



Western Regional Aquaculture Center

Manual of Operations for Cooperative Regional Research and Outreach

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Overall responsibility for the policies and procedures for submission and approval of regional



United States Department of Agriculture
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PREFACE

This Manual of Operations provides an overview of the Western Regional Aquaculture Center (WRAC) policies and serves as a guide for the development, approval, conduct, and review of regional research and outreach projects sponsored by WRAC as authorized under Title XIV (Subtitle L, Section 1475[d]) of the Food and Security Act of 1985. The material herein is based on documents prepared by the United States Department of Agriculture (USDA) Manual for Cooperative Regional Research, Cooperative State Research Service (January 1986), documents of the National Institute for Food and Agriculture (NIFA), and the Essentials of a National Aquaculture Development Program, Science and Education Work Group on Aquaculture.

In May 2009, the WRAC Board of Directors (Board) authorized a comprehensive review and modification to the manual. As a result, the WRAC Strategic Planning Committee (SPC), in collaboration with the Administrative Office, developed this updated 2011 Manual of Operations. The WRAC Board has adopted the policies and guidelines described herein. As policies are modified or additional policies are developed, they will be incorporated into this document.

MISSION

To support aquaculture research, development, demonstration, and education to enhance viable and profitable US aquaculture production for the benefit of consumers, producers, service industries, and the American economy.

INTRODUCTION

WRAC is one of five Regional Aquaculture Centers (RAC) in the United States. The purpose of these centers is to stimulate and facilitate interstate and inter-institutional cooperation on research and outreach and to plan and coordinate these activities to achieve replication while avoiding duplication. Regional research and outreach supported by WRAC are directed toward solving problems related to aquaculture in the broad sense, including consumer concerns. WRAC's goals are to:

- Bring together competent scientific and outreach talent from participating universities and agencies to work on problems of significance to the aquaculture community.
- Address, by team effort, problems that are too costly in work force or funds for timely resolution by a single institution.
- Facilitate the interpretation and application of project results.
- Stimulate and encourage an exchange of ideas and research and outreach approaches through consultation and cooperation among scientists and outreach personnel.
- Support the continued development of aquaculture through research and outreach.

Three characteristics that distinguish RACs from other types of research and outreach organizations are:

1. Efforts are focused on a specific and significant problem of concern to two or more states within a region.
2. Participating scientists and outreach personnel are mutually responsible for planning and accomplishing the objectives.
3. Priorities are identified primarily by an Industry Advisory Council (IAC) and solutions to practical problems of the aquaculture industry are emphasized.

GLOSSARY OF ABBREVIATIONS

RAC	Regional Aquaculture Centers
WRAC	Western Regional Aquaculture Center
IAC	Industry Advisory Council
TC	Technical Committee
USDA	United States Department of Agriculture
NIFA	National
SPC	
Board	Board of Directors
EC	Executive Committee

1 Organization

Overall responsibility for the policies and procedures for submission and approval of regional project proposals, subsequent completion of approved projects, and the associated use of Aquaculture Regional Funds resides with the Board of Directors (Board) (Section 1.1, below) of the Western Regional Aquaculture Center (WRAC). The Board is advised in these duties by two groups made up of representatives from the western region:

- **Industry Advisory Council (IAC)** (Section 1.2, page 3), consisting of aquaculture industry representatives.
- **Technical Committee (TC)** (Section 1.3 page 6), comprising researchers and Extension personnel.

The WRAC Administrative Office (Section 2, page 16) coordinates all communications, report publications, and funding. The Executive Director (Section 2.1, page 16) provides linkage among USDA/NIFA, the Board, WRAC committees, and program operations funded under WRAC.

1.1 Board of Directors

The Board is the primary policy-making body for WRAC.

1.1.1 Representation

The Board is composed of 15 voting and 3 non-voting members (Appendix L, page L1).

Voting Members

- One (1) member from each of the participating universities defined under the 1998 Memorandum of Agreement. The voting member from the state of Washington is from the University of Washington.
- One (1) representative from the Principal Administrators of Cooperative Extension.
- One (1) representative from the Directors of Experiment Stations in the region.
- Chair of the IAC (Section 1.2.4, page 4).

Non-voting Members

- One (1) from Washington State University.
- Two (2) from the TC (Section 1.3, page 6):
 - Chair of the Research Subcommittee.
 - Chair of the Extension Subcommittee.

1.1.2 Appointment/Selection

Members of the Board are appointed by the:

- President or upper-level administration from each of the participating universities.
- Principal Administrators for Cooperative Extension.
- Directors of Experiment Stations in the western region.

1.1.3 Responsibilities

Motions of the Board and election of the Board Chair are determined and approved by majority vote. The Board meets semi-annually—usually in the spring and fall. The Board’s responsibilities are to:

- Elect a Chair (Section 1.1.4, below) from among voting members.
- Establish policy for overall administration and management of the WRAC program.
- Develop regional aquaculture research, development, and outreach goals.
- Allocate fiscal resources to ensure that WRAC develops strong research and outreach programs.
- Appoint members to the IAC and the TC.
- Confirm appointments of Project Monitors (Section 1.8, page 13).
- Establish priorities for regional aquaculture research and outreach education activities based upon:
 1. Input from the IAC and TC.
 2. Guidance from the National Aquaculture Development Plan.
- Review and approve research and outreach projects and annual and termination reports prepared by the Work Group Chairs (Section 1.6.4, page 11).
- Serve as mid-term reviewers of WRAC-funded multi-year projects, as needed.
- Promote WRAC as a regional resource and seek complementary resources to leverage WRAC funds.

1.1.4 Chair

1.1.4.1 Appointment/Selection

The Chair is elected by the Board at its spring meeting from among its voting members for a two-year term, beginning on July 1 of the year elected. The Chair serves no more than two consecutive terms, but may be re-elected after a two-year period has elapsed, or if the serving Chair resigns.

Nomination and Election Procedures

- The WRAC Administrative Office distributes a Call for Nominations to the Board by the end of February prior to the spring Board meeting when the Chair’s term is soon to expire. Nominators need to:
 - Determine the interest and availability of their respective nominee.
 - Prepare and submit a short statement in support of the nominee to the Administrative Office.
- The Administrative Office distributes a list of nominees along with the support statements to Board members prior to the spring meeting.
- Elections are conducted at the spring Board meeting via a paper ballot.

1.1.4.2 Responsibilities

The Board Chair’s responsibilities are to:

- Conduct Board meetings.
- Represent the Board at IAC/TC meetings, or designate a Board member to serve that function for a given meeting.
- Act as a liaison between the Board and the WRAC Administrative Office.

- Authorize, in collaboration with the Executive Director, immediately necessary expenditures up to \$1,000 outside of normal operating expenses between Board meetings.

Note: Expenditures above that amount need to be approved via conference call and email correspondence. Board members receive email notification of these expenditures. All other WRAC expenditures outside of normal operating expenses are approved at either the fall or spring Board meetings.

1.1.5 Substitute Representative Policy

Members of the Board who are unable to attend the Board meeting must notify the Chair and may designate a Substitute Representative, who may participate fully in the deliberations of the Board, and may vote on any issue under consideration.

1.2 Industry Advisory Council

The IAC provides input regarding the needs and priorities of the regional aquaculture industry with respect to research, outreach, and development programs.

1.2.1 Representation

The IAC has 12 members who are selected from the regional aquaculture industry consisting of 9 sector and zone representatives and 3 at-large members.

The IAC is structured to include, insofar as practical, representation from all industry sectors and geographic zones within the region. Suggested designations are:

- Sectors:**
1. Finfish producers (i.e., growers and hatcheries).
 2. Shellfish producers (i.e., growers and hatcheries).
 3. Suppliers of goods and services (i.e., feed producers, manufacturers and suppliers of therapeutics or equipment, and financial service providers).
 4. Marketers and distributors.
- Zones:**
1. Coastal states (Alaska and the western portions of California, Oregon, and Washington).
 2. Intermountain states (Idaho, Utah, the eastern portions of Oregon and Washington, and the cool-water eastern portion of California).
 3. Mountain states (Montana, Colorado, and Wyoming).
 4. Desert states (Nevada, Arizona, New Mexico, and the desert areas of eastern California).

1.2.2 Appointment/Selection

The procedure for appointment to the IAC is:

1. The WRAC Administrative Office solicits nominations for IAC membership from the regional aquaculture community at large. Solicitations commence well in advance of the expiration of membership terms. The Board seeks nominations from trade associations, commodity commissions and organizations, Extension personnel,

and the scientific community.

2. The WRAC Administrative Office prepares a dossier for each nominee, including a curriculum vitae and names of three references, and then presents the dossiers to the Board for review.
3. The Board makes appointments from among the nominations in accordance with the sector and zone policies (Section 1.2.1, page 3).
Note: In the event there are no nominees from a specific zone or sector, the Board may fill a vacant position from another zone or sector or leave the position vacant.
4. An appointment is for a three-year term, which begins July 1 of the appointment year.

1.2.3 Responsibilities

The IAC's responsibilities are to:

- Elect a Chair from among its members.
- Recommend to the Board, jointly with the TC, current needs and priorities from the industry perspective.
- Review jointly with the TC the annual work plans and progress of research projects.
- Recommend actions (jointly with the TC) regarding new and continuing regional projects, including modifications and terminations, to the Board.

1.2.4 Chair

1.2.4.1 Appointment/Selection

The IAC elects a Chair from among its members. The Chair serves a two-year term, beginning on July 1 of the year elected. The Chair serves no more than two consecutive terms, but may be re-elected after a two-year period has elapsed.

1.2.4.2 Responsibilities

The responsibilities of the IAC Chair are to:

- Conduct IAC meetings.
- Serve as a voting member on the Board.
- Serve as a member of the Executive Committee (EC).
- Implement Board policy and procedures.
- Prepare a Summary Report of priority statements following the biennial IAC meeting and present it to the Board.

1.2.5 Meetings

In odd years, the IAC meets in September to review and refine the list of research priorities in preparation for the combined IAC/TC meeting.

1.2.5.1 Combined IAC/TC Meeting

The IAC meets annually with the TC. The odd-year IAC/TC meeting (in October) focuses upon development of Research Priorities and Problem Statements and annual review of research and outreach projects, while the even-year IAC/TC meeting reviews and recommends funding for new research and outreach project Full Proposals and conducts annual reviews of ongoing research and outreach projects.

1.2.5.1.1 Chair

Odd-year meeting: Chair of the Executive Committee (EC) chairs all sessions (priority-setting, annual review of projects).

Even-year meeting: Executive Director chairs all joint sessions (ranking of Full Proposals, annual review of projects).

1.2.5.1.2 Procedures

- At the beginning of the IAC/TC meeting, the Executive Director announces who is eligible to vote. Voting members include all members of the IAC/TC unless the individual has a conflict of interest. (Conflict of Interest Policy—Section 1.2.5.1.3, below).
- The Research Subcommittee and the Extension Subcommittee meet as one TC during breakout sessions of the annual IAC/TC meeting to promote communication between both subcommittees.
- The IAC and the TC subcommittees review and prioritize project proposals according to the merits of the research and outreach attributes. All prioritizing and ranking of proposals is submitted to the Executive Director before general discussions are undertaken in the final joint session of the IAC/TC.
- In ranking of projects in the final joint session, priority is determined for each project by the IAC and the two TC subcommittees by a single vote from each entity, thereby providing a total of three votes available for any single project.
- Budget decisions are not decided by the IAC/TC. All budget recommendations are deliberated and decided by the IAC/TC chairs in consultation with the Executive Director and then forwarded to the Board.
- Requests for separate breakout sessions to address specific issues may be made to the Executive Director, who arranges a venue.

1.2.5.1.3 Conflict of Interest Policy

Participation of IAC and TC Members in Funded Projects

Recognizing that, in some cases, a member of the IAC or TC might be involved in developing a Pre-Proposal or a Full Proposal, a policy has been adopted to address potential conflict of interest during review of proposals and duration of the project. This policy is:

Any member of the IAC or TC who desires involvement in any capacity with proposed and funded projects may remain on the IAC or TC. However, any member who is funded by a WRAC project or potentially may be funded by a proposal under consideration at the IAC/TC annual meeting must be excused during any final deliberation or review leading to a vote related to said project or proposal. He/she is also excluded from any vote related to said project or proposal during any breakout sessions of the IAC and Research and Extension Subcommittees of the TC. The chair of the session announces when final deliberation or review leading to a vote is to commence and excuses those with a conflict.

1.2.5.1.4 Ex-Officio Member Policy

During the IAC/TC annual meeting, progress reports are provided by the Work Group Chair or representative for each ongoing project, and at the even-year meeting, new proposals are presented by the potential Work Group Chair or representative. For annual and termination reports, the Project Monitor, appointed by the WRAC Board, reports on achievement of projects to assess if satisfactory progress is being made and/or funding should be continued.

The Work Group Chair or representative reports first. Then the members of the IAC/TC discuss and ask questions of the Work Group Chair or representative, and other members of the Work Group. Then, members of the Work Group are excused while the report of the Project Monitor is presented for ongoing and terminating projects. Next, all participants return for additional questions and discussion if required by the members of the IAC/TC. If the Work Group Chair, the Project Monitor, or representative of a project are not members of the IAC or TC, they may only be involved in discussions of the IAC/TC if their advice is solicited, and they are not eligible to vote.

1.2.5.1.5 Substitute Representative Policy

Members of the IAC and TC who are unable to attend the IAC/TC annual meeting may designate a substitute representative, who is subject to the Conflict of Interest Policy (Section 1.2.5.1.3, page 5), and otherwise may participate fully in the deliberations of the IAC/TC, but may not vote on any issue under consideration.

1.3 Technical Committee

The TC provides input to the Board regarding regional research and outreach needs and priorities, guides in the development and assessment of new projects, and assists in the evaluation of ongoing projects. The TC is composed of two subcommittees:

1. **Research Subcommittee**
2. **Extension Subcommittee**

1.3.1 Representation

- Each subcommittee has a maximum of 12 members.
- When possible, each subcommittee should have one representative from each state in the western region.

1.3.1.1 Research Subcommittee

- Members represent a diversity of technical disciplines including, but not limited to: broodstock management, diseases of fish, diseases of shellfish, economics, engineering, fish nutrition, general fish culture, general shellfish culture, genetics, marketing, product quality and preservation, physiology, reproduction, shellfish nutrition, and water quality.

Note: Inclusion of other disciplines may be determined by the Board on an as-needed basis.

- Members of the Research Subcommittee from academic institutions must have

a primary research appointment, as opposed to an Extension or administrative appointment.

1.3.1.2 Extension Subcommittee

Each state has one representative. Exceptions are handled as outlined in Section 1.3.2, Appointment/Selection, below.

1.3.2 Appointment/Selection

The TC should be composed of the most qualified aquaculture scientists and Extension personnel in the region. It also should include, insofar as practical, representation of critical research and Extension disciplines and geographical areas. The procedure for appointment to the TC is:

1. The WRAC Administrative Office:
 - Solicits nominations for the Research Subcommittee from the regional aquaculture science community at-large, and for the Extension Subcommittee from the principal Extension administrators for Land Grant institutions in each of the states in the western region.
 - Prepares a dossier for each nominee, including a curriculum vita and names of three references, and then presents the dossiers to the Board for review.
2. The Board reviews the dossiers and makes appointments from among the nominees in accordance with the desired composition of the Research and Extension Subcommittees.
3. In the event that, in the opinion of the Board, there are no qualified nominees from a particular state for a specified vacancy, the Board may fill the position either from another state or leave the position vacant.
4. Membership on both subcommittees is for a three-year term, beginning July 1 of the appointment year.

1.3.3 Responsibilities

The responsibilities of the TC are to:

- Elect a Chair of the subcommittees (Section 1.3.4, page 8) from among its members.
- Recommend to the Board, jointly with the IAC, research and outreach needs and priorities.
- Develop, jointly with the IAC, Problem Statements for research and outreach areas under consideration for solicitation of research proposals.
- Review and evaluate the progress and accomplishments of regional projects.
- Compile the review documents and critiques of project activities and assessments of project accomplishments for submission to the Board.
- Recommend actions (jointly with the IAC) regarding new and continuing regional projects, including modifications and terminations, to the Board.

1.3.4 Chairs of TC Subcommittees

1.3.4.1 Appointment/Selection

Both the Research and Extension subcommittees of the TC elect a Chair from among their members for a two-year term, beginning on July 1 of the year elected. Chairs serve no more than two consecutive terms, but may be re-elected after a two-year period has elapsed.

1.3.4.2 Responsibilities

The responsibilities of the chairs of the TC subcommittees are to:

- Conduct subcommittee meetings.
- Serve as a non-voting member on the Board.
- Serve as a member of the Executive Committee (EC).
- Implement Board policy and procedures.

1.3.5 Meetings

1.3.5.1 Combined IAC/TC Meeting

The Research Subcommittee and the Extension Subcommittee meet as one TC during breakout sessions of the IAC/TC annual meeting in October for their mutual benefit (Section 1.2.5.1, page 4).

Note: Please see Conflict of Interest Policy in Section 1.2.5.1.3, page 5.

1.4 Executive Committee

1.4.1 Representation

The EC consists of nine members:

- Chairs of the Research and Extension Subcommittees of the TC (2)
- Chair of the IAC (1)
- Two additional members from each of the following areas:
 - Research (2)
 - Extension (2)
 - Industry (2)

The two additional (non-chair) members from each of the TC subcommittees and the IAC serve a two-year term only, with staggered terms. The Administrative Office schedules the staggering of terms.

1.4.2 Appointment/Selection

The Chairs of IAC and the Research and Extension Subcommittees of the TC serve on the EC as a responsibility of their offices. Two additional members are elected from each of their respective TC subcommittees and the IAC.

1.4.3 Roles and Responsibilities

- The EC acts on behalf of the TC and IAC as requested by the Board.
- At the request of the Board, the EC reviews proposals between annual meetings and then reports its findings and recommendations in a written report to the Executive Director and the Board for final decisions.
- Members of the EC must be familiar with WRAC and Board policy, and function within those policies in their deliberations.

1.4.4 Chair

1.4.4.1 Appointment/Selection

The EC Chair position rotates among the two TC subcommittees and the IAC every two years. The order of the rotation is:

1. TC Research Subcommittee Chair.
2. TC Extension Subcommittee Chair.
3. IAC Chair.

1.4.4.2 Responsibilities

The responsibilities of the Executive Committee Chair are to:

- Chair all sessions at the odd-year IAC/TC annual meeting (priority-setting, review of research projects).
- In consultation with chairs of the subcommittees, prepare, submit, and present written reports to the Board, summarizing IAC/TC and EC discussions, decisions, and recommendations.

1.5 Strategic Planning Committee

The Board maintains a Strategic Planning Committee (SPC) as a WRAC standing committee.

1.5.1 Appointment/Selection

- The SPC Chair is recommended by the Board Chair and approved by the Board.
- Members of the SPC are nominated by the SPC Chair and approved by the Board.

1.5.2 Responsibilities

The SPC's responsibilities are to:

- Craft new policies with the Board for incorporation into the WRAC Manual of Operations and submit these new policies to the Board for final approval.
- Examine periodically the Manual of Operations to maintain an updated document reflecting the policy decisions of the Board.
- Work with the Board to continue to refine WRAC's mission related to research and outreach.
- Examine and modify WRAC procedures to address issues of conflict of interest related to the operation of the Board or WRAC's various committees.
- Undertake special assignments identified by the Chair of the Board.

1.6 Work Groups

1.6.1 Representation

Work Group participants are those written into the original project proposal, or an approved project addendum. The Work Group includes:

- All Principal Investigators (PIs) or scientists directly engaged in the project research whether or not they receive WRAC research funds.
- The Outreach Representative associated with the project.
- One Industry Advisor.

1.6.2 Appointment/Selection

Principal Investigator: One from each institution/agency/business entity participating in the project. More than one PI from a participating institution, agency, and business entity may be appropriate when the scope of the regional project involves more than one subject matter discipline or when more than one laboratory or center participates directly.

Outreach Representative: Selected by the PIs of the research project.

Industry Advisor: Selected by the Work Group.

1.6.3 Responsibilities

In addition to preparing the project outline and conducting the approved research and outreach, the members of the Work Group are required to:

- Meet at least annually to review progress of the project and coordinate and implement work plans to address research and outreach objectives.
- Select a Chair.
- Discuss the capability and resource commitment of each participant.
- Prepare outlines of annual resources committed by each participant (inputs), including personnel, funds, and facilities.
- Agree upon participant work assignments, assuring conformity with objectives and procedures.
- Prepare individual budget outlines that contribute to a combined budget for the project as a whole.
- Evaluate and report yearly progress toward project objectives that contribute to an annual report for the project as a whole.
- Participate in meetings and activities, accept reasonable assignments, and meet agreed-upon deadlines.
- Contribute to the preparation and review of research and outreach publications.
- Prepare an annual progress report or a project termination report.
- Communicate with the Outreach Representative to assure information is conveyed in a timely fashion to meet outreach objectives.

1.6.4 Chair

1.6.4.1 Appointment/Selection

The Chair is elected by the members of the Work Group. All voting members of the Work Group (Section 1.6.6.1, page 12) are eligible for office regardless of sponsoring agency affiliation.

1.6.4.2 Responsibilities

The responsibilities of the Chair of the Work Group are to:

- Convene all Work Group meetings.
- Plan project efforts, prepare project outlines, and provide leadership to the Work Group as a whole.
- Distribute data summaries and individual progress reports to all Work Group members in advance of meetings.
- Coordinate the input of materials from all Work Group participants and prepare all required annual, final, and termination reports.
- Provide all reports that require the signature of the Project Monitor to that person prior to submission of the reports to the Administrative Office.
- Maintain communication with the Project Monitor and facilitate communication with the rest of the Work Group concerning directions and recommendations of the IAC/TC and the Board.
- Provide all annual and termination reports to the Board member assigned to the project mid-term review.
- Arrange for the mid-term project review (including contacting the Board Review member about the review date).
- Record minutes of the Work Group meetings. The Work Group needs a written record of its meetings and action items for orderly planning toward completion of project objectives, including publication of accomplishments and project deliverables.
- Prepare and distribute copies of minutes to all members of the Work Group, Project Monitor, Industry Advisor, and the Administrative Office.
- Perform other duties assigned by the Chair.

1.6.5 Work Group Executive Committee

The Work Group may select an Executive Committee consisting of the Chair and two or more voting members, including the Outreach Representative, to conduct business of the Work Group between formal meetings and perform other duties as designated by the Work Group. The Work Group Chair may select other subcommittees as needed for specific assignments.

1.6.6 Meetings

1.6.6.1 Voting and Non-Voting Members

Voting Members

- Each PI involved in the project receives one vote. However, if there is more than one PI from a participating institution/agency/entity, only one vote is allotted.
- Outreach Representative.

Non-Voting Members

- Project Monitor.
- Industry Advisor.

1.6.6.2 Guidelines

Initial Work Group meetings are convened by the Work Group Chair, who acts as liaison with other WRAC committees and the Board. All business pertaining to a cooperative regional project is the responsibility of the Work Group members.

Note: The meeting/travel expenses of the project's Project Monitor are covered by WRAC project development funds separate from the specific research project grant funds.

Convening an annual face-to-face meeting of the full Work Group is required to summarize and critically evaluate progress, analyze results, and plan future activities, reports, and publications. Personal contact, including group planning and evaluation of research and outreach activities, must be adequate to ensure a team effort and a regional approach to each problem. Additional or special meetings may be called by the Project Monitor, as provided for in the regional project outline or with approval from the Board.

Specific guidelines to ensure effective Work Group meetings:

- Place the major emphasis of the meeting on: critical review of progress, review and refinement of procedures, and plans for future work, data summary, and publication.
- Schedule time at each meeting to permit thorough discussion of both current and proposed work.

1.7 Outreach Representative

One of the principal goals of the WRAC program is the application of project results for the benefit of industry. Adequate and early attention to the outreach component of projects, research results, and outcomes is needed. The Outreach Representative works with other Work Group members to develop, implement, and evaluate outreach activities and products.

1.7.1 Appointment/Selection

Outreach Representatives may be selected by other members of the Work Group on the basis of their ability to support outreach efforts and ultimately industry application of project results. Alternatively, the Board may select and assign an appropriate Outreach Representative to the project.

1.7.2 Responsibilities

The Outreach Representative is responsible for working with other members of the Work

Group to develop a final comprehensive outreach plan for each project objective, ensure that adequate progress is being made toward that plan over the course of the project, and develop outreach outcomes as identified in the plan. Support within the project budget should be provided for this process.

1.8 Project Monitors

A Project Monitor is appointed to each funded research and outreach project to assist the Work Group in an advisory role and provide an independent evaluation of the project.

A Project Monitor is chosen for his/her familiarity with the research and/or outreach area of the project, willingness to work with the Work Group, and ability to evaluate and report objectively on progress of the project. Project Monitors expenses are funded by the WRAC Administrative Office and not through the individual research projects.

1.8.1 Appointment/Selection

The Board appoints a Project Monitor or approves a Project Monitor suggested by the IAC/TC. The Project Monitor serves for the life of the project funding. Those Project Monitors who are not already members of the TC are appointed ex-officio members. In the event that it is necessary to replace a Project Monitor during the appointed term, the WRAC Executive Committee (EC) appoints an acting Project Monitor to serve for the remainder of the fiscal year and a permanent appointment is made after the next IAC/TC annual meeting and upon confirmation by the Board.

1.8.2 Responsibilities

The primary charge to the Project Monitor is to monitor progress and to ensure compliance with NIFA regulations. The Project Monitor represents the interest of the IAC/TC and Board by providing an annual assessment of the project's progress and, if necessary, makes suggestions that might facilitate better achievement of the project's objectives. It is recommended that Project Monitors develop a positive relationship with the Work Group Chair and other members of the Work Group.

Note: The Project Monitor does not serve as an advocate for the Work Group or project.

The Project Monitor's responsibilities are to:

- Serve as the IAC/TC representative on the project.
- Monitor the progress of the project.
- Provide information to the Work Group Chair on WRAC's administrative and operational procedures.
- Communicate or meet with the:
 - Work Group at annual meetings to track the progress of the project and determine if it is on schedule relative to the original proposed objectives.
 - Funded Outreach Representative, Industry Advisor, and Board Representative to assess the progress of the proposed outreach objectives and to facilitate

achievement of expectations outlined in the original proposal.

- Review the annual progress and termination reports prepared by the Work Group Chair, affix signature, and forward the reports to the WRAC Administrative Office.
- Present two reports at the annual IAC/TC meeting:
 - a. **Verbal**—following the report of the Work Group Chair (or designated representative); the Verbal Report includes:
 - i. Progress and year-end results.
 - ii. Identified problems or needs in terms of work being accomplished and objectives being met.
 - iii. Assessment of the project's progress, strengths and weaknesses, and recommendations for addressing the weaknesses.
 - b. **Written**—submitted to the Executive Director, for use by the Board during the annual review of progress. See Appendix J for an example of a Project Monitor Report.

Note: The Project Monitor does not present research findings, but rather serves as an objective observer and, therefore, is free to make unbiased observations independent from the Work Group.

1.9 Industry Advisors

An Industry Advisor is assigned to each funded research and outreach project to assist the Work Group in an advisory role as an unfunded participant. However, travel expenses for the Industry Advisor are paid by the WRAC Administrative Office.

1.9.1 Appointment/Selection

The Industry Advisor is selected by the Work Group based upon a mutual willingness to work together, and his or her familiarity with the research and/or outreach area of the project. An Industry Advisor may be selected from the IAC or from any WRAC state.

1.9.2 Responsibilities

The Industry Advisor provides information to and collaborates with the Work Group about industry's needs and priorities relative to the research and outreach project.

- The Industry Advisor collaborates with the Work Group to help ensure that industry's needs are met through the research and outreach objectives of the project.
- The Industry Advisor with the Outreach Representative and Board Representative meet or communicate with the Project Monitor to assess the progress of the proposed outreach objectives and to facilitate achievement of expectations outlined in the original proposal (Section 1.7.2, page 13).
- The Industry Advisor is strongly encouraged to attend the mid-term review (Section 5.2, page 30).

1.10 Key Extension Contacts

Key Extension Contacts are Extension personnel within each state of the western region who are

knowledgeable about the aquaculture industry and familiar with available aquaculture expertise and resources, and who communicate with the industry and the public.

1.10.1 Appointment/Selection

Each of the WRAC states has up to two designated Key Extension Contacts. The appointed representatives to the Extension Subcommittee of the TC will also serve as Extension contacts for their respective states.

1.10.2 Responsibility

The major responsibility is to serve as the primary contact for pertinent information related to aquaculture issues within their respective states.

The WRAC Administrative Office is composed of an Executive Director and support personnel as required. The Administrative Office is the management entity for WRAC, dispersing funds

2 Administration

to participating institutions and serving as a legal and fiscal agent in the receipt and disbursement of funds made available under grants from the USDA/NIFA. The Administrative Office is also responsible to:

- Coordinate and implement the conduct of individual projects, and provide fiscal and technical reporting to USDA/NIFA.
- Collaborate in other regional research and outreach activities consistent with the goal of expanding production of aquatic species in the United States.
- Serve as a focal point for information exchange and facilitate research, extension, and outreach linkages within the region.
- Maintain liaison with USDA and other Regional Aquaculture Centers (RAC) and assist in the coordination of inter-regional and national programs.

2.1 Executive Director

The Executive Director provides linkage among the USDA/NIFA office in Washington, DC, the WRAC Board members, the host institution's financial and administrative offices, and program operations funded under WRAC.

2.1.1 Appointment/Selection

The Executive Director is appointed by the Board in consultation with the appropriate administrators of the host university. Upon notification of an impending vacancy, the Board Chair:

- Collaborates with the appropriate administrator(s) of the host university to select and appoint an Interim Executive Director.
- Initiates a search process involving the Board and appropriate host university administrator(s) to recruit, interview, and select a new Executive Director.

2.1.2 Responsibilities

The Executive Director's responsibilities are to:

- Account to the Board for the overall operation of WRAC.
- Facilitate and coordinate interactions among institutions and industries of collaborating states.
- Monitor research and outreach activities.
- Submit work plans, project summaries, and fiscal reports to USDA.
- Serve as Chair of all joint sessions of the even-year IAC/TC annual meetings, and serve as an ex-officio member of the TC.
- Function as Executive Director and Executive Secretary to the Board.
- Provide executive leadership for WRAC by:
 - Developing management plans and budgets.
 - Submitting to USDA/NIFA the Annual Work Plan for projects to be funded as

recommended by the Board.

- Coordinating proposals and negotiating and entering into funding agreements with USDA/NIFA.
- Facilitating, in accordance with the host institution's Grant and Contract Services, the development and execution of appropriate agreements with participating subcontractors.
- Serving as administrative officer in receiving and dispersing monies made available through USDA/NIFA grants, using normally accepted accounting practices of the host institution, in accordance with the terms and provisions of the grants.
- Facilitating, in cooperation with the IAC/TC, the annual review of projects.
- Arranging for external peer review of project proposals.
- Developing liaisons with appropriate institutions, agencies, and clientele.
- Compiling information for dissemination.
- Preparing a compiled Annual Accomplishment Report for submission to USDA/NIFA.
- Submitting required reports and updates to the USDA's Current Research Information System (CRIS).
- Coordinating and collaborating with the four other RACs.
- Providing comprehensive communication with all prospective researchers about the WRAC funding process and timeline.

A full description of the Executive Director's position description and responsibilities is included in Appendix K, page K1.

2.2 Support Personnel

Currently, the support staff consists of a Program Manager, a Fiscal Manager, and on an as-needed basis, a Graphic Designer/Editor.

2.2.1. Appointment

The Program Manager and the Fiscal Manager are hired by the Executive Director according to the administrative needs of WRAC and the requirements of the host institution.

The Graphic Designer/Editor is hired on a project basis by the Executive Director.

2.2.2 Responsibilities

2.2.2.1 Program Manager

Administration and Planning

Implement, coordinate, and control administrative services:

- Coordinate interaction and participation of Principal Investigators (PIs) in implementing research and outreach projects.
- Solicit annual written and oral testimony from aquaculturists for Congressional testimonies to both the House and the Senate subcommittees regarding funding appropriations.
- Represent Executive Director to internal and external program participants and serve as a communications liaison representing goals and interests of the Executive Director.

- Coordinate with the Fiscal Manager and with hourly staff in the efficient management of the Administrative Office.

Research Coordination

Manage communication and information flow concerning program and project activities:

- Coordinate initiation, management, and evaluation of projects.
- Establish timelines and monitor progress of projects, including support for Work Group meetings.
- Participate in development of policies and procedures.
- Work closely with USDA/NIFA leaders, university administrators, deans, and other academic leaders regarding ongoing research projects.
- Review project status to ensure that reports and deliverables for research grants are in compliance.

Financial Management and Reporting

- Work with the Fiscal Manager to ensure efficient fiscal monitoring and tracking of grant expenditures.
- Coordinate and manage expenditures related to WRAC committees, including travel, accommodation, and meeting expenditures.
- Generate annual progress reports in compliance with legislative statute, including updates on funded research and extension activities.
- Assist Executive Director and Fiscal Manager to develop and send Work Plans to funding agency by end of each year, identifying research programs and funding levels.

Outreach

- Coordinate all public outreach activities and establish positive long-term relationships with the aquaculture industry.
- Communicate pertinent information and counsel IAC and TC on regular basis regarding programmatic issues.
- Coordinate provision of information on WRAC and aquaculture to the public and to the media.
- Maintain communications with USDA/NIFA leaders and the other four RACs.
- Establish communication links between industry, research, and extension personnel throughout the western region.
- Develop and coordinate meetings of the IAC, TC, Work Groups, and the Board, including selection and coordination of meeting sites, generation of meeting minutes, and implementation of policy decisions.
- Develop, maintain, and update electronic publications and project databases.
- Maintain and regularly update WRAC's website.
- Write, edit, and produce *Waterlines*, the annual newsletter designed to keep the aquaculture industry and the public informed about aquaculture activities and issues.
- Edit Annual Progress Reports, Annual Work Plan, and Administrative Bulletins.

2.2.2.2 Fiscal Manager

Annual Work Plans

- Plan and submit WRAC’s Annual Work Plan to the USDA/NIFA for funding in accordance with USDA/NIFA’s guidelines.
- Prepare work plan amendments and other WRAC project proposals for submission to USDA/NIFA for approval.

Budgetary

- Record, track, and reconcile all WRAC finances.
- Monitor, evaluate, and present all WRAC budgets, including grant and gift awards.
- Resolve all budget problems/issues, working in conjunction with the offices of Grants and Contract Services (GCS) and Grants and Contracts Accounting (GCA) at the host university as well as off-campus WRAC-funded institutions.
- Responsible for all on-campus and off-campus purchasing for WRAC-funded projects and meetings.
- Responsible for all Procard transactions and reconciliation of both purchasing and travel accounts.
- Aid in developing and forecasting annual budgets.
- Provide detailed budget projections, charts, and graphs to the Board of Directors and Technical Committee.
- Work closely with GCS and GCA in using the university budget system.
- Complete and file all required documentation for grant submission.
- Establish and monitor all sub-budgets and subcontracts and work closely with the PIs in helping them manage and maintain their budgets.
- Designate and approve payroll expenses for WRAC staff and on-campus support.

2.2.2.3 Graphic Designer/Editor

Graphic Design

- Design, layout, and produce WRAC-sponsored publications, including the *Waterlines* newsletter, Manual of Operations, Annual and Termination Reports, Research and Outreach Reports, Fact Sheets, FAQ pieces, legislative brochures.
- Manage and coordinate the printing process for all publications.
- Design the WRAC website.
- Correct and adjust photos for all publications, printed and online.
- Provide illustrations and graphic elements for publications.

Editing

- Proof and edit all WRAC publications.
- Collaborate with Program Manager on WRAC outreach printed and online documents.

2.3 Communications

2.3.1 Regional Research and Outreach Project Submission

and Review

The Administrative Office provides clear communication to all prospective researchers regarding the Problem Statements, the required elements and timeline for proposal submissions, the review process, and potential funding notification.

Communications to all prospective researchers include:

- A Checklist form that:
 1. Contains the basic requirements for submitted Pre-Proposals and Full Proposals to be accepted for further consideration.
 2. Is posted on the WRAC website and is included in the Pre-Proposal and Full Proposal packets.
 3. Requires each item to be checked off by the submitting PI indicating that the item has been addressed.
 4. Needs to be signed by the submitting PI.
- Reference to a sample Pre-Proposal and Full Proposal that is posted on WRAC's website.
- Explanation of major issues that can jeopardize a Pre-Proposal or Full Proposal. This information is also posted on the WRAC website in a section related to instructions for proposal submission.
- Required elements for Pre-Proposals and Full Proposals:
 1. Must be received by announced deadline. Electronic submission by the due date qualifies as meeting the deadline.
 2. Must address each element identified in Pre- and Full Proposal checklists in the order presented.
 3. Must include checked and signed Checklist.
 4. Must include signature of the PI submitting the proposal.
- Encouragement for first-time applicants to submit proposals at least two weeks prior to final deadline. This earlier submission allows time for the Administrative Office to review the proposal using the Checklist and to inform the authors what requirements are not met, thereby providing time to adjust and re-submit before the final deadline.
- If a proposal does not address all components required by the Pre- or Full Proposal Checklist by the deadline posted in the Call for Submission, the Administrative Office returns the proposal to the submission team leader with a letter of proposal rejection for failure to follow submission requirements, and with an encouragement to submit proposals in the future.

2.3.2 Work Group Personnel

The Administrative Office sends a description of roles and responsibilities to new Project Monitors as soon as they are identified with a Work Group and again at least six weeks before the IAC/TC annual meetings.

2.4 Records

The Administrative Office establishes a system to collect, record, and maintain the decisions

made for each project. This includes the minutes and recommendations of the IAC/TC and EC, and Board decisions concerning all funded projects. A system also is established to collect and organize all policy decisions made by the Board.

- Hard copies of all decision correspondence and reports pertaining to each project are maintained in folders and archived for five years after the termination of the project.
- Digital records of decisions, correspondence, and reports are maintained in the WRAC archives as part of the permanent record. These digital records are archived on storage hard drives and backed up on a server, or comparable systems that are independent from the office computer systems.
- The Strategic Planning Committee serves as an advisory committee to the Administrative Office in the construction and maintenance of such systems.

WRAC was created to serve the aquaculture community throughout the western region by developing a program of research and outreach projects in aquaculture sciences and technology. Carefully conceived planning procedures and management ensure that:

3 Project Planning

- Research and outreach projects address important regional constraints and opportunities for aquaculture development and production.
- All sectors of the regional aquaculture community are provided with equitable opportunities for input into the planning process.
- Research and outreach activities are of high technical merit and represent the best use of financial resources.
- There is a rational approach to making decisions about continuation, modification, or termination of existing projects, and for initiation of new program activities.
- Important new knowledge and technologies supported by WRAC grants are treated as public assets and are transmitted to end users throughout the region, without regard for proprietary concerns.

3.1 Research and Outreach Project Submission, Review, and Selection Overview

In general, the submission, review, and selection process is as follows:

- The Industry Advisory Council (IAC) and Technical Committee (TC) jointly develop regional research and outreach priorities and Problem Statements during odd years.
- After approval by the Board, these Problem Statements are disseminated in the Call for Submission for Pre-Proposals.
- Work Group participants focus on a Problem Statement, prepare a Pre-Proposal, and submit it to the Administrative Office.
- Pre-Proposals are reviewed by the Executive Committee (EC) with recommendations made to the Board.
- The Board, after reviewing the EC's recommendations, decides which authors of Pre-Proposals will be invited to submit Full Proposals.
- Full Proposals are submitted and reviewed by external reviewers.
- At the even-year IAC/TC annual meeting, Full Proposals and the accompanying reviews are evaluated, and recommendations are made to the Board for allocation of WRAC funds.
- The Board, after evaluating the recommendations of the IAC/TC, makes decisions regarding funding of research and outreach projects.
- The Administrative Office submits the overall regional program to USDA/NIFA for approval in the form of an annual Work Plan.
- Direct responsibility for national administration of the Aquaculture Regional Funds has been delegated to NIFA by the Secretary of USDA, who is ultimately responsible for administration of the Regional Aquaculture Centers.

3.2 Planning Process

WRAC's planning procedures for its regional research, outreach, and development programs address new, ongoing, and terminating projects. The planning process for new projects spans an

18-month period, which includes identification and prioritization of research areas, solicitation and review of Pre-Proposals, invitations to submit Full Proposals, and selection of proposals for development and implementation. Funding for approved projects begins September 1 (contingent upon timely receipt of funds from USDA/NIFA). The schedule for WRAC program planning and implementation is shown in Appendix A, page A1.

At the IAC/TC annual meetings, all ongoing projects are reviewed to evaluate progress and recommend changes that may be needed, and completed projects receive a final review.

3.3 Criteria for Regional Projects

The following criteria are used to prioritize cooperative regional research and outreach projects for receiving WRAC funding:

- **Proposed project:**
 - Involves at least two institutions and activities within two states depending on the nature of the problem and the most effective use of resources within the western region.
 - Is likely to attract additional support for research and/or outreach on the problem, which is not likely to occur through other programs and mechanisms.
 - Can be made sufficiently specific to promise significant accomplishment within four (4) or fewer years.
 - Can be effectively organized and conducted on a regional level, ensuring coordinated and complementary contributions by all participants.
 - Produces results that can provide the solution to a problem of fundamental importance or fill an information gap in knowledge from the standpoint of present and future aquaculture in the western region.
 - Contain an outreach component with defined objectives and deliverables according to Appendix C, Attachment H—Outreach and Evaluation Plan (page C11)
- **Research on the problem:**
 - Requires more scientific labor, equipment, and facilities than are generally available at individual research institutions (the resources of two or more research institutions are required).
 - Is adaptable and particularly suitable for inter-institutional cooperation, resulting in better use of limited resources and research funds.
 - Complements and enhances ongoing research by participating research institutions.

3.4 Identification and Prioritization of Research and Outreach Areas

During odd years, WRAC uses the following procedures to identify and prioritize research and outreach areas for the coming research cycle:

3.4.1 Solicitation of Priority Statements

- Each member of the IAC/TC polls his/her constituents (including state aquaculture associations) to obtain industry's research and outreach priorities. Each member delivers the top three to five priorities to the Administrative Office. A short rationale accompanies each priority statement. The solicitation period is 60 days (see Timeline, Section 3.4.3, page 25).
- The Administrative Office compiles and condenses the priority statements by combining similar topics, and then sends them to the IAC. One month prior to the IAC/TC annual meeting, the IAC meets to evaluate priorities and reduce them to a maximum of 12.
- The Chair of the IAC prepares a Summary Report of the list of priority statements and presents it to the Board.

3.4.2 Selection of Priorities and Problem Statement Development

- At the IAC/TC annual meeting, the Chair of the IAC presents the Summary Report, with a maximum of 12 industry research and outreach priorities.
- The IAC/TC meets as a group to discuss the list of IAC-recommended research and outreach priorities. Discussion focuses upon feasibility of project topics, and in some cases, combining project topics.
- The TC subcommittees may meet separately if they desire.
- Writing teams may be formed at the IAC/TC meeting to fully develop the Problem Statements, which include named industry and Extension contacts. The Problem Statements are not prioritized nor ranked.
- The EC reviews the Problem Statements via a conference call.
Note: The Administrative Office shares the updated Problem Statements with the members of the EC prior to its conference call.
- The Problem Statements and recommendations from the EC are communicated to the Board via the Administrative Office. At its annual fall meeting, the Board considers the joint recommendations of the EC and IAC/TC and determines which Problem Statements to accept for inclusion in the subsequent Request for Regional Research and Outreach Pre-Proposals.

3.4.3 Timeline

1. Late June: Solicitation announcement issued by the Administrative Office.

2. Mid-August: Solicitation deadline.
3. Late August: Administrative Office sends results of research priority solicitation to IAC members.
4. Mid-Sept: IAC meets to discuss research priorities and select up to the top 12.
5. October 1: Administrative Office sends to the IAC/TC the research priorities selected by the IAC.
6. Mid-October: IAC/TC annual meeting—writing teams develop Problem Statements from the research priority areas.
7. Late October: EC reviews and makes recommendations on Problem Statements.
8. Mid-November: The Board reviews and finalizes Problem Statements.
9. Mid-December: The Request for Regional Research and Outreach Pre-Proposals is prepared and distributed.

Project development includes:

4 Project Development

- Solicitation of Pre-Proposals by the Administrative Office.
- Review of Pre-Proposals by the Executive Committee (EC).
- EC recommendations to the Board of Directors (Board) for acceptance of Pre-Proposals.
- The Board acts on the EC recommendations.
- Development of Full Proposals that are reviewed by external reviewers and the Industry Advisory Council (IAC) and Technical Committee (TC).

4.1 Pre-Proposals

4.1.1 Solicitation

Research and outreach opportunities for the upcoming funding cycle are widely circulated throughout the region in the form of a Request for Regional Research and Outreach Pre-Proposals that is prepared and distributed by the Administrative Office.

4.1.2 Preparation

Responses from interested parties are submitted in the form of Pre-Proposals (Appendix B, Pre-Proposal Guidelines, page B1), which include:

- Proposed research approaches to be used in addressing the problem and outreach approaches to disseminate new knowledge.
- Summary of current knowledge and ongoing research relative to the proposed approaches.
- Expected potential outcomes.
- Estimated budget.
- Estimated time required to achieve objectives.
- Abbreviated curriculum vitae for key personnel.
- Letter from industry supporting the need for proposed research.

4.1.3 Review

The EC:

1. Reviews the Pre-Proposals for technical merit and relevance to the corresponding Problem Statement.
2. Prepares a written report for the Board summarizing which Pre-Proposals it recommends for development into Full Proposals.
3. May also make recommendations to the Board for merging related Pre-Proposals to eliminate redundancy of objectives with the goal of developing a strong proposal and conserving WRAC resources.

If there is unresolved disagreement regarding the merit of a Pre-Proposal, then an external review may be requested.

The Board acts on the recommendations of the EC and, for approved Pre-Proposals, authorizes the Administrative Office to invite the authors to submit a Full Proposal

that will be considered for funding in the next fiscal year (Appendix C, Full Proposal Guidelines, page C1). The written invitation identifies areas or items of concern that the Board expects the authors to address in the Full Proposal.

4.2 Full Proposals

4.2.1 Preparation

The Full Proposal describes the overall procedures for research and outreach, as well as the specific procedures, by objective, for each participating entity, and also describes how the project addresses one or more of the four USDA-NIFA Challenge Areas as outlined in Appendix C, Full Proposal Guidelines, page C1. Particular attention should be given to the following:

- **Objectives** must be stated clearly and concisely in a logical sequence and include only those objectives on which significant progress can be made during the life of the project with the resources committed. Objectives should relate to a coordinated effort and a problem of regional scope, rather than a simple compilation of scientific interests that could be addressed by individual projects.
- **Procedures** are the framework for the research project. The procedures must describe:
 - Plans to obtain each objective.
 - A schedule of activities and a timetable.
 - Methods for collecting and analyzing data.
 - Methods for achieving effective outreach (see page C11).
 - Plans for publication, including both research and outreach.
 - Operation of centralized facilities, if appropriate.
 - Division of work and the responsibilities of each participating research and outreach entity.
- **Methodology:** Sufficient description should be given to clearly delineate the methodology to be followed. All details need not be provided, but descriptions should be adequate enough to allow a reviewer familiar with the related science to evaluate the approach.
- **Contributions of each research entity:** Individual project outlines for each participating research entity are not required, but the contribution of each must be clearly defined in the project outline.
- **Budget:** The proposed project budget must include a detailed breakdown of anticipated expenses for each research facility (i.e., requests for equipment funding must include make, model, vendor, cost, etc.; travel costs are to be itemized by traveler's name, destination, meeting name, purpose, etc.); and the same information must be provided for the outreach requirements.
- **Facilities:** The facilities available and suitable to meet the needs of the research and outreach must be clearly identified.

4.2.2 Review and Approval

Following submission of completed Full Proposals, the review and approval process is:

- The Administrative Office arranges for internal and external peer review of all Full Proposals.
- Copies of all Full Proposals and the respective external peer reviews are forwarded to members of the IAC/TC for review in advance of the annual meeting.
- Members of the IAC/TC review and jointly evaluate the Full Proposals and make recommendations to the Board. It is the intent of the Board that recommendations of the IAC/TC be accepted, subject to availability of funds, if the projects are determined by the peer review process to meet the requirements and standards for technical merit under WRAC expectations and guidelines (Section 3, page 22) for regional research and outreach criteria.
- After the Full Proposal is approved by the Board for funding, the Executive Director, in collaboration with the Fiscal Manager in the WRAC Administrative Office, prepares an Annual Work Plan for submission to USDA/NIFA. The Administrative Office also completes the subcontracting process with participating institutions.

5 Project Evaluation

The effectiveness of regional research and outreach projects is enhanced through an evaluation process, during which accomplishments, problems, and the need for adjustments are identified.

Annual review of projects is conducted as follows:

Work Group: assesses progress toward meeting research and outreach objectives and submits its findings in an Annual Progress Report to the Administrative Office.

Project Monitor and Work Group Chair: ensure joint effort and a regional approach. Strengths and weaknesses in each phase of the project are identified, promising leads are pursued, and weak aspects are modified or terminated. Significant findings and techniques should be published promptly, and each participant's contributions must be maintained to accomplish objectives for the duration of the project.

IAC and TC: jointly review each project for progress, possible needed revisions, termination, or other action. This review depends heavily on the Project Monitor's evaluation of progress and identification of any problems. Criteria for ongoing, amended, and revised projects are the same.

The Board: reviews all projects.

Note: In order for WRAC to meet its obligations to its national funding sources, specific attention is given to the production of outreach materials associated with funded research and outreach projects.

5.1 Annual Progress Reports

A progress report is required annually for each funded research and outreach project (Appendix G, Annual Progress Report, page G1). This report, covering the WRAC fiscal year (September 1 through August 31), serves primarily as an administrative document for progress evaluation and fiscal and legislative oversight. After the Annual Progress Reports are complete and submitted to the Executive Director, the Administrative Office compiles them and prepares an Annual Report for submission to the USDA/NIFA.

If a project has been in operation six months or less, a letter from the Project Monitor reviewing the status of the project may be submitted in lieu of a formal report.

Procedures for compiling adequate information for the Annual Progress Report include:

- Within 12 months of receiving funds, the Work Group must meet to review progress and current plans for meeting the project objectives.
- Each participant should provide a written summary of progress to the Work Group Chair in a timely fashion prior to the Work Group meeting.
- Annual reports for projects requesting an additional year of funding must contain itemized budget breakdowns for each budget item for each PI. The budget sheets must be generated using a digital spreadsheet. A budget spreadsheet template is sent to Work Groups as part of the request for annual reports, and is also available on the WRAC website. Failure to follow requirements on submission of budget information may jeopardize the request for the following year's funds.

- Using the information provided by Work Group participants, the Work Group Chair prepares and submits a signed compilation report for review to the Project Monitor.
- Upon approval, the Project Monitor signs and forwards the report to the Executive Director and sends notification of these actions to the members of the Work Group.

Notes: The Project Monitor must sign the Annual Report or it will not be accepted by the Administrative Office. Failure to include the Project Monitor's signature may jeopardize continued funding of the project.

If, for any reason, the Project Monitor is not available to sign the Annual Report, the Work Group Chair informs the Executive Director in advance of the deadline. The Executive Director then contacts the Industry Advisor and Outreach Representative on the project for consideration of approval until such time as the Project Monitor's signature can be obtained.

5.2 Mid-Term Board Review

In addition to annual Work Group meetings and Annual Project Reports, a mid-term Board review of each multi-year project is conducted. This mid-term Board review will take place in conjunction with the annual Work Group meeting.

The mid-term Board Review Team comprises:

- Work Group Chair
- Project Monitor
- Outreach Representative
- Selected Board member
- Industry Advisor

This Board review is made two years before a four-year project terminates to assess progress made on research and outreach objectives, to set suggested goals for year three, and to identify opportunities for impacts. Projects funded for two or three years undergo the same assessment either at the end of the first year for a two-year project, or the end of the second year for a three-year project. The Board review and decision for terminal year funding is completed before funds are committed and allocated for two- or three-year projects.

The Administrative Office is responsible for identifying the assigned Board member to the Work Group. The Work Group Chair is responsible for contacting the assigned Board member to arrange for the mid-term Board review, which is held before the IAC/TC fall meeting, ideally as part of the annual face-to-face annual Work Group review.

The selected Board member prepares and submits a written report to the Administrative Office. Then, the Administrative Office shares the report with the Board. The Board discusses the report and includes it in the material for the following IAC/TC annual meeting.

Information gathered is used to make mid-course corrections if progress on objectives is not being met or to terminate project funding if participants are considered unable to implement corrective actions. If goals are not achieved, the Board may choose either to terminate the project or retain a percentage of the final year grant award. However, completion of outreach publication(s) materials may extend beyond the final year of the project if progress on this portion of the grant is designated as satisfactory by the Board.

6 Project Changes

Modified circumstances, changes in personnel, new research data justifying a change in objectives, failure to meet proposed objectives, or unforeseen opportunities may call for significant changes in the original project proposal. Such changes must be handled in a systematic manner with consideration of their impacts on the USDA/NIFA-approved WRAC Work Plan.

6.1 Changes to Approved Project Proposals

6.1.1 No-Cost Extension

The Work Group and Project Monitor submit a request for a one-year, no-cost extension to the Executive Director for approval.

6.1.2 Change in Scope and Budget

Significant changes in scope or budget (a change of 5% or more of total budget in any budget category) are sent to the Administrative Office using the Changes to WRAC Research and Outreach Project form (Appendix F, page F1), and subsequently forwarded to the Executive Committee (EC) for consideration. The EC Chair writes and forwards recommendations to the Administrative Office; the Administrative Office then sends the EC recommendations to the Board for its consideration and final decision.

Note: For increases in funding, final approval must be received from USDA/NIFA.

6.2 Early Termination of Project

Approved WRAC projects are reviewed each year for continued funding, and typically require two to four years for completion. This review considers accomplishments, problems, need adjustments, and overall progress toward specified goals. The IAC and TC jointly review each project and make recommendations to the Board for continued funding, needed revisions, termination, or other action. A project may be considered for termination by the Board for a number of reasons including, but not limited to, lack of progress, technical problems, unanticipated changes in Work Group members and other funding sources, and deviations from initial project goals. Terminated projects would not receive WRAC funding for the next year(s) of proposed work.

7 Project Termination

A two-part termination report for projects being closed out is prepared in lieu of the final year's Annual Progress Report and it is presented at the IAC/TC annual meeting, unless justification for submitting a report later is provided to and approved by the Executive Director. For complete details for preparation of the Termination Report, see Appendix H, Project Termination Report (summary), page H1, and Project Termination Report (detail), page H3. Both a summary and a detail Project Termination Report must be submitted. In addition, an Impact Statement must be submitted (see Appendix I, pages I1–I3).

All required signatures must be included on both the summary and detail Termination Reports. Failure to include the signature of the Project Monitor could jeopardize future funding of project participants.

8 Project Publication Guidelines

Because of the large number of persons and cooperating agencies involved in a regional research and outreach project, it is the responsibility of members of the Work Group (PIs) to ensure that the research findings are made available by prompt publication through an appropriate refereed and/or peer-reviewed process. Publishing options include:

- Refereed scientific and professional journals.
- Agency or other institutional publications such as technical bulletins, technical papers, and white papers.
- Outreach publications—both print and digital.

8.1 Refereed Scientific and Professional Journals

Primary research publications in refereed scientific journals should include an acknowledgment of WRAC support. Example of acknowledgment wording: *This project was supported by Western Regional Aquaculture Center Grant nos. 2003-38500-13198, 2004,38500-14698, 2005-38500-15812, and 2006-38500-17048 from the USDA National Institute of Food and Agriculture.*

8.2 Agency or Other Institutional Publications

Agency or other institutional publications should include an acknowledgment of WRAC support. Example of acknowledgment wording: *This project was supported by Western Regional Aquaculture Center Grant nos. 2003-38500-13198, 2004,38500-14698, 2005-38500-15812, and 2006-38500-17048 from the USDA National Institute of Food and Agriculture.*

8.3 Outreach Publications—Both Print and Digital

WRAC maintains publication guidelines for the production of outreach materials (both print and digital) produced through grant projects or special projects. The need for review and clearance of manuscripts varies according to the type of publication, and whether it has local, state, or regional significance. Authors may choose to publish through WRAC or a Land Grant or Sea Grant institution, as long as the primary acknowledgment for the publication is given to WRAC and the institution absorbs the cost of the publication.

WRAC uses an editorial committee process to ensure impartial review of the outreach publication as explained in Section 8.3.1 below.

8.3.1 Editorial Committee

The Editorial Committee consists of an Editor, appointed by the Board, and two Associate Editors chosen from each of the subcommittees of the TC by the Editor, and approved by the Board. Additional members of the Editorial Committee are engaged, as appropriate, and needed and selected by the Editor and Associate Editor.

8.3.1.1 Editor's Responsibilities

The responsibilities of the Editor are to:

- Receive the manuscript from the author, assemble the editorial committee from among the list of Associate Editors, and distribute the manuscript to the editorial committee.
- Select peer reviewers knowledgeable about the topic to review the manuscript.
Note: The authors of the article are not identified to the reviewers.
- Maintain a log database that tracks the manuscript by title and status in the publication process, and note significant activities and decisions made by the Editor and Associate Editors.
- Receive and review editorial comments and suggestions from Associate Editors and reviewers and determine whether they will require a second review of the modified manuscript.
- Prepare and send a letter describing the nature of suggestions from the Associate Editors and the procedures to follow, and return reviewer comments to the author.

Note: The Editor may serve as a liaison between the authors and reviewers to negotiate how suggestions and modifications are handled.

- Receive revised manuscript and either: 1) send manuscript back to Associate Editors for approval if the suggested changes were significant, or 2) verify that minor concerns were adequately addressed.
- Discuss logistics of inclusion of graphic elements (tables, figures, photos, etc.) with the Associate Editors and communicate decisions to the senior author.
- Notify the author (after all reviewer concerns have been satisfied) that the manuscript is approved for publishing.
- Maintain records about the quality and timeliness of the Associate Editor reviews.

8.3.1.2 Associate Editor's Selection and Responsibilities

WRAC maintains a roster of associate editors, from which editorial committees may be assembled to review specific manuscripts.

Associate Editors provide backup to the Editor. They also work with the Editor to select external reviewers from Extension faculty or appropriate research faculty from associated Regional Aquaculture Centers or institutions.

9 Out-of-Cycle Project Funding Opportunities

Out-of-Cycle Projects are designed to address an immediate research or outreach need or opportunity that arises outside the regular funding cycle using limited funds (up to \$20,000). They are not designed for multi-year funding. No more than two Out-of-Cycle grants are funded simultaneously or run concurrently. Out-of-Cycle grants may be awarded to a single institution from a single state, but the implication of the project should be wider than one state.

9.1 Research and Outreach Projects

9.1.1 Submission

Out-of-Cycle Proposals may be submitted to the WRAC Administrative Office at any time during the WRAC funding cycle. See Appendix E, pages E1–E5 for format and required elements.

9.1.2 Proposal Review

The Executive Director organizes a proposal review by the EC and that review is submitted to the Board for acceptance or rejection. Deliberations by the EC and Board may be conducted by a meeting or by a combination of email and conference call.

9.1.3 Reporting Requirements

Both a summary and detailed written Termination Report are required for Out-of-Cycle Projects along with a presentation during the annual IAC/TC meeting (see Appendix G and Appendix H).

Appendix A Schedule for WRAC Program Planning and Implementation

DATE	EVEN-NUMBER YEARS	ODD-NUMBER YEARS
January	Administrative Office (AO) submits Accomplishment Report to USDA	
Feb 15	Deadline for receipt of Pre-Proposals	
Early March	AO disseminates request for committee nominations. Nominations due end of April.	
April 1	EC of IAC/TC submits recommendations to Board regarding Pre-Proposals	
May	AO submits Annual Work Plan to USDA	
Mid-May	Board meets to review overall program progress, acts on Pre-Proposal recommendations	
Mid-May	Board appoints new IAC/TC members	
Late May	AO notifies Pre-Proposal authors of acceptance or rejection and instructs new Work Groups regarding preparation of full project proposals	
Early June		AO solicits research and outreach priority areas for next funding round
Late June	AO contacts Work Group Chairs to request Annual and Termination Reports	
Mid-July	Deadline for receipt of full project proposals. AO distributes new project proposals for external peer review	
Aug 15		Deadline for receipt of input on priority research and outreach areas
Sept 1		AO compiles report for IAC on research and outreach priority areas
Sept	New funding begins for all projects	
Sept		IAC convenes to compile Research and Outreach Priority suggestions into a short list
Oct 1	AO forwards new Full Proposals, peer reviews, and annual and termination reports to IAC/TC for review	AO forwards annual and termination reports and list of research and outreach priority areas and justification to IAC/TC for review
Mid-Oct	IAC/TC meets to: 1) review new project proposals and make recommendation to Board regarding program funding; 2) make recommendations for continued program funding	IAC/TC meets to review priority listing and develop problem statement for submission to the Board and make recommendations for continued program funding
Nov 1		AO forwards Problem Statements to the Board for review
Nov 15	Board meets to act on IAC/TC recommendations for new and ongoing program funding	Board meets to review and approve Problem Statements and act on IAC/TC recommendations for continued program funding
Dec		AO provides wide dissemination of Problem Statements to research and outreach communities in the Western Region, requesting Pre-Proposals

Appendix B Pre-Proposal Guidelines

WRAC policy requires that each project include participation by two or more states located within the western region (Alaska, Arizona, California, Colorado, Idaho, Montana, Nevada, New Mexico, Oregon, Utah, Washington and Wyoming). Research partnerships may be formed among all elements of federal, state, and local government; public institutions; and private sectors as long as appropriate research activities are conducted in at least two of the above states.

Components

The Pre-Proposal must include:

Pre-Proposal Attachment A – Pre-Proposal Checklist (page B3)

The Checklist is intended as a guide.

- The lead PI must check each box and sign at the bottom of the Checklist to confirm the inclusion of each element.

Pre-Proposal Attachment B – Cover Page (page B4)

Pre-Proposal Attachment C – Table of Contents (page B5)

Pre-Proposal Attachment D – Summary Budget (page B6)

Pre-Proposal Attachment E – Biography (page B7)

Pre-Proposal Attachment F – Outreach and Evaluation Plan (page B8)

Note: please contact the WRAC office at 206-685-2479 for a sample Pre-Proposal if needed.

Requirements

A Pre-Proposal must meet the following requirements or it will not be accepted:

- Received by the announced deadline. Electronic submission by the due date qualifies as meeting the deadline—the printed copy must be received within a day of the deadline.
- Each element is addressed in the order presented on the Checklist.
- Include checked and signed Checklist (by the lead Principal Investigator [PI]).
- Cover page signed by the lead PI.

Length

The body of the project narrative should be a maximum of five (5) pages—this limit does not apply to the reference, budget, or biography pages.

Submission

Submit the completed Pre-Proposal as follows:

1. **Mail** one (1) printed copy to:
Western Regional Aquaculture Center
School of Aquatic and Fishery Sciences
Box 355020
University of Washington
Seattle, WA 98195-5020
Street Address: 1122 NE Boat Street, Seattle, WA 98105
2. Email as an attachment (both pdf and Word) to jkhahn@uw.edu.

Questions: Please contact the WRAC office at 206-685-2479.

Format/Content

Cover Page: Title of the project, participating institutions, PIs, Outreach Representative, Industry Advisor, and suggested Project Monitor. The cover page must be signed and dated by the lead PI. (Pre-Proposal Guidelines, Attachment B, page B4)

Table of Contents: Follow the format indicated (Pre-Proposal Guidelines, Attachment C, page B5).

Project Narrative:

Justification: Include a brief statement of the benefits to be gained by applying the results anticipated as a result of the project.

Related, Current, and Previous Work: Assess the current state of knowledge concerning the problem or opportunity to be assessed and include a brief summary of previous applicable research.

Objectives: List the objectives to be achieved including those of research and outreach.

Procedures: Provide a detailed description of the approach(es) to address the problem or solution, striking a balance between information and brevity in the description. If a multi-year project is proposed, indicate the activity that would take place each year.

Outreach and Evaluation Plan: (Pre-Proposal Guidelines, Appendix B, Attachment F, page B8)

Resource and Facility Commitment from each Institution: List the institutions involved in the project and the resources that are to be used from each.

Note: Pre-Proposals should show industry participation in the form of contributions of funds, matching funds and in-kind services.

References: Include the references that are included in the Pre-Proposal text.

Budgets: Include preliminary budgets for each year proposed, according to the spreadsheet format indicated on Pre-Proposal Guidelines, Appendix B, Attachment D, page B6). Pre-Proposals **must contain** itemized budget breakdowns for each budget item for each PI.

Note: Per Section 1473 of Public Law 95-113, **indirect costs and tuition remission cost are NOT allowable on any portion of the sub-awards of the WRAC grant from USDA/NIFA.**

Industry and Academic Salary Support

- **Industry:** No industry PI salary is allowed. Industry technician funding is allowed with adequate justification; however, this may affect the competitiveness of the proposal.
- **Academic:** Payment of percentages of faculty salaries from WRAC funds is **strongly discouraged** by the Board of Directors, although it is recognized that in some cases it is essential for the success of the project. Up to one month's academic salary under certain circumstances with strong justification can be requested, but this may affect competitiveness of the proposal.

Include specific breakdown of any **salary funds** required (i.e., who will receive the salary: Principal Investigators, Graduate Student/Research Assistant, etc.).

Biographies: Provide a one-page biography for each investigator and outreach personnel according to the format indicated (Pre-Proposal Guidelines, Appendix B, Attachment E, page B7)

Appendix B Pre-Proposal Guidelines

Attachment A Checklist

See Pre-Proposal Guidelines (pages B1–B8) and Sample (on WRAC website) for more information.

Note: The PI must check each box below to confirm inclusion of each element and then sign at the bottom.

Page # (if applicable)	<i>Does the Pre-Proposal include/identify the following?</i>
	<p>Required Elements</p> <ul style="list-style-type: none"> <input type="checkbox"/> Cover Page: to include the following: <ul style="list-style-type: none"> • Title • Funding Levels • Submission Date • Duration of Project • Statement matching Pre-Proposal to identified Problem Statement <input type="checkbox"/> Industry Advisor <input type="checkbox"/> Suggested Project Monitor <input type="checkbox"/> Outreach Coordinator <input type="checkbox"/> Principal investigators and institutions <ul style="list-style-type: none"> <input type="checkbox"/> Table of Contents <input type="checkbox"/> Project Narrative: to include the following: <ul style="list-style-type: none"> • Justification • Objectives • Outreach and Evaluation Plan (<i>see Outreach & Evaluation Plan [page B8] for details</i>) • Resource/Facility Commitments <input type="checkbox"/> References <input type="checkbox"/> Budgets (<i>see Budget Section below</i>) <input type="checkbox"/> Biographies
	<input type="checkbox"/> Multi-state/institution requirement
	<input type="checkbox"/> Page limit (5 pages for the Project Narrative portion. The page limit does NOT include the reference, budget, or biography pages.)
<p><i>Outreach Components</i> (Follow the guidelines in Pre-Proposal Guidelines, Appendix B, Attachment F, page B8)</p>	
	<i>Are the following Outreach elements included and clearly identified?</i>
	<input type="checkbox"/> Outreach Representative within the western region identified and consulted in the preparation of the Pre-Proposal? (<i>see list of WRAC Extension Subcommittee members on website</i>)
	<p>For each Objective are the following identified:</p> <ul style="list-style-type: none"> <input type="checkbox"/> Target Audiences; Who will benefit from receiving project information? <input type="checkbox"/> Intended Learning Outcomes; What will be learned? <input type="checkbox"/> Intended Management and/or Behavioral Outcomes <input type="checkbox"/> Procedures to Achieve Intended Outcomes: <ul style="list-style-type: none"> • Inputs: Who will do what and at what cost? • Outputs: What products will be developed and at what cost? • What publications, workshops, demonstrations, etc., will be developed? <input type="checkbox"/> Evaluation Plan
<p><i>Budget</i></p>	
	<i>Does the Budget Section:</i>
	<input type="checkbox"/> Follow the format for the Summary Budget (Pre-Proposal Guidelines, page B6)
	<input type="checkbox"/> For each year of the proposed project, specify the breakdown of any salary funds by who will receive the salary (e.g., principal investigator, graduate student/research assistant, etc.)

If the WRAC Administrative Office cannot verify inclusion of any element, the Pre-Proposal will not be accepted.

Principal Investigator Signature

Date

Appendix B Pre-Proposal Guidelines

Attachment B Cover Page

PRE-PROPOSAL
submitted to the
Western Regional Aquaculture Center
School of Aquatic and Fishery Sciences
Box 355020
University of Washington
Seattle, WA 98195-5020

PROJECT TITLE:

Submission Date (mo/yr):

Funding Levels First Year Request:
 Second Year Request:
 Third Year Request:
 Fourth Year Request:

Duration of Project (number of years):

Participating Institutions

Principal Investigator
Institution (name and address)

Principal Investigator
Institution (name and address)

Principal Investigator
Institution (name and address)

Principal Investigator responsible for Outreach
Institution (name and address)

Industry Advisor

Institution (name and address)

Suggested Project Monitor (Subject to approval by Board of Directors)

Institution (name and address)

Signature of Lead Principal Investigator

Date Submitted

Appendix B Pre-Proposal Guidelines

Attachment C Table of Contents

PROJECT TITLE:

TABLE OF CONTENTS

	Page #
Project Narrative	
Justification	
Related Current and Previous Work	
Objectives (Research and Outreach)	
Procedures	
Outreach and Evaluation Plan	
Resource and Facility Commitments from Each Institution	
References	
Budgets	
Budget Summary for All Participating Institutions:	
Year 1	
Year 2	
Year 3	
Year 4	
Biographies	

Appendix B Pre-Proposal Guidelines

Attachment D Summary Budget

PROPOSED SUMMARY BUDGET for YEAR _____
for All Participating Institutions
(additional budget pages should be prepared
for each year of proposed project)

PROJECT TITLE:

	Institution (PI name)	Institution (PI name)	Institution (PI name)	Institution (PI name)	PROJECT TOTAL
Salaries					
Benefits					
Supplies					
Equipment					
Other					
TOTAL					

Notes:

Include specific breakdown of any **salary funds** required (i.e., who will receive the salary: Principal Investigators, Graduate Student/Research Assistant, etc.). *Payment of percentages of faculty salaries from WRAC funds is strongly discouraged by the Board of Directors, although it is recognized that in some cases it is essential for the success of the project.*

Pre-Proposals **must contain** itemized budget breakdowns for each budget item for each PI. The budget sheets **must be generated using the spreadsheet format** that is available on the WRAC website. The above example is the general format of the spreadsheet.

Appendix B Pre-Proposal Guidelines

Attachment E Biography

(One page per person)

NAME:

TITLE:

DEPARTMENT:

INSTITUTION:

ADDRESS:

TELEPHONE/FAX/EMAIL:

EDUCATION: (degree, name of institution, year; *please list most recent first*)

POSITIONS HELD: (title, name of institution, employment dates; *please list most recent first*)

PROFESSIONAL MEMBERSHIPS:

SELECTED PUBLICATIONS: (*please list most recent first*)

Appendix B Pre-Proposal Guidelines

Attachment F Outreach and Evaluation Plan

Extension Outreach Criteria for WRAC Project Objectives

One of the principal goals of the Regional Aquaculture Center program is the application of project results for the benefit of industry; yet, without adequate and early attention to the outreach component of WRAC projects, research results and outcomes may be of limited value, or completely unknown to producers. The Board recognizes that a more detailed account of outreach plans at the proposal stage helps to identify project audiences, outcomes, and evaluation methods. This essential information ensures that results meet industry needs and that producers receive pertinent information that might be applied in their operations.

All Pre-Proposals must contain a comprehensive outreach plan containing the following information for *each* research objective:

Objective: [state research objective]

1. **Target Audience:** Who will receive the information generated?
2. **Intended Learning Outcomes:** What will be learned?
3. **Intended Management and/or Behavioral Outcomes:** What will be the management or behavioral outcomes?
4. **Procedures to Achieve Intended Outcomes**
 - Inputs**
 - Who will do what and at what cost?
 - How will target audience be contacted?
 - Outputs (Outcomes?)**
 - What products will be developed and at what cost?
 - What publications, workshops, demonstrations, etc. will be developed?
5. **Evaluation Plan:** What methods will be used to measure what learning or behavioral changes have occurred?

Outreach Publications

- The required outreach publication(s) portion of WRAC grants is funded through WRAC core funds and WRAC receives primary acknowledgment.
- The core funding for the WRAC outreach publication(s) may be supplemented by other funding sources, but WRAC should be acknowledged.
- Ancillary funding may be applied in support of additional outreach activities.
- A minimum of one outreach publication must be produced for any multi-year grant award, and the publication must address the associated research component.
- The primary outreach publication should cover the project in depth (a flyer or fact sheet is not sufficient). The publication should clearly indicate the benefits to the targeted audience.

Appendix C Full Proposal Guidelines

Instructions

The Full Proposal must contain each element listed below. For detailed information regarding each element, refer to the appropriate Attachment.

Page Limits

Please conform to a limit of 15 pages (12-point font, single-spaced, 1-inch margins) for the following Project Narrative items:

- Justification
- Relationship to USDA-NIFA Challenge Areas
- Related Current and Previous Work
- Objectives
- Procedures
- Outreach and Evaluation Plan

Sections NOT included in the 15 page limit are:

- Cover page
- References
- List of Project Leaders
- Schedule
- PI Biographies
- Full Proposal Checklist
- Table of Contents
- Resource and Facility Commitments
- Budgets
- Animal Care Protocols
- Current and Pending Support Form

Requirements

To be accepted, a Full Proposal must:

- Be received by the announced deadline. Electronic submission by the due date qualifies as meeting the deadline—the printed copy must be received within a day of the deadline.
- Address each element in the Full Proposal in the order presented on the Checklist.
- Include the checked and signed Checklist (by the lead PI).
- Be signed (on the Cover Page) by the lead PI submitting the Full Proposal.

Submission and Deadline

Send the Full Proposal as follows:

Email as attachments in both PDF and WORD to the Program Manager for WRAC, (jkhahn@uw.edu).

The deadline for submission of Full Proposals is _____.

Note: WRAC encourages early submission of Full Proposals. If a Full Proposal is received at least two weeks prior to the final deadline, this will allow time for the Administrative Office to review the full proposal using the checklist and inform the authors what requirements are not met, thereby providing the authors time to adjust and re-submit before the final deadline.

The Executive Director (Dr. Graham Young, grahamy@uw.edu) and the Program Manager (jkhahn@uw.edu) are also available for questions on Full Proposal submission.

Format/Content

Full Proposal Checklist: This Checklist is to accompany the Full Proposal and is to be used as a guide for developing and submitting the Full Proposal. The PI must check each element, provide page numbers (if appropriate and applicable), and sign at the bottom. As noted on the Full Proposal Checklist, if the Administrative Office cannot verify inclusion of any element, the Full Proposal will be rejected. (Full Proposal Guidelines, Appendix C, Attachment A, page C4)

Cover Page: Identify the Project Title, Submission Date, Funding Level for Each Year, PIs and Institutions, Outreach Coordinator, Industry Advisor, Suggested Project Monitor, Signature (Full Proposal Guidelines, Appendix C, Attachment B, page C5).

Table of Contents: Follow the format indicated (Full Proposal Guidelines, Appendix C, Attachment C, page C6).

Project Narrative:

Justification: Include a brief statement of the anticipated benefits to be gained as a result of the project.

Relationship to USDA-NIFA Challenge Areas: Describe how the project addresses one or more of the four USDA Challenge Areas:

- Childhood Obesity Prevention (<http://www.nifa.usda.gov/fo/childhoodobesityafri.cfm>)
- Food Safety (<http://www.nifa.usda.gov/fo/foodsafetyafri.cfm>)
- Global Food Security (<http://www.nifa.usda.gov/fo/foodsecurityafri.cfm>)
- Water for Agriculture (<http://www.nifa.usda.gov/fo/waterforagricultureafri.cfm>)

Related Current and Previous Work: Assess the current state of knowledge concerning the problem or opportunity to be assessed, and include a brief summary of previous applicable research.

Objectives: List the objectives (both research and outreach) to be achieved.

Procedures: Provide a detailed description of the approach(es) proposed to address the problem or solution, striking a balance between information and brevity in the description. If a multi-year project is proposed, indicate the activities that would take place in each year. Also, state how the findings will be developed for dissemination to user groups (in coordination with the Outreach Representative).

Outreach and Evaluation Plan: explained in Full Proposal Guidelines, Appendix C, Attachment H, page C11.

References: Include references that are used in the Project Narrative.

Resource and Facility Commitments from Each Institution: List the institutions involved in the project and the resource commitment to be used from each.

List of Principal Investigators: List the name, institution, state, and specialization for each participant in the project, Also, indicate who are voting members of the Work Group and identify the Outreach Representative(s).

Budgets: Per Section 1473 of Public Law 95-113, indirect costs and tuition remission costs are NOT allowable on any portion of the WRAC grant from USDA. Budget specifics include:

- Detailed budgets for each institution for each year proposed, according to the format indicated (Full Proposal Guidelines, Appendix C, Attachment D, page C7).

- Also include a budget summary that details all participating institutions for each year of the project (Full Proposal Guidelines, Appendix C, Attachment E, page C8).
- Payment of faculty salaries from WRAC funds is strongly discouraged by the Board, although it is recognized that in some cases it is essential for the success of the project. While request for faculty PI Salaries will be considered, strong justification of the need for faculty PI salaries is required. Requests for PI salaries may affect the competitiveness of the proposal.
- All project budgets must include travel funds for the Outreach Representative's attendance at Work Group meetings.

Notes: Full Proposals must contain itemized budget breakdowns for each budget item for each PI. The budget sheets must be generated using the spreadsheet format that is available in Attachments C and D.

For proposals with the funded participation of federal employees or investigators at other institutions that will not accept funds without overhead, please describe the arrangements you have in place to ensure that WRAC funds are available to these investigators. Please note that WRAC's Administrative Office is not able to administer contracts for these PIs.

Travel Regulations: Requests for funds to support travel inside or outside of the region that are not required for fieldwork or for achieving outreach objectives must contain a detailed explanation of how the travel request is directly linked to the objectives of the project. The use of communication tools such as videoconferencing is encouraged when feasible to reduce travels cost and time.

Request for funds to support presentations at conferences within the USA will be considered, but require a detailed justification of the benefits to the project and to the mission of WRAC. Such requests will only be approved for members of the Work Group who are actively communicating the results of WRAC-funded research through oral or poster presentations and/or through conducting workshops. Requests for funds to support attendance at conferences of Work Group members who are not giving presentations or conducting workshops on WRAC-funded research will not be considered.

Schedule for Completion of Objectives: Indicate a timetable of expected completion dates for each objective.

Animal Care Protocol Notices: Enclose a copy of the current animal use approval notice from the appropriate Institutional Animal Care and Use Committee (IACUC) for each PI who will be using live vertebrates for the proposed project, along with a statement indicating conformance to federal and state laws and regulations governing the use of animals for teaching and research. If a PI has not yet obtained an approved protocol from their IACUC, please provide a statement on your plan to obtain approval for the proposed project.

Biographies: Provide a current one-page biography for each investigator following the format on Full Proposal Guidelines, Appendix C, Attachment F, page C9.

Current and Pending Support Form: Provide a listing of all active and pending grants, titles, awards, individual percentage of awards, and percent time and duration held by each cooperator listed on the Full Proposal (Full Proposal Guidelines, Appendix C, Attachment G, page C10).

Appendix C Full Proposal Guidelines

Attachment A Checklist

See Full Proposal Guidelines (pages C1–C11) and sample (on WRAC website) for more information.

Note: The PI must check each box below to confirm inclusion of each element and then sign at the bottom.

Page # (if applicable)	<i>Does the Full Proposal include/identify the following?</i>
	<p>Required Elements as explained in the Full Proposal Guidelines, Appendix C, page C1.</p> <p><input type="checkbox"/> Cover Page: to include the following:</p> <ul style="list-style-type: none"> • Title • Signature • Submission Date • Duration of Project • Funding Levels for Each Year (identify year) • Industry Advisor • Suggested Project Monitor • Outreach Coordinator • Principal investigators and institutions <p><input type="checkbox"/> Table of Contents</p> <p><input type="checkbox"/> Project Narrative: 15-page limit to include the following:</p> <ul style="list-style-type: none"> • Justification • Objectives • Outreach and Evaluation Plan (<i>see Outreach Components for details</i>) • Related Current and Previous Work • Procedures <p><input type="checkbox"/> References</p> <p><input type="checkbox"/> Resources and Facility Commitments</p> <p><input type="checkbox"/> Budgets (<i>see Budget Section below</i>)</p> <p><input type="checkbox"/> Biographies</p> <p><input type="checkbox"/> Animal Care Products</p> <p><input type="checkbox"/> List of Project Leaders</p> <p><input type="checkbox"/> Schedule</p> <p><input type="checkbox"/> Current and Pending Support Form</p>
	<input type="checkbox"/> Multi-state/institution requirement
	<input type="checkbox"/> Page limit: 15 pages for the Project Narrative portion. (The page limit does NOT include the Cover Page, Table of Contents, References, Resources and Facility Commitments, List of Project Leaders, Budgets, Schedule, Animal Care Protocols, and PI biographies)
<p><i>Outreach Components</i> (Follow the guidelines in the Full Proposal, Appendix C, Attachment H, page C11)</p>	
	<i>Are the following Outreach elements included and clearly identified?</i>
	<input type="checkbox"/> Outreach Representative within the western region identified and consulted in the preparation of the Full Proposal?
	<p>For each Objective are the following identified:</p> <p><input type="checkbox"/> Target Audiences: Who will benefit from receiving project information</p> <p><input type="checkbox"/> Intended Learning Outcomes: What will be learned from this objective</p> <p><input type="checkbox"/> Intended Management and/or Behavioral Outcomes</p> <p><input type="checkbox"/> Procedures to Achieve Intended Outcomes</p> <ul style="list-style-type: none"> • Inputs: Who will do what and at what cost? • Outputs: What products will be developed and at what cost? • What publications, workshops, demonstrations, etc., will be developed? <p><input type="checkbox"/> Evaluation Plan</p>
<p><i>Budget</i></p>	
	<i>Does the Budget Section:</i>
	<input type="checkbox"/> Follow the Budget Instructions and Formats (Full Proposal, Appendix C, pages C2–C3, C7–C8)

If the WRAC Administrative Office cannot verify inclusion of any element, the Full Proposal will be rejected.

Principal Investigator Signature

Date

Appendix C Full Proposal Guidelines

Attachment B Cover Page

PROPOSED PROJECT OUTLINE
submitted to the
Western Regional Aquaculture Center
School of Aquatic and Fishery Sciences
Box 355020
University of Washington
Seattle, WA 98195-5020

PROJECT TITLE:

SUBMISSION DATE: (mo/yr):

FUNDING LEVEL(S) First Year Request (Identify the Year):
Second Year Request:
Third Year Request:
Fourth Year Request:

DURATION OF PROJECT (number of years):

PARTICIPATING INSTITUTIONS:

Principal Investigator
Institution (name and address)

Principal Investigator
Institution (name and address)

Principal Investigator
Institution (name and address)

Principal Investigator Responsible for Outreach
Institution (name and address)

Project Monitor: (Suggested: subject to approval by Board of Directors)

INDUSTRY ADVISOR:

Signature

Date

Appendix C Full Proposal Guidelines

Attachment C Table of Contents

PROJECT TITLE:

TABLE OF CONTENTS

Page #

Project Narrative

Justification

Relationship to USDA-NIFA Challenge Areas

Related Current and Previous Work

Objectives (Research and Outreach)

Procedures

Outreach and Evaluation Plan

References

Resource and Facility Commitments from Each Institution

Animal Care Protocols

Project Leaders

Budgets:

Individual Budgets for Participating Institutions:

Institution name (PI name)

Institution name (PI name)

Institution name (PI name)

Budget Summary for All Participating Institutions:

Year 1

Year 2

Year 3

Year 4

Note: Specific Information regarding PI Salaries, etc. is available in the Guidelines and on Attachments C and D

Schedule for Completion of Objectives

List of Principal Investigators

Biographies of PI's

Current and Pending Support Form

Full Proposal Checklist

Appendix C Full Proposal Guidelines

Attachment D Proposed Detailed Budget

PROPOSED DETAILED BUDGET

PROJECT TITLE:

PRINCIPAL INVESTIGATOR:

INSTITUTIONAL NAME:

	Year 1	Year 2	Year 3	Year 4	Total
Salaries:					
Faculty: Title	___Month @ ___ %	___Month @ ___ %	___Month @ ___ %	___Month @ ___ %	
Staff: Title	___Month @ ___ %	___Month @ ___ %	___Month @ ___ %	___Month @ ___ %	
Student: Title	___Month @ ___ %	___Month @ ___ %	___Month @ ___ %	___Month @ ___ %	
Technician: Title	___Month @ ___ %	___Month @ ___ %	___Month @ ___ %	___Month @ ___ %	
Hourly: Title	___Month @ ___ %	___Month @ ___ %	___Month @ ___ %	___Month @ ___ %	
Benefits:					
Faculty: Title	___Month @ ___ %	___Month @ ___ %	___Month @ ___ %	___Month @ ___ %	
Staff: Title	___Month @ ___ %	___Month @ ___ %	___Month @ ___ %	___Month @ ___ %	
Student: Title	___Month @ ___ %	___Month @ ___ %	___Month @ ___ %	___Month @ ___ %	
Technician: Title	___Month @ ___ %	___Month @ ___ %	___Month @ ___ %	___Month @ ___ %	
Hourly: Title	___Month @ ___ %	___Month @ ___ %	___Month @ ___ %	___Month @ ___ %	
Travel (specify destination and purpose)					
Equipment (include detailed list)					
Supplies					
Other (specify)					
Total					

Notes: Full Proposals must contain itemized budget breakdowns for each budget item for each PI. The budget sheets must be generated using the above spreadsheet format.

- **Industry Salary Support:** No industry PI salary is allowed. Industry technician funding is allowed with adequate justification; however, this may affect the competitiveness of proposal.
- **Faculty Salary Support:** Up to one month's faculty salary under certain circumstances with strong justification can be requested, but this may affect competitiveness of the proposal.

Appendix C Full Proposal Guidelines

Attachment E Proposed Summary Budget

PROPOSED SUMMARY BUDGET for YEAR 20__
for All Participating Institutions
(additional budget pages should be prepared
for each year of proposed project)

PROJECT TITLE:

	Institution (PI name)	Institution (PI name)	Institution (PI name)	Institution (PI name)	PROJECT TOTAL
Salaries					
Benefits					
Supplies					
Equipment					
Other					
TOTAL					

Notes:

Include specific breakdown of any **salary funds** required (i.e., who will receive the salary: Principal Investigators, Graduate Student/Research Assistant, etc.). Payment of percentages of faculty salaries from WRAC funds is strongly discouraged by the Board of Directors, although it is recognized that in some cases it is essential for the success of the project. While request for faculty PI Salaries will be considered, strong justification is required. Requests for PI salaries may affect the competitiveness of the proposal.

Full Proposals **must contain** itemized budget breakdowns for each budget item for each PI. The budget sheets **must be generated using the spreadsheet format** that is available on the WRAC website. The above example is the general format of the spreadsheet.

Appendix C Full Proposal Guidelines

Attachment F Biography

(One page per person)

NAME:

TITLE:

DEPARTMENT:

INSTITUTION:

ADDRESS:

TELEPHONE/FAX/EMAIL:

EDUCATION: (degree, name of institution, year; list latest first)

POSITIONS HELD: (title, name of institution, employment dates; list latest first)

PROFESSIONAL MEMBERSHIPS:

SELECTED PUBLICATIONS: (list most recent first)

Appendix C Full Proposal Guidelines

Attachment G Report of Current and Pending Support

WESTERN REGIONAL AQUACULTURE CENTER—CURRENT AND PENDING SUPPORT FORM

Name _____

Name of PI and Co-PIs	Supporting Agency and Award Program	Total \$ Amount	Grantee Share of Award	% of Time Committed	Start and Expiration Date	Title of Project

Appendix C Full Proposal Guidelines

Attachment H Outreach and Evaluation Plan

Extension Outreach Criteria for WRAC Project Objectives

One of the principal goals of the RAC program is the application of project results for the benefit of industry within the western region, yet without adequate and early attention to the outreach component of WRAC projects, research results and outcomes may be of limited value, or completely unknown to producers. The Board has recognized that a more detailed account of outreach plans at the Full Proposal stage would help to identify project audiences, outcomes, and evaluation methods. This essential information will ensure that results meet industry needs, and that producers receive pertinent information from projects that might be applied in their operations. Each proposal must contain a comprehensive outreach plan containing the following information provided for each listed objective:

Objective 1: [list first project objective]

1. **Target Audience:** Who will receive project information for this objective?
2. **Intended Learning Outcomes:** What will be learned from this objective of the project?
3. **Intended Management and/or Behavioral Outcomes:** What will be the management or behavioral outcomes of this project objective?
4. **Procedures to Achieve Intended Outcomes**
 - Inputs**
 - Who will do what and at what cost?
 - How will target audience be contacted?
 - Outputs (Outcomes?)**
 - What products will be developed and at what cost?
 - What publications, workshops, demonstrations, etc., will be developed?
5. **Evaluation Plan:** What methods will be used to measure what learning or behavioral changes have occurred?

Outreach Publications

- The required outreach publication(s) portion of WRAC grants is to be funded through WRAC core funds and maintain a WRAC identification, or primary acknowledgment.
- The core funding for the WRAC outreach publication(s) may be supplemented by other funding sources, but WRAC identification should be acknowledged.
- Ancillary funding may be applied to the support of additional outreach activities.
- A minimum of one outreach publication shall be produced for any multi-year grant award, and the publication shall address the associated research component of the awarded grant.
- The primary outreach publication should not be in the form of a flyer or fact sheet, but cover the subject in a depth that gives substance to the subject matter that benefits the targeted audience.

Appendix D Full Proposal External Review Factors

Each Full Proposal submitted will be sent out for review by people outside our western region who are knowledgeable about the topic of your proposed study. These external reviewers will be evaluating your Full Proposal on the basis of the following factors:

1. **Relevance to Long-range Improvements in Sustainability of US Aquaculture in the Western Region.**
2. **Regional Application and Regional Representation**
 - a. Regional application of the project and its importance in addressing problems in two or more states in the western region
 - b. Regional effort represented by the research and outreach effort.
3. **Scientific Merit**
 - a. Completeness of the descriptions of approaches and techniques to be used to conduct the research
 - b. Does the science have a well-defined objective that offers good opportunity for application by industry?
 - c. Does the project possess objectives that represent a well-defined end point?
 - d. Is the plan of research sound and well thought out and are the methods and approach valid, relevant, and innovative?
 - e. Is there an element of risk in the project? If so, what are the chances of success?
4. **Outreach Merit**
 - a. Outreach merit of the project including the completeness of the descriptions of approaches and techniques to be used to produce and deliver outreach product(s) of the project. Are the final outreach products well defined and is justification for the outreach application(s) defined?
 - b. Adequacy of the Outreach objectives and deliverables in relationship to the objectives of the proposed research. Specifically does the Outreach component of the proposal describe specific deliverable product(s) resulting from the proposed research that benefit the industry?
 - c. Adequacy of the budget to complete the objectives of the Outreach project. Are the benefits to industry of the resultant Outreach product(s) in proportion to the overall budget request of the proposal?
5. **Investigators and Institutional Capabilities (including collaborators)**
6. **Appropriateness of Budget (both research and outreach)**
 - a. Is it realistic for the proposed work?
 - b. Does the budget reflect a balance between the research and outreach efforts as related to the budget outlined for each.
7. **Other Considerations: Industry Participation**
8. **Recommendations**

Appendix E Out-of-Cycle Proposals

Attachment A Cover Page

OUT-OF-CYCLE PROPOSAL
submitted to the
Western Regional Aquaculture Center
School of Aquatic and Fishery Sciences
Box 355020
University of Washington
Seattle, WA 98195-5020

PROJECT TITLE:

SUBMISSION DATE (mo/yr):

PARTICIPATING INSTITUTION(S):

Principal Investigator
Institution (name and address)

Principal Investigator
Institution (name and address)

OUTREACH REPRESENTATIVE:

SUGGESTED PROJECT MONITOR: (Subject to approval by Board of Directors)

INDUSTRY ADVISOR:

Signature

Date

Appendix E Out-of-Cycle Proposals

Attachment B Table of Contents

PROJECT TITLE:

FUNDING LEVEL(S): (Limit \$20,000) _____

TABLE OF CONTENTS

Page #

PROJECT NARRATIVE

Justification

Related Current and Previous Work

Objectives (Research or Outreach)

Procedures

RESOURCE AND FACILITY COMMITMENTS FROM EACH INSTITUTION

REFERENCES

PROJECT LEADER(S)

BUDGETS

Individual Budgets for Participating Institutions:

Institution name (PI name)

Institution name (PI name)

Budget Summary for All Participating Institutions

Note: Industry and Academic Salary Support

Industry Salary Support: No industry PI salary is allowed. Industry technician funding is allowed with adequate justification. However, this may affect the competitiveness of the proposal.

Academic Salary Support: Up to one month's academic salary under certain circumstances with strong justification can be requested, but this may affect competitiveness of the proposal.

PRINCIPAL INVESTIGATOR(S)

Appendix I: Animal Care Notices (For research)

Appendix II: Biographies of PI's

Appendix E Out-of-Cycle Proposals

Attachment C Proposed Summary Budget

PROPOSED SUMMARY BUDGET for All Participating Institutions

PROJECT TITLE:

	Institution (PI name)	Institution (PI name)	Institution (PI name)	Institution (PI name)	PROJECT TOTAL
Salaries					
Benefits					
Supplies					
Equipment					
Other					
TOTAL					

Notes:

Include specific breakdown of any **salary funds** required (i.e., who will receive the salary: PIs, Graduate Student/Research Assistant, etc.). Payment of percentages of faculty salaries from WRAC funds is strongly discouraged by the Board of Directors, although it is recognized that in some cases it is essential for the success of the project.

Pre-Proposals **must contain** itemized budget breakdowns for each budget item for each PI.

The

budget sheets **must be generated using the spreadsheet format** above.

Appendix E Out-of-Cycle Proposals

Attachment D Biography

(One page per person)

NAME:

TITLE:

DEPARTMENT:

INSTITUTION:

ADDRESS:

TELEPHONE/FAX/EMAIL:

EDUCATION: (degree, name of institution, year; *please list most recent first*)

POSITIONS HELD: (title, name of institution, employment dates; *please list most recent first*)

PROFESSIONAL MEMBERSHIPS:

SELECTED PUBLICATIONS: (*please list most recent first*)

Appendix E Out-of-Cycle Proposals

Attachment E Proposed Detail Budget

PROJECT TITLE:

PRINCIPAL INVESTIGATOR:

INSTITUTIONAL NAME:

		Total
Faculty: Title	___ Month @ ___ %	
Staff: Title	___ Month @ ___ %	
Hourly: Title	___ Month @ ___ %	
Benefits		
Faculty: Title	___ Month @ ___ %	
Staff: Title	___ Month @ ___ %	
Hourly: Title	___ Month @ ___ %	
Travel (specify destination and purpose)		
Equipment (include detailed list)		
Supplies		
Other (specify)		
Total		

Appendix F Changes to WRAC Research and Outreach Project

PROJECT TITLE: Identical to regional project.

OBJECTIVES: Include only those objectives to be undertaken by the participating state, agency, or institution.

PROCEDURES: The working plans and methods to be used by the participant in attaining each of the state objectives. A procedure statement should be included for each objective and should relate to the procedure described in the regional project outline.

PROJECT LEADERS: List all principal investigators showing the area of specialization.

RESOURCES: State the annual commitment.

SIGNATURES:

Administrator Date
Petitioning Institution, Agency, or Business Entity

Project Monitor Date

Appendix G Annual Progress Report

A two-part Annual Progress Report must be prepared and presented at the annual IAC/TC meeting, unless justification for submitting a report later is provided to and approved by the Executive Director.

Part I: Summary

Instructions

Part I should be single-spaced; narrative style, without graphs, figures or tables; and no more than three to five (3–5) pages in length, excluding the separate publications listing.

Information provided in Part I will be included in the WRAC Annual Accomplishment Report to USDA/NIFA.

Submission

1. The Work Group Chair compiles the report and sends the completed report in two formats—Word and pdf—to the **Project Monitor**.
2. The Project Monitor then reviews, approves with signature, and forwards the completed signed report in two formats—Word and pdf—to:

Western Regional Aquaculture Center
School of Aquatic and Fishery Sciences
Box 355020
University of Washington
Seattle, WA 98195-5020
Street Address: 1122 NE Boat Street, Seattle, WA 98105
Email to: jkhahn@uw.edu

Format

PROJECT TITLE:	Full title of WRAC project.
REPORT GIVEN IN YEAR	20__
REPORTING PERIOD:	(i.e., 4/01/__–3/31/__)
AUTHOR:	Name of person submitting this report.
FUNDING LEVEL:	Total funds allocated for this project to date.
PARTICIPANTS:	List participating personnel and respective institution/ agency/business entity; include outreach liaison(s). Indicate funded participants with an asterisk (*).
PROJECT OBJECTIVES:	List each objective.
ANTICIPATED BENEFITS:	State how the project will benefit the aquaculture industry, directly or indirectly.

PROGRESS AND PRINCIPLE ACCOMPLISHMENTS: Summarize concisely the progress toward accomplishment of each objective for the duration of the project, omitting details unless essential to understanding.

USEFULNESS OF FINDINGS: Indicate how the findings may be or have been used for public benefit. Include examples where possible.

WORK PLANNED FOR NEXT YEAR: State any proposed changes in direction or emphasis, or in the responsibilities or assignments of the participants. (Details regarding individual plans of participants should not be included unless essential to understanding.)

IMPACTS: In concise form, indicate how the project has benefited the aquaculture industry, either directly or indirectly, and resulting economic values gained (where appropriate).

SUPPORT: Use the format shown below to indicate all sources of funding and additional other support, federal and non-federal, for this project. Specify the name of the “other” sources as a footnote to the table.

YEAR	WRAC- USDA Funding	OTHER SUPPORT					Total Support
		University	Industry	Other Federal	Other	Total	
TOTAL							

BUDGET: Annual reports for projects requesting a further year of funding must contain itemized budget breakdowns for each budget item for each PI. For each PI, use the budget spreadsheet sample and template found on G5 and G6. Because of increased federal scrutiny, failure to follow requirements on submission of budget information may jeopardize the request for next year’s funds.

PUBLICATIONS, MANUSCRIPTS, OR PAPERS PRESENTED: Attach a separate list of all publications to date for this project. Under the subheadings of Publications in print and Manuscripts, list journal articles, popular articles, outreach materials, videos, technical reports, theses, dissertations, etc. (reference the “Transactions of the American Fisheries Society” for the preferred format). Under Papers presented, include the author(s), title, conference/workshop, and date(s).

SUBMITTED BY:

Title: (Work Group Chair or PI)

Date

APPROVED:

Project Monitor

Date

Part II: Detail

Instructions

Part II should be single-spaced; narrative style, with graphs, figures, or tables appended if appropriate; and no more than five to seven (5–7) pages in length, excluding the separate publications listing.

Data provided in Part II will be used for review and evaluation prior to approval of project continuation.

Submission

1. The Work Group Chair compiles the report and sends the completed report in two formats—Word and pdf—to the **Project Monitor**.
2. The Project Monitor then reviews, approves with signature, and forwards the completed signed report in two formats—Word and pdf—to:

Western Regional Aquaculture Center
School of Aquatic and Fishery Sciences
Box 355020
University of Washington
Seattle, WA 98195-5020
Street Address: 1122 NE Boat Street, Seattle, WA 98105
Email to jkhahn@uw.edu

Format

- PROJECT TITLE:** Full title of WRAC project.
- REPORT GIVEN IN YEAR** 20__
- REPORTING PERIOD:** (i.e., 4/01/__–3/31/__)
- AUTHOR:** Name of person submitting this report.
- FUNDING LEVEL:** Total funds allocated for this project to date.
- PARTICIPANTS:** List participating personnel and respective institution/agency/business entity; include outreach liaison(s). Indicate funded participants with an asterisk (*).
- PROJECT OBJECTIVES:** List each objective.
- ANTICIPATED BENEFITS:** State how the project will benefit the aquaculture industry, directly or indirectly.

PROGRESS AND PRINCIPAL ACCOMPLISHMENTS: Summarize the objectives and progress toward them during the year as a regional project unit. The work and findings should be presented as group activities for each distinct line of investigation, with credit for specific contributions as needed. Measurement data are to be given in metric units; however, a dual system of measurement may be used to express results. Where the project has not progressed to

the stage of accomplishments, a brief description should be given of the activities of investigators/ participants, detailing the status and expectations for the following year.

USEFULNESS OF FINDINGS: State how the findings may be or have been used for public benefit. Include specific examples, where possible. Estimates of acceptance and application of results, and of any economic values inherent in or accruing from them will be helpful in enlisting support for future research and outreach education. (Statements from this section may be used in future budget hearings and news releases).

WORK PLANNED FOR NEXT YEAR: Define specific work planned for the following year. State any proposed changes in direction or emphasis, or in the responsibilities or assignments of the participants.

SUPPORT: Use the format shown below to indicate all sources of funding and additional other support, federal and non-federal, for this project. Specify the name of the “other” sources as a footnote to the table.

BUDGET: Annual reports for projects requesting a further year of funding must contain itemized budget breakdowns for each budget item for each PI. For each PI, use the budget spreadsheet sample and template found on G5 and G6. Because of increased federal scrutiny, failure to follow requirements on submission of budget information may jeopardize the request for next year’s funds.

PUBLICATIONS, MANUSCRIPTS, OR PAPERS PRESENTED: Attach a separate list of all publications to date. Under the subheadings of Publications in print and Manuscripts, list journal articles, popular articles, outreach materials, videos, technical reports, theses, dissertations, etc. (reference the “Transactions of the American Fisheries Society” for the preferred format). Under Papers presented, include the author(s), title, conference/ workshop, and date(s).

SUBMITTED BY:

Title: (Work Group Chair or PI) Date

APPROVED:

Project Monitor Date

Appendix G Annual Progress Report

Attachment A Budget Sheet Sample

INSTITUTION: University of Washington

PRINCIPAL INVESTIGATOR: Dr. John Smith

SALARIES **\$5,000**

Research Technician (0.08 FTE) \$3,000

Graduate Student (12 mths @ 50%) \$2,000

BENEFITS **\$490**

Research Technician (@ 9%) \$270

Graduate Student (@ 11%) \$220

TRAVEL **\$1,850**

WAS Meeting: room (3 days x \$100) \$300

Per Diem \$350

Airfare \$500

Work Group Meeting-Idaho (3 days x 100) \$300

Per Diem (3 days) \$150

Airfare \$250

SUPPLIES **\$1,600**

Chemicals \$500

Fish Feeds \$600

Reagents & vitamins for feeds \$300

Glassware \$200

EQUIPMENT **\$0**

OTHER DIRECT COSTS **\$800**

Publications - Page charges (4pg @ \$50/pg) \$200

Telephone \$100

Photocopying & Printing \$500

TOTAL: **\$9,740**

Appendix G Annual Progress Report

Attachment B Budget Sheet Template

INSTITUTION: University of Washington

PRINCIPAL INVESTIGATOR: Dr. John Smith

SALARIES \$0

BENEFITS \$0

TRAVEL \$0

SUPPLIES \$0

EQUIPMENT \$0

OTHER DIRECT COSTS \$0

TOTAL: \$0

Appendix H Project Termination Report

A two-part termination report for projects being closed must be prepared in lieu of the final year's Annual Progress Report and presented at the annual IAC/TC meeting, unless justification for submitting a report later is provided to and approved by the Executive Director.

Part I: Summary

Instructions

Part I should be single-spaced; narrative style, without graphs, figures or tables; and not more than 3–5 pages in length, excluding the separate publications listing.

This report is to be submitted to the Administrative Office in lieu of the final year's Annual Progress Report.

Note: Information provided in Part I will be included in the WRAC Annual Accomplishment Report which is submitted to USDA. Please be sure the Report you submit to WRAC is finalized and ready for print.

Submission

1. The Work Group Chair compiles the report and sends the completed report (via email attachment and signed hard copy) to the Project Monitor.
2. The Project Monitor then reviews, approves with signature, and forwards it (email attachment and signed hard copy) to:

Western Regional Aquaculture Center
School of Aquatic and Fishery Sciences
Box 355020
University of Washington
Seattle, WA 98195-5020
Street Address: 1122 NE Boat Street, Seattle, WA 98105
Email to jkhahn@uw.edu

Format

PROJECT TITLE:	Full title of WRAC project.
REPORT GIVEN IN YEAR	20__
PROJECT WORK PERIOD:	(i.e., 4/01/20__–3/31/__; no-cost extension approved through 3/31/20__).
AUTHOR:	Name of person submitting this report.
PARTICIPANTS:	List participating personnel and respective institution/ agency/business entity; include outreach representative(s). Indicate funded participants with an asterisk (*).

REASON for TERMINATION (i.e., objectives completed, funds terminated, etc.).

PROJECT OBJECTIVES: List each objective.

PRINCIPAL ACCOMPLISHMENTS: Summarize in concise form the findings for each objective for the duration of the project. Measurement data are to be given in metric units; however, to minimize confusion, a dual system of measurement may be used to express results.

IMPACTS: Please see pages I1–I3 for information about Impact Statements and samples. Please coordinate this section with the Outreach Representative for your project.

RECOMMENDED FOLLOW-UP ACTIVITIES: State concisely how future studies may be structured.

SUPPORT: Use the format shown below to indicate all sources of funding and additional other support, federal and non-federal, for this project. Specify the name of the “other” sources as a footnote to the table.

YEAR	WRAC- USDA Funding	OTHER SUPPORT					Total Support
		University	Industry	Other Federal	Other	Total	
TOTAL							

PUBLICATIONS, MANUSCRIPTS, OR PAPERS PRESENTED: Attach a separate list of all publications to date for this project. Under the subheadings of Publications in print and Manuscripts, list journal articles, popular articles, outreach materials, videos, technical reports, theses, dissertations, etc. (reference the “Transactions of the American Fisheries Society” for the preferred format). Under Papers presented, include the author(s), title, conference/ workshop, and date(s).

SUBMITTED BY:

_____ Title: (Work Group Chair or PI) _____ Date

APPROVED:

_____ Project Monitor _____ Date

Part II: Detail

Instructions

Part II should be single-spaced; narrative style, with graphs, figures or tables appended if appropriate; and no more than 7–10 pages in length, excluding the separate publications listing.

This report is to be submitted to the Administrative Office in lieu of the final year's Annual Progress Report.

Submission

1. The Work Group Chair compiles the report and sends the completed report (via email attachment and signed hard copy) to the Project Monitor.
2. The Project Monitor then reviews, approves with signature, and forwards it (email attachment and signed hard copy) to:

Western Regional Aquaculture Center
School of Aquatic and Fishery Sciences
Box 355020
University of Washington
Seattle, WA 98195-5020
Street Address: 1122 NE Boat Street, Seattle, WA 98105
Email to jkhahn@uw.edu

Format

- PROJECT TITLE:** Full title of WRAC project.
- REPORT GIVEN IN YEAR** 20__
- PROJECT WORK PERIOD:** (i.e., 4/01/20__–3/31/20__); no-cost extension approved through 3/31/20__).
- AUTHOR:** Name of person submitting this report.
- PARTICIPANTS:** List participating personnel and respective institution/agency/business entity; include outreach liaison(s). Indicate funded participants with an asterisk (*).
- PROJECT OBJECTIVES:** List each objective.
- TECHNICAL SUMMARY AND ANALYSIS:** Describe the work undertaken and results obtained for each objective. Major results should be presented in detail, but graphs, figures and/or tables must be appended separately. Methodology should be briefly described and statistical analyses included where appropriate. This section of the report should be written in a style similar to a professional publication. Manuscripts prepared and/or accepted for publication may also be appended.
- IMPACTS:** Please see pages I1–I3 for information about Impact Statements and samples. Please coordinate this section with the Outreach Representative for your project and include a summary of results from the project Outreach Plan.

PUBLICATIONS, MANUSCRIPTS, OR PAPERS PRESENTED: Attach a separate list of all publications to date for this project. Under the subheadings of Publications in print and Manuscripts, list journal articles, popular articles, outreach materials, videos, technical reports, theses, dissertations, etc. (reference the “Transactions of the American Fisheries Society” for the preferred format). Under Papers presented, include the author(s), title, conference/workshop, and date(s).

SUBMITTED BY:

Title: (Work Group Chair or PI)

Date

APPROVED:

Project Monitor

Date

Appendix I Impact Statements

WHY do we need to write these Impact Statements?

At the national level, the RACs are now required to document the effectiveness of RAC-funded research and outreach projects on the aquaculture industry. This accountability requirement means that we need to work together to document the impact of WRAC-funded research to ensure the continuation of WRAC-funded projects.

WHAT is an Impact Statement?

The Impact Statement should:

- Summarize briefly the measurable difference your research and outreach activity and efforts have made to your target audience—the aquaculture industry and communities in the western region.
- Answer the questions... “So what?” and “Who cares?”
- Convey the accomplishments in simple language free of technical jargon.
- Be submitted by PIs completing the Project Termination Report, in collaboration with the Outreach Coordinator.

HOW do we write these Impact Statements?

Please use this simple reporting formula:

1. Describe the issue or problem statement (relevance) in simple terms appropriate for your principle audience. (*Use the questions below to guide you—no need to answer all of them.*)
 - Why are we doing this research and outreach project?
 - What industry needs were expressed?
 - What was the situation/problem, and why was it a problem?
 - What Problem Statement is being addressed?
2. Provide an action statement (response).
 - What did you do?
 - What were the key elements?
 - Who was the target audience?
 - What resources were expended?
3. Describe the impact (results).
 - The impact of your work is in the answer to the question “What is the payoff economically, environmentally, and socially, etc?”
 - What happened to the audience as a result of the work described?
 - What were the end results (quantitative and qualitative)?
 - How much money was saved?
 - Were policies changed as a result?
 - How was evidence collected to document the impacts (surveys, observation, etc.)?
 - What was the scope of the impact (on regional or statewide industry, etc.)?
4. Who was responsible?
 - List collaborators or contributors.
5. Your name and contact information.

Two Examples

#1 Title: Regulatory reform of the PSP testing requirements for the Alaska geoduck clam commercial dive fishery

Relevance: In 2002, the economic value of the geoduck clam dive fishery harvest included substantial costs from the Alaska Department of Environmental Conservation's (DEC) required and extensive paralytic shellfish poison (PSP) toxin sampling and testing protocols. PSP is only found in the visceral mass of geoduck clams. If PSP in the viscera tested above the FDA regulatory limit, the clams had to be killed, the visceral mass removed, and then sold frozen to the oriental market at low price of fifty cents per pound to the diver.

Response: Commercial fishermen urged DEC to re-evaluate their testing program and the DEC Commissioner asked the Marine Advisory Program (MAP) to provide guidance in selecting expert panel members for a workshop to discuss the potential for regulatory changes, assistance in planning the agenda, and providing notifications to participants. A consultant was hired to conduct the meeting and write the final report. MAP worked closely with the consultant to organize the meeting. A two-day workshop was held in Anchorage on August 5-6, 2002.

Results: A spirited all-day conference was held, and at its conclusion DEC recommended changes to the PSP sampling program that increased the likelihood of passing the PSP test with no increase in risk to human health.

Impact: The net result of the regulatory change was that more live clams were sold at a higher price. The average price per pound value of the harvest increased dramatically from \$1.06/lb in 2001 to \$4.09/lb in 2007, increasing in total harvest value from \$470,000 to \$2,670,000, respectively.

Collaborators: Significant roles were played by those in the Commissioner of DEC, Graystar Consulting, the expert panel, and the Southeast Alaska Regional Dive Fishery Association.

#2 - Early Warning Systems for High Risk Plant Pathogens: New Tools for Plant Biosecurity

Relevance: Improved technologies are needed to anticipate, prevent, prepare for, and respond to the introduction of high-risk plant pathogens (HRPPs) into the United States. Many HRPPs are transported over long distances in the atmosphere (e.g., stem rust of wheat, soybean rust, and tobacco blue mold), threatening agriculture in the United States from inside and outside the country. The ability to detect, monitor, and forecast the movement of HRPPs in the atmosphere is essential for establishing effective quarantine measures, preventing the spread of plant disease, and preventing potentially damaging events targeted at the nation's agriculture and food supply. The Virginia Tech College of Agriculture and Life Sciences has a key initiative in infectious diseases.

Response: In 2007, the Schmale lab developed and implemented self-controlling aircraft to study the movement of HRPPs in the atmosphere, tens to hundreds of meters above the surface of the earth. The program cuts across traditional boundaries of scientific disciplines, blending advanced technologies in biology and engineering. A three-year grant proposal of nearly \$1 million was funded by the USDA-NRI for this work.

Results: In 2007, over 130 sampling flights were conducted tens to hundreds of meters above agricultural fields at Virginia Tech's Kentland Farm. The findings resulted in a regional evaluation of disease spread potential for HRPPs, assisting growers and producers by providing an early warning system for these diseases. This work led to measurable improvements in the management of

agricultural ecosystems through emergency control measures, infrastructure and human resources, and reporting and communication. The project developed new tools necessary for on-site detection of HRPPs collected from the atmosphere and identified limits of long-distance transport for HRPPs. This work continues to help predict/forecast the distribution and spread of HRPPs in the atmosphere.

Collaborators: Virginia Tech faculty in the College of Agriculture and Life Sciences and the College of Engineering, Cornell University faculty, Connecticut Agricultural Experiment Station faculty

Contact: David Schmale, III, 403 Latham Hall, Department of PPWS, Virginia Tech

Appendix J Project Monitor Report Example

Determining Ripeness in White Sturgeon Females to Maximize Yield and Quality of Caviar

Project Monitor Report 2008

Fred S Conte

The project involves the use of non-invasive technologies to assess fish maturity by taking spectra of gonads in sturgeon using short wavelength near infrared spectroscopy (SWNIR) and ultrasound; and to evaluate Fourier transform infrared spectroscopy (FT-IR) as a method to predict fish maturity from spectral measurements of blood and roe. This is a complex research project requiring complex logistics and extensive coordination of fish stocks and research teams working in two states. The coordination and logistics have been difficult, but well addressed by the team leadership and involved researchers. The field equipment used in the research is extremely expensive and has to be shipped to each site prior to the research effort. To assist with this expense, the primary P.I. has secured funds from her host institution to cover shipping and insurance of the SWNIR and ultra-sound equipment.

The research team has demonstrated an excellent ability to modify to changing field conditions. As demonstrated by the Work Group meeting held in Hageman, Idaho, the research efforts are gathering significant data, and the mix of research talents is working well in a coordinated effort to work that data. The mixture of talents including those with expertise in reproductive biology, endocrinology, biochemistry, and physical chemistry are performing well individually and as a coordinated team.

The project is on track and the objectives are being met.

Fred S. Conte
Project Monitor

Appendix K Executive Director Position Description and Responsibilities

Administration

Direct the activities of the Western Regional Aquaculture Center (WRAC) as specified in the Manual of Operations and as directed by the WRAC Board of Directors (Board).

Facilitate and oversee all aspects of the biennial funding cycle including:

- Solicitation of priority research topics for the aquaculture industry in the Western Region and compilation of replies for the Industry Advisory Council (IAC).
- Development of Problem Statements for IAC/Technical Committee (TC)-identified priority areas.
- Development of requests for proposals, Pre-Proposals and Full Proposals in specific research areas approved by the Board.
- Arranging for external peer review of proposals, and providing results for IAC/TC proposal review and Board action on IAC/TC recommendations.
- Chairing even year IAC/TC meetings, where funding recommendations on Full Proposals are developed.
- Arranging and participating in Executive Committee meetings (via conference calls) for consideration of Pre-Proposals, out-of-cycle funding requests and other Executive Committee activities.

Comply with USDA/NIFA administrative requirements with regard to preparation of the annual work plan.

Apply appropriate fiscal procedures and conform to requirements concerning:

- annual budget submission.
- dissemination of grants to awardees and oversight of spending.
- interactions with participating institutions.
- annual reporting requirements.

Supervise the activities of Administrative Office staff.

Plan and oversee annual meetings of WRAC committees, and semi-annual meetings of the Board.

Prepare and disseminate all reports, minutes, requests for proposals, committee appointment notifications, *Waterlines*, and other materials in a timely manner.

Give oral activity report at each Board meeting and prepare written annual activity report.

Maintain close contact and consult via email or phone with Board Chair, Board, and Executive Committee.

Facilitate communication between the Board, IAC/TC, and Work Groups.

Make annual visit to USDA/NIFA to discuss RAC operations.

Attend meetings of national RAC directors and participate in RAC directors activities as appropriate.

Outreach and Public Relations

Represent WRAC to professional colleagues, institutions, agencies and the public in such a way as to enhance the image of WRAC.

Represent WRAC at professional meetings and at aquaculture industry (association) meetings

Oversee project workshops to disseminate results of WRAC studies to industry, and oversee preparation and dissemination of fact sheets for appropriate projects.

Development and Evolution

Seek ways to improve WRAC administration, functions, and impacts, including:

- Staffing.
- Operations.
- Publications.
- Leveraging WRAC funds through other mechanisms.
- Applying new technologies for information dissemination, proposal development, proposal submission, project annual reporting, reviews, budget reporting, and compliance .

Oversee development and maintenance of the WRAC website

Appendix L WRAC Board of Directors

Voting Members

One Member from the universities listed below, representing each of the 12 States within WRAC:

University of Alaska
University of Arizona
University of California, Davis
Colorado State University
University of Idaho
Montana State University
New Mexico State University
University of Nevada, Reno
Oregon State University
Utah State University
University of Washington
University of Wyoming

Chair of IAC

One Member, Principal Administrators of Cooperative Extension

One Member, Directors of Experiment Stations

Non-Voting Members

One Member, Washington State University

Chair, Research Subcommittee

Chair, Extension Subcommittee