: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	5	-	2	-	7
1996	-	4	13	-	17
1997	2	-	20	8	30
1998	10	-	7	-	17
1999	-	-	25	-	25
2000	-	-	4	-	4
2001	-	-	-	-	-
2002	-	-	4	-	4
2003			no survey		
2004	-	-	7		7
2005	-	-	-		-
					-
Avg	2	0	8	1	11
Pct	15%	4%	74%	9%	100%

Table D-18. Detailed harvest estimates, Goldeneye, 1995-2005

Total Take by Season

	Spring	Summer	Fall	Winter	Total
1995	651	43	286	-	980
1996	11	-	10	8	no survey BBNA
1997	403	97	104	23	627
1998	74	32	72	71	no survey BBNA
1999	231	50	235	51	567
2000	251	111	269	32	no survey BBNA
2001	243	120	177	60	600
2002	209	14	94	-	317
2003			no survey		
2004	53	138	323	-	513
2005	531	322	129	-	982
Avg	332	112	192	19	655
Pct	51%	17%	29%	3%	

Total Take by Region

	Togiak	BBNA	AkPen	Total
1995	66	813	101	980
1996	-	-	29	no BBNA
1997	55	399	173	627
1998	30	-	219	no BBNA
1999	69	382	116	567
2000	245	-	418	no BBNA
2001	49	383	168	600
2002	46	253	18	317
2003		no survey		
2004	53	400	59	513
2005	23	934	25	982
Avg	52	509	94	655
Pct	8%	78%	14%	

Togiak: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	66	-	-	n/a	66
1996	-	-	-	n/a	-
1997	24	18	13	n/a	55
1998	30	-	-	n/a	30
1999	29	-	40	n/a	69
2000	148	20	77	n/a	245
2001	27	14	8		49
2002	40	-	7		46
2003			no survey		
2004	23	-	30		53
2005	14	-	9		23
Avg	40	5	18		64
Pct	63%	8%	29%		100%

BBNA: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	585	37	191	n/a	813
1996	n/a	n/a	n/a	n/a	-
1997	294	58	47	n/a	399
1998	n/a	n/a	n/a	n/a	-
1999	198	20	164	n/a	382
2000	n/a	n/a	n/a	n/a	-
2001	207	81	95	n/a	383
2002	170	14	69	n/a	253
2003			no survey		
2004	25	138	238		400
2005	517	322	95		934
Avg	285	96	128		509
Pct	56%	19%	25%		100%

AkPen: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	-	6	95	-	101
1996	11	-	10	8	29
1997	85	21	44	23	173
1998	44	32	72	71	219
1999	4	30	31	51	116
2000	103	91	192	32	418
2001	10	24	74	60	168
2002	-	-	18	-	18
2003			no survey		
2004	5	-	55		59
2005	-	-	25		25
					-
Avg	26	20	62	31	133
Pct	20%	15%	46%	23%	100%

Table D-19. Detailed harvest estimates, Canvasbacks, 1995-2005

Total Take by Season

	Spring	Summer	Fall	Winter	Total
1995	15	-	-	-	15
1996	-	-	-	-	no survey BBNA
1997	-	-	10	-	10
1998	-	-	-	-	no survey BBNA
1999	-	-	-	-	-
2000	-	-	-	-	no survey BBNA
2001	24	-	-	-	24
2002	141	-	411	34	586
2003			no survey		
2004	31	-	38	-	69
2005	125	94	135	-	354
Avg	48	13	85	5	151
Pct	32%	9%	56%	3%	

Total Take by Region

	Togiak	BBNA	AkPen	Total
1995	-	15	-	15
1996	-	-	-	no BBNA
1997	-	10	-	10
1998	-	-	-	no BBNA
1999	-	-	-	-
2000	-	-	-	no BBNA
2001	24	-	-	24
2002	111	254	221	586
2003			no survey	
2004	17	46	7	69
2005	46	308	-	354
Avg	28	91	32	151
Pct	19%	60%	21%	

Togiak: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	-	-	-	n/a	-
1996	-	-	-	n/a	-
1997	-	-	-	n/a	-
1998	-	-	-	n/a	-
1999	-	-	-	n/a	-
2000	-	-	-	n/a	-
2001	24	-	-		24
2002	93	-	18		111
2003			no survey		
2004	-	-	17		17
2005	-	-	46		46
Avg	12	-	8		20
Pct	59%	0%	41%		100%

BBNA: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	15	-	-	n/a	15
1996	n/a	n/a	n/a	n/a	-
1997	-	-	10	n/a	10
1998	n/a	n/a	n/a	n/a	-
1999	-	-	-	n/a	-
2000	n/a	n/a	n/a	n/a	-
2001	-	-	-		-
2002	19	-	235		254
2003			no survey		
2004	31	-	15		46
2005	125	94	89		308
Avg	27	13	50		91
Pct	30%	15%	55%		100%

AkPen: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	-	-	-	-	-
1996	-	-	-	-	-
1997	-	-	-	-	-
1998	-	-	-	-	-
1999	-	-	-	-	-
2000	-	-	-	-	-
2001	-	-	-	-	-
2002	29	-	157	34	221
2003			no survey		
2004	-	-	7		7
2005	-	-	-		-
					-
Avg	3	-	16	4	23
Pct	13%	0%	72%	19%	100%

Table D-20. Detailed harvest estimates, Long-tailed Duck, 1995-2005

Total Take by Season

	Spring	Summer	Fall	Winter	Total
1995	248	13	122	-	383
1996	128	-	-	29	no survey BBNA
1997	166	34	65	68	333
1998	95	-	19	111	no survey BBNA
1999	22	15	80	28	145
2000	-	-	-	45	no survey BBNA
2001	29	10	138	62	239
2002	19	1	21	4	45
2003			no survey		
2004	5	-	30	-	34
2005	27	-	23	-	50
Avg	74	10	68	23	176
Pct	42%	6%	39%	13%	100%

Total Take by Region

	Togiak	BBNA	AkPen	Total
1995	51	200	132	383
1996	128	-	52	no BBNA
1997	5	20	308	333
1998	114	-	313	no BBNA
1999	19	41	85	145
2000	-	-	444	no BBNA
2001	21	83	135	239
2002	9	5	31	45
2003			no survey	
2004	-	-	34	34
2005	-	50	-	50
Avg	15	57	104	176
Pct	9%	32%	59%	

Togiak: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	51	-	-	n/a	51
1996	128	-	-	n/a	128
1997	-	5	-	n/a	5
1998	95	-	19	n/a	114
1999	6	6	7	n/a	19
2000	-	-	-	n/a	-
2001	21	-	-		21
2002	9	-	-		9
2003			no survey		
2004	-	-	-		-
2005	-	-	-		-
Avg	31	1	3		35
Pct	89%	3%	7%		100%

BBNA: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	193	7	-	n/a	200
1996	n/a	n/a	n/a	n/a	-
1997	20	-	-	n/a	20
1998	n/a	n/a	n/a	n/a	-
1999	6	-	35	n/a	41
2000	n/a	n/a	n/a	n/a	-
2001	7	-	75		83
2002	5	-	-		5
2003			no survey		
2004	-	-	-		-
2005	27	-	23		50
Avg	37	1	19		57
Pct	65%	2%	33%		100%

AkPen: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	4	6	122	-	132
1996	-	10	13	29	52
1997	146	29	65	68	308
1998	138	18	46	111	313
1999	10	9	38	28	85
2000	67	148	184	45	444
2001	-	10	63	62	135
2002	5	1	21	4	31
2003			no survey		
2004	5	-	30		34
2005	-	-	-		-
					-
Avg	37	23	58	43	153
Pct	24%	15%	38%	28%	100%

Table D-21. Detailed harvest estimates, White-winged Scoter, 1995-2005

Total Take by Season

	Spring	Summer	Fall	Winter	Total
1995	366	7	142	-	515
1996	2	3	-	-	no survey BBNA
1997	71	13	44	-	128
1998	32	39	76	6	no survey BBNA
1999	113	14	42	10	179
2000	123	10	101	53	no survey BBNA
2001	93	58	58	-	208
2002	16	-	15	-	31
2003			no survey		
2004	-	-	14	-	14
2005	106	-	173	-	278
Avg	109	13	70	1	193
Pct	56%	7%	36%	1%	

Total Take by Region

	Togiak	BBNA	AkPen	Total
1995	-	515	-	515
1996	-	-	5	no BBNA
1997	23	97	8	128
1998	137	-	16	no BBNA
1999	38	121	20	179
2000	224	-	63	no BBNA
2001	61	147	-	208
2002	-	31	-	31
2003		no survey		
2004	14	-	-	14
2005	210	68	-	278
Avg	49	140	4	193
Pct	26%	72%	2%	

Togiak: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	-	-	-	n/a	-
1996	-	-	-	n/a	-
1997	5	13	5	n/a	23
1998	32	34	71	n/a	137
1999	26	12	-	n/a	38
2000	123	6	95	n/a	224
2001	28	-	33		61
2002	-	-	-		-
2003			no survey		
2004	-	-	14		14
2005	99	-	111		210
Avg	31	7	33		71
Pct	44%	9%	47%		100%

BBNA: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	366	7	142	n/a	515
1996	n/a	n/a	n/a	n/a	-
1997	66	-	31	n/a	97
1998	n/a	n/a	n/a	n/a	-
1999	87	2	32	n/a	121
2000	n/a	n/a	n/a	n/a	-
2001	65	58	25		147
2002	16	-	15		31
2003			no survey		
2004	-	-	-		-
2005	6	-	62		68
Avg	87	10	44		140
Pct	62%	7%	31%		100%

AkPen: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	-	-	-	-	-
1996	2	3	-	-	5
1997	-	-	8	-	8
1998	-	5	5	6	16
1999	-	-	10	10	20
2000	-	4	6	53	63
2001	-	-	-	-	-
2002	-	-	-	-	-
2003			no survey		
2004	-	-	-		-
2005	-	-	-		-
					-
Avg	0	1	3	9	11
Pct	2%	11%	26%	77%	100%

Table D-22. Detailed harvest estimates, Black Scoter, 1995-2005

Total Take by Season

	Spring	Summer	Fall	Winter	Total
1995	468	181	129	-	778
1996	115	71	11	11	no survey BBNA
1997	275	101	35	-	411
1998	65	30	22	4	no survey BBNA
1999	169	111	170	9	459
2000	89	98	99	31	no survey BBNA
2001	212	20	85	15	332
2002	180	11	31	-	222
2003			no survey		
2004	203	-	114	-	317
2005	548	-	232	-	780
Avg	294	61	114	3	471
Pct	62%	13%	24%	1%	

Total Take by Region

	Togiak	BBNA	AkPen	Total
1995	168	610	-	778
1996	194	-	14	no BBNA
1997	225	183	3	411
1998	105	-	16	no BBNA
1999	262	188	9	459
2000	163	-	154	no BBNA
2001	234	58	40	332
2002	114	93	15	222
2003			no survey	
2004	266	6	45	317
2005	535	245	-	780
Avg	258	198	16	471
Pct	55%	42%	3%	

Togiak: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	83	85	-	n/a	168
1996	115	70	9	n/a	194
1997	122	95	8	n/a	225
1998	54	30	21	n/a	105
1999	90	105	67	n/a	262
2000	86	51	26	n/a	163
2001	154	12	68		234
2002	87	11	16		114
2003			no survey		
2004	197	-	69		266
2005	375	-	160		535
Avg	136	46	44		227
Pct	60%	20%	20%		100%

BBNA: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	385	96	129	n/a	610
1996	n/a	n/a	n/a	n/a	-
1997	153	6	24	n/a	183
1998	n/a	n/a	n/a	n/a	-
1999	79	6	103	n/a	188
2000	n/a	n/a	n/a	n/a	-
2001	58	-	-		58
2002	93	-	-		93
2003			no survey		
2004	6	-	-		6
2005	173	-	72		245
Avg	135	15	47		198
Pct	69%	8%	24%		100%

AkPen: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	-	-	-	-	-
1996	-	1	2	11	14
1997	-	-	3	-	3
1998	11	-	1	4	16
1999	-	-	-	9	9
2000	3	47	73	31	154
2001	-	8	17	15	40
2002	-	-	15	-	15
2003			no survey		
2004	-	-	45		45
2005	-	-	-		-
Avg	2	6	17	10	33
Pct	5%	19%	53%	30%	100%

Table D-23. Detailed harvest estimates, Surf Scoter, 1995-2005

Total Take by Season

	Spring	Summer	Fall	Winter	Total
1995	87	-	73	-	160
1996	-	1	-	-	no survey BBNA
1997	26	8	36	-	70
1998	25	21	-	-	no survey BBNA
1999	17	2	8	-	27
2000	5	3	17	-	no survey BBNA
2001	68	50	-	2	120
2002	92	-	4	-	96
2003			no survey		
2004	60	-	38	-	98
2005	133	-	245	-	378
Avg	69	9	58	0	136
Pct	51%	6%	43%	0%	

Total Take by Region

	Togiak	BBNA	AkPen	Total
1995	-	160	-	160
1996	-	-	1	no BBNA
1997	53	10	7	70
1998	36	-	10	no BBNA
1999	21	6	-	27
2000	23	-	2	no BBNA
2001	17	102	2	120
2002	-	96	-	96
2003		no survey		
2004	55	-	43	98
2005	200	179	-	378
Avg	49	79	7	136
Pct	36%	58%	5%	

Togiak: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	-	-	-	n/a	-
1996	-	-	-	n/a	-
1997	16	8	29	n/a	53
1998	15	21	-	n/a	36
1999	15	-	6	n/a	21
2000	3	3	17	n/a	23
2001	17	-	-		17
2002	-	-	-		-
2003			no survey		
2004	55	-	-		55
2005	-	-	200		200
Avg	12	3	25		40
Pct	30%	8%	62%		100%

BBNA: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	87	-	73	n/a	160
1996	n/a	n/a	n/a	n/a	-
1997	10	-	-	n/a	10
1998	n/a	n/a	n/a	n/a	-
1999	2	2	2	n/a	6
2000	n/a	n/a	n/a	n/a	-
2001	52	50	-	n/a	102
2002	92	-	4	n/a	96
2003			no survey		
2004	-	-	-		-
2005	133	-	46		179
Avg	54	7	18		79
Pct	68%	9%	23%		100%

AkPen: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	-	-	-	-	-
1996	-	1	-	-	1
1997	-	-	7	-	7
1998	10	-	-	-	10
1999	-	-	-	-	-
2000	2	-	-	-	2
2001	-	-	-	2	2
2002	-	-	-	-	-
2003			no survey		
2004	5	-	38		43
2005	-	-	-		-
					-
Avg	2	0	5	0	7
Pct	26%	2%	70%	4%	100%

Table D-24. Detailed harvest estimates, Common Eider 1995-2005

Total Take by Season

	Spring	Summer	Fall	Winter	Total
1995	165	21	5	-	191
1996	27	16	10	-	no survey BBNA
1997	35	30	38	-	103
1998	120	25	81	12	no survey BBNA
1999	98	31	38	9	176
2000	61	25	112	-	no survey BBNA
2001	119	4	6	-	129
2002	95	-	71	12	178
2003			no survey		
2004	184	187	80	-	451
2005	-	-	22	-	22
Avg	99	39	37	3	179
Pct	56%	22%	21%	2%	

Total Take by Region

	Togiak	BBNA	AkPen	Total
1995	126	59	6	191
1996	43	-	10	no BBNA
1997	83	-	20	103
1998	214	-	24	no BBNA
1999	151	-	25	176
2000	51	-	147	no BBNA
2001	105	-	24	129
2002	63	33	82	178
2003		no survey		
2004	128	322	-	451
2005	17	-	5	22
Avg	96	59	23	179
Pct	54%	33%	13%	

Togiak: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	126	-	-	n/a	126
1996	27	16	-	n/a	43
1997	35	30	18	n/a	83
1998	120	13	81	n/a	214
1999	98	31	22	n/a	151
2000	11	17	23	n/a	51
2001	101	4	-		105
2002	52	-	11		63
2003			no survey		
2004	45	42	41		128
2005	-	-	17		17
Avg	62	15	21		98
Pct	63%	16%	22%		100%

BBNA: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	39	15	5	n/a	59
1996	n/a	n/a	n/a	n/a	-
1997	-	-	-	n/a	-
1998	n/a	n/a	n/a	n/a	-
1999	-	-	-	n/a	-
2000	n/a	n/a	n/a	n/a	-
2001	-	-	-	n/a	-
2002	33	-	-	n/a	33
2003			no survey		
2004	139	145	39		322
2005	-	-	-		-
Avg	30	23	6		59
Pct	51%	39%	11%		100%

AkPen: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	-	6	-	-	6
1996	-	-	10	-	10
1997	-	-	20	-	20
1998	-	12	-	12	24
1999	-	-	16	9	25
2000	50	8	89	-	147
2001	18	-	6	-	24
2002	10	-	60	12	82
2003			no survey		
2004	-	-	-		-
2005	-	-	5		5
					-
Avg	9	2	23	5	37
Pct	23%	6%	61%	13%	100%

Table D-25. Detailed harvest estimates, King Eider, 1995-2005

Total Take by Season

	Spring	Summer	Fall	Winter	Total
1995	3,617	179	91	-	3,887
1996	1,317	374	-	-	no survey BBNA
1997	867	192	8	-	1,067
1998	610	65	-	30	no survey BBNA
1999	692	-	-	6	698
2000	251	142	-	-	no survey BBNA
2001	690	147	-	-	837
2002	620	5	16	-	641
2003			no survey		
2004	371	-	222	-	593
2005	446	-	8	-	454
Avg	1,043	75	49	1	1,168
Pct	89%	6%	4%	0%	

Total Take by Region

	Togiak	BBNA	AkPen	Total
1995	3,665	214	8	3,887
1996	1,689	-	2	no BBNA
1997	976	76	15	1,067
1998	660	-	45	no BBNA
1999	686	-	12	698
2000	389	-	4	no BBNA
2001	827	10	-	837
2002	625	2	14	641
2003			no survey	
2004	593	-	-	593
2005	454	-	-	454
Avg	1,118	43	7	1,168
Pct	96%	4%	1%	

Togiak: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	3,422	160	83	n/a	3,665
1996	1,315	374	-	n/a	1,689
1997	791	185	-	n/a	976
1998	610	50	-	n/a	660
1999	686	-	-	n/a	686
2000	247	142	-	n/a	389
2001	685	142	-		827
2002	620	5	-		625
2003			no survey		
2004	371	-	222		593
2005	446	-	8		454
Avg	919	106	31		1,056
Pct	87%	10%	3%		100%

BBNA: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	195	19	-	n/a	214
1996	n/a	n/a	n/a	n/a	-
1997	76	-	-	n/a	76
1998	n/a	n/a	n/a	n/a	-
1999	-	-	-	n/a	-
2000	n/a	n/a	n/a	n/a	-
2001	5	5	-	n/a	10
2002	-	-	2	n/a	2
2003			no survey		
2004	-	-	-		-
2005	-	-	-		-
Avg	39	3	0		43
Pct	91%	8%	1%		100%

AkPen: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	-	-	8	-	8
1996	2	-	-	-	2
1997	-	7	8	-	15
1998	-	15	-	30	45
1999	6	-	-	6	12
2000	4	-	-	-	4
2001	-	-	-	-	-
2002	-	-	14	-	14
2003			no survey		
2004	-	-	-		-
2005	-	-	-		-
Avg	1	2	3	5	10
Pct	12%	22%	30%	45%	100%

Table D-26. Detailed harvest estimates, Spectacled Eider, 1995-2005

Total Take by Season

	Spring	Summer	Fall	Winter	Total
1995	41	15	38	-	94
1996	43	-	-	-	no survey BBNA
1997	98	28	10	-	136
1998	58	35	26	20	no survey BBNA
1999	15	-	8	-	23
2000	-	-	2	5	no survey BBNA
2001	61	-	-	-	61
2002	5	-	11	2	18
2003			no survey		
2004	-	-	156	-	156
2005	-	-	-	-	-
Avg	31	6	32	0	70
Pct	45%	9%	46%	0%	

Total Take by Region

	Togiak	BBNA	AkPen	Total
1995	-	94	-	94
1996	43	-	-	no BBNA
1997	110	6	20	136
1998	45	-	94	no BBNA
1999	15	-	8	23
2000	-	-	7	no BBNA
2001	-	61	-	61
2002	5	-	13	18
2003		no survey		
2004	156	-	-	156
2005	-	-	-	-
Avg	41	23	6	70
Pct	59%	33%	8%	

Togiak: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	-	-	-	n/a	-
1996	43	-	-	n/a	43
1997	92	8	10	n/a	110
1998	27	-	18	n/a	45
1999	15	-	-	n/a	15
2000	-	-	-	n/a	-
2001	-	-	-		-
2002	5	-	-		5
2003			no survey		
2004	-	-	156		156
2005	-	-	-		-
Avg	18	1	18		37
Pct	49%	2%	49%		100%

BBNA: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	41	15	38	n/a	94
1996	n/a	n/a	n/a	n/a	-
1997	6	-	-	n/a	6
1998	n/a	n/a	n/a	n/a	-
1999	-	-	-	n/a	-
2000	n/a	n/a	n/a	n/a	-
2001	61	-	-		61
2002	-	-	-		-
2003			no survey		
2004	-	-	-		-
2005	-	-	-		-
Avg	15	2	5		23
Pct	67%	9%	24%		100%

AkPen: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	-	-	-	-	-
1996	-	-	-	-	-
1997	-	20	-	-	20
1998	31	35	8	20	94
1999	-	-	8	-	8
2000	-	-	2	5	7
2001	-	-	-	-	-
2002	-	-	11	2	13
2003			no survey		
2004	-	-	-		-
2005	-	-	-		-
					-
Avg	3	6	3	4	16
Pct	22%	39%	20%	24%	100%

Table D-27. Detailed harvest estimates, Stellers Eider, 1995-2005

Total Take by Season

	Spring	Summer	Fall	Winter	Total
1995	65	-	-	-	65
1996	-	-	-	-	no survey BBNA
1997	71	8	12	-	91
1998	11	4	-	3	no survey BBNA
1999	3	-	1	-	4
2000	14	-	6	-	no survey BBNA
2001	9	-	-	-	9
2002	5	-	-	-	5
2003			no survey		
2004	2	-	2	-	5
2005	18	-	-	-	18
Avg	25	1	2	-	28
Pct	88%	4%	8%	0%	

Total Take by Region

	Togiak	BBNA	AkPen	Total
1995	-	65	-	65
1996	-	-	-	no BBNA
1997	63	24	4	91
1998	11	-	7	no BBNA
1999	4	4	-	- 4
2000	20	-	-	no BBNA
2001	9	-	-	9
2002	5	-	-	5
2003		no survey		
2004	-	-	5	5
2005	18	-	-	18
Avg	14	13	1	28
Pct	50%	45%	4%	

Togiak: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	-	-	-	n/a	-
1996	-	-	-	n/a	-
1997	63	-	-	n/a	63
1998	11	-	-	n/a	11
1999	3	-	1	n/a	4
2000	14	-	6	n/a	20
2001	9	-	-		9
2002	5	-	-		5
2003			no survey		
2004	-	-	-		-
2005	18	-	-		18
Avg	12	-	1		13
Pct	95%	0%	5%		100%

BBNA: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	65	-	-	n/a	65
1996	n/a	n/a	n/a	n/a	-
1997	8	8	8	n/a	24
1998	n/a	n/a	n/a	n/a	-
1999	-	-	-	n/a	-
2000	n/a	n/a	n/a	n/a	-
2001	-	-	-	n/a	-
2002	-	-	-	n/a	-
2003			no survey		
2004	-	-	-		-
2005	-	-	-		-
Avg	10	1	1		13
Pct	82%	9%	9%		100%

AkPen: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	-	-	-	-	-
1996	-	-	-	-	-
1997	-	-	4	-	4
1998	-	4	-	3	7
1999	-	-	-	-	-
2000	-	-	-	-	-
2001	-	-	-	-	-
2002	-	-	-	-	-
2003			no survey		
2004	2	-	2		5
2005	-	-	-		-
					-
Avg	0	0	1	0	2
Pct	15%	25%	40%	25%	100%

Table D-28. Detailed harvest estimates, Common Merganser, 1995-2005

Total Take by Season

	Spring	Summer	Fall	Winter	Total
1995	26	66	31	-	123
1996	228	-	8	8	no survey BBNA
1997	241	8	59	36	344
1998	80	-	24	10	no survey BBNA
1999	92	27	59	2	180
2000	193	49	126	12	no survey BBNA
2001	112	25	8	-	145
2002	358	67	154	28	607
2003			no survey		
2004	198	-	350	-	548
2005	75	14	68	-	157
Avg	157	30	104	9	301
Pct	52%	10%	35%	3%	

Total Take by Region

	Togiak	BBNA	AkPen	Total
1995	-	115	8	123
1996	202	-	42	no BBNA
1997	203	88	53	344
1998	92	-	22	no BBNA
1999	49	119	12	180
2000	347	-	33	no BBNA
2001	135	11	-	145
2002	484	32	91	607
2003			no survey	
2004	486	-	62	548
2005	157	-	-	157
Avg	216	52	32	301
Pct	72%	17%	11%	

Togiak: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	-	-	-	n/a	-
1996	202	-	-	n/a	202
1997	187	3	13	n/a	203
1998	69	-	23	n/a	92
1999	23	-	26	n/a	49
2000	187	43	117	n/a	347
2001	101	25	8		135
2002	339	57	88		484
2003			no survey		
2004	198	-	288		486
2005	75	14	68		157
Avg	138	14	63		215
Pct	64%	7%	29%		100%

BBNA: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	26	66	23	n/a	115
1996	n/a	n/a	n/a	n/a	-
1997	38	5	45	n/a	88
1998	n/a	n/a	n/a	n/a	-
1999	59	27	33	n/a	119
2000	n/a	n/a	n/a	n/a	-
2001	11	-	-		11
2002	15	-	17		32
2003			no survey		
2004	-	-	-		-
2005	-	-	-		-
Avg	21	14	17		52
Pct	41%	27%	32%		100%

AkPen: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	-	-	8	-	8
1996	26	-	8	8	42
1997	16	-	1	36	53
1998	11	-	1	10	22
1999	10	-	-	2	12
2000	6	6	9	12	33
2001	-	-	-	-	-
2002	4	10	49	28	91
2003			no survey		
2004	-	-	62		62
2005	-	-	-		-
					-
Avg	8	2	14	14	35
Pct	23%	5%	41%	39%	100%

Table D-29. Detailed harvest estimates, Red-breasted Merganser, 1995-2005

Total Take by Season

	Spring	Summer	Fall	Winter	Total
1995	252	138	130	-	520
1996	206	68	50	88	no survey BBNA
1997	247	124	144	19	534
1998	225	167	199	5	no survey BBNA
1999	317	54	93	7	471
2000	106	71	80	9	no survey BBNA
2001	131	34	32	-	197
2002	165	7	63	-	235
2003			no survey		
2004	135	12	197	-	345
2005	188	19	136	-	343
Avg	205	55	114	4	378
Pct	54%	15%	30%	1%	

Total Take by Region

	Togiak	BBNA	AkPen	Total
1995	380	127	13	520
1996	320	-	92	no BBNA
1997	381	36	117	534
1998	580	-	16	no BBNA
1999	389	75	7	471
2000	187	-	79	no BBNA
2001	162	34	-	197
2002	235	-	-	235
2003		no survey		
2004	333	-	12	345
2005	210	133	-	343
Avg	299	58	21	378
Pct	79%	15%	6%	

Togiak: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	190	85	105	n/a	380
1996	204	68	48	n/a	320
1997	190	75	116	n/a	381
1998	220	166	194	n/a	580
1999	264	52	73	n/a	389
2000	106	17	64	n/a	187
2001	118	34	10		162
2002	165	7	63		235
2003			no survey		
2004	135	-	197		333
2005	99	19	92		210
Avg	169	52	96		318
Pct	53%	16%	30%		100%

BBNA: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	60	49	18	n/a	127
1996	n/a	n/a	n/a	n/a	-
1997	-	18	18	n/a	36
1998	n/a	n/a	n/a	n/a	-
1999	53	2	20	n/a	75
2000	n/a	n/a	n/a	n/a	-
2001	13	-	22		34
2002	-	-	-		-
2003			no survey		
2004	-	-	-		-
2005	89	-	44		133
Avg	31	10	17		58
Pct	53%	17%	30%		100%

AkPen: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	2	4	7	-	13
1996	2	-	2	88	92
1997	57	31	10	19	117
1998	5	1	5	5	16
1999	-	-	-	7	7
2000	-	54	16	9	79
2001	-	-	-	-	-
2002	-	-	-	-	-
2003			no survey		
2004	-	12	-		12
2005	-	-	-		-
					-
Avg	7	11	4	18	36
Pct	20%	30%	10%	51%	100%

Table D-30. Detailed harvest estimates, Ptarmigan, 1995-2005

Total Take by Season

	Spring	Summer	Fall	Winter	Total
1995	11,525	797	865	-	13,187
1996	1,263	118	395	490	no survey BBNA
1997	2,395	791	1,958	470	5,614
1998	1,461	334	595	820	no survey BBNA
1999	4,969	94	1,857	902	7,822
2000	1,993	163	254	1,187	no survey BBNA
2001	6,166	829	478	704	8,177
2002	6,689	639	1,646	2,072	11,045
2003			no survey		
2004	3,214	143	1,278	-	4,635
2005	6,195	1,377	1,488	-	9,060
Avg	5,879	667	1,367	593	8,506
Pct	69%	8%	16%	7%	

Total Take by Region

	Togiak	BBNA	AkPen	Total
1995	9,211	3,662	314	13,187
1996	1,109	-	1,157	no BBNA
1997	819	3,074	1,721	5,614
1998	1,434	-	1,776	no BBNA
1999	2,152	4,127	1,543	7,822
2000	1,620	-	1,977	no BBNA
2001	3,291	3,871	1,015	8,177
2002	3,285	5,105	2,654	11,045
2003			no survey	
2004	1,967	1,881	787	4,635
2005	3,095	5,263	702	9,060
Avg	3,403	3,855	1,248	8,506
Pct	40%	45%	15%	

Togiak: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	9,002	209	-	n/a	9,211
1996	1,109	-	-	n/a	1,109
1997	713	65	41	n/a	819
1998	1,269	134	31	n/a	1,434
1999	2,045	4	103	n/a	2,152
2000	1,596	-	24	n/a	1,620
2001	3,268	23	-		3,291
2002	2,845	205	235		3,285
2003			no survey		
2004	1,359	-	608		1,967
2005	2,895	4	197		3,095
Avg	2,610	64	124		2,798
Pct	93%	2%	4%		100%

BBNA: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	2,391	474	797	n/a	3,662
1996	n/a	n/a	n/a	n/a	-
1997	1,468	301	1,305	n/a	3,074
1998	n/a	n/a	n/a	n/a	-
1999	2,849	81	1,197	n/a	4,127
2000	n/a	n/a	n/a	n/a	-
2001	2,833	791	247		3,871
2002	3,746	433	926		5,105
2003			no survey		
2004	1,704	122	55		1,881
2005	3,007	1,261	995		5,263
Avg	2,571	495	789		3,855
Pct	67%	13%	20%		100%

AkPen: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	132	114	68	-	314
1996	154	118	395	490	1,157
1997	214	425	612	470	1,721
1998	192	200	564	820	1,776
1999	75	9	557	902	1,543
2000	397	163	230	1,187	1,977
2001	65	15	231	704	1,015
2002	98	-	485	2,072	2,654
2003			no survey		
2004	151	21	615		787
2005	293	112	297		702
					-
Avg	182	118	443	949	1,481
Pct	12%	8%	30%	64%	100%

Table D-31. Detailed harvest estimates, Spruce Grouse 1995-2005

Total Take by Season

	Spring	Summer	Fall	Winter	Total
1995	-	-	295	-	295
1996	-	-	-	-	no survey BBNA
1997	-	-	-	-	-
1998	-	-	-	-	no survey BBNA
1999	236	262	2,016	-	2,514
2000	-	-	-	-	no survey BBNA
2001	862	771	849	-	2,482
2002	476	493	2,082	-	3,051
2003			no survey		
2004	264	9	747	-	1,021
2005	1,571	1,989	4,291	-	7,851
Avg	487	503	1,469	-	2,459
Pct	20%	20%	60%	0%	

Total Take by Region

	Togiak	BBNA	AkPen	Total
1995	-	295	-	295
1996	-	-	-	no BBNA
1997	-	-	-	-
1998	-	-	-	no BBNA
1999	-	2,514	-	2,514
2000	-	-	-	no BBNA
2001	-	2,482	-	2,482
2002	33	3,018	-	3,051
2003		no survey		
2004	-	1,021	-	1,021
2005	209	7,642	-	7,851
Avg	35	2,425	-	2,459
Pct	1%	99%	0%	

Togiak: Take by Season

	Spring	Summer	Fall	Winter	Total
1995					
1996					
1997					
1998					
1999					
2000					
2001					
2002	-	33	-		33
2003			no survey		
2004	-	-	-		-
2005	74	-	136		209
Avg	25	11	45		81
Pct	30%	14%	56%		100%

BBNA: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	-	-	295	n/a	295
1996	n/a	n/a	n/a	n/a	-
1997	-	-	-	n/a	-
1998	n/a	n/a	n/a	n/a	-
1999	236	262	2,016	n/a	2,514
2000	n/a	n/a	n/a	n/a	-
2001	862	771	849		2,482
2002	476	460	2,082		3,018
2003			no survey		
2004	264	9	747		1,021
2005	1,497	1,989	4,155		7,642
Avg	476	499	1,449		2,425
Pct	20%	21%	60%		100%

AkPen: Take by Season

	Spring	Summer	Fall	Winter	Total
1995					
1996					
1997					
1998					
1999					
2000					
2001					
2002	-	-	-	-	-
2003			no survey		
2004	-	-	-		-
2005	-	-	-		-
					-
Avg	-	-	-	-	-
Pct					

Table D-32. Detailed harvest estimates, Yellow-billed Loon, 1995-2005

Total Take by Season

	Spring	Summer	Fall	Winter	Total
1995	4	83	135	-	222
1996	-	-	-	-	no survey BBNA
1997	3	8	-	-	11
1998	15	-	4	-	no survey BBNA
1999	12	-	-	-	12
2000	-	-	-	-	no survey BBNA
2001	17	9	-	-	26
2002	23	5	202	41	270
2003			no survey		
2004	-	-	10	-	10
2005	5	-	-	-	5
Avg	9	15	50	6	79
Pct	11%	19%	62%	7%	

Total Take by Region

	Togiak	BBNA	AkPen	Total
1995	218	4	-	222
1996	-	-	-	no BBNA
1997	11	-	-	11
1998	19	-	-	no BBNA
1999	12	-	-	12
2000	-	-	-	no BBNA
2001	26	-	-	26
2002	5	2	263	270
2003			no survey	
2004	10	-	-	10
2005	5	-	-	5
Avg	41	1	38	79
Pct	52%	1%	47%	

Togiak: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	-	83	135	n/a	218
1996	-	-	-	n/a	-
1997	3	8	-	n/a	11
1998	15	-	4	n/a	19
1999	12	-	-	n/a	12
2000	-	-	-	n/a	-
2001	17	9	-		26
2002	5	-	-		5
2003			no survey		
2004	-	-	10		10
2005	5	-	-		5
Avg	6	10	15		31
Pct	19%	33%	49%		100%

BBNA: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	4	-	-	n/a	4
1996	n/a	n/a	n/a	n/a	-
1997	-	-	-	n/a	-
1998	n/a	n/a	n/a	n/a	-
1999	-	-	-	n/a	-
2000	n/a	n/a	n/a	n/a	-
2001	-	-	-		-
2002	2	-	-		2
2003			no survey		
2004	-	-	-		-
2005	-	-	-		-
Avg	1	-	-		1
Pct	100%	0%	0%		100%

AkPen: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	-	-	-	-	-
1996	-	-	-	-	-
1997	-	-	-	-	-
1998	-	-	-	-	-
1999	-	-	-	-	-
2000	-	-	-	-	-
2001	-	-	-	-	-
2002	16	5	202	41	263
2003			no survey		
2004	-	-	-		-
2005	-	-	-		-
					-
Avg					
Pct					

Table D-33. Detailed harvest estimates, Red-throated Loon, 1995-2005

Total Take by Season

	Spring	Summer	Fall	Winter	Total
1995	-	-	-	-	-
1996	-	-	-	-	no survey BBNA
1997	-	-	-	-	-
1998	-	-	14	-	no survey BBNA
1999	-	-	-	-	-
2000	3	-	-	-	no survey BBNA
2001	15	-	-	-	15
2002	27	-	-	-	27
2003			no survey		
2004	-	-	10	-	10
2005	-	-	-	-	-
Avg	6	-	1		7
Pct	81%	0%	19%	0%	

Total Take by Region

	Togiak	BBNA	AkPen	Total
1995	-	-	-	-
1996	-	-	-	no BBNA
1997	-	-	-	-
1998	14	-	-	no BBNA
1999	-	-	-	-
2000	3	-	-	no BBNA
2001	9	-	6	15
2002	4	-	23	27
2003			no survey	
2004	10	-	-	10
2005	-	-	-	-
Avg	3	-	4	7
Pct	44%	0%	56%	

Togiak: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	-	-	-	n/a	-
1996	-	-	-	n/a	-
1997	-	-	-	n/a	-
1998	-	-	14	n/a	14
1999	-	-	-	n/a	-
2000	3	-	-	n/a	3
2001	9	-	-	n/a	9
2002	4	-	-	n/a	4
2003			no survey		
2004	-	-	10		10
2005	-	-	-		-
Avg	2	-	2		4
Pct	40%	0%	60%		100%

BBNA: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	-	-	-	n/a	-
1996	n/a	n/a	n/a	n/a	-
1997	-	-	-	n/a	-
1998	n/a	n/a	n/a	n/a	-
1999	-	-	-	n/a	-
2000	n/a	n/a	n/a	n/a	-
2001	-	-	-		-
2002	-	-	-		-
2003			no survey		
2004	-	-	-		-
2005	-	-	-		-
Avg	-	-	-		-
Pct					

AkPen: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	-	-	-	-	-
1996	-	-	-	-	-
1997	-	-	-	-	-
1998	-	-	-	-	-
1999	-	-	-	-	-
2000	-	-	-	-	-
2001	6	-	-	-	6
2002	23	-	-	-	23
2003			no survey		
2004	-	-	-		-
2005	-	-	-		-
					-
Avg					
Pct					

Table D-34. Detailed harvest estimates, Common Loon, 1995-2005

Total Take by Season

	Spring	Summer	Fall	Winter	Total
1995	60	51	-	-	111
1996	-	4	-	-	no survey BBNA
1997	5	10	-	-	15
1998	9	-	-	-	no survey BBNA
1999	18	-	-	-	18
2000	-	-	-	-	no survey BBNA
2001	19	4	-	-	23
2002	-	-	-	-	-
2003			no survey		
2004	14	-	-	-	14
2005	18	-	-	-	18
Avg	19	9	-		28
Pct	67%	33%	0%	0%	

Total Take by Region

	Togiak	BBNA	AkPen	Total
1995	111	-	-	111
1996	4	-	-	no BBNA
1997	3	12	-	15
1998	9	-	-	no BBNA
1999	6	12	-	18
2000	-	-	-	no BBNA
2001	23	-	-	23
2002	-	-	-	-
2003		no survey		
2004	14	-	-	14
2005	18	-	-	18
Avg	25	3	-	28
Pct	88%	12%	0%	

Togiak: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	60	51	-	n/a	111
1996	-	4	-	n/a	4
1997	-	3	-	n/a	3
1998	9	-	-	n/a	9
1999	6	-	-	n/a	6
2000	-	-	-	n/a	-
2001	19	4	-		23
2002	-	-	-		-
2003			no survey		
2004	14	-	-		14
2005	18	-	-		18
Avg	13	6	-		19
Pct	67%	33%	0%		100%

BBNA: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	-	-	-	n/a	-
1996	n/a	n/a	n/a	n/a	-
1997	5	7	-	n/a	12
1998	n/a	n/a	n/a	n/a	-
1999	12	-	-	n/a	12
2000	n/a	n/a	n/a	n/a	-
2001	-	-	-		-
2002	-	-	-		-
2003			no survey		
2004	-	-	-		-
2005	-	-	-		-
Avg	2	1	-		3
Pct	71%	29%	0%		100%

AkPen: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	-	-	-	-	-
1996	-	-	-	-	-
1997	-	-	-	-	-
1998	-	-	-	-	-
1999	-	-	-	-	-
2000	-	-	-	-	-
2001	-	-	-	-	-
2002	-	-	-	-	-
2003			no survey		
2004	-	-	-		-
2005	-	-	-		-
					-
Avg	-	-	-	-	-
Pct					

Table D-35. Detailed harvest estimates, Arctic Loon, 1995-2005

Total Take by Season

	Spring	Summer	Fall	Winter	Total
1995	3	-	-	-	3
1996	-	-	-	-	no survey BBNA
1997	-	-	-	-	-
1998	-	-	-	-	no survey BBNA
1999	-	-	-	-	-
2000	-	-	-	-	no survey BBNA
2001	4	-	-	-	4
2002	2	-	-	-	2
2003			no survey		
2004	7	-	3	-	10
2005	-	-	-	-	-
Avg	2	-	0		3
Pct	84%	0%	16%	0%	

Total Take by Region

	Togiak	BBNA	AkPen	Total
1995	-	3	-	3
1996	-	-	-	no BBNA
1997	-	-	-	-
1998	-	-	-	no BBNA
1999	-	-	-	-
2000	-	-	-	no BBNA
2001	4	-	-	4
2002	2	-	-	2
2003		no survey		
2004	10	-	-	10
2005	-	-	-	-
Avg	2	0	-	3
Pct	84%	16%	0%	

Togiak: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	-	-	-	n/a	-
1996	-	-	-	n/a	-
1997	-	-	-	n/a	-
1998	-	-	-	n/a	-
1999	-	-	-	n/a	-
2000	-	-	-	n/a	-
2001	4	-	-		4
2002	2	-	-		2
2003			no survey		
2004	7	-	3		10
2005	-	-	-		-
Avg	1	-	0		2
Pct	81%	0%	19%		100%

BBNA: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	3	-	-	n/a	3
1996	n/a	n/a	n/a	n/a	-
1997	-	-	-	n/a	-
1998	n/a	n/a	n/a	n/a	-
1999	-	-	-	n/a	-
2000	n/a	n/a	n/a	n/a	-
2001	-	-	-		-
2002	-	-	-		-
2003			no survey		
2004	-	-	-		-
2005	-	-	-		-
Avg	0	-	-		0
Pct	100%	0%	0%		100%

AkPen: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	-	-	-	-	-
1996	-	-	-	-	-
1997	-	-	-	-	-
1998	-	-	-	-	-
1999	-	-	-	-	-
2000	-	-	-	-	-
2001	-	-	-	-	-
2002	-	-	-	-	-
2003			no survey		
2004	-	-	-		-
2005	-	-	-		-
					-
Avg	-	-	-	-	-
Pct					

Table D-36. Detailed harvest estimates, Common Murre, 1995-2005

Table D-36. Detailed harvest estimates, Common Murre, 1995-2005

Total Take by Season

	Spring	Summer	Fall	Winter	Total
1995	-	-	-	-	-
1996	36	-	-	-	no survey BBNA
1997	3	13	-	-	16
1998	12	14	-	-	no survey BBNA
1999	9	-	-	-	9
2000	-	-	4	-	no survey BBNA
2001	-	9	-	-	9
2002	-	-	-	-	-
2003			no survey		
2004	7	-	-	-	7
2005	-	-	-	-	-
Avg	3	3	-		6
Pct	46%	54%	0%	0%	

Total Take by Region

	Togiak	BBNA	AkPen	Total
1995	-	-	-	-
1996	36	-	-	no BBNA
1997	13	-	3	16
1998	26	-	-	no BBNA
1999	9	-	-	9
2000	-	-	4	no BBNA
2001	9	-	-	9
2002	-	-	-	-
2003			no survey	
2004	7	-	-	7
2005	-	-	-	-
Avg	5	-	0	6
Pct	93%	0%	7%	

Togiak: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	-	-	-	n/a	-
1996	36	-	-	n/a	36
1997	-	13	-	n/a	13
1998	12	14	-	n/a	26
1999	9	-	-	n/a	9
2000	-	-	-	n/a	-
2001	-	9	-		9
2002	-	-	-		-
2003			no survey		
2004	7	-	-		7
2005	-	-	-		-
Avg	6	4	-		10
Pct	64%	36%	0%		100%

BBNA: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	-	-	-	n/a	-
1996	n/a	n/a	n/a	n/a	-
1997	-	-	-	n/a	-
1998	n/a	n/a	n/a	n/a	-
1999	-	-	-	n/a	-
2000	n/a	n/a	n/a	n/a	-
2001	-	-	-		-
2002	-	-	-		-
2003			no survey		
2004	-	-	-		-
2005	-	-	-		-
Avg	-	-	-		-
Pct					

AkPen: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	-	-	-	-	-
1996	-	-	-	-	-
1997	3	-	-	-	3
1998	-	-	-	-	-
1999	-	-	-	-	-
2000	-	-	4	-	4
2001	-	-	-	-	-
2002	-	-	-	-	-
2003			no survey		
2004	-	-	-		-
2005	-	-	-		-
					-
Avg					
Pct					

Table D-37. Detailed harvest estimates, small shorebirds, 1995-2005

Total Take by Season

	Spring	Summer	Fall	Winter	Total
1995	-	21	4	-	25
1996	-	3	10	-	no survey BBNA
1997	8	52	26	-	86
1998	3	-	13	-	no survey BBNA
1999	-	-	-	-	-
2000	-	-	4	-	no survey BBNA
2001	25	-	-	-	25
2002	-	-	-	-	-
2003			no survey		
2004	-	-	-	-	-
2005	329	42	55	-	426
Avg	52	16	12		80
Pct	64%	20%	15%	0%	

Total Take by Region

	Togiak	BBNA	AkPen	Total
1995	-	21	4	25
1996	-	-	13	no BBNA
1997	20	-	66	86
1998	3	-	13	no BBNA
1999	-	-	-	-
2000	-	-	4	no BBNA
2001	25	-	-	25
2002	-	-	-	-
2003		no survey		
2004	-	-	-	-
2005	6	364	55	426
Avg	7	55	18	80
Pct	9%	69%	22%	

Togiak: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	-	-	-	n/a	-
1996	-	-	-	n/a	-
1997	8	12	-	n/a	20
1998	3	-	-	n/a	3
1999	-	-	-	n/a	-
2000	-	-	-	n/a	-
2001	25	-	-		25
2002	-	-	-		-
2003			no survey		
2004	-	-	-		-
2005	-	6	-		6
Avg	4	2	-		5
Pct	66%	34%	0%		100%

BBNA: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	-	21	-	n/a	21
1996	n/a	n/a	n/a	n/a	-
1997	-	-	-	n/a	-
1998	n/a	n/a	n/a	n/a	-
1999	-	-	-	n/a	-
2000	n/a	n/a	n/a	n/a	-
2001	-	-	-		-
2002	-	-	-		-
2003			no survey		
2004	-	-	-		-
2005	329	36	-		364
Avg	47	8	-		55
Pct	85%	15%	0%		100%

AkPen: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	-	-	4	-	4
1996	-	3	10	-	13
1997	-	40	26	-	66
1998	-	-	13	-	13
1999	-	-	-	-	-
2000	-	-	4	-	4
2001	-	-	-	-	-
2002	-	-	-	-	-
2003			no survey		
2004	-	-	-		-
2005	-	-	55		55
					-
Avg					

Table D-38. Detailed harvest estimates, Bristle-thighed Curlew, 1995-2005

Total Take by Season

	Spring	Summer	Fall	Winter	Total
1995	-	-	-	-	-
1996	-	-	-	-	no survey BBNA
1997	-	-	-	-	-
1998	-	-	-	-	no survey BBNA
1999	-	-	-	-	-
2000	-	-	-	-	no survey BBNA
2001	-	-	-	-	-
2002	24	-	70	-	94
2003			no survey		
2004	-	-	-	-	-
2005	13	82	-	-	95
Avg	5	12	10		27
Pct					

Total Take by Region

	Togiak	BBNA	AkPen	Total
1995	-	-	-	-
1996	-	-	-	no BBNA
1997	-	-	-	-
1998	-	-	-	no BBNA
1999	-	-	-	-
2000	-	-	-	no BBNA
2001	-	-	-	-
2002	-	70	24	94
2003		no survey		
2004	-	-	-	-
2005	-	34	61	95
Avg	-	15	12	27
Pct				

Togiak: Take by Season

	Spring	Summer	Fall	Winter	Total
1995					-
1996					-
1997					-
1998					-
1999					-
2000					-
2001	-	-	-		-
2002	-	-	-		-
2003			no survey		
2004	-	-	-		-
2005	-	-	-		-
Avg	-	-	-		-
Pct					

BBNA: Take by Season

	Spring	Summer	Fall	Winter	Total
1995					-
1996					-
1997					-
1998					-
1999					-
2000					-
2001	-	-	-		-
2002	-	-	70		70
2003			no survey		
2004	-	-	-		-
2005	13	21	-		34
Avg	3	5	18		12
Pct					

AkPen: Take by Season

	Spring	Summer	Fall	Winter	Total
1995					-
1996					-
1997					-
1998					-
1999					-
2000					-
2001	-	-	-	-	-
2002	24	-	-	-	24
2003			no survey		
2004	-	-	-		-
2005	-	61	-		61
					-
Avg					
Pct					

Table D-39. Detailed harvest estimates, Whimbrel, 1995-2005

Total Take by Season

	Spring	Summer	Fall	Winter	Total
1995	-	-	-	-	-
1996	-	-	-	-	no survey BBNA
1997	-	-	-	-	-
1998	-	-	-	-	no survey BBNA
1999	-	-	-	-	-
2000	-	-	-	-	no survey BBNA
2001	-	-	-	-	-
2002	23	63	16	-	103
2003			no survey		
2004	-	-	-	-	-
2005	-	11	-	-	11

Total Take by Region

	Togiak	BBNA	AkPen	Total
1995	-	-	-	-
1996	-	-	-	no BBNA
1997	-	-	-	-
1998	-	-	-	no BBNA
1999	-	-	-	-
2000	-	-	-	no BBNA
2001	-	-	-	-
2002	-	103	-	103
2003		no survey		
2004	-	-	-	-
2005	-	11	-	11

Avg
Pct

Togiak: Take by Season

	Spring	Summer	Fall	Winter	Total
1995					-
1996					-
1997					-
1998					-
1999					-
2000					-
2001	-	-	-		-
2002	-	-	-		-
2003			no survey		
2004	-	-	-		-
2005	-	-	-		-

BBNA: Take by Season

	Spring	Summer	Fall	Winter	Total
1995					-
1996					-
1997					-
1998					-
1999					-
2000					-
2001	-	-	-		-
2002	23	63	16		103
2003			no survey		
2004	-	-	-		-
2005	-	11	-		11

Avg
Pct

AkPen: Take by Season

	Spring	Summer	Fall	Winter	Total
1995					-
1996					-
1997					-
1998					-
1999					-
2000					-
2001	-	-	-	-	-
2002	-	-	-	-	-
2003			no survey		
2004	-	-	-		-
2005	-	-	-		-
					-
Avg	-	-	-	-	-
Pct					

Table D-40. Detailed harvest estimates, Large shorebirds, 1995-2005

Total Take by Season

	Spring	Summer	Fall	Winter	Total
1995	12	-	-	-	12
1996	20	7	-	-	no survey BBNA
1997	-	58	10	-	68
1998	58	-	17	-	no survey BBNA
1999	6	-	-	-	6
2000	3	37	27	-	no survey BBNA
2001	-	12	-	-	12
2002	-	-	-	-	-
2003			no survey		
2004	-	-	-	-	-
2005	-	-	-	-	-

Total Take by Region

	Togiak	BBNA	AkPen	Total
1995	-	12	-	12
1996	-	-	27	no BBNA
1997	6	42	20	68
1998	7	-	68	no BBNA
1999	3	3	-	6
2000	50	-	17	no BBNA
2001	12	-	-	12
2002	-	-	-	-
2003			no survey	
2004	-	-	-	-
2005	-	-	-	-

Avg
Pct

Togiak: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	-	-	-	n/a	-
1996	-	-	-	n/a	-
1997	-	6	-	n/a	6
1998	-	-	7	n/a	7
1999	3	-	-	n/a	3
2000	3	20	27	n/a	50
2001	-	12	-		12
2002	-	-	-		-
2003			no survey		
2004	-	-	-		-
2005	-	-	-		-

BBNA: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	12	-	-	n/a	12
1996	n/a	n/a	n/a	n/a	-
1997	-	42	-	n/a	42
1998	n/a	n/a	n/a	n/a	-
1999	3	-	-	n/a	3
2000	n/a	n/a	n/a	n/a	-
2001	-	-	-		-
2002	-	-	-		-
2003			no survey		
2004	-	-	-		-
2005	-	-	-		-

Avg
Pct

AkPen: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	-	-	-	-	-
1996	20	7	-	-	27
1997	-	10	10	-	20
1998	58	-	10	-	68
1999	-	-	-	-	-
2000	-	17	-	-	17
2001					-
2002					-
2003			no survey		
2004	-	-	-		-
2005	-	-	-		-
					-

Avg
Pct

Table D-41. Detailed harvest estimates, Mew Gull, 1995-2005

Total Take by Season

	Spring	Summer	Fall	Winter	Total
1995	-	335	-	-	335
1996	-	-	-	-	no survey BBNA
1997	-	-	-	-	-
1998	3	-	-	-	no survey BBNA
1999	4	-	-	-	4
2000	-	-	-	-	no survey BBNA
2001	20	-	-	-	20
2002	290	-	-	-	290
2003			no survey		
2004	65	33	-	-	98
2005	150	19	-	-	169
Avg	76	55	-		131
Pct	58%	42%	0%	0%	

Total Take by Region

	Togiak	BBNA	AkPen	Total
1995	335	-	-	335
1996	-	-	-	no BBNA
1997	-	-	-	-
1998	3	-	-	no BBNA
1999	-	-	4	4
2000	-	-	-	no BBNA
2001	-	20	-	20
2002	-	290	-	290
2003		no survey		
2004	-	98	-	98
2005	-	169	-	169
Avg	48	82	1	131
Pct	37%	63%	0%	

Togiak: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	-	335	-	n/a	335
1996	-	-	-	n/a	-
1997	-	-	-	n/a	-
1998	3	-	-	n/a	3
1999	-	-	-	n/a	-
2000	-	-	-	n/a	-
2001	-	-	-		-
2002	-	-	-		-
2003			no survey		
2004	-	-	-		-
2005	-	-	-		-
Avg	0	34	-		34
Pct	1%	99%	0%		100%

BBNA: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	-	-	-	n/a	-
1996	n/a	n/a	n/a	n/a	-
1997	-	-	-	n/a	-
1998	n/a	n/a	n/a	n/a	-
1999	-	-	-	n/a	-
2000	n/a	n/a	n/a	n/a	-
2001	20	-	-		20
2002	290	-	-		290
2003			no survey		
2004	65	33	-		98
2005	150	19	-		169
Avg	75	9	-		64
Pct	117%	13%	0%		100%

AkPen: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	-	-	-	-	-
1996	-	-	-	-	-
1997	-	-	-	-	-
1998	-	-	-	-	-
1999	4	-	-	-	4
2000	-	-	-	-	-
2001	-	-	-	-	-
2002	-	-	-	-	-
2003			no survey		
2004	-	-	-		-
2005	-	-	-		-
					-
Avg					
Pct					

Table D-42. Detailed harvest estimates, Sabine's Gull 1995-2005

Total Take by Season

	Spring	Summer	Fall	Winter	Total
1995	-	225	2	-	227
1996	-	-	-	-	no survey BBNA
1997	-	17	-	-	17
1998	-	48	-	-	no survey BBNA
1999	-	19	-	-	19
2000	-	-	-	-	no survey BBNA
2001	-	-	-	-	-
2002	-	-	-	-	-
2003			no survey		
2004	-	-	-	-	-
2005	-	-	-	-	-

Avg
Pct

Total Take by Region

	Togiak	BBNA	AkPen	Total
1995	-	227	-	227
1996	-	-	-	no BBNA
1997	17	-	-	17
1998	48	-	-	no BBNA
1999	-	19	-	19
2000	-	-	-	no BBNA
2001	-	-	-	-
2002	-	-	-	-
2003			no survey	
2004	-	-	-	-
2005	-	-	-	-

Togiak: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	-	-	-	n/a	-
1996	-	-	-	n/a	-
1997	-	17	-	n/a	17
1998	-	48	-	n/a	48
1999	-	-	-	n/a	-
2000	-	-	-	n/a	-
2001	-	-	-		-
2002	-	-	-		-
2003			no survey		
2004	-	-	-		-
2005	-	-	-		-

Avg
Pct

BBNA: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	-	225	2	n/a	227
1996	n/a	n/a	n/a	n/a	-
1997	-	-	-	n/a	-
1998	n/a	n/a	n/a	n/a	-
1999	-	19	-	n/a	19
2000	n/a	n/a	n/a	n/a	-
2001	-	-	-		-
2002	-	-	-		-
2003			no survey		
2004	-	-	-		-
2005	-	-	-		-

AkPen: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	-	-	-	-	-
1996	-	-	-	-	-
1997	-	-	-	-	-
1998	-	-	-	-	-
1999	-	-	-	-	-
2000	-	-	-	-	-
2001	-	-	-	-	-
2002	-	-	-	-	-
2003			no survey		
2004	-	-	-		-
2005	-	-	-		-
					-
Avg	-	-	-	-	-
Pct					

Table D-43. Detailed harvest estimates, Glaucous Gulls, 1995-2005

Total Take by Season

	Spring	Summer	Fall	Winter	Total
1995	-	225	2	-	227
1996	-	-	-	-	no survey BBNA
1997	-	-	-	-	-
1998	-	-	-	-	no survey BBNA
1999	-	4	-	-	4
2000	-	6	-	-	no survey BBNA
2001	331	10	-	-	341
2002	327	-	-	-	327
2003			no survey		
2004	212	-	-	-	212
2005	88	44	-	-	132
Avg	137	40	0		178
Pct	1	0	0	-	

Total Take by Region

	Togiak	BBNA	AkPen	Total
1995	-	227	-	227
1996	-		-	no BBNA
1997	-	-	-	-
1998	-		-	no BBNA
1999	-	4	-	4
2000	6		-	no BBNA
2001	230	16	95	341
2002	-	327	-	327
2003			no survey	
2004	-	-	212	212
2005	-	132	-	132
Avg	33	101	44	178
Pct	0	1	0	

Togiak: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	-	-	-	n/a	-
1996	-	-	-	n/a	-
1997	-	-	-	n/a	-
1998	-	-	-	n/a	-
1999	-	-	-	n/a	-
2000	-	6	-	n/a	6
2001	230	-	-		230
2002	-	-	-		-
2003			no survey		
2004	-	-	-		-
2005	-	-	-		-
Avg	26	1	-		26
Pct	97%	3%	0%		100%

BBNA: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	-	-	225	2	n/a 227
1996	n/a	n/a	n/a	n/a	
1997	-	-	-	n/a	-
1998	n/a	n/a	n/a	n/a	
1999	-	-	4	-	n/a 4
2000	n/a	n/a	n/a	n/a	
2001	6	10	-	n/a	16
2002	327	-	-	n/a	327
2003			no survey		
2004	-	-	-		-
2005	88	44	-		132
Avg	70	10	-		80
Pct	88%	12%	0%		100%

AkPen: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	-	-	-	-	-
1996	-	-	-	-	-
1997	-	-	-	-	-
1998	-	-	-	-	-
1999	-	-	-	-	-
2000	-	-	-	-	-
2001	95	-	-	-	95
2002	-	-	-	-	-
2003			no survey		
2004	212	-	-		212
2005	-	-	-		-
					-
Avg					
Pct					

Table D-44. Detailed harvest estimates, Arctic Tern, 1995-2005

Total Take by Season

	Spring	Summer	Fall	Winter	Total
1995	-	20	-	-	20
1996	-	-	-	-	no survey BBNA
1997	-	14	-	-	14
1998	-	-	-	-	no survey BBNA
1999	-	-	-	-	-
2000	-	-	-	-	no survey BBNA
2001	-	-	-	-	-
2002	45	-	-	-	45
2003			no survey		
2004	-	-	-	-	-
2005	-	-	-	-	-
Avg	6	5	-		11
Pct	1	0	-	-	

Total Take by Region

	Togiak	BBNA	AkPen	Total
1995	-	20	-	20
1996	-	-	-	no BBNA
1997	-	14	-	14
1998	-	-	-	no BBNA
1999	-	-	-	-
2000	-	-	-	no BBNA
2001	-	-	-	-
2002	-	45	-	45
2003		no survey		
2004	-	-	-	-
2005	-	-	-	-
Avg	-	11	-	11
Pct	-	1	-	

Togiak: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	-	-	-	n/a	-
1996	-	-	-	n/a	-
1997	-	-	-	n/a	-
1998	-	-	-	n/a	-
1999	-	-	-	n/a	-
2000	-	-	-	n/a	-
2001	-	-	-		-
2002	-	-	-		-
2003			no survey		
2004	-	-	-		-
2005	-	-	-		-
Avg	-	-	-		-
Pct					

BBNA: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	-	20	-	n/a	20
1996	n/a	n/a	n/a	n/a	-
1997	-	14	-	n/a	14
1998	n/a	n/a	n/a	n/a	-
1999	-	-	-	n/a	-
2000	n/a	n/a	n/a	n/a	-
2001	-	-	-		-
2002	45	-	-		45
2003			no survey		
2004	-	-	-		-
2005	-	-	-		-
Avg	8	2	-		7
Pct	1	0	-		1

AkPen: Take by Season

	Spring	Summer	Fall	Winter	Total
1995	-	-	-	-	-
1996	-	-	-	-	-
1997	-	-	-	-	-
1998	-	-	-	-	-
1999	-	-	-	-	-
2000	-	-	-	-	-
2001	-	-	-	-	-
2002	-	-	-	-	-
2003			no survey		
2004	-	-	-		-
2005	-	-	-		-
					-
Avg	-	-	-	-	-
Pct					

Appendix E Annual bird and egg harvest survey estimates 2001-2005

Table E-1. Bird harvest estimates by sub-region, Bristol Bay, 2001

	Alaska PeninNWR	Nush, Dill Iliamna	Togiak NWR	Total
GEESE				
White-fronted Goose	19	1,532	865	2,416
Cackling Canada Goose	97	810	1,041	1,948
Emperor Goose	71	37	15	123
Black Brant	176	112	818	1,106
Lesser Canada Goose	81	691	825	1,597
Lesser Snow Goose	3	47	9	59
TOTAL GEESE	447	3,229	3,573	7,249
Tundra Swan	2	75	61	138
Sandhill Crane	16	50	182	248
DUCKS				
Pintail	169	2,057	444	2,670
Mallard	280	3,028	612	3,920
Unidentified ducks	26	703	23	752
Wigeon	41	476	288	805
Shoveler	19	148	25	192
Canvasback*	0	0	23	23
Green-winged Teal	339	595	50	984
Bufflehead	51	120	26	197
Harlequin	0	206	32	238
Greater Scaup	0	11	23	34
Goldeneyes	168	383	49	600
Long-tailed Duck	135	83	21	239
White-winged Scoter	0	147	60	207
Black Scoter	40	58	234	332
Surf Scoter	2	102	17	121
Common Eider	24	0	105	129
King Eider	0	10	827	837
Spectacled Eider	0	61	0	61
Steller's Eider	0	0		0
Common Merganser	0	11	133	144
Red-breasted Merganser	0	34	161	195
TOTAL DUCKS	1,294	8,233	3,153	12,680
Ptarmigan (non-migratory)	1,015	3,871	3,291	8,177
Spruce Grouse	0	2,482	0	2,482
OTHER BIRDS				
Yellow-billed Loon	0	0	26	26
Red-throated Loon	6	0	9	15
Common Loon	0	0	24	24
Pacific Loon	0	0	4	4
Auklets*				
Common Murre	0	0	9	9
Kittiwakes*				
Guillemots*				
Mew Gull	0	20	0	20
Sabine's Gull	0	0	0	0
Glaucous Gull	95	16	230	341
Herring Gull*				
Arctic Tern	0	0	0	0
Bristle-thighed curlew*				
Godwits*				
Whimbrel*				
Golden Plover*				
Small shorebirds	0	0	25	25
Large shorebirds	0	0	12	12
Cormorants*				
Other Unknown Birds*				
TOTAL OTHER BIRDS	101	36	339	476
TOTAL(w/o Ptarm/Grouse)	1,860	11,623	7,308	20,791
TOTAL (with Ptarm/Grouse)	2,875	17,976	10,599	31,450

* new species added, 2002

Table E-2. Egg harvest estimates by sub-region, Bristol Bay, 2001

	Alaska PeninNWR	Nush, Dill Iliamna	Togiak NWR	Total
GOOSE EGGS				
White-fronted Goose	0	6	20	26
Cackling Canada Goose	0	12	8	20
Emperor Goose	0	0	0	0
Black Brant	0	0	0	0
Lesser Canada Goose	0	0	0	0
Lesser Snow Goose	0	0	0	0
TOTAL GEESE	0	18	28	46
Tundra Swan	4	24	19	47
Sandhill Crane	0	0	0	0
DUCK EGGS				
Pintail	0	171	0	171
Mallard	0	125	41	166
Unidentified ducks	0	336	20	356
Wigeon	0	0	0	0
Shoveler	0	0	0	0
Canvasback*	0	0	0	0
Green-winged Teal	0	0	0	0
Bufflehead	0	0	0	0
Harlequin	0	0	0	0
Greater Scaup	0	0	0	0
Goldeneyes	0	49	0	49
Long-tailed Duck	0	0	0	0
White-winged Scoter	0	0	0	0
Black Scoter	0	0	0	0
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	24	0	24
TOTAL DUCK EGGS	0	705	61	766
Ptarmigan (non-migratory)	0	0	0	0
Spruce Grouse	0	0	0	0
OTHER BIRD EGGS				
Yellow-billed Loon	0	0	0	0
Red-throated Loon	0	0	0	0
Common Loon	0	0	0	0
Pacific Loon	0	0	0	0
Auklets*				
Common Murre	0	0	2,420	2420
Kittiwakes*				
Guillemots*				
Mew Gull	45	5,399	396	5840
Sabine's Gull	0	1,135	1	1136
Glaucous Gull	706	12,126	4,801	17633
Herring Gull*				
Arctic Tern	0	666	69	735
Bristle-thighed curlew*				
Godwits*				
Whimbrel*				
Golden Plover*				
Small shorebirds	0	0	0	0
Large shorebirds	0	0	0	0
Cormorants	0			0
Other Unknown Birds*				
TOTAL OTHER BIRD EGGS	751	19,326	7,687	27764
TOTAL(w/o Ptarm/Grouse)	755	20,073	7,795	28623
TOTAL (with Ptarm/Grouse	755	20,073	7,795	28623

* new species added, 2002

Table E-3. Bird harvest estimates by sub-region, Bristol Bay, 2002

	Alaska PeninNWR	Nush, Dill Iliamna	Togiak NWR	Total
GEESE				
White-fronted Goose	0	1,159	888	2,047
Cackling Canada Goose	0	649	1,142	1,791
Emperor Goose	1	14	152	167
Black Brant	55	61	567	683
Lesser Canada Goose	0	616	693	1,309
Lesser Snow Goose	0	82	57	139
TOTAL GEESE	56	2,581	3,499	6,136
Tundra Swan	0	184	215	399
Sandhill Crane	5	126	154	285
DUCKS				
Pintail	237	1,528	941	2,706
Mallard	0	3,223	599	3,822
Unidentified ducks	0	14	0	14
Wigeon	141	266	120	527
Shoveler	193	250	201	644
Canvasback*	221	254	111	586
Green-winged Teal	4	1,223	112	1,339
Bufflehead	320	34	0	354
Harlequin	7	221	34	262
Greater Scaup	4	65	52	121
Goldeneyes	18	253	47	318
Long-tailed Duck	31	5	9	45
White-winged Scoter	0	31	0	31
Black Scoter	15	93	114	222
Surf Scoter	0	96	0	96
Common Eider	82	33	63	178
King Eider	14	2	625	641
Spectacled Eider	13	0	5	18
Steller's Eider	0	0	5	5
Common Merganser	91	32	484	607
Red-breasted Merganser	0	0	235	235
TOTAL DUCKS	1,391	7,623	3,757	12,771
Ptarmigan (non-migratory)	2,655	5,105	3,284	11,044
Spruce Grouse	0	3,018	33	3,051
OTHER BIRDS				
Yellow-billed Loon	263	2	5	270
Red-throated Loon	23	0	4	27
Common Loon	0	0	0	0
Pacific Loon	0	0	2	2
Auklets*	0	0	0	0
Common Murre	0	0	0	0
Kittiwakes*	0	0	0	0
Guillemots*	0	7	0	7
Mew Gull	0	290	0	290
Sabine's Gull	0	0	0	0
Glaucous Gull	24	327	0	351
Herring Gull*	0	0	0	0
Arctic Tern	0	45	0	45
Bristle-thighed curlew*	0	70	0	70
Godwits*	0	0	0	0
Whimbrel*	0	103	0	103
Golden Plover*	0	0	2	2
Small shorebirds	0	0	0	0
Large shorebirds				
Cormorants*	0	0	0	0
Other Unknown Birds*	0	0	0	0
TOTAL OTHER BIRDS	310	844	13	1,167
TOTAL(w/o Ptarm/Grouse)	1,762	11,358	7,638	20,758
TOTAL (with Ptarm/Grouse)	4,417	19,481	10,955	34,853

* new species added, 2002

Table E-4. Egg harvest estimates by sub-region, Bristol Bay, 2002

	Alaska PeninNWR	Nush, Dill Iliamna	Togiak NWR	Total
GOOSE EGGS				
White-fronted Goose	0	0	0	0
Cackling Canada Goose	0	0	0	0
Emperor Goose	0	0	0	0
Black Brant	0	0	0	0
Lesser Canada Goose	0	0	29	29
Lesser Snow Goose	0	0	0	0
TOTAL GEESE	0	0	29	29
Tundra Swan	0	14	10	24
Sandhill Crane	0	0	2	2
DUCK EGGS				
Pintail	0	113	19	132
Mallard	0	158	33	191
Unidentified ducks	0	0	0	0
Wigeon	0	0	0	0
Shoveler	0	0	0	0
Canvasback*	0	0	0	0
Green-winged Teal	0	0	0	0
Bufflehead	26	0	0	26
Harlequin	0	0	0	0
Greater Scaup	0	0	0	0
Goldeneyes	0	0	0	0
Long-tailed Duck	0	0	0	0
White-winged Scoter	0	0	0	0
Black Scoter	0	0	0	0
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	26	271	52	349
Ptarmigan (non-migratory)	0	18	0	18
Spruce Grouse	0	0	0	0
OTHER BIRD EGGS				
Yellow-billed Loon	0	5	0	5
Red-throated Loon	0	0	0	0
Common Loon	0	0	0	0
Pacific Loon	0	0	0	0
Auklets*	0	0	0	0
Common Murre	0	0	3,135	3135
Kittiwakes*	0	0	0	0
Guillemots*	0	0	0	0
Mew Gull	0	8,851	982	9833
Sabine's Gull	0	6	0	6
Glaucous Gull	1,288	7,612	965	9865
Herring Gull*	0	0	0	0
Arctic Tern	0	1,070	679	1749
Bristle-thighed curlew*	0	0	0	0
Godwits*	0	36	0	36
Whimbrel*	0	0	0	0
Golden Plover*	0	0	4	4
Small shorebirds	0	0	8	8
Large shorebirds	0	0	0	0
Cormorants	0	0	0	0
Other Unknown Birds*	0	0	0	0
TOTAL OTHER BIRD EGGS	1,288	17,580	5,773	24641
TOTAL(w/o Ptarm/Grouse)	1,314	17,865	5,866	25045
TOTAL (with Ptarm/Grouse	1,314	17,883	5,866	25063

* new species added, 2002

Table E-5. Bird harvest estimates by sub-region, Bristol Bay, 2004

	Alaska PeninNWR	Nush, Dill Iliamna	Togiak NWR	Total
GEESE				
White-fronted Goose	3	400	1497	1900
Cackling Canada Goose	131	295	1248	1674
Emperor Goose	137	15	50	202
Black Brant	31	92	1979	2102
Lesser Canada Goose	93	363	518	974
Lesser Snow Goose	0	0	17	17
TOTAL GEESE	395	1165	5309	6869
Tundra Swan	0	237	555	792
Sandhill Crane	0	65	283	348
DUCKS				
Pintail	70	1010	1013	2093
Mallard	188	3254	805	4247
Unidentified ducks	39	12	0	51
Wigeon	15	40	98	153
Shoveler	20	745	415	1180
Canvasback*	7	46	17	70
Green-winged Teal	242	1111	128	1481
Bufflehead	37	0	9	46
Harlequin	71	0	146	217
Greater Scaup	7	0	143	150
Goldeneyes	59	400	53	512
Long-tailed Duck	34	0	0	34
White-winged Scoter	0	0	14	14
Black Scoter	45	6	266	317
Surf Scoter	43	0	55	98
Common Eider	0	322	128	450
King Eider	0	0	593	593
Spectacled Eider	0	0	156	156
Steller's Eider	5	0	0	5
Common Merganser	62	0	486	548
Red-breasted Merganser	12	0	333	345
TOTAL DUCKS	956	6946	4858	12760
Ptarmigan (non-migratory)	787	1881	1967	4635
Spruce Grouse	0	1021	0	1021
OTHER BIRDS				
Yellow-billed Loon	0	0	10	10
Red-throated Loon	0	0	10	10
Common Loon	0	0	14	14
Pacific Loon	0	0	10	10
Auklets*	0	0	0	0
Common Murre	0	0	7	7
Kittiwakes*	0	0	0	0
Guillemots*	0	0	0	0
Mew Gull	0	98	0	98
Sabine's Gull	0	0	0	0
Glaucous Gull	212	0	0	212
Herring Gull*	0	0	0	0
Arctic Tern	0	0	0	0
Bristle-thighed curlew*	0	0	0	0
Godwits*	0	0	77	77
Whimbrel*	0	0	0	0
Golden Plover*	0	0	13	13
Small shorebirds	0	0	0	0
Large shorebirds	0	0	0	0
Cormorants	0	0	0	0
Other Unknown Birds*	4	29	0	33
TOTAL OTHER BIRDS	216	127	141	484
TOTAL(w/o Ptarm/Grouse)	1567	8540	11146	21253
TOTAL (with Ptarm/Grouse	2354	11442	13113	26909

* new species added, 2002

Table E-6. Egg harvest estimates by sub-region, Bristol Bay, 2004

	Alaska PeninNWR	Nush, Dill Iliamna	Togiak NWR	Total
GOOSE EGGS				
White-fronted Goose	0	0	13	13
Cackling Canada Goose	0	0	262	262
Emperor Goose	0	0	0	0
Black Brant	0	0	0	0
Lesser Canada Goose	0	0	40	40
Lesser Snow Goose	0	0	0	0
TOTAL GEESE	0	0	315	315
Tundra Swan	0	0	168	168
Sandhill Crane	0	0	74	74
DUCK EGGS				
Pintail	0	90	34	124
Mallard	0	248	0	248
Unidentified ducks	0	0	40	40
Wigeon	0	0	0	0
Shoveler	0	0	0	0
Canvasback*	0	0	0	0
Green-winged Teal	0	0	0	0
Bufflehead	0	0	0	0
Harlequin	0	0	0	0
Greater Scaup	0	0	20	20
Goldeneyes	0	0	0	0
Long-tailed Duck	0	0	0	0
White-winged Scoter	0	0	0	0
Black Scoter	0	0	0	0
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	0	338	94	432
Ptarmigan (non-migratory)	0	0	50	50
Spruce Grouse	0	0	0	0
OTHER BIRD EGGS				
Yellow-billed Loon	0	0	0	0
Red-throated Loon	0	0	0	0
Common Loon	0	0	3	3
Pacific Loon	0	0	0	0
Auklets*	0	0	0	0
Common Murre	0	209	8569	8778
Kittiwakes*	0	0	257	257
Guillemots*	0	0	0	0
Mew Gull	0	3761	1775	5536
Sabine's Gull	0	0	0	0
Glaucous Gull	623	5504	1583	7710
Herring Gull*	69	0	0	69
Arctic Tern	14	2374	116	2504
Bristle-thighed curlew*	0	0	0	0
Godwits*	0	0	0	0
Whimbrel*	0	0	0	0
Golden Plover*	0	0	0	0
Small shorebirds	0	0	54	54
Large shorebirds	0	0	0	0
Cormorants	0	0	0	0
Other Unknown Birds*	0	0	0	0
TOTAL OTHER BIRD EGGS	706	11848	12357	24911
TOTAL(w/o Ptarm/Grouse)	706	12186	13008	25900
TOTAL (with Ptarm/Grouse	706	12186	13058	25950

* new species added, 2002

Table E-7. Bird harvest estimates by sub-region, Bristol Bay, 2005

	Alaska PeninNWR	Nush Iliamna	Dillingham	Togiak NWR	Total
GEESE					
White-fronted Goose	0	1,005	66	2,570	3,641
Cackling Canada Goose	154	1,151	334	1,226	2,865
Emperor Goose	37	6	9	128	180
Black Brant	94	463	0	277	834
Lesser Canada Goose	49	1,230	367	749	2,395
Lesser Snow Goose	0	17	0	0	17
TOTAL GEESE	334	3,872	776	4,950	9,932
Tundra Swan	0	730	40	459	1,229
Sandhill Crane	16	942	26	430	1,414
DUCKS					
Pintail	226	3,535	801	1,606	6,168
Mallard	677	4,591	1,497	996	7,761
Unidentified ducks	0	163	110	21	294
Wigeon	6	973	463	380	1,822
Shoveler	0	1,597	124	354	2,075
Canvasback*	0	299	9	46	354
Green-winged Teal	268	1,289	1,207	309	3,073
Bufflehead	0	37	0	4	41
Harlequin	12	302	44	71	429
Greater Scaup	0	198	130	277	605
Goldeneyes	25	761	173	23	982
Long-tailed Duck	0	46	4	0	50
White-winged Scoter	0	68	0	210	278
Black Scoter	0	245	0	535	780
Surf Scoter	0	103	76	200	379
Common Eider	5	0	0	17	22
King Eider	0	0	0	454	454
Spectacled Eider	0	0	0	0	0
Steller's Eider	0	0	0	18	18
Common Merganser	0	0	0	157	157
Red-breasted Merganser	0	0	133	210	343
TOTAL DUCKS	1,219	14,207	4,771	5,888	26,085
Ptarmigan (non-migratory)	702	3,074	2,189	3,095	9,060
Spruce Grouse	0	2,723	4,919	209	7,851
OTHER BIRDS					
Yellow-billed Loon	0	0	0	5	5
Red-throated Loon	0	0	0	0	0
Common Loon	0	0	0	18	18
Pacific Loon	0	0	0	0	0
Auklets*	0	0	0	0	0
Common Murre	0	0	0	0	0
Kittiwakes*	0	0	0	0	0
Guillemots*	0	0	0	0	0
Mew Gull	0	38	131	0	169
Sabine's Gull	0	0	0	0	0
Glaucous Gull	0	0	132	0	132
Herring Gull*	0	0	0	0	0
Arctic Tern	0	0	0	0	0
Bristle-thighed curlew*	61	21	13	0	95
Godwits*	0	0	0	0	0
Whimbrel*	0	11	0	0	11
Golden Plover*	0	0	0	0	0
Small shorebirds	55	48	316	6	425
Large shorebirds	0	0	0	0	0
Cormorants	0	0	0	0	0
Other Unknown Birds*	0	173	37	0	210
TOTAL OTHER BIRDS	116	291	629	29	1,065
TOTAL(w/o Ptarm/Grouse)	1,685	20,042	6,242	11,756	39,725
TOTAL (with Ptarm/Grouse	2,387	25,839	13,350	15,060	56,636

* new species added, 2002

Table E-8. Egg harvest estimates by sub-region, Bristol Bay, 2005

	Alaska PeninNWR	Nush Iliamna	Dillingham	Togiak NWR	Total
GOOSE EGGS					
White-fronted Goose	0	0	0	57	57
Cackling Canada Goose	0	5	70	60	135
Emperor Goose	0	8	0	0	8
Black Brant	0	0	0	0	0
Lesser Canada Goose	0	0	0	69	69
Lesser Snow Goose	0	0	0	0	0
TOTAL GEESE	0	13	70	186	269
Tundra Swan	0	0	18	76	94
Sandhill Crane	0	0	0	17	17
DUCK EGGS					
Pintail	0	6	0	225	231
Mallard	1	71	0	110	182
Unidentified ducks	0	0	0	0	0
Wigeon	28	0	0	0	28
Shoveler	0	0	0	0	0
Canvasback*	0	0	0	0	0
Green-winged Teal	0	5	0	0	5
Bufflehead	0	0	0	0	0
Harlequin	0	0	0	0	0
Greater Scaup	0	0	0	0	0
Goldeneyes	0	0	0	0	0
Long-tailed Duck	0	0	0	0	0
White-winged Scoter	0	0	0	0	0
Black Scoter	0	0	0	0	0
Surf Scoter	0	0	0	0	0
Common Eider	0	0	0	0	0
King Eider	0	0	0	0	0
Spectacled Eider	0	0	0	0	0
Steller's Eider	0	0	0	0	0
Common Merganser	0	0	0	0	0
Red-breasted Merganser	0	0	0	0	0
TOTAL DUCK EGGS	29	82	0	335	446
Ptarmigan (non-migratory)	0	31	0	74	105
Spruce Grouse	0	0	0	0	0
OTHER BIRD EGGS					
Yellow-billed Loon	0	0	0	0	0
Red-throated Loon	0	0	0	0	0
Common Loon	0	0	0	87	87
Pacific Loon	0	0	0	17	17
Auklets*	0	0	0	0	0
Common Murre	0	16	44	838	898
Kittiwakes*	0	10	0	0	10
Guillemots*	0	0	0	0	0
Mew Gull	0	4,378	8,475	2,826	15,679
Sabine's Gull	0	0	0	0	0
Glaucous Gull	554	10,403	272	1,698	12,927
Herring Gull*	43	0	0	0	43
Arctic Tern	0	103	0	710	813
Bristle-thighed curlew*	0	1,611	0	0	1,611
Godwits*	0	0	18	0	18
Whimbrel*	0	960	0	0	960
Golden Plover*	0	0	0	52	52
Small shorebirds	0	0	0	376	376
Large shorebirds	0	0	0	0	0
Cormorants	0	13	0	0	13
Other Unknown Birds*	0	0	0	31	31
TOTAL OTHER BIRD EGGS	597	17,494	8,809	6,635	33,535
TOTAL(w/o Ptarm/Grouse)	626	17,589	8,897	7,249	34,361
TOTAL (with Ptarm/Grouse	626	17,620	8,897	7,323	34,466

* new species added, 2002