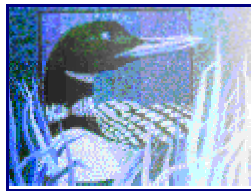


**PRINCE WILLIAM SOUND  
OIL SPILL RECOVERY INSTITUTE**



**ANNUAL WORK PLAN**

**Fiscal Year 1999**

Revised November 9, 1998

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## **1.0 Introduction**

This Annual Plan describes the oil pollution research and development (R&D) program for the Oil Spill Recovery Institute (OSRI) during Fiscal Year 1999 (FY99: 10/98-9/99).

The R&D Grant Program was established to solicit and administer oil pollution R&D projects in three areas.

- Applied Technology
- Predictive Ecology
- Public Education and Outreach

R&D grants within these program areas will be awarded and administered per the guidelines contained in the OSRI Grant Policy Manual that is maintained on the OSRI Home Page.

## **2.0 Program Background**

### **2.1 Oil Pollution Research and Development Plans**

In 1995, OSRI published an Oil Pollution Research and Technology Plan for the Arctic and Subarctic ([Thomas et al. 1995](#)) that provides a review and the guidance for developing and managing the OSRI R&D program. This plan used existing oil pollution R&D programs as a guide, particularly the National Oil Pollution Research and Technology Plan, published by the Interagency Coordinating Committee on Oil Pollution Research (ICCOPR 1992). This plan describes the scope of oil pollution prevention and response R&D, and OSRI's geographic focus on Alaska's oil transport system.

In 1997, OSRI held a [workshop](#) to update Arctic and Subarctic oil pollution issues for the Advisory Board. At this workshop R&D conducted after the Exxon Valdez Oil Spill (EVOS) were reviewed and the revised national plan for oil pollution research and technology was presented (ICCOPR 1997). Based on this workshop, the OSRI Board endorsed three programs:

- [Applied Technology](#) - to conduct research and development on new technologies for preventing and responding to oil spills in the Arctic and Subarctic;
- [Predictive Ecology](#) - to develop new capability to predict changes in animal populations at risk to spills; and
- [Public Education and Outreach](#) - to make the research process interactive with the public so that goals are clearly defined that have public benefit.

## **2.2 Grant Program Authority**

The Oil Pollution Act of 1990 ([OPA90](#)) established the Prince William Sound Oil Spill Recovery Institute (OSRI) to conduct R&D programs to develop the best available technology for dealing with oil pollution in Arctic and Sub-Arctic regions and implement long-term environmental monitoring in conjunction with federal and state agencies in the Greater Prince William Sound region (Title V, Section 5001). Under Title V, Section 5006 of OPA90, Congress authorized OSRI \$23 million over 10 years from the TAPS Fund but only after outstanding claims were resolved. In FY97, after the outstanding TAPS claims were settled, Congress appropriated \$22.4 million of the remaining funds to be held by the U.S. Treasury with the annual interest awarded to OSRI for implementation of the R&D program for the Arctic and Sub-Arctic (Coast Guard Reauthorization Act of 1996).

## **2.3 R&D Grant Policies and Procedures**

OSRI has adopted an R&D grant program based upon policies and procedures that are used by the National Science Foundation (NSF), NOAA's National Undersea Research Program and the EVOS Trustee Council. The basic document that governs the OSRI program is the Grant Policy Manual (GPM). The GPM provides guidance on the various provisions of program management. All OSRI staff, committee members, and board members will follow the guidelines contained in the GPM when processing and managing OSRI grants and projects. The OSRI GPM and other OSRI documents and forms, including application packages, are available on the OSRI web site at [www.pws-osri.org](http://www.pws-osri.org), or by request.

## **2.4 Approach**

OSRI encourages team science for both technology and ecology projects by rating the proposals on the basis of vertical integration of the research team with regulators, managers and user groups. Also, where it is appropriate, the proposals will be rated on the basis of horizontal integration of the research teams with respect to discipline and organization. Proposals that use a bioregional, public decision-making processes to establish research goals are encouraged.

## **2.5 Roles and Responsibilities**

OSRI will assist in forming R&D teams, and when necessary, take an active part in convening workshops to address important issues, participate in assessments of research issues and planning, and disseminate results. The following roles and responsibilities are assigned:

- Advisory Board - Review and approve the bylaws, policies and procedures, resolve grievances, review annual, business and strategic plans and amend budgets, hire and fire the Executive Director.
- Executive Director - prepare the annual plan, the revised business and strategic plan, hire and fire staff, direct the activities of the OSRI staff, work with the Science and Technology Committee to review large proposals, assist researchers to build R&D teams and act as the final award authority for

small grants.

- Science and Technology Committee - review all large grant proposals forwarded by the OSRI staff and make recommendations to the Advisory board for grant awards.
- OSRI Staff - provide administrative support to the Executive Director to carry out the R&D Grant Program.

## **2.6 Types of Funding**

OSRI awards will be divided into three main categories:

### **A. Large Awards** (\$100,000 or greater):

1. Applied technology grants that include proof of concept (alpha testing) of new technologies and pilot implementation projects for new applications of proven technology (beta testing).
2. Applied predictive ecology grants that develop nowcast/forecasting capability. These usually consist of numerical models and their monitoring programs for animal populations at risk.

### **B. Small Awards** (under \$100,000)

1. R & D projects in the area of technology, ecology and education
2. Workshops that have fact-finding or fact-demonstration goals related to technology, ecology and education.
3. Publications of various types that promote the OSRI R&D program to the scientific community and the general public.

### **C. Fellowships & Internships** (under \$100,000 per year)

1. Fellowship Grants to support post-doctoral and graduate students in research related to oil pollution prevention and response in the Arctic and Subarctic.
2. Internships to support high school and undergraduate college students to work with qualified researchers on OSRI projects or those relating to oil pollution prevention and response in the Arctic and Subarctic.
3. Preference will be given to those proposals that fall within one of OSRI's three program areas.

## **2.7 Application and Award Process**

OSRI staff, committee members, and board members will follow the guidelines and procedures detailed in the Grants Policy Manual (GPM).

## **3.0 Applied Technology Program**

The OSRI business plan targets up to 40% of the funds to be spent on grants, contracts and workshops in the area of applied technology. For specific information about individual grants, visit the BAA section of our web site. All costs are approximate and are subject to change. The technology granting budget for FY 99 totals \$1,617.1K (carryover of \$238.1K from FY98 , \$779K in new funds to be expended in FY99 and \$600K in new funds encumbered for a nowcast/forecast circulation program through the year 2003).

## **Nowcast/Forecast Ocean Circulation Program**

The development of the N/F capability for ocean currents is pending in FY 99. This project will develop new prediction tools that will enable OSRI to provide services to the region long into the future and, possibly, add significance to many of the smaller grants funded through OSRI. This plan appropriates a total of \$1,600K to this program over a five year period from the Technology and Ecology Program budgets. In the Technology Program area, the FY99 budget for this program totals \$200K in funds (carryover of \$50K from FY 98 budget and \$150K of new FY 99 funds) to be expended in FY99. The FY99 budget includes an additional \$600K in funds encumbered for future years for this project.

## **Circulation in Prince William Sound Based on Observed Iceberg Drift Trajectories**

Pending support of Wendell Tangborn with the Iceberg Drift Prediction (IDP) Project. The need for this project is demonstrated by the 1994 incident of the Overseas Ohio's collision with an iceberg in the tanker lanes. Support will be in the form of a challenge grant with a limited scope from the original proposal. This project will require \$48K of new funds in FY 99.

## **Proceedings of: A Symposium on Practical ice observations in Cook Inlet and Prince William Sound**

The proceedings were edited and compiled by Jean M Clarkin of Anchorage. They have been printed and mailed. The document includes technical papers presented at the symposium, and transcripts from the panel discussions (Table 1, Contract # 98-10-01). This project spent \$4.5K of \$7K in FY 98 and will spend the balance in FY99.

## **Proceedings of Conference: Dispersant Application in Alaska: A Technical Update**

The proceedings were edited and compiled by Ken Trudel of S.L. Ross Environmental in British Columbia, Canada. This document is in the final draft stage, under review by the conference steering committee. The document includes technical papers presented at the symposium, and transcripts from the panel discussions (Table 1, Contract # 98-10-04). This project spent \$3.5K of \$7K in FY 98 and will spend the balance in FY99.

## **BAA Remote Sensing Technology Development**

Pending support of one to four projects relating to new remote sensing technologies that will improve navigation, current tracking and spill risk prevention and response. This BAA follows recommendations from the ice hazards workshop, January 1998. This project will require \$200K of new funds in FY 99.

## **BAA Dispersed vs. Nondispersed Oil Demonstration**

Pending support of one to four project relating to the fate and effects of air and/or water dispersed vs. nondispersed oil, and improvement in impact prediction. This BAA follows recommendations from the dispersant workshop, March. 1998. This project will require \$200K of new funds in FY 99.

## **Technology Fellowship, Nowcast/Forecast Ocean Circulation Program**

Pending support of a post-doctoral fellow to assist Vincent Patrick (PWSSC) and Jia Wang (IARC, UAF) to compile and verify the prototype circulation model that will be used to build N/F capability in PWS. The fellow will provide technical support and assist with model development. This project has \$36K of FY 98 funds committed which will be spent in FY99.

### **Advisory Committee on Protection of the Sea (ACOPS) Workshop**

Pending project to act as a co-sponsor of a workshop with the Advisory Committee on Protection of the Sea, Environment Canada and others. The workshop will focus on circumpolar resources at risk, particularly in Arctic and Subarctic Russia. This was submitted to the OSRI as an ecology proposal after the BAA had closed. This project will require \$35K of new funds in FY 99.

### **Small Spill Technology Workshop**

Awarded to Cheri Shaw at the Cordova District Fishermen United in FY98, this workshop will be held in Cordova, AK in March 1999. The workshop will bring together Alaskan vessel operators to increase awareness and evaluate methods that most owners/operators employ to reduce the occurrence of small spills. Proceedings will be available (Table 1, Contract # 98-10-13). \$15.6K of FY 98 funds are committed to this project which will be spent in FY99.

### **Technology Coordinator Position**

This is an OSRI staff position for technical support and program development for the OSRI technology R&D program. It is currently being advertised, and is open until filled. The FY99 budget for this position totals \$128K (carryover of \$32K of FY 98 funds and \$96K of new FY99 funds).

### **BAA Oil and Broken Ice Workshop**

This is a pending project for OSRI to sponsor a workshop on clean-up techniques for oil and broken ice. There is no date set for this workshop, but discussions were held at the EPPR workshops in Norway, Finland and Russia, where the majority of this R&D is being conducted. This project has \$25K of FY 98 funds available to spend in FY99.

### **Circumpolar Workshop of Resources at Risk**

This workshop was organized by the EPPR, a division of the Arctic Council. OSRI is the US representative. The workshop focused on developing an international field guide for oil spill response along Arctic shorelines and a map of the circumpolar resources at risk to oil pollution. This project has \$30K of FY 98 funds available to spend in FY99.

The FY 98 Technology budget has \$93.5K of uncommitted funds remaining (carryover of \$43.5K from FY98 and \$50K in new FY99 funds).

## **4.0 Predictive Ecology Program**

The OSRI business plan targets 40% of the funds to be spent on grants, contracts and workshops in the area of predictive ecology. For specific information about individual grants, visit the BAA section of our web site. All costs are approximate and are subject to change. The technology granting budget for FY 99 totals \$1,384K (carryover of \$262K from FY98, \$522K in new funds to be expended in FY99 and \$600K in new funds encumbered for a nowcast/forecast circulation program through the year 2003).

### **Nowcast/Forecast Ocean Circulation Program**

The development of the N/F capability for ocean currents is pending in FY99. This project will develop new prediction tools that will enable OSRI to provide services to the region long into the

future, and possibly add significance to many of the smaller grants funded through OSRI. This plan appropriates a total of \$1,600K to this program over a five year period from the Technology and Ecology Program budgets. In the Ecology Program area, the FY99 budget for this program totals \$200K (carryover of \$50K from FY 98 budget and \$150K of new FY 99 funds) to be expended in FY99. The FY99 budget includes an additional \$600K in funds encumbered for future years for this project.

### **BAA Circumpolar GIS Mapping of Resources at Risk to Oil Pollution**

Pending grant to produce GIS maps of resources at risk to oil pollution in Alaska, on a 1 to 1x10<sup>6</sup> scale. This is part of a larger project coordinated by the Emergency Prevention, Preparedness and Response (EPPR) unit of the Arctic Environmental Protection strategy (AEPS). This project will require \$60K of new funds in FY 99.

### **BAA Seasonal and Detailed Map Series Depicting Environmentally Sensitive Areas in Prince William Sound, Alaska**

Pending project for developing digital maps of PWS resources at risk to oil spills in order to facilitate future response efforts. This will be a cooperative project with NOAA HAZMAT and the interagency group on Alaska GIS. This project will require \$50K of new funds in FY 99.

### **BAA Food Web Toxicology/Chronic Oil Toxicity**

New project to study the flow of contaminants through the food web, or continue long-term oil toxicity monitoring programs. No proposals were successful in FY 98 but some were encouraged to revise and resubmit in FY 99. This program will require \$96K of new funds in FY 99.

### **BAA Oil Impact Prediction/Monitoring**

New project that improves the prediction/monitoring of natural change in the environment or within animal populations. These programs are a prerequisite to the determination of oil spill impact and restoration activities. Three proposals on monitoring were accepted in FY 98 and will be funded from FY 98 funds. This program will require \$96K of new funds in FY 99.

### **Partitioning Early Marine and Ocean Mortality of Pink Salmon Evaluation of Otolith Marking Techniques**

Pending support for Mark Willette at the Alaska Department of Fish and Game for a small study on the feasibility of partitioning early marine and ocean mortality in Pink Salmon using an otolith marking technique. This project has \$22K of FY 98 funds committed which may be awarded in FY99.

### **Juvenile Salmon Migrations in the Gulkana River: A resource at risk from the trans-Alaska pipeline system**

Pending support of Dr. Thomas Kline with the PWSSC to conduct stable isotope analysis of salmon populations in the Gulkana River at risk to oiling by the TAPS. This is a challenge grant to Dr. Kline to raise equal matching funds. He has until the end of FY 99 to acquire the match. This project has \$100K of FY 98 funds committed for possible award as a match in FY99.

### **Permanent Archiving of Specimens Collected in Nearshore and Intertidal Habitat**

Pending support of Nora Foster at the University of Alaska, Fairbanks for the permanent archiving of specimens collected in nearshore and intertidal habitat shortly after the EVOS disaster. This project

has \$20K of FY 98 funds committed for possible award in FY99.

### **BAA Science Planning Workshops**

Pending support for two to three science planning workshops to develop cohesive science plans and cooperative programs in science. Two proposals are anticipated in FY99. One from the Prince William Sound Fisheries Ecosystem Research Planning Group (PWSFERPG) proposes revision in 1999 of the Sound Ecosystem Assessment (SEA) science plan (1993), and a second is being sought in Cook Inlet circulation modeling. The FY99 budget for these projects totals \$140K (carryover of \$70K in FY 98 funds and \$70K of new funds in FY 99).

## **5.0 Public Education and Outreach Program**

The OSRI business plan authorizes up to 20% of the funds to be spent on grants, contracts and workshops in the area of public education and outreach. For specific information about individual grants, visit the BAA section of our web site. All costs are approximate and are subject to change. The ecology budget for FY 99 totals \$338K (carryover of \$61K from FY98 and \$277K in new funds for FY99).

### **Public Relations/Communications**

Ongoing contract with Outer Rim Publications to provide public information services for the OSRI in the form of press releases and articles (Table 1, Contract # 98-10-05). In FY98, this program committed \$4K of a total of \$9K FY 98 funds. The FY99 budget totals \$15K (carryover of \$5K in FY98 funds and \$10K of new FY 99 funds).

### **OSRI Web Site**

Ongoing support for Jennifer R. Allen as the web site manager, maintaining and developing the OSRI web site and intra-net (Table 1, Contract # 98-10-03). This program spent \$9K in FY 98. The total FY99 budget is \$15K (carryover of \$5K in FY98 funds and \$10K of new funds in FY 99).

### **Annual Report**

The OSRI will contract for an Annual Report to be produced that details each of the programs developed by the OSRI in FY 99. This report will require \$15K of FY99 funds.

### **"Darkened Waters" Museum Exhibit**

Ongoing support to Carol G. Harding at the Pratt Museum to update the exhibit on the EVOS disaster, and include new information about the ten years of research since the spill (Table 1, Contract # 98-10-10). This project spent \$17K in FY 98 and will require \$17K of new funds in FY99.

### **"Science of the Sound" Community Education**

Ongoing support of Emily Becker at the PWSSC for this award winning, multi-faceted education program that includes hands-on teaching in a class room setting, a summer camp, a summer teacher training workshop and more (Table 1, Contract # 98-10-11). This program spent \$25K in FY98 and will require \$25K of new funds in FY99.

### **"EVOS 10-Years After" Anniversary Video**

Ongoing support of John LaFornaise at Alaska public Telecommunications Inc. to produce a video that will highlight the advances in science attributed to R&D after the EVOS event. The SEA program and its success will be featured (Table 1, Contract # 98-10-09). This program spent \$30K in FY 98 and will require \$30K of new funds in FY99.

### **BAA Small Spill Prevention & Awareness**

This is a new advertisement for developing an education program that will increase awareness of small spills, identify simple techniques to reduce spills and train local area response teams. This program will be developed and tested as a model for communities at risk to small oil spills in Alaska. Specific recommendations from the Small Spill workshop will be used to develop the BAA. This program will require \$50K of new funds in FY 99.

### **BAA Graduate Level Fellowships**

New grants for direct support of three post-doctoral and graduate fellows. The fellowships will be available on a yearly basis. Once awarded, these grants will be placed in the appropriate OSRI program. The total FY99 budget for this program is \$112K (carryover of \$12K in FY98 funds and \$100K in new FY99 funds).

### **BAA Student Internships**

New grants for direct support of high school and college undergraduate students to assist in research related to pollution in the marine environment. Support will be in the form of a stipend. Once awarded, these grants will be placed in the appropriate OSRI program. The total FY99 budget for this program is \$24K (carryover of \$4K from FY98 and \$20K of new funds for FY 99).

The FY99 Education budget has \$35K of uncommitted funds remaining (carryover from FY98).

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## TABLES

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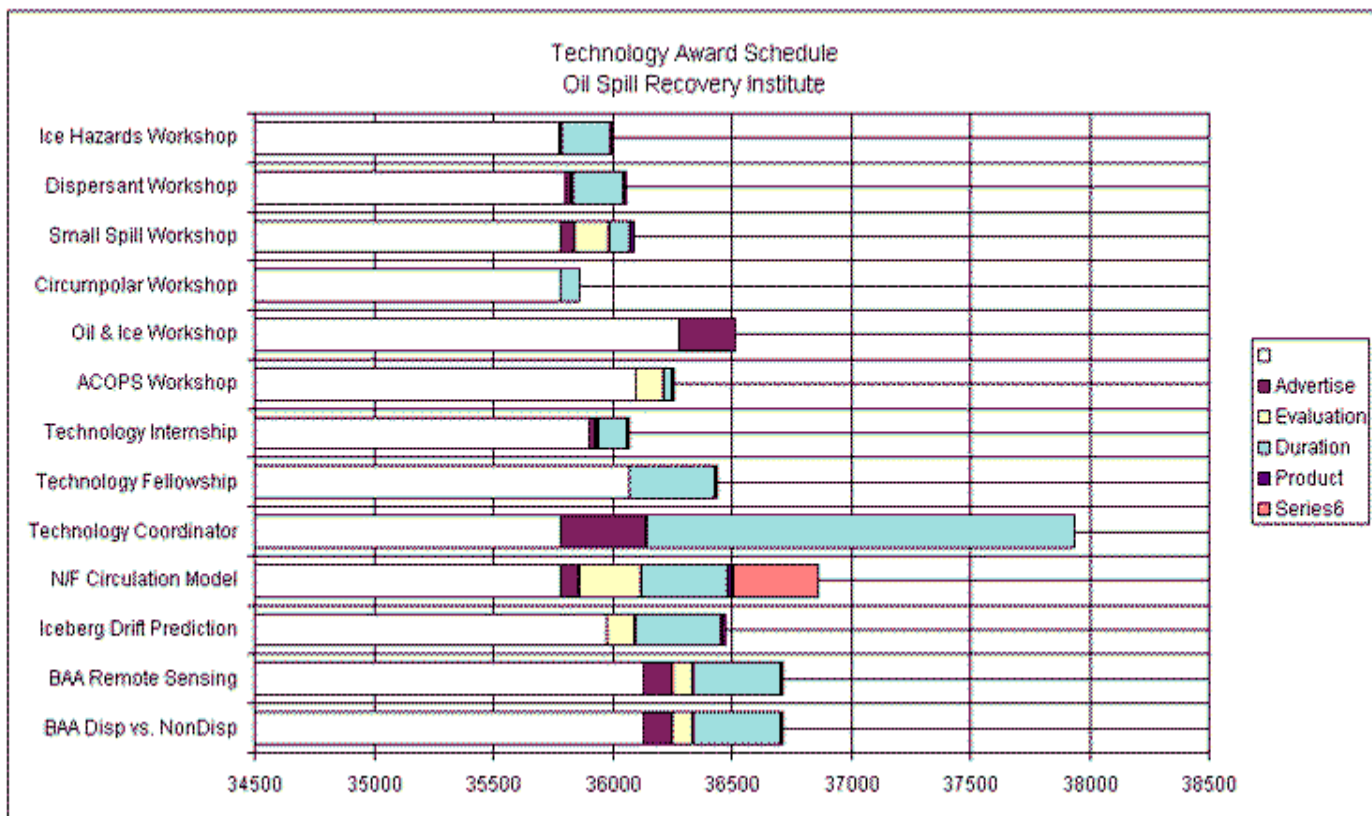


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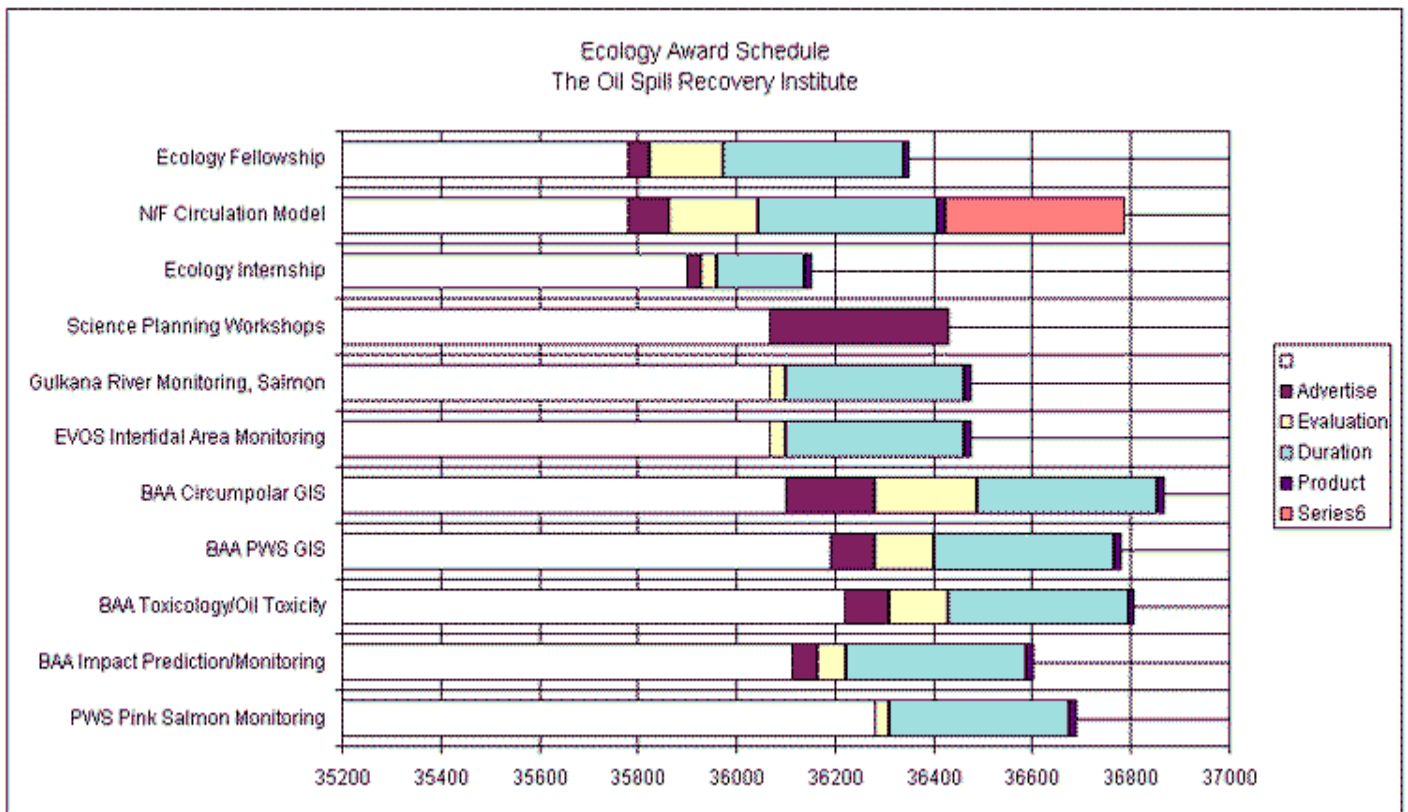
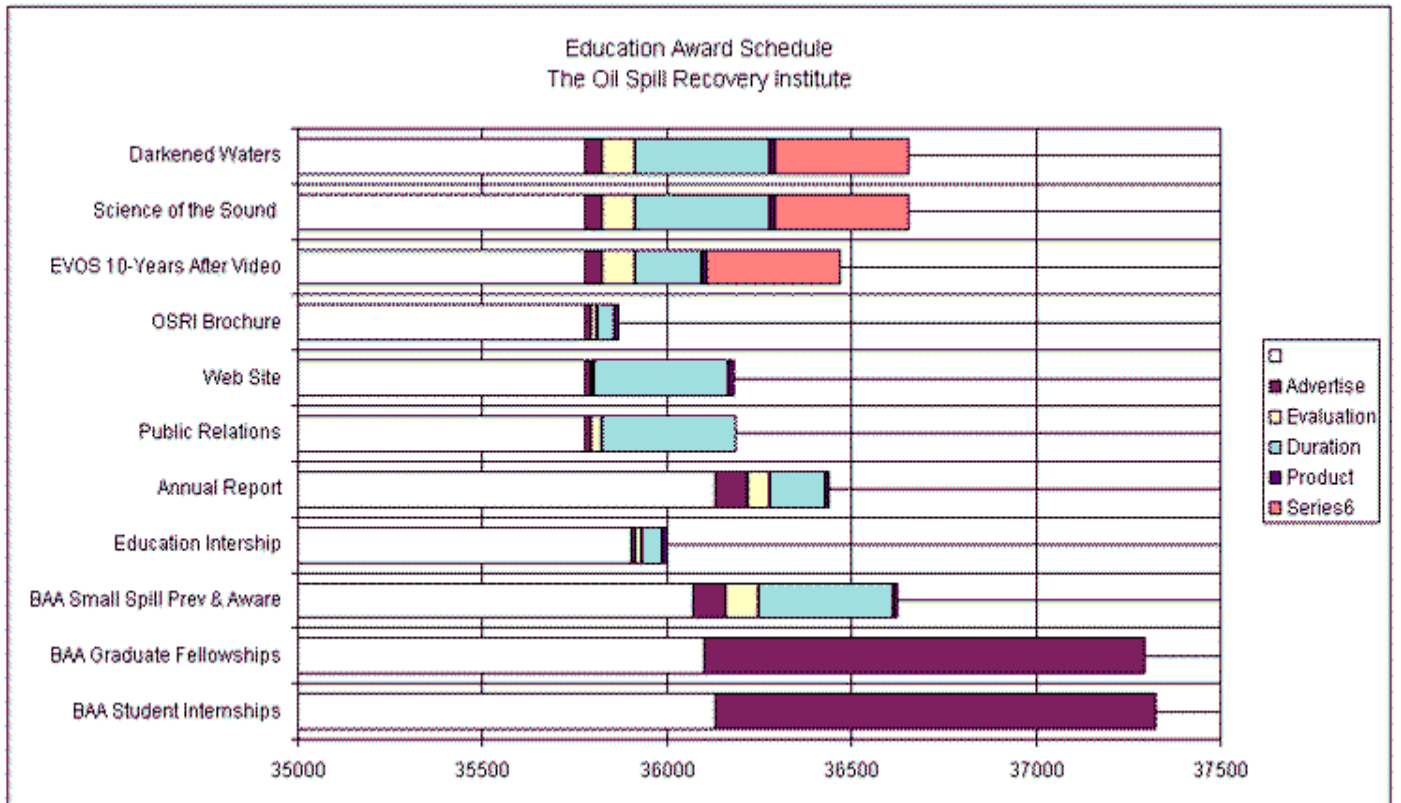


Table 3:



*Figures updated January 1, 1999*

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