CENTER
FOR
TROPICAL
AND
SUBTROPICAL
AQUACULTURE

Procedures of the Center for Tropical and Subtropical Aquaculture

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In Cooperation With

USDA

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National Institute of Food and Agriculture

Center for Tropical and Subtropical Aquaculture

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Table of Contents

Introduction **1**

Background 1
Center for Tropical and Subtropical Aquaculture 1
National Coordinating Council 1

Organizational Structure **2**

Board of Directors 2
Executive Committee 3
Executive Director 3
Industry Advisory Council 4
Technical Committee (TC) 5

Conflict of Interest Policy **7**

Board of Directors 7
Executive Director 7
Industry Advisory Council 7
Technical Committee 8

Project Development **9**

Overview 9
Solicitation of Proposals 9
Review and Approval of the Project Proposal 10
Annual Plan of Work 11
Project Development Flow Chart 12

Project Implementation and Management **13**

Overview 13
Project Billing 13
No-Cost Budget Reallocations 13
No-Cost Extensions of Time 14
Other Revisions 14
Reports and Project Monitoring 14
Technology Transfer 15
Multi-Year Projects 16
Project Performance 16
Project Implementation Flow Chart 17

APPENDICES **18**

Appendix A: Pre-proposal Format 18
Appendix B: Full Proposal Guidelines 19
Appendix C: Review Form for CTSA Proposals 24
Appendix D: Mid-term Status Report Format 26
Appendix E: Annual Progress Report Format 27
Appendix F: Termination Report Format 30
Appendix G: Publication Policy 33

Introduction

Background

A strong U.S. aquaculture industry offers significant economic and social benefits to both the nation and the world. Domestic aquaculture can meet the increased demand for fisheries products, conserve ocean resources, and lessen U.S. dependence on imported ocean products. A partnership between federal government agencies, state and local public institutions, and the private sector can achieve enhanced aquaculture development.

In Title XIV of the Agriculture and Food Act of 1980 and in the Food Security Act of 1985, Congress saw the opportunity to make significant progress in the development of aquaculture and authorized the establishment of aquaculture research, development, and demonstration centers in the United States (Subtitle L, Sec. 1475 [d]). Considered by Congress as the vehicle for the U.S. Department of Agriculture (USDA) to implement the National Aquaculture Development Plan, Subtitle L appropriated $3 million in 1987 to establish and fund five regional aquaculture centers.

The centers, located in Hawaii, Maryland, Iowa, Mississippi, and Washington, coordinate institutional resources and industry needs to fulfill their mission to support aquaculture research, development, demonstration, and extension education to enhance viable and profitable U.S. aquaculture. The centers are associated with colleges and universities, state departments of agriculture, federal facilities, and non-profit private research institutions. The five centers fund and oversee cooperative research, development, and demonstration projects that directly address the concerns of industry in their regions.

Center for Tropical and Subtropical Aquaculture

The Center for Tropical and Subtropical Aquaculture was created to spark the development of commercial aquaculture of tropical and subtropical species. Unlike the other centers, which work within a defined geographical region, the CTSA "region" encompasses tropical and subtropical species wherever they are cultured within the United States and the U.S.-affiliated Pacific islands (American Samoa, Commonwealth of the Northern Mariana Islands, Federated States of Micronesia, Guam, Hawaii, Republic of Palau, and the Republic of the Marshall Islands.) Research projects span the American Insular Pacific, focusing on developing an aquaculture industry using commercially viable tropical and subtropical species.

National Coordinating Council

The National Coordinating Council of the Regional Aquaculture Centers comprises the directors of the five centers and representatives from the USDA. The Council is responsible for general communication and coordination between the centers and the USDA and serves as a liaison with the Federal Joint Subcommittee on Aquaculture. The Council also provides a link for the development of high-priority interregional projects of national importance.

Organizational Structure

CTSA is jointly administered by the Oceanic Institute of Hawaii Pacific University and the University of Hawaii. The Oceanic Institute has fiscal and administrative responsibilities for CTSA operation. CTSA's main office is currently located at the Oceanic Institute. CTSA also has an administrative Office at the University of Hawaii at Manoa. An Executive Committee is responsible for administrative policy and functions of CTSA. Responsibility for oversight of CTSA's industry development plans, policies, and programs resides with the Board of Directors. The Industry Advisory Council (IAC) and the Technical Committee (TC) advise the Board of Directors on the development of the annual plan of work. An Executive Director manages the CTSA Administrative Center and oversees daily activities to ensure effective and efficient program operation and achievement of desired results.

Board of Directors

The Board of Directors is responsible for oversight of CTSA's industry development plans, policies, and programs, including concurrence on the allocation of the available annual budget. The Board of Directors is also responsible for development of ancillary agreements with other agencies and institutions.

The Board is composed of the Executive Director plus up to nine voting members. The Executive Director is allowed to vote only in case of a tie. The voting members correspond to the following positions:

1. Dean, College of Tropical Agriculture and Human Resources, University of Hawaii - who is appointed by University of Hawaii President - will serve as the Board Chair and conduct all Board meetings
2. Executive Director, Oceanic Institute - who is appointed by Hawaii Pacific University - will serve as the Executive Committee Chair
3. Director, Sea Grant College Program, University of Hawaii
4. Dean, College of Natural and Applied Sciences, University of Guam
5. Director, College of Micronesia Land Grant Programs (Palau, Marshall Islands, and the FSM states: Yap, Chuuk, Pohnpei, and Kosrae)
6. Representative who is appointed by the State of Hawaii.
7. Chair, CTSA IAC
8. Chair, CTSA TC

The Board of Directors:

- provides oversight for regional program development, execution and management;
- appoints and removes individuals to the IAC and TC;
- approves the proposed duties and membership of the IAC and TC;
- approves the proposed strategy for project selection;
- approves the Annual Plan of Work, including budget allocations;
- approves the Annual Accomplishment Report for consistency with the goals and objectives of CTSA and the authorizing legislation; and
- directs the Executive Director to respond to its information needs.

Executive Committee

The Executive Committee (EC) of the Board of Directors is comprised of the two members who are appointed by the presidents of the University of Hawaii and Hawaii Pacific University. Together with the Executive Director, the Executive Committee is responsible for making the final decisions on administrative policy, budget, and procedures of CTSA. It also appoints the Executive Director of CTSA.

Executive Director

The Executive Director (ED) is responsible for overall management and coordination of the CTSA program and is appointed by the EC based on recommendations from the Board of Directors.

The Executive Director will develop and execute the annual CTSA program through the following actions.

Program Development:

- manage the program development process to ensure timely development of a quality research program;
- develop and nurture personal contacts with members of the industry, regional government agencies, and research institutions throughout the region;
- serve as ex-officio member of the IAC and TC, responsible for preparing agenda and minutes of meetings and providing advice and counsel;
- serve as ex-officio member and executive secretary to the Board of Directors, responsible for preparing agenda and minutes of meetings and providing advice and counsel;
- augment the list of priority areas as needed and with approval from the Board of Directors, direct no more than 20% of available program funds to these areas;
- request pre-proposals and full proposals based on recommendations from the IAC and TC;
- select reviewers and coordinates reviews of proposals for technical and scientific merit, feasibility, and applicability to priority areas;
- perform other duties as necessary;

Program Execution:

- manage program execution for quality, timeliness, and fiscal integrity;
- prepare contracts with principal investigators to transfer funds for implementation of approved projects;
- monitor project activities sponsored by CTSA;
- enforce policies and procedures, follow up on progress of projects, and ensures technology transfer is effectively carried out;
- recommend to the Board of Directors, following input from the IAC and TC, necessary action up to and including termination of a project in cases of poor performance;

- perform other duties as necessary;

Program Management and Administration:

- ensure efficient and effective program management and administration;
- coordinate and facilitate interactions among CTSA, Board of Directors, IAC, TC, industry, and principal investigators (PIs);
- prepare CTSA summary budgets, annual plans of work, and CTSA progress reports as required under the grants;
- maintain relationship with other Regional Aquaculture Centers;
- serve as a member of the National Coordinating Council for the Regional Aquaculture Centers in conjunction with directors of other regional centers and USDA representatives; and
- perform other duties as necessary.

Industry Advisory Council

A principal characteristic of the Regional Aquaculture Centers (RAC) is that it is guided by industry concerns and after consultation with appropriate technical experts, responds with a program of directed research that targets priorities established by members of the industry. To assure that this focus on industry needs is maintained, CTSA's charter specifies creation of an IAC to provide an open forum through which those involved in the business of aquaculture can provide comments, suggestions, and advice. With the approval of the Board of Directors, the contributions of the IAC can be incorporated into annual and ongoing plans for CTSA.

The IAC:

- reports the status and needs of aquaculture development in their represented region or field of interest and expertise;
- recommends and ranks, according to perceived importance to industry expansion, research and development needs each year;
- reviews pre-proposals to determine if they address the appropriate problem;
- assigns members to serve as industry liaisons for each project. Liaisons will monitor progress through bi-annual project updates and other reports from the project PIs. Liaisons will collaborate with project PIs to report on the progress of projects at the annual meeting; and
- conducts an election every three years to elect a chair from its eligible membership. The duties of the chair are to conduct the annual joint IAC/TC meeting, present recommendations regarding proposals to the Board based on reviewers' comments, and serve as a voting member on the Board of Directors.

IAC members are appointed for indefinite terms. When an individual is nominated for IAC membership, their resume must be submitted to the CTSA Director within 30 days of the date of nomination. The

Executive Director and IAC Chair review the nominees' qualifications for consistency with the guidelines. Only those nominees who meet the guidelines are recommended to the Board of Directors for confirmation. IAC members who do not participate in meetings or other functions of the Council for a period of two years may be removed.

The guidelines for selecting IAC members are listed below.

1. The IAC will have no more than 20 members.
2. Up to ten members are nominated to represent major aquaculture industry sectors relevant to the region. Members are expected to supply their special expertise to the development situations throughout the regions. For example, these sectors could include marine foodfish, freshwater foodfish, marine ornamentals, freshwater ornamentals, marine shrimp, seaweed, black-lip pearl oysters, and so forth. The Board of Directors will decide on which sectors should be represented, in consultation with the Executive Director and upon review of periodic assessments of industry status in the region and national and global aquaculture in general. At the end of a member's term, the Board of Directors can select a new sector to be represented or keep the same sector.
3. Up ten members are nominated to represent current political entities. These members can be private-sector aquaculturists or government officials. To assure that the IAC has representation from all political entities in CTSA's geographical region, four members of the IAC should be from Hawaii and one each from Guam, the Federated States of Micronesia, American Samoa, the Commonwealth of the Northern Mariana Islands, the Republic of the Marshall Islands, and the Republic of Palau. To help achieve this, Board members should nominate individuals from their region (i.e., Pacific Island Board members should nominate IAC members from the Pacific Islands and Hawaii Board members should nominate IAC members from Hawaii).
4. Determined effort must be made to ensure that as many private sector commercial aquaculture producers as possible are represented. Members from this sector must compose a simple majority of the Council's total membership of up to 20.

Technical Committee (TC)

The primary function of the TC is to evaluate the scientific merit of the pre-proposals submitted to CTSA. Identification of individuals with a scientific background who are knowledgeable in the scientific method, experimental design, and aquaculture-related disciplines and species who can assess the merit of proposed research approaches is critical. The TC is composed of representatives from participating research institutions, state extension services, other state or territorial public agencies, and non-profit private institutions.

The TC functions as follows:

- develops problem statements for the priority areas selected and identified by the IAC. The Request for Pre-proposals is based on these problem statements;
- reviews and assesses the research approach of the pre-proposals as to adequacy in addressing the priority problem areas selected and identified by the IAC;
- ensures that the proposed research does not duplicate previous research and develops new and novel results for application by the industry;

- submits recommendations to the Executive Director regarding which pre-proposals adequately address the priority areas selected and identified by the IAC;
- evaluates the annual progress of funded projects and comments on research direction and results; and
- conducts an election every three years to elect a chair from its eligible membership. The duties of the chair are to conduct the annual joint IAC/TC meeting with IAC chair and serve as a voting member on the Board of Directors.

TC members are appointed for indefinite terms. When an individual is nominated for TC membership, their resume or CV must be submitted to the CTSA Director within 30 days of the date of nomination. The Executive Director and TC Chair review the nominee's qualifications for consistency with the guidelines. Only those nominees who meet the guidelines are recommended to the Board of Directors for confirmation. TC members who do not participate in meetings or other functions of the Committee for a period of one year may be removed by a vote of the Board of Directors.

The guidelines for selecting TC members are listed below.

1. The TC will have no more than 20 members.
2. Members of the TC will be public and private sector researchers and extension personnel from throughout CTSA's region.
3. Members must possess technical and scientific knowledge in the scientific method, experimental design, and aquaculture-related disciplines and species.
4. To ensure that the TC can fully assist the IAC to evaluate and select the best pre-proposals, additional experts can be invited to the annual TC meeting based on the content of the pre-proposals for the year. These experts need not be from within the CTSA region.

Conflict of Interest Policy

The Center for Tropical and Subtropical Aquaculture upholds basic guidelines to guard against conflicts of interest which could compromise the integrity and objectivity of the Center. CTSA strives to integrate individual and institutional expertise and resources in support of regional commercial aquaculture development in an effective and impartial manner. While participants are selected from various industries, organizations, and governments, all participants of the CTSA process must remain objective and represent the best interests of the region. Participants will excuse themselves from any activity or process where their objectivity cannot be guaranteed.

Board of Directors

Board members are expected to conduct their duties in a fair and impartial way to the best of their professional abilities. It is recognized that Board members may have a management affiliation with institutions and or PIs seeking CTSA research and development funding. When a proposal comes before the Board, Board members shall openly declare any relationship to it that may give the appearance of a conflict of interest. Members with such relationships are prohibited from promoting, advocating, or voting for the proposal.

Executive Director

The Executive Director is expected to conduct his or her duties in a fair and impartial way to the best of his or her professional abilities. The Executive Director represents CTSA and is therefore responsible for promoting regional commercial aquaculture development. He or she bases decisions on what will best benefit the region and not on any personal preferences. The Executive Director does not represent CTSA's host institution, which currently is the Oceanic Institute of Hawaii Pacific University (OI). The Executive Director does not speak for OI nor will he or she say or do anything that will grant unfair advantage to OI, or any other organization.

The Executive Director selects reviewers based on the individual's area of expertise and absence of conflicts of interest. Furthermore, each reviewer is asked to disclose any affiliation or financial connection with the institution or the person submitting the proposal that might be construed as a conflict of interest. If unable to remain objective, the reviewer is asked to decline the request.

Industry Advisory Council

IAC members are expected to conduct their duties in a fair and impartial way to the best of their professional abilities. The IAC recommends and ranks research and development needs of the region. It is recognized that IAC members may submit suggestions for research and development or collaborate with others who submit such suggestions. When a concept or pre-proposal comes before the IAC, IAC members shall openly declare any relationship to it that may give the appearance of a conflict of interest. Members with such relationships are prohibited from voting for the pre-proposal if another pre-proposal

has been submitted for the same research and development area. IAC members must also follow agreed upon criteria to evaluate concepts and pre-proposals.

Technical Committee

TC members are expected to conduct their duties in a fair and impartial way to the best of their professional abilities. The TC reviews the research approach of each pre-proposal and selects those with technical merit for further development.

It is recognized that TC members may be PIs, co-PIs or collaborators with PIs seeking CTSA research and development funding. When a pre-proposal comes before the TC, TC members shall openly declare any relationship to it that may give the appearance of a conflict of interest. Members with such relationships are prohibited from promoting, advocating, or voting for the pre-proposal.

Project Development

Overview

Each year, the U.S. Department of Agriculture's National Institute of Food and Agriculture (USDA/NIFA) provides CTSA's operating grant. This grant is budgeted to cover all administrative costs in addition to funding the individual projects included in the Annual Plan of Work.

Solicitation of Proposals

Each year, CTSA accepts suggestions or concepts for funding priorities from all stakeholders including industry members and researchers. The Executive Director then calls for pre-proposals based on the priority issues and problem areas as selected by the IAC. Interested individuals or groups who do not have the ability or resources to conduct research are encouraged to ask researchers to submit pre-proposals on their behalf. If necessary, the TC Chair or the CTSA Administrative Center can help these individuals or groups find and contact qualified researchers. According to the document, "Essentials of a National Aquaculture Regional Development Program," prepared by the USDA Science and Education Work Group on Aquaculture at the time of the establishment of the Regional Aquaculture Centers, all projects must be executed by universities or community colleges and non-profit research institutions or organizations. Private individuals or individuals in commercial companies or consulting companies may not be the PI or lead for a project, but may be sub-contractors. The main experiment or main project activities should be conducted at a university, community college, or non-profit research institution to ensure that the site will be easily accessible for technology transfer. Detailed instructions for preparing project pre-proposals are given in Appendix A.

After pre-proposals have been submitted, the IAC and TC gather together to discuss and rank the pre-proposals; the TC reviews the technical merit of each pre-proposal and the IAC reviews the relevance to priority areas. The following are some examples of criteria currently recommended by the IAC and TC.

The project:

- addresses a problem of fundamental importance to tropical and subtropical aquaculture as identified by the IAC:
    - will have or has the potential to benefit the entire region;
    - will benefit an existing industry that is very significant to the region or will create a new industry if more information is available;
    - addresses an area with no available information in published literature;
- is scientifically sound;
- involves qualified personnel with access to adequate facilities;
- includes a technology transfer component that follows the direction of the IAC;
- involves participation by individuals with different areas of expertise. When possible, these individuals should represent different political entities or institutions within the region;

- can be made specific enough to provide significant accomplishment within three years;
- will complement and enhance ongoing extension and research activities as well as potentially expand these programs;
- will improve the research capabilities and competitiveness of the researcher who will then likely be able to attract additional support from other funding agencies.

The Executive Director then forms a preliminary Plan of Work from those pre-proposals that gain approval from the TC and the IAC. The budget determines the number of pre-proposals that can be considered. Priorities and IAC/TC ranking will determine importance of each pre-proposal. Once the final set of pre-proposals has been determined, the Executive Director requests full proposals from the submitters of the selected pre-proposals.

Although CTSA highly recommends the multi-institutional approach, submitters of selected pre-proposals addressing similar areas of research may choose to either collaborate or compete. If they choose to collaborate, the groups work together to submit a single proposal. If they choose to compete, the groups submit separate proposals, and based on the comments of the review panel, only one is chosen. In both situations, a PI must be selected to be responsible for coordinating the overall proposal and if the proposal is approved, be responsible for the whole project. The PI is expected to confer with his or her immediate administrator or director on feasibility of participation and commitment of resources and facilities to the project and provide a written statement as part of the full proposal that the resources and facilities are available for the project.

All proposals should have objectives that can be accomplished within a given time frame and should be completed within a term of no longer than three years. If a high priority industry concern persists for longer than three years, a new project with a modified name and new, finite, measurable objectives should be proposed. CTSA grants funding for only one year at a time. Funding for future years depends on continued relevance to the industry, project performance, and technical viability of the succeeding proposal.

Detailed instructions for preparing project proposals are given in Appendix B. Proposals that do not meet these guidelines are not sent for review. Submitters are also informed of any administrative shortcomings, and those that are corrected in the time allotted will advance.

Review and Approval of the Project Proposal

Each proposal undergoes a rigorous review and approval process. The Executive Director requests recommendations from each PI and then develops lists of qualified and impartial peer reviewers for the proposals. Proposals for projects along with the review form (Appendix C) are sent to three or more reviewers. CTSA continues to solicit reviews from the reviewers until at least three are received.

The Executive Director summarizes the reviews and presents them to an adhoc committee comprised of several members of the IAC and TC, including each committee chair. The Executive Director then requests revisions to each full proposal based on internal and external reviewer comments. A full proposal may be rejected at this stage of the development cycle if it fails to make the recommended changes and/or meet CTSA proposal guidelines. The IAC Chair presents the revised proposals to the Board. The Board of Directors, based on the IAC Chair's recommendation and its own discretion, votes to approve proposals for inclusion in the Annual Plan of Work.

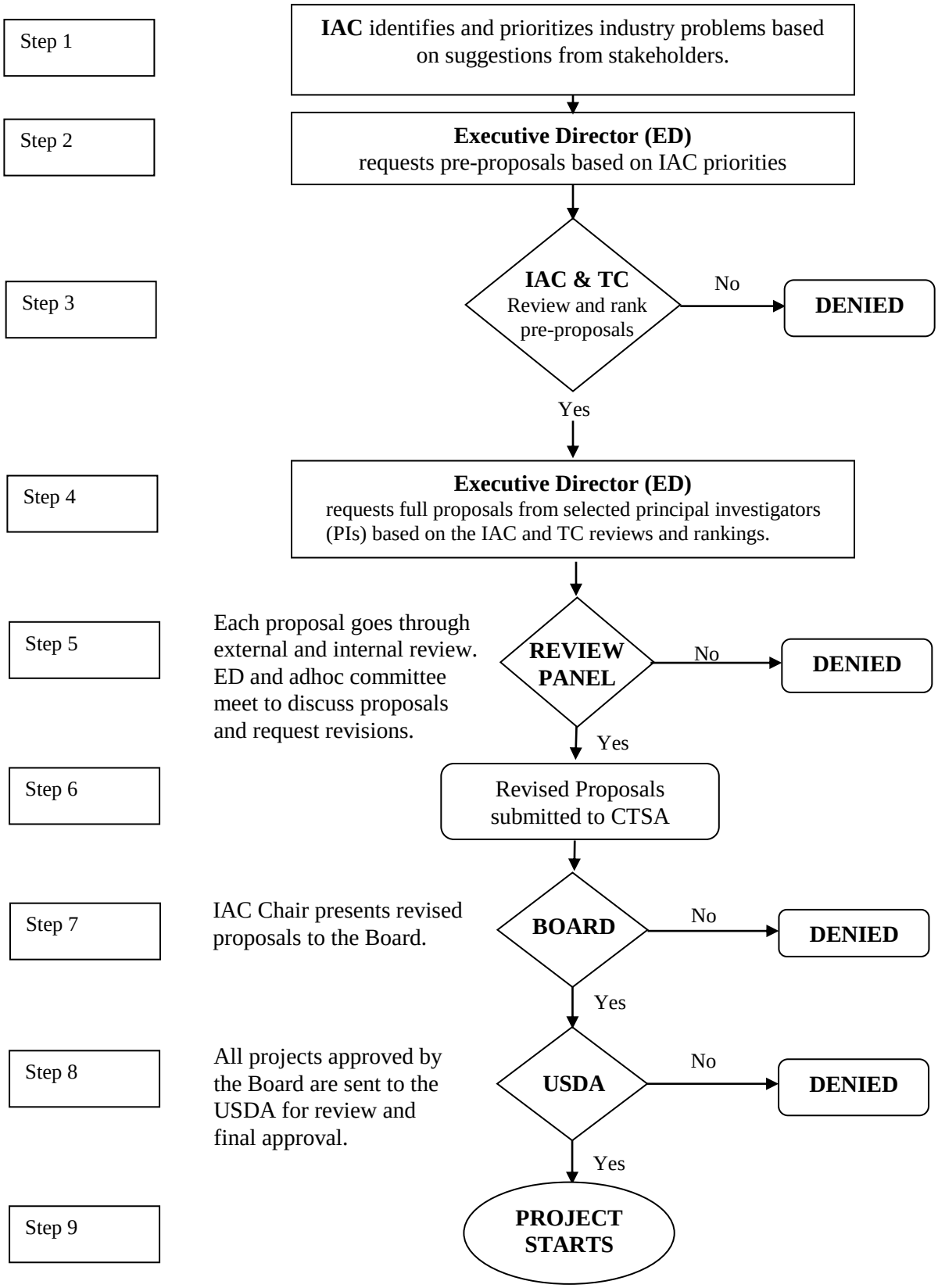
Annual Plan of Work

The Executive Director compiles all the necessary components to complete the Annual Plan of Work, including the Executive Committee's signatures. In addition to the proposals, the Annual Plan of Work includes the following:

- brief overview of each project,
- implementation plan,
- summary budget,
- description of the review and selection process for proposals,
- summary of the process used to identify and invite institutions to participate in projects, and
- description of the Plan's compatibility with regional priorities and the National Aquaculture Development Plan.

The Executive Director submits the Annual Plan of Work to USDA/NIFA, which holds the right of final approval either in part or in its entirety.

Project Development Flow Chart



Project Implementation and Management

Overview

After receiving USDA/NIFA approval, the Executive Director notifies the Board of Directors and the PIs of each project about the approved level of funding for each participating institution and agency. The Executive Director forwards a draft contract to the PI at the lead institution, who then forwards it to the appropriate fiscal representatives at his/her institution for review. Following this review, a final contract is signed between the lead institution and CTSA. By signing this subaward, subrecipient agrees to follow the Federal Awarding Agency's grants terms and conditions.

PIs are required to initiate work within six months of funding approval notification. However, if they want to begin their project before the USDA has approved it, then they need to seek approval from CTSA. They must also understand that anything they do before USDA approval has been obtained will be done at their own risk.

Project Billing

Projects are funded on a reimbursement basis. CTSA provides each PI with a *Request for Reimbursement* form, which must be submitted to CTSA on a monthly or quarterly basis. The request must be submitted within one month following the period. Any request that does not follow this procedure will be forwarded to the Board of Directors for action. CTSA reserves the right to not process any reimbursement that covers a period of four months or longer. All project bills must be submitted on this form, along with all receipts for any item in which billing totals more than $100. Bills submitted on other forms or without required receipts will not be paid. Reimbursement of expenses will be withheld if any current and past project reports have not been submitted, and 15% of the total funding will be withheld until a satisfactory final report is received. Accountability of expenditures is the responsibility of each participating institution.

No-Cost Budget Reallocations

Project participants should prepare accurate budgets and work to ensure that expenditures within each budget category remain within the amount budgeted for that category (such as salaries, equipment, travel, and so forth). If necessary, a PI may submit a memo to the Executive Director to request a transfer of funds from one category to another. The request for such a transfer should be made before the money is spent and should fully explain the reason for the transfer. The Executive Director processes requests based on merit. CTSA reserves the right to deny the request and not process the reimbursement. Reallocations should not adversely affect the quality and timeliness of the expected results from the project. Reallocations are not allowed to accommodate work that is not within the scope of the original project proposal.

No-Cost Extensions of Time

PIs are expected to complete the work on a project within the proposed time frame. To ensure that results are provided to the industry in a timely manner, CTSA strongly discourages requests for no-cost extensions. If necessary, PIs can request a no-cost extension of up to six months, and must provide strong justification for the extension. Additional no-cost extensions will be granted only under exceptional circumstances. CTSA requires that all projects must be completed by at least one year before the expiration of the primary CTSA-USDA master grant.

Other Revisions

Requests for all other major project revisions should be communicated in writing to the Executive Director. If there has been a change in project personnel, the Executive Director should be notified only if it involves the PI. If the PI wishes to change the scope of the project for any reason, then he or she must request and receive approval from the Executive Director, Board of Directors, and the USDA. If the PI wishes to alter the project's approach, then he or she must request and receive approval from the Executive Director.

Reports and Project Monitoring

Prompt reporting is the responsibility of the PIs. If the PI fails to make any progress or to report any progress, then the project may be terminated. Reports are evaluated by the Executive Director and the IAC liaisons. The Executive Director will send reminders to the PIs before reports are due. A copy of the reminders will also be sent to the PIs' respective institutional administrative authority.

PIs are required to submit one mid-term status report and one annual progress report each year for each active project. PIs must also participate in project update conference calls with the Executive Director and IAC or TC project liaison twice per year to coincide with submission of written progress reports. If a PI fails to submit reports as scheduled, then reimbursements of expenses are withheld until the reports are received. The PIs' requests for future funding will also be denied if they have any outstanding reports.

Mid-Term Status Report
Due Date: May 31
Reporting Period: Project commencement date through April 30

The mid-term status report format and requirements are given in Appendix D.

Annual *Progress Report*
Due Date: November 1
Reporting Period: Project commencement date through September 30

This report provides CTSA with information needed to complete its Annual Accomplishment Report, due to USDA/NIFA at the end of each year. Therefore, the report should cover the entire duration of the project. Progress reports should summarize accomplishments, progress in terms of achieving stated objectives, changes in project design or procedures, and budget expenditures. Conciseness is encouraged and all detailed information should be included as an appendix. The progress report format and requirements are given in Appendix E.

Termination Report
Due Date: Within 60 days after the end of the project
Reporting Period: Project commencement date through completion

This report should summarize the findings and accomplishments for each objective for the entire duration of the project. If the end of the project coincides with the November progress report, then the PI can choose to either submit the final report in November, or submit a progress report in November and submit a more complete final report within 60 days. The final report format and requirements are given in Appendix F.

Travel Report
Due Date: Within 30 days following the event
Reporting Period: Duration of the event

It is uncommon for CTSA to support travel to meetings and conferences. However, to ensure that expenditure of all funds directly responds to the needs of industry, CTSA requires that those attending scientific meetings, workshops, or seminars with CTSA funding share the results of their trip with the aquaculture community in the CTSA region. This can be either a written summary or an oral presentation given at a local public meeting such as a meeting of the Hawaii Aquaculture Association. The written summary should be provided to the Executive Director within 30 days following the scientific meeting. It should be no longer than 1,500 words written in a narrative style that can be easily understood by a non-scientific audience. At the Executive Director's discretion, the summary will then be modified, edited, and distributed to industry members either as an independent document or as an article in the CTSA newsletter, *Regional e-Notes.*

Technology Transfer

CTSA is both research oriented and industry driven thereby promoting a useful combination of research and outreach in its projects. Technology transfer is an essential component of every project, and the IAC is responsible for specifying how it should be accomplished for each priority area. Most projects will include publications and or workshops as technology transfer deliverables.

Publication of Results
The PI must see that the findings of CTSA projects are promptly published as manuals, information sheets, extension bulletins, CTSA reports, technical papers in scientific journals, articles in the CTSA monthly newsletter, *Regional e-Notes*, videos, or other media. Each project is required to submit at least one *Regional e-Notes* article per project year.

CTSA's Publications Policy is attached as Appendix G. All publications must credit not only the PI, but also CTSA and USDA/NIFA. Technical papers and station bulletins may be published by individual participating institutions and other agencies with acknowledgment of the CTSA project and the USDA/NIFA grant under which the research was conducted. Any news releases that are prepared should be sent to the Executive Director for review and approval before release.

PIs are encouraged to present information, progress, and results from their projects in the *Regional e-Notes*. This newsletter also includes information on CTSA activities and meetings, profiles of CTSA

members, information on other regional aquaculture activities, and news about aquaculture industry and research activities involving tropical and subtropical species. The *Regional e-Notes* is published monthly.

Workshops

For certain projects, PIs are expected to organize workshops. These workshops can be simple informational meetings, organized training sessions, or whatever is considered appropriate for the project. The goal is to provide the greatest benefit to the aquaculture industry in the CTSA region. CTSA and USDA/NIFA must be acknowledged at all workshops.

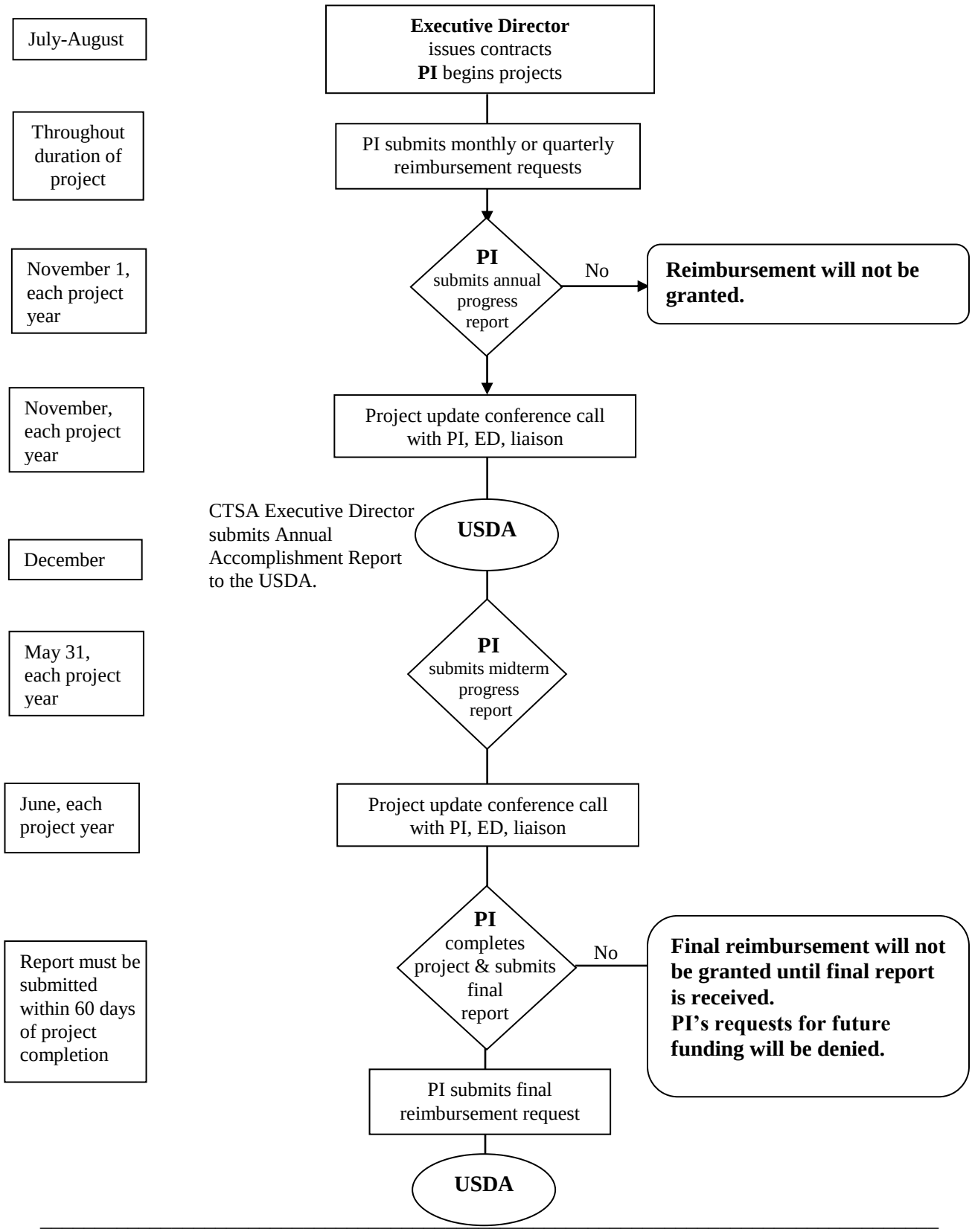
Multi-Year Projects

Projects that are proposed for a period of over one year are subject to annual reviews by the IAC and TC. The overall project performance is scrutinized to determine if it should proceed. Continuation of a project is based on availability of funds, continued relevance to the industry and a satisfactory review. Funding for subsequent years will not be released until the previous year's project objectives and financial report have been completed.

Project Performance

Poor performance, such as the inability to complete objectives as proposed, late submission of reports, poor quality of reports, poor communication with members of the relevant industry sector, and other shortcomings, negatively affect a PI's chances of obtaining future CTSA funding. Likewise, meeting responsibilities and good performance are also considered when making decisions regarding the funding of future projects.

Project Implementation Flow Chart



APPENDICES

Appendix A: Pre-proposal Format

Pre-proposals must include the following information and be no more than two pages (single-spaced, 10–12 pt. font).

1) Proposed title or main idea

2) Strategic Area and Priority targeted

3) Problem statement: Clearly explain the significance of the targeted problem and its relation to current and future industry development.

4) Proposed objectives: Define and number objectives that are achievable and measurable. Please visit the CTSA Web site (www.ctsa.org) to view previously funded projects so that your pre-proposal does not duplicate the work of completed or current projects.

5) Expected Industry Impacts: You must clearly define how your proposed project will realistically impact the regional aquaculture industry in economic terms, and indicate the potential return on investment. Please be specific in your description. CTSA typically funds projects that benefit multiple stakeholders. However, single beneficiary projects with compelling reasons will be considered. If the project will result in a new industry, the estimated economic impact of the industry has to be discussed.

6) Approach: Describe the principal approach that the project work group will use to accomplish the objectives outlined in your pre-proposal.

7) Duration: If a project's duration is to be more than one year, then your pre-proposal must include objectives and approach for each year. Objectives listed should be accomplished within a three- year time frame.

8) Estimated budget: Estimate the amount of funding needed to accomplish objectives. A breakdown need only include total estimates for major categories, such as salary, supplies, and equipment.

9) Project work group members: List members, by name and affiliation, who will participate in the execution of the proposed project.

10) Related research: If any participant has previously received CTSA funding to address the same species or subject area covered in the current proposal (or similar issues), provide a brief statement highlighting the results of that work and justification for the proposed project.

Appendix B: Full Proposal Guidelines

CTSA Proposal Guidelines

The proposal must contain the following sections in the order given and follow the formatting instructions given below. The narrative of the proposal cannot exceed 10 pages for a one-year project or 12 pages for a multi-year project (excluding Title Page, Budget, Literature Cited, Resumes, and appendixes). **A full proposal will be rejected if it does not follow these guidelines. Double-check spelling, grammar, and all mathematical calculations prior to submitting your proposal.**

File Format:	Microsoft Word or WordPerfect
Margins:	Top 1", left side 1", right and bottom 0.5"
Title:	24 pt Arial font, bold, centered
Body of Text:	12 pt Times New Roman font, full justification
Section Headings:	16 pt Arial font, bold, centered
Sub-headings:	12 pt Arial font, bold, italicized, left aligned

Title Page

Title (24 pt)
Title should be a brief, clear, specific designation of the research subject.
For continuing projects, project year should be included such as Year 2, Year 3, etc.

By (24 pt)

Principal Investigator (24 pt)

Name of Institution (18 pt)

Submitted to the (18 pt)
Center for Tropical and Subtropical Aquaculture (18 pt)

Date of submission: Month Date, Year (18 pt)

Executive Summary

This section should be no more than two pages and should apply a Logic Model that clarifies the linkages between issues, investments and activities, outputs, and expected outcomes of the funded project. This section should be a brief summary of the proposed project's background (an explanation of the problem and its current status), project focus (what the project will address), research approach (how the problem will be solved), and anticipated benefits (what the project will do for the aquaculture industry). The names of key project work group members, their institutions, and their main responsibilities for the project should also be listed here. Other than the PI(s), key members should include individuals who will receive more than 50% of their salary from project funds.

Objectives

In this section, the PI should clearly present the project's overall goals and a list of specific, numbered, and realistic objectives followed by detailed deliverables. For continuing projects, or projects proposed to last more than one year, the specific objectives and deliverables for future years should also be clearly stated. Multi-year projects must undergo a scrutiny of accomplishments at the end of each year, and CTSA will not release funding for the subsequent year until after a review of available funds, project progress, and industry relevance. Proposals must include a technology transfer objective, under which the PI will organize workshops, prepare publications, or devise other means for effectively conveying project information. Publication efforts must include at least one article per year in *Regional e-Notes*, the CTSA newsletter.

Background and Justification

This section should include a literature review, logic model, and a separate "Duplication of Research Statement" to justify the necessity of the current proposed work. This section should also indicate the NIFA focus area addressed by the project, and the distinction of the proposal type (Research, Extension, or Integrated). The information in the literature review does not have to be limited to published research, but can and should include preliminary work done by the PI or any other relevant information. The PI must also explain why this project is needed and what it will do to benefit the industry. Continuing projects must include a summary of the principal accomplishments for each previous year of funding and justification for continued funding. The review panel will carefully consider the project's progress in previous years in its overall evaluation of the proposal.

Duplication of Research Statement

To address the important issue of potential duplication of research and facilitate new knowledge beyond the current state of science, all proposals must include a statement that the USDA REEport and NOAA database were accessed to review any related or relevant research and that the proposed work is original research and does not duplicate any previously funded projects.

Work Statement and Schedule

Work Statement

The PI should restate each objective exactly as it was listed in the Objectives section and then explain the rationale for the approach and the proposed method to achieve the objective. The location of where the work will be done and the personnel, facilities, and equipment required should be indicated for each objective. The work statement should reflect careful planning and provide flexibility to allow for changes if they become necessary during the course of work. This section should also explain how progress toward objectives will be measured. For example, milestones can be used to represent significant, measurable progress or major accomplishments such as the completion of a product or phase of work. If the PI anticipates collaboration with another funding source, he or she must explain which objectives or which portion of an objective the other funding source will be supporting.

Example:

Objective #: _____

Rationale: brief explanation that justifies the proposed approach.

Method: detailed experimental design or approach, statistical evaluation etc.

Responsible personnel: key project members responsible for completion of the objective.

Other funding (if applicable): explanation of what costs or percentage of costs for various activities etc. that other funding sources will be responsible for.

Schedule

A schedule that integrates all project objectives on a common time table should be included in this section.

Example (other similar formats are acceptable):

	Year(s)													
Objectives	1	2	3	4	5	6	7	8	9	10	11	12	13	14
1. _____														
a	■	■	■											
b				■	■	■	■	■	■					
2. _____														
a			■	■			■	■						
b									■	■	■	■		
3. _____														
workshops							■					■		
article									■					
manual													■	
Reports														
Midterm / Progress					■									
											■			
Final														■

For continuing projects, the PI should include all of the above for future years in as much detail as possible, while recognizing that future work will depend upon the results of work done in preceding years. Still, it is important for the PI to sufficiently describe the approach for reviewers to determine if the proposed methods are scientifically sound and appropriate. Please note, whenever a material change in the objectives of the project becomes advisable, a new or revised schedule must be prepared and submitted to the CTSA Executive Director.

Budget

An overall project budget should be included in this section. If your budget does not add up correctly, YOUR PROJECT WILL BE REJECTED. Per section 1473 of Public Law 95-113, indirect costs are not allowed on any portion of the proposal budget. The budget should be in table format indicating a detailed budget breakdown. Budget categories must be in accordance with those given on form CSREES-2004.

Example:

Category	**CTSA Funding**	**Other Funding and Source**
Salaries		
(position)		
(position)		
Fringe Benefits (only if charged as direct cost)		
Total Salaries and Fringe Benefits		
Equipment		
Materials and Supplies		
Travel		
Publication costs		
Outside services		
All other direct costs		
Total		

Budget Justification

This section must include justification for each item in the budget in as much detail as possible. All travel should be directly linked to the funded project and deemed supportive of the specific objectives of the regional project, and must be justified in detail in this section.

USDA Budget Sheet (Form CSREES-2004)

An electronic copy of this form in Microsoft Excel is provided to the PI. The PI should insert the figures in the appropriate columns and rows. Excel will automatically calculate the figures. The PI should save the file as an Excel spreadsheet, import it into their proposal or e-mail the file along with the proposal, and print two copies for inclusion with the hard copies of the proposal. If a PI does not have access to Excel, he or she can compose the budget in another spreadsheet program that is compatible with Excel. **If your budget does not add up correctly, your proposal will be rejected.**

Literature Cited

Literature citations must be listed at the end of the project proposal. This section's format and style must follow the author-date system of *The Chicago Manual of Style*, fifteenth edition.

Resumes

A resume no longer than two pages for each PI and or associate named in the project work group must be included. A resume should include name and contact information, education, positions, memberships in scientific and professional organizations, and selected publications. It should also include a section titled "CTSA Funded Research," where you must disclose all of your past projects that have received financial

support from CTSA. The publications section should only list publications relevant to the current proposal, starting with the most recent. Publications extending beyond the two-page resume limit will be deleted.

Current and Pending Support

A copy of this form in Microsoft Word format is included in the "RFP Electronic Packet." The PI should fill in the form and print two copies for inclusion with the hard copies of the proposal.

Institutional Approval Form

A Microsoft Word copy of this form will be provided on the same disk with the CSREES-2004 form. The PI should fill in the form, print it out, obtain the appropriate signatures, and make five copies for inclusion with the hard copies of the proposal.

Appendix C: Review Form for CTSA Proposals

This review essentially consists of two parts: comments and a point system. Provide comments in each of the first four sections below. For Section 5, circle one choice. For Section 6, please give this proposal an overall rating (circle one choice from poor to excellent) and an overall score (from 1 to 10). Finally, present general comments in Section 7. Attach or add extra pages if necessary.

Please note: Your overall rating and comments in Sections 6 and 7 will be forwarded to principal investigators without your name. Comments and scores in other sections will not go to principal investigators.

Title of the Proposal: _____

Name of Reviewer: _____

1. Objectives. Are the objectives specific and achievable in the proposed time frame? Do these objectives sufficiently address the problem stated or implied in the proposal? Will the results from objectives provide new technical information to farmers?

2. Background and Justification. Does the proposal describe the importance of the problem or opportunity toward industry development in the region? Does the proposal include a sufficient literature search on related subjects? Is there a need for a multi-year project, and if so, is it sufficiently justified?

3. Work Statement and Schedule. Is the proposal technically sound with a good experimental design? Is the schedule sufficiently detailed to determine if the objectives can be achieved? Is the principal investigator qualified to accomplish the objectives?

4. Budget. Is the budget sufficiently justified and adequate to complete the objectives of the proposal? Will the research investment create a greater return in farm operations?

5. Funding Merit (Circle/Mark One)
Please consider CTSA's limited budget in determining if this proposal is worth our support. Projects that will create meaningful and lasting impacts to the local and regional aquaculture industry are of highest priority.

Not Worth Funding

Worth Funding With Extensive Changes

Worth Funding With Minor Changes

Worth Funding As Is

6. Overall Rating. (Circle One) Poor Fair Good Very Good Excellent

Overall Score:_____
Assign an overall numerical value to this proposal from 1 to 10 (1 is lowest and 10 is highest)

7. Overall Comments.

Appendix D: Mid-term Status Report Format

Project Title	Click or tap here to enter text.
Sub-Award No.	Click or tap here to enter text.
Principal Investigator	Click or tap here to enter text.
Reporting Period	Click or tap here to enter text.
Budget Balance	Click or tap here to enter text.
Detailed Project Status / Accomplishments (*By objective, in the same order as in the approved proposal)* Click or tap here to enter text.	
Project Impacts to date Click or tap here to enter text.	
Project Outputs to date (*Outputs are tangible, measurable products, i.e., publications, websites, events [title, location, date], workshops [title, location, date], curricula, models, software, technology, methods, websites {title, web address}, patents, etc.], trainees, etc. – if reporting on a multi-year project, list outputs for current project year only)* Click or tap here to enter text.	
Challenges Encountered Click or tap here to enter text.	

Appendix E: Annual Progress Report Format

INSTRUCTIONS: An annual progress report for each funded project must be provided electronically to the Director of CTSA by October 31 of each year. Progress reports are to be an accumulation of activities through August 31 of the year of the report or up until the completion of a final report which can serve in lieu of the annual progress report. Format for the report must adhere to the headings given below.

Project Title	
Reporting Period	10/01/____- 9/30/____
Author (Chair)	Name of person submitting this report.
Key Words	Key words
Funding Level	Total funds allocated for this project to date. *NOTE: This could be reported by Year. i.e.,* *Year One: FY 2012, $$ amount* *Year Two: FY 2013, $$ amount*
Participants	List participating personnel and respective institutions/agency/business; include outreach representative. Indicate funded participants with an asterisk. **Name:** Role: Role Institution/Agency/Business: Address: Ph: Email: Funded: Yes ☐ No☐
Project Objectives	List each objective Objective #1: Objective #2:
Anticipated Benefits	State briefly how the project will benefit the aquaculture industry – directly or indirectly.
Project Progress	Summarize concisely for each objective the progress toward accomplishment to date.
Accomplishments:	
Outreach Overview	Describe in general how your results have been extended to the intended users. OR, if they haven't yet, explain when & how this will occur.
Targeted Audiences	Provide information on the **target audience** for efforts designed to **cause a change in knowledge, actions, or conditions**.

Outputs:	Outputs are tangible, measurable products (website, events [title, location, date], workshops [title, location, date], curricula, models, software, technology, methods, websites {title, web address}, patents, etc.], trainees, etc.). Do NOT include publications as they're listed separately.
Outcomes/Impacts:	**Describe in detail** how findings, results, techniques, or other products that were developed or extended from the project generated or contributed to an outcome/impact. **Outcomes/impacts are defined as changes in Knowledge, Action, or Condition.**
Impacts Summary	Provide short statements (2-3 sentences) about each of the following: (pre-established fields for Researchers to complete short statement answers) 1. **Relevance:** Issue – what was the problem? 2. **Response:** What was done? 3. **Results:** How did your work make a difference **(change in knowledge, actions, or conditions)** to the target audiences? 4. **Recap:** One- sentence summary

Publications	Follow the format in the CTSA Operations Manual to list publications in the following categories:
	• Presentations:
	  o Oral
	  o Posters
	• Peer-reviewed:
	  o Print (journal, etc.)
	  o Digital (websites, videos, etc.)
	• Non-Peer-reviewed:
	  o Extension factsheets/bulletins
	  o Popular articles

FTE/Students/Participants:	**List FTE supported by project:** **Provide the following information for every graduate student funded on this project during the reporting period (copy and paste fields below for multiple students):** • Name: • Whether Degree was completed during the reporting period

<table>
<tr><td></td><td colspan="4">(name, yes/no):
• New or Continuing Student:
• Capstone/Thesis Title (actual or anticipated):
• Date of Graduation:
• Provide link to thesis/dissertation document:</td></tr>
<tr><td rowspan="2">Partnerships</td><td colspan="4">List any partners that you worked with on your project. Provide the following information for each Partner:</td></tr>
<tr><td>Partner</td><td>Specific Type
Type</td><td>Level
Level</td><td>Nature of Partnership</td></tr>
</table>

Appendix F: Termination Report Format

INSTRUCTIONS: A Termination report must be submitted when the project (or project year) has been completed. The report should cover the entire period that the project was active (including no-cost extensions). Two signed hard copies and an electronic copy in Microsoft Word of the report must be received by the CTSA Administrative Office no later than 60 days following the end of the project year. Details should also be included in appendices.

Project Title	
Reporting Period	
Author (Chair)	Name of person submitting this report.
Key Words	Key words
Funding Level	Total funds allocated for this project to date. *NOTE: This could be reported by Year. i.e.,* *Year One: FY 2012, $$ amount* *Year Two: FY 2013, $$ amount*
Participants	List participating personnel and respective institutions/agency/business; include outreach representative. Indicate funded participants with an asterisk. **Name:** Role: Role Institution/Agency/Business: Address: Ph: Email: Funded: Yes ☐ No☐
Project Objectives	List each objective Objective #1: Objective #2:
Detailed Results of Objectives	Provide detailed information on the results of each objective
Actual and/or Anticipated Benefits	State briefly how the project will benefit the aquaculture industry – directly or indirectly.
Executive Summary	Summarize concisely the accomplishments of the project.
Accomplishments:	
Outputs:	Outputs are tangible, measurable products (website, events [title, location, date], workshops [title, location, date], curricula, models, software, technology, methods, websites {title, web address}, patents, etc.], trainees, etc.). Do NOT include publications as they're listed

	separately.
Outcomes/Impacts:	Describe how findings, results, techniques, or other products that were developed or extended from the project generated or contributed to an outcome/impact. **Outcomes/impacts are defined as changes in Knowledge, Action, or Condition.**
Outreach Overview	Describe in general how your results have been extended to the intended users.
Targeted Audiences	Provide information on the **target audience** for efforts designed to **cause a change in knowledge, actions, or conditions**.
Impacts Summary	Provide short statements (2-3 sentences) about each of the following: (pre-established fields for Researchers to complete short statement answers) 5. **Relevance:** Issue – what was the problem? 6. **Response:** What was done? 7. **Results:** How did your work make a difference **(change in knowledge, actions, or conditions)** to the target audiences? 8. **Recap:** One- sentence summary
Recommended Follow-Up Activities	State concisely how future studies may be structured

Publications	Follow the format in the CTSA Operations Manual to list publications in the following categories:
	• Presentations:
	  o Oral
	  o Posters
	• Peer-reviewed:
	  o Print (journal, etc.)
	  o Digital (websites, videos, etc.)
	• Non-Peer-reviewed:
	  o Extension factsheets/bulletins
	  o Popular articles

Students/Participants:	Provide the following information for **every** graduate student funded on this project during the reporting period: • Name:

<table>
<tr><td></td><td colspan="4">

- Whether Degree was completed during the reporting period (name, yes/no):
- New or Continuing Student:
- Capstone/Thesis Title (actual or anticipated):
- Date of Graduation:
- Provide link to thesis/dissertation document:

Provide the FTE (amount of employees supported and total budget allocated to salaries, stipend, etc.) supported by this project:

- FTE:
- Salary/stipend budget:

</td></tr>
<tr><td rowspan="2">Partnerships</td><td colspan="4">List any partners that you worked with on your project. Provide the following information for each Partner:</td></tr>
<tr><td>Partner</td><td>Specific Type
Type</td><td>Level
Level</td><td>Nature of Partnership</td></tr>
</table>

Appendix G: Publication Policy

There are several different types of Regional Aquaculture Center (RAC)-generated outputs that are hereafter referred to as publications. These include written documents, videos and other printed and digital files. Requests for any RAC-generated publication should be handled in the most expeditious means possible.

All RAC-generated publications must acknowledge USDA/NIFA as the source of funding, and the NIFA logo should be prominently displayed on the publication. For publications that are not RAC-generated, but were funded in whole or in part by RAC monies (e.g., refereed journal article), the individual RAC and NIFA should be acknowledged. An example for funding acknowledgment is as follows:

> **"This work is supported by CTSA [grant no. XXXX-XXXXX-XXXXX/project accession no. XXXXXXX] from the USDA National Institute of Food and Agriculture."**

I. Written Publications

1. Principal Investigator

    a. PI should discuss publication of extension bulletins, extension fact sheets or special CTSA reports with the Executive Director and Information Specialist **prior to printing. The Director and Specialist must review and approve such materials prior to publication, and the documents must be assigned a CTSA publication number**. In addition, CTSA may be able to provide the PI with assistance in the preparation of the report or bulletin and assist with printing costs.
    b. CTSA logo should be placed on the cover of the publication, or other appropriate place, and the logo of other supporters should also be placed on the cover.
    c. An electronic copy or PDF file of all written publications, suitable to be uploaded onto the CTSA Web site, must be provided to CTSA (via email, flash drive, or CD-ROM)
    d. PIs must provide CTSA with a hard copy of all journal publications or technical bulletins.
    e. PIs should provide CTSA with five copies of extension bulletins, extension fact sheets, or special CTSA reports as soon as they are available. This does not refer to project reports except in cases in which reports are intended for general public distribution.

2. For publications funded by CTSA

    a. CTSA distributes an electronic copy to each RAC and to the USDA/NIFA National Program Leaders for Aquaculture and other designated persons within NIFA dealing with aquaculture, and the USDA National Agriculture Library.
    b. For requests from within the region, CTSA responds directly or refers the requester to the designated principal aquaculture extension contact in the requester's state.
    c. For requests from outside the region, CTSA refers requesters to the requesters' own RAC headquarters.
    d. If possible, CTSA makes publications available on its Web site.

3. For publications funded by other RACs
   a. CTSA informs the designated principal aquaculture extension contact in each state in the CTSA region of the availability of new publications and how to obtain copies.
   e. CTSA informs other regional stakeholders (through newsletter and aquaculture associations, etc.) of availability of publication from extension contact representatives.

II. Videos

1. PI

   PI must provide CTSA with a digital file of and/or a minimum of five copies (saved to external hard drive or CDROM) of any video not accessible through online video streaming.

2. For videos funded by CTSA
   a. CTSA sends the digital file and online video streaming link to each RAC, the USDA/NIFA National Program Leaders for Aquaculture, and to each designated principal aquaculture extension contact in the region.
   b. For requests from within the region, CTSA responds directly or refers the requester to the designated principal aquaculture extension contact in the requester's state.
   c. For requests from outside the region, CTSA refers requesters to the requesters' own RAC headquarters.

3. For videos funded by other RACs
   a. CTSA notifies each designated principal aquaculture extension contact in the CTSA region of the availability of new videos. The extension contacts can then utilize and distribute the video within their region. For videos jointly produced by the RACs and other agencies, co-producers must agree in advance on procedures for sharing credit, cost-sharing, reproduction, and distribution.
   b. CTSA informs region (through newsletter and aquaculture associations, etc.) of availability of video from extension contact representatives.

III. Presentations

1. PI

   The PI must provide CTSA with an electronic copy (via email, flash drive, or CD-ROM) of any presentations (PowerPoint or other) completed as part of the project scope of work.