Exxon Valdez Oil Spill
Restoration Project Final Report

Community-Based Harbor Seal Management and Biological Sampling

Restoration Projects 97244 and 98244
Final Report

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Study History: The project was initiated as "Harbor Seal and Sea Otter Cooperative Subsistence Harvest Assistance" under Restoration Project 94244 in the Fiscal Year 1994 Work Plan, and continued as Restoration Project 95244 in the FY 1995 Work Plan. An annual report summarized activities for these first two study years. A separate report was prepared by the Alaska Sea Otter Commission as part of a contract supported by this project, entitled "Status and Trends of Harbor Seal and Sea Otter Populations in Prince William Sound and Lower Cook Inlet" (1995). The project continued in FY 1996 as Restoration Project 96244 with a new title, "Community-Based Harbor Seal Management and Biological Sampling." The focus was narrowed to harbor seal restoration. An annual report summarized activities for FY 1996. The project continued in FY 1997 and FY 1998 with similar goals and objectives. This final report summarizes activities for these last two years.

Abstract: The project's goal was to support collaboration between subsistence hunters of harbor seals, scientists, and resource management agencies to assess the factors which are affecting the recovery of the harbor seal population of the oil spill area and to identify ways to reduce these impacts. The Alaska Native Harbor Seal Commission was a full partner in the project. A community-based biosampling effort was designed and implemented. Workshops in which hunters and Youth Area Watch program participants were trained in biosampling techniques took place. A training manual and video were produced and distributed. By September 1998, samples from 119 subsistence-taken seals were distributed to participating laboratories for genetics, population, and dietary studies, and additional samples were archived for future contaminants work. A data management system based at the University of Alaska Fairbanks Museum was being implemented as of September 1998. Several workshops took place in which subsistence users, scientists, and resource managers discussed study goals and findings, and developed recommendations for future collaborations. New information about traditional ecological knowledge was included in a revised version of the Whiskers! Database and demonstrated at the workshops. A map database of the location of subsistence takes of seals was developed.

Key Words: Biosampling, co-management, Cook Inlet, *Exxon Valdez* oil spill, harbor seals, Kodiak Island, *Phoca vitulina*, Prince William Sound, subsistence uses.

Project Data: The results of interviews regarding traditional knowledge of harbor seals and other ethnographic information are contained in the Whiskers! database in the AskSam format, available through the Division of Subsistence of the Alaska Department of Fish and Game in Anchorage. Harvest location point data were entered into a GIS database using the ArcInfo program. Data aggregated at the harvest area level are available through the Division of Subsistence. The biosampling database is maintained using Microsoft Excel software at the Division of Subsistence, Kodiak. As of September 1998, the University of Alaska Fairbanks was enhancing its database to serve the needs of the expanding biosampling program.

Citation:

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EXECUTIVE SUMMARY

Populations of harbor seals were injured as a result of the *Exxon Valdez* oil spill and, for unknown reasons, were in decline before the spill. The population has not recovered. Harbor seals are taken for subsistence uses by Alaska Native hunters of communities of the oil spill region. Under the terms of the federal Marine Mammal Protection Act, subsistence uses of harbor seals may be restricted only if the population is declared depleted. Although injured by the spill, the population has not been so classified. Consequently, any conservation actions on the part of Alaska Native hunters can only be undertaken voluntarily. The overall goals of this project were to work cooperatively with subsistence hunters to involve them in marine mammal management, and to develop on ongoing exchange of information (including traditional ecological knowledge) and consensus building between hunters, scientists, and agencies regarding appropriate actions to take to assist in the recovery of harbor seals. The Division of Subsistence of the Alaska Department of Fish and Game was the lead agency for this project. The Alaska Native Harbor Seal Commission (ANHSC) was a full partner in the project. The University of Alaska Marine Advisory Program was also a collaborator.

In federal Fiscal Years 1997 and 1998, the project had seven objectives. These were: 1) Continue and expand a community-based program to collect biological samples and other information from harbor seals in Prince William Sound, lower Cook Inlet, and the Kodiak Island area; 2) Collect biological samples and other information from harbor seals harvested by subsistence hunters in nine communities: Tatitlek, Chenega Bay, Cordova, Valdez, Seldovia, Port Graham, Nanwalek, Old Harbor, and Akhiok; 3) Utilizing the services of the Alaska Native Harbor Seal Commission, communicate information about results of harbor seal studies to hunters and scientists on a regular basis; 4) Expand the Harbor Seal Traditional Knowledge Database (an objective for FFY 97 only); 5) Collaboratively produce recommendations for subsistence users of harbor seals; 6) Evaluate the program's effectiveness and develop a more long-term funding plan for ANHSC activities and the biological sampling program; and 7) Involve Youth Area Watch participants in the biosampling training.

Regarding Objectives 1 and 2, the biological sampling program, a training manual, data collection form, and training video were developed during the pilot phase of the project in FY 96. These were distributed to the seal hunters and biosamplers who also participated in training workshops and demonstrations. Through July 1998, 13 such sessions had occurred, with over 100 participants. Participants in the Youth Area Watch program were also trained as biosamplers (Objective 7).

Through September 1998, samples from 119 subsistence-taken harbor seals were preserved and distributed for analyses. Most were provided by hunters from Prince William Sound. The quality of the samples was very high. Stomachs are being analyzed for prey identification, teeth for aging, whiskers for stable isotope analysis, brain and other tissue for stable isotope analysis, blubber for fatty analysis, skin for genetic analysis, reproductive tracts for reproductive analysis, and skulls for morphometric examination. Additionally, heart, liver, kidney, blubber, and skeletal muscle tissues were archived for future contamination analysis. A data management system, based on an established database for marine mammals at the University of Alaska Fairbanks Museum, was being developed. The biosampling program proved viable because it involved a partnership between hunters and scientists who have the common goal to answer questions regarding the health of harbor seal population. The

involvement of the ANHSC and the Youth Area Watch program were critical to this success. A focus of the training and demonstrations was to encourage and re-enforce a concept of stewardship in the communities, especially among the youth, so that the sampling and other research efforts become long range goals.

Regarding Objective 4 (traditional knowledge), Division of Subsistence staff undertook research in Prince William Sound (Cordova, Valdez, Tatitlek, Chenega Bay) and lower Cook Inlet (Seldovia, Port Graham, Nanwalek) communities, interviewing hunters about winter distribution and abundance of harbor seals, changes in distribution and abundance, seasonal use of haulouts, and factors that may be affecting seal abundance. Mapping harbor seal harvest locations also took place. The results of these interviews will be incorporated into the Whiskers! database when funding is available in the future. The existing database was demonstrated at the workshops. Seal take location data were entered into a GIS database, and maps produced, which appeared in the previous annual report for this project.

Regarding Objectives 3, 5, and 6 (communications and development of recommendations), the ANHSC organized one workshop in FY 97 and another in FY 98, each attended by over 30 community representatives, scientists, and resource management agency staff. These provided excellent forums for the exchange of information, including traditional knowledge. Among the recommendations developed were 1) continue the biosampling program; 2) continue work towards developing a co-management plan for harbor seals; 3) support harvest assessment programs; 4) develop a long-term funding plan for the ANHSC; and 5) obtain seats for subsistence users on the Alaska Regional Scientific Review Group for harbor seals. Additionally, community meetings took place which featured the goals of the biosampling program and the objectives of the ANHSC.

The ANHSC has made substantial progress in securing other funding sources. For federal Fiscal Year 1997 and FY 98, a congressional appropriation was received through the National Marine Fisheries Service. Also, an ANILCA Title VIII grant was received through the Bureau of Indian Affairs in FY 97. A number of possibilities for continued funding of the biosampling program were identified, although additional efforts will be necessary to secure funding.

The report concludes that notable steps were taken over the course of this five year project. These included establishment of the Alaska Native Harbor Seal Commission as a full partner in the project, the development of the biological sampling program, the production of a training manual and video, the beginning of a viable data management system, holding training workshops, enhanced communications between subsistence users and scientists through workshops and newsletters, the collection and organization of new data on subsistence uses and traditional knowledge of harbor seals, and the building of a commitment among subsistence users and scientists to work together towards the common goals of harbor seal restoration and conservation.

INTRODUCTION

The goal of this five-year project was to support collaboration between subsistence hunters of harbor seals, scientists, and resource management agencies in assessing the factors which have affected the recovery of the harbor seal population of the oil spill area and to identify ways to reduce these impacts. Populations of harbor seals were injured as a result of the *Exxon Valdez* oil spill. The harbor seal populations of Prince William Sound and the northern Gulf of Alaska were in decline before the oil spill for unknown reasons. The spill compounded this decline; an estimated 300 seals died (*Exxon Valdez* Oil Spill Trustee Council [EVOSTC] 1994a:III-9). According to the *Exxon Valdez* Oil Spill Restoration Plan (EVOSTC 1994b:44, 52; 1996:8), harbor seals have not recovered from these oil spill injuries (EVOSTC 1996).

As just noted, the causes of the pre-spill decline in harbor seal populations and the continuing lack of recovery are poorly understood. According to a review in the report prepared by Kelly et al. (1995) for Project 94244 (see Appendix K in Fall et al. 1995), among the potential factors are reductions in prey species, commercial harvests (ended in 1972), predator control and bounty programs (ended in 1972), and incidental mortality in commercial fisheries, as well as EVOS mortality. Alaska Native hunting of harbor seals is not viewed as a cause of this decline or the lack of recovery.

Subsistence is an injured natural resource service which has also yet to fully recover from the effects of the oil spill (EVOSTC 1996:20-21). Harbor seals are a primary subsistence resource in the Alaska Native communities of the oil spill region (Wolfe and Mishler 1993, 1994, 1995, 1996, 1997, 1998). Harvests of harbor seals declined in many communities after the EVOS because of the reduced population size, concerns about oil contamination, and voluntary efforts on the part of hunters to limit their harvests to aid in recovery.

As shown in Table 1, Table 2, and Figure 1, subsistence harvests of harbor seals in the oil spill area have rebounded somewhat since their sharp decline in 1989. However, as of 1997, subsistence harvests remained well below pre-spill levels, especially among Prince William Sound communities. Since 1992, the Alaska Department of Fish and Game, Division of Subsistence, has conducted a harvest assessment program for harbor seals under a contract with the National Marine Fisheries Service. Table 2 and Figure 2 report results for the communities of Prince William Sound, lower Cook Inlet, and the Kodiak Island area. Overall, the take of harbor seals (harvested and struck and lost) averaged about 650 animals from 1992 to 1994 and about 500 animals from 1995 to 1997. Subsistence takes were lower in the last three years in Prince William Sound and lower Cook Inlet, but were relatively stable in the Kodiak Island area.

In order to address the injury to harbor seals and to subsistence uses, the *Exxon Valdez* Oil Spill Trustee Council funded restoration projects in federal Fiscal Year 1994 (FY 94) (No. 94244) and FY 95 (95244) to cooperatively assess the relationships between the population trends of harbor seals (and sea otters) in Prince William Sound and lower Cook Inlet, the oil spill, and subsistence harvests (Alaska Sea Otter Commission 1995, Fall 1995). This was, essentially, the first phase of this five-year effort. The project design recognized that conservation measures would best be developed through a cooperative process involving hunters, biologists, and management agency personnel. Further, such a process would have to be based upon a shared understanding of the available data and conservation goals. Under the terms of the federal Marine Mammal Protection Act, only Alaska Natives may hunt marine mammals, including harbor seals, for subsistence purposes and to create handicrafts. Hunting must be conducted in a

non-wasteful manner. The Act further specifies that authorized Native taking of marine mammals may not be restricted unless a marine mammal population has become depleted. Although injured by the oil spill, the harbor seal population of the Gulf of Alaska has not been declared depleted. Any conservation efforts on the part of Alaska Native hunters are still voluntary. Thus, the overall goal of the project became to work cooperatively with subsistence hunters to involve them in marine mammal management and to develop an ongoing exchange of information and consensus building. Decisions regarding such efforts can only be reached through organizations that are endorsed by the marine mammal hunting communities themselves.

In what was perhaps the most notable result of the process initiated by the first phase of this project, harbor seal hunters and users themselves formed the Alaska Native Harbor Seal Commission (ANHSC) in 1995. The ANHSC took on the task of participating in harbor seal conservation, recovery, and co-management on behalf of Alaska Native subsistence users of harbor seals.

The goals and objectives for Restoration Projects 96244, 97244, and 98244, the second phase of the five year project, focused specifically on harbor seals. These goals and objectives were based primarily on the recommendations of the two major workshops organized under Restoration Projects 94244 and 95244. The ANHSC, representing the interests of the subsistence users of harbor seals, became a full partner in the project beginning in FY96, filling a major gap that was identified at the workshops. The involvement of the ANHSC was facilitated through a professional services contract with ADF&G (IHP-96-016). In summary, the primary premise upon which this project was based is that restoration of harbor seal populations will be facilitated by developing the involvement of subsistence users in research and management activities, through facilitating the integration of traditional knowledge in scientific studies, and by supporting a sense of stewardship for natural resources in local communities.

OBJECTIVES

Project objectives in FY 97 and FY 98 for this project included:

1. Continue the community-based program to collect biological samples and other information from harbor seals in Prince William Sound and the northern Gulf of Alaska, which involved hunters from Cordova, Tatitlek, Chenega Bay, Valdez, Seldovia, Nanwalek, Port Graham, Akhiok, and Old Harbor. This objective involved expanding the pilot project developed in FY 96 to include Valdez and the Kodiak Island communities of Akhiok and Old Harbor.

   a. Train local technicians and hunters in biological sample collection procedures.
   b. Design the program to maximize sampling for efficiency and coordination with other harbor seal projects.
   c. Evaluate the program's effectiveness and develop a more long-term funding plan.

Table 1. Estimated Subsistence Harvests of Harbor Seals, 1982 - 1991

	Estimated Number of Harbor Seals Harvested:*									
	1982	1983	1984	1985	1986	1987	1988	1989	1990	1991
Chenega Bay			186	155				16	57	28
Tatitlek						393	473	113	76	114
Nanwalek						29		27	9	18
Port Graham						34		17	10	30
Akhiok	89				6			13		
Karluk	66				24			7	8	1
Larsen Bay	56				10			26	27	17
Old Harbor	156				127			45		46
Ouzinkie	96				67			34	26	24
Port Lions	13				28			2		

* Blank cells indicate that no data are available

Source: Scott et al. 1998

Table 2. Estimated Subsistence Takes of Harbor Seals, 1992 - 1997

	1992			1993			1994			1995			1996			1997		
	Harvest	Struck & Lost	Total	Harvest	Struck & Lost	Total	Harvest	Struck & Lost	Total	Harvest	Struck & Lost	Total	Harvest	Struck & Lost	Total	Harvest	Struck & Lost	Total
Chenega Bay	43	2	45	61	2	63	42	4	46	44	2	46	16	3	19	26	0	26
Cordova	104	9	113	147	6	153	136	9	145	83	2	85	122	9	131	121	0	121
Tatitlek	153	18	171	111	16	126	146	31	177	46	3	49	91	4	95	97	7	104
Valdez	0	0	0	21	4	25	30	3	33	17	0	17	14	5	18	13	0	13
Subtotal	299	29	328	340	27	367	354	47	401	191	6	197	243	20	262	256	7	263
Nanwalek	28	0	28	34	3	37	29	5	34	24	0	24	22	0	22	20	0	20
Port Graham	36	5	41	31	3	34	16	5	21	23	0	23	16	2	18	16	3	19
Seldovia	12	0	12	8	5	13	8	0	8	4	0	4	3	0	3	3	3	6
Seward	2	0	2	0	0	0	5	0	5	11	6	16	6	0	6	0	0	0
Subtotal	79	5	83	72	11	84	58	10	67	62	6	67	47	2	49	39	6	45
Akhiok	20	3	23	13	0	13	15	0	15	5	0	5	12	1	13	8	0	8
Karluk	17	2	18	10	1	11	8	0	8	28	7	35	15	0	15	19	0	19
Kodiak	37	0	37	6	1	7	8	0	8	9	0	9	9	0	9	13	0	13
Larsen Bay	7	0	7	8	6	13	13	2	16	11	0	11	15	0	15	10	4	14
Old Harbor	87	5	92	68	3	70	84	1	85	112	2	114	114	1	115	80	5	85
Ouzinkie	22	1	23	41	9	50	33	0	33	56	0	56	17	3	19	55	9	65
Port Lions	37	2	39	26	1	27	8	0	8	2	0	2	4	0	4	5	0	5
Subtotal	225	13	239	172	20	192	168	4	172	223	9	232	185	5	190	190	18	208
Regional Total	603	47	650	584	59	643	579	60	640	475	21	496	474	27	501	485	31	516

Source: Wolfe and Mishler 1998

Figure 1. Estimated Subsistence Harvests of Harbor Seals, 10 Alaska Native Communities of Three Oil Spill Areas

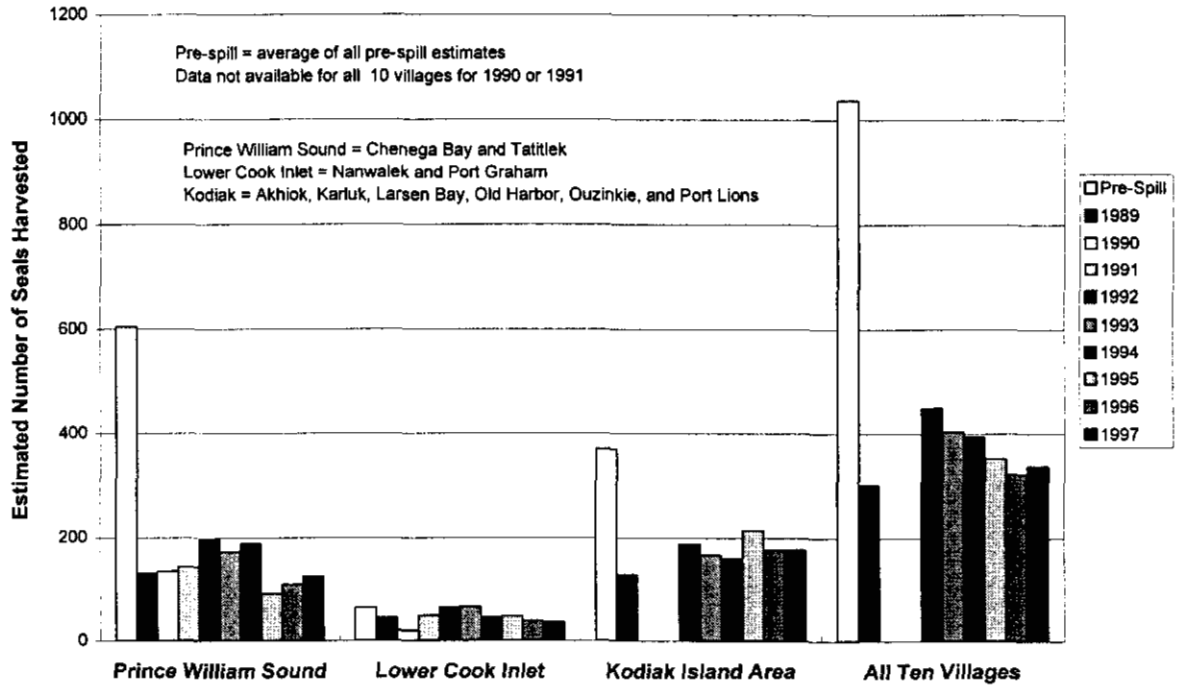
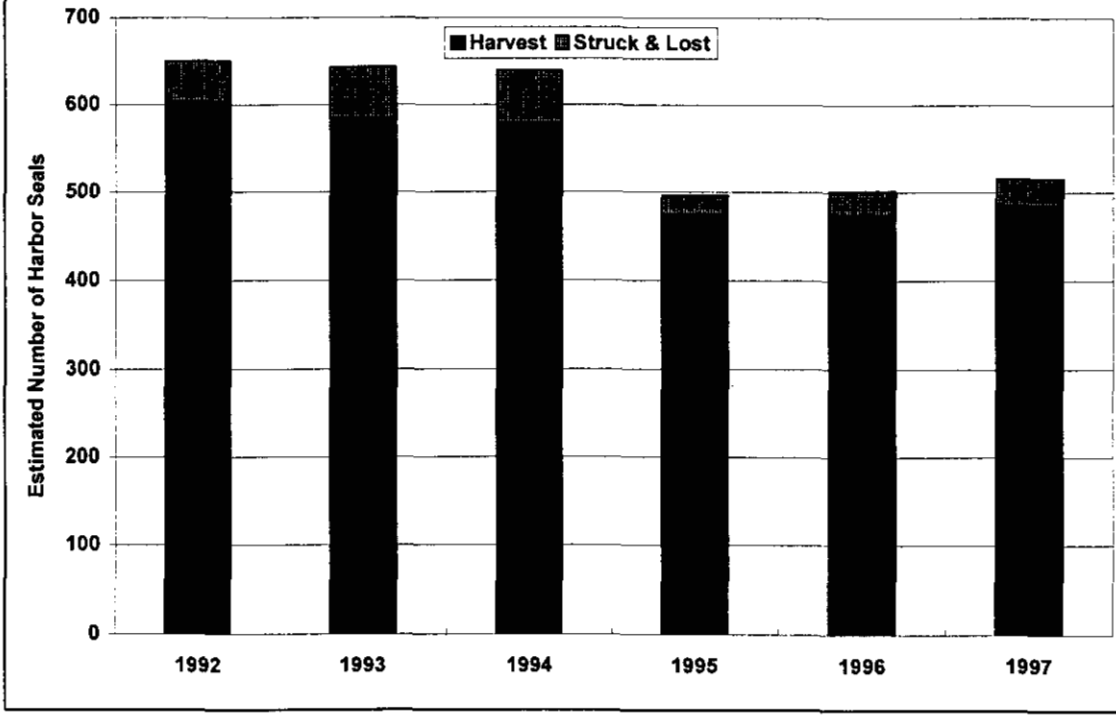


Figure 2. Estimated Subsistence Take of Harbor Seals, Prince William Sound, Lower Cook Inlet, and Kodiak Island Area, 1992 - 1997



2. Collect biological samples and other information from harbor seals harvested by subsistence hunters in nine communities: Tatitlek, Chenega Bay, Cordova, Valdez, Seldovia, Port Graham, Nanwalek, Akhiok, and Old Harbor. Provide these samples to researchers for analyses.

a. Collect information about the number, sex, approximate age and place and date of harvest for harbor seals taken in each village.
b. Collect biological samples to be analyzed in cooperation with other harbor seal projects, including blubber, whiskers, skin, female reproductive tracts, and stomachs.
c. Store samples in a community freezer and periodically ship samples to Anchorage for further processing and distribution for analysis.

3. Utilizing the services of the Alaska Native Harbor Seal Commission, communicate information about results of harbor seal studies to hunters and scientists on a regular basis through meetings, workshops, and newsletters.

a. Conduct annual workshops in conjunction with a meeting of the ANHSC, which include hunters from oil spill communities, harbor seal biologists, and agency representatives, to review recent findings about harbor seals and discuss important issues.
b. Conduct one meeting per year in each of the communities participating in the biological sampling program for hunters and scientists to review and integrate scientific information and traditional knowledge.
c. Produce two informational newsletters per year describing results of harbor seals studies, ongoing harbor seal research, and community involvement.

4. Update the Harbor Seal Traditional Knowledge Database ("Whiskers!") and continue to provide access to the database by potential users. This objective was dropped in the final year of the project (FY 98) as a budget-reduction measure.

a. Incorporate information obtained from ongoing research efforts by the Division of Subsistence ADF&G, as part of National Marine Fisheries Service-sponsored research and Division of Subsistence baseline studies.
b. Collect new information from hunters about topics such as: harvest locations; winter distribution of seals and abundance; changes in distribution and abundance; seasonal use of haulouts; and observations about factors that may be affecting abundance, such as human activities or killer whales.
c. Incorporate information collected during other Trustee Council-funded restoration projects, such as 96052 (Community Involvement and Traditional Knowledge) and 96214 (Harbor Seal Video), and make sure that data from the current project are available to support these other restoration efforts.
d. Demonstrate the use of the database during the Harbor Seal Commission workshop, and make the database available to potential users such as local communities, schools, subsistence hunters, and scientists.
e. Prepare maps of subsistence harvest locations in Prince William Sound and lower Cook Inlet, which depict data collected during this project.

5. Collaboratively produce recommendations for subsistence users of harbor seals which derive from study findings and the discussions at community meetings and workshops.

a. Base these recommendations on traditional knowledge, contemporary observations, and scientific findings.
b. Develop recommendations at workshops and community meetings.

6. Evaluate the program's effectiveness and develop a more long-term funding plan for ANHSC activities and the biological sampling program.

7. Coordinate with the Youth Area Watch Program (Project 97/98210) to involve participants in that program in biological sampling and workshops.

METHODS

Objectives 1 and 2: Biological Sampling Program

The following procedures were followed to achieve Objectives 1 and 2, the Biological Sampling Program. It should be noted that the Division of Subsistence received funding from the National Marine Fisheries Service for FFY 96 to develop a similar sampling program in southeast Alaska, the Aleutian Islands, and the Bristol Bay region. These two programs were fully coordinated, with the same procedures being used in each. The NMFS-funded project did not continue beyond its first year.

Kate Wynne, a marine mammal biologist with University of Alaska Sea Grant Marine Advisory Program, was contracted through a reimbursable services agreement (RSA) with the ADF&G in FY 97 to develop the training and coordinate the sampling components of this project. She was assisted by Vicki Vanek, a veterinarian on the staff of the Division of Subsistence. Vanek was the lead for the biosampling program in FY 98.

1. Training. Wynne and Vanek compiled protocols, synthesized these into usable formats, developed data forms, labels, sampling kits, and a database, and incorporated instructions for their use into a training program.

Instruction. Village-based technicians, ANHSC personnel, Youth Area Watch participants, and ADF&G staff attended a full-day regional sampling training session in either Cordova (for Cordova, Tatitlek, and Chenega Bay), Homer (for Seldovia, Port Graham, and Nanwalek), or Kodiak (for Old Harbor and Akhiok) during which Wynne and/or Vanek (assisted at time by M. Riedel of the ANHSC) provided a detailed explanation of project goals, and the significance and use of data to be collected; distributed sampling kits; explained and demonstrated sampling techniques and use of equipment; and distributed written and graphic instructional materials to take to villages. It was intended that hunters be informed of program objectives and specific sampling requirements through communication with village technicians and other project personnel and through written, graphic, and video instructional materials.

2. Training materials.

Manual and Data Form: Wynne and Vanek produced and distributed a training manual. This appears as Appendix A in Fall et al. 1997. The manual includes step-by-step diagrams and visual guides. The data form used by the hunters and samplers is included as Appendix A in this report.

Examples: At the training sessions, participants worked on an actual animal, filling in data forms and labels.

Video: A training video, based mostly upon the first Cordova training session, was produced by ADF&G, and distributed. The video includes information about the project rationale and objectives, current research and population declines, and the significance and use of data to be collected. It follows with a demonstration on how to fill in data forms and labels and how to use sampling kits and supplies.

3. Sample collections

Technicians. The plan was to hire a village-based technician in each program community, whose responsibilities were to take samples from seals taken by participating hunters, record data as requested, assure access to freezer and sampling supplies, notify Wynne or Monica Riedel (ANHSC chair) when supplies were low or the freezer nearly full, and load and ship coolers with samples to Anchorage.

Key hunters. The ideal was to find at least two hunters per village who were willing to provide subsistence taken seals from which the technicians could take samples, and record data as requested.

Sample size and distribution: It was projected that an average of 10 sampled animals per community would be achieved, for a total of about 90 - 100 animals.

Tissues to be collected. The plan was for a minimal sample to be collected by technicians in each village with relative ease and subsequently sub-sampled in Anchorage to provide the suite of tissue samples required. Technicians and hunters were trained to record information about harvest location and the animals' sex, evidence of tags or markers, and standard measures of length and girth. Technicians were trained to collect the whole head (with hide and blubber intact); stomach (after tying off both ends); fist-sized samples of liver, heart, and kidney; female reproductive tract; and claws. Although collecting the reproductive tracts and claws was highly desirable, it was expected that they would be collected opportunistically only from those hunters willing to dedicate extra effort required to collect them. Specific sampling procedures were described in the training manual, and are depicted in Appendix A and in the training video.

4. Sample analysis. Figure 3 provides a summary of the research programs involved in the tissue analysis. It is expected that participating scientists will acknowledge in any reports and publications the role of the ANHSC in facilitating the biological sampling program.

4. Data management and reporting. Biological data collected from this program were managed and maintained in a data base using software that is easily translated or integrated with software used by other agencies and organizations. The results of the sample analyses were reported at ANHSC workshops, the restoration workshops in 1997 and 1998, and will be summarized into a readily understandable report that will be provided to all the project participants. See below for discussion of efforts to integrate project data with the UAF Museum Archive.

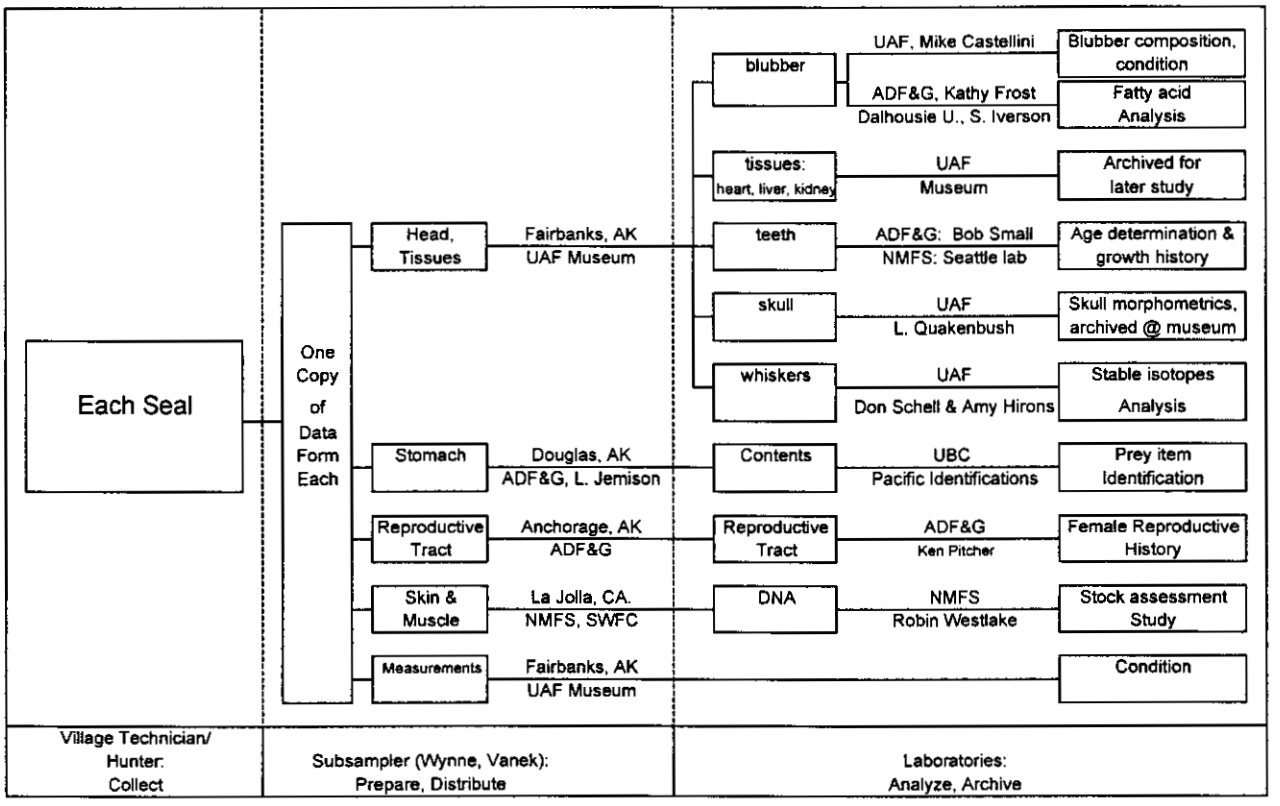


Figure 3. EVOS Project 244: Sample Distribution and Chain of Responsibility (As of 7/98)

Objective 4: Traditional Knowledge Database

The collection and organization of traditional knowledge about harbor seals was a study objective in FY 96 and FY 97 but not in FY 98. A summary of activities related to this objective in both FY 96 and FY 97 appears in the previous annual report (Fall et al. 1997:8) and will not be repeated in detail here. In short, Division of Subsistence staff who had previous experience in conducting this type of research, conducted interviews with seal hunters in Prince William Sound and lower Cook Inlet communities to collect and review information on harbor seals. This work was integrated into the ongoing harvest assessment research being conducted by the division

under contract with NMFS. The interviews focused on such topics as harvest locations, winter distribution and abundance, changes in distribution and abundance, seasonal use of haulouts, and observations of factors that may be affecting seal abundance. Opportunities to collect information also arose through Project 96214, Prince William Sound Harbor Seal Hunting Documentary, which resulted in the production of a video entitled "Alutiiq Pride: A Story of Subsistence," which debuted during the March 1997 workshop in Cordova.

The ANHSC played a consultation and review role in this traditional knowledge objective. Plans to conduct interviews were reviewed at an ANHSC workshop. In FY 96 and FY 97, Division personnel demonstrated the use of the database at other ANHSC workshops. Drafts of harvest area maps were displayed and discussed at a workshop as well.

The results of these interviews, plus those from the two previous restoration projects, ongoing National Marine Fisheries Service-sponsored research, and division baseline studies, will be included in the next update of the database called Whiskers! (which uses the askSam program), first developed in FY95. The database is available in a read-only format to potential users. Craig Mishler, the coordinator of the division's harbor seal and sea lion harbor assessment program (funded by NMFS), provided technical assistance in the organization of the database.

In FY 96 and FY 97, division researchers also interviewed harbor seal hunters concerning harvest locations, including animals that were shot and retrieved and those that were struck and lost. The collection of this information was added to an ongoing harvest assessment effort conducted by the division under contract to the National Marine Fisheries Service. Harvest location data were entered into a GIS database developed by Charles Utermohle of the Division of Subsistence, ADF&G (Fall et al. 1997:Table 2). Maps were prepared by ADF&G cartographer Carol Barnhill and appear as Figure 2 and Figure 3 in Fall et al. (1997).

Objectives 3, 5, and 6: Communications, Recommendations, and Evaluation

Objectives 3, 5, and 6, communication of study findings, development of recommendations, project evaluation, and development of a long-term funding plan, were approached as a collaborative effort through a contract between ADF&G and the Alaska Native Harbor Seal Commission.

1. The ANHSC organized two workshops, one each in FY96 and FY 97, held in conjunction with meetings of the ANHSC. The first took place in Cordova in March 1997 and the second took place in Kodiak in March 1998. Because the commission was limited to one representative from each region which uses harbor seals (southeast Alaska, the Chugach Region, Cook Inlet, Kodiak, Bristol Bay, and Aleutian/Pribilofs), participation in the workshops was expanded to include hunters from spill area communities. These workshops were modeled after those held under Projects 94244, 95244, and 96244, which involved review of information by scientists and subsistence hunters. A goal of the workshops was the discussion of potential recommendations for subsistence hunters concerning how they can support efforts to restore harbor seal populations.
2. Two workshop summaries were written and distributed. They provide overviews of findings from harbor seal research and ANHSC activities. (These appear as appendices to this report: see below.)

Objective 7. Involvement of Youth Area Watch Participants

The basic approach was to involve Youth Area Watch participants in biosampling training sessions and in the workshops.

RESULTS

Biosampling Program

Training Manual and Data Form

As noted above, Kate Wynne and Vicki Vanek produced a training manual, which appears as Appendix A in the annual report for FY 96 (Fall et al. 1997). The manual was provided to all seal hunters and biosamplers who participated in the project. The standard data collection form appears as Appendix A in this report.

Training Video

A training video entitled "Harbor Seal Biosampling" was produced in FY 96. It is approximately 68 minutes in length. Most of the video was filmed during the training session in Cordova in November 1995. Approximately 40 copies of the video were distributed as of September 1998. The video also aired on the Alaska Rural Communications Service on April 17 and April 21, 1996.

Training and Demonstration Workshops

Table 3 provides a summary of the training and demonstration workshops conducted as part of this project. In total, 14 workshops and demonstrations took place in 8 different locations, involving over 110 individuals from most communities of the spill region with subsistence uses of harbor seals. The accompanying insert on the next page is an example of an announcement that was distributed for one of the early training sessions. It should be noted that some workshops served as "refreshers" for people already involved in the program. Two examples of a workshop summary produced for a community newsletter appear in the next two inserts. Plate 1 and Plate 2 illustrate activities at two of the workshops.

A distinction can be made between "training workshops" and "demonstration workshops" although in practice there was overlap between the two. Indeed, attendance at a demonstration served as the first step towards a commitment as a biosampler. "Training workshops" were meant to fully train one or more individuals to collect biological samples independently. An emphasis was placed on "hands on" involvement by the participants in the sampling procedures. The primary goal of demonstration workshops was to inform participants about the goals and procedures of the biosampling program as a first step towards more involvement in the program, especially for young people, although hands on instruction took place at most of the demonstrations as well. An emphasis was also placed on promoting traditional values and local stewardship. In practice, there was a range in the level of participation in many of the

workshops, with some participants acquiring adequate knowledge and skills as biosamplers and others who observed the activities and learned about the program.

HARBOR SEAL BIOSAMPLING TRAINING

November 18, 1996
9 am to 5 pm

UAF FISH TECH CENTER
NEAR ISLAND, KODIAK

SPONSORED BY:	ALASKA NATIVE HARBOR SEAL COMMISSION, & ADF&G SUBSISTENCE DIVISION
FUNDED BY:	EXXON VALDEZ TRUSTEE COUNCIL
INSTRUCTOR:	KATE WYNNE, MARINE MAMMAL SPECIALIST
FACILITATOR:	MONICA RIEDEL, CHAIR, ANHSC
PARTICIPANTS:	HUNTERS FROM AKHIOK, OLD HARBOR, VALDEZ YOUTH INVITED FROM KODIAK TRIBE

PLEASE CALL MONICA RIEDEL AT 907-424-5882 IF YOU HAVE QUESTIONS OR NEED ANY ADDITIONAL INFORMATION

Of particular note is the combination of scientific instruction with Alaska Native traditions during the workshops. For example, the workshop in Cordova in January 1997 featured a performance by the Tatitlek Alutiiq Dancers of the "Quyaana Song" to thank the seal for giving itself to the subsistence hunter. During the Dig Afognak Spirit Camp in June 1997, camp counselor Teacon Simeonoff explained several Alaska Native traditions to show respect to the seal. These included: making a hole in the head to release the spirit; pointing the head towards the land so that the seal could not report its capture to its relatives; and giving the seal a drink of fresh water to thank it and send it on its journey comfortably. The goal was to enhance the participants' commitment through both an understanding of the scientific goals and a grounding in the Alaska Native cultural traditions which subsistence uses of marine mammals support.

Sample Collection, Distribution, and Analysis

Table 4 provides a list of samples collected during the project through September 1998. Samples from a total of 119 animals were taken, with a full suite of samples from 84 of these and a partial set of samples from the other 35. A large majority of the sampled seals (104 animals; 87.4 percent) were from Prince William Sound or the waters near Cordova. Samples were also obtained from seven seals (5.9 percent) from lower Cook Inlet and eight seals (6.7 percent) from the Kodiak archipelago. See the "Discussion" section, below, for the disposition of samples from these animals and an overview of analyses conducted on these samples.

Data Management and Database Development

Biological data for each animal from which samples were taken were recorded on forms which allowed for standardization of data with other harvest-sampling programs. Through mid FY98, these forms were supplied in paper copies only. An objective for FY98 was the development of an electronic version of this form, as recommended during the EVOS scientific review committee's review of this project in October 1997. Work on this electronic form was still in progress as of September 1998. Sample label and freezer log forms were developed to assure adequate sample tracking. Each animal received a unique number that was tied to the UAF Museum Archive numbering system. The number was assigned before any subsampling occurred so that all parts were linked to the appropriate animal and could be easily tracked.

To: The Native Village of Eyak for the January Newsletter
From: The Alaska Native Harbor Seal Commission (ANHSC)

On January 13th and 14th the ANHSC conducted a hunters meeting and biosampling training for 12 high school and some elementary kids. 3 kids came over from Tatitlek: Angela Totemoff, Molly Moore, and Michell Vlasoff; 3 kids from Chenega: A.J. Kompkoff, Michael Paulson, and Stacy Evanoff. 8 kids from Cordova joined in on the biosampling. The kids were Jacob McDaniel, Jordan Kompkoff, Liam and Diana Riedel, Jenny Totemoff, Will Osborn, Sheira Jensen, and Iris O'Brien stopped in. Some of the hunters that same were: Jim McDaniels, Bob Ladd, Nena Totemoff, Cliff Olson, Stan Makarka, Mark King, and Bob Henrichs.

Jim Totemoff got the seal for the training and the traditional processing. It was a very special day and we were blessed with the weather and the seal giving itself to us. We started out the morning with a prayer of thanks and the kids sang an Alutiiq song of thanks to our ancestors for showing us proper respect to the animals that sustain us.

Vicki Vanek, a veterinarian from the ADF&G taught the class the scientific methods of recording the data and taking the samples. Kate Wynne, biologist, helped out also. Jim Totemoff showed us how to skin the seal and butcher the meat. Monica Riedel talked about the uses for the fur and about the oil. Liz Friend came down ad showed us how to do the cleaning and braiding of the intestines and to prepare it for cooking. All of the meat was distributed to local elders and some of it was taken to Chenega.

Overall it was a very good experience and it was video taped for the Youth Area Watch Group and EVOS Trustee Council as well as photographed for the Anchorage Daily News. There will be a story on this even soon in the Anchorage paper.

I would like to express my sincere thanks to Jim Totemoff who without his expert hunting skills we would not have been able to conduct this training nor enjoyed sharing of the traditions and all of the meat.

I would also like to thank Greg Meyers and especially Leroy Gilkinson for setting up the processing room, scales, knives, and tables down at Cannery Row.

Just a reminder to put this on your calendars: There will be a joint meeting of the Alaska Sea Otter Commission and the ANHSC for a marine mammal workshop in Cordova on March 6-7, 1997 at the Masonic [Hall].

Quyana-cak!
Monica Riedel
Chair, ANHSC

ALASKA NATIVE HARBOR SEAL COMMISSION

Trip Report: April 24-25, 1998
Biosampling Training in Homer for the Villages of:
Port Graham, Nanwalek, and Seldovia and to speak at the Kachemak Bay Conference April 25

On Friday April 25th I arrived in Homer at 10:50 a.m. At the airport to meet me were Nick Tanape, Nancy Yeaton, Anastasia Kvasnikoff, Jolene Kvasnikoff, and Teresa Evans from Nanwalek. Boyd Port, biologist from ADF&G, was also there. We all drove over to Homer Air to meet the other people from Port Graham and Seldovia, Melvin Malchoff and Lillian Elvsaas, with two youth, Peter Elvsaas and Chance Collier.

The seal was delivered to the Pratt Museum's work shop where we held the training session outside. John Boone caught the seal for the potlatch and training.

Boyd Porter emphasized the scientific methods and talked about seal physiology while I helped with teaching how to fill out the forms, labels, and bagging the samples. Boyd Porter took the seal samples back to Anchorage the next day.

After the biosampling, the hunters and ladies cut up the seal into cooking portions. The Nanwalek girls cut up the blubber to make seal oil. The lungs of the seal were given to Jennie Tanape so that she could prepare a delicacy dish. We later had the opportunity to observe her prepare the specialty.

The next day we were all invited to attend the Kachemak Bay Conference. I set up a display poster board with handouts and results of the biosampling project including the youth participation. I later gave a presentation at the conference. An unplanned event took place during my presentation. The girls from Nanwalek decided to talk about their experiences biosampling and why it is important to them. All three of the girls described an overhead with the latest counts of samples, to what scientists they are going, and how many partial and full sets are in from each village. They were nervous but made us all very proud. We also had the privilege to hear the keynote speaker Chief Elenore McMullen of Port Graham talk about their watershed project.

Later that evening we participated in a Potlatch where the whole seal was cooked and shared with the community.

Respectively submitted by,
Monica Riedel

Plate 1. Melvin Malchoff, hunter from Port Graham, and Boyd Porter, ADF&G biologist, train Jolene Kvasnikoff and Teresa Evans of Nanwalek at a biosampling session in Homer, 1998

Plate 2. Angela Totemoff and Michelle Vlasoff of Tatitlek assist Vicki Vanek of ADF&G in measuring a seal at a biosampling session in Cordova, 1997

Table 3. Biosamping Training Workshops and Demonstrations

Date	Location	Project Personnel	Number of Participants	Notes
11/28/95	Cordova	Wynne, Riedel	15	Video taped for inclusion in the biosampling training video
12/1/95	Homer	Wynne, Riedel	4	
11/18/96	Kodiak	Wynne, Riedel	8	
1/13-14/1997	Cordova	Wynne, Vanek, Riedel	12	Conducted in association with the Youth Area Watch program.
5/7-9/1997	Nanwalek	Vanek, Riedel	8	Conducted as part of "Nanwalek Seaweek"
6/26-28/1997	Afognak Island*	Riedel	22	Conducted as part of Kodiak Area Native Association's (KANA) "Dig Afognak" spirit camp
7/11-13/1997	Afognak Island*	Vanek	25	Conducted as part of KANA's "Dig Afognak" spirit camp
10/9-10/1998	Seward	Vanek, Riedel	13	Conducted as part of Youth Area Watch Program; about 12 students and 1 hunter participated
10/13-14/1998	Valdez	Vanek	12	Conducted as part of Youth Area Watch Program
2/1/98	Cordova	Riedel	12	Youth from the Eyak Institute were trained; Cordova hunter Jim Totemoff assisted Riedel in the training
4/24-25/1998	Homer*	Riedel, Boyd Porter (ADF&G)	9	Held in conjunction with the Kachemak Bay Conference; the Pratt Museum hosted the training session.
7/16-18/1998	Sitkalidak Island*	Vanek, Riedel	40	Conducted as part of KANA's spirit camp
7/22/98	Kodiak	Vanek	1	
8/1/98	Cordova	Riedel	9	Photgraphed by National Geographic Magazine

Table 4. Summary of Harbor Seal Biosamples Collected, as of 9/30/98
Prince William Sound/Lower Cook Inlet/Kodiak Island

Community	Number of Seals Sampled	
	Full Set	Partial Set
Chenega Bay	4	3
Nuciiq	2	0
Cordova	21	0
Tatitlek	41	29
Valdez	4	0
Seward	0	0
Nanwalek	5	1
Port Graham	0	0
Seldovia	1	0
Afognak Island	1	1
Akhiok	3	0
Old Harbor	1	1
Port Lions	1	0
GRAND TOTAL	84	35

Biological data collected from this program were managed and maintained in a data base using Microsoft Excel software. This database was centrally maintained by ADF&G, with copies to pertinent agencies, such as NMFS and the ANHSC. Additionally, as part of Project 99245 (the continuation of this project), ADF&G (Vanek) will collate the results of the sample analysis into a readily understandable newsletter, that will be provided to all the project participants.

In FY98, steps were taken to enhance this database, as recommended by the EVOS scientific review committee, but these were incomplete as of September 1998. These initiatives will continue in FY 99 under Restoration Project 99245. These include:

a. Development of an electronic data form (see above). This will facilitate communication of information and incorporation of sample data into databases.
b. Enhancement of UAF Museum database for back-up tracking, to include information on the biosampled seals, such as the names of researchers who received samples and identification of the sample with this program (see directly below).
c. Development of an electronic form that summarizes all information from samples from a particular animal.
d. Development of a biannual biosample status report. Presently there is no automatic system in place for researchers to return the results of their analyses or to update other

participants on their activities and progress. This will be an electronic form to be submitted every six months by each researcher who receives biosamples from this project.

e. Assisting the Youth Area Watch Program in developing a curriculum that incorporates biosample collection and study results. This will initially include developing a limited set of classroom lessons that illustrate the application of length, weight, sex, location, timing, and stomach content data.

Enhancement of the University of Alaska Museum Database[1]

[Note: In late FY 98, the ANHSC entered into a subcontract with the University of Alaska Museum to assist the museum in the funding of a programmer to accomplish two tasks: 1) move the present programming into software that is more compliant to web-initiated queries, and 2) implement the new structures into the database. The co-principal investigators asked Gordon Jarrell of the museum to contribute a summary of the museum's goals for this final report. These activities will continue into FY99 under a new project, 99245.]

The Mammal Collection at the University of Alaska Museum is working to make the results of scientific research using ANHSC specimens more accessible to ANHSC contributors and to the general public by refining the collection database to support queries about particular projects. Such queries could be initiated from the Museum's World Wide Web site (www.uaf.alaska.edu/cgi-bin/msearch?) which already supports queries about the general nature of catalogued specimens.

Users of the collection are required to provide explanations of their projects[2] and to do this in particular detail when their research involves analyses that partially consume specimens (e.g., biochemical procedures). We also ask that researchers provide results of their specimen-based work, usually upon publication. Thus, there is substantial information about specimen use on file, but the body of this information is not electronically linked to information about particular specimens (i.e., the catalog) or to information about the source of particular specimens (e.g., the ANHSC).

Such a linkage is well within the capabilities of modern relational database management systems. For example, several aspects of collection management are already incorporated into the collection's relational database. Permit reports are generated with a query that takes permit number from the accession table and individual specimen records from the catalog based on accession number. Similarly, in the tissue table, records represent individual cryo-tubes, and in the object-location table, records represent bar-code scans. This is a relatively simple relational system evolved from the database's single-flat-file legacy.

Our intent is to migrate into a system compliant with the architecture at UC Berkeley's Museum of Vertebrate Zoology, a project which NSF is supporting (DBI 9630909). We have implemented their structure, complete with all tables, indexes, relations, and rules in Visual

[1] This section was provided by Gordon Jarrell, mammal collection manager at the University of Alaska Fairbanks Museum.

[2] See: www.uaf.alaska.edu/museum/mammal/loans.html and www.uaf.alaska.edu/museum/af/using.html)

FoxPro and offer "MVZ for VFP"[3] to anyone interested in working with a PC version of MVZ's substantial effort. In consultation with the architects of MVZ's structure, we have added a "projects layer" that will relate accessions and loans to research results (in the form of publications and abstracts) and thereby incorporate information on "supported projects" into our information structure. A similar "project" structure is in the Collections & Research Information System (CRIS) at the National Museum of Natural History (Smithsonian) and being incorporated in the "OZ" Project, another NSF-supported system at Kansas Museum of Natural History.

Migration of our data and user interfaces for the FoxPro version are our major challenges, but we now have a defined pathway from our legacy database to MVZ's more relational structures. Support from the ANHSC is being used for migration of data into the new structure. When this is completed, we will need to develop a web interface (CGI) for a summary database (or bring parts of the primary database on line with read-only access).

Expanding the scope of the database in this way increases the utility and visibility of the collection, and credits contributors. The US Minerals Management Service, the Aleut Marine Mammal Commission, and the Alaska Department of Fish and Game have also encouraged us to provide such information. The marine mammal holdings at UAM are an international scientific resource that includes the results of such projects as the AEC's Amchitka sea otter studies, the EVOS sea otters, and seals from the Outer Continental Environmental Shelf Environmental Assessment Project (OCESEAP). Electronic access to this material attracts requests from researchers all over the world.

Workshops and Other Meetings

Table 5 provides a summary of the major data review and exchange workshops which were fully or partially supported through this project over its five-year duration. Details on the workshops prior to FY 97 appear in two earlier annual reports (Fall 1995, Fall et al. 1997).

The annual workshop for FY 97 took place in Cordova on March 6 -8, 1997. Appendix B provides a detailed summary of this very successful event. This meeting was held jointly with the Alaska Sea Otter Commission, which resulted in representation from a large number of communities from southeast, southcentral, and southwest Alaska. Among other topics discussed, M. Castellini and B. Fadely gave a report on the analysis of seal blubber samples supplied so far by this project and Patricia Cochran of the Alaska Native Science Commission provided an overview on some traditional knowledge initiatives. There were extensive reports from each community representative. A highlight of this workshop occurred during the evening of the first day. Following a community potluck, the video "Alutiiq Pride: A Story of Subsistence" was viewed. This was the first public screening of the video outside of Tatitlek, the community featured in the production. The video, funded by the EVOS Trustee Council under Project Number 96214, depicts subsistence seal hunting in Prince William Sound.

The annual workshop for FFY 98 took place in Kodiak on March 26 - 28, 1998. Appendix C is a detailed summary of this lively meeting, which featured a great deal of exchange of scientific and traditional knowledge. Portions of this meeting during which traditional knowledge was shared were videotaped (see discussion of traditional knowledge, below). Additionally, a panel, consisting of Laurie Jemison (ADF&G), Kate Wynne (UAF),

[3] See www.uaf.edu/museum/mammal/dbf

Monica Riedel (ANHSC), and Vicki Vanek (ADF&G) provided a detailed overview of the biosampling program. Other primary topics included a review of subsistence harvest data, an overview of the most recent stock assessments including the concept of potential biologist removal (PBR), and co-management agreements.

Table 5. Information Exchange Workshops Conducted as Part of Restoration Project 244

Date	Location	Approximate Attendance	Notes
10/7/94	Anchorage	12	See Fall 1995:5-6 & Appendix B for a summary; organizational workshop involving state and federal agencies, university researchers, the Alaska Sea Otter Commission, and the Chugach Regional Resources Commission
12/2/94	Anchorage	31	See Fall et al. 1995:6-10 & Appendix C for a summary; first workshop involving community representatives
3/2/95	Anchorage	30	See Fall 1995:10-15 & Appendix G for a summary; following the workshop, community representatives caucused and voted to form the Alaska Native Harbor Seal Commission (ANHSC)
9/27/95	Cordova	10	See Fall 1995:15-16 for a summary; first workshop held in conjunction with a meeting of the ANHSC
3/5/96	Anchorage	37	See Fall et al. 1997: Appendix C for a summary; first meeting organized by the ANHSC and its subcontractor, the Rural Alaska Community Action Program (RurAL CAP).
9/18/96	Girdwood	20	See Fall et al. 1997: Appendix D for a summary; held in conjunction with the Alaska Science Conference in conformance with its theme "Science and Community."
3/6-8/1997	Cordova	40	See Appendix B for summary; held in conjunction with a meeting of the ANHSC.
3/26-28/1997	Kodiak	20	See Appendix C for summary; held in conjunction with a meeting of the ANHSC.

Project personnel participated in several other meetings during which the activities supported by this project were discussed. M. Riedel and V. Vanek, as well as three ANHSC commissioners (N. Vlasoff, L. Elvsaas, and S. Simeonoff) participated in the Harbor Seal Review Session at the EVOS Trustee Council office in Anchorage on November 12-13, 1997. Riedel and Vanek gave an overview of the biosampling effort and Riedel described the role of the ANHSC in restoration and co-management. This workshop resulted in several important recommendations for the biosampling program which were addressed in the FY 98 activities of this project.

M. Riedel and V. Vanek participated in restoration workshops in Anchorage in January 1997 and January 1998. At both workshops, Riedel presented information about the project during the poster sessions. In 1998, Vanek and Riedel presented an overview of the project at the plenary session; they participated in the workshop on long term monitoring as well.

A detailed review of the biosampling program took place at a meeting of the ANHSC in Fairbanks on June 27-29, 1998. Although the meeting itself was not funded by this project, project funds supported Vanek's travel to and participation in the workshop. A summary of this discussion appears as Appendix D. Two topics in particular were discussed at length. The first concerned data management procedures. There was general support for the UAF Museum to continue to serve as the central repository of data on samples and studies based on these samples. It was stressed that the ANHSC needs to be kept informed of requests for samples and the results of all studies.

The second topic at the Fairbanks meeting was a discussion of the review of the biosampling program prepared at the request of the ANHSC by Lori Quakenbush, a research associate at the University of Alaska School of Fisheries and Ocean Sciences. This review is attached as Appendix E. The review contained 10 recommendations, listed in priority order. There are listed here with responses:

1. Change body length measurement to belly up, straight line distance from the snout to flesh on the tail.

   Originally, the data form requested measuring the length of the seal four ways: 1) a straight length with the seal positioned on its back (technically called "standard"), 2) a curvilinear length with the seal positioned on its back; 3) a straight length with the seal positioned on its belly, and 4) a curvilinear length with the seal positioned on its belly. This was done because, historically, measurements have been taken each way. Current field research measuring live animals takes this measurement with the seal positioned on its belly, including EVOS restoration project. Dead animals are usually measured with the animal on its back. In the second year of the project in order to accommodate hunters' requests to eliminate some of the measurements, the measurement with the animal on its back was removed from the form. This was because the only measurements being used by any of the researchers connected to this project were measurements on the belly. In addition, the principal investigators consulted with NMFS about this matter, and NMFS responded that either position would be acceptable. In response to this recommendation, we have gone back to the original procedure of measuring each animal on the belly and on the back.

2. Change blubber thickness measurement to include the thickness of the skin.

   The blubber thickness measurements, excluding the skin measurement, are a direct request from one of the EVOS restoration project principal investigators (B. Fadely). When the biosampling program expands beyond it primary connection to EVOS restoration, this measurement can be changed to include the skin thickness if deemed appropriate. Additional wording will be added to the form to clarify that the skin has been included.

3. Record the total number of seals harvested in as many villages as possible.

   As noted above, this information has been collected by ADF&G through a contract with NMFS. (See Table 2, above.) The information is reviewed by the ANHSC prior to publication. It is available in Division of Subsistence technical papers (e.g. Wolfe and

Mishler 1998) and in the Community Profile Database (Scott et al. 1998). There is no need to duplicate this effort, nor has funding been provided to collect harvest data in this restoration project.

4. Identify the form with the project name; preprint forms with unique numbers; use preprinted stick-on labels.

The form was developed to be a generic form being used in several projects. This was important because in some areas the same biosamplers were working on more than one project. Now that the ANHSC will be a major participant in all future harbor seal biosampling, it is appropriate to identify the form with the commission. Pre-numbering forms was considered when the project began. Because so many blank forms are provided to potential biosamplers, many of which are never used, we prefer to not pre-number them. We will consider the suggestion to use preprinted stick on labels after consulting with the village biosamplers.

5. Tags or stick-on labels with a unique number should be placed in or on each sample container upon collection.

In our experience, this is not practical. AF numbers must be assigned by project staff after the samples are received from the village. Through September 1998, the information on the form provided by the sampler (usually also the hunter), including the village, date, and seal number),) has been sufficient to uniquely identify the samples. It is part of the biosampler's job to fill out a label with this information that is included in each sample container. Although AF numbers cannot be pre-assigned, if after consultation with the biosamplers, it appears that a different identifying system would be an improvement, such a change will be implemented.

6. Change form to record who harvested the seal and who filled out the form. Clarify that village name on the form is the village of residence of the harvester.

In a future revision of the form, we will add a box to record the hunters' names. We believe it is evident that "village" refers to the village where the seal was harvested.

7. Continue to work with the UAF Museum to make abstracts and publications related to specimens collected available on their Web site.

This is a good suggestion that will be pursued as part of the continuation of this project under Restoration Project No. 99245. See the "results" section above for an account of the Museum's efforts to date to enhance communication of study findings.

8. Investigate the advantages of ANHSC acquiring its own collection permit.

Monica Riedel of the ANHSC is investigating this.

9. Periodically review collection locations to determine distribution and adjust as necessary.

Project personnel have tracked the location of samples collected to date. As noted below, geographic coverage is uneven. ANHSC personnel have encouraged sample collection in lower Cook Inlet and Kodiak communities and will continue to do so. Ultimately, evenness of geographic coverage depends on commitments from hunters in each community.

10. Review material being collected and status of studies using the samples. Encourage researchers to conduct studies of interest to subsistence users.

This is another good suggestion. Opportunities to review and to interact with researchers occur during ANHSC meetings and workshops, as well as in restoration workshops.

Traditional Knowledge

As noted above, Division of Subsistence staff interviewed seal hunters in Seldovia, Nanwalek, Port Graham, Cordova, Tatitlek, Chenega Bay, and Valdez regarding harvest locations and aspects of traditional ecological knowledge. The project plan for FY 97 called for the results of these interviews to be incorporated into an updated version of the field note database called "Whiskers," a compilation of traditional ecological knowledge about Alaska marine mammals, first produced in FY 95. However, funding to support ADF&G Division staff to accomplish this work was eliminated from the final budget for the FY 97 project and other commitments prevented this update from occurring. The data remain in the form of field notes and will be included in any future update of the database. The likelihood of such an update is uncertain in that no funding support is presently available to support the work.

In FY 97 and FY 98, two demonstrations of the Whiskers! database took place in connection with this project. First, Craig Mishler, who was the staff member with overall responsibility for the database, demonstrated it at the Restoration Workshop in Anchorage in January 1997. Second, Mishler also demonstrated the database at the youth/elders conference on subsistence and the oil spill, which took place in Cordova in August 1998 under Restoration Project Number 98138.

During portions of the ANHSC workshop which took place in Kodiak in March 1998, substantial traditional knowledge about harbor seals was presented. These presentations were videotaped by Craig Mishler. These tapes await transcription and review. It is hoped that the information can then be included in a future version of Whiskers!

Table 6 contains five samples entries from the present version of the Whiskers! database. Key word searches are accomplished using the AskSam program.

Community Meetings

M. Riedel traveled to Tatitlek on May 6, 1998 to participate in the community's Cultural Heritage Week. She provided an overview of the project. Other meetings with community representatives took place in Nanwalek in May 1997 as part of "Seaweek;" and in Homer in April 1998 as part of the Kachemak Bay Conference.

Table 6. Excerpts from the Whiskers! Database of Traditional Knowledge

Population Levels of Seals, Seldovia
He has noticed a notable decrease in the harbor seal population in the Seldovia area. He said that this decrease began about ten years ago, before the Exxon Valdez Oil Spill. One of the local haul outs is Yukon Island and about ten years ago he would see 200 - 300 seals hauling out on this island. This past year he only saw six or eight seals haul out there. He said the other haul outs were China Poot Bay, and Indian Island. He believes that all the haul outs have decreased populations but that the closest one (Yukon Island) has the most marked decrease. He has thought about the possibility that the seals may be moving to new haul out areas but he hasn't seen any. He thinks that there is a lack of feed for the seals in the area; there has been an increase in commercial, sport, and subsistence fishing over the last few years.
Population Levels. Habitat/Haul outs. Commercial Fishing. Sport Fishing. Subsistence Fishing. Harbor Seal.
CODE[304-057-050793

Seal Population Levels and Hunting Seasonality, Port Graham
At Koyuktolik (Dogfish) Bay, their group of duck hunters used to hunt ducks and find lots of seals in October and November. When there used to be lots of dog salmon in July and August seals were abundant. Even though there has been a lot of salmon in recent years in Rocky Bay, there are no seals. The decline in seals was gradual until the oil spill, then there was a rapid drop in numbers.
CODE[282-010-042793

Chenega Bay
Before the oil spill the yellow seals came mostly from the Copper River. Icy Bay's seals looked dark. You could tell just about what bay they come from by looking at their coloration and body shape. Ones that come in from the ocean are sleek. Ones that come in from the bays are fat and lazy. Icy Bay seals are bigger, longer. Small adult seals come from the Copper River. I think they'll find more of the food they're looking for in the shallows. Icy Bay has herring and codfish. In the bites and shallows, Whale Bay has codfish, flounder, and octopus.
CODE[082-013-052094

Chenega Bay
[Why would they move from places they haul out?] "Not enough feed. Nobody bothered them on this end as much as they do now. We'd hunt seal wherever we seen them--Squire Island, Shelter Island, Mummy Bay, Prince of Wales Passage. Hunting them too much, like every month, is enough to scare them away. We wouldn't hunt all these places in one day. Little Mummy Island, Gage Island -before the oil spill you'd see 1/2 dozen or so (seals) there, another 15 or 20 at Point of Rocks (haul outs).
Seal. Ecology. Use Areas. Haul outs.
CODE[082-02-102094

Chenega Bay
"The seals are not floating. They're sinking. They should be fat. They're skinnier. They're bigger (more older ones) than usual. I think there's no young ones left. Before the oil spill we used to get mostly young ones. I think there's something wrong in the ocean. They're not getting the right amount of food. Maybe it's the oil. It's keeping them out. Maybe it's doing something to their sense of smell. They used to spook when they smelled cigarette smoke. Now they don't seem to notice it. We can get a lot closer to them than we used to be able to. Now they're right on the shoreline. They used to travel quite a ways out. Even now you find seals with oil on them." R says a tanner has told him he's ruined his knives cleaning a hide. "Hides with oil are just like someone put tar on them." This man has gotten approximately 10 pelts since the oil spill with oil on them. Most of the time he says, he can get it off with Pinesol, but thinks maybe it just cleans the top of the fur.
EVOS. Hides.
CODE[082-13-033194

Development of Other Funding Sources

Since its founding in mid 1995, the ANHSC has made substantial progress in securing other sources of funding to support the continuation of the initiatives developed as part of the restoration project. For FFY 97, a congressional appropriation of $97,600 was received through NMFS. This appropriation covered certain administrative and operational costs for the ANHSC, such as office space, accounting and auditing, and travel to attend meetings and appropriate conferences. Also, the ANHSC obtained an ANILCA Title VIII grant from the Bureau of Indian Affairs, processed through RurAL CAP. This grant assisted the ANHSC to work on the development of a co-management agreement with NMFS for the conservation and management of harbor seals.

For FFY 98, the congressional appropriation through NMFS continued for an additional $97,600. Objectives of the grant for FFY 98 included support for general operations and administration; development of a co-management agreement with NMFS; contractual support for a biologist; public outreach and education; review of subsistence harvest data; a dietary study in southeast Alaska; and attendance at meetings related to subsistence and marine mammals. It is anticipated that a similar grant will be awarded for FY 99.

Regarding non-Trustee Council funding for the biosampling program, several potential sources were being investigated as of September 1998. These included the ADF&G Division of Wildlife Conservation, the US Environmental Protection Agency, the US Minerals Management Service, the US Bureau of Indian Affairs, the Administration for Native Americans, and NMFS. One of the best possibilities for the long term was for the biosampling function to be funded as part of a co-management agreement between the ANHSC and NMFS. Because the co-management agreement was still in the negotiation stage when this final report was prepared, it was too soon to evaluate this possibility.

DISCUSSION

Hunter Recommendations

Over the course of the five years of this project, a number of recommendations were developed, primarily through the workshops that involved seal hunters and other subsistence users, biologists, and other agency personnel. The first hunter/scientist workshop in Anchorage in December 1994 identified the need for several major initiatives, included a biosampling program that involves hunters, better and more frequent exchange of information between scientists and hunters, the use of traditional knowledge in understanding seal populations and treads, and the need for a formal organization which facilitates the involvement of subsistence users in harbor seal research and management. Through the remainder of this project, substantial action was taken on these recommendations, including:

- The formation of the Alaska Native Harbor Seal Commission, with representation from each region with subsistence uses of harbor seals, which was a full partner with ADF&G in this restoration project and became the primary forum for communication

between subsistence hunters, scientists, and agencies in the efforts to restore the harbor seal population.

- Regular workshops featuring exchange of information between scientists and hunters took place, including workshops sponsored by the ANHSC and by the EVOS Trustee Council directly.
- A traditional knowledge database (Whiskers!) was developed, demonstrated, and distributed. Scientists have become more open to a dialogue which includes traditional and local knowledge, and there is a growing willingness to share this information on the part of many hunters. Evidence includes support for the Whiskers! database, substantial information provided at workshops, and the Alutiiq Pride video.
- A successful biosampling program was launched with substantial and growing involvement of hunters from communities in three subregions. These samples played a key role in several restoration projects.

At the Girdwood workshop in September 1996, participants developed the following recommendations, which supported and built upon the earlier initiatives:

1. Continue the biosampling program and facilitate communication with other areas of the state that are participating in the project. Ensure that biosampling programs are community-based.
2. Continue working towards drafting a co-management agreement with NMFS using ANILCA grant funds.
3. Support the harvest assessment program conducted by the ADF&G Division of Subsistence and funded by NMFS.
4. Develop funding for ANHSC functions through a congressional appropriation which would be channeled through NMFS.
5. Recommend subsistence users from southeast and south-central Alaska to sit on the Alaska Region Scientific Review Group, which provides advise to NMFS on marine mammal management.

There was positive follow-up on all these recommendations. The biosampling program continued with expanded participation, support, and understanding. Hunters in all communities which use harbor seals continued to provide harvest and struck and lost data through the ADF&G/NMFS harvest monitoring study. The ANHSC developed funding independent of the Trustee Council and continued to develop a co-management plan. Subsistence hunters participated in the Alaska Region Scientific Review Group.

Quality of Samples and Data Collected

For many seal researchers, sample quality is dependent on the time elapsed between the seals' death, tissue collection, and freezing of collected samples. The vast majority of samples processed from the project's three years were carefully and effectively collected, labeled, and frozen within a few hours of their collection from freshly harvested animals. For example, Maggie Castellini and Brian Fadely reported to Wynne (personal communication) that blubber

samples received from these biosampled seals were of exceptional quality and were critical components of their research on harbor seal health, including EVOS Restoration Project 95117.

The majority of data forms submitted with seal samples contained complete harvest and measurement information and were meticulously recorded. Because after the first year of the project (the pilot phase) the weight of some sampled seals was either not measured (lack of scales) or appeared disproportionate with size, Wynne and Vanek focused subsequent training on accurate weighing techniques using reliable scales. The completeness and accuracy of data collected on these forms attest to the technical attentiveness of the samplers as well as the effectiveness of the training sessions and materials.

As noted earlier, most samples were provided by hunters from Prince William Sound. As the program continues under 99245, it will be desirable to even out the geographical distribution of samples with more representation from lower Cook Inlet and Kodiak. This will most likely be accomplished through continuing written communications, informational workshops, and "refresher" biosampling training sessions.

Sample Analysis, Tracking, and Reporting

Seal samples were sent frozen from remote communities to Kodiak or Anchorage for intermediate sorting, assignment of individual specimen (AF) numbers, and subsequent reshipment to various researchers. All but the DNA samples, stomach, and reproductive tracts were ultimately shipped to the UAF Museum where they were archived and/or made available to a variety of Fairbanks-based UAF and ADFG researchers. Table 7 lists the researchers that received tissues collected from the harbor seals sampled under the three years of the biosampling program.

Table 7. Distribution of Subsistence Harbor Seal Samples Collected under EVOS Restoration Project 96244, 97244, & 98244 (as of 9/30/98)

Tissue	# Samples	Contact	Disposition, status, and analysis
Stomachs	112	L. Jemison, ADF&G	Sent to UBC for prey identification
Teeth	97	R. Small, ADF&G	Extracted at UAF Museum; age & growth history to be determined by NMFS in 1998
Whiskers	117	D. Schell, UAF	Used in stable isotopes analyses (EVOS # 97170)
Brain and collagen[1]	97	A. Hirons, UAF	Used in stable isotopes analyses (EVOS # 97170)
Blubber	104	M. Castellini, UAF	Blubber composition studies completed and continuing (EVOS Proj. 95117)
		K. Frost, ADF&G	Sent to Dalhousie University for fatty acid analysis (EVOS Proj. 95064)
Skin/muscle	118	R. Westlake, NMFS	Sent to NMFS La Jolla for genetic analysis
Reproductive tracts	24	K. Pitcher, ADF&G	Stored for future reproductive analysis
Skulls	97	L. Quakenbush, UAF	UAF Museum staff is cleaning skulls for archive and morphometric examination
Archived tissue heart liver kidney blubber skeletal muscle	106	A. Runck, UAF	Tissues subsampled and archived in -70C freezer at UAF Museum; available for future contaminant analyses.

[1] Collagen from ligaments or tendons; also using muscle, blubber, skin, heart, liver, and kidney

As of September 1998, analyses of subsamples from these seals had been initiated or completed by researchers studying blubber composition (Fadely et al. 1996), fatty acid composition (K. Frost, Restoration Project 96064), mitochondrial DNA (Westlake and O'Corry-Crowe 1996), and stable isotopes in whiskers (D. Schell and A. Hirons, Restoration Project 96170). Teeth and female reproductive tracts collected from these seals were archived but not yet analyzed by ADFG researchers. Organ tissues and other samples were archived by the University of Alaska Fairbanks Museum for subsequent analyses.

As noted in project proposal (detailed project description) for FFY 98, through the first two years of the biosampling program there was no mechanism for tracking the ultimate distribution and results of analyses on tissues collected from individual animals. Therefore, it was difficult to determine whether analyses were pending, in-progress, or complete at any given time and make timely reports to program participants. To remedy this situation, project personnel in 1998 began working with researchers to develop a "sample tracking form" and semi-annual reporting system to allow standardized reporting of sample distribution and analytical results. These initiatives will continue under Project 99245. Ideally, any researcher utilizing tissues collected in this program and statewide will be required to report the status of their analyses on a semi-annual basis. In the future, sample distribution and referenced results reported by researchers will be compiled into a semiannual newsletter to hunters and samplers participating in this program, reported to National Marine Fisheries Service to meet their federal reporting requirements, and submitted with EVOS Restoration Project reports.

Presentation by Iris O'Brien given at the 1997 Exxon Valdez Oil Spill Trustee Council Restoration Workshop in Anchorage on January 23 -25, 1997

Hello. My name is Iris O'Brien. I am the Youth Area Watch representative from Cordova. I have been actively involved in the Biosampling project since Cordova has had the pleasure of getting one organized. Thanks to Monica Riedel's hard work and Mel Henning's strong interest in science and youth. Also, the people behind the scenes who took an interest in the seal biosampling became I know that the 1989 Oil Spill took a toll on the seals' health and population. Being a Native to my land, I felt that it was a matter of obligation to contribute to the restoration of the seal in any way I can.

I'd like to take a moment now to share with you a little of the procedure taken. After we have our designated catch, we bring the seals to town to take various samples: the liver, heart, blubber, kidney, and the head. After the data is recorded certain organs of the seal are taken home for dinner, such as the heart, liver, cleaned intestines, etc. The pelt of the seal is skinned and the non edible body parts of disposed of properly. Seal pelt are highly praised for their beauty and durability. They are often made into luxurious items by an indigenous person. I think that the layout of this program is beneficial to both hunters and scientists. From either view, it is a win win situation. The hunter can hunt for subsistence use such as food and clothing along with getting a better understanding of the seal's anatomy and chemistry that the scientists get from testing and studying the samples the hunters collect. This is a way the traditions of our people can be passed on from one generation to the next and personally, I value the subsistence way of life.

I would like to thank everyone involved with the youth Area Watch Project and just say that I look forward to participating in upcoming events.

Community Involvement, Training, and Stewardship

Community involvement was a major goal of the project. Over the five years of the project, the ANHSC encouraged this goal to develop a particular focus on youth, which was appropriate given that they are the future hunters, subsistence users, scientists, and leaders for their communities. An example of the successes of the project in involving youth is the accompanying insert from one of the youth area watch participants. Future development of this initiative should involve youth in more phases of the research effort beyond sample collection. Towards this end, the Youth Area Watch curriculum should be expanded to include opportunities for students to use some of the data (such as lengths, weights, sex, season of harvest and age) to learn more about data analysis methods. This is an objective of the continuation of these initiatives under project 99245.

The development of the ANHSC itself was is an important accomplishment of the objectives of this project in community involvement. The ANHSC sponsored biosampling training sessions and added important topics related to Alaska Native traditions and values and traditional knowledge to the instruction on scientific sampling methods. It also provided a forum for the exchange of information, enhancing the voice of subsistence hunters and users of harbor seals. In addition to addressing restoration goals, this was an important step towards effective Alaska Native participation in co-management.

CONCLUSIONS

Program Involvement and Integration

The harbor seal biosampling program proved to be viable largely because it involved a powerful partnership between a diverse and dispersed group of people seeking answers to common questions about the health of the seal population. Involvement of the ANHSC in the biosampling effort was essential in locating interested samplers and maintaining the momentum of sampling effort at the community level. The cooperative involvement of Youth Area Watch students in the program allowed them to gain cultural and subsistence knowledge of seals from hunters while gaining a first-hand introduction to scientific methodologies and co-management efforts. The UAF Museum provided a critical link in the sampling process as an archive and final distributor of samples. UAF and ADFG collaborated to design standardized means of collecting and recording data which enhance the program's utility statewide.

It is important, now that the program is functional and the volume of samples is rising, to improve 1) coordination of the sample database, 2) tracking of sample distribution, 3) compilation of analytical results from researchers using the samples, and 4) reporting of findings to the communities and resource users involved. It should be noted that in FY 96 and early FY 97, hunters were still getting used to the idea of integrating biosampling as part of their hunting activities. There needs to be improved communications on at least a bi-monthly basis to remind hunters to coordinate their activities with the biosamplers, including those associated with the Youth Area Watch. Posters, manuals, and brochures need to remain accessible.

Also, the ANHSC has stressed that the concept of stewardship needs to be encouraged, or at least reinforced, in the communities, especially among the youth, so that the sampling and

other research efforts become long range goals. The concept of preserving traditions and values needs to be emphasized in the processing of the meat, pelts, and oil as well as in the biosampling efforts.

General Conclusions

In conclusion, during the fourth and fifth years of this five-year project, notable steps were taken to accomplish the project goals. These included:

- Additional biological samples of subsistence-taken harbor seals were collected, the program expanded to new communities and samples were provided to researchers.
- Communication between subsistence users and hunters of harbor seals was enhanced through two major workshops and written summaries.
- New data on subsistence harvests of harbor seals and traditional ecological knowledge were shared through workshops and the demonstration of the "Whiskers!" database.
- An effective voice for subsistence users of harbor seals, the Alaska Native Harbor Seal Commission, formed following workshops organized during the first phase of this project and adopted goals and objectives consistent with the recommendations of those workshops. The ANHSC expanded its role in harbor seal restoration during the last two years of this project.
- Youth Area Watch participants became more involved in the biosampling program.

The efforts initiated during this project will continue in FFY99 as Restoration Project 99245. The primary features of that project will include the continuation of the biosampling program and communication of information and information exchange through newsletters, biosampling training, workshops, and other meetings. It is hoped that the growing commitment on the part of hunters and youth to resource stewardship, as well as the growing openness on the part of scientists towards the full involvement of subsistence users in research and management, will continue to contribute to the restoration and conservation of Alaska's harbor seal population.

ACKNOWLEDGMENTS

First of all, the important contributions of all of the participants in the biosampling program need to be gratefully acknowledged. Mel Henning, Joshua Hall and Jennifer Childress of the Youth Area Watch Program were especially supportive. We also thank the many people who participated in the Harbor Seal Commission workshops. Craig Mishler of the ADF&G Division of Subsistence was the person most responsible for the development of the Whisker! Database. The authors also acknowledge the contributions from other Division of Subsistence staff members, including Rita Miraglia, Lisa Scarbrough, Bill Simeone, and Ron Stanek, and former staff member Jody Seitz. Charles Utermohle of the Division's data management section developed the seal take location database. ADF&G cartographer Carol Barnhill produced the maps which appear in Fall et al. 1997. We also acknowledge the important contributions of Gordon Jarrell, Steve Louis, and Amy Runck at the UAF Museum,.

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SEAL and SEA LION Harvest Data Form

Office Use Only

Sps | Date | # | Vill. | AF Number

Latitude ☐☐°☐☐.☐' Initials _____

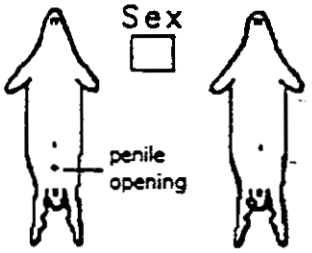
Longitude ☐☐☐°☐☐.☐' Date _____

SAMPLING INFORMATION

Village | Date Sampled (month day year) | Sampler's Name

Species | Sample # (shot (today)) | Location of harvest

Sex ☐



Male (M) Female (F)

If it is a female:

Was she pregnant? ☐

lactating? ☐

Was the fetus collected? ☐ Y or N

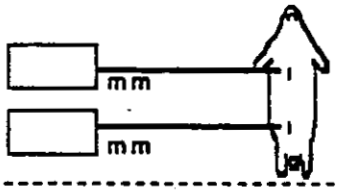
sex of fetus ☐ M or F

Was a tag or brand present? ☐ Y or N

If Yes, please describe it

BODY MEASUREMENTS

Blubber thickness (in millimeters)



☐ mm

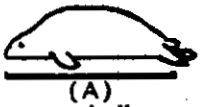
☐ mm

Weight : ☐ pounds

Seal was weighed ☐ before ☐ after it was bled

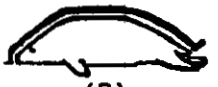
* Measure these in centimeters ! *

Standard Length: seal on belly (A) ☐ cm



(A) on belly

Curvilinear Length: seal on belly (B) ☐ cm



(B) on belly

Axillary Girth around seal at armpit (C) ☐ cm

(C) Axillary girth

COAT COLOR on back was mostly :

A Light

B Medium

C Dark

(circle one)

SAMPLES

What samples did you collect ?

- ☐ whole head
- ☐ whiskers
- ☐ skin
- ☐ blubber (in teflon)
- ☐ blubber
- ☐ muscle
- ☐ kidney tissue
- ☐ heart tissue
- ☐ liver tissue
- ☐ female repro tract
- ☐ stomach
- ☐ other_____

Approximately what time did you kill the seal ? ☐ ☐ am ☐ pm

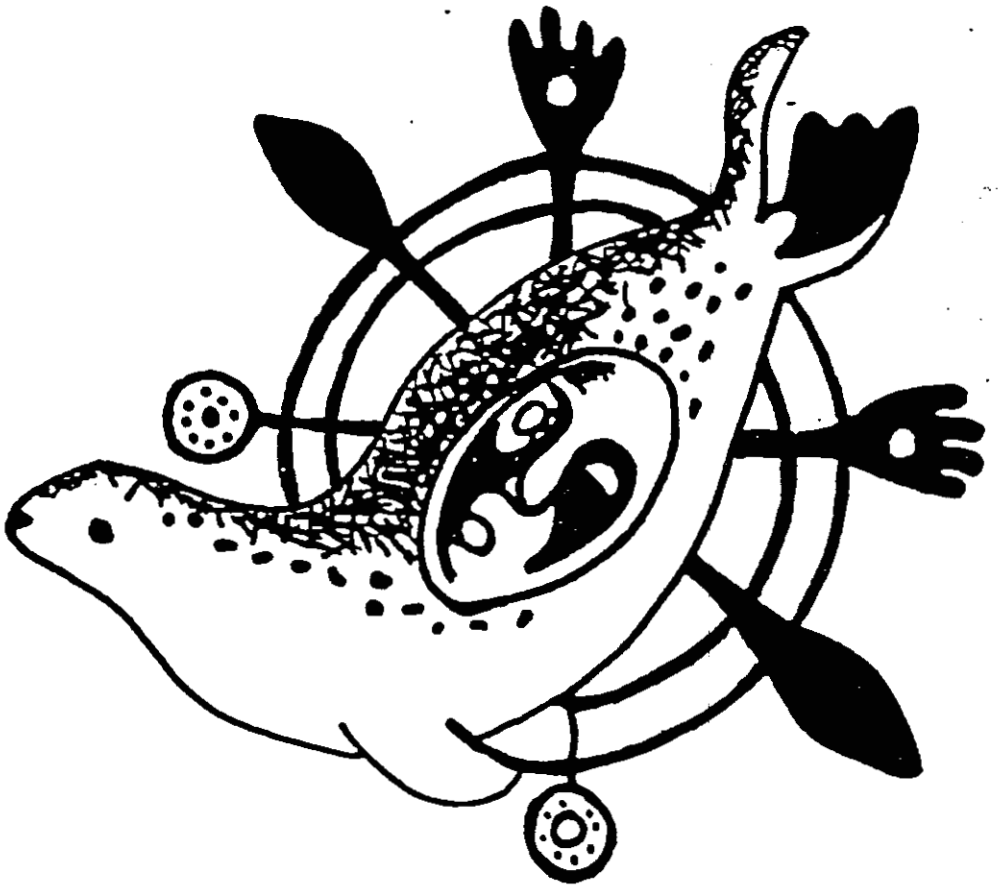
What time were these samples

collected ☐ ☐ am ☐ pm

frozen ☐ ☐ am ☐ pm

APPENDIX B

ALASKA NATIVE



HARBOR SEAL COMMISSION

March 6-8, 1997
Meeting held in Cordova
Summary

Cordova Times

Prince William Sound's oldest newspaper. Established in 1914.

ne 83 Number 2 | Thursday, March 13, 1997 | 75 cents

Jennifer Strange/Times photo

Cordova Ikumat Dancers performed at the marine mammal workshop last week in Cordova.

Sound's marine life explored at conference

By Chaz Landaluce
Times Staff

Scientists, subsistence users, and students from the Youth Area Watch joined a meeting of the harbor seal and Sea otter commissions March 6-7 in Cordova.

The workshop was organized by Cordovan Monica Riedel, Chair of the Alaska Native Harbor Seal Commission (ANHSC). The purpose of the meeting, according to Riedel, was to give update and inform people on the latest information about seals and sea otters in Prince William Sound.

Two scientists, Dr. Brenden Kelly, and Dr. Mike Castellini, of the University of Alaska Fairbanks talked about pre-spill and current harbor seal populations and what the blubber samples from the biosampling program are showing.

One of the main projects the ANHSC has undertaken is the instruction of scientific sampling to Prince William Sound hunters and students in the Youth Area Watch. Scientists believe that harbor seals in Prince William Sound are declining by about six percent every year. But, because the harvest of marine mammals is restricted to Alaska Natives, scientists have been hard-pressed to get samples of seal tissue for research. That makes the ANHSC's biosampling program all the more critical to studies of the harbor seal decline, according to information presented at the meeting.

ANHSC held a biosampling training session in Cordova in January attended 13 students and 5 hunters. Kodiak veterinarian Vicki Vanek instructed everyone about taking blubber, skin, muscle, and internal organ samples. Everyone was given a chance to take samples and learn the proper way to fill out the sample forms.

Youth Area Watch students had a variety of reasons for participating in the training sessions. According to Michelle Vlasoff of Tatitlek, harbor seals are part of her heritage, so she wants to help keep seals in Prince William Sound. She also hopes the training will help her achieve her career goals.

"I'm gonna do a lot of the sampling," said Vlasoff. "I'm hoping it'll help me to get a job. I want to be a veterinarian, so this is really important to me."

Jim McDaniel of Cordova sees the biosampling program as a way to pass on traditions and join in the effort to understand the harbor seal decline. "I really want to get my son

See Conference, page 5

ANGELA TOTEMOFF, Jennifer Strange/Times photo

From left: Molly Moore, Rene Totemoff and Michell Vlasoff of the Tatitlek Aiutiiq Dancers take a break from the conference. TOTEMOFF

Conference

From page 1

involved," said McDaniel. "He's 9 years old. This is just a good opportunity to teach him everything there is to know about it. And also let him know that it's important that we get involved in taking the harvest data to help out and track the seal for the Sound."

So far samples of more than 100 harbor seals from around the state have been sent to scientists researching the decline. Kate Wynne, of the SEA Grant program in Kodiak, has been involved in getting the program off the ground. According to Wynne, it's working. "The program's rolling now. It's taking off. We're real optimistic. The hunters are enthusiastic. The researchers are just ecstatic with the samples they're getting," she said.

"The marine mammal commissions meeting went very well, we had a lot of local participation," Riedel said. "There was a lot of participation among the youth who are trained biosamplers and also a lot of hunter interest individuals. All in all it was definetly a success and we're even talking about making it an annual event with the Alaska Native Harbor Seal Commission and the Alaska Sea Otter Commission."

Riedel said the subjects that were discussed included such things as the ticipate in the research. According to Riedel, the meeting was very informative, and all in everyone learned about some of the things they can do to aid in the restoration of harbor seals. By participating in this biosampling program and discussing the results, they are able to make better management decisions, Riedel said.

"I was really proud of the girls from Tatitlik that joined and all the kids that were trained from the Sound, including Cordova. I think getting people to the point were they can be fully aware of all the research that's happening and all the Native organizations, that's a step in the right direction," Riedel said. "Meaning that all of the Native community is given the opportunity to come in as equal parties to the decision-making process in terms of co-management of our resources."

Participants came from as far away as Bristol Bay, Southeast Alaska, the Gulf, Kodiak and the Aleutian Islands. According to Riedel, presenters came to Cordova from Nome, Anchorage, Fairbanks, Juneau and Sitka.

Opinion

A big thank you

The Alaska Native Harbor Seal Commission and the Alaska Sea Otter Commission would like to express appreciation to all the kind people who contributed their time and donations to the Marine Mammal Workshop March 6-8. Special thanks to the clean up crew Glen Ujoika, Laura Johnson, Darrell Olson, Altana Olson, Joe and Belen Cook, Stan and Helen Makarka, and Zak Donaldson. A giant thank you to Liz Hunt who organized the potlatch. A special thanks to Russell Allen, Sylvia and George Allen, and Barbara and Gilbert Olseon for the traditional foods. Thank you Darlene Anderson, Mary Babic, Vera Aller the Tatitlek Dancers and the Cordova Ikumat Dancers! Thank you Bob Henrichs and the Native Village of Eyak for allowing the us of the Masonic Hall. Thank you Margy for your hospitality.

Thanks to all the local hunters and elders who participated in the discussions over the three days. Without your input and perspectiv this meeting would not have been possible.

Cordova sure knows how to pu our best foot forward for all of our guests. Everyone had a very good time.

The video "Alutiiq Pride: A Subsistence Story" was very well received and I personally was prou of the film and all the Tatitlek residents who starred in it. Thank you Cordova High School for use of your projector and thank you PWS Community College for use of you overhead slide projector.

Monica Riec
ANHSC, chi

MARINE MAMMAL WORKSHOP MARCH 6-8,1997 HELD IN CORDOVA, ALASKA

Thursday March 6, 1997

Opening Prayer was given by Don Kompkoff of Chenega Bay. Welcome address was given by Bob Henrich, President of the Native Village of Eyak, Opening Statement by Monica Riedel, Chair of the Alaska Native Harbor Seal Commission (ANHSC).

The meeting was called to order by M. Riedel, Roll Call was taken, and a quorum was established. Introductions were then made around the room.

A motion to approve the agenda to be used as a guideline was made by Flore Lekanof and seconded by Mitch Simeonoff. Motion Passed Unanimously.

M. Riedel welcomed the group and thanked the following people: "*EVOS* Trustee Council and ADF&G Subsistence Division acting as Lead Agency for Funding the meeting. The Alaska Sea Otter Commission for jointly funding and coordinating the meeting. The Native village of Eyak for the support and use of the building. Mary Babic, Vera Allen and the Tatitlek Girls and all those who helped with the dance group. Nena Totemoff and Ethel Fox for support in the kitchen. Especially Liz Hunt who took on coordinating the Potlatch.

Ms Riedel then gave an outline of some topics to be discussed at the meeting:

- Cultural Revitalization
- Restoration of Harbor Seals as a Subsistence Resource
- Stewardship
- Comanagement

Recognizing our Cultural Revitalization, we are proud to be Native, proud of our long history of living in balance with our respective environments, proud of our ability to conserve our resources to maintain our way of life, Now we must utilize our compiled generations of knowledge to secure the future of our children.

The harbor seal has been on a continuous decline since the early 70's. The *Exxon Valdez Oil Spill* was a cause of further injury and the seals have not recovered and have continued to decline in Prince William Sound. The Native Communities have been involved in the *EVOS* Process for the past 2 years largely due to the efforts of Martha Vlasoff and the Community Involvement Project and the Subsistence Division of the Alaska Dept. of Fish & Game who was responsible for bringing us together in Dec. '94 and March '95. Our main goal was to bring the hunters together with the scientists to work on the restoration of the Harbor Seal and Sea Otter. After we organized, the ANHSC decided to enter into a cooperative agreement with ADF&G Subs. Div. for the Community-Based Harbor Seal Management and Biological Sampling Project.

The purpose of the project was to help find out more about the seals and why they were declining in the Gulf.

To date, we have collected over 100 samples. Some are still being processed and analyzed. Mike Castellini will address some of the results later.

Under the concept of Stewardship, I would like to quote from Dr. Kai Lee's talk at his keynote address for the Trustee Council Restoration Workshop held in Anchorage on Jan 23-26, 1997 in Anchorage. "Your work deals with two kinds of communities-ecological and human. You engage with human communities mainly through archeology and public participation. I suggest that that isn't enough. (The trustee council's logo, like the research most of you do, focuses only on the *non*-human elements of the ecosystem.) A striking feature of the trustee council's work is that the large stream of resources it administers will mostly come to an end, for practical purposes, in the foreseeable future. But the burden of responsibility will not end. Rather, stewardship will return to the humans of Prince William Sound--the folks who did that job, largely unassisted, until March 24, 1989."

I believe the best way for the Native Community to strengthen our stewardship responsibility is through Comanagement. I would like to share a definition of comangement from the Draft Umbrella Agreement presented to The Indigenous People's Council for Marine Mammals by Larry Merculieff:

"Co-Management. A process of shared decision-making, authority, and action by and between the federal agency of jurisdiction and an Alaskan Native Tribe or Alaska Native Organization involving such elements as management, regulation, research, enforcement, traditional ways of knowing, use of marine mammals taken for subsistence purposes, and the designation and regulation of marine mammal habitat. Such authority and decision-making are shared at the outset of, and throughout, and significant deliberations which result, or may result in, action(s) on one or more of these elements."

I would like to relay what I have heard at the Subsistence Round Table held in Anchorage on Feb. 23-25 and at the Comanagement Seminar held on March 4 in Anchorage: There must be a government to government relationship when entering into a comanagement agreements. It may be with Tribes or Tribally Authorized Alaska Native Organizations.

Finally, Lets celebrate our culture today while entering into a productive dialog. Thank You"

Harold Martin: Vice-Chair, ANHSC and President , Southeast Native Subsistence Commission

The Vice-Chair gave a presentation on the organization and list of accomplishments since our formation. He stated that his Tribe is Tlingit, his moiety is Raven, and he was born in Kake. He was a founder of the Alaska Sea Otter Commission, Alaska Native Harbor Seal Commission, and the Southeast Native Subsistence Commission.

He was at the Workshop in March 1995 to organize the ANHSC. One of the Main factors for organizing was the concern of the decline of harbor seals in the Gulf. One of the main concerns being that the oil spill impacted the decline further and there needed to be monitoring and studies. Traditionally Natives through out the coastal areas were dependent on seals for food and traditional arts and craft of the pelts and our Spiritual and Cultural Well-being from time immemorial.

Factors of organizing the ANHSC included: first and foremost the protection of Native use of harbors seals as a subsistence resource, to encourage and implement self regulation of harbor seal use, to provide evaluation or education or information to the public, to promote participation and involvement in the planning of the research, to monitor the population of seals, and to participate in the exchange of information with other marine mammal organizations and groups.

The geographic make-up of membership includes six regions: Southeast, Chugach, Cook Inlet, Kodiak, Aleutians, and Bristol Bay.

Polly Wheeler was very instrumental in the organization as the chair of that March 95 meeting. Gary Kompkoff, Patrick Norman, Helmer Olsen, Flore Lekanof, Monica Riedel, Jim Fall, Carl Hild, Carol Torsen, Eric Smith and many others were there to organize.

Current board members are: Monica Riedel, Chair and Executive Director, Alfred Quijance, Secretary Treasurer, myself Vice Chair, Flore Lekanof, Commissioner, and Mitch Simeonoff, Commissioner.

Since its inception the Commission has made many accomplishments: Adopted by-laws, became voting members of IPCoMM and Rural Alaska Resources Association, received 501(c)3 non-profit status, funded thought NMFS with Congressional Appropriations, funded for Biosampling through EVOS, Participated with IPCoMM in the negotiations of the Comanagement Umbrella Agreement with NMFS and USFWS.

In conclusion, I would like to commend our Chair, Monica Riedel for doing an outstanding job on achieving these accomplishments. She has a way of getting people to help her.

Ms. Riedel then read a brief message from **Gary Kompkoff** of Tatitlek " He sends his support for the Commission, he feels that there is very good hunter participation, and he is very happy to see that the youth are involved with this process and he commends us for our work."

Jerry O'Brien also called with a message to the group " he is scheduled to go into surgery and couldn't be here but he supports our work and he wants to see more kids involved."

Brendan Kelly, University of Alaska
Scientific Data on Harbor Seals Pre-spill and Post-spill

The message: the scientific data on harbor seals has been very scattered in time, the effort has been pulsed where there is a lot of activity and then lax. The ANHSC is in an excellent position to enter into a comanagement agreement with the NMFS and can try to focus on the continuity of the research. Some estimates of harvest since the 1920's has been about 7,500/yr. In the 1950's it went up to 12,000/yr. due to the predator control efforts. We didn't know what the population was then. Then the take went up in the 1960's to 50,000/year. 1972: the Marine Mammal Protection Act was passed. Since then the take is estimated at 2,800/ yr. In the 1970's the population trend went way down. The estimate of population was 270,000. Coming up to year 2000, clearly there needs to be a continued subsistence take, but there are concerns particularly in the Gulf. The trend isn't the same in all parts of the state. In SE, the population is stable and increasing. Kodiak has shown a slight increase of about 10-12% /yr. but has had an 80% decrease since the early 70's. In PWS a decrease was recorded of about 65% between '84 and '94. However in '95 and '96 there has been an 16% increase. In Bristol Bay the trends are showing a slight decline. The Aleutian Chain is showing fewer seals as well.

What's causing this decline? Science doesn't have all the answers. There may be many factors contributing to the decline: Predation, Pollution, Commercial Fishing, Natural changes in the environment, harvesting. There are just too many unknowns.

Some of the efforts in population research now are: NMFS has been attempting census flights with aerial surveys. However you don't get to count how many are in the water. NMFS are also attempting to determine stock assessments. There is a lot of debate on boundaries of stocks and what the stocks may be. Subsistence Division of ADF&G has been working with the ANHSC on the Biosampling Program. This is important for diet and reproduction information for monitoring trends. Subsistence Div. is also doing a harvest data program over the entire range of harbor seals. Wildlife Div. ADF&G is doing work in about 20% of PWS flying aerial surveys in a series of sites since 1980's and after the spill. They are also putting satellite tags to find out feeding information and to help to determine stock inf. Fatty Acids are being studied to determine food species they are consuming.

Another effort by John Burns and Ann Hoover-Miller is to study those seals in the glacial areas of over 50% of the Sound. Haul outs are being used by seals in glacial as well as terrestrial areas.

ANHSC in cooperation with Pacific Rim Research is attempting to conduct winter surveys with hunters to show seasonal distribution of seals throughout the Sound.
I hope that project will be successful because we don't have that point of view and it will put the ANHSC in the comanagement realm.

Mike Castellini will talk about the blubber samples and food stresses. Lori Jemison and I have been working on Tugidak Is. As many as 20,000 harbor seals have used the Island for haul-out purposes. There are high bluffs from which to count and observe. Its very important to give a historical perspective from there. Ken Pritcher gave the scientific community the insight of the

decline. There about 1,000 seals there in the early 90's. What part of the population has been declining there? Are there fewer pups? This may suggest reproductive problems. Are there fewer older animals? How about juveniles? Maybe food that is important to younger animals are declining. During the molting period there have been fewer animals. However, the last couple years there have been an increase. The animals that are there in August are not all there in June. Some of the difference in numbers may be attributable to behavior. There are more juveniles on the beach than there were in the 70's. Pupping is starting in mid May and pretty much over in June. This suggest to us that food is limiting.

Mike Castellini and Brian Fadely, University of Alaska

Mike started out by saying that he wanted to emphasized the uniqueness of this meeting and how there is no other place in the United States where marine mammals is a food issue. You could not have this meeting in California or Florida. This is a critical thing to review.

Current issues regarding the blubber in seals and sea lions. Blubber is extremely important and we could not do our studies without the ANHSC's efforts. We look at the quality of those samples. We are concerned with: Are the seals healthy or not? We look at how the quality of the blubber changes over time.

We have approached the Alaska Sea Grant Program, The EPA and the National Science Foundation with proposals to help find out the chemistry of fat to find out the different types of fat and the importance of fat to you as a food item. Potential contaminants such as zinc and cooper for potential hazards. The sound animals are showing a chronic inflammatory condition compared with those found outside the Sound. We don't know what is causing this response among seals and sea lions.

New directions that we are pursing are: marine mammals as a food source in relation to human health. The vitamin level, the cholesterol level in terms of diabetes. At the Seaward SeaLife Center we will also be looking for antioxidants. Our own research direction will be the role the of marine mammals in diet and nutrition and vitamins in relation to human health. I am the science director at the SeaLife Center. We will be able to go through time with the captured animals at the center. We would like to discuss with you the concept of medical aspect of marine mammals as food items. It is relatively new to us but it is a subject that the National Institute of Health has started to believe and it is an effort important enough to start putting some money towards it.

Brian Fadely, University of Alaska
Analysis of blubber samples

We are looking at the various questions that Brendan talked about regarding survival, diet condition, growth rate. How much fat does a harbor seal have, and what quality is it? Before the biosampling project started we didn't have that data. We can now compare the data to the other regions. The composition of the fat is measured. We find out how much water is in it and we find out how many calories is in it.

An average ounce of blubber has 9 grams of fat in it and a little bit of protein to hold it together. We found that fall seals have a different composition of fat than spring seals. The body fat of males has a higher energy level than females. Seals from PWS had a greater energy content than the blubber of seals from South East Alaska. Samples collected in '95 and '96 showed only a 4% difference in energy content. Quantity in blubber content showed that the SE has thicker blubber all around than the PWS seals.

The size of seal for given length body mass compared to length shows a slight difference but biologically there is no difference at all. In the 70's Ken Pritcher collected samples around the state from which we can compare differences. Essentially there is no difference compared to the 14 samples collected in PWS in 1995. These are the types of comparances we can make because of the biosampling program.

Gilbert Olsen asked if they know why there is a difference in the blubber thickness in SE compared to PWS. Brian said that it was unknown. **Dolly Garza** said that it was because they ate good Canadian Fish. **Jack Hopkins** asked about the Copper River seals, but Brian Said that they had no samples from the Copper River. Ms Riedel put out a request for hunters to bring in samples from the Copper River if they can.

Lillian Elvsaas, Seldovia Interviewer for ADF&G Harvest Assessment Data Program

"I have really enjoyed doing the research and explained it to the elders that the program will benefit the villagers to get accurate counts. Information helps the scientists understand our way of living and there's a better working relationship between the people and the scientists. I also learned different ways of harvesting and cooking seal and seal lions. You would be surprised how many people enjoy eating seal and seal liver. I have enjoyed doing this program."

Bud Janson, Cordova Interviewer

I've lived in Cordova for 39 years. Bill Simeon asked me to do the surveys in 1995. In January, people were more willing to give the information. Most people in the Native Community didn't understand that they could still traditionally use sea lion. I really enjoyed the project. I'd like to see it go on. I 'd like urge all the Marine Mammal Commissions to strongly take into consideration traditional knowledge when making their management plans. It is the local people who know where the seals reside, what they eat, if they migrate especially sea lions. I have seen a large increase in harbor seals close to town and I attribute it to herring. Last week I saw 20 seals where before I would only see 2 or 3. There are more sea lions on buoys. We also have a remote release of silvers close to town and that has caused the seals to move in. I also saw a pod of killer whales hunting the seals and saw how high they can jump out of the water when there motivated. Thank You.

Matt Kookesh, Angoon, South East Alaska

Currently I went to 17 communities to introduce the biosampling and harvest assessment. I hired as many people to bring in samples in Yakutat, Sitka, and Angoon.

I trained about 20 hunters. I was really pleased with everyone involved and how they feel its important. I realized that when you go to a community, and start asking questions it is an intellectual property right.

The situation of the Gulf of Alaska. I couldn't imaging the NMFS designating the Gulf stock as strategic. It is a concern that the local people have volunteered the harvest data. I believe that if the stock is going to be listed as strategic it should come from the communities and I would like to be part of that decision making process and not have someone else make it for us. What happens after? Where will our trust responsibility be after that determination? The position that we are put in as native leaders is a concern. Its like an apocalypse balance. I want to thank Monica for including the hunters and interviewers It makes me feel good and it is a step towards comangement. During the oil spill Angoon sent some seal up to some of the communities for subsistence. This year we are getting 90 samples, 30 from each community.

Monica reported that we are getting 10 samples from each of 9 communities in Kodiak, Lower Cook Inlet and PWS.

A question by **Gilbert Olsen** asked where is the dividing line between the sampling of Yakutat and PWS in terms of the different consistency of the blubber samples? Matt said that he would put Yakutat seals with PWS seals. **Ted Cloudman** said that they were hunting on Softuk and they shot a seal that was tagged in Yakutat and it tasted good.

Harold Martin reiterated that the collection of valuable information is a concern. He talked about some people attempting to commercialize the knowledge and he mentioned that his people always have known the medicinal value of forest products and his people have never tried to turn it into commercial knowledge. The Southeast Native Sub. Community has adopted a code of ethics so that the cultural knowledge can be protected.

John Boone, Valdez Native Tribe Biosampler for ANHSC and ASOC
I have a fur business so as a byproduct I have been trained to do the biosampling for both the harbor seals and sea otter. I include my 2 children during the sampling. I teach in the school and have had good responses from the kids. I get to explain the traditional uses of the skins, fat and meat. It been a great benefit to the schools to have this kind of training during their cultural week.

Iris O'Brien and Jessica Hopkins, Youth Area Watch Participants

Iris gave a report on her involvement with the biosampling project as a youth area watch project representative. Her report is attached. She will go to college to study marine biology and will go on to become a vetinarian.

Jessica Hopkins gave a detailed report on the sampling some of the graphs were provided by Kate Wynne. She did a report for her science class last year on the decline. She will go to college to study law. Her and Iris are going into an exchange program next year. Jessica will go to Venezuela and Iris is going to Finland.

Molly Moore from Tatitlek gave a brief report on her activities on the biosampling over there. So far they have done 5 seals. Every week someone brings in a seal and they have to hop out of bed to do the seal She is going into education in college.

Patricia Cochran, Alaska Native Science Commission

First of all, it makes me feel so wonderful to see the kids involved because the only way we will get over the top is to teach our own kids our values. I am originally from Nome and my folks are from King Island and Whales. I was a planner for New Chenega and have been in this area many years ago.

The Native Communities wanted to take some responsibility and control for our own lives and direction that research takes. The AFN passed a resolution to support and form the ANSC. We provide research ethics and guidelines for scientists and communities. One of our efforts is to have a place where scientists have to go to register.

I was taught to always do three things before talking about our people and they are:
Acknowledge and give thanks to our creator, thank our elders and thank our ancestors.

I would like to read part of a paper presented at The Indigenous People's Seminar that was held last week in Anchorage on Traditional Knowledge: "There are many who wonder weather this quest for traditional. knowledge may have more to do with political expediency than a genuine acknowledgment of the value of indigenous value systems as they relate to the land. Equally problematic is the fact that our indigenous ecological knowledge is too often taken out of context, misinterpreted, or misused. What wildlife managers biologist and bureaucrats understand or think they see is interpreted within their own knowledge and value systems not ours. In the process our special ways on knowing and doing things are crushed by scientific knowledge and the state management models. What many researchers fail to appreciate is that our Traditional Knowledge exists in a larger context or a frame of reference that is very different from theirs. Inuit also possess knowledge that is not traditional and that is not connected to the environment. It is important to recognize that all aspects of our knowledge, traditional and nontraditional, ecological and non ecological form a unique system of knowledge that we use to interpret the world around us as it has been for thousands of years and as it changes. It's important to realize the inherent difficulty in sharing this knowledge... For many Inuit experience is knowledge and knowledge is experience thus knowledge has to be contracted for each individual and its not easily shared among individuals unless there's a common understanding and appreciation about their experience. That why it is difficult for Inuit to share what traditional knowledge is and that's why it is doubly hard for non-Inuit to understand and to appreciate how inuit traditional knowledge can be used in comangement. I'm going to talk about the experience that I've had over the past 2 years working with the ANSC. I have traveled to many communities.

The first thing that I've learned is that the village has the right to say no. They have a right to decide if they want to share their knowledge or not.

Secondly, there needs to be common trust. We are not there yet. Its getting closer but we still need to work on how to get to the point of sharing our knowledge.
When dealing with agencies: They ask how can we combine traditional knowledge with western science? Just as the our Native Community had to go through looking at western science and western training and their education system, its time for the western world to look at our ways of training and education from the Native Perspective. I call it "Native World View 101" it means that they have to look at what our community is built upon. Because if they don't get do that point, they will never get to a common understanding that middle ground where we are having a hard time reaching.

Native View -Understanding Man: You can't talk about the water, seals, people separately. All of it makes up who we are. You can't take a piece of it out of there. Everything is interconnected. We have to look at the spiritual, emotional, physical and mental components that make us whole.

The things that we have learned have been taught to us through centuries of our own learning systems. Our responsibility to our own tribes, these are values that are important to us. Try to stress the difference of our perspectives.

Structures and Characteristics: Most of our tribes are matrilineal. We trace our ancestry through female lines. Our systems are based upon female structure characteristics and not male characteristics. It makes for a different kind of learning and comes from a different point of view than the western way of thinking. I understand that this is hard for the people who have years of training for doctorates in the western system to understand, but its an essential and necessary component if we are ever going to get to the combining of traditional knowledge with western science. We need to have a common understanding first. We need to know the systems and how they are similar and how they are different. We need to be able to do things so that the scientists are not going to go out and say that they are developing proposals to send off to Science Foundations when they have not contacted one person in the village. We need to do things where the community has a say so in the research that is important to their community. Because the types of questions that we ask are different. That is a complimentary to the research. It's better for science and its better for the community.

In closing, I'd like to share this quote: "No one has a monopoly on knowledge a good teacher is one who's knowledge is stable enough to let the knowledge of another to continue to exit"

We need to respect each others knowledge and to use the knowledge that we have to make this a better world, better science, and better communities.

I will leave a couple of handouts for you. In search for Inuit Traditional Knowledge, from Canada and a handout from the ANSC. Canadians have been doing these agreements for many years. However, they are still working on building the trust and confidence component before going any further.

Gibert Olsen asked "has the ANSC had any luck in convincing the scientist to use traditional knowledge?"

Ms Cochran: We're getting there. One of the things we are working on right now which is funded through the National Science Foundation, is to put together a workshop next week in Anchorage to bring elders in to dices the issue of how to combine traditional knowledge with western science with council members and researchers. This body will put together a draft set of recommendations.

Harold Martin asked if there were any ANSC members here. Patricia stated that there are some steering committee members here: Caleb Pungowiyi and Charlie Johnson.

Jeff Peterson asked "at what level does the ANSC teach" Patricia stated that they are associated with the university but they are accessible to everyone.

Walter Meganack asked at what point is the ANSC at to help protect intellectual property rights? Patricia stated that they only have consent papers at this stage. Some communities are at different stages. Some villages said that they don't want to share their sensitive knowledge at all.

Jack Hopkins thanked Patricia for saying these things that are long overdue.

Harold Martin explained that in his area there had been instances where people have been offended by researchers and have stopped cooperating. He has had to go and intervene with the agencies and communities. He explained that the villages do have control over their knowledge.

Pauline Allen: Chugach Regional Resources Commission, Community Involvement Project

Pauline gave a brief report on the activities of the EVOS funded Community Involvement projects. She said that the science community is realizing the importance of traditional knowledge. In 1995, The EVOS restoration workshop's theme was Traditional Knowledge. As a result of communities speaking out, they funded a pilot project to incorporate traditional knowledge coordinated with the ADF&G Subsistence Division. Martha Vlasoff was instrumental in starting this project. To date, the project has changed more, with working on cooperative research, and coordinating research with villages, working with ADF&G on a TEK database. Two specialist have been hired: DR's Henry Huntington, and Pam Colorado. Please feel free to ask any questions. Thank you.

Community Reports: Commissioners, Biosamplers, and Hunters

Southeast Community Report,
Harold Martin yielded to Matt Kookesh to give the SE Report:

Matt stated that he was just appointed to the Alaska Region Scientific Review Group for the SE Region. Their 1st meeting is in May. His approach will be from the perspective of looking at marine mammals in an ecological balance which includes the seals for subsistence use for

hunters, and of coarse from the perspective of commercial fishing. We still have all your sea lions in SE. We have a very healthy seal population in SE. We have seal rocks where we never had them before. The guys are complaining about sea lions taking bait from the commercial trolling gear. A lot of the sea lions just play with the salmon and don't eat the whole fish. There must be a balance there somewhere.

Flore Lekanof, Aleutian Pribilofs Commissioner

As far as the harbor seal pop. out on the Aleutians they don't have accurate figures. One of our representatives from Adak said that he saw a lot of seals. I don't think there is a problem with seals out there. Mark Snigaroff from Atka who is involved in the biosampling, said there are a lot of seals out there. Akutan and Unalaska are also involved with the biosampling its good to see them getting involved. The Aleut People have documented traditional knowledge through Vineonmenoff in 1824. He did such a terrific job. The Aleuts could name each plant and know the different uses for each one whether you eat it or if it was used for medicinal purposes, or use it for poison, they could cure constipation. That's the type of traditional knowledge we have. We had good shamans and bad shamans. They could heal the sick.

On Steller Sea Lions; I am on the National Science Committee for Steller Sea Lions and we're have had a problem from Cape Suckling to the end of the chain for the past 10 years we have lost about 80% of the sea lions. The sea lions in SE are smaller in size than the western ones.

Mitch Simeonoff, Kodiak Commissioner

Our harbor seal sampling just got started this year. We have the project in Akhiok and Old Harbor. I took a kid that was trained with me, he was real enthusiastic about it. I heard stories from Tugidak. In the spring time they saw hundreds of seal pups dying on the beach. We did one sample in the village so far.

Lillian Elvsaas, Cook Inlet Alt-Commissioner, Community Facilitator for Seldovia

We don't have too many hunters out of Seldovia. Hunting is sometimes good and sometimes low. When I was at the Lands End in Homer, I saw some heads pop up, and it was some seal, I got so excited to see that many seals in one place.

Norman Vlasoff, Tatitlek Hunter, Biosampler and Alternate Commissioner for Chugach Region

We seem to have more seal activity, more than in the last 10 years in our area of Tatitlek and around Port Gravina, and right next to us in Landlock, outside Bligh and Port Fidalgo . I don't think we have a problem in our area.

Walter Meganack, Port Graham Community Facilitator

We don't have a sampler, so we're trying to help Monica recruit someone in our area. The seals caught this year have been a lot bigger than before. Other people say they have been going up on rocks where they haven't shown up before. This time of year is when they usually pup in our area. I heard people say there have been a little bit of an increase around our area.

Nancy Yeaton, Nanwalek Community Facilitator

Nancy read a written report from Nick Tanape hunter, biosampler from Nanwalek:
Since the last report only 2 seals have been brought in from the hunters. We are a bit stingy for the head because it is considered a delicacy. The hunters did bring in the other parts. The seals were shot at Yukon Is. and Tutka Bay I have tried Dogfish Bay but we didn't see any. For the rest of you hunters please feel sorry for us and send us little pieces of seal.

Nancy stated that Nick is willing to train her and her boyfriend to biosample and she promised that she will make an effort to bring in the heads.

John Boone, Valdez biosampler for ASOC and ANHSC

When hunting activities take place in the Valdez area 3 or 4 of us go out together. I am one of the biggest harvesters in the Valdez area. As far as traditional foods, the food have been shared among many different families. An elder would ask me if I could get a certain size seal which is beneficial to them. There has been a big bunch of seals in the Valdez area. They are becoming residents and they wont let me hunt them in the city limits. There have been some good numbers and from the two samples I got there were large herring in them, even spawning herring. Other people were noticing the same thing. Some of the other hunters have been very productive and we have been communicating very well. I think you have to know where to look for them during certain times of the year. My main objective is that people are still getting fed and I'm getting pelts.

Jeff Petersen, Hunter/ Biosampler for seals and sea otters from Old Harbor

Cami, looks like there's a good turn out. All you have to do is mention seals and you have all kinds of people showing up for the meeting. I'll have to try that trick in Old Harbor. Like Port Graham, we really enjoy eating seal we're pretty much in tune with what happens with the populations and what they're doing. Before the biosampling project came out we were monitoring what they were doing. When Monica faxed us the biosampling we were happy about it. I've been working in the school to teach kids subsistence practices, its just another tool to teach the kids. Listening to Patricia, its good to try to include traditional knowledge. When an elder comes in, the kids loose interest because there is no lesson plan for them to follow. I'd like to try to get more traditional knowledge lesson plans. When Kimberly asked us to do the sea otter sampling, that was really good. The tools that have been provided has been very helpful. Only there's no sea otter in Old Harbor. In Ouzinkie and Port Lions there's a lot of sea otters we hope to help them out with the loss of their clams.

We have more PWS fishermen coming for the herring fishery. All these gillnets are coming down. They come down right where the seals are. We need to watch out for potential problems. On biosampling, when hunting if we see a seal everything has to be just right, tides, weather, other types of hunting. We need to interject with the seal hunting techniques to go right with the hunting. If we do that we will have a generation of hunters that will interject biosampling right with their hunting.

Don Kompkoff Chenega Hunter/Biosampler

Every time you guys talk about seal it makes me hungry. Its been tough getting seal in Chenega. Last time I went hunting I counted over 40 seal and last year I counted 10. Its good to see ducks and other animals come back to the sound. I always try to take 4 kids with me when sampling. I wish the seals would come back like they used to so we could munyuk anytime we want. The kids built a smoke house and smoked some fish while doing the sampling.

Henry Markarka, Cordova Elder

Cami, the previous speakers on subsistence were good. My brother Sam was always one to take care of the animals. In them days there were an abundance of seals here. Their breeding grounds were right here on the flats. People made money from the bounty program. Commercial fishing came along and a program was started to exterminate the seal. Blowing them up with dynamite, it was a sad thing to see the flats were one big bloody pond. There was a mismanagement of our fish and game. We have seen examples right here in PWS. The earthquake took its toll and the Oil Spill took its toll. It has been a sad thing for people here in PWS to see their subsistence resources being destroyed. We need to set up our own systems and encourage our own stewardship of the land. Maybe man is the worst exterminator of all animals probably due to mismanagement.

Richard Takak, Chignik Lake

We don't have too much going on right now, we are just getting organized, we haven't seen too many seal. We don't have a seal biosampling yet, just sea otter.

Joe Clark, Bethel Area, Nelson Is. BBNA Sea Otter Commissioner

We have a lot of ring seal. They migrate there and have their young in March and April then they are gone again. There's a family of harbor seals in Ugashik and Egegik and a lot of seals in the Singer River. I can remember when a movement to decimate seals with the bounty program it was a very sad time. They would use machine guns. Lately we have been doing more documentation like you have been doing here.

Caleb Pungowiyi, Natural Resources Director for Kawerek, and Executive Director of the Eskimo Walrus Commission.

I'd like to say that there are 3 people here who are on the Scientific Review Group: Brenden Kelly from the UAF, Carl Hild of RurAL CAP and myself. In 1994 during the reathorization there were some amendments to the Marine Mammal Protection Act (MMPA). There is a real interest to decrease the mortality or incidental take all over the different coasts. There are three different Review Committees: Atlantic, Pacific, and Alaska. The government does the stock assessments and we review the data that is provided to us from the agencies and then we make recommendations. We advise what extra data needs to be looked at, what research may be needed to improve information presented to improve understanding of the species, distribution of the species, and also the amount of mortality (human caused) to the species.

Initially there were no Alaska Natives so I pointed this out and consequently became appointed to the committee. Kate Wynne is also on the SRG as well as Lloyd Lowry, Beth Mathews, Sue Hills, Craig Matkin and newly appointees are Milo Adkinson and Matt Kookesh.

Under Sec. 117 regarding Potential Biological Removal (PBR) when the mortality rate of a species exceeds the PBR and if Alaska Natives are affected we can call for an ajudicatory hearing. We wanted a process where we could challenge some of the findings to make sure that they can prove what the real status of the marine mammals is. However, we must have sound scientific data as well. There is a lack of information or the information is old. When it came to doing stock assessments in the 90'a we were told not to use data that is over 5 years old. Science still requires strenuous checks to assess accuracy and probability. In that sense, science is limited. The thing that bothers me about the separate stocks with regards to harbor seals, if the Gulf of Alaska Stock is determined Strategic (takes exceeds the PBR), then it affects how NMFS could use that as management tool to reduce take. A group from B.C. has identified 3 genetic stocks of harbor seals: One In B.C./Washington, Alaska/Japan, and one in California. The PWS sound studies showed that most pups return to where they were born. However, they have been seen to travel all the way past Yakutat. The interaction with fisheries of seal have shown only 38 last year in the Gulf.

The process for Stock Assessments is on going. One of our charges is to request new data that will help the public understand the status of marine mammals in Alaska. With the appointments of more Natives to the SRG, I hope that the knowledge that we have as Natives will be more and more incorporated into the understanding and knowledge of marine mammals in Alaska. Thank you very much.

Lloyd Lowry is the Chairman of the Alaska Region SRG.

Gilbert Olsen asked: What makes the scientists think that there are three different groups?

Caleb stated that the data showed that SE Alaska is growing and stable, In Bristol Bay they wrote that the seals over there are a different stock. There may be some slight genetic differences.

We have tried to tell the agencies to rather than set it up as different stocks, look at it in terms of **management units**.

Brenden added that scientist are very divided on this issue. The final statement that the SRG came up with on that issue was that it was the opinion of the SRG that the information was inadequate to make a determination on stock boundaries on harbor seals in Alaska. NMFS has nonetheless opted to subdivide. The Gulf of Alaska Stock, has been declared **Strategic** in the most recent draft stock assessments. The PBR says that it is 673 and close to 1,000 are being taken by a combination of both the harvest and incidental take by commercial fishing. But I noticed that the Bering Sea Stock has a PBR of 379 and a removal of 242. There's only 130 animals separating the Bering Sea Stock from also being declared **Strategic.**

Kimberly Williams asked what determines Stock? She said that there are many different kinds of Natives in Alaska but we are all still one family. How much variation must there be? Brenden said the definition includes: interbreeding animals when they are adults, effidence of genetic difference, and how population responds to environmental pressures, and a third is genetic discontinuity (if there is a gap in geographic continuity), fourth is behavioral differences.

Joe Clark asked why should we participate with NMFS on our harvest when they use that against us?

Charlie Johnson, Executive Director, Alaska Nanuuq Commission

One topic I wanted to touch on is that we as Native Organizations need to focus on educating and getting the cooperation of very diverse groups. For example the exemption that we have in the MMPA would have been very difficult to get had we not had the support of organizations like Greenpeace. We made a lot of effort to educate them to understand that we need these animals for subsistence purposes that our culture was dependent on the availability of these animals.

When I was on a delegation for the U.S. Arctic Environmental Protection Strategy, one of the proposals was that the Inuit Circumpolar Conference be included at all levels of this process. We utilized the World Wildlife Fund, The Environmental Defense Fund to propose to the U.S. to include us in this process. There are 8 Northern Countries that now participate. Now there 3 Indigenous groups that participate: The ICC, Russian Indigenous Groups and Saami now are able to participate in environmental and conservation issues. It becomes very critical for us to be involved because those policies become laws in the U.S. For example for Polar Bear, we are now involved with the Russian Indigenous People to have veto power in conservation issues of Polar Bear. Its important that we work at that level internationally.

I have tried get other organizations to join the International Union for the Conservation of Nature (IUCN). They adopt resolutions and policies every 3 years with participation of governments and government agencies. They have policies at that level that affect us here in Cordova or in Nome. I'm also working on the development of a research policy for ethics of research. Another thing I'm working on, is the sustainable use of living resources.

We are just asking key questions such as: What is the nature of sustainable management regimes? What types of knowledge systems are used? What is the cultural diversity? What are the local or nonlocal interactions (i.e. migratory species)? who has the right to the resources? and how do you deal with discourse and how do you resolve them as they arise? Thank you!

Some questions for Charlie were: What are the criteria for participating in the international arena? Charlie responded that any conservation group such as the ANHSC can join and participate.

Other Native Organizations have worked with Greenpeace in Anchorage. If we present a good case and we convince them with the work we have done they can see and understand our positions.

Carl Hild stated that Greenpeace gave a letter stating that they support the Native Subsistence Lifestyle.

The meeting recessed for the day and the local residents prepared for the Cordova Ikumat Dancers, a Community Potlatch and the showing of "Alutiiq Pride: A Subsistence Story".

Friday March 7, 1997

Recommendations from Joint Session with ASOC and ANHSC:

It was **moved** by Dolly Garza, seconded by Monica Riedel that the Hunting Practices and Enforcement are identified in Comanagement Agreements.
Local Knowledge is utilized in population estimates. And that the group took no action on the topic of Significantly Altered. The motion Passed Unanimously.

Flore Lekanof **recommended** that an effort be made to have all churches including the Catholic Church adopt the resolution that the Wasilla Churches adopted regarding the Indian Country Issue.

Recommendations from the ANHSC business meeting.

Carl Jack, Subsistence Director of RurAL CAP explained the different phases of the BIA Grant application and how it will be structured with the committee and time lines to draft the comanagement agreement. The committee would then work through the draft and be available for reviewing.

Motion was made by Harold Martin, seconded by Don Kompkoff to establish a negotiating committee consisting of the full ANHSC board to work with Carol Daniel- Attorney, Brenden Kelly- Biologist to draft a comangement agreement between the National Marine Fisheries Service and the ANHSC as equal partners. Motion Passed Unanimously.

Motion was made by Mitch Simeonoff, seconded by Lillian Elvsaas that the National Marine Fisheries Service treat the Harbor Seal as one Population. That the scientific data to determine multiple stocks are insufficient. One component of the comanagement agreement would be to try to assess that determination of one population. Motion Passed Unanimously.

Motion by Flore Lekanof, seconded by Mitch Simeonoff that The ANHSC intends to call for an adjudicatory hearing unless the National Marine Fisheries Service would refer to their 1995 decision to hold off on the strategic listing pending negotiating a comanagement agreement. Motion Passed Unanimously.

Motion by Harold Martin, seconded by Don Kompkoff to have committee set time and schedule to meet and draft a comangement plan.

Jim Fall: ADF&G Subsistence Division

Jim gave us an update on the detailed project description of the biosampling project and the FY98 outlook for funding. He went over a brief history of the project and how it had developed into a cooperative project with the ANHSC.
He explained that it was a statewide project funded in other areas by the NMFS through the ADF&G. He added that the biosampling is being conducted in King Cove, & False Pass, with

Vicki Vanek as the biologist/trainer. He mentioned that NMFS sees biosampling as part of comanagement. Jim also expressed that the winter surveys that we are proposing could be supported by the Subsistence Division and that the Division could act as lead agency. Regarding the Harvest Assessment Program: He said that they are just wrapping up the 5th year. There has been 50 people trained to do the interviews. For the 6th and 7th year, NMFS could do a partnership with the ANHSC. In the past they subcontracted with IPCoMM and they supported a meeting with IPCoMM members for oversight of the program. This part of the program could be assumed by the ANHSC and perhaps the balance of the funds could go to the Sea Lion Commission.

During the discussion **John Boone** made a recommendation that the hunters that have been trained be certified to train others.

Motion by Flore Lekanof to enter into a subcontract with ADF&G to provide oversight for the 1995 Harvest Assessment Data Program. Seconded by Mitch Simeonoff. Passed Unanimously.

Motion by Harold Martin and Seconded by Flore Lekanof to write a letter of support for the ADF&G Subsistence Division in light of the fact that the Division has been very supportive of the efforts of the ANHSC and other Native Communities.

Ann Hoover-Miller: Pacific Rim Research

Ann gave an overview of the proposed winter surveys which were not funded last year. This year there has been a lot more input from hunters. Components of the project include:

1. Document the past and present distribution of harbor seals using traditional and local knowledge. Its important to document this as accurately as possible for evaluating trend counts. This will involve sitting down with charts and using a GIS and develop a database.

2. Initiate community observations i.e. when herring move in, capelin moving in shifts in marine occurrences. It would be nice to have a record from people who are living there. Useful to incorporate the youth into this program, but especially people who are out in boats like hunters and commercial fisherman.

3. Fall Winter Spring surveys. Biologists only count in certain times and don't see what the seals are doing at other times. We need to look at winter habitat needs. Are certain age groups traveling together? How are seals using their environment? Where are they vulnerable where are they most sensitive? Applegate Rocks, Port Gravina, and Columbia Glacier are three areas that are proposed for surveys. Columbia Glacier would be aerial surveyed.

The board agreed to support Ms Miller's proposal and to assist in the development of the detailed project description. The hunters met with Ms. Miller and had a chance to provide input into the design of the surveys and the overall concept.

The board then moved into the financial report and minutes of the last meeting.

Motion by Harold Martin to approve minutes of the Sept 18 meeting held in Girdwood. Seconded by Mitch Simeonoff.

The board went into discussions regarding the NMFS proposed budget. Chairperson Monica Riedel gave a financial report and presented the board with the FY97 NMFS budget. The board discussed the packet in detail.

Motion by Harold Martin to have the Chair look into the Indirect Percentage and negotiate for rate for the ANHSC. Seconded by Mitch Simeonoff. Passed Unanimously

Motion by Flore Lekanof to adopt the budget. Seconded by Harold Martin. Passed Unanimously.

At approximately 4:30 PM A **Motion** was made by Harold Martin to adjourn meeting.

Presentation by Iris O'Brien given at the 1997 *Exxon Valdez Oil Spill* Trustee Council Restoration Workshop held in Anchorage on Jan 23-25, 1997.

Hello, My name is Iris O'Brien. I am the Youth Area Watch representative from Cordova. I have been actively involved in the Biosampling project since Cordova has had the pleasure of getting one organized. Thanks to Monica Riedel's hard work and Mel Henning's strong interest in science and youth. Also the the people behind the scenes who took an interest in the seal biosampling because I know that the 1989 Oil Spill took a toll on the seals' health and population.

Being a Native to my land, I felt that it was a matter of obligation to contribute to the restoration of the seal in any way I can.

I'd like to take a moment now to share with you a little of the procedure taken. After we have our designated catch, we bring the seals to town to take various samples: the liver, heart, blubber, kidney, and the head. After the data is recorded certain organs of the seal are taken home for dinner, such as the heart, liver, cleaned intestines etc. The pelt of the seal is skinned and the non edible body parts are disposed of properly. Seal pelts are highly praised for their beauty and durability. They are often made into luxurious items by an indigenous person. I think that the layout of this program is beneficial to both hunters and scientists. From either view, it is a win win situation. The hunter can hunt for subsistence use such as food and clothing along with getting a better understanding of the seal's anatomy and chemistry that the scientists get from testing and studying the samples the hunters collect. This is a way the traditions of our people can be passed on from one generation to the next and personally, I value the subsistence way of life.

I would like to thank everyone involved with the Youth Area Watch Project and just say that I look forward to participating in upcoming events.

Oil Spill Related Marine Mammal Workshop March 6- 8, 1997 at the Masonic Hall in Cordova. Sponsored jointly by the Alaska Sea Otter Commission and The Alaska Native Harbor Seal Commission/ADF&G/*EVOS* Trustee Council

Agenda: **Thursday March 6, 1997**

8:30 Opening Prayer
Introductions
Approval of Agenda

8:45 How and Why The Alaska Native Harbor Seal Commission formed
Harold Martin Vice-Chair: ANHSC, President: Southeast Native Subsistence Commission

9:00 Scientific Data of Harbor Seals: Pre-spill and current
Brenden Kelly, University of Alaska

9:30 Data from Harbor Seal Blubber samples:
Mike Castellini, University of Alaska Fairbanks & Brian Fadely, UAF

10:15 BREAK

10:30 Harvest Assessment Data
Bud Janson, Native Village of Eyak Interviewer
Lillian Elvsaas, Seldovia Interviewer
Matt Kookesh, Angoon Interviewer

11:15 Biosampling Techniques: For Harbor Seals and Sea Otters
John Boone, Valdez NativeTribe
Iris O'Brien & Jessica Hopkins, Youth Area Watch: Biosampling Training

11:30 Combining Traditional Knowledge with Western Science
Patricia Cochran, Exec. Dir. Alaska Native Science Commission
Pauline Allen for Martha Vlasoff: Com. Involvement Project(Spill Impacted Villages)

NOON BREAK

1:15 Community Reports: Chenega, Tatitlek, Seldovia, Akhiok, P.Graham, Nanwalek, Cordova, Valdez,Old Harbor

1:45 "Stewardship-Indigenous Systems"
Larry Merculieff, Chair, Alaska Native Sea Lion Commission, Aleut Pribilof Fur Seal Commission

2:00 "Scientific Review Groups and Stock Assessments"
Caleb Pungowiyi, Subsistence Representative, Exec. Dir. :Eskimo Walrus Commission

2:45 BREAK

3:00 "Fitting our work into a broader scale"
"Comanagement-Legal Perspective"
Charles Johnson, Exec. Dir: Alaska Nanuuq Commission, Director: for the International Arctic Science Council Task Force of sustainable use of living resources

4:30 Recess **5:30** Traditional Potlatch/Cordova Ikumat Dancers Please bring a dish and wear your kuspuk!

Friday March 7, 1997

9:AM Resume Joint Meeting

"Local Management Plans"
Dolly Garza: Chairman,Sitka Tribe Marine Mammal Commission

Alaska Sea Otter Commission/Alaska Native Harbor Seal Commission
"Significantly Altered" Traditional and Contemporary Uses of Sea Otter

10:30 BREAK

10:45 Continue Discussions

NOON BREAK

1:00 Alaska Sea Otter Commission will meet in conference room and ANHSC will meet in Main Room for Recommendations and Business Agendas

Topics for the ANHSC:

Introduction of National Marine Fisheries Service Representative for Harbor Seals Kaja Brix:
Comments from NMFS re: Umbrella Agreement, Tissue Sampling, Stock Management.

1:15 Continuation of Harvest Assessment Program, Future Oil Spill Funded Direction:
Jim Fall, Regional Director. ADF&G Subsistence Division

1:45 Business Meeting/Action Items
Approval of Minutes from Sept 1996 Meeting
Chairman's report
Funding Update

Draft Comanagement Plan: Carl Jack: Subsistence Director, RurAL CAP
Carol Daniels: Legal Counsel, RurAL CAP
Brendan Kelly, University of Alaska

5:00 Adjourn

The Alaska Sea Otter Commission

505 W. Northern Lights
Suite 217
PO Box 241146
Anchorage, AK 99524
907/274-8769
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BOARD MEETING

March 3 - 8, 1997

ASOC OFFICE
505 WEST NORTHERN LIGHTS BLVD. SUITE 217
ANCHORAGE, ALASKA

DRAFT AGENDA

MONDAY, MARCH 3, 1997

3:30 PM	Call to Order ..... Chair, Margaret Roberts
	Roll Call
	Introduction
	Approval of Agenda
	Approval of minutes: 11/21-22/96
	Fill out trip reports
4:00 pm	Recess for the day

TUESDAY, MARCH 4, 1997

8:00 am	Attend Comanagement workshop
	Captain Cook Hotel

WEDNESDAY, MARCH 5, 1997

	Travel to Cordova

THURSDAY, MARCH 6, 1997

	Call Meeting Back to Order.....Chair, Margaret Roberts
	Joint Meeting with Alaska Native Harbor Seal Commission (See draft Agenda)

FRIDAY, MARCH 7, 1997

9:00 am	Sitka Tribe Sea Otter Tribal Ordinances.... Dolly Garza
9:30 am	Discussion on Significantly Altered; Collection and Dissemination of Traditional Knowledge; Handicraft Policy; Hunting Practices and Enforcement
12:00	Break for Lunch
1:00 pm	Recommendations on Significantly Altered; Collection and Dissemination of Traditional Knowledge; Handicraft Policy; Hunting Practices and Enforcement

Preserving the balance for Alaska Native people and the northern sea otter.

FRIDAY, MARCH 7, 1997

2:00 pm Staff Report ..... Kimberly Williams

2:30 pm USFWS Report ..... Dave McGillivary, Angie Dorof

3:30 pm CoManagement Agreements ASOC with FWS

5:00 pm Recess meeting for the day

SATURDAY, MARCH 8, 1997

8:30 am Call Meeting Back to Order....Chair, Margaret Roberts

8:45 am Regional Reports

10:00 am Old Business
- A. Other

10:30 am New Business
- A. Vision Document - FWS Co-Management
- B. Personnel Policy - Sick/Personal Leave
- C. Other
- D. Time and date of next meeting

12:00 pm Adjourn

Sign In Sheet For March 6th Thur.

Flore Lekanof Aleut-Pribilof Islands Assn Phone (907) 276-2700 FAX # (907) 258-3514
Harold P Martin, Southeast Native Subsistence Commission, Juneau 586-1432
Melvin Smith, Alaska Sea Otter Commission (ASC) False Pass
Brendan Kelly, University of Alaska, Juneau 465-6510
Anne Hoover-Miller Pacific Rim Research (Seward) PhotoCA 707-895-22
Lillian Elvsaas Seldovia Village Tribe Seldovia, AK 234-7898
Walter Meganack Port Graham AK
Carl Hild RurAL CAP / IPCoMM Anch. 279-2511 279-6343 FAX
Demetri Tanape Port Graham Corp. 284-2212
Matt Kookesh Div of Subsist Angoon 788-3797
Kaja Brix NMFS-Protected Resources Juneau 907 586 7235
Brian Fadely University of Alaska, SFOS Anchorage 907-345-4415
Michael Castellini University of Alaska, SFOS, Fairbanks 907 474 6825
Kathy Hough PWS Science Center Cordova 424-5800
John K Boone Valdez Native Tribe 835-4951
Donald P Kompkoff Sr Chenega IRA Council (907) 573-5132
Gail Kompkoff Chenega
(4201 Tudor Centre Dr, Suite 300, Anch. AK 99508) 562-664
Pauline N. Allen Chugach Regional Resources Commission
Nancy M Yeaton Nanwalek 281-2274
Robert Vlasoff Tatitlek Alaska
Henry Makarka Cordova AK Eyak Corp. 424-7117
Gilbert Olsen Cordova, AK EYAK 424-3xxx
Mark King CDV. AK Eyak 424-3573
Joseph L. Clark Clarks Point 236-1244
Speridon M. Simeonoff Sr Kodiak Area Native Association 907-836-2211

Name	Address AK Sea Otter Comm	Phone
JEFF PETERSON	PO Box 141 Old Harbor, AK 99643	286 2252
Richard TAKAK	P.O Box 13 Chignik Lake AK 99548	845 2321
Dolly Garza	Maehe Adv. Program, 700 Katlian "D" Sitka AK 99835	747-3988
Jim BARTELS	SITKA Tribe Alaska 456 KATHIAN St, SITKA 99835	747-3207
Charles Johnson	Alaska Nanuuq Comm. PO Box 924, Nome 99762	443-85
Patricia Cadzow	Arctic Science Comm. 3211 Providence Dr Anchorage	786-770
Grassim Oskolkoff	Sea Otter Comm.	Box 8 Nanwalek, AK 567331
Caleb Pungowiyi	ESKIMO WALRUS Comm. Box 548	Nome 99762 443-4
ORA JOHNSON	CHUGACHMIUT	562-4455
ORMAN VLASOFF	TATITLEK AK	
HOPKINS	CORDOVA AK	(907)424-763
SN ANDERSON	CORDOVA AK. 99574	907-424-730
Stanley MAKARKA	Cordova, AK. 99574	907-424-739
Carl Jack	Rural CAP 731 E 8th Ave	Anch. Ak 99520
E. Bildenback	Box 536 Cordova, AK 99574	424-3660

APPENDIX C

ALASKA NATIVE HARBOR SEAL COMMISSION

ANHSC Meeting in Kodiak March 26-28, 1998
Summary/Minutes

Chairman Martin Opened meeting at 8:45 AM:
Invocation was conducted by Commissioner Lillian Elvsaas.
Roll call was conducted and a quorum was established.
Motion by Lillian Elvsaas to adopt the agenda. Seconded by Norman Vlasoff.

Executive Director, Monica Riedel gave the ANHSC report. She stated that the commission has been concentrating on drafting a co-management agreement with the National Marine Fisheries Service (NMFS) and that the process is going very well. The people assigned from NMFS come to the table with a positive spirit and a willingness to work out issues of concern. The commission continues to collect biosamples, train youth, and hunters in the Chugach, Lower Cook Inlet, and Kodiak Areas. The biosampling program has expanded to include hunters from Southeast. The ANHSC has recently entered into a cooperative agreement with the ADF&G Subsistence Division to contract for the oversight of the Harvest Data Assessment Program which has been in existence for 6 years. Ms. Riedel updated the group on other current activities such as recent meetings with the Indigenous People's Council of Marine Mammals (IPCoMM) and becoming voting members in Indigenous Survival International (ISI-Alaska).

9:00 AM Mike Castellini, UAF Ocean School of Fisheries.
Castellini reported that from the blubber samples he is studying, they can tell about the amount of energy seals have and different nutrition factors. The more water in the seal's blubber the less energy they have. His findings also show that there is no difference in the energy level between the samples of animals taken 20 years ago and those taken today. Also he finds that Yakutat animals are bigger than the PWS animals. He reported that there they will be looking at metal levels and health indicators of seals in the future. For now, from the samples he is receiving from the biosampling program, he reports that the seals are healthy.

Castellini reported that at the SeaLife Center in Seward they would study the seals and sea lions with a controlled diet.

Ms. Riedel raised the concern that the general public will not be educated in the uses of the marine mammals by the native people of Alaska.

Castellini reported that there is some movement towards developing videoetts for public education and Ms. Riedel suggested that the ANHSC get involved in developing culturally sensitive documentation about Native uses of seals and other marine mammals.

Kate Wynne mentioned that there is a hotline for stranded animals if hunters or anyone finds them.

A concern was raised regarding how tourism is affecting seal habitat. Brendan Kelly reported that there is a study initiated by Beth Mathews in Glacier Bay. There were questions about Ialik Bay in the Seward area.

Community Reports

Southeast Commissioner-Harold Martin reported that there is a healthy population of seals in Southeast and there are lots of sea lions.

Cook Inlet Commissioner-Lillian Elvsaas reported that the hunters share their catch and they get seals from Port Graham and Nanwalek.

Chugach Commissioner-Norman Vlasoff reported that are seals are moving in around Bligh, I've been going to the east side (Port Gravina, Port Wells, St Mathews), the herring moved in at Ellemar, there are a lot of porpoises and sea lions and plenty of seals. 6 killer whales in the narrows.

George Ramos-Yakutat reported that there are seals in Dry Bay to Icy Bay. Very healthy population. Hooligans up the River are over shadowed by sea lions. In Icy Bay, the glacier has receded quite a bit. The seals have a lot of fat content. You can hunt them by Hubbard Glacier you can drive up to the Situk River.

Ray Sensmeier-Yakutat is of the humpback salmon clan his ancestors came down from the Ahtna Athabaskan Chitna Area between 1,200 and 3,000 years ago. Every morning his great grandmother (who lived to be a 100)

gave him seal oil. He is glad to see spirit camps. Everything has a spirit, that's how they get their clans. They also pray to the spirit of the animals – the show respect to the animal not just going out to shoot seal. He is very concerned about tour boats going to the glacier where the seals have their pups. Also concerned about how trawlers have an effect on the food supply. The floor of the ocean is like a desert after they fish. He is glad to see Co-management in progress. Started looking at it in a different way not just the natives cooperate and the Feds manage. There are 13 new hunters age 16-24. Traditional knowledge is being passed down from father to son, uncle to nephew. Regarding El Nino, he is seeing anchovies in stomachs of troll caught coho believed to be from California.

Harold Martin reiterated the spiritual ties and traditional knowledge of Native People.

Walter Meganack Jr – Port Graham reported about the Gulf side of Kenai Peninsula- Rocky and Windy Bay. There are less seal inside the head Katchemack Bay. They held a Spirit Camp last year and did a lot of subsistence gathering and sharing and preparing every part of the seal. He reported that when trolling, he saw a seal with a tanner crab.

Fred Coyle from Akhiok -noticed a big decline of seals in the area. State had allowed a rock fishery in there and since then the seal population has declined. The people have to travel about 35 miles to hunt for seal.

Ray Sensmeier reported that Elders make an exception to taking female seals in April and May because they can digest the milk content in the fat better.

Dan Alex-Cook Inlet Marine Mammal Council has a meeting on March 7 about Beluga. Another meeting is planned in May to get to know the hunters in the area. He cooked seal at the last meeting. Anchorage has a very large Native residence from all over and they harvest everything.

Wendy Neilsen-Bristol Bay Marine Mammal Council. She is getting to know hunters in her area better. She reported that hunters are seeing a lot of seals in her area.

George Ramos reiterated that everything in our culture is based on Customary and Traditional. As a retired hunter, all he has to do is ask for a

seal and it will be delivered. The first seal a boy takes is passed out. You never went into someone else's land without permission.

Harold Martin pointed out that conservation practices and protocols still exist in our villages.

Dan Alex-his grandfather said "honor the lives of every living thing and not to take the life of anything indiscriminately"

Ray Sensmeier- There's a reluctance of some hunters to divulge anything. There's a core group of hunters that provide seals to elders first and then to the rest of the community. Seal meat is always served at the Potlatch.

Bob Small –ADF&G Wildlife Conservation
NMFS has provided the funds for the ADF&G harbor seal program. Primary focus of their work in abundance surveys. After 4 years the whole state is surveyed. Second part is the correction factor- estimate of seals they don't see. Trying to determine the total number of the population. The numbers are used in the Stock Assessment Reports and used to determine the PBR(Potential Biological Removal)

PWS Kathy Frost work is to determine a trend. And Cause of the decline in the sound. This year she will capture pups and tag them with radio satellite tagging.

Bob's program is on a statewide basis. Started in 1993 is funded on an annual basis. Key thing is to monitor population trends. What factors are affecting seals in their areas. Ketchikan, Sitka, Kodiak, Bristol Bay. They coordinate closely with the NMFS and the Dept. of Fish and Game.

Ketchikan-lots of seals trends show increase at 9% per year. Sitka – population is increasing slightly but not very many surveys lately. Tukidak Is- numbers has stabled off since 1992. Kodiak showing a slight increase Kate Wynne surveys this area. 25 sights on Kodiak that are being surveyed. This year they will survey Bristol Bay from Port Mollar to Egigik.

Other areas: satellite transmitter to find out movement and diving data. Findings: Kodiak animals are not leaving their areas, same in South East. PWS animals are moving to Cook Inlet and Icy Bay and Enchantment Bay.

Why are they moving from PWS? Bob is still trying to put the data together. What they are eating, where they are going.

Genetics work in being done by NMFS in San Diego. There is variation in Harbor Seals in Alaska but it is hard to find. The further apart you move, the more different they are.

Walter Meganack brought up the concern of tour boats disturbing Yukon Island pupping area.

New Directions: ADF&G will try to census seals in glacier areas using photography as a pilot study.

George Ramos indicated that he would be interested in the glacier surveys.

Laurie Jemison ADF&G Wildlife Conservation
Laurie gave a short presentation on Diet of seals. She reported that they have been collecting scat from SE, Kodiak,Northern Bristol Bay, in the different seasons. The samples are sent to University of British Columbia. Stomachs are now being collected in SE from November to March. She is also looking at fatty acid patterns from the blubber.

Biosampling Panel

Laurie Jemison, Kate Wynne, Monica Riedel, and Vicki Vanek:
Monica Riedel reported that her involvement with the biosampling has been primarily getting the hunters and youth together, facilitating the meetings with the travel, finding the places to do the sampling, and making sure that the stage is set for the youth to learn from the hunters. Part of her job is to educate the kids about the Marine Mammal Protection Act (MMPA). She also teaches the traditional practices and preparation of the seal meat and skin sewing. Part of the biosampling class is cooking and sharing the catch.

Kate Wynne stated that it is good to see the integration of traditional knowledge and science.

Vicki Vanek talked about the contaminants and how we may need to become more technical bringing our hunters up to a level II stage. She also stated the need to have better coverage of sampling.

Laurie Jemison reported that maybe just the stomachs and heads are easier to sample. So far, she has collected 30 heads and stomachs from southeast hunters. About ½ males and ½ females.

Some discussion took place regarding parasites. Kate Wynne reported that there is a cod worm that is commonly found in the stomachs, they just go though their cycle.

Norman V. asked why the stomachs from Bear Trap seals were empty. The scientists said that the seals have about a 6-hour rate of digestion.

Patricia Cochran-Alaska Native Science Commission (ANSC)

Patricia Cochran thanked the Creator, Ancestors, and Elders. She described how the ANSC was formed and gave a brief history of the organization. Patricia talked about the Research Guidelines, which was endorsed by the Alaska Federation of Natives. She explained that Native people are scientists due to their vast knowledge of their environment and their methods of observation, as well as generations of practicing conservation principals. She reiterated that the transfer of traditional knowledge is best transferred from elders to youth.

Ms Cochran gave an update on a Contaminant Study that will take place over the next 2 years. She also talked about:

Developing Native Science the way it works for us
Involving the Communities/Doing it for Communities
Building our own databases/Computer files
Identifying what resources we use
Deciding what we want to do with the information
Deciding what we want to share
Using Native Language
Understanding women's role in transferring traditional knowledge

In the second year of the project they will have available mini grants for communities to do projects on their own.

There was much discussion regarding Native science:
Ray Sensmeier added that the first 4 laws Natives live by are: Be Kind, Be honest, Be sharing and Be strong spiritually. He also talked about fathers being symbolic of the creator, and mothers being symbolic of mother earth.

Raychelle Daniel- UAS Biology Program
Raychelle is a student intern working under Brendan Kelly to do research and to compile data for the ANHSC. **Attatched** is a copy of the Traditional Knowledge bibliography Raychelle compiled and submitted to the ANHSC.

Ms. Daniel gave a presentation about the work she has been doing at Tugidak south of Kodiak Is. She pointed out that the area is ideal for seals to haul out because it has sandy beaches, there's a cliff, which is ideal for researchers to observe and count the animals. And there is a very good food source.

Bob Wolf-ADF&G Subsistence Division, Brendan Kelly-ANHSC, Craig Mishler-ADF&G Subsistence Division: How Harvest Information is used in the Stock Assessment Process

Brendan Kelly gave a brief overview of how data should be looked at. He has been actively researching for 20 years.

He talked about how the bowhead whale hunters were very helpful in counting the whales up north.

He stated that the hunters should have more control of the data and that the hunters need to keep involved and do the follow up. The ANHSC is a good vehicle to analyze the data.

Bob Wolf thanked a number of people: NMFS for funding the project for 6 years, Village Councils (62 communities), Local researchers who interviewed 1800 households and hunters.

Bob stated that the harvests have been very stable. There are fewer sea lions taken. He described how the confidence range works, that if the survey misses 10% of the hunters then it is estimated that the take is 10% higher.

The best estimate of the harvest is 2,741 seals per year.

During the Oil Spill, there was a dramatic decline in the hunting activity at Tatitlek and Old Harbor. In general the North Pacific Rim and Kodiak Island.

Bob then went through the data carefully explaining to the group the different graphs and charts.

- He went through the struck and loss table, he showed how the struck and loss dropped in Old Harbor.
- He pointed out that it takes a long time to gather the data and local people have a more long term perspective.
- The seasonal variation was pointed out.
- Quality of fat, when seals float are attributed to local traditional knowledge.
- Sex Ratio: 2 out of every 3 harbor seals harvested are males.
- Age structure 82% is adults 16% are juveniles and 2-3% is pups.
- Are there more young animals in the Kodiak Region than there are in SouthEast?

B.Kelly then showed some overheads describing where this information goes what is being done with it and who is analyzing it. He explained that the information goes to Protective Resources (NMFS) →Marine Mammal Lab in Seattle(NMFS)→Stock Assessment Reports→Alaska Region Review Group→Then they are put into the final stock assessment reports.

B. Kelly pointed out to the group that it is key for us to follow up with what the hunters give as information and what is being done with it.

He then went in to decribing the Potential Biological Removal(PBR) formula. Brendan pointed out that the formula is very conservative and is

definitely in favor of the resource. Brendan talked about the correction factor and variations in the data.

Harold Martin pointed out that there is a lot of confusion in the stock assesment process.

A lot of discussion followed regarding the mistrust of some of the information and how that information may be used to cut off hunting.

Brendan pointed out that the whalers now have their own scientists to work with and the hunters take part in analyzing the data.

Dave Withrow then pointed out that this process is **only** meant to regulate commercial fisheries **not** to regulate subsistence hunting.

Bob Wolf stated that Comanagement is the process to self regulate. Because the ANHSC is a valid organization and there are cooperative agreements in place the agencies are not in the position to regulate hunting.

Theres lots of room for improvement such as the winter surveys currently being proposed by the ANHSC and the Comanagement Agreement.

Southeast: PBR is 2,000 harvest is 1,600. The numbers are not that far apart.

Discussion on weather or not NMFS will regulate native take. The good news is that the comanagement agreement process is going very well and the general feeling is that any regulation will come out of the comanagement process.

Gulf of Alaska: Estimated PBR is 673 ,harvest is 850

Brendan then went on to report that NMFS is not declaring stocks as strategic because:

- Uncertain stock boundaries
- Pending Comanagement
- Females in harvest make up less than< ½ of the PBR

Wendy Nielsen pointed out that the population estimate is a conservative one. Brendan said that there is a lot of discussion at the SRG regarding that

issue of the extreme conservativism. He recommended that the ANHSC comment on the SAR and follow through with this data. Monica R. pointed out that there are winter surveys being proposed for some ground truthing in the counting.

Craig Mishler pointed out that the scientists up north were just counting by the leads and the local hunters pointed out that the whales were going under the ice. Then they started using acoustic counting methods. He pointed out that hunters could count differently in different conditions.

Bering Sea: Estimated 379 PBR, 209 total take per year. There may be not enough food to support the population. We are so close to the PBR in each stock. Are these numbers tied to what historic numbers were?

Bob Wolf asked if there are other ways to approch the PBR such as how they determine how many animals can be taken out of a moose population? If you take a lot more males you won't affect the growth much because you are leaving the females and pups alone.

Fred Coyle talked about why the seals disappeared from the Akhiok area and he related to the fact that they started disappearing when the State allowed setnetters in the haul-out areas.

Ray Sensmeier talked about the relationship of taking males out of the population. He pointed out that the strongest males reproduce the strongest offspring. But now there is a mentality of getting the biggest animal. When theres money involved it always wins out in the western culture.

John Bengston talked about PBR and how it is the law that the staff people are following, the instruction of the law. Its one of the reasons that the NMFS is working with the ANHSC to help this process get better. It's a way to improve the way we work with hunters. We are interested in becoming partners to : 1. Conserve harbor seals and 2. To insure that there are seals for long term sustainablity of a subsistence harvest.

Lillian Elvsaas agreed that it is good that the agency people are working with us now for the benefit of the seals and our great grandchildren.
Dan Alex pointed out that the Native foods are important to our diets.
Meeting adjurned for the day.

Friday March 27, 1998
ANHSC executive session
Co-management Agreement Discussion Notes (BPK)

Brendan Kelly and Harold Martin gave a detailed update on the progress of the Co-management Agreement Process.

Dan Alex: suggest making a diagram of law (MMPA) provisions pertaining to Native marine mammal use.

Lillian Elvsaas: Likes proposed co-management structure (diagram)

George Ramos: Also likes proposed structure.

Walter Meganack: Likes proposed structure, but concerned about proposed role of NGOs (special interest groups) in having input to Technical Group and Co-management Committee. Concerned that special interest groups could overwhelm Native and other interests. A very good discussion ensued.

Wendy Nielsen: Shares Walter's concern. Suggests solution is to make clear distinction between valid technical inputs to Technical Committee and invalid

Direction to drafting committee was to make sure that text of the Co-management Agreement clearly states that the Technical Committee shall consider technical input from external organizations but not be a forum for non technical input.

Dan Alex: Pointed out the importance of not writing off all special interest or environmental groups. Some of those groups can, at times, be allies. There was general agreement for this idea, but it was recognized that alliances with such groups could occur without requiring that the Technical Committee consider non-technical input.

Dan also suggested that consideration be given to producing educational videos on Native use of harbor seals and cultural issues. These videos could help NMFS in educating its other constituents to these issues.

Wendy Nielsen: Cautioned that it is important, in using environmental groups as allies, to distinguish true friends from other who might turn on us and, for example, take a video we provide and show segments out of context (such as a hunting scene).

There was a lot of discussion on the PBR. N. Vlasoff suggested utilizing a more accurate number for population estimates.

Wendy Nielsen brought out that NMFS is not suppose to regulate Native Take, but because the PBR Numbers are so close to actual take, in essence they are regulating us.

Dan Alex brought out the scare tactics used regarding lower numbers than there actually are with regards to Beluga in Cook Inlet.

Discussion on strategic, depleted standing, Endangered Species Act, and how they relate to Native Take.

1:00 PM Reconvene from Lunch (Open Meeting)

George Ramos from Yakutak gave an excellent slide presentation on traditional hunting methods and current hunting methods. He presented an historical perspective from his youth as a seal hunter to geographical changes in the Yakutat Area. He reported that 1,000 years ago glaciers covered the Yakutat Bay. He talked about the copper trade between the Interior Indians and the Tlingits. There is 263 miles of coastal land from Yakutat on up. He described ice boats, bark houses, and he talked about the 1887 Harriman Expedition. He said that there were 5 different tribes in Yakutat. His slides were very informative and his traditional knowledge was extremely valuable and well received.

Diana Riedel –representative from the Youth Area Watch Project. Diana was selected by the Chugach School District to attend and report to the board about the YAW project which is funded by the *Exxon Valdez Oil Spill* Trustee Council. Diana showed a video she made in her technology class. It decribed the different research projects the youth are involved in. They consist of: Pristane monitoring in Mussells, Harbor Seal Biosampling, juvinele herring study, Oceanographic studies, and more recently oiled beaches in PWS.

Dolly Reft-Alutiiq Roots and Remedies. Her grandfather and father were born in Karluk. Dolly was asked to talk to the board about her products which involves using seal oil. She talked about collecting natural herbs and making healing products. In her processing she reiterated the use of traditional knowledge passed down to her from her parents and grandparents. She has identified about 186 different plants on Kodiak Island. She uses seal oil in her soaps, & lip gloss, and many other products.

National Marine Fisheries Service Reports

Dave Withrow-NMFS- gave a presentation about the NMFS harbor seal program. He reported that there are two components to their program. One area is the trend surveys to provide information about how the population is doing (are they going up or are they going down?). And the other is the Correction Factor Analysis to take into account seals missed during the counting surveys. The state is divided into four areas for surveys. They basically survey one area per year, so that by the end of 4 years the whole state is survey.

Dave reported that the current estimate for the Gulf is not complete but it may be showing higher numbers. Ms. Riedel asked Dave it was fair to say that from the Stock Assessment Reports (SAR) the approximate harbor seal population in the State of Alaska is 80,000 animals. He talked about tagging seals, capturing, and estimating % of seals hauled out.

Dave mentioned to the group that he would like to know more about haulouts on ice.

John Bengtson-NMFS-gave a report on the comanagement process. He was very positive about the process and the progress made by the drafting committee. He sees the process as an opportunity to go forward as partners. He stated that he learned a lot on the previous day. He sees the comanagement process as working together towards mutual goals to conserve harbor seals and provide a context for comanagement.
The concern was raised regarding (Non Government Agencies) NGO's swamping the process.

He was asked about the title of the agreement and he understood the concerns raised. He also stated that the drafting committee took out the word cooperative.

The NMFS has no problem with using the word comanagement in the title. **Comangement Agreeement** was the problem. The laws are clear in directing NMFS to set up comanagement structures for the long term sustainability of a susbsistence harvest. John talked about the comanagement committee and the structure which is being set up through the drafting committee. He agreed that this is the right direction. He looks forward to making progress on the agreement.

Harold Martin reiterated at the NMFS has brought a spirit of cooperation througout the process of our meetings.

Kaja Brix-NMFS Alaska Region Harbor Seal Program: Kaja stated that she had learned a lot from the 2 day meeting, pointed out our common goals of conservation, and emphasized the educational components. She is excited to see that we can set a precident in this area.

Kaja reported on the structure of NMFS. She stated that NMFS is species oriented. Brian Fadely and Kaja, are in charge of the Harbor Seal Program for the Alaska Region located in Juneau. John Bengtson is located in Seattle. Office of general counsel in the Alaska Region work with attorneys in D.C. and they work through the Dept. of Commerce attorneys. Office of enforcement in Juneau works with the D.C. office. Protected Resources in D.C. which is considered Headquarters is also involved. Tom Eagle has been the main contact there.

NMFS is separated into 5 regions. The Alaska Region office is in Juneau and the science center for Alaska is in Seattle.

Fred Coyle invited a representative from the ANHSC to give a presentation to the organizations of Kodiak the next time they meet.

Recess for the day- Potlatch to follow at the Alutiiq Museum.

Sign Up Sheet 3-26-98

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APPENDIX D

Draft Summary of Fairbanks ANHSC Meeting June 27-29, 1998.
Topic: data management for biosampling project

List of participants (attached)

Vicki Vanek DVM, ADF&G Subsistence Division, gave an overview of the statewide biosampling program for harbor seals:

The project utilizes the same format throughout the state. If other entities would like to utilize our data, it is recommended the data form remains the same. Suggestions were made to set up guidelines to standardize forms.

Brendan Kelly recommended that the guidelines from ANHSC add a header or footer on data form stating were it came from and who put it out.

Discussion took place on the subject of having a central place to keep the database, several suggestions were made:
ADF&G, AMMTAP, SeaLife Center, or UAF

Discussion took place about the need for ANHSC to have a copy of database developed by Wynne and Vanek. It was stated that the Museum at UAF was a key place and discussion took place about how kids can access information and follow on reports. A curriculum for the Youth Area Watch was discussed. It could include small lessons on age vs. length, male vs. female. Kathy Frost could be contacted to input on tagging and tracking seals. There was discussion regarding where to look for other sources of funding.

B. Kelly suggested seeking funds from NSF for an educational proposal.

L. Elvsaas suggested a floating laboratory. She also likes the digital camera idea that the Pratt museum is operating on one of the Islands in her area.

B. Kelly recommends looking to the whalers up north for ideas on how to get a handle on researchers and data.

M. Simeonoff suggested looking at the whaler's by-laws.

V. Vanek rec. that people getting information on samples from ANHSC make sure they get permission from ANHSC.

M. Simeonoff brought up the issue of how do we control data from misuse by the Media?

B. Kelly: invite Tom Albert and/or the Chair of AEWC to next meeting regarding data management, requests from researchers, i.e. DNA, stock structure, and PBR.

M. Simeonoff : Recommended that if researchers are giving out their reports they must communicate that information to the ANHSC first.

Motion by Commissioner Wendy Nielsen requesting that: A letter be sent to the museum requesting that 1) When samples are requested, the museum contacts the ANHSC. 2) ANHSC then contacts researchers to ask for results of their research. Seconded by L. Elvsaas. Motion carried unanimously.
ANHSC may ask every 6 months on status.

V. Vanek discussed a tier II system. Some ideas to institutionalize a tier system: 1. Just heads and stomachs-reimburse hunter $25
2. All tissues $45
3. Contaminant Samples ?

This concluded Vanek's report.

Motion by W. Nielsen to accept Vanek's report Seconded by D. Alex. Passed Unanimously. M. Simeonoff recommend a written report in the future.

Brendan Kelly, ANHSC Contract Biologist

B. Kelly walked the group through an overview of the biosampling project which was submitted by his colleague Lori Quakenbush.

1. eliminate standard length
2. include blubber and skin taken
3. include total number of seals sampled in harvest data
4. identify data form preprinted with sample number and stick on labels

Recommend for each sample:
1. Belly up –which is the published standard length by (the American Society of Mammalogists) recommend: calling M. Castillini and ask if he still needs this on belly measurement, if not , eliminate it.

The group tabled the next 6 recommendations until further notice from the biologist.
7. Web site should be edited by the Executive Director.
8. ANHSC should acquire a permit to handle and store samples:
    a. This would insure not having to rely on others
    b. Establish credentials

Motion by Zenia Borenin to direct the Executive Director to obtain a permit from the NMFS for seal samples. Seconded by Wendy Nielsen. Passed unanimously.

9. Biannual review of sample collection

a. Where the funding is coming from
b. Require some funding from researcher

10. Review and discuss studies that are important to subsistence users
Changes to data forms needs to be addressed by staff and biologists within 1 month.

B. Kelly then gave an update on the SRG(Scientific Review Group of the Alaska Region for NMFS)
Topics included: stock structure, fall meeting scheduled for Anchorage, and replacement possibilities for Caleb Pungowiyi

Motion to accept Brendan Kelly's report was made by Dan Alex seconded by Lillian Elvsaas. Passed unanimously

List of Participants for ANHSC Fairbanks Workshop June 27-29, 1998

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APPENDIX E

Community-Based Harbor Seal Management and Biological Sampling

A Review

Prepared for
Alaska Native Harbor Seal Commission
P.O. Box 2229
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By

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June 1998

INTRODUCTION

Declining harbor seal (*Phoca vitulina*) populations in the region of Prince William Sound both before and after the *Exxon Valdez* oil spill were of concern to Alaska Native subsistence hunters. The Alaska Department of Fish and Game, Division of Subsistence (ADFG), the Alaska Native Harbor Seal Commission (ANHSC), and the University of Alaska Marine Advisory Program developed a partnership to begin a project with the following six objectives:

1) Develop a community-based pilot program to collect biological samples and other information from harbor seals in Prince William Sound and Lower Cook Inlet.

2) Collect biological samples and other information from harbor seals harvested by subsistence hunters in six communities: Tatitlek, Chenega Bay, Cordova, Seldovia, Port Graham, and Nanwalek.

3) Utilize the services of ANHSC and subcontractors to communicate information about results of harbor seal studies to hunters and scientists on a regular basis.

4) Expand the Harbor Seal Traditional Knowledge Database.

5) Collaboratively produce recommendations for subsistence users of harbor seals.

6) Evaluate the program's effectiveness and develop a more long-term funding plan for ANHSC activities and the biological sampling program.

The focus of this review includes sample collection, data management, sample distribution, and communication of information.

METHODS

I reviewed the Harbor Seal Sampling Manual (Vanek et al. No date), annual reports and proposals of the project. I queried the curators of the collection at the University of Alaska Museum and the project managers (V. Vanek and M. Riedel), and reviewed submitted data forms.

RESULTS

Harbor Seal Sampling Manual

The Harbor Seal Sampling Manual appears to be a thorough and useful guide and reference for sampler's for recording, collecting, labeling, and shipping samples.

Data Form

Several Data Forms - I found three different data forms in the UAF Museum files submitted for harbor seals. None of these were specifically identified as the form for the Harbor Seal Sampling Project and UAF Museum personnel could not tell me which one was being used by the Project. Two were titled *Seal and Sea Lion Harvest Data Form* and one was titled *Subsistence Harvest Data Form* (Appendix A). One of the forms was identical to the form found in the Harbor Seal Sampling Manual. No forms were dated or numbered by version, however all three contained data that had been collected since December 1997 indicating that all forms have been in use recently.

Sampling Information - In the Sampling Information section, all of the field data sheets ask for "Sampler's Name," but not the hunter's name. Therefore, it is not clear whether the request for the name of the village in that section is for the residence of the sampler or of the hunter.

The field sample number appears to be a combination of the Sampling Information including the date the specimen was sampled, the location of harvest, the species, and a sample number. The sample number is a number that identifies that hunter's seals (or sampler's seals?) from one another on that day. For example, the first seal shot on 1/23/97 is sample #1, the second is sample #2. The information that is placed in each sample bag, likewise includes the date, the village, the hunter (**not the sampler**), and the seal # (shot today). Unique sample and specimen numbers are not assigned until after collection when the samples and data form are received by the program managers.

Body Measurements - The request for measurements was different on each of the data forms. One of the forms did not request any body measurements. The form titled *Subsistence Harvest Data Form* requested nine measurements, while the form in the Harbor Seal Sampling Manual requested six measurements.

Standard length has been specifically defined for seals and is an important measurement used to compare body size. The measurement requested in the Harbor Seal Sampling Manual data form is **not** standard length. Standard length for seals is defined as the straight-line distance from snout to tip of tail flesh on the unskinned body, **belly up**, with the head and vertebral column in a straight line (American Society of Mammalogists, Standing Committee on Marine Mammals 1967). This measurement approximates the length of the axial skeleton. The *Subsistence Harvest Data Form* does include this measurement as one of the nine requested.

Curvilinear length is considered less useful and is used when a specimen is frozen, too heavy to move, or rigor has set in and a standard length measurement cannot be taken. It is the shortest surface distance from snout to tip of tail flesh along back, belly, or side. This measurement is usually taken with a flexible tape (American Society of Mammalogists, Standing Committee on Marine Mammals 1967). The description of this measurement on the data form is accurate.

Blubber thickness as defined by the American Society of Mammalogists (1967) as is the combined thickness of blubber and skin over the posterior end of the sternum (ziphoid process). One of two blubber thickness measurements recorded by the Harbor Seal Sampling Project is taken in the standard location but does not include the thickness of the skin.

Collection Locations

As of 7 March 1998 a total of 117 seals had been completely or partially sampled during the Harbor Seal Sampling Project; 103 from Prince William Sound, 7 from Lower Cook Inlet, and 7 from Kodiak.

Information Dissemination

Results of the harbor seal studies need to get back to the hunters and samplers so that they recognize the importance of their efforts. Scientists need to be aware of the results as well. In addition to workshops, community meetings, and biennial newsletters conducted by the partners, the UAF Museum has the ability to provide information about the status of research projects that borrow specimens. The UAF Museum loans specimens to qualified researchers from all over the world. One requirement for a loan includes submission of abstracts, funding proposals, theses, conference presentations, and publications relating to the loaned material. This information could be made available on the UAF Museum Web Site and could either be downloaded and added to the newsletter or accessed directly. Loaned material must be acknowledged in publications. This acknowledgment usually means the Museum itself, but could include the project sponsors.

Permit Considerations

Because marine mammals are protected under the Marine Mammal Protection Act, permits are required for the possession, transfer, and transportation of marine mammals and their parts for anyone that is not an Alaska Native residing along the coast. While it may not be required for the ANHSC to have a permit for their involvement in the Harbor Seal Sampling Project because the seals are collected and sampled by Alaska Natives, there may be reasons to transfer samples to entities that are not Alaska Natives and do not have permits. It is also important that anyone receiving marine mammal parts be made familiar with the requirements of the permit that covers those samples so that the permit holder is not penalized. Permit violations could greatly reduce if not eliminate the effectiveness of the Harbor Seal Sampling Project and erode relationships with agencies, institutions, and individuals holding permits.

CONCLUSIONS

In general, the project has been successful in meeting its objectives. At least 19 samplers have been trained and samples have been collected from 117 harbor seals in the vicinity of 13 villages in the Prince William Sound, Lower Cook Inlet and Kodiak regions. The project has succeeded in involving the communities, hunters, students, and scientists. There are, however, a few issues that should be considered to alleviate current or potential problems.

Because this is a subsistence harvest sample and not a scientific sample, it is expected that the distribution of specimens will be clumped. A thorough review of specific collection locations should be made periodically to see if there are areas that are not being represented. Hunters known to use certain areas may need to be contacted directly for samples. Currently, Cordova and Tatitlek are best represented while more samples are needed from all of the other villages. An additional objective for this project should be to document the total number of seals harvested per village each year. It is important to know how harvest is changing during the same time period that information on health and growth is available. Good local harvest data will allow subsistence communities and associated Native commissions to become valued co-managers of subsistence species.

A review of the material being collected, its destination, and status will be warranted as sample sizes increase. If there is information that is important to subsistence users ANHSC may want to encourage potential researchers to begin studies so that some material is not stored indefinitely.

There is the potential for confusion and loss of data regarding the field sample numbers. The sampling information asks for the sampler's name but not the hunter's name. The instructions for labeling the samples requests the hunter's name. In cases where the hunters do not process their own samples, the sample information does not correspond with the data form. The field sample number (i.e. the # shot today) combined with the data may not be a unique number for that location. For example, if two hunters were hunting in Olga Bay on 1/23/97 and both got two seals, they would have identical sample numbers that could only be distinguished by the name of the hunter, which is not requested on the data form. Using the current system, sample material must be labeled again once the unique sample number is assigned before that material is sent to the designated researcher or institution. Confusion may arise in some cases where the hunter and the sampler are the same person. It may be better to include the "name of the person that killed the seal" and the "name of the person that filled out the form" instead of "hunter" and "sampler". Requesting a signature from the person that filled out the form has resulted in more thorough and responsible data collection in other situations and could be useful here.

Currently, the sample number assigned is the AF number used by the UAF Museum for their Alaska Frozen Tissue Collection. The partners should work with the UAF Museum to have AF numbers allocated to the project and preprinted on the data forms. This would

allow all of the samples from each specimen to be linked to a unique number immediately upon collection, and eliminate the need to open and relabel each sample or risk samples being confused due to ambiguous field numbers. For further ease of labeling and data entry preprinted stick-on labels could be made to place on the data forms and on the samples. Stick-on labels could eliminate some of the problems with writing numbers on wet, bloody, or oily containers or labels. These labels could have the AF number in numerals and in a bar code. The bar code could be scanned in to the data base in seconds with no transcription errors. Bar code technology is well established, commercially available, and not expensive.

The length measurement requested on the Harbor Seal Sampling Data Form is not a commonly used measurement. The UAF Museum records standard length (belly-up) (American Society of Mammalogists, Standing Committee on Marine Mammals 1967), but does not record the belly-down measurement in their database because it is not a standard measurement and it is not comparable with previous collections. Important information is being lost by not taking the proper measurement. The greatest potential value of this dataset is that it can be compared to past collections providing insight into changes that have occurred in the population. Without a comparable measure of body length this will not be possible. Because standard length is a meant to be a standard measurement, there is a real possibility that this length data will be misused causing erroneous scientific results. If the measurement being taken (belly-down) is used as standard length and compared directly to data previously collected (belly-up), there is likely to be a statistical difference that is related only to the difference in the way the animals were measured and not to any changes in growth rate.

ANHSC should consider obtaining a permit from National Marine Fisheries Service for the transfer and transportation of marine mammal parts collected in subsistence harvests. A permit would give ANHSC more control over the material collected by subsistence hunters, the objectives of the studies using the material, as well as acknowledgment and reporting requirements.

RECOMMENDATIONS (By Priority)

1) Immediately change body length measurement to belly up, straight-line distance from snout to flesh on tail.

2) Change the blubber thickness measurement to include the thickness of the skin as described in the published standard.

3) Begin to record the total number of seals harvested in as many villages as possible each year, whether or not any samples are collected.

4) Identify the data form as that of the Harbor Seal Sampling Project, have them preprinted with unique sample numbers, and use preprinted stick-on labels to match samples with forms.

5) Tags or stick-on labels with the unique sample number should be placed in or on each sample container upon collection.

6) Change the data form to read "Who killed the seal?" "Who filled out the form?" Clarify who's village is recorded under "Village". Add a line for the sampler's signature on the data form.

7) Continue to work with the UAF Museum to make abstracts and publications related to specimens collected by the Harbor Seal Sampling Project available on their Web Site.

8) Investigate the advantages for ANHSC to acquire its own permit. Make all current and potential users of harbor seal material aware of the permit requirements so that no violations occur that could restrict the project in the future.

9) Periodically review the collection locations to determine the distribution of the samples and adjust as necessary.

10) Review the material being collected, its destination and status. Some tissues may be being archived indefinitely. ANHSC may want to contact researchers to facilitate certain studies that are important to subsistence users.

LITERATURE CITED

American Society of Mammalogists. Standing Committee on Marine Mammals. 1967. Standard measurements of seals. *Journal of Mammalogy* 48(3):459-462.

Vanek, V., K. Wynne, and M. Riedel. No Date. Harbor Seal Sampling Manual. Prepared for Alaska Native Harbor Seal Commission, Alaska Department of Fish and Game, National Marine Fisheries Service, and the University of Alaska Sea Grant.

Appendix F

SEAL and SEA LION Harvest Data Form

Office Use Only

Sps	Date	#	Vill.	AF Number
HIS	020498		KTN	1913

Latitude 55° 31.6' Initials GTR

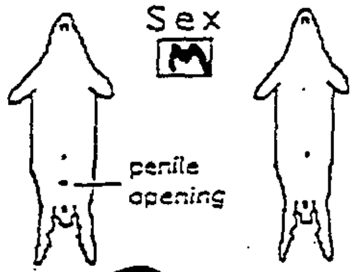
Longitude 131° 45.3' Date 4/10/98

SAMPLING INFORMATION

Village	Date Sampled (month day year)	Sampler's Name
Ketchikan	01 31 98	Larry Willard

Species	Sample # shot (today)	Location of harvest
		Back

Sex: M



Male (M) — circled; Female (F)

If it is a female:

Was she pregnant? ☐

lactating? ☐

Was the fetus collected? ☐ Y or N

sex of fetus ☐ M or F

Was a tag or brand present? ☐ Y or N

If Yes, please describe it

Coat Color: pattern on back looked most like (circle one)

A B (circled) C

Samples Collected

☒ Stomach

☒ Head

Age

Pup ☒ (up to 1 year old)

Juvenile ☐

Adult ☐

Approximately what time did you kill the seal? 1100 ☒ am ☐ pm

What time were the samples frozen? 230 ☐ am ☒ pm

If the seal was killed on or near a regularly used haulout site,

a) is this site used throughout the year?

b) estimate the greatest number of seals you've seen at this site

April – May: 30

June – July: 30

August – Oct.: 30

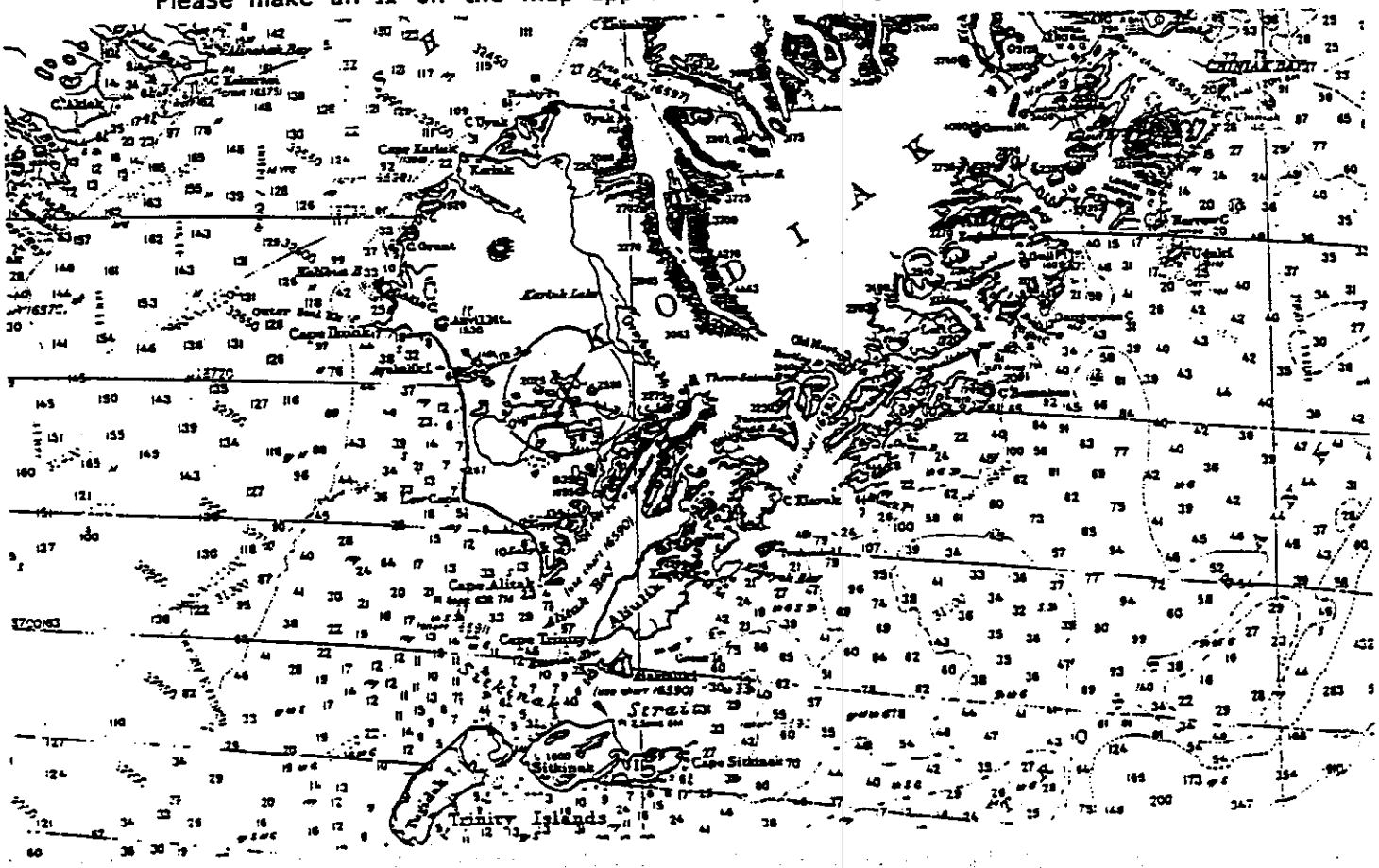
Nov– March: 30

omments: Please draw or describe anything unusual you noticed about this animal or did different than the manual described :

When you shot the seal, it was :

swimming [X] hauled out on land [ ] hauled out on ice [ ]

Please make an X on the map approximately where you got this animal



Accn 1998.017

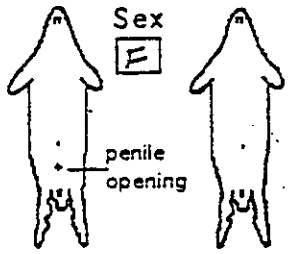
SUBSISTENCE HARVEST DATA FORM

Office Use Only
Specimen ID: Yr [ ] Sps [ ] Vill. [ ] # [ ]
AF Number [ ]
Latitude [ ]° [ ].[ ]' Initials VV
Longitude [ ]° [ ].[ ]' Date 12-17-97

SAMPLING INFORMATION

Village: NAKNEK
Date Sampled: 6 | 6 | 2 | 6 | 9 | 7 (month | day | year)
Sampler's Name: EDDIE CLARK
Species: Harbor seal
Sample #: 1 shot (today)
Location of harvest: EGEGIK

Sex: F



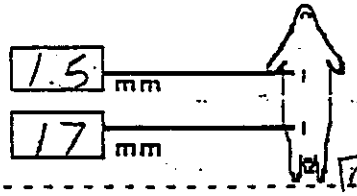
If it is a female,
Was she pregnant? N
lactating? N
Was a fetus present? N
collected? N
Y or N

Was a tag or brand present? N Y or N
If Yes, please describe it:

Coat Color :
pattern on back looked most like (circle one)

BODY MEASUREMENTS

Blubber thickness (in millimeters)



Weight : 120 pounds

Seal was weighed ☐ before ☒ after it was bled

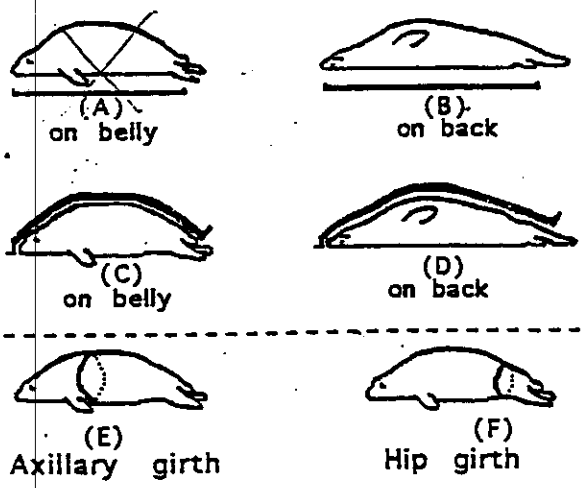
unstarded | Standard

* Measure these in centimeters ! *

Standard Length
seal on belly (A) 171 cm
seal on back (B) 166 cm

Curvilinear Length
seal on belly (C) 176 cm
seal on back (D) 176 cm

Girth
Axillary (armpit) (E) 82 cm
At Hips (F) 66 cm



SAMPLES

What samples did you collect ?

- ☒ whole head (inc. whiskers)
- ☒ stomach
- ☒ skin
- [redacted]
- ☒ blubber (whirlpak)
- ☒ muscle
- ☒ kidney tissue
- ☒ heart tissue
- ☒ liver tissue
- ☒ female repro tract
- ☐ other _____

Approximately what time did you kill the seal ? 4:35 ☐ am ☒ pm

What time were these samples
collected 5:15 ☐ am ☒ pm
frozen 5:45 ☐ am ☒ pm

Comments: Please draw or describe anything unusual you noticed about this animal or did different than the manual described :

There Seems to be Alot more Seals Here at Eagle River they Have 3 NEW Haul-out this year —

NOTE: Uterus was large (seen Frozen)- Most likely had pup in past (this year) Unable to determine more while frozen

How far was this seal from the nearest: NONE

pack ice | glacier ice | lake ice

Please make an X on the map approximately where you got this animal

(copies from US Geological Survey maps)