

**PRINCE WILLIAM SOUND
OIL SPILL RECOVERY INSTITUTE**



ANNUAL WORK PLAN

Fiscal Year 1998

Revised January 9, 1998

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1.0 EXECUTIVE SUMMARY

This Work Plan identifies the planned oil pollution research and development (R&D) actions that will be taken by the Oil Spill Recovery Institute (OSRI) during Fiscal Year 1998 (FY98). It was developed in response to direction from the OSRI Advisory Board to establish and administer an R&D Grant Program that executes the OSRI mission. This Work Plan supports associated administrative arrangements between OSRI and the Prince William Sound Science Center.

The R&D Grant Program was established to solicit and administer oil pollution R&D projects in three areas. The OSRI Advisory Board adopted an allocation scheme for program spending of 40/40/20 in the respective areas of applied technology, predictive ecology and public education and outreach. These areas and the FY98 budget allocations for each area, as described in the OSRI Business Plan, are:

Applied Technology \$267,000

Predictive Ecology \$262,000

Public Education and Outreach \$188,000

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. Large grants (\$100,000 or greater) will be reviewed by the OSRI Staff and the Scientific and Technical Committee and will be awarded after final approval of the OSRI Advisory Board. Small grants (under \$100,000) will be reviewed by the OSRI Staff and awarded by the Executive Director. The OSRI Advisory Board will review the entire R&D grant portfolio twice per year at the semi-annual board meetings.

The FY98 Work Plan focuses on executing the following specific projects:

Applied Technology Program (ATP)

- Large grant for continued circulation modeling in the PWS/CI/NGA regions;
- Two small grants for prevention and cleanup of small spills;
- Several workshops focused on technology areas of interest; and
- Technology Program Coordinator for administering R&D grants.

Predictive Ecology Program (PEP)

- Workshops designed to develop regional science plans; and
- Small grants to study issues affecting the impact of oil on ecosystems, long-term effects and ecological risks and costs of spills.

Public Education and Outreach Program (PEOPLE)

- Publication of a brochure, bimonthly newspaper articles, and homepage updates; and

- Small grants for graduate students, interns, and community education.

2.0 PROGRAM BACKGROUND

This Work Plan summarizes the oil pollution R&D program actions that will be executed by OSRI during FY98. The specific projects described herein will be implemented pursuant to the OSRI Grant Policy Manual and the OSRI by-laws.

2.1 Work Plan Organization

Following an overview of grant program authority, oil pollution R&D plans, and R&D grant policies and procedures, the remainder of this Work Plan presents the following sections:

3.0 APPLIED TECHNOLOGY PROGRAM (ATP);

4.0 PREDICTIVE ECOLOGY PROGRAM (PEP); and

5.0 PUBLIC EDUCATION AND OUTREACH PROGRAM (PEOPLE).

Tables, figures, and appendices supporting these sections are located at the end of the Work Plan text.

2.2 Oil Pollution Research and Redevelopment Plans

In 1995, OSRI published an [Oil Pollution Research and Technology Plan for the Arctic and Subarctic](#) (Thomas et al. 1995) that provides the strategic guidance for developing and managing the OSRI R&D program. The OSRI oil pollution R&D program will be carefully coordinated with the R&D programs of other agencies and organizations. This coordination will ensure that R&D projects remain focused and take advantage of shared opportunities, funding, data, and benefits. As a minimum, OSRI will coordinate the R&D program with the R&D plans of the following agencies and organizations:

The North Pacific Research Board (marine research in the North Gulf of Alaska and Bering Sea)

Exxon Valdez Oil Spill (EVOS) Trustee Council's Sound Ecosystem Assessment (SEA) Program

Regional Citizens' Advisory Councils (RCACs);

National Science Foundation's Ocean Ecosystem Dynamics Program (GLOBEC)

The oil industry (ARCO, BP, Exxon, Alyeska,, Tesoro Alaska)

Environmental Protection Agency (refineries, storage tanks and non-transportation facilities);

Dept. of Interior-Minerals Management Service (platforms);

Dept. of Interior - U.S. Geological Survey (wildlife);

DOT-U.S. Coast Guard (vessels and marine transportation facilities);

DOT-RSPA (transportation pipelines);

NOAA - National Marine Fisheries Service (fisheries/mammals);

NOAA - Ocean and Atmospheric Research (ocean research);

NOAA - Hazmat (hazardous materials); and,

Alaska Department of Environmental Conservation (ADEC).

There are two primary oil pollution R&D programs that warrant special attention. These are the national Oil Pollution Research and Technology Plan, published by the Interagency Coordinating Committee on Oil Pollution Research (ICCOPR), and the R&D plan published jointly by the Arctic Research Convention and ADEC. These two plans provide a baseline R&D program which has been established by government and industry and will initially focus OSRI's attention on those issues which are considered to be most critical to oil pollution prevention and response.

In 1997, OSRI held a strategic planning workshop to update the strategic planning process and provide an overview of Arctic and Subarctic oil pollution issues for the Advisory Board. At this workshop, the national plan for oil pollution research and technology was presented. This work plan incorporates the workshop findings with the strategic plan. 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 the capability (models and monitoring) to predict changes in animal populations at risk to spills in along the oil production/transportation system in Alaska; and

Public Education and Outreach - to make the research process interactive with the public so that goals are clearly defined that have direct benefit to the people.

2.3 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 \$22.5 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 Act of 1996).

The FY98 OSRI Business Plan authorizes the following oil pollution prevention R&D programs and funding levels:

Applied Technology \$267,000

Predictive Ecology \$262,000

Public Education and Outreach \$188,000

2.4 R&D Grant Policies and Procedures

OSRI has adopted R&D grant program policies and procedures that are similar to those of the National Science Foundation (NSF) and NOAA's National Undersea Research Program. 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 including grant awards and selection criteria, grant administration, financial requirements and payments, grantee standards, allowable costs, and other requirements such as non-discrimination, protection of living organisms, construction, intellectual property, publication, program income, and dispute resolution. 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 home page.

Approach

OSRI is placing emphasis on team science for both technology and ecology projects. First, all large grant projects will be rated on the basis of vertical integration and may share in program income. Researchers must integrate with those who will ultimately use and regulate the product or service. OSRI may choose to share a portion of the economic value of proprietary projects that result in commercialized technologies.

Second, ecology projects will also be rated on the basis of horizontal integration. Ecology project teams should be multi-disciplinary groups of physicists, biologists and technologists who can build numerical model-based monitoring programs that improve prediction of animal population changes at economic and ecologically important high-risk spill sites along the oil production-transportation system. These teams will be responsible for developing the physical-biological (currents, temperature and plankton) models that provide the foundation for species-specific population models (fish, birds and mammals). The teams that use a bioregional, public decision-making processes to establish research goals will rank highest among applicants for ecology projects.

Roles and Responsibilities

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

Director prepare the annual business plan, direct the activities of the OSRI staff and the Science and Technology Committee in administering the R&D Grant Program, and act as the final award authority for small grants.

OSRI Staff review all grant proposals for further consideration and perform the administrative management of the R&D Grant Program.

Science and Technology Committee review all large grant proposals forwarded by the OSRI staff and make recommendations to the Director for grant awards.

Advisory Board review and approve the broad R&D Grant Program portfolio and act as the final award authority for large grants.

Types of Grants

Grants are the primary mechanism of OSRI support for R&D programs. As detailed in the GPM, OSRI will award the following types of grants:

A. Large Grants (\$100,000 or greater per year):

1. Applied technology grants that include proof of concept or alpha testing of new technologies and pilot

implementation projects for new applications of technology (beta testing).

2. Applied predictive ecology grants that develop the physical and biological now-cast/forecasting models and their monitoring programs that support the development of species-specific taxonomic models for animal populations at risk.

B. Small Grants (under \$100,000 per year):

1. Workshops that have fact-finding or fact-demonstration goals.
2. Fellowships/internships that promote training of students in applied technologies.
3. Publications that promote the OSRI R&D program to the scientific community and the general public.
4. Small R&D projects in the area of technology, ecology and education.

Grant Application and Award Process

OSRI staff, committee members, and board members will follow the guidelines and procedures detailed in the GPM. In general, the grant application and award process will adhere to the following major steps:

1. Broad Area Announcement (BAA), Request for Proposals (RFP) or advertisement
2. Contact OSRI for application package.
3. Submit preproposal (optional requirement for large grants)
4. Staff determination of qualifications and merit (optional requirement for large grants)
5. Invitation to submit full proposal (optional requirement for large grants)
6. Submit proposal
7. Review
8. Rebuttal
9. Board (for large grants), or staff (for small grants) determination of awards
10. Grant negotiations
11. Implementation
12. Review

Applications for small grants may not require the peer review and rebuttal process.

3.0 APPLIED TECHNOLOGY PROGRAM (ATP)

The OSRI Business Plan authorizes a total of \$276,000 to be spent on grants and workshops as

detailed in this section. Copies of the Broad Area Announcements (BAAs), Requests for Proposals (RFPs) and advertisements for some of the grants under this section are available. All costs are approximate.

3.1 Technology Grants

The following technology grants will be advertised and awarded in FY98:

1. Technology Program Coordinator obtain the services of a full-time R&D program coordinator that has experience in oil pollution prevention and response technology, marketing, and business management. The Program Coordinator will have to promote OSRI to and coordinate the R&D program with federal and state agencies, other R&D organizations, and the general public. The Program Coordinator will also assist the Director in administering the R&D Program.

Cost: \$8,000 per month for a total of \$32,000 beginning in June 1998

2. Circulation Modeling award a large, long-term research grant to develop nowcast/forecast ocean current systems in PWS/CI/NGA for about 300K per year for five to seven years.

Cost: \$100,000 for FY98

3. Small Spill Prevention award a small grant to address small spill prevention technologies.

Cost: \$30,000

4. Small Spill Cleanup award a small grant to address small spill cleanup technologies.

Cost: \$30,000

3.2 Technology Workshops

OSRI will fund and coordinate or participate in the following technology workshops in FY98:

1. Co-sponsorship of a symposium on "Practical Ice Observations" to be convened by NOAA, USCG and the University of Alaska in Anchorage in January in Anchorage.

Cost: \$7,000

2. Participation in a workshop on "Circumpolar Map of Resources at Risk from Oil Spills" to be convened by the Emergency Prevention, Preparedness and Response (EPPR) unit of the Arctic Environmental Protection Strategy (AEPS) in Norway in January.

Cost: \$6,000

3. Co-sponsorship of a workshop on "Dispersant Applications in Alaska: A Technical Update" to be convened by the PWS Regional Citizens Advisory Council, Alyeska Pipeline Inc./SERVES and others in Anchorage in March.

Cost: \$7,000

4. Co-sponsorship on an international grant with joint funding to develop a circumpolar map of resources at risk by the EPPR in January.

Cost: \$30,000

5. Convene a workshop in September 1998 on oil and broken ice.

Cost: \$25,000

4.0 PREDICTIVE ECOLOGY PROGRAM (PEP)

The OSRI Business Plan authorizes a total of \$262,000 to be spent on grants and workshops as detailed in this section. Copies of the Broad Area Announcements (BAAs) for some of the grants under this section are available. All costs are approximate.

4.1 Ecology Grants

The following ecology grants will be advertised and awarded in FY98 (Topics chosen are in areas of general interest to OSRI. Actual topics will be responsive to submitted proposals.

1. Food Web Toxicology award a small grant to study the transfer of oil contamination through the food web. One specific area of interest is the role of zooplankton in the transfer of toxins to higher trophic levels.

Cost: \$48,000

2. Time-Scales of Chronic Oil Toxicity award a small grant to study time-scales of chronic oil toxicity. The EVOS event was followed by numerous investigations on the long-term toxicity of oil. There are opportunities for researchers with long-term programs to argue for the continuation of their studies on the basis of merit.

Cost: \$48,000

3. Oil Impact Prediction award a small grant that improves the prediction of natural change in animal populations which is a prerequisite to the determination of oil spill impact and restoration activities.

Cost: \$48,000

4. Oil Impact Monitoring award a small grant that improves the ability to monitor biological changes in the environment that are necessary input to numerical models that predict animal population change.

Cost: \$48,000

4.2 Ecology Workshops

OSRI will fund and participate in the following ecology workshops in FY98:

1. Fund and conduct a series of ecosystem science plan workshops, using the SEA science planning process as a guide. These workshops are intended to identify important questions regarding effects and impact of oil spills that will need to be addressed by future research.

Cost: \$70,000

5.0 PUBLIC EDUCATION AND OUTREACH PROGRAM (PEOPLE)

The OSRI Business Plan authorizes a total of \$188,000 to be spent on grants and workshops as detailed in this section. Copies of the Broad Area Announcements (BAAs) for some of the grants under this section are available. All costs are approximate.

5.1 Education Grants

The following education grants will be advertised and awarded in FY98:

1. Award a small grant to develop and publish a brochure by March that describes the OSRI, its mission and short and long term goals. The brochure will also summarize the granting process and allocation scheme, and list Advisory Board members.

Cost: \$8,000

2. Award a small grant to make bimonthly updates to the homepage starting in February. It is OSRI's intent to make available data and information from the technology, predictive ecology and education programs on a continuing basis via the Internet.

Cost: \$9,000

3. Award a small grant to publish bimonthly newspaper articles on OSRI activities starting in February.

Cost: \$9,000

4. Award up to four small grants to graduate students to study in the area of prevention and response to Arctic and Subarctic oil spills.

Cost: \$18,000-36,000 each for a total of \$72,000

5. Award up to four small grants for undergraduate college and high school students to work as interns supervised by either the OSRI graduate fellows, OSRI staff or other qualified researchers.

Cost: \$1,000 each per month for a total of \$15,000

6. Award from one to four small grants to promote community education within the EVOS starting in April.

Cost: From \$12,000 to \$75,000

5.2 Education Workshops

There are no education workshops planned for FY98.

APPENDICES:

format for Broad Area Announcements.

Please see [Broad Area Announcement](#) Page