AGENDA ITEM 12
MAY 1978

UNIVERSITY OF WASHINGTON
SEATTLE, WASHINGTON 98195

College of Fisheries
Fisheries Research Institute

12 May 1978

Mr. Jim H. Branson
Executive Director
North Pacific Fisheries Management Council
P.O. Box 3136DT
Anchorage, AK 99510

Dear Jim,

Our contract to identify the continental origin of sockeye and coho salmon intercepted by the Japanese land-based fishery utilizing scale patterns involves collecting, analyzing, and summarizing a large amount of data. For example, approximately 800 scales per species per year for each age class will be used to develop standards, and approximately 35 characters may be screened to find the best sub-set of characters for routine analysis. Furthermore, perhaps 8,000 unknown scales will be available for classification in a single year.

Currently, we are limited to the following method of collecting and storing these data. The image of a scale is projected onto an 8-1/2x11-inch form on which a grid axis is printed. Each circuli pattern of interest is marked on the axis along with count data. The data and measurements are then manually coded, keypunched, and verified prior to being read into the computer for storage on magnetic tape.

These considerations led us to design an alternative method for acquiring and handling the data. The system as designed projects a scale image onto a frosted glass surface, and from this image an electronic digitizer measures the distance between circuli designated by the reader by means of a stylus. Count data and sample identification are entered via a keyboard. The data are stored locally on magnetic cassette tapes. The tapes may be edited and scanned locally prior to being fed into the computer over a high-speed (1200 baud) transmission line. The computer terminal would also greatly facilitate our subsequent computer analysis of the data. This system will allow for rapid and accurate measurements of virtually any two-dimensional characteristics of scales, will obviate the need for tedious and error-prone transcription of data, and will circumvent costly and time-consuming keypunching.

The approximate costs of this system are as follows:

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Unit	Supplier	Cost
X-Y coordinate digitizing rails	Keuffel & Esser	$ 3,500
Manual data keyboard	"	990
MGT-2 digitizer	"	3,500
RS-232C modem interface	"	2,450
Terminal with magnetic tape cassettes	Texas Instrument	4,000
Custom-built table	College of Fisheries Developmental Shop	200
Projection device	3M Co.	500
Installation and freight	Keuffel & Esser	1,200
	Total approx. costs	$ 16,340

A strict comparison of costs between the two methods of data acquisition and storage is not possible. We are firmly convinced, however, that the initial costs can be recovered in a reasonable length of time through reduced labor costs.

As you probably know, National Marine Fisheries Service provides continuing support for the Fisheries Research Institute to conduct sampling south of Adak Island for the purpose of forecasting the return of sockeye salmon to Bristol Bay. In this program we are attempting to apportion the return among the component stocks by means of a similar approach, the polynomial discriminant function analysis of scale characteristics. Results to date have been very promising.

We have discussed our need to acquire state-of-the-art scale reading equipment with Dr. Fukuhara. He suggests, as do we, that since both projects have a need for such equipment, perhaps the best solution to obtaining the needed funds is to split the costs equally between the two sponsoring projects. We would therefore like to request that the North Pacific Fisheries Management Council provide a supplement in the amount of $8,170 to our original contract of 3 October 1977. What are the possibilities of obtaining such a supplement? Before submitting to you an official request through University channels we will wait to hear from you.

Sincerely,

Robert L. Burgner
Director

RLB:SLM:as

P.S.: I have your May 9 inquiry regarding application of the scale analyses to Southeastern Alaska chinooks. We think it is feasible but need a little time to scope the problem.

CONTRACT STATUS - May 22, 1978

AGEMDA ITEM 12
MAY 1978

NO.	TITLE & CONTRACTOR	AMT OF CONTRACT	PERIOD OF CONTRACT	REPORTS RECEIVED OR DUE	GRANT NO.	PAYMENTS MADE OR DUE	BILLING STATUS
77-1	ADF&G - Dev. & Writing of Mgt. Plans	$60,000	3-1-77 to 9-30-78	None required	04-7-158-44026	9-9-77 - $7,601.82 2-17-78 - 11,693.25 5-11-78 - 11,841.84	
77-4	University of Washington Continent of Origin	$44,500	10-1-77 to 9-30-78	1-15-78 received 4-27-78 received	4-7-158-44145	2-9-78 - 5,454.27 4-13-78 - 16,795.25	
77-5	ADF&G Observer Program Groundfish	$100,000	9-30-77 to 9-30-79	1-17-78 project reviewed Progress report 5-26-78	4-7-158-44145	5-16-78 - 5,152.11	
78-1	University of Alaska Sea Grant - Joint Venture Investigation	$33,431	1-16-78 to 6-15-78	3-20-78 received 5-22-78	04-7-158-44145	4-24-78 - 1,931.21 5-12-78 - 194.52	
78-2	ADF&G Pass Thru Funding	$25,000	10-1-77 to 9-30-78	None required	4-8-MO1-16		Billing past due
78-3	State of Alaska Pass thru Funding Office of Governor	$25,000	10-1-77 to 9-30-78	None required	4-8-MO1-16	5-4-78 - 5,830.79	
78-4	Fisheries Information System - ADF&G	$197,600	3-1-78 to 3-31-79		04-7-158-44145	5-15-78 - 1,382.82	
78-5	Herring Biology Study - ADF&G	$103,000 - 1st year funded $137,000 - 2nd year			04-7-15-44145	5-15-78 - 7,004.27	
78-6	Herring Socioeconomic Study - Dames & Moore	$ 80,826		5-24-78 Progress Report to Council	04-7-15-44145	5-16-78 - 18,512.56	
78-7	Tag Recovery Program	$ 79,300	5-1-78 4-1-79		04-7-15-44145		
78-8	Troll Salmon Logbook Analysis	$ 10,688	4-12-78 9-31-78		04-7-15-44145		

RFP OR CONTRACTS APPROVED BY COUNCIL BUT NOT FINALIZED (May 22, 1978)

TITLE	APPROXIMATE AMOUNT	STATUS
ADF&G - Troll Observer Program	$ 35,000	Funding not finalized
Benthics/Clam Study	$ 107,000	Tetra-Tech final negotiations Funding not finalized