



AYK SUSTAINABLE SALMON INITIATIVE

Project Synopsis

KUSKOKWIM RIVER WATERSHED



(Dave Folletti)

PROJECT 309

PRINCIPAL INVESTIGATOR

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*Alaska Department
of Fish and Game*

RESEARCH PERIOD

June 2003 -
December 2004

BUDGET

\$101,591.00

TRACKING A SUBSISTENCE HARVEST

The Kuskokwim area subsistence salmon fishery is one of the largest in Alaska. Fishery managers need reliable information in order to conduct valid salmon run reconstructions and to provide the best management possible for the sustained yield of salmon resources—especially after the implementation of a new management plan in 2001 in response to salmon population declines in the region. The Alaska Department of Fish and Game has conducted subsistence harvest surveys since statehood. Unfortunately, agency funding has not been available to continue this effort. AYK SSI funding enabled agency staff to conduct surveys and analyze harvest data from the numerous small communities on the Kuskokwim River.

OUR OBJECTIVES

Collect harvest data that would allow us to estimate the total 2003 subsistence harvest by species for every community in the Kuskokwim River Fisheries Management Area.

Collect information on fishing effort, gear types, participation rates, and harvest timing, and determine how this season compared to previous ones.

Identify fishing households, update household lists, and redesign the survey process to make it more cost-effective.

HOW WE DID IT

We mailed catch calendars used to record daily catches

**RESEARCH
FRAMEWORK:**
HUMAN SYSTEMS –
PRIORITY #5

SNAPSHOT

Subsistence salmon harvest surveys were conducted in the Kuskokwim area during the 2003 season. Harvests were found to be greater than the previous year for all salmon species except for chum salmon, although Chinook and sockeye salmon harvests were also below recent averages.

Fishing gear information and improvements to survey procedures were also included in this project.

YEAR	HOUSEHOLDS		ESTIMATED SALMON HARVEST					TOTAL
	TOTAL SURVEYED	CHINOOK	SOCKEYE	COHO	CHUM	PINK		
1989	3,422	2,135	85,323	37,088	57,846	145,106	0	325,363
1990	3,317	1,830	92,675	39,659	50,708	131,470	0	314,513
1991	3,347	2,024	90,226	56,401	55,620	96,314	0	298,561
1992	3,314	1,724	68,706	34,159	44,494	99,577	0	246,937
1993	3,274	1,816	91,722	51,362	35,295	61,724	0	240,103
1994	3,179	1,821	98,378	39,280	36,504	78,949	0	251,111
1995	3,652	1,894	100,157	28,622	39,165	68,941	0	236,885
1996	3,643	1,837	81,597	35,037	34,699	90,239	0	241,572
1997	3,510	1,831	85,506	41,251	30,717	40,993	0	198,466
1998	3,495	1,849	86,113	37,579	27,240	67,664	0	218,595
1999	4,180	2,523	77,680	49,388	27,753	47,612	0	202,413
2000	4,441	2,750	68,841	44,832	35,670	55,371	0	204,714
2001	4,483	2,297	77,570	51,965	31,886	51,117	0	212,338
2002	4,339	2,798	70,219	27,733	34,413	73,234	0	205,599
2003	4,353	2,375	72,498	36,894	38,791	46,291	NA	194,474

2000-2004 Average	4,404	2,555	72,282	40,356	35,140	56,503	0	204,281
1995-2004 Average	4,011	2,239	80,018	38,258	33,348	60,162	0	212,784
All Years Average	3,730	2,100	83,146	40,750	38,707	76,840	0	239,443

SOURCE: Alaska Department of Fish and Game, Division of Subsistence, Alaska Subsistence Fisheries Database, Version 3.3.

Kuskokwim Area Historic Subsistence Salmon Harvest.
(Krauthoefer, ADF&G)

Community	Fishing Hrs**	Gear Types**						Not Reported
		Setnet	Drift Net	Fish Wheel	Fish Rod and Reel	Seine	Spear	
Kipnuk	0	0	0	0	0	0	0	0
Kwigillingok	0	0	0	0	0	0	0	0
Kongiganak	28	2	24	0	0	0	0	3
N KUSKOKWIM BAY Totals	28	2	24	0	0	0	0	3
Tuntutuliak	54	6	47	0	2	0	0	6
Esik	43	10	20	0	9	0	0	14
Kaigigik	4	0	0	0	0	0	0	4
Nanapichuk	66	3	52	0	0	0	0	12
Abmautsiak	33	7	24	0	0	0	0	6
Napakiak	44	15	32	0	0	0	0	8
Napaskiak	45	10	37	0	11	0	0	7
Oscarville	11	3	9	0	0	0	0	1
Behel	439	23	300	0	70	0	0	91
Kweethuk	82	20	62	0	39	0	0	11
Akiachak	64	13	52	0	13	0	0	7
Akiak	47	17	30	0	4	0	0	14
Tuluksak	41	16	32	0	17	0	0	1
LOWER KUSKOKWIM Totals	971	146	697	0	165	0	0	182
Lower Kalikag	29	5	19	0	2	0	0	7
Upper Kalikag	26	7	19	0	3	0	0	6
Aniak	77	11	52	0	36	0	0	10
Chuatbaluk	18	2	11	0	8	0	0	4
MIDDLE KUSKOKWIM Totals	150	25	101	0	49	0	0	27
Crooked Creek	22	6	20	0	7	0	0	2
Red Devil	5	4	3	0	2	0	0	0
Steelmute	18	4	11	0	7	0	0	3
Stony River	8	6	0	0	4	0	0	0
Line Village	9	5	0	0	7	0	0	0
McGrath	50	24	4	0	22	0	0	8
Takotna	0	0	0	0	0	0	0	0
Nikolai	2	0	0	0	0	0	0	2
Talida	0	0	0	0	0	0	0	0
UPPER KUSKOKWIM Totals	114	49	36	0	49	0	0	15
Quinhagak	86	14	51	0	33	0	0	16
Goodnews Bay	36	9	17	0	19	0	0	6
Platinum	13	5	5	0	3	2	1	0
S KUSKOKWIM BAY Totals	135	26	73	0	55	2	1	22
Mekoryuk	12	0	0	0	0	0	0	12
Nawick	1	0	0	0	0	0	0	1
Nighthute	2	0	0	0	0	0	0	2
Tokook Bay	2	0	0	0	0	0	0	2
Tununak	1	0	0	0	0	0	0	1
BERING SEA COAST Totals	18	0	0	0	0	0	0	18
Chelofnak	1	0	0	0	0	0	0	1
OTHER Totals	1	0	0	0	0	0	0	1
TOTAL	1417	250	933	0	318	2	1	268

* Data on households which subsistence fished based upon in-person surveys, returned postcards, or returned calendars.
** A household may use multiple gear types.

Kuskokwim Area Subsistence Salmon Gear Used, 2003.
(Krauthoefer, ADF&G)

AYK SSI Mission: To collaboratively develop and implement a comprehensive research plan to understand the causes of the declines and recoveries of AYK salmon.

ARCTIC-YUKON-KUSKOKWIM SUSTAINABLE SALMON INITIATIVE

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of each salmon species to all identified subsistence fishing households. Three different calendars were used to accommodate different timing and species availability in different areas. Post-season, we conducted in-person household surveys, and we sent postcard surveys to all households not covered by the in-person surveys. These post-season surveys provided information about salmon harvests, type of fishing gear used, and the quality of fishing for each salmon species.

WHAT WE DISCOVERED

We established contact with roughly half of the 4,535 households located in the Kuskokwim area. We found that the Chinook and sockeye salmon subsistence harvests have increased from the previous year, but were still below the recent five- and ten-year averages. The chum salmon harvest was the second lowest since 1988 when the surveys were reformatted. Only the coho salmon harvest was above the recent five- and ten-year averages. We also collected information on fishing gear used, the amount of fish used for dog food, and how many fish were retained for personal use in the commercial fishery. Despite declines, the majority of respondents described their fishing as "very good" or "average," even in the chum salmon fishery.

PRODUCTS AND OUTREACH

We published the results of this project in an annual departmental report, in reports to the Alaska Board of Fisheries and made them available online.

WHAT'S NEXT?

Although information on the timing of the subsistence harvest was collected and compiled into a database, funding constraints did not allow this data to be processed. Since this information is critical for the management of the fishing schedule, the need for annual analysis has been included in the redesign of the survey methodology and in the operational plan. We also identified the need for one funding source for all of the separate components.