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**PROPOSED RESEARCH PLAN FOR  
COOPERATIVE RUSSIAN-U.S. SALMONID RESEARCH CRUISE  
BERING SEA AND NORTH PACIFIC OCEAN  
APRIL-AUGUST 1995**

by

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and

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by the  
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and the  
REPUBLIC OF RUSSIA

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**ABSTRACT**

Russian and U.S. agencies propose a cooperative salmonid research and tagging cruise in the Bering Sea and North Pacific Ocean. The cruise would occur from April to August, 1995.

**1. Agencies**

KamchatNIRO  
Petropavlovsk-Kamchatskii  
Russia

Auke Bay Laboratory (ABL)/AFSC  
National Marine Fisheries Service/NOAA  
Juneau, Alaska, U.S.A.

Fish Rain Company (FRC)  
Petropavlovsk-Kamchatskii  
Russia

Fisheries Research Institute (FRI)  
School of Fisheries, University of Washington  
Seattle, Washington, U.S.A.

For complete addresses, telephone numbers, and contacts, see Appendix 1.

**2. Chartered research vessel**

Name: Nazarovsk  
Type: SRTM (medium freezer trawler)  
Length: 54.8 m  
Tonnage:  
Hull color:  
Radio call sign:  
Captain:  
Number of crew: 30 crew  
2 scientists, plus 2 foreign scientists  
Special marking: RESEARCH and call sign

**3. Area of operation**

(see Figure 1)

Area I western Bering Sea (approximately 165°E-177°E, 51°N-59°N)  
Area II southern Bering Sea/North Central North Pacific Ocean, north and south of Adak, central Aleutian Islands; approximately 178°E-173°W, 49°N-55°N)  
Area III western Bristol Bay, northwest of Unalaska Island/Unimak Pass area (2 transects of 7 stations each along 167°W and 169°W, 54°30'N-56°00'N)  
Area IV south of Alaska Peninsula (approximately 165°W-155°W, 52°N-57°N)  
Area V central Bering Sea international waters (Donut Hole)

#### 4. Schedule/Itinerary

Departure from Petropavlovsk-Kamchatskii on 19 April 1995, returning on 11 August, 1995; see Table 1 for details.

#### 5. Port Calls

Two port calls are scheduled, both in Dutch Harbor, Alaska, as follows:

June 21-23

July 22-24

Permission for port calls will be arranged by the Russian side through the Russian Embassy in Washington, D.C.

#### 6. Purpose

The general purposes of the cruise are

- to investigate the distribution, migration patterns, and stock origins of Asian and North American salmonids in the Bering Sea and North Pacific Ocean
- to obtain environmental and biological information about conditions which may affect salmonid stocks for carrying capacity and climate change studies
- to obtain data about the population structure and location of salmon stocks for forecasting timing and abundance of commercially important pink and sockeye salmon stocks
- to continue collection of data in the region of 50°N, 180° (Adak index area) for updating a long-term database from that area
- to resume historical cooperative high seas salmonid tagging research between Russia and the United States

#### 7. Objectives

The primary objectives of the cruise are to obtain information on the distribution and migration of Kamchatkan pink salmon, Asian chum salmon, Bristol Bay sockeye salmon, and Prince William Sound pink salmon. Much of the information is expected to come from tagging studies. Additional samples and information will be obtained with gillnet and trawl gear. More general information on distribution and stock origins is also sought on mixed salmon stocks in the central Aleutian area, in waters south of the Alaska Peninsula, and in the Donut Hole waters of the central Bering Sea. Data acquired will be used in forecasting pink salmon runs to the Karaginski region, east Kamchatka, and age, size, and sex data of sockeye from the area northwest of Unalaska Island will be used during the cruise to supplement in-season forecasting at Port Moller of run timing and abundance of migrating Bristol Bay sockeye stocks. Data collected in the central Aleutians will augment a long-term database dating to the mid-1950s on salmonids in that area. This information is used in forecasting of runs and in studies of changes in salmon growth and effects of oceanographic conditions.

#### 8. Scientific party

Chief Scientist: Anatoly Dekshstein, KamchatNIRO

1 assistant Russian scientist (from KamchatNIRO)

1 or 2 U.S. Scientists (middle 2 legs) (from FRI or ABL)

1 Japanese Scientist (3rd leg) (from Nat. Res. Inst. of Far Seas Fisheries, FAJ, Shimizu)

## 9. Methods

Salmon for tagging experiments will be caught with automatic jigging gear (provided by Russia) and longline gear (provided by the U.S.A.) and tagged with 3/4" red and white plastic disk tags or 1 1/4" red dart tube tags (provided by the U.S.A.). In Russian and international waters, supplemental catches may be made using variable mesh research gillnet less than 2.5 km in length (provided by the U.S.A.), with mesh sizes ranging from 60 to 160 mm stretched mesh (30 to 80 mm square mesh). A small trawl may also be fished (provided by Russia). For Bristol Bay sockeye forecasting, if a permit is granted, a gillnet identical to that fished for forecasting at Port Moller, Alaska, will be used (provided by the U.S.A.): 365 m in length, 6 m deep, 127 mm stretch mesh. If no permit is granted, longline and jigging gear will be used. Oceanographic observations on temperature and salinity will be measured by CTD (provided by the U.S.A.) or bathythermograph (provided by Russia); casts will be taken to 500 m. Plankton will be sampled in the surface layer (0-100 m) with a plankton net (provided by Russia).

## 10. Data

Data expected from tagging experiments are catch data by species and length data of individuals released with tags. Scale samples will also be collected. (Future recovery data will include date and inshore location of recovery.) Mortalities from tagging experiments and fish caught in gillnet and trawl gear will be sampled for length, weight, scales, stomach contents, and gonad weight. Oceanographic data will include temperature and salinity to 500 m. Data will be shared by all scientific participants in the cruise, each having full co-proprietorship.

## 11. Results

Catch data and other information will be provided daily to KamchatNIRO and Talking Rain Co. Information on age (from scales), size, and sex composition of catch from sockeye salmon fishing west of Bristol Bay will be provided daily to Dr. Donald Rogers, FRI, UW. A cruise report will be submitted to NPAFC at its 1995 Annual Meeting. Analysis of data and samples will result in future studies whose results will be reported to NPAFC.

**Table 1. Proposed Itinerary, Cooperative Russian-U.S. Salmon Research Cruise  
SRTM Nazarovsk April-August 1995**

19 April	Depart Petropavlovsk-Kamchatskii Russian and U.S. scientists board
19-20 April	transit to region I
21 April-16 May	Research in region I (area of Karaginski pink salmon stocks)
17-18 May	transit to region II
19 May-3 June	Research in region II (area of mixed salmon stocks, central Aleutians)
4-5 June	transit to region III
6 June-20 June	Research in region III (Bristol Bay sockeye in-season forecasting)
21 June-23 June	Port call, Dutch Harbor Exchange of U.S. scientists Japanese scientist boards
24-25 June	transit to region II
26 June-7 July	Research in region II (area of mixed salmon stocks, central Aleutians)
8-10 July	transit to region IV
11 July-21 July	Research in region IV (area of mixed salmon stocks and outmigrating Prince William Sound pink salmon, south of Alaska Peninsula)
22 July-24 July	Port call, Dutch Harbor U.S. and Japanese scientists disembark
24-26 July	transit to region V
27 July-10 August	Research in region V (Donut Hole) and region I as vessel returns home
11 August	return to Petropavlovsk-Kamchatskii

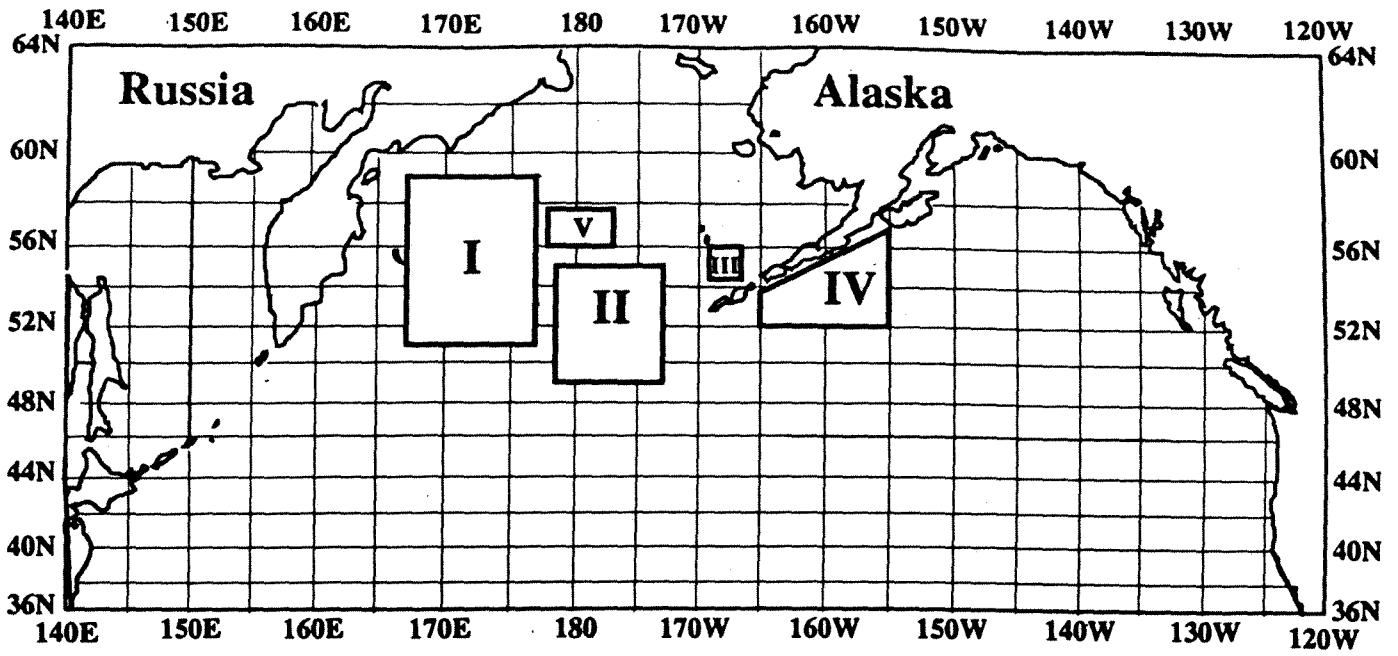


Figure 1. Proposed sampling areas, cooperative Russian-U.S. salmon research cruise April-August 1995

**Appendix 1. Addresses and contacts for Russian and U.S. cooperators, proposed cooperative high seas salmonid research cruise, April-August 1995.**

**KamchatNIRO**  
 18, Naberezhnaya  
 Petropavlovsk-Kamchatskii 68302  
 Russia

**Telephone: (415) 2-55-98**  
**Fax: (415) 2-24-05**  
**Telex: 244111 GROT SU**  
**Contact: Dr. Vladimir I. Karpenko**

**Fish Rain Company (FRC)**  
 1, Krasintseva St.  
 Mail: P.O. Box 336  
 Petropavlovsk-Kamchatskii 68300  
 Russia

**Telephone: (415) 2-39-09**  
**Fax: (415) 2-39-97**  
**Telex: 244114 BURAN**  
**Telecom: 750901-640-017 (Tel./Fax)**  
**Contact: Sergei I. Kravchenko, Gen. Dir.**

**Auke Bay Laboratory (ABL)**  
 Alaska Fisheries Science Center  
 National Marine Fisheries Service  
 11305 Glacier Highway  
 Juneau, AK 99801-8626  
 U.S.A.

**Telephone: (907) 789-6002**  
**Fax: (907) 789-6094**

**Contact: Dr. Michael L. Dahlberg**

**Fisheries Research Institute (FRI)**  
 School of Fisheries WH-10  
 University of Washington  
 Seattle, WA 98195  
 U.S.A.

**Telephone: (206) 543-1101**  
**Fax: (206) 685-7471**  
**Telex: 4740096 UW UI**

**Contact: Katherine W. Myers**