

**Subsistence Harvests and Uses of Birds and Eggs
in Four Communities of the Aleutian Islands Area:
Akutan, False Pass, Nelson Lagoon, and Nikolski**

by

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ABSTRACT

In 1997, the Division of Subsistence of the Alaska Department of Fish and Game conducted systematic household interviews on the harvest and use of birds and eggs in four communities of the Aleutian Islands area. The study communities were Akutan, False Pass, Nelson Lagoon, and Nikolski. The research was supported through a cooperative agreement with the United States Fish and Wildlife Service.

The interviews were structured by a survey instrument modeled on those previously administered by the division in the four study communities, as well as in other communities of the Aleutian Islands and southwest and southcentral Alaska. A color bird identification guide and a table of distinguishing features for each bird resource facilitated harvest reporting. Respondents were asked to estimate their harvests for a 12-month study period from September 1996 through August 1997. The majority of interviews were conducted face-to-face by division personnel, assisted by a local research assistant. Of 90 year-round households in the four communities, 78 (86.7 percent) were interviewed.

Estimated populations were 80 in Akutan (excluding residents of the fish processing plant's group quarters), 51 at False Pass, 75 at Nelson Lagoon, and 27 at Nikolski. The majority of the population in each community was Alaska Native. Compared to earlier Division of Subsistence study years, populations were down in Akutan, False Pass, and Nikolski, and up slightly at Nelson Lagoon.

The research documented the continued importance of subsistence uses of birds and eggs in the four study communities. Virtually every household used at least one type of bird or egg during the study year: 92.9 percent in Akutan, 73.3 percent in False Pass, 92.3 percent in Nelson Lagoon, and 88.9 percent in Nikolski. Similar percentages had been documented in earlier study years. Just under half the households in three of the four study communities (Akutan, False Pass, and Nikolski) hunted birds or attempted to gather eggs in 1996/97; a higher percentage was recorded in Nelson Lagoon, where about two-thirds of the households hunted birds or gathered eggs. In all four communities, there was a notable drop in household participation in these harvesting activities compared to the previous round of interviews.

As estimated in pounds usable weight per person, bird and egg harvests were 19.4 pounds per person at False Pass, 17.6 pounds per person at Nelson Lagoon, 15.0 pounds per person at Akutan, and 7.2 pounds per person at Nikolski. Harvests at Akutan and Nikolski were substantially lower than in the earlier study year of 1990/91. In contrast, harvests at Nelson Lagoon were notably higher in 1996/97 than the previous study year of 10 years earlier. Total per capita harvests at False Pass were about the same as the previous study year of 1987/88.

There were notable changes in the composition of the bird and egg harvests in each community in comparison with earlier study years. Generally, harvests of geese, especially Canada geese and emperor geese, made a larger contribution to the overall harvest (as estimated in usable pounds) in 1996/97 than recorded in the previous round of household surveys.

In all four study communities, migratory bird harvests took place primarily in the fall and winter months, mostly from September through January. More occasional bird hunting activity occurred in March through July. Bird egg harvests (mostly gull eggs) occurred in May and June.

The majority of the households interviewed for this project said that compared to other recent years (two to five years), their harvests and uses of birds and eggs were about the same in 1996/97 (51.3 percent), while most of the rest said that they were lower (39.7 percent). Time conflicts caused by jobs, a scarcity of certain species, and less sharing due to lower harvests were the primary reasons cited for lowered uses. Most households (65.4 percent) said their needs for birds and eggs had been met in the 1996/97 study year, while about 18.0 percent said that their needs had not been met. The rest were not sure or provided no response.

There is interest in the study communities in resuming a limited subsistence hunting opportunity for emperor geese. This interest was voiced especially in Nelson Lagoon.

The report concludes that the research was successful in documenting contemporary subsistence harvests and uses in the four study communities because of the support in each community for the research, the use of local residents to assist in data collection, and the strong interest in the communities in protecting subsistence uses and conserving bird populations.

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INTRODUCTION

This report provides findings from systematic household interviews concerning subsistence harvests and uses of birds and eggs in four communities of the Aleutian Islands area. The research was conducted by the Division of Subsistence of the Alaska Department of Fish and Game, supported through a cooperative agreement with the United States Fish and Wildlife Service (Cooperative Agreement No. 1448-70181-97-J063, ADF&G No. COOP-98-004). The study communities were Akutan, False Pass, Nelson Lagoon, and Nikolski (Fig. 1). Prior research by the Division of Subsistence had documented the importance of subsistence harvests of birds and eggs in each of these communities (Scott et al. 1997; Fall et al. 1996; Wolfe et al. 1990). The primary purpose of the 1997 study was to update these earlier findings. To illustrate recent trends, population estimates since 1980 for the four communities appear in Table 1. Most of the population of Akutan is made up of seasonal residents of a fish processing plant's group quarters. There is virtually no involvement in hunting, fishing, or gathering activities by this group. Therefore, only the year-round residents of the village of Akutan itself ("other" in Table 1) were included in this study.

Table 1. Population Estimates of the Study Communities, 1980 - 1997

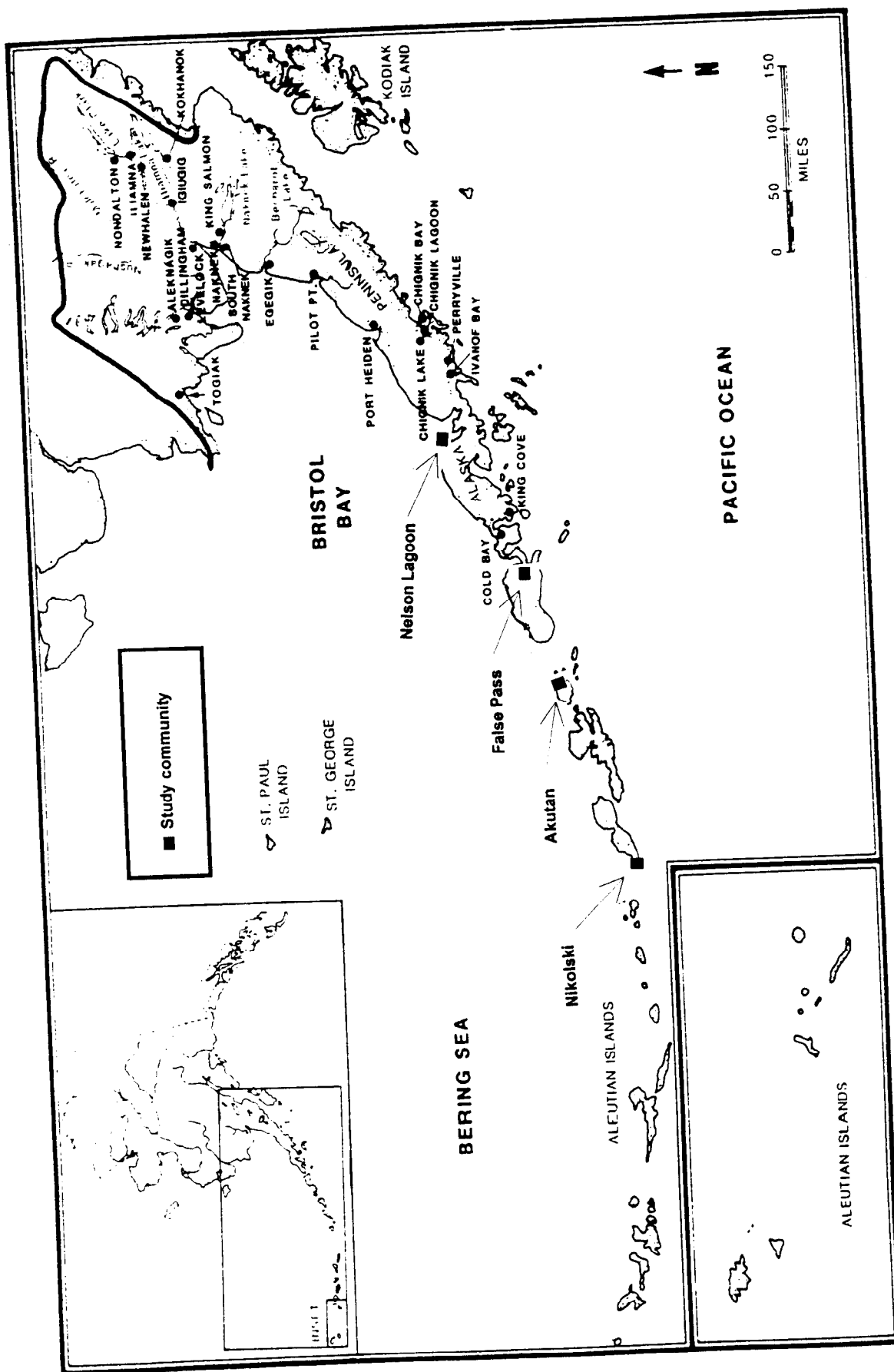
	1980	1987	1988	1990	1991	1996	1997
Akutan: Total	169	NA	NA	589	NA	414	NA
<i>Group Quarters</i>	100	NA	NA	501	NA	NA	NA
<i>Other</i>	69	NA	NA	88	102	NA	80
False Pass	70	NA	69	68	NA	70	51
Nelson Lagoon	59	67	NA	83	NA	79	75
Nikolski	50	NA	NA	35	49	27	27

Sources: for 1980 and 1990, US Census data as reported in Alaska Department of Labor (1991,1997); for 1996, Alaska Department of Labor estimate (1997); for other years, Division of Subsistence household surveys, as reported in Scott et al. (1997) and this report. NA = data unavailable from source for that year.

RESEARCH METHODS

Purpose and Objectives

The overall purpose of the research was to estimate harvests and uses of birds and eggs by residents of Akutan, False Pass, Nelson Lagoon, and Nikolski for a 12-month study period from July 1, 1996 through June 30, 1997. For each interviewed household, the following demographic and harvest participation information was obtained for each household member:



- Age
- Sex
- Ethnicity
- Whether that person hunted birds or attempted to harvest eggs during the study period.

For each bird resource and type of egg, the following information pertaining to the 12-month study period was collected for each interviewed household:

- Whether the household used, attempted to harvest, harvested, received, or gave away the resource
- The numbers of each resource that were harvested
- The month in which the harvests took place.

Additionally, each respondent was asked to assess the household's harvests and uses of birds and eggs in comparison with other recent years (the last 2 to 5 years), to assess whether the household's bird and egg needs were met during the study year and the reasons for any failure to meet these needs, and to share any other comments or concerns.

An additional goal of the research was to train local residents as research assistants. Each community was asked to identify a resident to assist the Division of Subsistence researcher to help introduce the project to households, assist in conducting interviews, and review and comment on the information collected. The assistants were trained in survey administration and record keeping. A short "training guide" was prepared. If households were absent from the communities during the initial round of interviewing, the local assistants were trained to conduct these interviews on their own when the households were available.

Survey Instrument and Interview Guides

Interviewers used a standard data-gathering instrument, modeled after forms the Division has used to conduct similar research in other areas of the state and administered previously in Aleutian Islands communities (Appendix A). Interviewers used color bird identification guides to assist respondents in providing accurate information. A sample page from this guide (in black and white) appears as Appendix B. Additionally, interviewers used a table of bird names and distinguishing characteristics. The table listed each bird which might have been used for subsistence purposes in the region, as well as its scientific, Aleut (if available), and common English names and the features which distinguish it from other birds. The Aleut names derived in part from Bergsland (1994); others were provided by Aleut scholar

Moses Dirks (Dirks, personal communication, 1995). A sample page from this tabular guide appears as Appendix C.

In each community, particularly knowledgeable bird hunters were interviewed on a set of topics to provide a context for understanding the harvest and use information collected from the survey instrument. Topics included the ecology of selected bird species (where they are seen, when they occur in the area, where they nest, and what they eat), trends in selected bird populations, and subsistence hunting patterns (traditional seasons, preferred species, methods and means of harvest, traditional rules of hunting, and methods of preparation and use). The topics and bird species to focus on were refined following consultations with the participating communities. In Akutan and Nikolski, interviews focused mostly on emperor geese, eiders, and brant. In Nelson Lagoon and False Pass, because fewer harvest interviews were done and more time was available, a longer list of species was discussed. A short protocol guided these key respondent interviews. The results of the interviews were key-worded and incorporated into a developing data base on traditional knowledge about birds. Due to limited time and staff, only a small amount of information from the interviews has been included in this report.

Community Contacts and Approvals

Division of Subsistence staff began contacting community representatives about the project in late April. Subsistence Resource Specialist Lisa Scarbrough spoke with a key hunter in Akutan, confirming that July or August would be the best time to do interviews there. In late May, Regional Program Manager James Fall traveled to False Pass and Nelson Lagoon for community meetings regarding caribou hunting, and had an opportunity to briefly discuss this bird project as well. He confirmed that September would be the best month to conduct the fieldwork in both of these communities. In early June, letters were sent to each village council along with a project description/design (Appendix D). Akutan responded with a council resolution in support of the project on June 19. Towards the end of the summer, follow-up phone calls were made to False Pass and Nelson Lagoon. The Division subsequently received letters of support from both communities; these letters appear as Appendix E. In Nikolski, because both the council president and vice-president were unavailable for an extended period, approval was delayed until the division researcher arrived in the community. At that time, the council president and vice-president provided verbal approval to proceed with the interviewing. A letter confirming council support for the project had not been received when this report was prepared.

Household participation in the project was based upon informed consent. Researchers explained the purpose of the study to each potential respondent, who had the option of not participating in the interview, or of declining to answer particular questions. It was stressed that household-level responses would remain confidential and that results would be reported at the community level. As noted below, the

refusal rate for this project was low; additionally, very few respondents declined to provide answers to the full set of questions on the form.

Fieldwork and Sample Achievement

The Division of Subsistence researcher assigned to the fieldwork in Akutan was Amy Paige, who arrived in Akutan on August 11. Prior to her arrival, Ms Paige had prepared a one-page announcement about the project that was posted in the village. The project received excellent support from the community government, which assigned Antone Shelikoff as the local project assistant. Through August 16, Ms Paige and Mr. Shelikoff conducted 27 harvest surveys and 5 key respondent interviews. Subsequently, Mr. Shelikoff completed an additional interview, for a total of 28 surveys, 87.5 percent of the estimated total of 32 year-round households in the community (Table 2).

After completing work in Akutan, Ms Paige moved on to Nikolski, arriving on August 18. She was assisted by local resident Agrafina Kerr. They completed 9 harvest surveys, 81.8 percent of the 11 year-round households, plus 4 key respondent interviews (Table 2). Ms Paige left Nikolski on August 22.

Division of Subsistence researcher Vicki Vanek was assigned to conduct the household interviews in Nelson Lagoon, arriving there September 18. Assisted by local residents Dailey Schaack, Richard Johnson, and Cynthia Hartmann, Ms Vanek completed surveys with 20 of the 27 year-round households, and 2 key respondent interviews before leaving on September 22. Subsequently, Ms Schaack completed six more surveys at Nelson Lagoon, resulting in a total of 26 interviews (96.3 percent) (Table 2).

After completing the interviews in Nelson Lagoon, Vicki Vanek traveled to False Pass, not arriving until September 25 due to poor weather. The local assistant at False Pass was Tammy Shellikoff. By September 29, the interviewing team had completed 12 of 20 household surveys and one key respondent interview. Two key hunters were cod fishing during this period, and several other households were otherwise unavailable. Subsequently, Tammy Shellikoff completed 3 more interviews, for a total of 15 (75.0 percent) (Table 2).

In total, 78 of the 90 year-round households in the four study communities were interviewed (86.7 percent). Of the 12 households not interviewed, 5 were temporarily gone from their communities during the time when the interviewing was occurring, and 7 declined to be interviewed (Table 2). The refusal rate for the project was a relatively low 8.2 percent (7 of 85 households contacted).

Table 2. Sampling and Participation by Study Community, 1997

Community	Household Harvest Surveys					Key Respondent Interviews
	Target ¹	Completed		Refusals	No Contact	
Akutan	32	28	87.5%	4	0	5
False Pass	20	15	75.0%	2	3	1
Nelson Lagoon	27	26	96.3%	0	1	2
Nikolski	11	9	81.8%	1	1	4
Total	90	78	86.7%	7	5	12

¹ Year-round households; one Akutan household classified as resident in the community in the preliminary report on this project was absent the entire survey year and has been removed from the list of target households.

Data Analysis and Report Preparation

Data were coded for computer entry and analysis using the Statistical Package for the Social Sciences (SPSS). Harvest estimates in numbers of birds or eggs were converted into pounds usable weight using standard factors (Appendix F). Most data are summarized in this report in a series of standard tables and figures. When appropriate, comparisons are drawn with the results of earlier systematic interviews conducted by the Division as reported in the Community Profile Database (Scott et al. 1997). Louis Brown of the Division's data management section was responsible for data management and the initial production of the tabular data. A preliminary draft of this report was provided to each community government for review, as well as to the U.S. Fish and Wildlife Service's Migratory Bird Management office. A brief, four-page synopsis of the findings was prepared for distribution to each household in the study communities (Appendix G). The data from this study have been incorporated in the Division of Subsistence Community Profile Database.

FINDINGS

Akutan

The community of Akutan is located on Akutan Island in the eastern Aleutian Islands. It is part of the Aleutians East Borough. The researchers for this project identified 32 year-round households in the community in August 1997; of these, 28 (87.5 percent) were interviewed. The estimated population of Akutan at the time of the fieldwork was 80 (excluding those living in group quarters at the fish processing plant). Of the total population, 85.7 percent were Alaska Native (Table 3). Survey results suggest that Akutan's population had dropped about 22 percent from the previous Division study year in 1990/91, when a year-round population of 102 was estimated (Fig. 2). A population profile for Akutan in August 1997 is presented in Table 4 and Figure 3.

The subsistence harvest and use of birds and eggs were important in Akutan in the 1996/97 study year. Almost every household (92.9 percent) used at least one type of bird or egg. On average, Akutan households used about five varieties of birds or eggs, the highest household average of the four study communities (Table 5). Almost half the households (46.4 percent) hunted birds or attempted to gather eggs during the study year (Table 5). At the individual level, 32 people (40 percent of the population) engaged in these harvest activities. There were about 16 bird hunters (20.0 percent) and 23 people who gathered eggs (28.6 percent) (Table 6). Harvests of birds and eggs were frequently shared in Akutan: 71.4 percent of the households received birds and/or eggs, and 46.4 percent gave them away (Table 5).

As estimated in pounds usable weight, Akutan residents harvested 15.0 pounds per person of bird and egg resources in 1996/97. Most of this harvest (12.0 pounds; 79.6 percent) was migratory waterfowl, with the remainder other birds such as sea birds and ptarmigan (1.1 pounds; 8.4 percent), and bird eggs (2.9 pounds; 19.1 percent). Resources taken in the largest quantities (as measured in pounds) included emperor geese, gull eggs, scoters, harlequin ducks, puffins, and goldeneyes (Table 7).

Data on the timing of bird and egg harvests at Akutan are reported in Table 8 and Figure 4. Harvests were reported in every month except August. As estimated in numbers of birds, most bird harvests occurred from October through January. Harvests peaked in January, and fell off rapidly after that. After March, bird harvests were mostly confined to puffins. Most egg harvests at Akutan took place in May, with some harvest in June as well.

Key respondents confirmed these findings regarding the timing of bird harvests at Akutan. They reported that hunting generally begins in October (or even later, in November or December for some hunters), when birds have lost their pin feathers, making them easier to pluck. Hunting continues into February, but when geese start pairing up towards the end of that month, most hunting stops.

Compared to the previous study year of 1990/91, bird and egg harvests by Akutan residents were substantially lower in 1996/97. The estimated harvest in 1990/91 was 28.3 pounds per person, compared

to 15.0 pounds in 1996/97 (Fig. 5). Although almost the same percentage of households used bird and egg resources in the two study years (Fig. 6), a much lower percentage hunted in 1996/97: 46.4 percent of households attempted a harvest in 1996/97, while 72.0 percent did so in 1990/91 (Fig. 7). Correspondingly, the percentage of households that were successful harvesters also dropped, from 68.0 percent in 1990/91 to 42.9 percent in 1996/97 (Fig. 8). A large percentage of households received birds and eggs in both study years: 84.0 percent in 1990/91 and 71.4 percent in 1996/97 (Fig. 9). The percentage that gave away bird and egg resources also stayed about the same: 52.0 percent in 1990/91 and 46.4 percent in 1996/97 (Fig. 10).

Table 9 compares estimated harvests of each bird and egg resource by Akutan residents (in numbers) in 1996/97 with estimates for 1990/91. In almost all cases, harvests in 1996/97 were half or less of those recorded in the earlier study year. As shown in Table 10, there were corresponding drops in the percentage of households using particular species as well. Of all birds, only harvest estimates for scoters were about the same in each year. While harvests of emperor geese were lower in 1996/97 than in 1990/91 (125 birds compared to 160 birds), the difference was not as great as for most other resources. Perhaps the most notable drop was in harvests of eiders, from 236 birds in 1990/91 to just 5 in 1996/97. The reason for this sharp drop is uncertain, but may perhaps be linked to the closing of hunting seasons for Steller's and spectacled eiders and the reports from regulatory agencies of their declining numbers. One household specifically stated that because of a scarcity of eiders, their bird harvests were down in the study year.

Regarding gull eggs, harvests at Akutan in 1996/97 were an estimated 758 eggs, compared to 2,096 eggs in 1990/91 (Table 9). One respondent reported that he has observed more puffins than in the past. According to this respondent, puffins "drive off" gulls, with a resultant decline in gull eggs in the area.

In comparing the composition of the bird and egg harvests at Akutan in the two study years by five resource harvest categories (ducks, geese, seabirds, ptarmigan, and eggs), harvests as estimated in pounds per person were lower in each category in 1996/97 than in 1990/91 (Table 11). The drop in the harvest of geese was relatively small in comparison with the other categories. Expressed as a percentage of the total harvest of birds and eggs, harvests of ducks contributed about the same portion in both study years, the portions contributed by sea birds, ptarmigan, and eggs were lower in 1996/97 than in 1990/91, and harvests of geese provided a larger percentage of the total in 1996/97 than they had in the previous study year (Table 12).

Despite the notable drop in harvest levels from the last estimate six years ago, the majority of Akutan households (60.7 percent) reported that their harvests and uses of birds and eggs were about the same as other recent (two to five) years. About a third (32.1 percent) of the households said their harvests and uses were down, and one household (3.6 percent) said their harvests and uses were up (Table 13). Of the nine interviewed households at Akutan who said their harvests or uses were down, four (44.4 percent) said they were "too busy" or "had no time to hunt." Two others (22.2 percent) said they had

received less as gifts because hunters were taking less. One hunter said that the birds were "just not around," another respondent said his health was poor, preventing him from hunting, and another gave no reason for his decline in uses of birds.

A large majority (71.4 percent) of Akutan households said that their needs for birds and eggs were met in the 1996/97 study year, while 21.4 percent reported not meeting their needs (Table 14). Four of the six interviewed households which reported not meeting their needs gave a lack of sharing due to lowered harvests as the reason. One said that birds were scarce: "We couldn't find them. They are just not there." One gave no explanation.

One key respondent offered several observations about bird and egg harvests at Akutan over the last decade. He said that harvests and uses have declined since 1990. Fewer people are hunting. He attributed this in part to the death of several elders for whom others hunted and who had used a wider variety of bird resources, such as the parakeet auklet. With the passing of elders, the overall demand for birds and eggs in the community has declined, he said. A second Akutan respondent noted a general decline in the abundance of a variety of species as a reason for a decline in subsistence harvests of birds. He blamed commercial trawl operations for depleting the birds' food sources. "The whole food chain is getting broken," he said.

False Pass

False Pass is located on eastern Unimak Island, directly across Isanotski Strait from the Alaska Peninsula. It is within the Aleutians East Borough. Of the 20 year-round households in the community in September 1997, 15 (75.0 percent) were interviewed for this project (Table 2). The estimated population of the community was 51, with 65.8 percent of the population Alaska Native (Table 3). The population of False Pass was about 26 percent lower than the estimate of 69 people in 1988, when the last Division survey was conducted (Table 1, Fig. 2). Table 15 and Figure 11 provide a population profile of the community in September 1997.

Subsistence harvests and uses of birds and eggs were important in False Pass in the 1996/97 study year: about 73 percent of the households used at one type of bird or egg, with a mean per household of 3.5 varieties (Table 5). Almost half the households (46.7 percent) attempted to harvest these resources (Table 5). Of the community's total population, there were about 15 individuals who hunted birds (29.0 percent) and 9 who gathered eggs (18.4 percent) (Table 6). Over half the households (53.3 percent) received birds or eggs, and 40.0 percent gave bird or egg harvests to other households (Table 5).

As estimated in pounds usable weight, False Pass households harvested 19.4 pounds per person of bird and egg resources in the 12-month study year. This was the highest per capita harvest of the four study communities, but generally similar to those of Nelson Lagoon and Akutan (Table 5, Fig. 5). Most of

this harvest (13.8 pounds; 71.3 percent) was migratory waterfowl, with the balance ptarmigan (3.0 pounds; 15.3 percent) and eggs (2.6 pounds; 13.4 percent) (Table 16). Individual resources taken in the largest quantities (as estimated in pounds) included Canada geese, ptarmigan, gull eggs, brants, mallards, emperor geese, and teals (Table 16).

As shown in Table 17 and Figure 4, most migratory bird harvests by False Pass hunters occurred in September and October, with little harvesting taking place after January. As shown in Figure 12, this pattern was very similar to that documented in the earlier Division study for 1987/88, when 79.3 percent of the migratory bird harvest occurred in the "fall months" (July through December), compared to 77.0 percent in 1996/97, and 20.7 percent of this harvest took place in the "winter months" (January through June), compared to 23.0 percent in the later study year.¹ For 1987/88, False Pass bird hunters reported that most of their effort occurred in September through February, with occasional activity from March through August, primarily because of the absence of birds in these latter months (Fall et al. 1996:74,76). Gull egg harvests in 1996/97 were split about evenly between May and June (Table 17).

As estimated in usable pounds per person, harvests of birds and eggs at False Pass in 1996/97 were about the same as in the earlier study year of 1987/88, 19.4 pounds and 18.3 pounds, respectively (Fig. 5). Participation in use and harvest of birds and eggs was generally lower in 1996/97, however. A lower percentage of households used (Fig. 6), hunted (Fig. 7), harvested (Fig. 8), received (Fig. 9), and gave away (Fig. 10) these resources in 1996/97 than had in the earlier study year.

At the individual resource level, harvests of most ducks, eggs, and ptarmigan were lower at False Pass in 1996/97 than in the earlier study year of 1987/88 (Table 9). For some resources (such as most ducks and gull eggs), this drop may simply reflect the decline in the community's population, although the percentage of the households using these resources also declined in most cases (Table 10). Particularly notable was the much lower harvest of ptarmigan in 1996/97 compared to 1987/88 (just 215 birds compared to 1,222 previously). The lower ptarmigan harvest may have been due to weather conditions during the study year, according to one respondent. There was little snow and ptarmigan did not move off the mountains to lower elevations where they are more accessible to hunters. The paucity of snow also prevented people from using snow machines to reach ptarmigan hunting areas.

In contrast, harvests of geese were higher in 1996/97 than the earlier study year, 293 birds and 163 birds, respectively. Sixty percent of False Pass households used geese in 1996/97, compared to 75.0 percent in 1987/88.

As shown in Table 11, harvests of all ducks combined in False Pass (as estimated in pounds usable weight per person), were slightly lower in 1996/97 than in the previous study year of 1987/88, while

¹ In the earlier False Pass study, harvest estimates were collected only by two "seasons" of "fall" (July through December) and "winter" (January through June). However, hunters were asked in which specific months they hunted migratory birds (Fall et al. 1996:74).

egg harvests were slightly higher. Most notable is the much larger harvest of geese in 1996/97 than in 1987/88, 10.0 pounds per person and 3.4 pounds per person, respectively. Expressed as a percentage of the total harvest in pounds, there was a very large increase in the percentage contributed by geese, from 18.4 percent in 1987/88 to 51.4 percent in 1996/97 (Table 12). Correspondingly, there was a very large drop in the portion of the bird and egg harvest provided by ptarmigan, a slight decrease in ducks, and a slight increase in eggs.

Responses were split in False Pass about how harvests and uses of birds and eggs in the 1996/97 study year compared to other recent years (Table 13). About 47 percent said these uses were about the same, while 40.0 percent said they were lower. Most households (60 percent) said their needs for birds and eggs were met in the study year, while 20.0 percent said they were not (Table 14). One respondent specifically cited the federal and state regulatory closure of the emperor goose season as the reason why his household's needs were not met. (The others gave no specific reasons.) He said these geese are a traditionally used species because they are available during much of the winter. As shown in Table 9, some hunters harvested emperor geese despite the closed season; however, some other hunters did not hunt, according to the survey.

Nelson Lagoon

The community of Nelson Lagoon is located on a narrow spit between Bristol Bay and the water body called Nelson Lagoon on the lower Alaska Peninsula southwest of Port Moller. It is part of the Aleutians East Borough. The researchers identified 27 year-round households in the community in September 1997, 26 of which were interviewed (96.3 percent). The estimated population of the community was 75, with the Alaska Native population 91.7 percent of the total (Table 3). Table 18 and Figure 13 provide a population profile for Nelson Lagoon in September 1997. Of the four study communities, Nelson Lagoon was the only one that did not exhibit a sharp population decline compared to earlier Division study years (Fig. 3).

Subsistence uses of birds and eggs were particularly important in Nelson Lagoon in the 1996/97 study year. Virtually every household (92.3 percent) used at least one bird or egg resource, with an average of 3.7 varieties per household (Table 5). A much larger percentage of Nelson Lagoon households engaged in harvesting activities (65.4 percent) than in the other three study communities (Fig. 7). There were an estimated 23 residents who hunted birds in the study year (30.6 percent), and 33 who attempted to gather eggs (44.4 percent) (Table 6). Half the Nelson Lagoon households received birds or eggs from other households, and 38.5 percent shared their harvests with others (Table 5).

Nelson Lagoon residents harvested 17.6 pounds of bird and egg resources per person in 1996/97, second to False Pass among the four study communities (Table 5). Of the total harvest, migratory birds provided the largest portion (13.4 pounds; 76.2 percent), followed by ptarmigan (3.5 pounds; 19.9 percent)

and eggs (0.7 pounds; 3.8 percent) (Table 19). Individual resources harvested in the largest quantities (as estimated in pounds usable weight) included emperor geese, ptarmigan, mallards, goldeneyes, teals, and gull eggs.

As shown in Table 20 and Figure 4, the large majority of the migratory bird harvest by Nelson Lagoon residents took place in September, October, and November. This matched findings from the earlier study year of 1986/87, when virtually all the bird harvest occurred in the fall months (Scott et al. 1997). The seasonal hunting pattern at Nelson Lagoon in 1996/97 was similar to that of False Pass, although Nelson Lagoon showed a higher concentration of harvest in October. Also as at False Pass, egg harvests at Nelson Lagoon took place in May and June (Table 20).

Nelson Lagoon was the only study community to show a notable increase in estimated bird and egg harvests in 1996/97 compared to previous study years. The per capita harvest of 17.6 pounds in 1996/97 was 46.7 percent higher than the earlier estimate of 12.0 pounds per person for 1986/87 (Fig. 5). Accounting for virtually all of this increase was a much larger emperor goose harvest in 1996/97, at 293 birds, compared to the estimate of 61 birds for 1986/87 (Table 9). The percentage of households using emperor geese reflected this increase in harvest: 76.9 percent of Nelson Lagoon households reported using emperor geese in 1996/97, compared to 38.5 percent in 1986/87 (Table 10). Overall, harvests of ducks and eggs were about the same in the two study years, while ptarmigan harvests showed a moderate decline (Table 9; see also Table 11). The percentage of households using ducks and ptarmigan was lower in 1996/97 than the previous study year, while the percentage using eggs was higher (Table 10).

As a result of the larger harvest of geese at Nelson Lagoon in 1996/97 compared to 1986/87, the percentage of the total harvest of birds and eggs provided by geese was also much higher, at 56.2 percent, than in the earlier study year (when it was just 19.0 percent) (Table 12). There was a corresponding drop in the percentage of the total pounds contributed by ducks and by ptarmigan.

Almost as many Nelson Lagoon households (46.2 percent) said their uses or harvests of bird and egg resources were lower than in recent years as said they were about the same (50.0 percent) (Table 13). Of the 12 interviewed households which reported lowered uses or harvests, 7 (58.3 percent) said they were "too busy to hunt." Five households (41.7 percent) said that they received less than in the past.

On the other hand, a large majority of the households in Nelson Lagoon (69.2 percent) said their bird and eggs needs had been met in 1996/97; only 7.7 percent said their needs had not been met and 19.2 percent were not sure (Table 14). Of the two interviewed households which said their needs were not met, one cited a conflict with a wage job and the other provided no reason.

Nikolski

Nikolski is located on Umnak Island in the eastern Aleutian Islands. It is not part of any organized borough. There were 11 year-round households in the community at the time of the research in mid-August 1997; of these, 9 (81.8 percent) were interviewed (Table 2). The estimated population of Nikolski was 27, with an Alaska Native population of 26 (95.5 percent)² (Table 3). This population estimate was 22.9 percent lower than that from the earlier Division systematic survey conducted in 1991 (Fig. 2). Nikolski had an older population (average age of 38.7 years, median age of 40.0 years) in comparison with the other three study communities (Table 3). Table 21 and Figure 14 provide a population profile of Nikolski in August 1997.

A large majority (88.9 percent) of Nikolski households used bird and egg resources in the 1996/97 study year. On average, households used about 3.9 varieties of birds and eggs (Table 5). Just under half the households (44.4 percent) attempted to harvest bird or egg resources, while 77.8 percent received them and 33.3 percent shared these resources with other households. Just a few individuals accounted for the bird harvest at Nikolski in 1996/97: an estimated five people hunted birds. No one attempted to gather eggs at Nikolski in the study year.

The subsistence harvest of birds and eggs at Nikolski averaged 7.2 pounds usable weight per person in 1996/97. This was the lowest of the four study communities. All of Nikolski's harvest was migratory birds, including ducks (3.2 pounds; 45.2 percent) and geese (3.9 pounds; 54.7 percent). There were no reported harvests of sea birds, ptarmigan, or eggs, although 66.7 percent of the households used eggs that they received from harvesters from other communities (Table 22). Birds taken in the largest quantities by Nikolski hunters included emperor geese, Canada geese, and mallards.

The monthly pattern of migratory bird harvest at Nikolski in 1996/97 was broadly similar to that of Akutan, but with far fewer birds harvested (Table 23, Fig. 4). Almost all the harvest occurred in October through January.

Bird and egg harvests at Nikolski in 1996/97 were lower than in the previous Division study year of 1990/91, 7.2 pounds per person and 12.1 pounds per person, respectively (Fig. 5). Although the percentage of households using these resources was very high in both years (Fig. 6), participation in hunting dropped from 78.6 percent of households in 1990/91 to 44.4 percent in 1996/97 (Fig. 7). While large percentages of Nikolski households received birds or eggs in both years (Fig. 9), the percentage of households giving away these resources dropped by almost half, reflecting the decrease in the number of households hunting birds in the community (Fig. 10).

² A non-Native school teacher and family had arrived in the community just prior to the interviewing. They were not included in the study because they had not been year-round residents of Nikolski during the study year. This household added several non-Alaska Natives to the community's population.

At the individual resource level, most harvest estimates for Nikolski were lower in 1996/97 than in 1990/91 (Table 9). Estimated harvests of all ducks dropped from 184 birds to 142 birds, and the emperor goose harvest declined from 101 birds to 28 birds. While Nikolski residents harvested an estimated 559 seabird eggs in 1990/91, there was no harvest in 1996/97. The percentage of Nikolski households using particular bird or egg resources was also generally lower in 1996/97 than in the previous study year (Table 10). As in all the other study communities, the percentage of pounds of bird and egg resources contributed by harvests of geese was higher at Nikolski in 1996/97 than in the previous study year of 1990/91, 54.7 percent and 44.0 percent respectively (Table 12).

Nikolski residents' assessments of bird and egg harvests and uses in 1996/97 were mixed. While 44.4 percent of the households said their uses were down compared to other recent years, 33.3 percent said they were about the same and 22.2 percent did not provide an assessment (Table 13). Three of the four interviewed households with lowered uses or harvests said they were "too busy" or "didn't have the time to hunt" while the other said he no longer hunts. When asked if their needs were met by the 1996/97 uses and harvests of birds, 44.4 percent of Nikolski households said yes and 33.3 percent said no (Table 14). Of those who said no, one was absent during much of the year and the other two had low harvests.

DISCUSSION AND CONCLUSIONS

As noted above, harvests of birds and eggs as estimated in pounds usable weight per person were lower in the 1996/97 study year than in previous study years in two communities, Akutan and Nikolski. Per capita harvests of birds and eggs were higher in 1996/97 than in the earlier study year ten years before in Nelson Lagoon, while at False Pass, harvests were about the same in the two study years for which data are available. Figure 15 shows bird and egg harvests in the four study communities in 1996/97 compared with other recent estimates for communities of the Aleutian/Pribilof Islands area, as well as the Alaska Peninsula communities of the Chignik area.

Findings suggest that changes in the composition of the bird and egg harvest have taken place in the Aleutian Islands area. In each study community, the contribution of geese to the total pounds of birds and eggs harvested for subsistence use has increased. This change was especially notable at False Pass and Nelson Lagoon. At False Pass, Canada geese harvests increased from 62 (in 1987/88) to 155 (1996/97), while emperor harvests have remained stable. At Nelson Lagoon, the harvest of emperor geese was 293 birds in 1996/97 compared to 61 in 1986/87. There are several possible reasons for this higher emperor goose harvest at Nelson Lagoon. First, respondents in 1987 reported that emperor goose harvests were much lower in the 1986/87 study year than they had been previously. They offered estimated harvests of 150 to 500 birds as typical emperor goose harvest levels in years prior to 1986/87. The federal and state regulatory prohibition against taking emperor geese was probably largely responsible for this decline. For 1996/97, the prevailing view among Nelson Lagoon key respondents was

that emperor geese were generally plentiful, but not as common as before. Hunters were cognizant of continuing conservation concerns regarding emperor geese. They were also of the opinion that a small subsistence harvest of emperor geese was not unjustified. Several Nelson Lagoon hunters interviewed for this study voiced support for re-opening a limited subsistence hunt for emperors. Because of this interest, several influential community members were particularly supportive of this research effort. This was likely an important reason for the very high level of participation in the research at Nelson Lagoon and the general willingness and openness to discussing bird harvests.

At Akutan, there was a general consensus among key respondents that populations of emperor geese were lower than a decade or more ago. Two respondents said that populations were still down, another said they had gone up in the last two years after declining before that, and two others said that populations have been increasing in recent years.³

In conclusion, the research documented the continuing importance of subsistence uses of birds and eggs in the communities of Akutan, False Pass, Nelson Lagoon, and Nikolski. Most households used bird and egg resources in the study year. Forty percent or more of the households hunted birds or gathered eggs. Sharing of harvests was commonplace. The study was successful in documenting subsistence harvests because of community support for the research, the involvement of community members in the data collection, and an interest on the part of community residents in protecting subsistence uses and the resource populations upon which such uses depend.

³ For summaries of information about emperor geese, eiders, and brants in Aleutian Islands and other Alaska Native communities derived from local bird experts, consult Wolfe et al. (1995).

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TABLES AND FIGURES

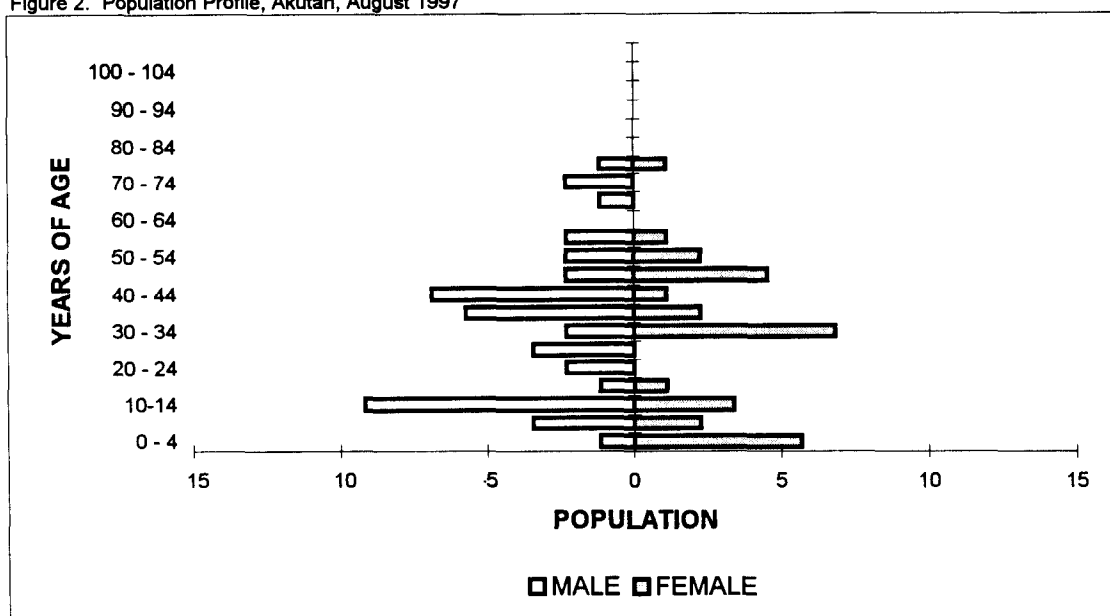
Note: for Table 1, see page 1; for Table 2, see page 6; for Figure 1, see Page 2

Table 3. Demographic Characteristics of Households, Four Aleutian Islands
Area Communities, 1997

		Akutan	False Pass	Nelson Lagoon	Nikolski
Sampled Households		28	15	26	9
Number of Households in the Community		32	20	27	11
Percentage of Households Sampled		87.50	75.00	96.30	81.82
Household Size					
Mean		2.50	2.53	2.77	2.44
Minimum		1	1	1	1
Maximum		6	4	5	5
Sample Population		70	38	72	22
Estimated Community Population		80.00	50.67	74.77	26.89
Age					
Mean		31.60	32.34	30.44	38.68
Minimum		0.10	2.00	1.00	5.00
Maximum		77.00	72.00	80.00	82.00
Median		34	33.5	30	40
Sex					
Males					
Number		46.86	24.00	39.46	17.11
Percentage		58.57	47.37	52.78	63.64
Females					
Number		33.14	26.67	35.31	9.78
Percentage		41.43	52.63	47.22	36.36
Alaska Native					
Households (Either Head)					
Number		28.57	13.33	25.96	11.00
Percentage		89.29	66.67	96.15	100.00
Estimated Population					
Number		68.57	33.33	68.54	25.67
Percentage		85.71	65.79	91.67	95.45

SOURCE: Alaska Department of Fish and Game, Division of Subsistence, Household Survey, 1997.

Figure 2. Population Profile, Akutan, August 1997



SOURCE: Alaska Department of Fish and Game, Division of Subsistence, Household Survey, 1997

Table 4. Population Profile, Akutan, August 1997

AGE	MALE			FEMALE			TOTAL		
	NUMBER	PERCENT	CUM. PERCENT	NUMBER	PERCENT	CUM. PERCENT	NUMBER	PERCENT	CUM. PERCENT
0 - 4	1.14	2.44%	2.44%	5.71	17.24%	17.24%	6.86	8.57%	8.57%
5 - 9	3.43	7.32%	9.76%	2.29	6.90%	24.14%	5.71	7.14%	15.71%
10 - 14	9.14	19.51%	29.27%	3.43	10.34%	34.48%	12.57	15.71%	31.43%
15 - 19	1.14	2.44%	31.71%	1.14	3.45%	37.93%	2.29	2.86%	34.29%
20 - 24	2.29	4.88%	36.59%	0.00	0.00%	37.93%	2.29	2.86%	37.14%
25 - 29	3.43	7.32%	43.90%	0.00	0.00%	37.93%	3.43	4.29%	41.43%
30 - 34	2.29	4.88%	48.78%	6.86	20.69%	58.62%	9.14	11.43%	52.86%
35 - 39	5.71	12.20%	60.98%	2.29	6.90%	65.52%	8.00	10.00%	62.86%
40 - 44	6.86	14.63%	75.61%	1.14	3.45%	68.97%	8.00	10.00%	72.86%
45 - 49	2.29	4.88%	80.49%	4.57	13.79%	82.76%	6.86	8.57%	81.43%
50 - 54	2.29	4.88%	85.37%	2.29	6.90%	89.66%	4.57	5.71%	87.14%
55 - 59	2.29	4.88%	90.24%	1.14	3.45%	93.10%	3.43	4.29%	91.43%
60 - 64	0.00	0.00%	90.24%	0.00	0.00%	93.10%	0.00	0.00%	91.43%
65 - 69	1.14	2.44%	92.68%	0.00	0.00%	93.10%	1.14	1.43%	92.86%
70 - 74	2.29	4.88%	97.56%	0.00	0.00%	93.10%	2.29	2.86%	95.71%
75 - 79	1.14	2.44%	100.00%	1.14	3.45%	96.55%	2.29	2.86%	98.57%
80 - 84	0.00	0.00%	100.00%	0.00	0.00%	96.55%	0.00	0.00%	98.57%
85 - 89	0.00	0.00%	100.00%	0.00	0.00%	96.55%	0.00	0.00%	98.57%
90 - 94	0.00	0.00%	100.00%	0.00	0.00%	96.55%	0.00	0.00%	98.57%
95 - 99	0.00	0.00%	100.00%	0.00	0.00%	96.55%	0.00	0.00%	98.57%
100 - 104	0.00	0.00%	100.00%	0.00	0.00%	96.55%	0.00	0.00%	98.57%
Missing	0.00	0.00%	100.00%	1.14	3.45%	100.00%	1.14	1.43%	100.00%
TOTAL	46.86	58.57%		33.14	41.43%		80.00	100.00%	

Figure 3. Comparison of Population of Four Aleutian Islands Area Communities, 1996/97 Study Year and Previous Study Years

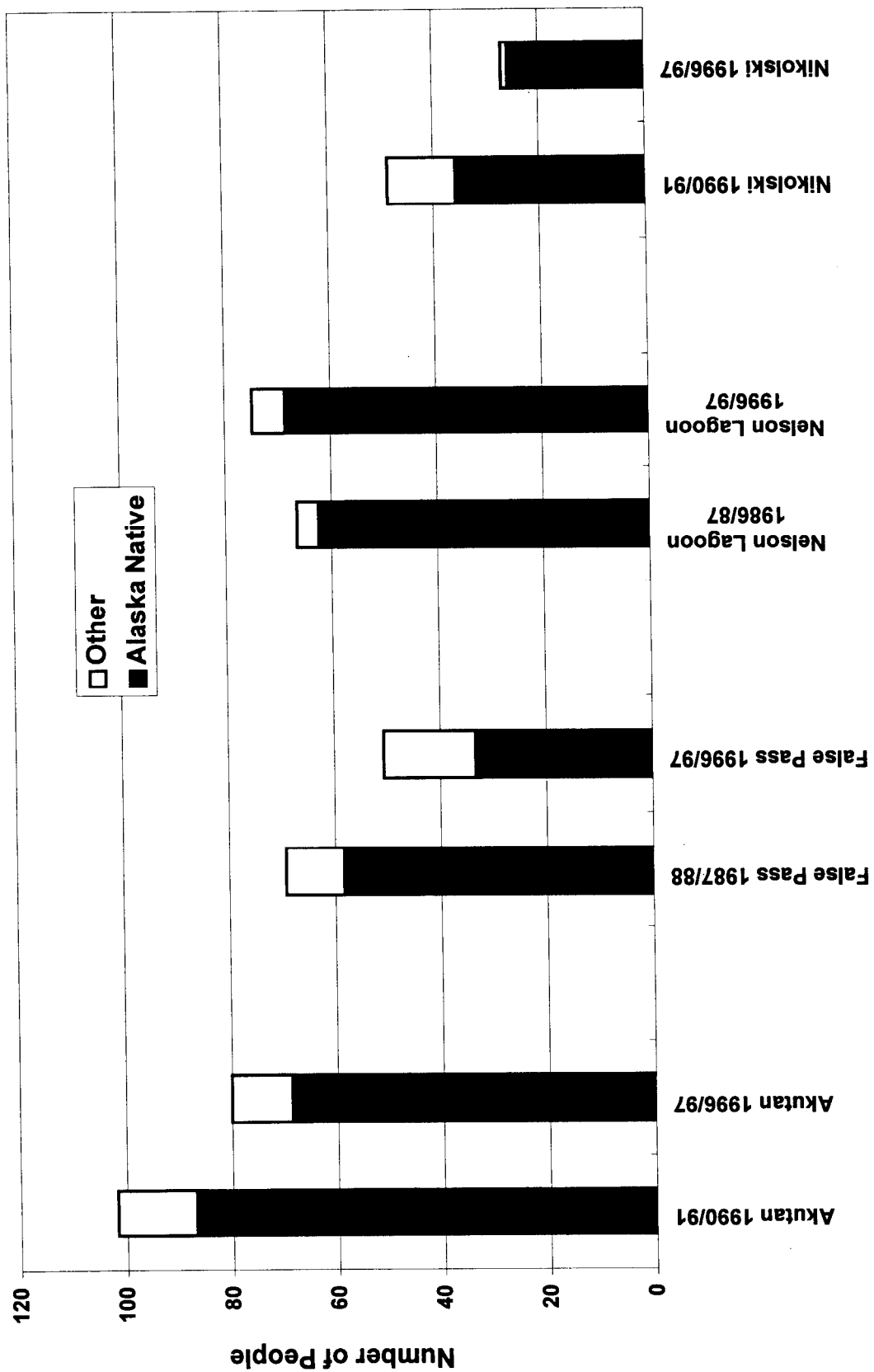


Table 5. Characteristics of Harvests and Uses of Birds and Eggs, Four Communities of the Aleutian Islands Area, September 1996 - August 1997

Study Community	Akutan	False Pass	Nelson Lagoon	Nikolski
Mean Number of Bird and Egg Resources Used Per Household	4.75	3.47	3.73	3.89
Minimum	0	0	0	0
Maximum	21	11	7	13
95 % Confidence Limit (+/-)	13.78	29.09	4.39	35.37
Median	4	3	4	2
Mean Number Of Resources Attempted To Harvest Per Household	3.04	2.47	2.77	2.67
Minimum	0	0	0	0
Maximum	21	11	8	12
95 % Confidence Limit (+/-)	23.94	43.86	7.79	49.55
Median	0	0	2	0
Mean Number Of Resources Harvested Per Household	2.82	2.27	2.73	2.67
Minimum	0	0	0	0
Maximum	21	11	7	12
95 % Confidence Limit (+/-)	24.99	48.31	7.70	49.55
Median	0	0	2	0
Mean Number Of Resources Received Per Household	2.14	1.33	1.19	1.33
Minimum	0	0	0	0
Maximum	7	6	5	4
95 % Confidence Limit (+/-)	15.05	35.68	10.10	30.11
Median	1	1	0.5	1
Mean Number Of Resources Given Away Per Household	1.75	1.60	1.23	0.67
Minimum	0	0	0	0
Maximum	14	10	6	3
95 % Confidence Limit (+/-)	24.37	53.86	12.29	54.97
Median	0	0	0	0
Mean Household Harvest of Birds and Eggs, Pounds	37.53	49.03	48.60	17.52
Minimum	0.00	0.00	0.00	0.00
Maximum	309.62	313.80	339.53	107.12
Total Pounds of Birds and Eggs Harvested	1,200.97	980.51	1,312.28	192.67
Community Per Capita Harvest of Birds and Eggs, Pounds	15.01	19.35	17.55	7.17
Percent Using Any Bird or Egg Resource	92.86	73.33	92.31	88.89
Percent Attempting To Harvest Any Bird or Egg Resource	46.43	46.67	65.38	44.44
Percent Harvesting Any Bird or Egg Resource	42.86	40.00	65.38	44.44
Percent Receiving Any Bird or Egg Resource	71.43	53.33	50.00	77.78
Percent Giving Away Any Bird or Egg Resource	46.43	40.00	38.46	33.33
Number Of Households In Sample	28	15	26	9

SOURCE: Alaska Department of Fish and Game, Division of Subsistence, Household Survey, 1997

Table 6. Participation in the Harvesting of Bird and Egg Resources, Four Aleutian Islands Area Communities, September 1996 - August 1997

			Akutan	False Pass	Nelson Lagoon	Nikolski
Estimated Total Number of People			80.00	50.67	74.77	26.89
BIRDS	Hunt	Number	16.00	14.67	22.85	4.89
		Percentage	20.00	28.95	30.56	18.18
		Missing	0.00	0.00	0	0.00
		Missing %	0.00	0.00	0	0.00
EGGS	Gather	Number	22.86	9.33	33.23	0.00
		Percentage	28.57	18.42	44.44	0.00
		Missing	0.00	0.00	0	0.00
		Missing %	0.00	0.00	0	0.00
ANY BIRD OR EGG RESOURCE						
	Attempt	Number	29.71	20.00	47.77	4.89
		Percent	37.14	39.47	63.89	18.18

SOURCE: Alaska Department of Fish and Game, Division of Subsistence, Household Survey, 1997.

Table 7. Estimated Harvest and Use of Birds and Eggs, Akutan, September 1996 - August 1997

Resource Name	Percentage of Households					Pounds Harvested			Amount Harvested		95% Conf Limit (+/-)	
	Use	Att	Harv	Recv	Give	Total	Mean HH	Percapita	Total	Mean tHH	Harvest	Harvest
Birds and Eggs	92.9	46.4	42.9	71.4	46.4	1,200.97	37.53	15.01	1,824.00	57.00	23.54%	23.54%
Migratory Birds	67.9	35.7	32.1	42.9	32.1	956.06	29.88	11.95	1,009.14	31.54	32.50%	32.50%
Ducks	60.7	32.1	28.6	39.3	28.6	570.41	17.83	7.13	766.86	23.96	35.95%	35.95%
Buffhead	17.9	10.7	10.7	7.1	3.6	22.40	0.70	0.28	56.00	1.75	46.60%	46.60%
Canvasback	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Eider	14.3	3.6	3.6	10.7	3.6	6.83	0.21	0.09	4.57	0.14	72.54%	72.54%
Common Eider	3.6	3.6	3.6	0.0	3.6	5.05	0.16	0.06	2.29	0.07	72.54%	72.54%
King Eider	10.7	0.0	0.0	10.7	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Spectacled Eider	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Steller Eider	3.6	3.6	3.6	0.0	3.6	1.78	0.06	0.02	2.29	0.07	72.54%	72.54%
Gadwall	3.6	3.6	3.6	0.0	0.0	1.83	0.06	0.02	2.29	0.07	72.54%	72.54%
Goldeneye	21.4	21.4	21.4	3.6	3.6	44.43	1.39	0.56	54.86	1.71	39.77%	39.77%
Barrows Goldeneye	3.6	3.6	3.6	0.0	0.0	3.20	0.10	0.04	4.57	0.14	72.54%	72.54%
Common Goldeneye	17.9	17.9	17.9	3.6	3.6	41.23	1.29	0.52	50.29	1.57	43.29%	43.29%
Unknown Goldeneye	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Harlequin	39.3	14.3	14.3	28.6	10.7	71.43	2.23	0.89	142.86	4.46	42.48%	42.48%
Mallard	28.6	25.0	21.4	7.1	10.7	57.14	1.79	0.71	57.14	1.79	30.52%	30.52%
Merganser	14.3	14.3	14.3	0.0	7.1	14.91	0.47	0.19	22.86	0.71	39.04%	39.04%
Common Merganser	3.6	3.6	3.6	0.0	3.6	1.45	0.05	0.02	1.14	0.04	72.54%	72.54%
Red-Breasted Merganser	10.7	10.7	10.7	0.0	3.6	13.46	0.42	0.17	21.71	0.68	41.17%	41.17%
Oldsquaw	7.1	7.1	7.1	0.0	7.1	23.77	0.74	0.30	29.71	0.93	57.66%	57.66%
Northern Pintail	7.1	10.7	3.6	3.6	3.6	5.49	0.17	0.07	6.86	0.21	72.54%	72.54%
Redhead Duck	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Scaup	7.1	7.1	7.1	0.0	7.1	34.63	1.08	0.43	46.86	1.46	51.63%	51.63%
Greater Scaup	3.6	3.6	3.6	0.0	3.6	8.23	0.26	0.10	9.14	0.29	72.54%	72.54%
Lesser Scaup	7.1	7.1	7.1	0.0	7.1	26.40	0.83	0.33	37.71	1.18	57.08%	57.08%
Unknown Scaup	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Scoter	42.9	25.0	25.0	17.9	25.0	253.26	7.91	3.17	228.57	7.14	44.58%	44.58%
Black Scoter	14.3	10.7	10.7	3.6	7.1	72.00	2.25	0.90	80.00	2.50	48.07%	48.07%
Surf Scoter	3.6	0.0	0.0	3.6	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
White-winged Scoter	35.7	21.4	21.4	14.3	21.4	181.26	5.66	2.27	148.57	4.64	43.61%	43.61%
Northern Shoveler	0.0	3.6	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%

Table 7. Estimated Harvest and Use of Birds and Eggs, Akutan, September 1996 - August 1997

Resource Name	Percentage of Households						Pounds Harvested			Amount Harvested		95% Conf Limit (+/-)	
	Use	Att	Harv	Recv	Give		Total	Mean HH	Percapita	Total	Mean HH	Harvest	
Teal	28.6	21.4	21.4	10.7	14.3		34.29	1.07	0.43	114.29	3.57	40.39%	
Green Winged Teal	28.6	21.4	21.4	10.7	14.3		34.29	1.07	0.43	114.29	3.57	40.39%	
Unknown Teal	0.0	0.0	0.0	0.0	0.0		0.00	0.00	0.00	0.00	0.00	0.00%	
Tufted Duck	0.0	0.0	0.0	0.0	0.0		0.00	0.00	0.00	0.00	0.00	0.00%	
Wigeon	0.0	0.0	0.0	0.0	0.0		0.00	0.00	0.00	0.00	0.00	0.00%	
American Wigeon	0.0	0.0	0.0	0.0	0.0		0.00	0.00	0.00	0.00	0.00	0.00%	
Eurasian Wigeon	0.0	0.0	0.0	0.0	0.0		0.00	0.00	0.00	0.00	0.00	0.00%	
Unknown Ducks	0.0	3.6	0.0	0.0	0.0		0.00	0.00	0.00	0.00	0.00	0.00%	
Geese	57.1	28.6	28.6	32.1	25.0		321.03	10.03	4.01	132.57	4.14	30.22%	
Brant	7.1	7.1	7.1	0.0	0.0		6.86	0.21	0.09	5.71	0.18	51.41%	
Canada Geese	7.1	3.6	3.6	3.6	0.0		2.74	0.09	0.03	2.29	0.07	72.54%	
Aleutian Canada Geese	0.0	0.0	0.0	0.0	0.0		0.00	0.00	0.00	0.00	0.00	0.00%	
Cacklers	3.6	3.6	3.6	0.0	0.0		2.74	0.09	0.03	2.29	0.07	72.54%	
Lesser Canada Geese (laverner)	3.6	0.0	0.0	3.6	0.0		0.00	0.00	0.00	0.00	0.00	0.00%	
Emperor Geese	50.0	28.6	28.6	25.0	25.0		311.43	9.73	3.89	124.57	3.89	29.81%	
Snow Geese	0.0	0.0	0.0	0.0	0.0		0.00	0.00	0.00	0.00	0.00	0.00%	
White-fronted Geese	7.1	0.0	0.0	7.1	0.0		0.00	0.00	0.00	0.00	0.00	0.00%	
Swan	3.6	0.0	0.0	3.6	0.0		0.00	0.00	0.00	0.00	0.00	0.00%	
Tundra Swan (whistling)	3.6	0.0	0.0	3.6	0.0		0.00	0.00	0.00	0.00	0.00	0.00%	
Crane	0.0	0.0	0.0	0.0	0.0		0.00	0.00	0.00	0.00	0.00	0.00%	
Sandhill Crane	0.0	0.0	0.0	0.0	0.0		0.00	0.00	0.00	0.00	0.00	0.00%	
Shorebirds	0.0	0.0	0.0	0.0	0.0		0.00	0.00	0.00	0.00	0.00	0.00%	
Common Snipe	0.0	0.0	0.0	0.0	0.0		0.00	0.00	0.00	0.00	0.00	0.00%	
Black Oystercatcher	0.0	0.0	0.0	0.0	0.0		0.00	0.00	0.00	0.00	0.00	0.00%	
Seabirds & Loons	28.6	14.3	14.3	14.3	7.1		64.62	2.02	0.81	109.71	3.43	44.34%	
Auklet	3.6	3.6	3.6	0.0	3.6		8.57	0.27	0.11	28.57	0.89	72.54%	
Whiskered Auklet	3.6	3.6	3.6	0.0	3.6		8.57	0.27	0.11	28.57	0.89	72.54%	
Cormorants	3.6	0.0	0.0	3.6	0.0		0.00	0.00	0.00	0.00	0.00	0.00%	
Double-Crested Cormorant	0.0	0.0	0.0	0.0	0.0		0.00	0.00	0.00	0.00	0.00	0.00%	
Pelagic Cormorant	3.6	0.0	0.0	3.6	0.0		0.00	0.00	0.00	0.00	0.00	0.00%	
Red-Faced Cormorant	0.0	0.0	0.0	0.0	0.0		0.00	0.00	0.00	0.00	0.00	0.00%	
Grebe	0.0	0.0	0.0	0.0	0.0		0.00	0.00	0.00	0.00	0.00	0.00%	
Unknown Grebe	0.0	0.0	0.0	0.0	0.0		0.00	0.00	0.00	0.00	0.00	0.00%	

Table 7. Estimated Harvest and Use of Birds and Eggs, Akutan, September 1996 - August 1997

Resource Name	Percentage of Households					Pounds Harvested			Amount Harvested		95% Conf Limit (+/-)	
	Use	Att	Harv	Recv	Give	Total	Mean HH	Percapita	Total	Mean HH	Harvest	Harvest
Loons	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Arctic (Pacific) Loon	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Common Loon	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Red-Throated Loon	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Yellow-Billed Loon	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Murre	3.6	3.6	3.6	0.0	0.0	3.98	0.12	0.05	4.57	0.14	72.54%	72.54%
Common Murre	3.6	3.6	3.6	0.0	0.0	3.98	0.12	0.05	4.57	0.14	72.54%	72.54%
Thick-Billed Murre	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Puffins	25.0	14.3	14.3	10.7	3.6	52.07	1.63	0.65	76.57	2.39	39.89%	39.89%
Horned Puffin	14.3	7.1	7.1	7.1	3.6	24.87	0.78	0.31	36.57	1.14	52.00%	52.00%
Tufted Puffin	10.7	7.1	7.1	3.6	0.0	27.20	0.85	0.34	40.00	1.25	62.66%	62.66%
Other Birds	14.3	10.7	10.7	3.6	7.1	16.00	0.50	0.20	22.86	0.71	43.35%	43.35%
Upland Game Birds	14.3	10.7	10.7	3.6	7.1	16.00	0.50	0.20	22.86	0.71	43.35%	43.35%
Ptarmigan	14.3	10.7	10.7	3.6	7.1	16.00	0.50	0.20	22.86	0.71	43.35%	43.35%
Rock Ptarmigan	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Willow Ptarmigan	14.3	10.7	10.7	3.6	7.1	16.00	0.50	0.20	22.86	0.71	43.35%	43.35%
Unknown Ptarmigan	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Bird Eggs	85.7	32.1	32.1	64.3	28.6	228.91	7.15	2.86	792.00	24.75	28.85%	28.85%
Duck Eggs	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Eider Eggs	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Common Eider Eggs	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Teal Eggs	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Green-Winged Teal Eggs	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Geese Eggs	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Brant Eggs	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Shorebird Eggs	10.7	10.7	10.7	0.0	0.0	0.91	0.03	0.01	20.57	0.64	50.67%	50.67%
Common Snipe Eggs	3.6	3.6	3.6	0.0	0.0	0.46	0.01	0.01	9.14	0.29	72.54%	72.54%
Black Oystercatcher Eggs	10.7	10.7	10.7	0.0	0.0	0.46	0.01	0.01	11.43	0.36	42.07%	42.07%
Seabird & Loon Eggs	85.7	32.1	28.6	64.3	28.6	228.00	7.13	2.85	771.43	24.11	29.75%	29.75%
Cormorant Eggs	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Pelagic Cormorant Eggs	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Red-Faced Cormorant Eggs	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Fulmar Eggs	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Guillemots Eggs	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%

Table 7. Estimated Harvest and Use of Birds and Eggs, Akutan, September 1996 - August 1997

Resource Name	Percentage of Households						Pounds Harvested			Amount Harvested		95% Conf Limit (+/-)
	Use	Att	Harv	Recv	Give		Total	Mean HH	Percapita	Total	Mean HH	
Gull Eggs	82.1	28.6	25.0	64.3	28.6		227.31	7.10	2.84	757.71	23.68	30.37%
Glaucous Winged Gull Eggs	71.4	25.0	21.4	57.1	25.0		158.74	4.96	1.98	529.14	16.54	32.84%
Unknown Gull Eggs	10.7	3.6	3.6	7.1	3.6		68.57	2.14	0.86	228.57	7.14	72.54%
Kittiwake Eggs	0.0	0.0	0.0	0.0	0.0		0.00	0.00	0.00	0.00	0.00	0.00%
Murre Eggs	0.0	0.0	0.0	0.0	0.0		0.00	0.00	0.00	0.00	0.00	0.00%
Common Murre Eggs	0.0	0.0	0.0	0.0	0.0		0.00	0.00	0.00	0.00	0.00	0.00%
Thick-Billed Murre Eggs	0.0	0.0	0.0	0.0	0.0		0.00	0.00	0.00	0.00	0.00	0.00%
Murrelet Eggs	3.6	3.6	3.6	0.0	0.0		0.69	0.02	0.01	13.71	0.43	72.54%
Ancient Murrelet Eggs	3.6	3.6	3.6	0.0	0.0		0.69	0.02	0.01	13.71	0.43	72.54%
Puffin Eggs	0.0	0.0	0.0	0.0	0.0		0.00	0.00	0.00	0.00	0.00	0.00%
Tufted Puffin Eggs	0.0	0.0	0.0	0.0	0.0		0.00	0.00	0.00	0.00	0.00	0.00%
Tern Eggs	0.0	0.0	0.0	0.0	0.0		0.00	0.00	0.00	0.00	0.00	0.00%
Unknown Tern Eggs	0.0	0.0	0.0	0.0	0.0		0.00	0.00	0.00	0.00	0.00	0.00%

SOURCE: Alaska Department of Fish and Game, Division of Subsistence, Household Survey, 1997

Table 8. Estimated Bird and Egg Harvests by Month, Akutan, September 1996 - August 1997

Resource	Estimated Harvest in Numbers of Birds or Eggs												Total ¹
	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	July	Aug	
Bufflehead	0	29	0	9	14	5	0	0	0	0	0	0	56
Common Eider	0	0	2	0	0	0	0	0	0	0	0	0	2
Steller Eider	0	2	0	0	0	0	0	0	0	0	0	0	2
Gadwall	0	2	0	0	0	0	0	0	0	0	0	0	2
Barrows Goldeneye	0	2	2	0	0	0	0	0	0	0	0	0	5
Common Goldeneye	0	0	5	5	27	14	0	0	0	0	0	0	50
Harlequin	0	0	46	51	17	11	11	6	0	0	0	0	143
Mallard	0	7	2	15	33	0	0	0	0	0	0	0	57
Common Merganser	0	0	1	0	0	0	0	0	0	0	0	0	1
Red-Breasted Merganser	0	2	2	2	15	0	0	0	0	0	0	0	22
Oldsquaw	0	11	11	0	7	0	0	0	0	0	0	0	30
Northern Pintail	0	7	0	0	0	0	0	0	0	0	0	0	7
Greater Scaup	0	0	9	0	0	0	0	0	0	0	0	0	9
Lesser Scaup	0	0	6	17	15	0	0	0	0	0	0	0	38
Black Scoter	0	11	17	23	17	6	6	0	0	0	0	0	80
White-winged Scoter	5	38	34	40	21	6	6	0	0	0	0	0	149
Green Winged Teal	0	3	26	56	23	6	0	0	0	0	0	0	114
Brant	2	0	0	0	3	0	0	0	0	0	0	0	6
Cacklers	0	2	0	0	0	0	0	0	0	0	0	0	2
Emperor Geese	0	10	17	24	42	31	0	0	0	0	0	0	125
Whiskered Auklet	0	0	0	0	29	0	0	0	0	0	0	0	29
Common Murre	0	0	0	0	5	0	0	0	0	0	0	0	5
Horned Puffin	0	0	0	0	0	0	0	17	6	0	14	0	37
Tufted Puffin	0	0	0	0	0	0	0	0	34	6	0	0	40
Willow Ptarmigan	0	5	0	0	11	7	0	0	0	0	0	0	23
Common Snipe Eggs	0	0	0	0	0	0	0	0	9	0	0	0	9
Black Oystercatcher Eggs	0	0	0	0	0	0	0	0	7	5	0	0	11
Glaucous Winged Gull Eggs	0	0	0	0	0	0	0	0	286	243	0	0	529
Unknown Gull Eggs	0	0	0	0	0	0	0	0	229	0	0	0	229
Ancient Murrelet Eggs	0	0	0	0	0	0	0	0	14	0	0	0	14

¹ Due to rounding, may not equal sum of individual months.

Source: Alaska Department of Fish and Game, Division of Subsistence Household Surveys 1997

**Figure 4. Harvests of Birds by Month, Four Aleutian Islands Area Communities,
September 1996 - August 1997**

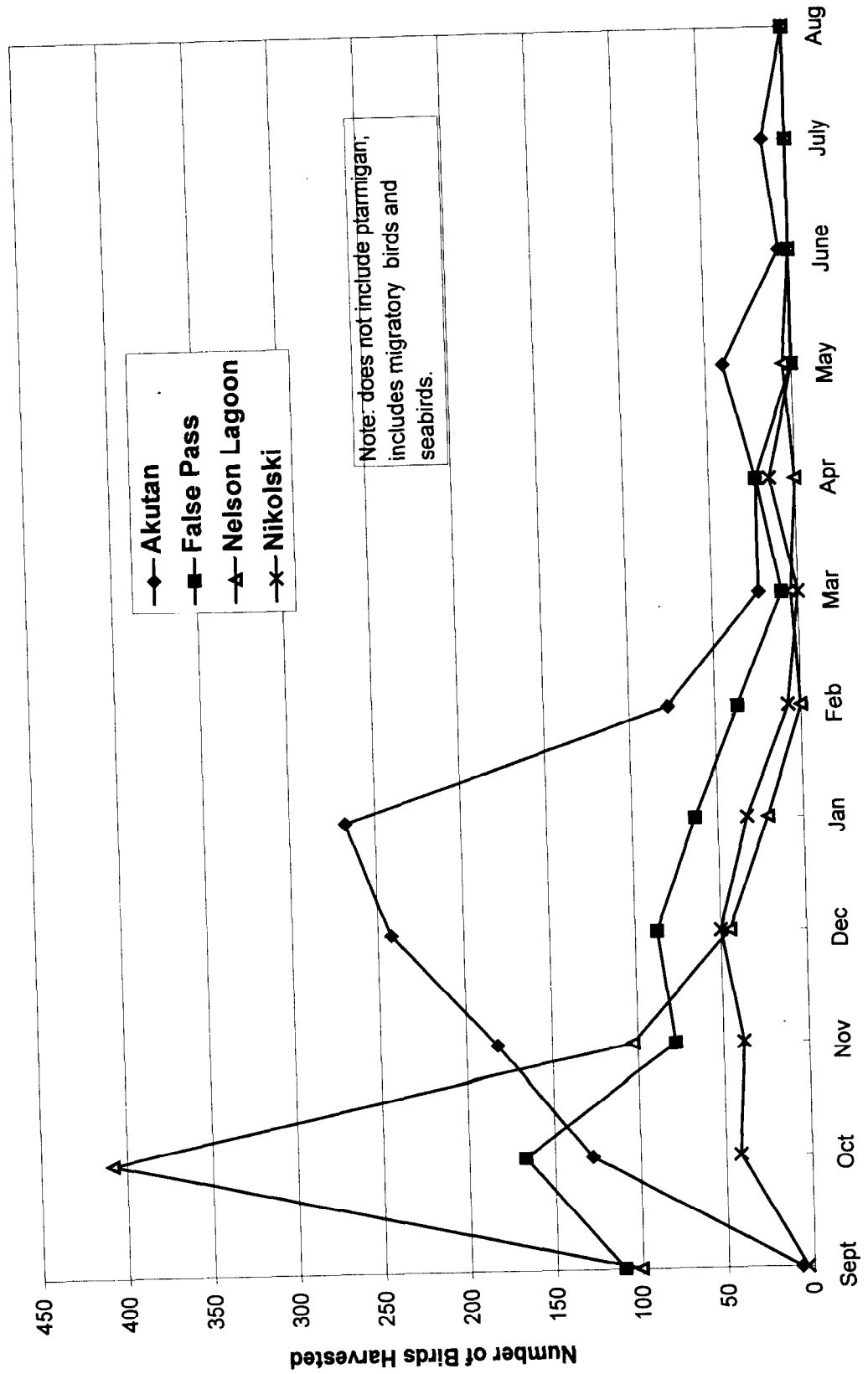


Figure 5. Estimated Harvests of Birds and Eggs in Four Aleutian Islands Area Communities, Pounds Usable Weight per Person, 1996/97 Study Year and Previous Study Years

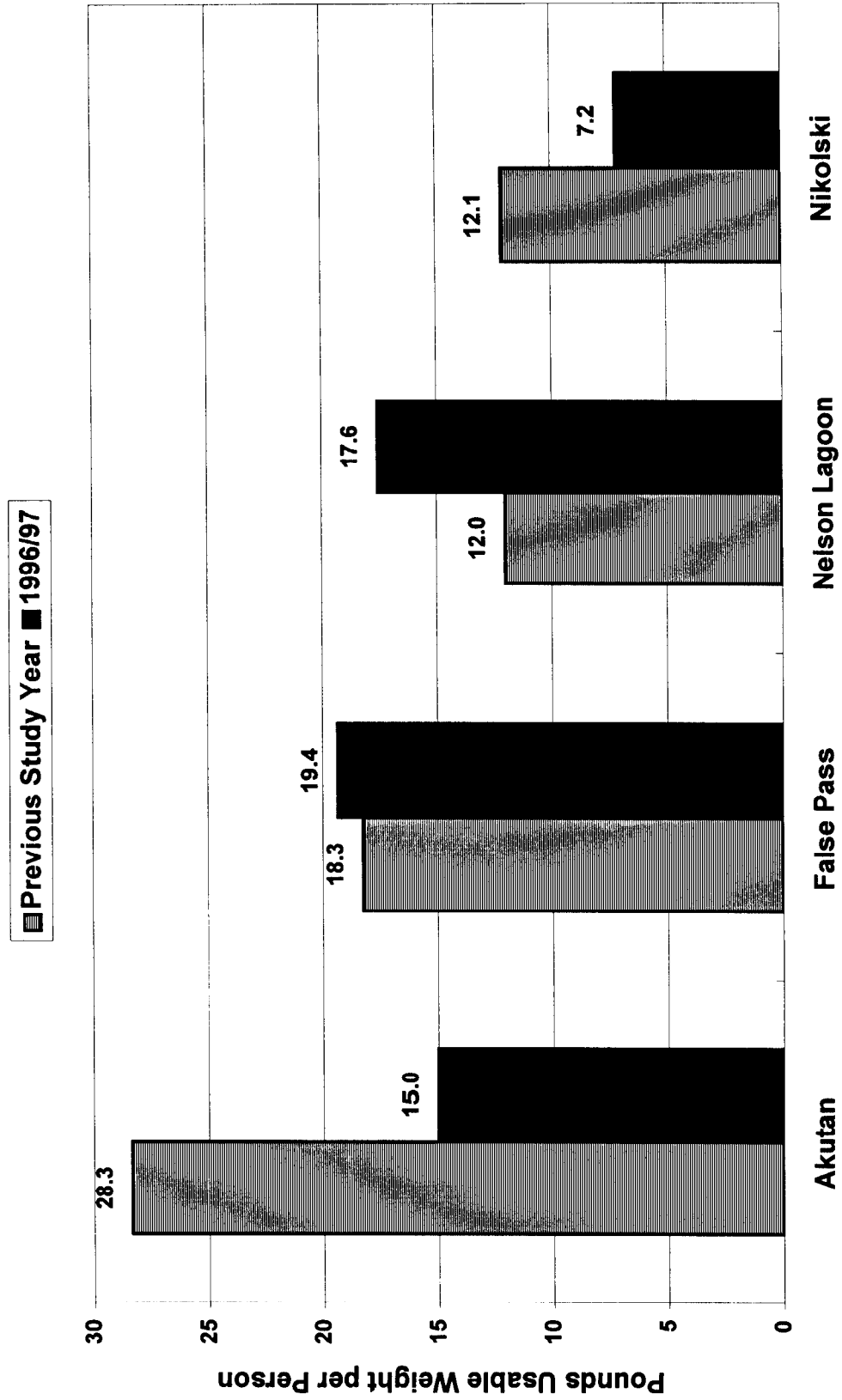
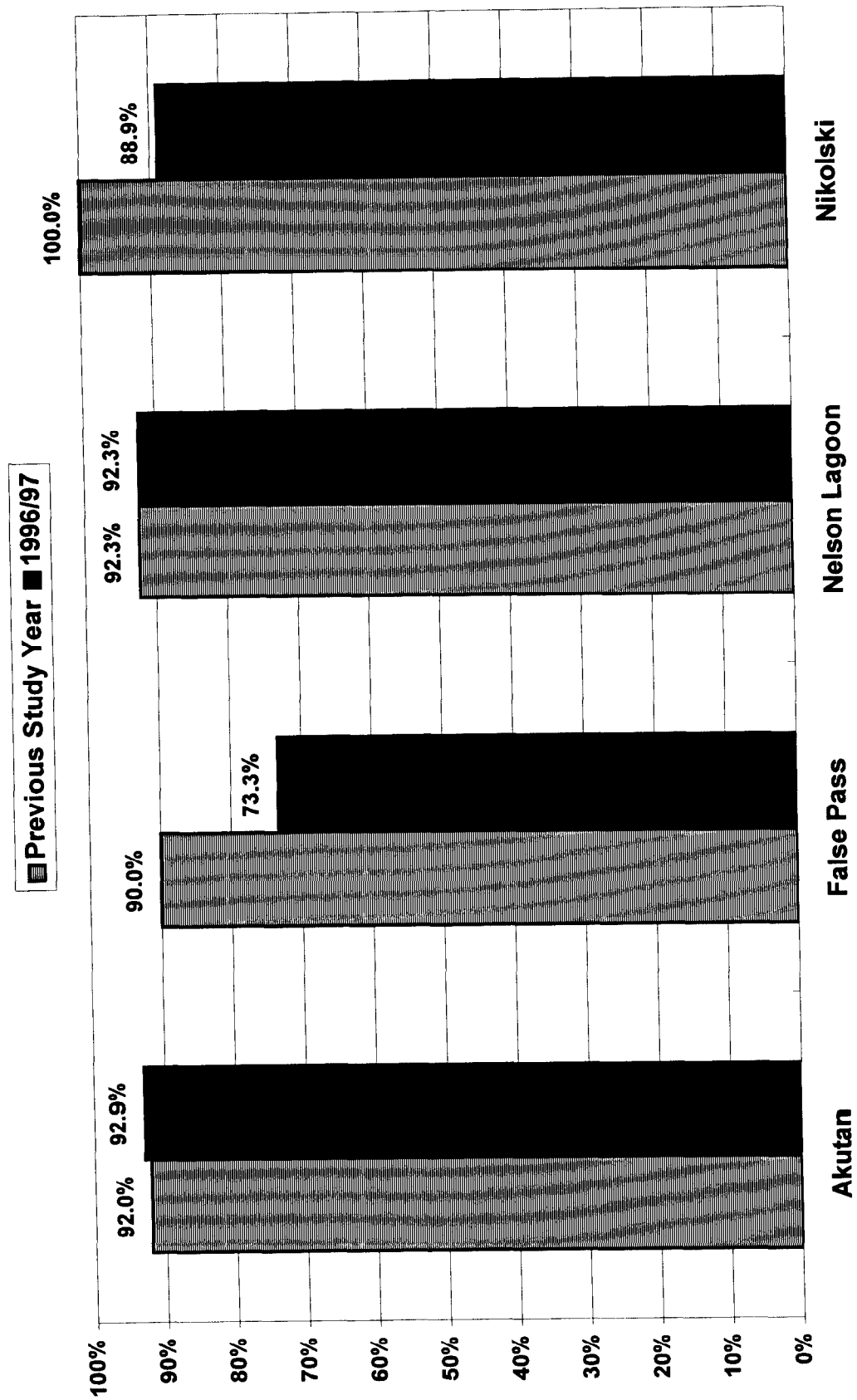


Figure 6. Percentage of Households Using Birds and Eggs, Four Aleutian Islands Area Communities, 1996/97 Study Year and Previous Study Years



**Figure 7. Percentage of Households Attempting to Harvest Birds and Eggs,
Four Aleutian Islands Area Communities, 1996/97 Study Year and Previous**

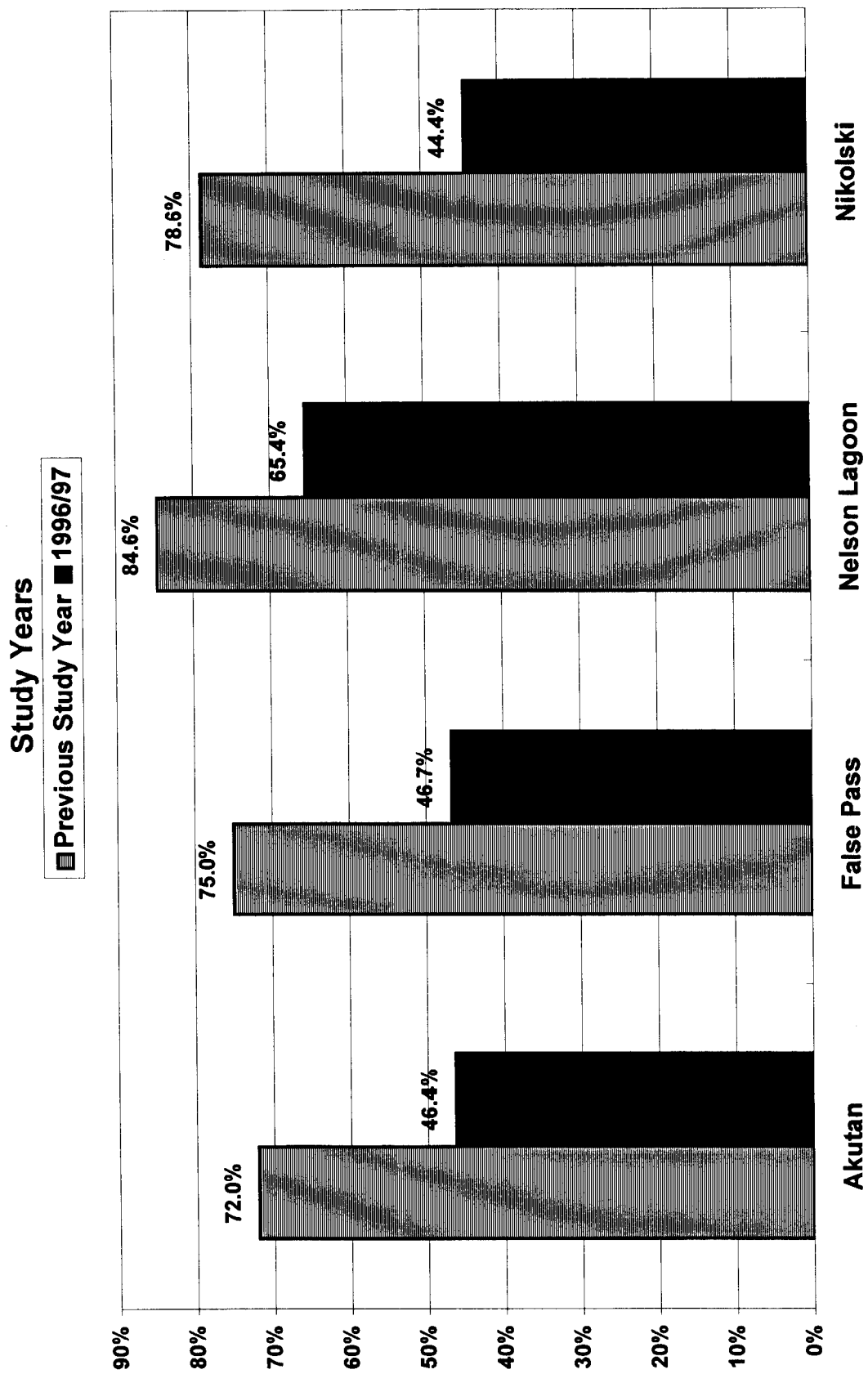


Figure 8. Percentage of Households Harvesting Birds and Eggs, Four Aleutian Islands Area Communities, 1996/97 Study Year and Previous Study Years

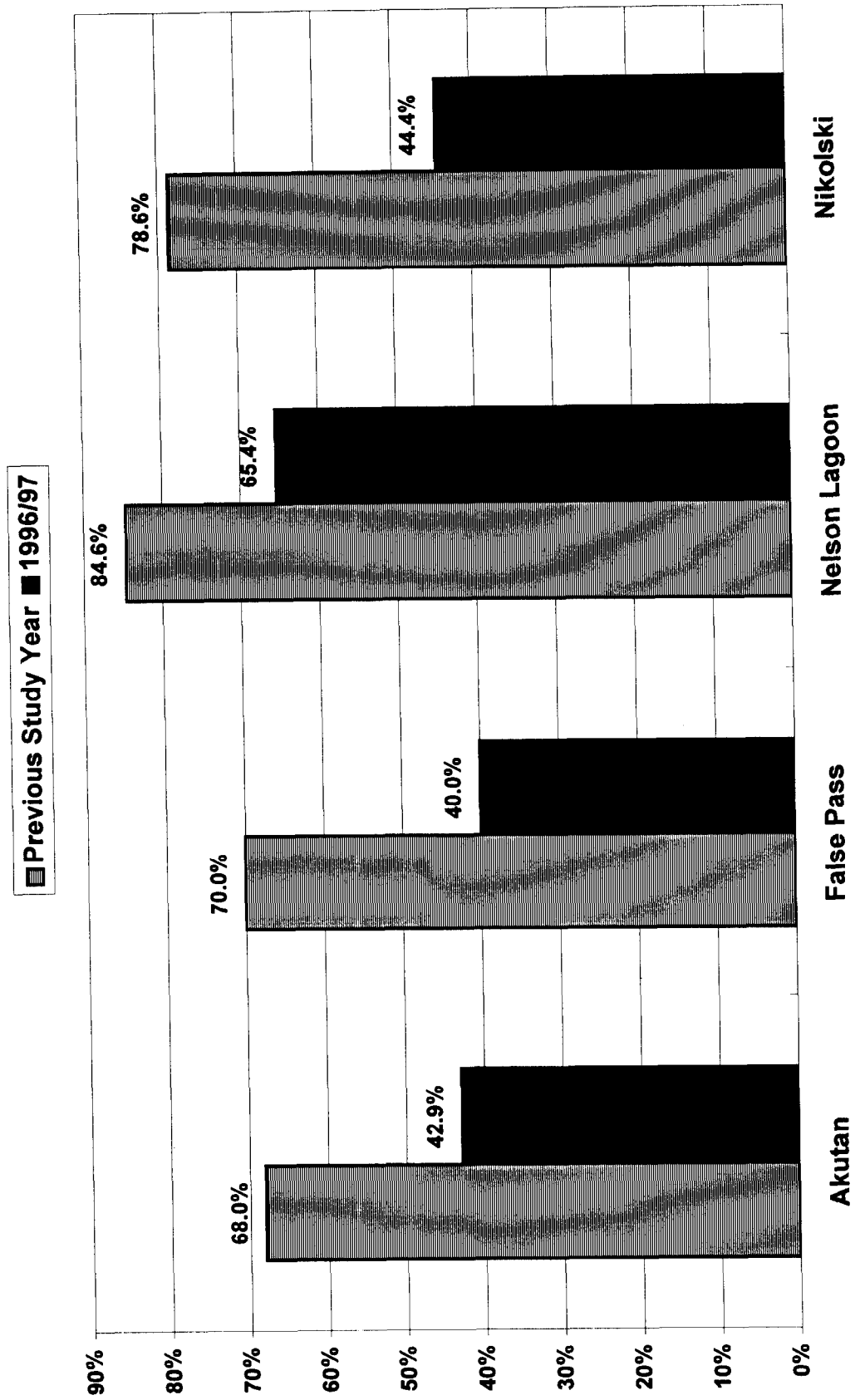


Figure 9. Percentage of Households Receiving Birds and Eggs, Four Aleutian Islands Area Communities, 1996/97 Study Year and Previous Study Years

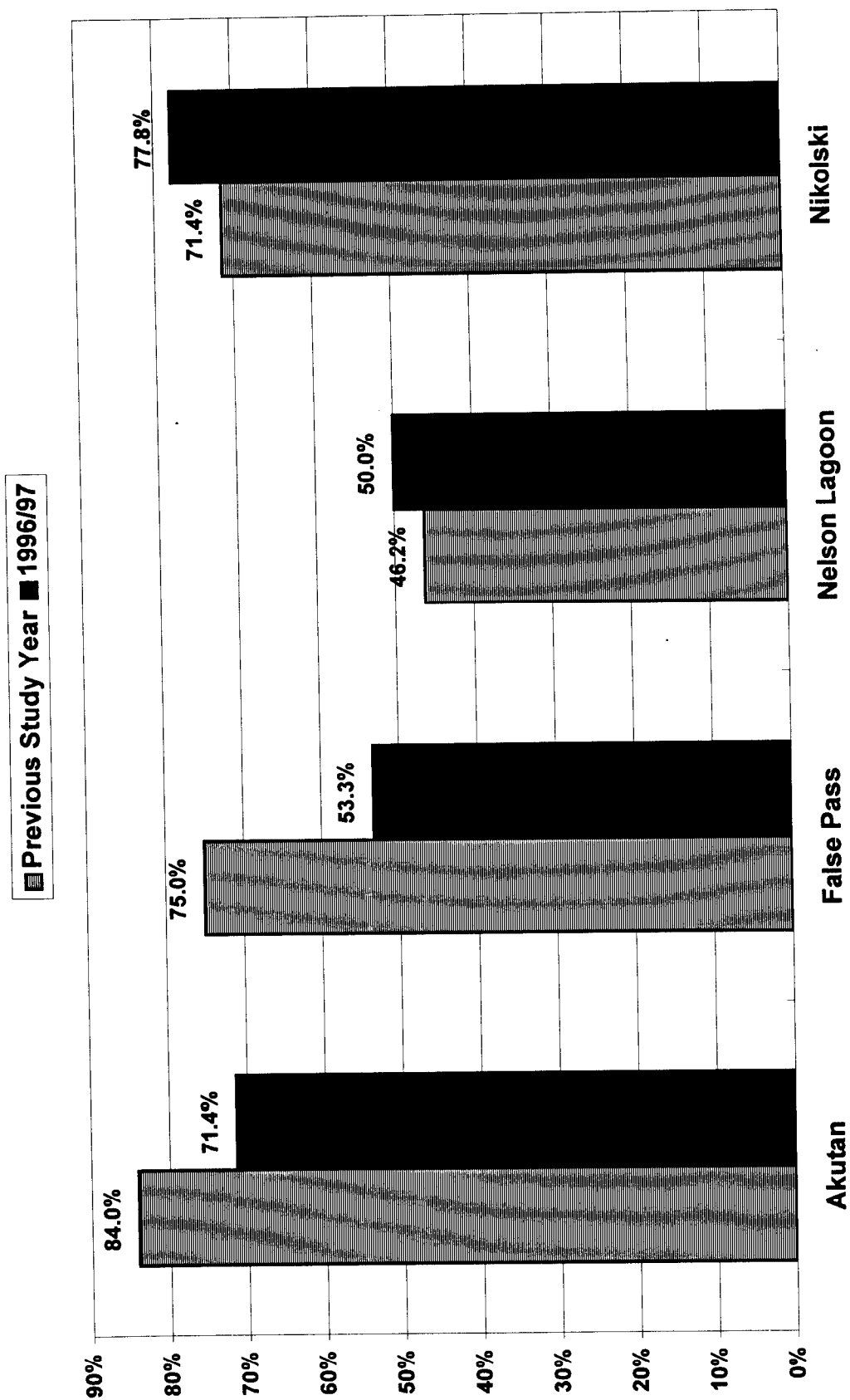


Figure 10. Percentage of Households Giving Away Birds and Eggs, Four Aleutian Islands Area Communities, 1996/97 Study Year and Previous Study Years

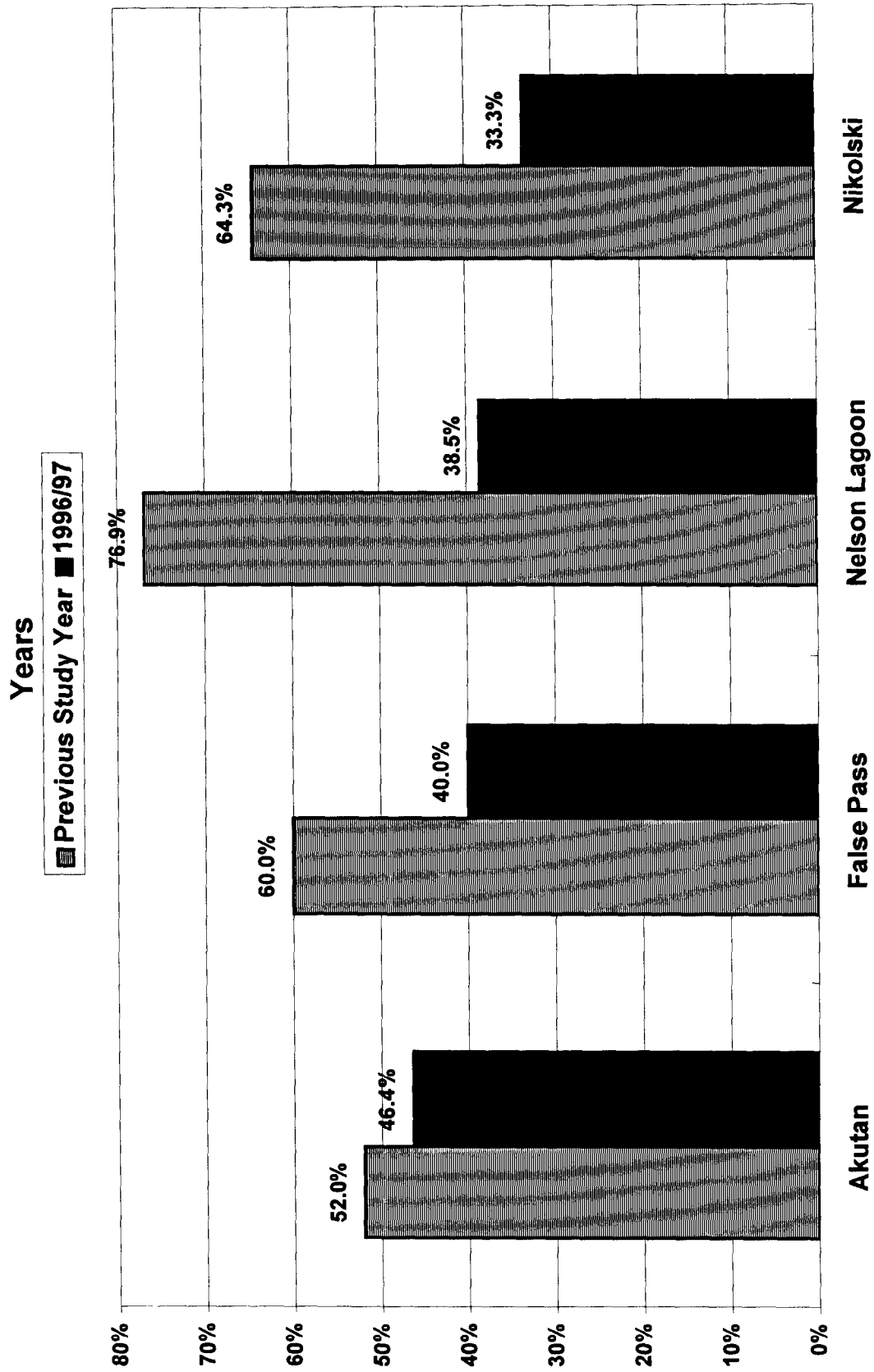


Table 9. Estimated Harvests of Birds and Eggs, Four Aleutian Islands Area Communities

	Estimated Number Harvested									
	Akutan		False Pass		Nelson Lagoon		Nikolski			
	1990/91	1996/97	1987/88	1996/97	1986/87	1996/97	1990/91	1996/97		
Birds and Eggs ¹										
Migratory Birds	2,433	1,009	677	575	515	686	288		188	
Ducks	1,827	767	514	281	454	387	184		142	
Bufflehead	155	56		0		0	0		11	
Canvasback	2	0		0		14	17		0	
Eider	236	5	0	0		0	20		1	
Common Eider		2		0		0			0	
King Eider		0		0		0			0	
Spectacled Eider		0		0		0			0	
Steller Eider		2		0		0			1	
Gadwall	7	2	22	16		0	0		2	
Goldeneye	157	55	0	16	116	105	0		7	
Barrows Goldeneye		5		8		15			0	
Common Goldeneye		50		0		10			7	
Unknown Goldeneye		0		8		80			0	
Harlequin	288	143		0		0	16		15	
Mallard	143	57	125	119	127	112	55		28	
Merganser	66	23		0		0	0		0	
Common Merganser		1		0		0			0	
Red-Breasted Merganser		22		0		0			0	
Oldsquaw	58	30		0		0	0		0	
Pintail	99	7	62	16	100	0	6		15	
Scaup	126	47	33	8		0	16		0	
Greater Scaup		9		0		0			0	
Lesser Scaup		38		0		0			0	
Unknown Scaup		0		8		0			0	
Scoter	226	229	7	0		0	33		0	
Black Scoter		80		0		0			0	
Surf Scoter		0		0		0			0	
White-winged Scoter		149		0		0			0	
Northern Shoveler		0		0		0			4	
Green-winged Teal	254	114	263	107	109	146	21		43	
Wigeon	9	0	2	0	1	0	0		7	

Table 9. Estimated Harvests of Birds and Eggs, Four Aleutian Islands Area Communities, continued

	Estimated Number Harvested									
	Akutan			False Pass			Nelson Lagoon			Nikolski
	1990/91	1996/97	1987/88	1987/88	1996/97	1996/97	1986/87	1996/97	1990/91	
Geese	221	133	163	293	293	297	61	297	104	45
Black Brant	10	6	73	107	107	4		4	0	4
Canada Geese	51	2	62	155	155	0		0	3	15
Aleutian Canada Geese	51	0		27	27	0		0	3	0
Cacklers		2		27	27	0		0		0
Lesser Canada Geese	0	0		101	101	0		0	0	15
Emperor Geese	160	125	29	32	32	293	61	293	101	28
Unknown Geese	0	0		0	0	0		0	0	0
Swan, Tundra	0	0	0	0	0	0		0	0	0
Seabirds & Loons	386	110	0	0	0	2		2	0	0
Parakeet Auklet	99	0		0	0	0		0	0	0
Whiskered Auklet		29		0	0	0		0		0
Cormorants	9	0		0	0	0		0	0	0
Unknown Grebe						2		2		
Loons	11	0		0	0	0		0	0	0
Murre	45	5		0	0	0		0	0	0
Puffins	222	77	0	0	0	0		0	0	0
Horned Puffin		37		0	0	0		0		0
Tufted Puffin		40		0	0	0		0		0
Other Birds	190	23	1,222	215	215	374	523	374	1	0
Ptarmigan	190	23	1,222	215	215	374	523	374	1	0
Bird Eggs	2,217	792	801	439	439	311	285	311	586	0
Duck Eggs	45	0	0	0	0	0	4	0	21	0
Shorebird Eggs	77	21		0	0	0		0	6	0
Common Snipe Eggs	77	9		0	0	0		0	6	0
Black Oyster Catcher Eggs		11		0	0	0		0		0
Seabird & Loon Eggs	2,096	771	801	439	439	311	281	311	559	0
Gull Eggs	2,096	758	801	439	439	311	210	311	559	0
Murre Eggs	0	0		0	0	0		0	0	0
Ancient Murrelet Eggs		14		0	0	0		0		0
Puffin Eggs	0	0	0	0	0	0		0	0	0
Tern Eggs	0	0		0	0	171	71	171	0	0
Unknown Eggs	0	0		0	0	0		0	0	0

¹ Data also collected for gulls, crane, snipe, oystercatcher, but no use or harvest was recorded. Blank cells indicate data not collected.

Table 10. Percentage of Households Using Bird and Egg Resources, Four Aleutian Islands Area Communities

	Percentage of Households Using											
	Akutan			False Pass			Nelson Lagoon			Nikolski		
	1990/91	1996/97	1987/88	1996/97	1987/88	1996/97	1986/87	1996/97	1990/91	1996/97	1990/91	1996/97
Birds and Eggs ¹	92.0%	92.9%	90.0%	73.3%	92.3%	92.3%	92.3%	92.3%	100.0%	88.9%		
Migratory Birds	84.0%	67.9%	85.0%	60.0%	76.9%	80.8%	76.9%	80.8%	92.9%	66.7%		
Ducks	84.0%	60.7%	80.0%	26.7%	76.9%	50.0%	76.9%	50.0%	64.3%	44.4%		
Bufflehead	56.0%	17.9%		0.0%		0.0%		0.0%	7.1%	22.2%		
Canvasback	8.0%	0.0%		0.0%		0.0%		3.8%	28.6%	0.0%		
Eider	68.0%	14.3%	0.0%	0.0%		0.0%		0.0%	21.4%	11.1%		
Common Eider		3.6%		0.0%		0.0%		0.0%		0.0%		
King Eider		10.7%		0.0%		0.0%		0.0%		0.0%		
Spectacled Eider		0.0%		0.0%		0.0%		0.0%		0.0%		
Steller Eider		3.6%		0.0%		0.0%		0.0%		11.1%		
Gadwall	4.0%	3.6%	20.0%	13.3%		0.0%		0.0%	0.0%	11.1%		
Goldeneye	60.0%	21.4%	0.0%	13.3%	38.5%	30.8%	38.5%	30.8%	7.1%	11.1%		
Barrows Goldeneye		3.6%		6.7%		7.7%		7.7%		0.0%		
Common Goldeneye		17.9%		0.0%		3.8%		3.8%		11.1%		
Unknown Goldeneye		0.0%		6.7%		23.1%		23.1%		0.0%		
Harlequin	72.0%	39.3%		0.0%		0.0%		0.0%	28.6%	11.1%		
Mallard	52.0%	28.6%	65.0%	26.7%	76.9%	46.2%	76.9%	46.2%	64.3%	33.3%		
Merganser	28.0%	14.3%		0.0%		0.0%		0.0%	7.1%	0.0%		
Common Merganser		3.6%		0.0%		0.0%		0.0%		0.0%		
Red-Breasted Merganser		10.7%		0.0%		0.0%		0.0%		0.0%		
Oldsquaw	40.0%	7.1%		0.0%		0.0%		0.0%	0.0%	0.0%		
Pintail	32.0%	7.1%	25.0%	6.7%	30.8%	0.0%	30.8%	0.0%	7.1%	11.1%		
Scaup	28.0%	7.1%	15.0%	6.7%		0.0%		0.0%	28.6%	0.0%		
Greater Scaup		3.6%		0.0%		0.0%		0.0%		0.0%		
Lesser Scaup		7.1%		0.0%		0.0%		0.0%		0.0%		
Unknown Scaup		0.0%		6.7%		0.0%		0.0%		0.0%		
Scoter	72.0%	42.9%	5.0%	0.0%		0.0%		0.0%	28.6%	0.0%		
Black Scoter		14.3%		0.0%		0.0%		0.0%		0.0%		
Surf Scoter		3.6%		0.0%		0.0%		0.0%		0.0%		
White-winged Scoter		35.7%		0.0%		0.0%		0.0%		0.0%		
Northern Shoveler		0.0%		0.0%		0.0%		0.0%		11.1%		
Teal	64.0%	28.6%	65.0%	26.7%	53.8%	46.2%	53.8%	46.2%	28.6%	33.3%		
Wigeon	8.0%	0.0%	5.0%	0.0%	7.7%	0.0%	7.7%	0.0%	0.0%	11.1%		

Table 10. Percentage of Households Using Bird and Egg Resources, Four Aleutian Islands Area Communities, continued

	Percentage of Households Using									
	Akutan		False Pass		Nelson Lagoon		Nikolski			
	1990/91	1996/97	1987/88	1996/97	1986/87	1996/97	1990/91	1996/97		
Geese	72.0%	57.1%	75.0%	60.0%	38.5%	76.9%	92.9%	66.7%		
Black Brant	20.0%	7.1%	50.0%	53.3%		3.8%	0.0%	22.2%		
Canada Geese		7.1%	50.0%	46.7%		0.0%	21.4%	11.1%		
Aleutian Canada Geese	12.0%	0.0%		6.7%		0.0%	21.4%	0.0%		
Cacklers		3.6%		6.7%		0.0%		0.0%		
Lesser Canada Geese	16.0%	3.6%		46.7%		0.0%	0.0%	11.1%		
Emperor Geese	64.0%	50.0%	40.0%	33.3%	38.5%	76.9%	78.6%	66.7%		
Unknown Geese	4.0%	0.0%		0.0%		0.0%	0.0%	0.0%		
Swan, Tundra	0.0%	3.6%	0.0%	0.0%		0.0%	0.0%	0.0%		
Seabirds & Loons	56.0%	28.6%	0.0%	0.0%		3.8%	7.1%	0.0%		
Parakeet Auklet	8.0%	0.0%		0.0%		0.0%	0.0%	0.0%		
Whiskered Auklet		3.6%		0.0%		0.0%	7.1%	0.0%		
Cormorants	4.0%	3.6%		0.0%		0.0%		0.0%		
Grebe, Unknown		0.0%		0.0%		3.8%		0.0%		
Loons	12.0%	0.0%		0.0%		0.0%	0.0%	0.0%		
Murre	12.0%	3.6%		0.0%		0.0%	0.0%	0.0%		
Puffins	56.0%	25.0%	0.0%	0.0%		0.0%	0.0%	0.0%		
Horned Puffin		14.3%		0.0%		0.0%		0.0%		
Tufted Puffin		10.7%		0.0%		0.0%		0.0%		
Other Birds	72.0%	14.3%	90.0%	46.7%	92.3%	61.5%	7.1%	11.1%		
Ptarmigan	72.0%	14.3%	90.0%	46.7%	92.3%	61.5%	7.1%	11.1%		
Bird Eggs	88.0%	85.7%	65.0%	53.3%	38.5%	57.7%	71.4%	66.7%		
Duck Eggs	12.0%	0.0%	0.0%	0.0%	15.4%	0.0%	21.4%	11.1%		
Common Eider Eggs		0.0%		0.0%		0.0%		11.1%		
Shorebird Eggs	24.0%	10.7%		0.0%		0.0%	21.4%	0.0%		
Common Snipe Eggs	24.0%	3.6%		0.0%		0.0%	21.4%	0.0%		
Black Oystercatcher Eggs		10.7%		0.0%		0.0%		0.0%		
Seabird & Loon Eggs	88.0%	85.7%	65.0%	53.3%	38.5%	57.7%	71.4%	66.7%		
Gull Eggs	88.0%	82.1%	65.0%	53.3%	38.5%	46.2%	71.4%	66.7%		
Murre Eggs	0.0%	0.0%		0.0%		0.0%	7.1%	0.0%		
Ancient Murrelet Eggs		3.6%		0.0%		0.0%		0.0%		
Puffin Eggs	0.0%	0.0%	0.0%	0.0%		0.0%	0.0%	0.0%		
Tern Eggs	0.0%	0.0%		0.0%	15.4%	46.2%	0.0%	0.0%		
Unknown Eggs	0.0%	0.0%		0.0%		0.0%	7.1%	0.0%		

¹ Data also collected for gulls, crane, snipe, oystercatcher, but no use or harvest was recorded. Blank cells indicate data not collected.

Table 11. Harvests of Birds and Eggs by Resource Category, Four Aleutian Islands Area Communities, 1996/97 and Previous Study Years

	Pounds Per Person(Usable Weight)							
	Akutan		False Pass		Nelson Lagoon		Nikolski	
	1990/91	1996/97	1987/88	1996/97	1986/87	1996/97	1990/91	1996/97
Ducks	13.5	7.1	4.4	3.8	5.2	3.5	3.2	3.2
Geese	5.0	4.0	3.4	10.0	2.3	9.9	5.3	3.9
Seabirds	2.1	0.8	0.0	0.0	0.0	0.0	0.0	0.0
Ptarmigan	1.3	0.2	8.8	3.0	3.9	3.5	0.0	0.0
Eggs	6.4	2.9	1.7	2.6	0.6	0.7	3.6	0.0
Total	28.3	15.0	18.3	19.4	12.0	17.6	12.1	7.2

Sources: Scott et al. 1997 and ADF&G Division of Subsistence Household Surveys

Table 12. Percentage of Harvests of Birds and Eggs by Category, Four Aleutian Islands Area Communities, 1996/97 and Previous Study Years

	Percentage of Total Pounds (Usable Weight) of Birds and Eggs							
	Akutan		False Pass		Nelson Lagoon		Nikolski	
	1990/91	1996/97	1987/88	1996/97	1986/87	1996/97	1990/91	1996/97
Ducks	47.7%	47.5%	23.9%	19.8%	43.3%	19.8%	26.2%	45.3%
Geese	17.7%	26.7%	18.4%	51.4%	19.0%	56.2%	44.0%	54.7%
Seabirds	7.6%	5.4%	0.0%	0.0%	0.0%	0.2%	0.0%	0.0%
Ptarmigan	4.6%	1.3%	48.3%	15.3%	32.8%	19.9%	0.2%	0.0%
Eggs	22.4%	19.1%	9.5%	13.4%	4.9%	3.8%	29.6%	0.0%

Sources: Scott et al. 1997 and ADF&G Division of Subsistence Household Surveys

Table 13. Household Assessments of Changes in Bird and Egg Harvests and Uses, Four Aleutian Islands Area Communities, 1996/97 Study Year

Community	Total Households Interviewed	Use and Harvest of Birds and Eggs Compared to Other Recent (2 - 5) Years									
		No Response		Less		Same		More		Don't Know	
		Num.	%	Num.	%	Num.	%	Num.	%	Num.	%
Akutan	28	1	3.57%	9	32.14%	17	60.71%	1	3.57%	0	0.00%
False Pass	15	1	6.67%	6	40.00%	7	46.67%	0	0.00%	1	6.67%
Nelson Lagoon	26	0	0.00%	12	46.15%	13	50.00%	1	3.85%	0	0.00%
Nikolski	9	2	22.22%	4	44.44%	3	33.33%	0	0.00%	0	0.00%
TOTAL	78	4	5.13%	31	39.74%	40	51.28%	2	2.56%	1	1.28%

SOURCE: Alaska Department of Fish and Game, Division of Subsistence, Household Survey, 1997.

Table 14. Household Assessments of Bird and Egg Harvests and Uses Meeting Needs, Four Aleutian Islands Area Communities, 1996/97 Study Year

Community	Total Households Interviewed	Needs Met for Birds and Eggs							
		No Response		No		Yes		Don't Know	
		Num.	%	Num.	%	Num.	%	Num.	%
Akutan	28	1	3.57%	6	21.43%	20	71.43%	1	3.57%
False Pass	15	1	6.67%	3	20.00%	9	60.00%	2	13.33%
Nelson Lagoon	26	1	3.85%	2	7.69%	18	69.23%	5	19.23%
Nikolski	9	2	22.22%	3	33.33%	4	44.44%	0	0.00%
TOTAL	78	5	6.41%	14	17.95%	51	65.38%	8	10.26%

SOURCE: Alaska Department of Fish and Game, Division of Subsistence, Households Survey 1997

Figure 11. Population Profile, False Pass, September 1997

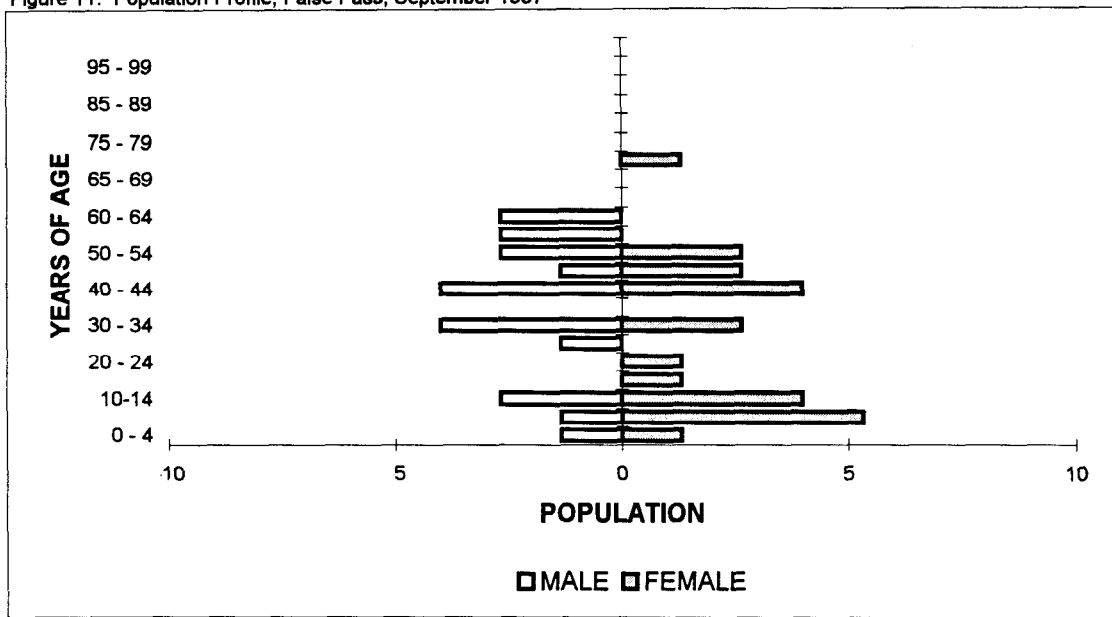


Table 15. Population Profile, False Pass, September 1997

AGE	MALE			FEMALE			TOTAL		
	NUMBER	PERCENT	CUM. PERCENT	NUMBER	PERCENT	CUM. PERCENT	NUMBER	PERCENT	CUM. PERCENT
0 - 4	1.33	5.56%	5.56%	1.33	5.00%	5.00%	2.67	5.26%	5.26%
5-9	1.33	5.56%	11.11%	5.33	20.00%	25.00%	6.67	13.16%	18.42%
10-14	2.67	11.11%	22.22%	4.00	15.00%	40.00%	6.67	13.16%	31.58%
15 - 19	0.00	0.00%	22.22%	1.33	5.00%	45.00%	1.33	2.63%	34.21%
20 - 24	0.00	0.00%	22.22%	1.33	5.00%	50.00%	1.33	2.63%	36.84%
25 - 29	1.33	5.56%	27.78%	0.00	0.00%	50.00%	1.33	2.63%	39.47%
30 - 34	4.00	16.67%	44.44%	2.67	10.00%	60.00%	6.67	13.16%	52.63%
35 - 39	0.00	0.00%	44.44%	0.00	0.00%	60.00%	0.00	0.00%	52.63%
40 - 44	4.00	16.67%	61.11%	4.00	15.00%	75.00%	8.00	15.79%	68.42%
45 - 49	1.33	5.56%	66.67%	2.67	10.00%	85.00%	4.00	7.89%	76.32%
50 - 54	2.67	11.11%	77.78%	2.67	10.00%	95.00%	5.33	10.53%	86.84%
55 - 59	2.67	11.11%	88.89%	0.00	0.00%	95.00%	2.67	5.26%	92.11%
60 - 64	2.67	11.11%	100.00%	0.00	0.00%	95.00%	2.67	5.26%	97.37%
65 - 69	0.00	0.00%	100.00%	0.00	0.00%	95.00%	0.00	0.00%	97.37%
70 - 74	0.00	0.00%	100.00%	1.33	5.00%	100.00%	1.33	2.63%	100.00%
75 - 79	0.00	0.00%	100.00%	0.00	0.00%	100.00%	0.00	0.00%	100.00%
80 - 84	0.00	0.00%	100.00%	0.00	0.00%	100.00%	0.00	0.00%	100.00%
85 - 89	0.00	0.00%	100.00%	0.00	0.00%	100.00%	0.00	0.00%	100.00%
90 - 94	0.00	0.00%	100.00%	0.00	0.00%	100.00%	0.00	0.00%	100.00%
95 - 99	0.00	0.00%	100.00%	0.00	0.00%	100.00%	0.00	0.00%	100.00%
100 - 104	0.00	0.00%	100.00%	0.00	0.00%	100.00%	0.00	0.00%	100.00%
Missing	0.00	0.00%	100.00%	0.00	0.00%	100.00%	0.00	0.00%	100.00%

Table 16. Estimated Harvest and Use of Birds and Eggs, False Pass, September 1996 - August 1997

Resource Name	Percentage of Households					Pounds Harvested			Amount Harvested		95% Conf Limit (+/-)	
	Use	Att	Harv	Recv	Give	Total	Mean HH	Percapita	Total	Mean HH	Harvest	Harvest
Birds and Eggs	73.3	46.7	40.0	53.3	40.0	980.51	49.03	19.35	1,228.00	61.40	56.77%	56.77%
Migratory Birds	60.0	33.3	26.7	33.3	26.7	698.64	34.93	13.79	574.67	28.73	55.98%	55.98%
Ducks	26.7	26.7	20.0	6.7	20.0	194.11	9.71	3.83	281.33	14.07	63.04%	63.04%
Bufflehead	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Canvasback	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Eider	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Common Eider	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
King Eider	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Spectacled Eider	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Steller Eider	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Gadwall	13.3	13.3	13.3	0.0	6.7	12.80	0.64	0.25	16.00	0.80	89.88%	89.88%
Goldeneye	13.3	13.3	13.3	0.0	6.7	11.92	0.60	0.24	16.00	0.80	73.07%	73.07%
Barrows Goldeneye	6.7	6.7	6.7	0.0	6.7	5.60	0.28	0.11	8.00	0.40	107.24%	107.24%
Common Goldeneye	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Unknown Goldeneye	6.7	6.7	6.7	0.0	0.0	6.32	0.32	0.12	8.00	0.40	107.24%	107.24%
Harlequin	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Mallard	26.7	20.0	20.0	6.7	20.0	118.67	5.93	2.34	118.67	5.93	62.02%	62.02%
Merganser	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Common Merganser	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Red-Breasted Merganser	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Oldsquaw	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Northern Pintail	6.7	6.7	6.7	0.0	0.0	12.80	0.64	0.25	16.00	0.80	107.24%	107.24%
Redhead Duck	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Scaup	6.7	6.7	6.7	0.0	0.0	5.92	0.30	0.12	8.00	0.40	107.24%	107.24%
Greater Scaup	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Lesser Scaup	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Unknown Scaup	6.7	6.7	6.7	0.0	0.0	5.92	0.30	0.12	8.00	0.40	107.24%	107.24%
Scoter	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Black Scoter	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Surf Scoter	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
White-winged Scoter	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Northern Shoveler	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%

Table 16. Estimated Harvest and Use of Birds and Eggs, False Pass, September 1996 - August 1997

Resource Name	Percentage of Households					Pounds Harvested			Amount Harvested		95% Conf Limit (+/-)	
	Use	Att	Harv	Recv	Give	Total	Mean HH	Percapita	Total	Mean HH	Harvest	Harvest
Teal	26.7	20.0	20.0	6.7	13.3	32.00	1.60	0.63	106.67	5.33	58.43%	58.43%
Green Winged Teal	26.7	20.0	20.0	6.7	13.3	32.00	1.60	0.63	106.67	5.33	58.43%	58.43%
Unknown Teal	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Tufted Duck	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Wigeon	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
American Wigeon	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Eurasian Wigeon	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Unknown Ducks	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Geese	60.0	33.3	26.7	33.3	20.0	504.53	25.23	9.96	293.33	14.67	62.89%	62.89%
Brant	53.3	33.3	26.7	26.7	13.3	128.00	6.40	2.53	106.67	5.33	80.01%	80.01%
Canada Geese	46.7	26.7	26.7	20.0	20.0	296.53	14.83	5.85	154.67	7.73	60.82%	60.82%
Aleutian Canada Geese	6.7	6.7	6.7	0.0	6.7	51.73	2.59	1.02	26.67	1.33	107.24%	107.24%
Cacklers	6.7	6.7	6.7	0.0	6.7	32.00	1.60	0.63	26.67	1.33	107.24%	107.24%
Lesser Canada Geese (taverner)	46.7	26.7	26.7	20.0	20.0	212.80	10.64	4.20	101.33	5.07	53.68%	53.68%
Emperor Geese	33.3	26.7	26.7	6.7	20.0	80.00	4.00	1.58	32.00	1.60	49.30%	49.30%
Snow Geese	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
White-fronted Geese	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Swan	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Tundra Swan (whistling)	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Crane	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Sandhill Crane	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Shorebirds	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Common Snipe	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Black Oystercatcher	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Seabirds & Loons	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Auklet	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Whiskered Auklet	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Cormorants	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Double-Crested Cormorant	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Pelagic Cormorant	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Red-Faced Cormorant	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Grebe	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Unknown Grebe	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%

Table 16. Estimated Harvest and Use of Birds and Eggs, False Pass, September 1996 - August 1997

Resource Name	Percentage of Households					Pounds Harvested			Amount Harvested		95% Conf Limit (+/-)	
	Use	Att	Harv	Recv	Give	Total	Mean HH	Percapita	Total	Mean HH	Harvest	Harvest
Loons	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Arctic (Pacific) Loon	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Common Loon	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Red-Throated Loon	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Yellow-Billed Loon	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Murre	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Common Murre	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Thick-Billed Murre	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Puffins	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Horned Puffin	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Tufted Puffin	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Other Birds	46.7	33.3	26.7	20.0	13.3	150.27	7.51	2.97	214.67	10.73	60.32%	60.32%
Upland Game Birds	46.7	33.3	26.7	20.0	13.3	150.27	7.51	2.97	214.67	10.73	60.32%	60.32%
Ptarmigan	46.7	33.3	26.7	20.0	13.3	150.27	7.51	2.97	214.67	10.73	60.32%	60.32%
Rock Ptarmigan	6.7	6.7	6.7	0.0	6.7	37.33	1.87	0.74	53.33	2.67	107.24%	107.24%
Willow Ptarmigan	26.7	26.7	26.7	0.0	13.3	112.93	5.65	2.23	161.33	8.07	55.08%	55.08%
Unknown Ptarmigan	20.0	6.7	0.0	20.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Bird Eggs	53.3	20.0	20.0	46.7	26.7	131.60	6.58	2.60	438.67	21.93	66.31%	66.31%
Duck Eggs	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Eider Eggs	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Common Eider Eggs	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Teal Eggs	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Green-Winged Teal Eggs	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Geese Eggs	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Brant Eggs	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Shorebird Eggs	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Common Snipe Eggs	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Black Oystercatcher Eggs	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Seabird & Loon Eggs	53.3	20.0	20.0	46.7	26.7	131.60	6.58	2.60	438.67	21.93	66.31%	66.31%
Cormorant Eggs	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Pelagic Cormorant Eggs	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Red-Faced Cormorant Eggs	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Fulmar Eggs	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Guillemots Eggs	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%

Table 16. Estimated Harvest and Use of Birds and Eggs, False Pass, September 1996 - August 1997

Resource Name	Percentage of Households				Pounds Harvested			Amount Harvested		95% Conf Limit (+/-)	
	Use	Att	Harv	Recv	Give	Total	Mean HH	Percapita	Total	Mean HH	Harvest
Gull Eggs	53.3	20.0	20.0	46.7	26.7	131.60	6.58	2.60	438.67	21.93	66.31%
Glaucous Winged Gull Eggs	46.7	13.3	13.3	40.0	20.0	71.60	3.58	1.41	238.67	11.93	90.30%
Unknown Gull Eggs	6.7	6.7	6.7	6.7	6.7	60.00	3.00	1.18	200.00	10.00	107.24%
Kittiwake Eggs	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%
Murre Eggs	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%
Common Murre Eggs	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%
Thick-Billed Murre Eggs	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%
Murrelet Eggs	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%
Ancient Murrelet Eggs	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%
Puffin Eggs	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%
Tufted Puffin Eggs	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%
Tern Eggs	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%
Unknown Tern Eggs	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%

SOURCE: Alaska Department of Fish and Game, Division of Subsistence, Household Survey, 1997

Table 17. Estimated Bird and Egg Harvests by Month, False Pass, September 1996 - August 1997

Resource	Estimated Harvests in Numbers of Birds or Eggs												Total ¹
	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	July	Aug	
Gadwall	0	7	7	3	0	0	0	0	0	0	0	0	16
Barrows Goldeneye	0	0	4	4	0	0	0	0	0	0	0	0	8
Unknown Goldeneye	0	0	8	0	0	0	0	0	0	0	0	0	8
Mallard	12	25	25	24	19	13	0	0	0	0	0	0	119
Northern Pintail	0	0	0	5	11	0	0	0	0	0	0	0	16
Unknown Scaup	0	0	0	4	4	0	0	0	0	0	0	0	8
Green Winged Teal	5	21	21	27	19	13	0	0	0	0	0	0	107
Brant	11	24	11	11	9	9	9	23	0	0	0	0	107
Aleutian Canada Geese	13	13	0	0	0	0	0	0	0	0	0	0	27
Cacklers	13	13	0	0	0	0	0	0	0	0	0	0	27
Lesser Canada Geese	53	48	0	0	0	0	0	0	0	0	0	0	101
Emperor Geese	2	15	2	10	2	1	0	0	0	0	0	0	32
Rock Ptarmigan	7	7	7	7	7	7	7	7	0	0	0	0	53
Willow Ptarmigan	12	16	16	23	39	28	16	12	0	0	0	0	161
Glaucous Winged Gull Eggs	0	0	0	0	0	0	0	0	0	239	0	0	239
Unknown Gull Eggs	0	0	0	0	0	0	0	0	100	100	0	0	200

¹ Due to rounding, may not equal sum of individual months.

Source: Alaska Department of Fish and Game, Division of Subsistence Household Surveys 1997

Figure 12. Percentage of Migratory Bird Harvest by Season, False Pass, 1987/88 and 1996/97

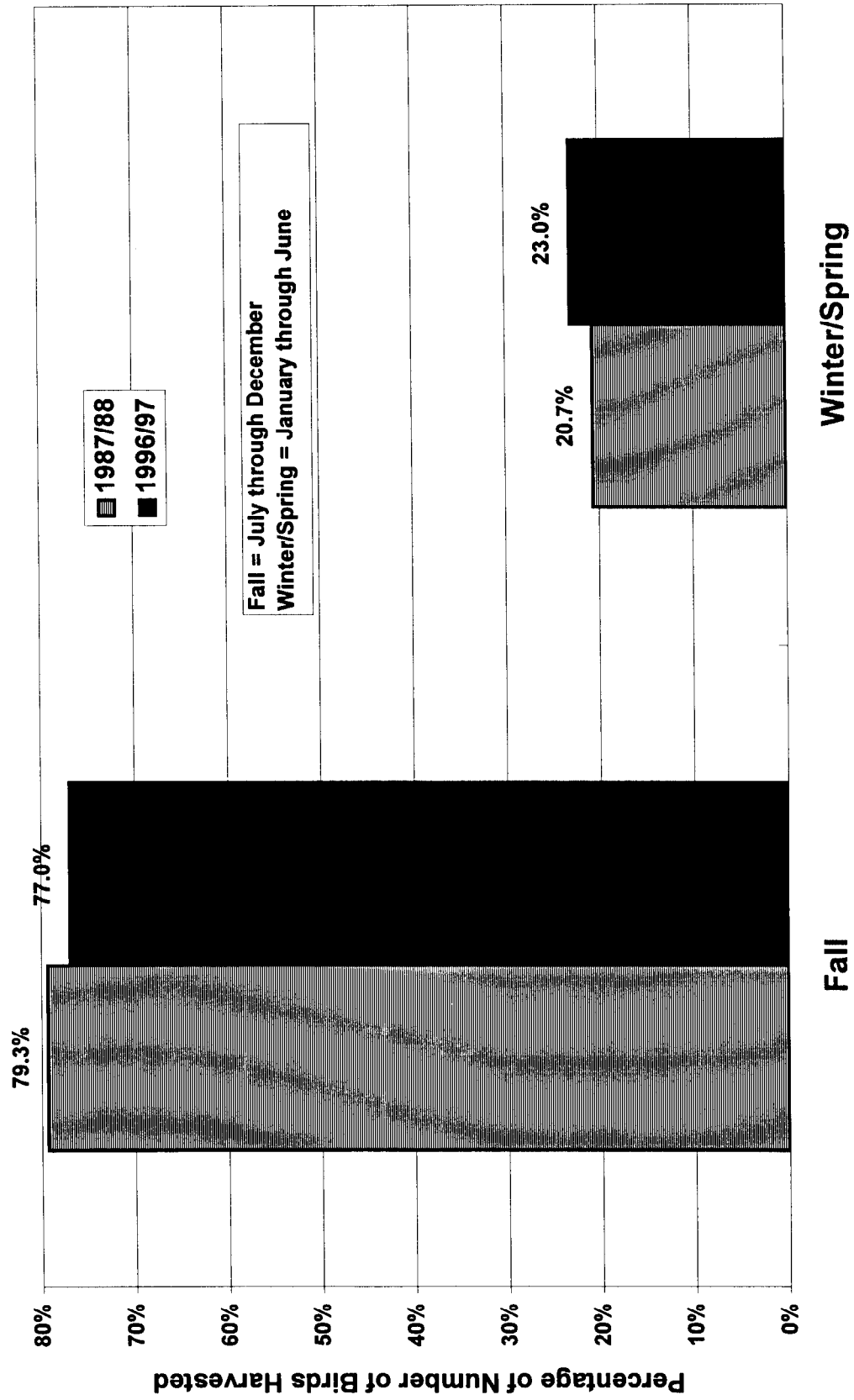
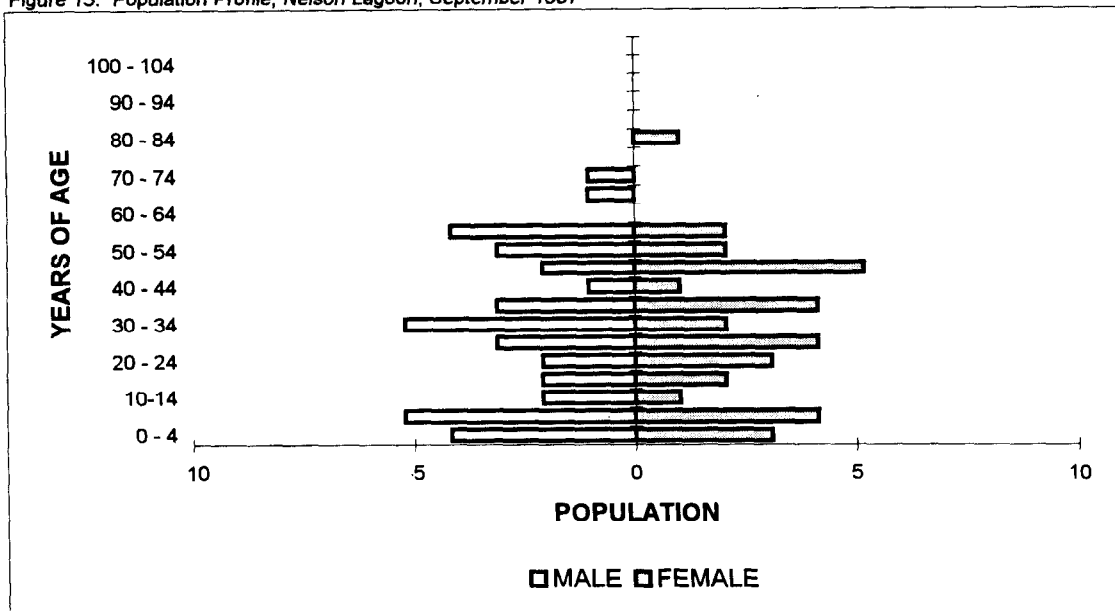


Figure 13. Population Profile, Nelson Lagoon, September 1997



SOURCE: Alaska Department of Fish and Game, Division of Subsistence, Household Survey, 1997

Table 18. Population Profile, Nelson Lagoon, September 1997

AGE	MALE			FEMALE			TOTAL		
	NUMBER	PERCENT	CUM. PERCENT	NUMBER	PERCENT	CUM. PERCENT	NUMBER	PERCENT	CUM. PERCENT
0 - 4	4.15	10.53%	10.53%	3.12	8.82%	8.82%	7.27	9.72%	9.72%
5 - 9	5.19	13.16%	23.68%	4.15	11.76%	20.59%	9.35	12.50%	22.22%
10 - 14	2.08	5.26%	28.95%	1.04	2.94%	23.53%	3.12	4.17%	26.39%
15 - 19	2.08	5.26%	34.21%	2.08	5.88%	29.41%	4.15	5.56%	31.94%
20 - 24	2.08	5.26%	39.47%	3.12	8.82%	38.24%	5.19	6.94%	38.89%
25 - 29	3.12	7.89%	47.37%	4.15	11.76%	50.00%	7.27	9.72%	48.61%
30 - 34	5.19	13.16%	60.53%	2.08	5.88%	55.88%	7.27	9.72%	58.33%
35 - 39	3.12	7.89%	68.42%	4.15	11.76%	67.65%	7.27	9.72%	68.06%
40 - 44	1.04	2.63%	71.05%	1.04	2.94%	70.59%	2.08	2.78%	70.83%
45 - 49	2.08	5.26%	76.32%	5.19	14.71%	85.29%	7.27	9.72%	80.56%
50 - 54	3.12	7.89%	84.21%	2.08	5.88%	91.18%	5.19	6.94%	87.50%
55 - 59	4.15	10.53%	94.74%	2.08	5.88%	97.06%	6.23	8.33%	95.83%
60 - 64	0.00	0.00%	94.74%	0.00	0.00%	97.06%	0.00	0.00%	95.83%
65 - 69	1.04	2.63%	97.37%	0.00	0.00%	97.06%	1.04	1.39%	97.22%
70 - 74	1.04	2.63%	100.00%	0.00	0.00%	97.06%	1.04	1.39%	98.61%
75 - 79	0.00	0.00%	100.00%	0.00	0.00%	97.06%	0.00	0.00%	98.61%
80 - 84	0.00	0.00%	100.00%	1.04	2.94%	100.00%	1.04	1.39%	100.00%
85 - 89	0.00	0.00%	100.00%	0.00	0.00%	100.00%	0.00	0.00%	100.00%
90 - 94	0.00	0.00%	100.00%	0.00	0.00%	100.00%	0.00	0.00%	100.00%
95 - 99	0.00	0.00%	100.00%	0.00	0.00%	100.00%	0.00	0.00%	100.00%
100 - 104	0.00	0.00%	100.00%	0.00	0.00%	100.00%	0.00	0.00%	100.00%
Missing	0.00	0.00%	100.00%	0.00	0.00%	100.00%	0.00	0.00%	100.00%
TOTAL	39.46	52.78%		35.31	47.22%		74.77	100.00%	

Table 19. Estimated Harvest and Use of Birds and Eggs, Nelson Lagoon, September 1996 - August 1997

Resource Name	Percentage of Households					Pounds Harvested			Amount Harvested		95% Conf Limit (+/-)	
	Use	Att	Harv	Recv	Give	Total	Mean HH	Percapita	Total	Mean HH		Harvest
Birds and Eggs	92.3	65.4	65.4	50.0	38.5	1,312.28	48.60	17.55	1,370.77	50.77		9.93%
Migratory Birds	80.8	50.0	50.0	34.6	26.9	1,000.28	37.05	13.38	686.42	25.42		12.43%
Ducks	50.0	38.5	38.5	15.4	23.1	260.06	9.63	3.48	387.35	14.35		12.58%
Bufflehead	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00		0.00%
Canvasback	3.8	3.8	3.8	0.0	0.0	14.85	0.55	0.20	13.50	0.50		39.64%
Eider	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00		0.00%
Common Eider	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00		0.00%
King Eider	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00		0.00%
Spectacled Eider	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00		0.00%
Steller Eider	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00		0.00%
Gadwall	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00		0.00%
Goldeneye	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00		0.00%
Barrows Goldeneye	30.8	26.9	26.9	3.8	3.8	81.86	3.03	1.09	104.88	3.88		19.46%
Common Goldeneye	7.7	7.7	7.7	0.0	0.0	10.18	0.38	0.14	14.54	0.54		30.07%
Unknown Goldeneye	3.8	3.8	3.8	0.0	0.0	8.52	0.32	0.11	10.38	0.38		39.64%
Harlequin	23.1	19.2	19.2	3.8	3.8	63.17	2.34	0.84	79.96	2.96		24.89%
Mallard	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00		0.00%
Merganser	46.2	34.6	34.6	15.4	23.1	112.15	4.15	1.50	112.15	4.15		12.80%
Common Merganser	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00		0.00%
Red-Breasted Merganser	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00		0.00%
Oldsquaw	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00		0.00%
Northern Pintail	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00		0.00%
Redhead Duck	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00		0.00%
Scaup	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00		0.00%
Greater Scaup	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00		0.00%
Lesser Scaup	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00		0.00%
Unknown Scaup	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00		0.00%
Scoter	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00		0.00%
Black Scoter	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00		0.00%
Surf Scoter	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00		0.00%
White-winged Scoter	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00		0.00%
Northern Shoveler	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00		0.00%

Table 19. Estimated Harvest and Use of Birds and Eggs, Nelson Lagoon, September 1996 - August 1997

Resource Name	Percentage of Households					Pounds Harvested			Amount Harvested		95% Conf Limit (+/-)	
	Use	Att	Harv	Recv	Give	Total	Mean HH	Percapita	Total	Mean HH	Harvest	Harvest
Teal	46.2	34.6	34.6	11.5	19.2	43.93	1.63	0.59	146.42	5.42	13.63%	13.63%
Green Winged Teal	34.6	23.1	23.1	11.5	11.5	25.23	0.93	0.34	84.12	3.12	15.56%	15.56%
Unknown Teal	11.5	11.5	11.5	0.0	7.7	18.69	0.69	0.25	62.31	2.31	27.46%	27.46%
Tufted Duck	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Wigeon	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
American Wigeon	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Eurasian Wigeon	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Unknown Ducks	3.8	3.8	3.8	0.0	0.0	7.27	0.27	0.10	10.38	0.38	39.64%	39.64%
Geese	76.9	50.0	50.0	26.9	23.1	737.10	27.30	9.86	297.00	11.00	13.48%	13.48%
Brant	3.8	3.8	3.8	0.0	0.0	4.98	0.18	0.07	4.15	0.15	39.64%	39.64%
Canada Geese	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Aleutian Canada Geese	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Cacklers	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Lesser Canada Geese (taverner)	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Emperor Geese	76.9	50.0	50.0	26.9	23.1	732.12	27.12	9.79	292.85	10.85	13.24%	13.24%
Snow Geese	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
White-fronted Geese	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Swan	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Tundra Swan (whistling)	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Crane	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Sandhill Crane	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Shorebirds	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Common Shipe	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Black Oystercatcher	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Seabirds & Loons	3.8	3.8	3.8	0.0	0.0	3.12	0.12	0.04	2.08	0.08	39.64%	39.64%
Auklet	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Whiskered Auklet	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Cormorants	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Double-Crested Cormorant	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Pelagic Cormorant	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Red-Faced Cormorant	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Grebe	3.8	3.8	3.8	0.0	0.0	3.12	0.12	0.04	2.08	0.08	39.64%	39.64%
Unknown Grebe	3.8	3.8	3.8	0.0	0.0	3.12	0.12	0.04	2.08	0.08	39.64%	39.64%

Table 19. Estimated Harvest and Use of Birds and Eggs, Nelson Lagoon, September 1996 - August 1997

Resource Name	Percentage of Households					Pounds Harvested			Amount Harvested		95% Conf Limit (+/-)	
	Use	Alt	Harv	Recv	Give	Total	Mean HH	Percapita	Total	Mean HH	Harvest	Harvest
Loons	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Arctic (Pacific) Loon	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Common Loon	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Red-Throated Loon	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Yellow-Billed Loon	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Murre	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Common Murre	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Thick-Billed Murre	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Puffins	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Horned Puffin	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Tufted Puffin	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Other Birds	61.5	42.3	42.3	23.1	19.2	261.69	9.69	3.50	373.85	13.85	13.56%	13.56%
Upland Game Birds	61.5	42.3	42.3	23.1	19.2	261.69	9.69	3.50	373.85	13.85	13.56%	13.56%
Ptarmigan	61.5	42.3	42.3	23.1	19.2	261.69	9.69	3.50	373.85	13.85	13.56%	13.56%
Rock Ptarmigan	23.1	19.2	19.2	7.7	7.7	154.11	5.71	2.06	220.15	8.15	21.07%	21.07%
Willow Ptarmigan	3.8	0.0	0.0	3.8	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Unknown Ptarmigan	34.6	23.1	23.1	11.5	11.5	107.58	3.98	1.44	153.69	5.69	18.90%	18.90%
Bird Eggs	57.7	46.2	42.3	23.1	23.1	50.31	1.86	0.67	310.50	11.50	11.28%	11.28%
Duck Eggs	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Eider Eggs	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Common Eider Eggs	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Teal Eggs	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Green-Winged Teal Eggs	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Geese Eggs	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Brant Eggs	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Shorebird Eggs	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Common Snipe Eggs	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Black Oystercatcher Eggs	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Seabird & Loon Eggs	57.7	46.2	42.3	23.1	23.1	50.31	1.86	0.67	310.50	11.50	11.28%	11.28%
Cormorant Eggs	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Pelagic Cormorant Eggs	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Red-Faced Cormorant Eggs	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Fulmar Eggs	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Guillemots Eggs	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%

Table 19. Estimated Harvest and Use of Birds and Eggs, Nelson Lagoon, September 1996 - August 1997

Resource Name	Percentage of Households						Pounds Harvested			Amount Harvested		95% Conf Limit (+/-)	
	Use	Att	Harv	Recv	Give		Total	Mean HH	Percapita	Total	Mean HH	Total	Harvest
Gull Eggs	46.2	38.5	34.6	15.4	15.4		41.75	1.55	0.56	139.15	5.15		13.75%
Glaucous Winged Gull Eggs	30.8	26.9	23.1	7.7	3.8		26.17	0.97	0.35	87.23	3.23		19.24%
Unknown Gull Eggs	15.4	11.5	11.5	7.7	11.5		15.58	0.58	0.21	51.92	1.92		22.92%
Kitiwake Eggs	0.0	0.0	0.0	0.0	0.0		0.00	0.00	0.00	0.00	0.00		0.00%
Murre Eggs	0.0	0.0	0.0	0.0	0.0		0.00	0.00	0.00	0.00	0.00		0.00%
Common Murre Eggs	0.0	0.0	0.0	0.0	0.0		0.00	0.00	0.00	0.00	0.00		0.00%
Thick-Billed Murre Eggs	0.0	0.0	0.0	0.0	0.0		0.00	0.00	0.00	0.00	0.00		0.00%
Murrelet Eggs	0.0	0.0	0.0	0.0	0.0		0.00	0.00	0.00	0.00	0.00		0.00%
Ancient Murrelet Eggs	0.0	0.0	0.0	0.0	0.0		0.00	0.00	0.00	0.00	0.00		0.00%
Puffin Eggs	0.0	0.0	0.0	0.0	0.0		0.00	0.00	0.00	0.00	0.00		0.00%
Tufted Puffin Eggs	0.0	0.0	0.0	0.0	0.0		0.00	0.00	0.00	0.00	0.00		0.00%
Tern Eggs	46.2	30.8	30.8	23.1	19.2		8.57	0.32	0.11	171.35	6.35		12.91%
Unknown Tern Eggs	46.2	30.8	30.8	23.1	19.2		8.57	0.32	0.11	171.35	6.35		12.91%

SOURCE: Alaska Department of Fish and Game, Division of Subsistence, Household Survey, 1997

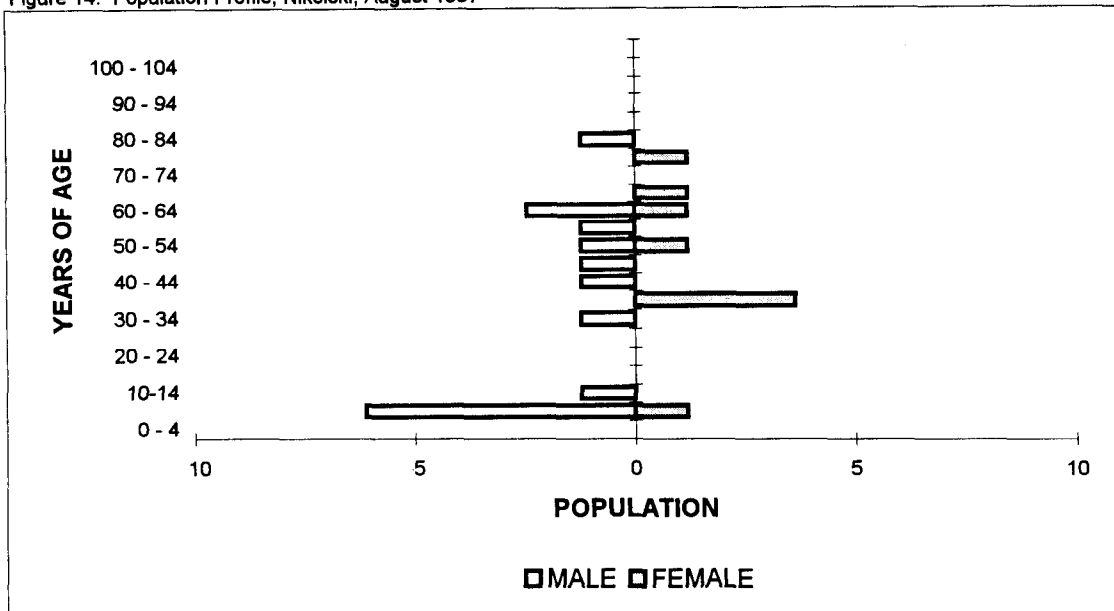
Table 20. Estimated Bird and Egg Harvests by Month, Nelson Lagoon, September 1996 - August 1997

Resource	Estimated Harvests in Numbers of Birds or Eggs												Total ¹
	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	July	Aug	
Canvasback	0	14	0	0	0	0	0	0	0	0	0	0	14
Barrows Goldeneye	2	10	2	0	0	0	0	0	0	0	0	0	15
Common Goldeneye	0	10	0	0	0	0	0	0	0	0	0	0	10
Unknown Goldeneye	10	21	33	16	0	0	0	0	0	0	0	0	80
Mallard	10	88	8	5	0	0	0	0	0	0	0	0	112
Green Winged Teal	2	74	8	0	0	0	0	0	0	0	0	0	84
Unknown Teal	0	62	0	0	0	0	0	0	0	0	0	0	62
Unknown Ducks	0	3	4	3	0	0	0	0	0	0	0	0	10
Brant	4	0	0	0	0	0	0	0	0	0	0	0	4
Emperor Geese	72	124	47	21	21	0	4	0	5	0	0	0	293
Unknown Grebe	0	2	0	0	0	0	0	0	0	0	0	0	2
Rock Ptarmigan	0	74	0	0	31	52	26	37	0	0	0	0	220
Unknown Ptarmigan	0	14	15	44	52	25	5	0	0	0	0	0	154
Glaucous Winged Gull Eggs	0	0	0	0	0	0	0	0	46	42	0	0	87
Unknown Gull Eggs	0	0	0	0	0	0	0	0	21	31	0	0	52
Unknown Tern Eggs	0	0	0	0	0	0	0	0	28	144	0	0	171

¹ Due to rounding, may not equal sum of individual months.

Source: Alaska Department of Fish and Game, Division of Subsistence Household Surveys 1997

Figure 14. Population Profile, Nikolski, August 1997



SOURCE: Alaska Department of Fish and Game, Division of Subsistence, Household Survey, 1997

Table 21. Population Profile, Nikolski, August 1997

AGE	MALE			FEMALE			TOTAL		
	NUMBER	PERCENT	CUM. PERCENT	NUMBER	PERCENT	CUM. PERCENT	NUMBER	PERCENT	CUM. PERCENT
0 - 4	0.00	0.00%	0.00%	0.00	0.00%	0.00%	0.00	0.00%	0.00%
5 - 9	6.11	35.71%	35.71%	1.22	12.50%	12.50%	7.33	27.27%	27.27%
10-14	1.22	7.14%	42.86%	0.00	0.00%	12.50%	1.22	4.55%	31.82%
15 - 19	0.00	0.00%	42.86%	0.00	0.00%	12.50%	0.00	0.00%	31.82%
20 - 24	0.00	0.00%	42.86%	0.00	0.00%	12.50%	0.00	0.00%	31.82%
25 - 29	0.00	0.00%	42.86%	0.00	0.00%	12.50%	0.00	0.00%	31.82%
30 - 34	1.22	7.14%	50.00%	0.00	0.00%	12.50%	1.22	4.55%	36.36%
35 - 39	0.00	0.00%	50.00%	3.67	37.50%	50.00%	3.67	13.64%	50.00%
40 - 44	1.22	7.14%	57.14%	0.00	0.00%	50.00%	1.22	4.55%	54.55%
45 - 49	1.22	7.14%	64.29%	0.00	0.00%	50.00%	1.22	4.55%	59.09%
50 - 54	1.22	7.14%	71.43%	1.22	12.50%	62.50%	2.44	9.09%	68.18%
55 - 59	1.22	7.14%	78.57%	0.00	0.00%	62.50%	1.22	4.55%	72.73%
60 - 64	2.44	14.29%	92.86%	1.22	12.50%	75.00%	3.67	13.64%	86.36%
65 - 69	0.00	0.00%	92.86%	1.22	12.50%	87.50%	1.22	4.55%	90.91%
70 - 74	0.00	0.00%	92.86%	0.00	0.00%	87.50%	0.00	0.00%	90.91%
75 - 79	0.00	0.00%	92.86%	1.22	12.50%	100.00%	1.22	4.55%	95.45%
80 - 84	1.22	7.14%	100.00%	0.00	0.00%	100.00%	1.22	4.55%	100.00%
85 - 89	0.00	0.00%	100.00%	0.00	0.00%	100.00%	0.00	0.00%	100.00%
90 - 94	0.00	0.00%	100.00%	0.00	0.00%	100.00%	0.00	0.00%	100.00%
95 - 99	0.00	0.00%	100.00%	0.00	0.00%	100.00%	0.00	0.00%	100.00%
100 - 104	0.00	0.00%	100.00%	0.00	0.00%	100.00%	0.00	0.00%	100.00%
Missing	0.00	0.00%	100.00%	0.00	0.00%	100.00%	0.00	0.00%	100.00%
TOTAL	17.11	63.64%		9.78	36.36%		26.89	100.00%	

Table 22. Estimated Harvest and Use of Birds and Eggs, Nikolski, September 1996 - August 1997

Resource Name	Percentage of Households						Pounds Harvested			Amount Harvested		95% Conf Limit (+/-)	
	Use	Att	Harv	Recv	Give		Total	Mean HH	Percapita	Total	Mean HH	Harvest	
Birds and Eggs	88.9	44.4	44.4	77.8	33.3		192.67	17.52	7.17	188.22	17.11	71.77%	
Migratory Birds	66.7	44.4	44.4	44.4	33.3		192.67	17.52	7.17	188.22	17.11	71.77%	
Ducks	44.4	44.4	44.4	11.1	22.2		87.19	7.93	3.24	141.78	12.89	76.35%	
Bufflehead	22.2	22.2	22.2	0.0	0.0		4.40	0.40	0.16	11.00	1.00	69.53%	
Canvasback	0.0	0.0	0.0	0.0	0.0		0.00	0.00	0.00	0.00	0.00	0.00%	
Eider	11.1	11.1	11.1	0.0	0.0		0.95	0.09	0.04	1.22	0.11	98.33%	
Common Eider	0.0	0.0	0.0	0.0	0.0		0.00	0.00	0.00	0.00	0.00	0.00%	
King Eider	0.0	0.0	0.0	0.0	0.0		0.00	0.00	0.00	0.00	0.00	0.00%	
Spectacled Eider	0.0	0.0	0.0	0.0	0.0		0.00	0.00	0.00	0.00	0.00	0.00%	
Steller Eider	11.1	11.1	11.1	0.0	0.0		0.95	0.09	0.04	1.22	0.11	98.33%	
Gadwall	11.1	11.1	11.1	0.0	0.0		1.96	0.18	0.07	2.44	0.22	98.33%	
Goldeneye	11.1	11.1	11.1	0.0	0.0		6.01	0.55	0.22	7.33	0.67	98.33%	
Barrows Goldeneye	0.0	0.0	0.0	0.0	0.0		0.00	0.00	0.00	0.00	0.00	0.00%	
Common Goldeneye	11.1	11.1	11.1	0.0	0.0		6.01	0.55	0.22	7.33	0.67	98.33%	
Unknown Goldeneye	0.0	0.0	0.0	0.0	0.0		0.00	0.00	0.00	0.00	0.00	0.00%	
Harlequin	11.1	11.1	11.1	0.0	0.0		7.33	0.67	0.27	14.67	1.33	98.33%	
Mallard	33.3	22.2	22.2	11.1	11.1		28.11	2.56	1.05	28.11	2.56	77.25%	
Merganser	0.0	0.0	0.0	0.0	0.0		0.00	0.00	0.00	0.00	0.00	0.00%	
Common Merganser	0.0	0.0	0.0	0.0	0.0		0.00	0.00	0.00	0.00	0.00	0.00%	
Red-Breasted Merganser	0.0	0.0	0.0	0.0	0.0		0.00	0.00	0.00	0.00	0.00	0.00%	
Oldsquaw	0.0	0.0	0.0	0.0	0.0		0.00	0.00	0.00	0.00	0.00	0.00%	
Northern Pintail	11.1	11.1	11.1	0.0	0.0		11.73	1.07	0.44	14.67	1.33	98.33%	
Redhead Duck	11.1	11.1	11.1	0.0	0.0		2.25	0.20	0.08	2.44	0.22	98.33%	
Scaup	0.0	0.0	0.0	0.0	0.0		0.00	0.00	0.00	0.00	0.00	0.00%	
Greater Scaup	0.0	0.0	0.0	0.0	0.0		0.00	0.00	0.00	0.00	0.00	0.00%	
Lesser Scaup	0.0	0.0	0.0	0.0	0.0		0.00	0.00	0.00	0.00	0.00	0.00%	
Unknown Scaup	0.0	0.0	0.0	0.0	0.0		0.00	0.00	0.00	0.00	0.00	0.00%	
Scoter	0.0	0.0	0.0	0.0	0.0		0.00	0.00	0.00	0.00	0.00	0.00%	
Black Scoter	0.0	0.0	0.0	0.0	0.0		0.00	0.00	0.00	0.00	0.00	0.00%	
Surf Scoter	0.0	0.0	0.0	0.0	0.0		0.00	0.00	0.00	0.00	0.00	0.00%	
White-winged Scoter	0.0	0.0	0.0	0.0	0.0		0.00	0.00	0.00	0.00	0.00	0.00%	
Northern Shoveler	11.1	11.1	11.1	0.0	0.0		2.20	0.20	0.08	3.67	0.33	98.33%	

Table 22. Estimated Harvest and Use of Birds and Eggs, Nikolski, September 1996 - August 1997

Resource Name	Percentage of Households					Pounds Harvested			Amount Harvested		95% Conf Limit (+/-)	
	Use	Att	Harv	Recv	Give	Total	Mean HH	Percapita	Total	Mean HH	Harvest	Harvest
Teal	33.3	33.3	33.3	0.0	0.0	12.83	1.17	0.48	42.78	3.89	83.05%	83.05%
Green Winged Teal	33.3	33.3	33.3	0.0	0.0	12.83	1.17	0.48	42.78	3.89	83.05%	83.05%
Unknown Teal	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Tufted Duck	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Wigeon	11.1	11.1	11.1	0.0	0.0	5.13	0.47	0.19	7.33	0.67	98.33%	98.33%
American Wigeon	11.1	11.1	11.1	0.0	0.0	3.42	0.31	0.13	4.89	0.44	98.33%	98.33%
Eurasian Wigeon	11.1	11.1	11.1	0.0	0.0	1.71	0.16	0.06	2.44	0.22	98.33%	98.33%
Unknown Ducks	11.1	11.1	11.1	0.0	11.1	4.28	0.39	0.16	6.11	0.56	98.33%	98.33%
Geese	66.7	44.4	44.4	33.3	33.3	105.48	9.59	3.92	46.44	4.22	62.44%	62.44%
Brant	22.2	22.2	22.2	0.0	0.0	4.40	0.40	0.16	3.67	0.33	69.53%	69.53%
Canada Geese	11.1	11.1	11.1	0.0	11.1	30.80	2.80	1.15	14.67	1.33	98.33%	98.33%
Aleutian Canada Geese	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Cacklers	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Lesser Canada Geese (taverner)	11.1	11.1	11.1	0.0	11.1	30.80	2.80	1.15	14.67	1.33	98.33%	98.33%
Emperor Geese	66.7	44.4	44.4	33.3	33.3	70.28	6.39	2.61	28.11	2.56	54.83%	54.83%
Snow Geese	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
White-fronted Geese	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Swan	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Tundra Swan (whistling)	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Crane	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Sandhill Crane	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Shorebirds	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Common Snipe	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Black Oystercatcher	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Seabirds & Loons	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Auklet	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Whiskered Auklet	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Cormorants	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Double-Crested Cormorant	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Pelagic Cormorant	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Red-Faced Cormorant	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Grebe	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Unknown Grebe	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%

Table 22. Estimated Harvest and Use of Birds and Eggs, Nikolski, September 1996 - August 1997

Resource Name	Percentage of Households					Pounds Harvested			Amount Harvested		95% Conf Limit (+/-)	
	Use	Att	Harv	Recv	Give	Total	Mean HH	Percapita	Total	Mean HH	Total	Harvest
Loons	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00%
Arctic (Pacific) Loon	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00%
Common Loon	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00%
Red-Throated Loon	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00%
Yellow-Billed Loon	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00%
Murre	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00%
Common Murre	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00%
Thick-Billed Murre	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00%
Puffins	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00%
Horned Puffin	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00%
Tufted Puffin	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00%
Other Birds	11.1	0.0	0.0	11.1	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00%
Upland Game Birds	11.1	0.0	0.0	11.1	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00%
Ptarmigan	11.1	0.0	0.0	11.1	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00%
Rock Ptarmigan	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00%
Willow Ptarmigan	11.1	0.0	0.0	11.1	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00%
Unknown Ptarmigan	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00%
Bird Eggs	66.7	0.0	0.0	66.7	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00%
Duck Eggs	11.1	0.0	0.0	11.1	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00%
Eider Eggs	11.1	0.0	0.0	11.1	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00%
Common Eider Eggs	11.1	0.0	0.0	11.1	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00%
Teal Eggs	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00%
Green-Winged Teal Eggs	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00%
Geese Eggs	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00%
Brant Eggs	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00%
Shorebird Eggs	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00%
Common Snipe Eggs	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00%
Black Oystercatcher Eggs	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00%
Seabird & Loon Eggs	66.7	0.0	0.0	66.7	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00%
Cormorant Eggs	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00%
Pelagic Cormorant Eggs	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00%
Red-Faced Cormorant Eggs	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00%
Fulmar Eggs	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00%
Guillemots Eggs	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00	0.00%

Table 22. Estimated Harvest and Use of Birds and Eggs, Nikolski, September 1996 - August 1997

Resource Name	Percentage of Households					Pounds Harvested			Amount Harvested		95% Conf Limit (+/-)	
	Use	Att	Harv	Recv	Give	Total	Mean HH	Percapita	Total	Mean HH	Harvest	Harvest
Gull Eggs	66.7	0.0	0.0	66.7	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Glaucous Winged Gull Eggs	55.6	0.0	0.0	55.6	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Unknown Gull Eggs	11.1	0.0	0.0	11.1	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Kittiwake Eggs	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Murre Eggs	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Common Murre Eggs	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Thick-Billed Murre Eggs	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Murrelet Eggs	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Ancient Murrelet Eggs	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Puffin Eggs	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Tufted Puffin Eggs	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Tern Eggs	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%
Unknown Tern Eggs	0.0	0.0	0.0	0.0	0.0	0.00	0.00	0.00	0.00	0.00	0.00%	0.00%

SOURCE: Alaska Department of Fish and Game, Division of Subsistence, Household Survey, 1997

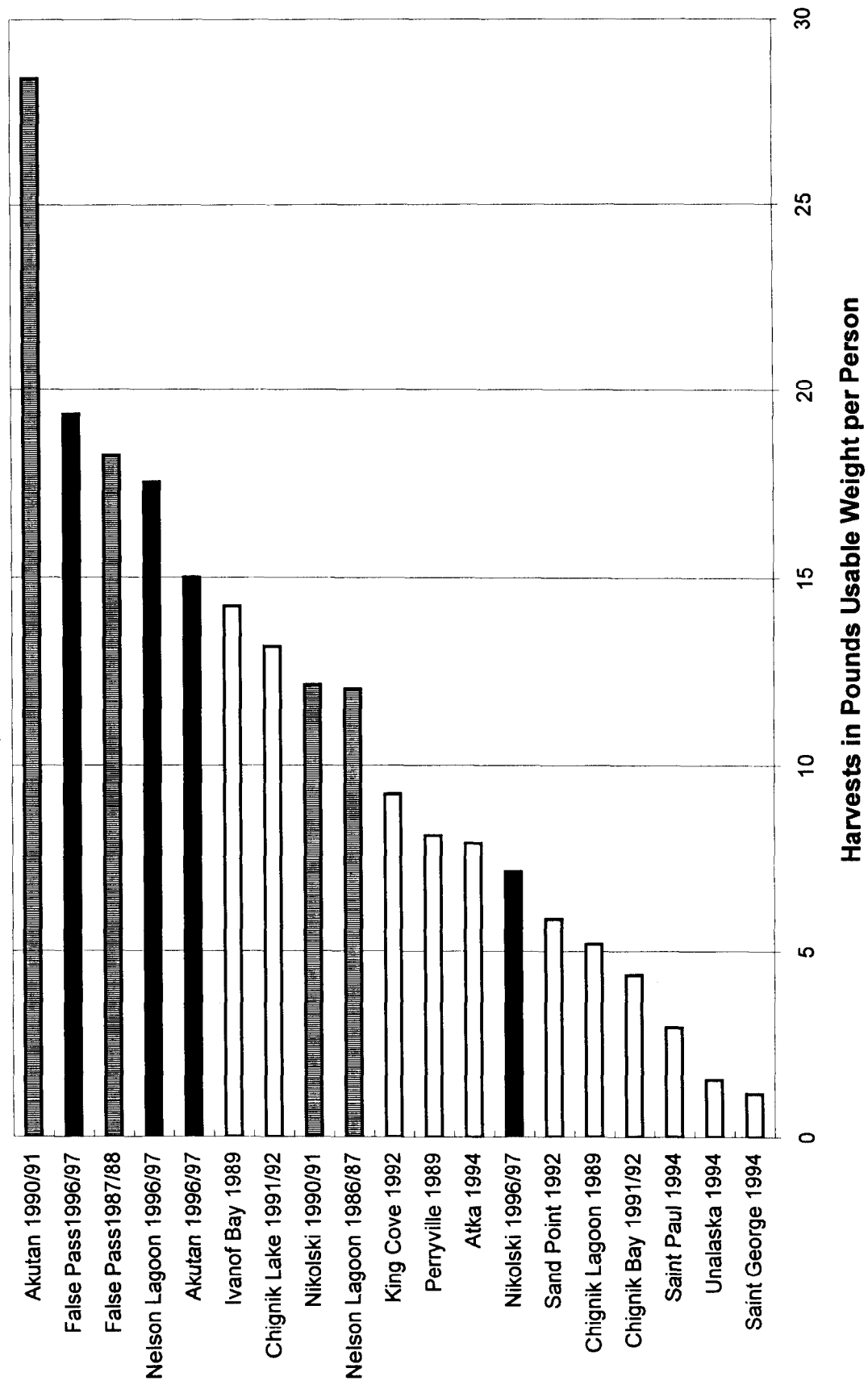
Table 23. Estimated Bird and Egg Harvests by Month, Nikolski, September 1996 - August 1997

Resource	Estimated Harvests in Numbers of Birds or Eggs												Total ¹
	Sept	Oct	Nov	Dec	Jan	Feb	Mar	Apr	May	June	July	Aug	
Bufflehead	0	0	7	4	0	0	0	0	0	0	0	0	11
Steller Eider	0	1	0	0	0	0	0	0	0	0	0	0	1
Gadwall	0	0	0	2	0	0	0	0	0	0	0	0	2
Common Goldeneye	0	7	0	0	0	0	0	0	0	0	0	0	7
Harlequin	0	0	0	0	7	7	0	0	0	0	0	0	15
Mallard	0	6	12	5	5	0	0	0	0	0	0	0	28
Northern Pintail	0	0	7	7	0	0	0	0	0	0	0	0	15
Redhead Duck	0	0	2	0	0	0	0	0	0	0	0	0	2
Northern Shoveler	0	4	0	0	0	0	0	0	0	0	0	0	4
Green Winged Teal	4	18	9	6	6	0	0	0	0	0	0	0	43
American Wigeon	0	0	0	0	5	0	0	0	0	0	0	0	5
Eurasian Wigeon	0	0	0	0	2	0	0	0	0	0	0	0	2
Unknown Ducks	0	0	0	6	0	0	0	0	0	0	0	0	6
Brant	0	1	0	1	1	0	0	0	0	0	0	0	4
Lesser Canada Geese	0	0	0	0	0	0	0	15	0	0	0	0	15
Emperor Geese	0	4	0	18	6	0	0	0	0	0	0	0	28

¹ Due to rounding, may not equal sum of individual months.

Source: Alaska Department of Fish and Game, Division of Subsistence Household Surveys 1997

Figure 15. Harvests of Birds and Eggs, Communities of the Aleutian/Pribilof Islands and the Chignik Area, Southwest Alaska



APPENDIX A:
SAMPLE SURVEY INSTRUMENT

ALEUTIAN BIRDS 1996/97

Community: AKUTAN 5

Household Identification: _____

Interviewer Initials: _____

Date: _____

HOUSEHOLD INFORMATION. WHO WERE MEMBERS OF THIS HOUSEHOLD BETWEEN SEPTEMBER 1, 1996, AND AUGUST 31, 1997?

PERSON ID#	M/F	AGE (YEARS)	ETHNICITY	HUNT BIRDS IN SEPT. 96 - AUG. 97 Y/N	ATTEMPT TO GATHER BIRD EGGS SEPT. 96 - AUG. 97 Y/N
1					
HEAD					
2					
HEAD					
3					
4					
5					
6					
7					
8					
9					
10					

AKUTAN (5) HH: _____

DEMOGRAPHY (0.1)

ALEUTIAN BIRDS 1996/97

BIRDS.
DID MEMBERS OF YOUR HOUSEHOLD TRY TO HARVEST OR USE BIRDS BETWEEN SEPT. 1996 AND AUG. 1997? YES: ____ NO: ____
IF YES, PLEASE COMPLETE THE FOLLOWING TABLE (UNITS SHOULD BE INDIVIDUALS).

COLOR		SPECIES	USED? Y/N	TRIED TO HARVEST Y/N	NUMBER HARVESTED BY SEASON (MONTHS)												RECEIVED		GAVE AWAY Y/N
ID	#				TOTAL 12-MONTHS	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	UNK.	
8		NORTHERN PINTAIL AMTATUX 410220000															IND		
																	1		
9		AMERICAN WIGEON QACHIIYUX 410236020															IND		
																	1		
		UNKNOWN WIGEON 410236990															IND		
																	1		
10		MALLARD ANIMSA4 or AAGIX 410214000															IND		
																	1		
11		NORTHERN SHOVELER 410230000															IND		
																	1		
12		GREATER SCAUP KUCHUTUX 410226020															IND		
																	1		
		LESSER SCAUP KUCHUTUX 410226040															IND		
																	1		
		UNKNOWN SCAUP 410226990															IND		
																	1		
13		REDHEAD 410222000															IND		
																	1		
14		CANVASBACK 410204000															IND		
																	1		
15		GREEN-WINGED TEAL QIIXCHIIDAX 410232060															IND		
																	1		
		UNKNOWN TEAL 410232990															IND		
																	1		
17		TUFTED DUCK 410234000															IND		
																	1		

ALEUTIAN BIRDS 1996/97

COLOR		SPECIES	USED? Y/N	TRIED TO HARVEST Y/N	NUMBER HARVESTED BY SEASON (MONTHS)												RECEIVED		GAVE AWAY Y/N
ID	#				TOTAL 12-MONTHS	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	UNK.	
18		GADWALL 410208000															IND 1		
19		COMMON Merganser AGLAAYAM QUHMAA 410216020															IND 1		
20		RED-BREASTED Merganser AGLAAYAX 410216040															IND 1		
		UNKNOWN Merganser 410216990															IND 1		
21		OLDSQUAW ANGLAAX 410218000															IND 1		
22		BUFFLEHEAD MIDMITXIX 410202000															IND 1		
23		COMMON GOLDENEYE HANIM KAMGITUU 410210040															IND 1		
24		BARROW'S GOLDENEYE 410210020															IND 1		
		UNKNOWN GOLDENEYE 410210990															IND 1		
25		HARLEQUIN KAAYADGIX 410212000															IND 1		
26		BLACK SCOTER QUGAANGIX 410228020															IND 1		
27		SURF SCOTER QUGAANGIX 410228040															IND 1		
28		WHITE-WINGED SCOTER TAMGAALUX 410228060															IND 1		
		UNKNOWN SCOTER 410228990															IND 1		
29		COMMON EIDER QUSIMAX OR KASAMIX 410206020															IND 1		

AKUTAN (5) HH: _____

BIRDS (15A)

ALEUTIAN BIRDS 1996/97

COLOR		USED? Y/N	TRIED TO HARVEST Y/N	TOTAL 12-MONTHS	NUMBER HARVESTED BY SEASON (MONTHS)												RECEIVED Y/N	GAVE AWAY Y/N	
ID #	SPECIES				SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG			UNK.
30	KING EIDER SAAKUX 410206040																IND 1		
31	SPECTACLED EIDER 410206060																IND 1		
32	STELLER'S EIDER 410206080																IND 1		
	UNKNOWN EIDER 410206990																IND 1		
	UNKNOWN DUCK 410299000																IND 1		
1	WHITE-FRONTED GEESE 410410000																IND 1		
2	EMPEROR GEESE QAGMANG 410406000																IND 1		
3	ACKLING CANADA GEESE 410404040																IND 1		
4	LESSER CANADA GEESE 410404080																IND 1		
5	ALEUTIAN CANADA GEESE LAGIX 410404020																IND 1		
	UNKNOWN CANADA GEESE 410404990																IND 1		
6	SNOW GEESE 410408000																IND 1		
7	BRANT 410402000																IND 1		
	UNKNOWN GEESE 410499000																IND 1		

AKUTAN (5) HH: _____

BIRDS (15A)

ALEUTIAN BIRDS 1996/97

COLOR	ID #	SPECIES	USED? Y/N	TRIED TO HARVEST Y/N	NUMBER HARVESTED BY SEASON (MONTHS)												TOTAL 12-MONTHS	RECEIVED Y/N	GAVE AWAY Y/N
					SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	UNK		
	33	ARCTIC LOON																IND	
		411216020																1	
	34	COMMON LOON																IND	
		QIGUX																	
		411216040																1	
	35	RED-THROATED LOON																IND	
		QAGAGX																	
		411216060																1	
	36	YELLOW-BILLED LOON																IND	
		411216080																1	
		UNKNOWN LOON																IND	
		411216990																1	
		GULL																IND	
		SPECIFY:																	
		411212																1	
	40	GULL																IND	
	43	SPECIFY:																	
		411212																1	
	44	TERN																IND	
	45	SPECIFY:																1	
		411226																IND	
		TERN																1	
		SPECIFY:																	
		411226																1	
	46	KITTWAKE																IND	
	47	SPECIFY:																	
		411214																1	
		KITTWAKE																IND	
		SPECIFY:																	
		411214																1	
	48	BLACK OYSTERCATCHER																IND	
		HJIGX																	
		411004000																1	
	49	RED-FACED CORMORANT																IND	
		INGATUX																	
		411204060																1	
	50	DOUBLE-CRESTED CORMORANT																IND	
		411204020																1	

AKUTAN (5) HH: _____

BIRDS (15A)

ALEUTIAN BIRDS 1996/97

COLOR		SPECIES	USED? Y/N	TRIED TO HARVEST Y/N	NUMBER HARVESTED BY SEASON (MONTHS)												RECEIVED		GAVE AWAY Y/N
ID	#				TOTAL 12-MONTHS	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	UNK	
51		PELAGIC CORMORANT																IND	
		AAGAYUUX																1	
		411204040																	
52		UNKNOWN CORMORANT																IND	
		411204950																1	
		COMMON MURRE																IND	
53		SAKITAX OR ULUNGTXAX																1	
		411218020																IND	
		THICK-BILLED MURRE																1	
		411218040																1	
		UNKNOWN MURRE																IND	
		411218950																1	
54		MURRELET															IND		
55		Specify: 411220																1	
		MURRELET																IND	
56		Specify: 411220																1	
		GUILLEMOT																IND	
		Specify: 411210																1	
		GUILLEMOT																IND	
		Specify: 411210																1	
57-		AUKLET																IND	
61		Specify: 411202																1	
		AUKLET																IND	
		Specify: 411202																1	
62		TUFTED PUFFIN																1	
		UXCHUX																IND	
		41122040																1	

AKUTAN (5) HH: _____

BIRDS (15A)

[illegible]

AKUTAN (5) HH: _____

BIRDS (15A)

ALEUTIAN BIRDS 1996/97

COLOR ID #	SPECIES	USED? Y/N	TRIED TO HARVEST Y/N	NUMBER HARVESTED BY SEASON (MONTHS)												RECEIVED		GAVE AWAY Y/N		
				TOTAL 12-MONTHS	SEP	OCT	NOV	DEC	JAN	FEB	MAR	APR	MAY	JUNE	JULY	AUG	UNK.		UNIT	Y/N
	SPECIFY: GULL EGGS 431212																	IND		
	SPECIFY: GULL EGGS 431212																	IND		
	COMMON EIDER EGGS KASAMIM SAAHMLAA 430206020																	IND		
	OTHER EIDER EGGS (SPECIFY) 430206																	IND		
	GREEN-WINGED TEAL EGGS 430232060 459500																	IND		
	OTHER DUCK EGGS SPECIFY: 43020																	IND		
	OTHER DUCK EGGS SPECIFY: 43020																	IND		
	BRANT EGGS 430402000																	IND		
	OTHER GOOSE EGGS SPECIFY: 43040																	IND		
	OTHER GOOSE EGGS SPECIFY: 43040																	IND		
	RED-FACED CORMORANT EGGS INGATUM SAAHMLAA 431204060																	IND		
	PELAGIC CORMORANT EGGS 431204040																	IND		
	COMMON MURRE EGGS SAKITAM SAAHMLAA 431218020																	IND		

AKUTAN (5) HH: _____

BIRDS (15A)

[illegible]

9

ALEUTIAN BIRDS 1996/97

HOW DOES THIS YOUR USE AND HARVEST OF BIRDS AND EGGS THIS YEAR COMPARE TO OTHER RECENT YEARS (2-5 YEARS)?

SAME _____ LESS _____ MORE _____ DON'T KNOW _____

IF YOUR HARVEST WAS DIFFERENT THAN IN PAST YEARS, WHY?

WERE YOUR BIRD AND EGG NEEDS MET THIS YEAR? YES _____ NO _____ DON'T KNOW _____

IF YOUR BIRD AND EGG NEEDS WERE NOT MET, WHY?

DO YOU HAVE OTHER QUESTIONS, COMMENTS, OR CONCERNS YOU'D LIKE TO SHARE WITH US?

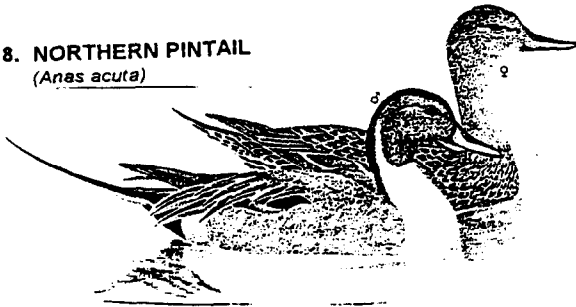
INTERVIEW SUMMARY:

AKUTAN (5) HH: _____

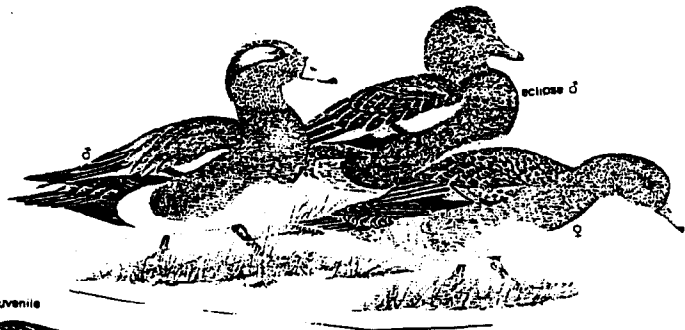
SUMMARY (30B)

APPENDIX B:
SAMPLE PAGE FROM COLOR BIRD IDENTIFICATION GUIDE

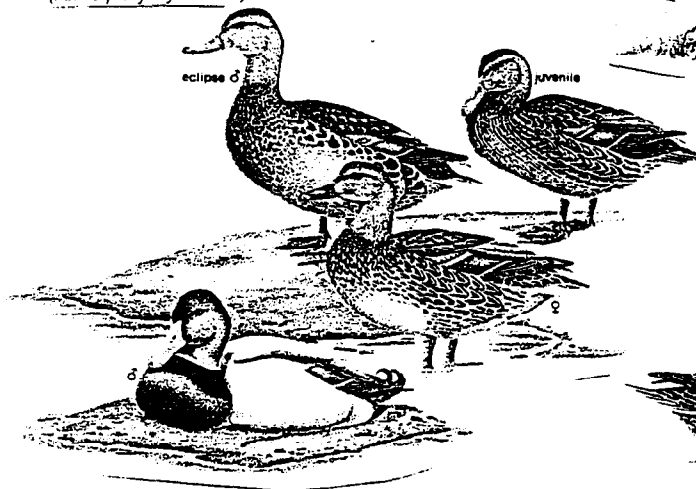
8. NORTHERN PINTAIL
(*Anas acuta*)



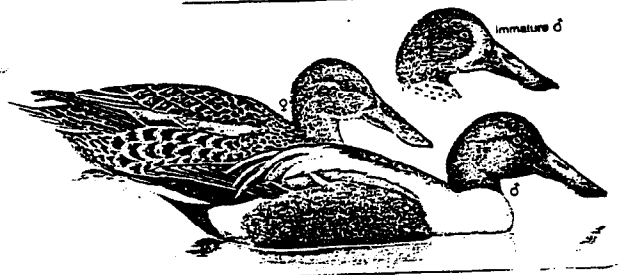
9. AMERICAN WIGEON
(*Anas americana*)



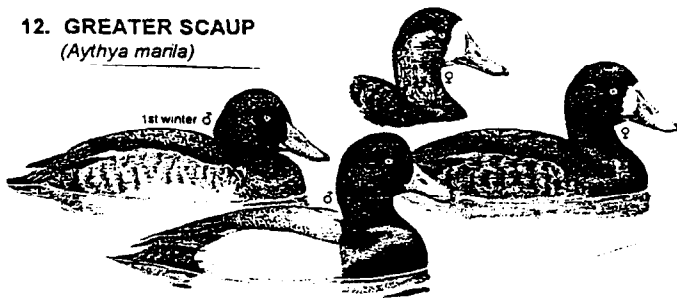
10. MALLARD
(*Anas platyrhynchos*)



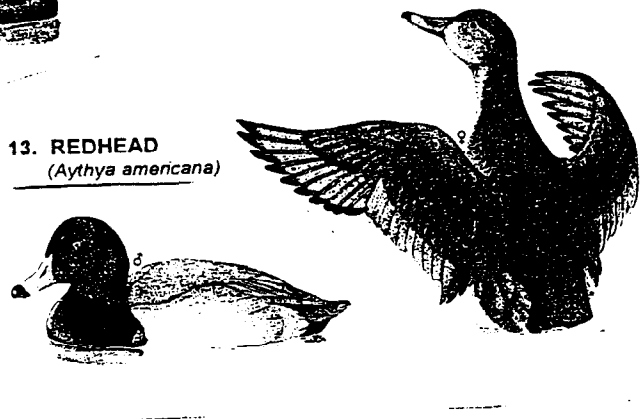
11. NORTHERN SHOVELER
(*Anas clypeata*)



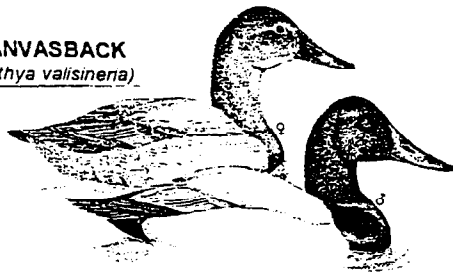
12. GREATER SCAUP
(*Aythya marila*)



13. REDHEAD
(*Aythya americana*)



14. CANVASBACK
(*Aythya valisineria*)



APPENDIX C:
SAMPLE PAGE FROM BIRD IDENTIFICATION TABLE

1994 MIGRATORY BIRD HARVEST SURVEY PROJECT - ALEUTIAN/PRILOF ISLANDS
BIRDS - NAMES AND DISTINGUISHING CHARACTERISTICS

	Scientific Name	Atkan Aleut Name	Eastern Aleut Name	Distinguishing Characteristics
	GEESE			
1	White-fronted Goose Anser albifrons			Medium-large goose, generally grayish-pale brown. Only dark goose with <u>orange legs</u> and <u>pink bill</u> . Adults have white face between eyes and bill, and heavy barring on breast; young are uniformly brown. Breeds/feeds near fresh water; may occur in marine areas. Also called "speckle belly" (L 28")
2	Emperor Goose Chen canagica	qagmangix [7]	qamgaangix	Medium size goose, with <u>yellow legs</u> and <u>pink bill</u> . Back and sides appear <u>scaly</u> from feathers edged in black and white. Stocky, short, thick neck; head and back of neck white or stained rusty in adults; dark gray in young birds. Never far from sea, often on beaches. (L 26")
3	Cackling Canada Goose Branta canadensis minima	lagix [7]		<u>Smallest goose in Alaska</u> (little bigger than a large duck) with very <u>short black bill</u> and <u>black legs</u> ; head and neck black with white cheek patches (or chin strap). Breast dark grayish brown with a 'bronze' or 'purplish' appearance (darker than other Canada geese in western AK). Neck rings highly variable, eastern races are darker, small bill distinctive. (L 25")
4	Lesser Canada Goose Branta canadensis taverneri	laglax [7]		Medium size, grayish brown goose with <u>black bill</u> , <u>legs</u> and <u>neck</u> ; head black with white cheek patches. Larger than cackling Canada goose, generally <u>lighter breast color</u> , with longer neck; <u>small bill</u> .
5	Aleutian Canada goose Branta canadensis leucopareia	lagix [7]		Slightly larger than Cackler, paler breast, broad white neck ring.
6	Lesser Snow Goose Chen caerulescens			Entirely white head, neck, and body (may be stained rusty in spring and summer), except <u>black wing tips</u> . Adults are the only geese with <u>pink legs</u> and <u>pink bills</u> . Young have grayish "dirty" look, with dark gray bills and legs. All snow geese have a "gin" that looks like lips from the side. (L 28")
7	Black Brant Branta bernicla nigricans.			Small, dark goose with <u>short neck</u> and <u>short bill</u> . <u>Head and bill are all</u> black, black neck, breast and legs; back and belly dark gray-brown; sides lighter. Adults have with the "necklace" in middle of the neck (ring with white streaks toward the throat). Never far from the sea; feed on coastal flats. (L 25")

APPENDIX D:
RESEARCH DESIGN/DESCRIPTION



June 1997

Division of Subsistence, ADF&G
333 Raspberry Road
Anchorage, Alaska 99518
907-267-2353 (voice); 907-267-2450 (FAX)

Subsistence Uses and Harvests of Birds and Eggs in Four Communities of the Aleutian Islands Area: A Research Design

Background

The Division of Subsistence of the Alaska Department of Fish and Game has entered into a cooperative agreement with the US Fish and Wildlife Service to collect information about the subsistence harvest and use of birds and eggs in four communities of the Aleutian Islands Area: Akutan (population 88 in 1990, excluding group quarters), False Pass (population 73 in 1995), Nelson Lagoon (88 in 1995) and Nikolski (27 in 1995). The information will be collected through voluntary, confidential, face-to-face interviews with knowledgeable individuals in each household in the four study communities. The interviews will be conducted by Division staff, assisted by a resident of each community. Community government approval of the research plan will be obtained before any fieldwork begins, and the community will have an opportunity to review a draft of the summary report for the project before it is finalized. The overall purpose of the research is to obtain information that will be useful in protecting bird populations and in providing opportunities for continuing subsistence uses of these populations.

Documented Subsistence Harvests of Birds in Aleutian/Pribilof Islands Communities

Previously, the Division of Subsistence has conducted systematic household surveys in all the communities of this region (except Cold Bay). This work has clearly demonstrated the importance of subsistence uses of birds and eggs in these communities. The following graph shows the estimated subsistence harvests in pounds usable weight per person based on these household surveys.

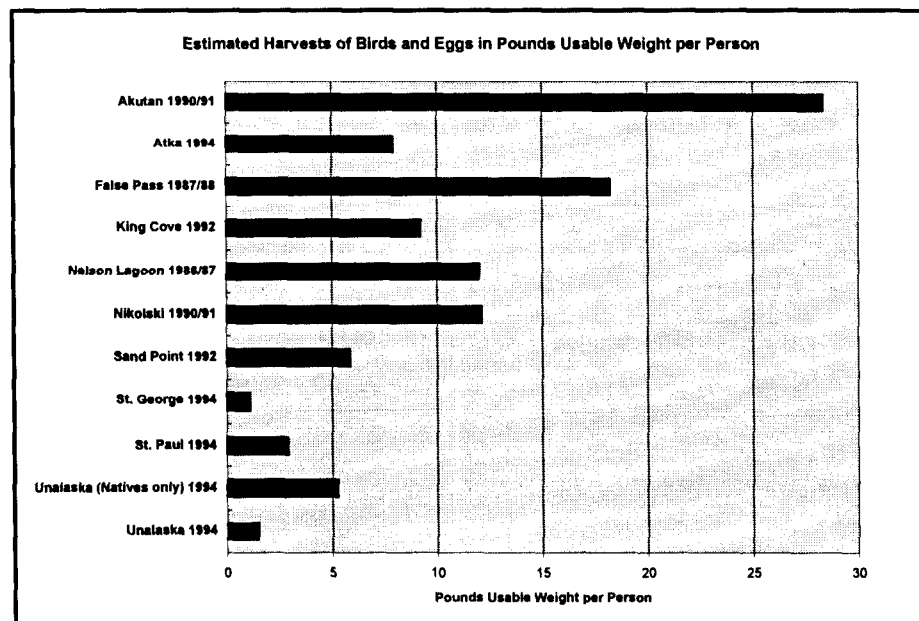


Table 1 (attached) shows the percentage of sampled households that used each type of bird and egg, as reported in the earlier Division surveys. In each community, at least 90 percent of the households used at least one resource from this category. Table 2 lists the estimated harvests (in numbers) of the various types of birds and eggs by each community in the year in which the survey was conducted. In the earlier surveys in Nelson Lagoon and False Pass, a less detailed list of species was used to collect the information than was later applied in Akutan and Nikolski.

Information about the timing of migratory bird harvests was collected during the surveys only in Nelson Lagoon and False Pass. Virtually all of the migratory bird harvest in Nelson Lagoon in 1986/87 took place in the fall. In False Pass in 1987/88, most migratory bird hunting effort took place in September through February. Key respondent interviews in Akutan and Nikolski indicated that most bird hunting takes place in the fall and winter months, but quantified information is not available.

Amendments to the Migratory Bird Treaty

The present migratory bird treaty with Canada allows bird hunting between Sept. 1 and March 1. In many areas in Alaska, birds have flown south by September 1 and they return after March 1, so much traditional hunting of birds takes place in spring and early fall. A treaty amendment, now before the US Congress, would provide a framework for legal subsistence hunting in spring and early fall.

During the amendment deliberations, information about subsistence use of birds and eggs has been provided by the Division of Subsistence and the US Fish and Wildlife Service based on surveys with hunters. This information describes where, when, and how many birds are used for subsistence in Alaska. This information has been very useful for identifying traditional harvest patterns. However, there is a need to fill in some data gaps in some places, particularly regarding the customary and traditional seasons for harvesting birds. Also, as negotiations about the treaty amendments progress and when spring harvest is legalized, protecting subsistence uses will continue to depend on having reliable evidence of harvest and use of waterfowl.

The Proposed Research

Study communities. The proposed study communities are Akutan, False Pass, Nelson Lagoon, and Nikolski. Although the Division has conducted systematic household surveys in each of these communities, only a single year's data for birds and eggs are available, and the data are from five to ten years old. All year-round resident households of each community will be asked to participate. The estimated number of interviews is as follows: Akutan, 35 (residents of the seafood processing plant in this community will not be interviewed, because virtually none of this population engages in resource harvesting activities and this population is completely distinct from the indigenous Aleut population in the village); False Pass, 20; Nelson Lagoon, 20; and Nikolski, 15.

Project approvals and informed consent. If the community so chooses, a community meeting will be held before interviewing begins to provide a general overview of the project. Participation in the survey will be entirely voluntary and confidential; no individual's name will appear on the survey forms. Results will be summarized at a community level. Participants may also decline to answer specific questions.

Type of information to be collected. For each bird species and type of egg, the following information will be collected for a 12-month harvest period from July 1, 1996, through June 30, 1997:

- Whether the household used, attempted to harvest, harvested, received, or gave away the resource
- The number of individuals of each resource that was harvested
- The month/season in which the harvests took place

Information will also be collected on the size of the household and number of bird hunters in the household. Users will also be asked to provide an evaluation of subsistence uses of birds and eggs in the study year compared to other recent years.

Survey form. Interviewers will use a standard data-gathering instrument, modeled after forms the Division has used to conduct similar research in other areas of the state and previously in Aleutian Islands communities. Interviews will also use color bird identification guides to assist respondents in providing accurate information. They will also use a table of bird names and distinguishing characteristics, which lists each bird which may be used for subsistence purposes in the region, as well as its scientific, Aleut (if available), and common English names and the features which distinguish it from other birds.

Local research assistant. Each community will be asked to identify a resident to assist the Division researcher with the project. The local research assistant will help introduce the project to households, assist in conducting interviews, and review and comment on the information collected. The assistant will receive training in survey administration and data coding. If key households are absent from the community during the initial round of interviewing, the local assistant may conduct these interviews on their own when the households are available.

Key Respondent Interviews. In each community, particularly knowledgeable bird hunters will be interviewed on a set of topics to provide a context for understanding the harvest and use information collected from the survey instrument. Topics will include the ecology of selected bird species (where they are seen, when they occur in the area, where they nest, what they eat), trends in selected bird populations, and subsistence hunting patterns (traditional seasons, preferred species, methods and means of harvest, traditional rules of hunting, methods of preparation and use). These topics, including which bird species to focus on, will be refined following consultations with the participating communities.

Data Coding and Analysis. All the information from the household surveys will be coded by the researchers for computer entry and analysis. Tables and graphs will be prepared that depict community-level harvests in numbers of birds or eggs and in pounds usable weight. These data will be included in the Division's Community Profile Database (CPDB), the repository of the results of all Division systematic surveys. All information will be reported in such a way as to protect the confidentiality of respondents.

Final Report. The findings of the research will be summarized in a final report that will be submitted to the US Fish and Wildlife Service. A draft of the report will be provided to each participating community for review and comment.

Schedule:

June 1997:	Research Design and Community Approvals
July/August 1997:	Conduct fieldwork in Akutan and Nikolski
September 1997:	Conduct fieldwork in False Pass and Nelson Lagoon
Sept./October 1997:	Data analysis and report preparation
November 1997:	Draft final report available for review and comment
January 31, 1998:	Final report distributed; data incorporated in Community Profile Database

Summary

The overall goal of the project is to collect information that will support the conservation of migratory birds in Alaska and will assist in providing opportunities for subsistence uses of these resources. Meeting these goals requires that basic information about subsistence uses and harvests be updated periodically. This research proposes that systematic, voluntary, and confidential household interviews be conducted in four communities of the Aleutian Islands area: Akutan, False Pass, Nelson Lagoon, and Nikolski. The research would take place only after approval by community governments. Interviewing would be a collaborative effort, with a local research assistant trained in each community to help with the surveys. A

draft final report will be prepared for community review, and copies of the final report will be prepared for each community.

For more information:

Contact James Fall, regional program manager, at 907-267-2359, or write to the address at the top of this overview.

APPENDIX E:
COMMUNITY LETTERS OF APPROVAL

AKUTAN TRADITIONAL COUNCIL

P.O. BOX 89
AKUTAN, AK 99553-0089
PH. 907-898-2300
FAX 907-898-2301

Resolution #97-14

**ENTITLED: A RESOLUTION IN SUPPORT OF THE STATE OF ALASKA
DEPARTMENT OF FISH AND GAME DIVISION OF SUBSISTENCE CONCERNING A
SURVEY ABOUT SUBSISTENCE BIRD AND EGG HARVESTS**

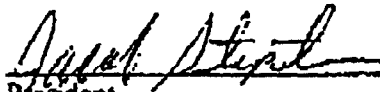
WHEREAS, the Akutan Traditional Council is the Tribal Governing body for the Akutan Tribal Members, and,

WHEREAS, the Akutan Traditional Council is concerned about all subsistence issues which may affect the Akutan Tribal Members; and,

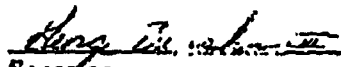
WHEREAS, the Akutan Traditional Council supports the efforts of the Alaska Department of Fish and Game to obtain information that will be useful in protecting bird populations and in providing opportunities for continuing subsistence uses of these populations; and,

NOW THEREFORE BE IT RESOLVED, that the Akutan Traditional Council supports the Alaska Department of Fish and Game in its new proposed project to conduct household interviews about subsistence bird and egg harvests in the community of Akutan.

Passed and approved on this 17th day of June, 1997.


President

ATTESTED


Secretary



False Pass Tribal Council

P.O. Box 29
False Pass, Alaska 99583
(907) 548-2227
FAX 548-2214
2256

July 21, 1997

Mr. James Fall
Regional Program Manager
Dept. of Fish & Game, Division of Subsistence
333 Raspberry Road
Anchorage, AK 99518-1599

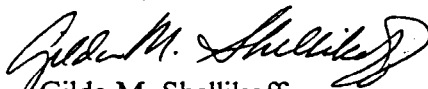
Dear Mr. Fall:

The Council has reviewed your research plans for the proposed household interviews on subsistence bird and egg harvest.

We did not pass a resolution, but we do approve that you come out this fall and work with someone in the community to do the household interviews.

If you have any further questions please call. We look forward to working with you this fall.

Sincerely,


Gilda M. Shellikoff
President

NELSON LAGOON VILLAGE COUNCIL

TRADITIONAL COUNCIL
NELSON LAGOON VIA COLD BAY, ALASKA 99571
(907) 989-2204/2205

September 3, 1997

Mr. James Fall, Regional Program Manager
Department of Fish and Game
State of Alaska
Division of Subsistence
333 Raspberry Road
Anchorage, Alaska 99518-1599

Dear Jim:

Please excuse the delay in responding to your request to confirm that the Council and the community extend their invitation to you, to visit sometime in mid-September, to gather information concerning subsistence uses among individual households.

We look forward to your assistant, Vicki Vanek, to arrive within the next week. As for lodging, there is the Bering Inn (989-2209), and the Tides Inn (989-2311 or 989-2221). There will be someone in the community to help Vicki with the interviews.

Please call me if you have any questions.

Sincerely,

Harold D. Johnson Sr.
Harold D. Johnson, Sr.
President

Post-It™ blind fax transmittal memo 7671		# of pages
To	Jim Fall	1
Co.	Dept. of Fish & Game	Co. Susten
Dept.		
Fax #	2672450	Phone # 9892205
		Fax # 9892234

APPENDIX F: CONVERSION FACTORS

<u>Resource Code</u>	<u>Resource Name</u>	<u>Usable Pounds per Animal or Egg</u>
410202000	Bufflehead	0.40
410204000	Canvasback	1.10
410206020	Common Eider	2.21
410206080	Steller Eider	0.78
410208000	Gadwall	0.80
410210020	Barrows Goldeneye	0.70
410210040	Common Goldeneye	0.82
410210990	Unknown Goldeneye	calculate
410212000	Harlequin	0.50
410214000	Mallard	1.00
410216020	Common Merganser	1.27
410216040	Red-Breasted Merganser	0.62
410218000	Oldsquaw	0.80
410220000	Northern Pintail	0.80
410222000	Redhead Duck	0.92
410226020	Greater Scaup	0.90
410226040	Lesser Scaup	0.70
410226990	Unknown Scaup	calculate
410228020	Black Scoter	0.90
410228060	White-winged Scoter	1.22
410230000	Northern Shoveler	0.60
410232060	Green Winged Teal	0.30
410232990	Unknown Teal	0.30
410236020	American Wigeon	0.70
410236040	Eurasian Wigeon	0.70
410299000	Unknown Ducks	calculate
410402000	Brant	1.20
410404020	Aleutian Canada Geese	1.94
410404040	Cacklers	1.20
410404080	Lesser Canada Geese	2.10
410406000	Emperor Geese	2.50
411202100	Whiskered Auklet	0.30
411208990	Unknown Grebe	1.50
411218020	Common Murre	0.87
411222020	Horned Puffin	0.68
411222040	Tufted Puffin	0.68
421804020	Rock Ptarmigan	0.70
421804040	Willow Ptarmigan	0.70
421804990	Unknown Ptarmigan	0.70
431002000	Common Snipe Eggs	0.05
431004000	Black Oystercatcher Eggs	0.04
431212040	Glaucous Winged Gull Eggs	0.30
431212990	Unknown Gull Eggs	0.30
431220020	Ancient Murrelet Eggs	0.05
431226990	Unknown Tern Eggs	0.05

APPENDIX G:
BRIEF PROJECT SUMMARY



September 1998

Division of Subsistence, ADF&G
333 Raspberry Road
Anchorage, Alaska 99518
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Subsistence Uses and Harvests of Birds and Eggs in the Aleutian Islands Area Communities of Akutan, False Pass, Nelson Lagoon, and Nikolski

In August and September 1997, researchers from the Division of Subsistence of the Alaska Department of Fish and Game interviewed households in the Aleutian Islands Area communities of Akutan, False Pass, Nelson Lagoon, and Nikolski about their subsistence uses and harvests of birds and eggs. The United States Fish and Wildlife Service's Migratory Birds Management office provided funding for the project through a cooperative agreement with ADF&G. Each community government reviewed the research plans in advance and granted permission for the project to move forward. The interviewing took place in Akutan and Nikolski in August. Amy Paige was the division researcher. She was assisted in Akutan by Antone Shelikoff and in Nikolski by Agraфина Kerr. Vicki Vanek of the Division of Subsistence conducted the interviews in Nelson Lagoon and False Pass in September. Tammy Shellikoff helped with the research in False Pass. Assistants in Nelson Lagoon were Dailey Schaack, Richard Johnson, and Cynthia Hartman.

The goal of the project was to interview each year-round household in the four communities about their uses and harvests of birds and eggs during the 12 months from September 1996 through August 1997. For each bird or egg resource, the following information was collected:

- ⇒ Whether the household used, tried to harvest, harvested, received, or gave away the resource
- ⇒ The numbers of each resource that were harvested
- ⇒ The month that the harvests took place

Each respondent was also asked to compare their household's harvests and uses of birds and eggs with other recent years, to assess if the household's needs had been met, and to share other concerns.

Participation in the interviewing was entirely voluntary and the large majority of households in each community agreed to provide information. This included 28 of 32 households in Akutan (87.5%), 15 of 20 households in False Pass (75.0%), 26 of 27 households in Nelson Lagoon (96.3%), and 9 of 11 households in Nikolski (81.8%), for a project total of 78 of 90 households (86.7%). Only 8.2% of the households contacted declined to participate in the research.

Demographic (Population) Characteristics

The following are population estimates for 1997 for each study community based on the household surveys. These estimates do not include residents of group quarters, such as fish processing plants.

Table 1. Population of the Study Communities in 1997

	Year-Round Households	Estimated Population	Percentage Alaska Native
Akutan	32	80	85.7%
False Pass	20	51	65.8%
Nelson Lagoon	27	75	91.7%
Nikolski	11	27	95.5%

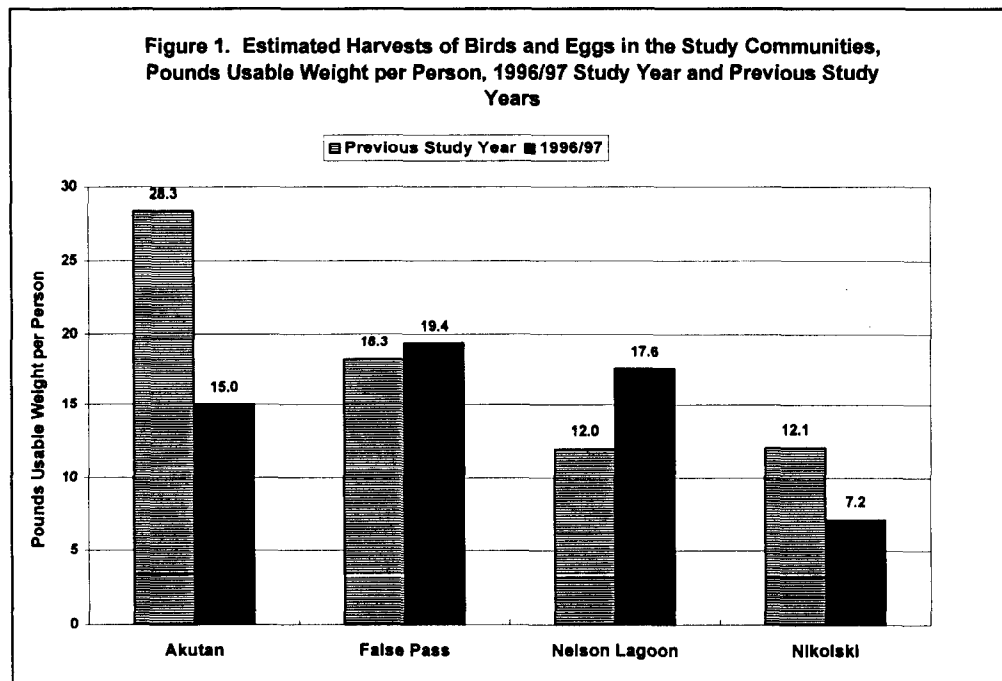
Subsistence Uses of Birds and Eggs

- The study found that subsistence uses birds and eggs continue to be very important in Akutan, False Pass, Nelson Lagoon, and Nikolski. As the following table (Table 2) shows, almost every household used birds or eggs, about half or more hunted birds or tried to harvest eggs, and most were involved in sharing these subsistence resources.

Table 2. Characteristics of Uses and Harvests of Birds and Eggs, 1996/97

	Percentage of Households				
	Using	Attempting	Harvesting	Receiving	Giving
Akutan	92.9%	46.4%	42.9%	71.4%	46.4%
False Pass	73.3%	46.7%	40.0%	53.3%	40.0%
Nelson Lagoon	92.3%	65.4%	65.4%	50.0%	38.5%
Nikolski	88.9%	44.4%	44.4%	77.8%	33.3%

- Households provided estimates of their harvests in 1996/97 in numbers of birds and eggs. Table 3 (next page) shows estimated harvests for each resource and compares these harvests with previous estimates, also from Division of Subsistence household surveys.
- These harvest numbers were converted into pounds usable weight using standard factors. Figure 1, below, shows the total bird and egg harvest in each community expressed in pounds usable weight per person, and compares the 1996/97 harvests with earlier estimates.



- Harvests of birds and eggs, as estimated in pounds usable weight per person, were lower in 1996/97 than in the earlier study year in Akutan and Nikolski, higher in Nelson Lagoon, and about the same in False Pass. Compared to earlier study years, geese contributed a larger percentage of the total bird harvests in 1996/97 in each community.

Table 3. Estimated Harvests of Birds and Eggs, Four Aleutian Islands Area Communities

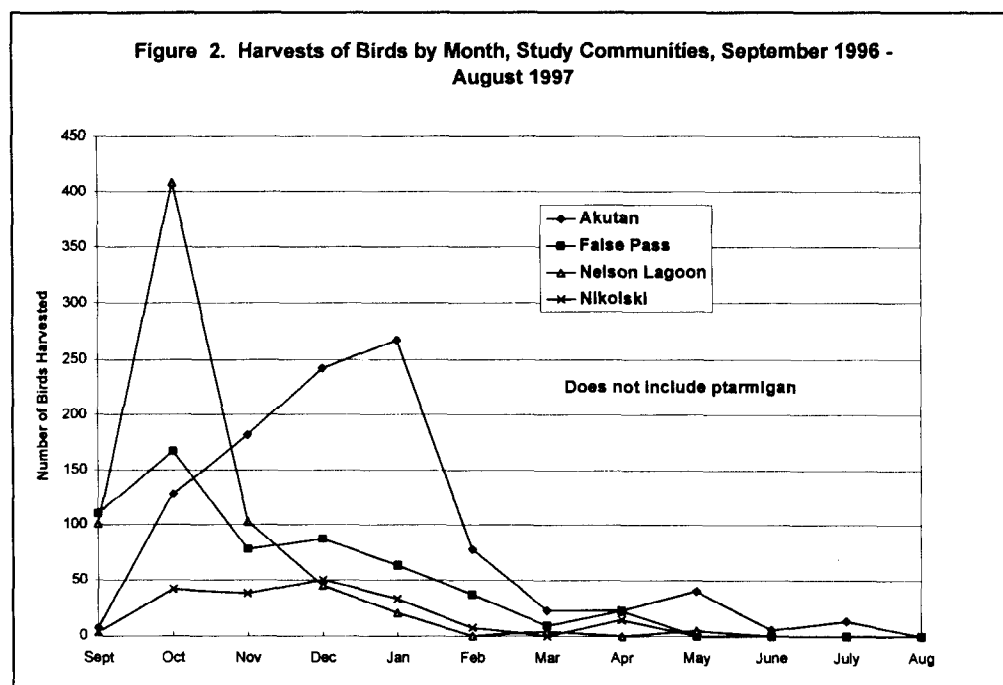
	Estimated Number Harvested							
	Akutan		False Pass		Nelson Lagoon		Nikolski	
	1990/91	1996/97	1987/88	1996/97	1986/87	1996/97	1990/91	1996/97
Migratory Birds	2,433	1,009	677	575	515	686	288	188
Ducks	1,827	767	514	281	454	387	184	142
Bufflehead	155	56		0		0	0	11
Canvasback	2	0		0		14	17	0
Eider	236	5	0	0		0	20	1
Common Eider		2		0		0		0
Steller Eider		2		0		0		1
Gadwall	7	2	22	16		0	0	2
Goldeneye	157	55	0	16	116	105	0	7
Barrows Goldeneye		5		8		15		0
Common Goldeneye		50		0		10		7
Unknown Goldeneye		0		8		80		0
Harlequin	288	143		0		0	16	15
Mallard	143	57	125	119	127	112	55	28
Merganser	66	23		0		0	0	0
Common Merganser		1		0		0		0
Red-Breasted Merganser		22		0		0		0
Oldsquaw	58	30		0		0	0	0
Pintail	99	7	62	16	100	0	6	15
Scaup	126	47	33	8		0	16	0
Greater Scaup		9		0		0		0
Lesser Scaup		38		0		0		0
Unknown Scaup				8		0		0
Scoter	226	229	7	0		0	33	0
Black Scoter		80		0		0		0
White-winged Scoter		149		0		0		0
Northern Shoveler								4
Green-winged Teal	254	114	263	107	109	146	21	43
Wigeon	9	0	2	0	1	0	0	7
Geese	221	133	163	293	61	297	104	46
Black Brant	10	6	73	107		4	0	4
Canada Geese	51	2	62	155		0	3	15
Aleutian Canada Geese	51	0		27		0	3	0
Cacklers		2		27		0		0
Lesser Canada Geese	0	0		101		0	0	15
Emperor Geese	160	125	29	32	61	293	101	28
Parakeet Auklet	99			0		0	0	0
Whiskered Auklet		29		0		0		0
Cormorants	9	0		0		0	0	0
Unknown Grebe						2		0
Loons	11	0		0		0	0	0
Murre	45	5		0		0	0	0
Puffins	222	77	0	0		0	0	0
Horned Puffin		37		0		0		0
Tufted Puffin		40		0		0		0
Ptarmigan	190	23	1,222	215	523	374	1	0
Bird Eggs	2,217	792	801	439	285	311	586	0
Duck Eggs	45	0	0	0	4	0	21	0
Common Snipe Eggs	77	9		0		0	6	0
Black Oyster Catcher Eggs		11		0		0		0
Gull Eggs	2,096	758	801	439	210	139	559	0
Ancient Murrelet Eggs		14		0		0		0
Tem Eggs	0			0	71	171	0	0

- As shown in Table 4, below, households' assessments of how bird and egg harvests compared to other recent years were mixed. In all the communities but Nikolski, the most households said that harvests and uses were about the same as in the recent past, but quite a few households said that their harvests and uses were lower. Time conflicts caused by jobs, a scarcity of certain species, and less sharing due to lower harvests were reasons given for lower use levels. Again with the exception of Nikolski, most households said that their bird and egg needs were met in 1996/97.

Table 4. Households' Assessments of Bird and Egg Harvests and Uses in 1996/97

	How Did Your Uses Compare to Other Recent Years?				Were Your Needs Met in 1996/97?		
	More	The Same	Less	Don't Know/ No Response	Yes	No	Don't Know/ No Response
Akutan	3.6%	60.7%	32.1%	3.6%	71.4%	21.4%	7.1%
False Pass	0.0%	46.7%	40.0%	13.3%	60.0%	20.0%	20.0%
Nelson Lagoon	3.9%	50.0%	46.2%	0.0%	69.2%	7.7%	23.1%
Nikolski	0.0%	33.3%	44.4%	22.2%	44.4%	33.3%	22.2%

- Figure 2, below, shows the timing of bird harvests (except ptarmigan) in the study communities in 1996/97. Most migratory bird harvests occurred from September through January. There was little bird hunting in March through August. Egg harvests took place in May and June.



- The study succeeded in documenting subsistence harvests and uses of birds and eggs for several reasons, including community support for the project and the use of local research assistants. Finally, there is strong interest in the communities in protecting subsistence uses and conserving bird populations. It is hoped that this information will help communities participate in meeting those goals.

For more information. More detailed study findings are reported in Technical Paper No. 243, provided to the Akutan Traditional Council, the False Pass Tribal Council, the Nelson Lagoon Tribal Council, the Nikolski Village Council, and the Aleutian/Pribilof Islands Association. If you would like more information, contact one of these organizations, or contact the Division of Subsistence at the address and phone numbers on page one of this summary. We welcome your comments.

