



Connecticut

Delaware

Maine

Maryland

Massachusetts

New Hampshire

New Jersey

New York

Pennsylvania

Rhode Island

Vermont

Washington D.C.

West Virginia

2006 NRAC RFA/ REQUEST FOR PRE-PROPOSALS

Release Date: Friday, November 17, 2006

Submission Deadline:

***Monday, December 18, 2006 by 4 p.m. (Eastern
Standard Time)***



TO: POTENTIAL APPLICANTS FOR NRAC FUNDING

The Northeastern Regional Aquaculture Center (NRAC) is inviting Pre-Proposals for project funding consideration. This **2006 Request for Pre-Proposals/(RFA)** identifies targeted research areas that NRAC is considering for funding. The NRAC selection criteria, review process and Pre-Proposal submission guidelines are described in the **Request for Pre-Proposals**.

The deadline for submitting Pre-Proposals is Monday, December 18, 2006, 4:00 p.m. (Eastern Standard Time). Pre-Proposals will be reviewed to determine which investigators should submit detailed full proposals for consideration. Eventual funding will require a successful full proposal. Successful proposals are expected to receive funding by August 2007.

This round of proposal development and project funding will use funds available from NRAC's grant award from the United States Department of Agriculture, Cooperative State Research Education and Extension Service (CSREES). NRAC will accept Pre-Proposals in the targeted research priority areas described in the **Request for Pre-Proposals**. Research priority areas are recommended to NRAC by representatives of the aquaculture industry in the Northeast through an industry driven committee process. NRAC provides funding for projects, which are regional in nature and rely on in-place equipment and facilities to achieve objectives. Indirect costs (overhead), "brick and mortar" construction funds and student tuition remission costs are not allowed.

GENERAL CRITERIA FOR NRAC FUNDING

In addition to technical/industry merit (and the specific evaluation categories listed on page one), research and project proposals are judged against six principle criteria. YOUR PROPOSED RESEARCH OR PROJECT MUST:

1. **SUPPORT COMMERCIAL AQUACULTURE INDUSTRY DEVELOPMENT** in Washington D.C. or the twelve northeastern states. Your project must be relevant to one of the targeted research areas as determined by industry and listed in the 2006 RFA and/or provide evidence of potential economic benefit to the aquaculture industry.
2. **HAVE THE ASSISTANCE, SUPPORT, OR ENDORSEMENT OF INDUSTRY** in the Northeast. Funded or non-funded industry collaborators are encouraged; letters of endorsement from industry members or associations can provide additional evidence of the value of the proposed project. (Letters are needed for full proposals only)
3. **BE REGIONAL:** Project team members, advisory panel members, research sites and/or demonstration/outreach sites must be from two or more states in the northeastern region. Additional participants from outside the region are welcome, as appropriate.
4. **HAVE AN EXTENSION OR OUTREACH COMPONENT**, which will facilitate information dissemination, technology transfer or training to the aquaculture industry throughout the Northeast.
 - Explicit Extension/Outreach goals and objectives, work plan, and budget must be included in the proposal. NRAC requires 350 copies of publications that result from the project (e.g. Extension Bulletins, Fact Sheets, Special Reports, etc.) – include this expenditure in the project budget.
 - NRAC wishes to encourage the use of and the development of services for its website at: <http://www.nrac.umd.edu>
5. **IDENTIFY ROLE OF COLLABORATORS:**
The role of all collaborators and cooperating, non-funded participants must be defined. Token collaborators will not be counted.
6. **MEET BUDGET REQUIREMENTS:**
Any costs not allowed by USDA for NRAC projects are also not allowed to be claimed as matching funds (e.g. indirect costs/overhead, tuition remission, capital costs). Matching Funds or cost sharing funds are not required but if necessary should be shown on the budget sheet.

Please CALL NRAC (301) 405-6511, email NRAC at <nrac@umd.edu>, or consult NRAC's Website at <<http://www.nrac.umd.edu>> if you have any questions regarding these issues, for assistance in building regional teams, or in developing extension/outreach programs.

NORTHEASTERN REGIONAL AQUACULTURE CENTER

2006 REQUEST FOR PRE-PROPOSALS

Background and Authorization

The NORTHEASTERN REGIONAL AQUACULTURE CENTER (NRAC) located at the University of Maryland was created in 1987 to “support aquaculture research, development, demonstration and extension education to enhance viable and profitable U.S. aquaculture production which will benefit consumers, producers, service industries, and the American economy”. NRAC is one of five Regional Aquaculture Centers established by the U.S. Congress and administered by the U. S. Department of Agriculture (USDA) Cooperative State Research, Education, and Extension Service (CSREES). NRAC is supported by yearly grants from USDA, which is authorized under Federal legislation (Agriculture and Food Act of 1981, Title IV, Subtitle L, §1440, Pub. L. 97-98) to coordinate efforts in the implementation of the National Aquaculture Act of 1980.

NRAC supports research, extension education, development, and demonstration projects aimed at increasing aquaculture production, profitability, and processing. NRAC comprises the geographical region of Connecticut, Delaware, Maine, Maryland, Massachusetts, New Hampshire, New Jersey, New York, Pennsylvania, Rhode Island, Vermont, Washington D.C., and West Virginia. Qualified individuals within the region associated with any state agricultural experiment station, college, university, other research institution or organization, federal agency, private organization or corporation are eligible to participate.

There is approximately \$800,000 available from NRAC yearly grants to fund relevant and selected projects. NRAC will fund projects for up to three years with total funding of \$100,000 to \$400,000 per project. **Successful proposals are expected to receive funding by August 2007.** NRAC funds between two and five projects each year. Research priorities are established at industry and technical committees sponsored by NRAC. Targeted research

and extension areas are reviewed by NRAC's Technical/Industry Advisory Council (TIAC) and are ultimately approved by NRAC's Board of Directors and USDA, CSREES.

Pre-Proposal Submission Guidelines

Pre-Proposals: NRAC encourages short Pre-Proposals to present ideas, objectives and working procedures on identified industry problems.

Pre-Proposals should be straightforward and concise. Two originals of the Pre-Proposal with original signatures by the PC (Project Coordinator) or PI (Principal Investigator) must be single-sided and submitted to NRAC. An electronic copy in a single WORD document must be submitted via e-mail to nrac@umd.edu or on a disk. This provides sufficient copies for the review panel and the NRAC administrative office. Please **Do Not** bind or cover Pre-Proposals; please only staple the pre-proposal in the upper left corner.

The following format (on pages 6 thru 10) must be strictly adhered to:

1. A separate title / signature page;
2. The proposal body (not to exceed three [single-sided] pages, in a font not smaller than Times Roman 12 point; margins - top 1", sides and bottom, 0.5" minimum) describing the project in the categories “Why, What, Where, Who, How and When”;
3. A separate one page budget summary. Matching Funds or cost sharing funds are not required but if included should be shown on the budget sheet.
4. A one page only vita (résumé) for each researcher or cooperator.

Please be concise and follow all instructions.

Pre-Proposals that do not adhere to the format will not be considered.

Pre-Proposal Evaluation Criteria: Pre-Proposals will be judged by the Technical and Industry Committees of the Technical & Industry Advisory Committee in eight categories:

		Points Per Item
1.	<i>Relevance to the problem statement of a targeted research area</i>	12 points
2.	<i>Benefits and potential economic impact to the aquaculture industry</i>	18 points
3.	<i>Overall scientific and technical approach</i>	17 points
4.	<i>Feasibility of achieving objectives in the stated time</i>	10 points
5.	<i>Facilities and equipment available</i>	8 points
6.	<i>Qualifications of participants</i>	10 points
7.	<i>Proposed budget</i>	10 points
8.	<i>Sufficient outreach component</i>	15 points
Total		100 points

The NRAC TIAC will use point totals to rank pre-proposals. P.I.s of the top ranked pre-proposals will be contacted to develop full proposals. It is expected that approximately twice as many full proposals will be requested as can be funded.

All Pre-Proposals will be judged for technical merit and relevance to the identified areas by a review panel of technical, extension, and industry representatives drawn from the Northeast region. Full proposals, when submitted, will be subject to external peer review as well as internal review by NRAC.

Individuals submitting Pre-Proposals, and those Pre-Proposals selected for full proposal development *are not assured of funding by NRAC*. Ultimate approval for funding of full proposals will be by the NRAC Board of Directors and by the US Department of Agriculture - Cooperative State Research, Education and Extension Service (CSREES).

Regionality and Extension: NRAC requires that all Pre-Proposals have regional involvement (**individuals and institutions from two or more northeastern states must participate in any funded projects**) and that all proposed work include an outreach or extension component to ensure that results or products be transferred or made available to industry or public entities. Pre-Proposals with strong regional participation and which incorporate team building and extension activities will be viewed most favorably. All individuals who submit or are included in full proposals will be required to provide a signed letter of intent to participate in the project in their indicated capacity.

Targeted Research Areas: NRAC is interested in funding selected projects dealing with the research areas listed in this RFA. These areas were identified by representatives of the Northeastern regional aquaculture industry and the Technical and Industry Advisory Council (TIAC). **Pre-Proposals with strong industry support and evidence of industry partnership are favored.**

Special Considerations: The NRAC program will not pay indirect costs (i.e. overhead) to participating institutions, and will not pay student tuition remission costs. NRAC expects applicants to have equipment and facilities in place; NRAC will not pay for brick-and-mortar costs. Regulations applicable to NRAC grants include the USDA Uniform Federal Assistance Regulations, 7 CFR Part 3015 and Special Terms and Conditions thereto. All individuals funded by NRAC are required to submit the CSREES-2008 Form (Assurance Statement).

Project Coordinator (PC) and Principal Investigators (PI): One PC (the lead PI) must be identified for each project. The PC's institute is the recipient of the NRAC award, and issues subcontracts to the PI's of the project. The PC coordinates and monitors the activities and progress of all PI's, maintains communication among participants, is responsible for overall project reporting to NRAC, is the main contact person on the overall project, and is fiscally responsible to NRAC for the overall project. Each PI is fiscally responsible to the PC's institute for their subcontract, and is responsible for reporting data and deliverables in a timely manner to the PC. An individual may be a PC/PI on more than one proposal.

Conflict of Interest: NRAC encourages the participation of the best qualified researchers, extension personnel and industry members throughout the Northeastern Region. While NRAC does not intend to exclude Board or TIAC members from involvement on funded projects, there are certain restrictions that are detailed in NRAC's Conflict of Interest Guidelines. These guidelines are posted on the NRAC Website and can be obtained from the NRAC office.

Submission deadline: Pre-Proposals must be received by NRAC no later than 4:00 P.M. (Eastern Standard Time) on Monday, December 18, 2006. Handwritten, email, or Facsimile transmission copies, as well as Pre-Proposals received after the deadline, will not be considered. Pre-Proposals which fail to follow the guidelines and enclosed format will also not be considered. All inquiries and submissions should be addressed to:

Director/RFA 2006
Northeastern Regional Aquaculture Center/NRAC
University of Maryland
2113 Animal Sci./Agric. Engineering Building #142
College Park, Maryland 20742-2317

Targeted Research Areas (TRA)

The following targeted research areas have been prepared by the NRAC Technical / Industry Advisory Committee. Pre-Proposals that address any of the targeted research areas will receive equal consideration. Aquaculture commodities chosen for study should have proven or have viable economic potential for commercial development in the Northeast region. Collaborative partnership(s) with appropriate industry sector(s) or firm(s) is highly encouraged. Projects that promise to produce tangible end products that are of direct use or value to particular aquaculture businesses, or addresses key bottlenecks to aquaculture operations/marketing are preferred.

Improved Aquaculture Production Code TRA-06-01

Goal: Develop and promote methods and techniques that will lead to production improvements for commercial aquaculture species.

Statement of the Problem:

The Northeast has numerous species in commercial aquaculture production. For all of these, advances are needed in culture methods, nutrition, disease detection and control and genetic improvement that will lead to greater production, increased farm efficiency and a safer product for the consumer. Methods and techniques to increase and improve aquaculture production while maintaining regulatory compliance and environmental sustainability are critical for Northeast producers striving to remain competitive in national and global markets.

For this RFA, the focus is in five specific areas that the aquaculture industry in the NRAC region has determined are the most important at this time, and where progress can result in significant production improvement. These areas are:

1. Improved diets for salmonids to reduce dependence on fish meal and minimize environmental impacts.
2. Detection and control of virulent strains of *Vibrio parahaemolyticus* and *Vibrio vulnificus* that can cause human illness through shellfish consumption.
3. Demonstration and evaluation of integrated production systems to improve profitability and minimize environmental impacts.
4. Shellfish and fish disease research and management.
5. Improved feeds for fish and shellfish production.

Specific Goals:

Improved Diets for Salmonids

Current science indicates that the fatty acids DHA and EPA contained in fish are essential to human health. Farm raised trout and salmon, important aquaculture products for the Northeast have some of highest levels of these two beneficial fatty acids, and this health benefit can be a powerful marketing tool. However, many consumers are afraid to eat fish because of concerns about contaminants or make other food choices because they hear that salmonid aquaculture negatively impacts the environment. Many oil soluble contaminants have their origin in the fish meal and oil components of aquaculture feeds that come from wild fish stocks used to produce aquaculture feeds.

Whether or not these concerns are justified, alternative finfish diets may offer the aquaculture industry less expensive, more nutritious and environmentally-friendly salmon and trout diets that can be used to produce quality salmonid products that will have greater consumer acceptance and result in increased sales. Improved salmonid diets also have the potential to reduce nutrient effluent discharged to freshwater or marine systems, a major environmental concern for Northeast growers.

NRAC seeks proposals that will lead to improved diets for trout and salmon. Successful proposals will address one or more of the following objectives:

- To help establish a value-added product that will lead to increased sales to consumers looking for a fish product that is better for human health and the environment.
- To help reduce fish meal and fish oil ingredients harvested from wild fish stock. This reduction should result in a lower level of fat-soluble contaminants in aquaculture products (such as PCBs and dioxin), but alternative diets should also maintain or improve the levels of the beneficial Omega-3 fatty acids DHA and EPA in the final product.
- To improve the food conversion ratio and the economics of feeding salmonids.
- To reduce waste products which are of environmental concern in effluents from salmonid aquaculture.

Detection and Control of *Vibrios*

The shellfish industry in the northeast periodically has problems with two naturally-occurring bacteria, *Vibrio parahaemolyticus* and *Vibrio vulnificus*, which can cause human illness. There have been problems with *V. parahaemolyticus* in northeastern states in the recent past, and some shellfish areas were closed in

Rhode Island in 2006 when *V. vulnificus* was detected by health officials there. A serious outbreak of more than 250 reported cases of human illness caused by *V. parahaemolyticus* in the summer of 2006 was traced back to oysters from Washington State. Methods to detect and control these *Vibrio* species can greatly assist the shellfish aquaculture industry keep markets open and the consumer safe.

NRAC seeks proposals that will lead to the development of rapid and cost-effective testing methods to detect and quantify virulent strains of *V. parahaemolyticus* and *V. vulnificus* in water and/or in shellfish. It is important in this work to differentiate northern strains of *Vibrio vulnificus* (which almost never cause illness) from other more virulent strains, and to investigate virulence patterns for *V. parahaemolyticus* strains in order to better understand the health risks and devise controls to minimize illnesses. The *Vibrio* detection methods developed could be used by the shellfish industry to monitor product safety, and ultimately could be incorporated into procedures used by regulators that would result in more efficient closures and re-opening of shellfish growing areas.

Integrated Production Systems

Aquaculture production systems that utilize more than one species may offer biological and economic advantages. The addition of a second species to a production system may help to utilize feeds more efficiently, take advantage of the waste of the primary species to grow a second crop, make system maintenance easier, or take advantage of space in the system not used by the primary species. Using the waste stream from freshwater fish production to grow hydroponic vegetables is a classic integrated production system.

NRAC seeks proposals that will lead to the development of integrated production systems that can add profitability to operations for species already in commercial production and that can lead to reductions in nutrient levels in effluents from land-based systems and discharges from net pen systems. Proposals can address research to explore ways to add additional species to a commercial operation, or can be a demonstration of such integration, or both. In either case, NRAC is particularly interested in the economics of integrated systems.

Shellfish Disease Research and Management

Throughout the Northeast region a major production limitation to shellfish aquaculture is the occurrence and severity of crop diseases. In oyster production, the most severe and most difficult disease to manage is Dermo, a disease caused by *Perkinsus marinus*. QPX (Quahog Parasite Unknown) has become an important disease in aquacultured hard clams. Other diseases that affect the Northeast region are Juvenile Oyster Disease (JOD) and MSX (Multinucleated Spherule Unknown) caused by *Haplosporidium nelsoni* that also

affects oysters. These diseases have been the focus of considerable research, in some cases for decades, but they are far from being controlled and continue to have detrimental effects for both wild fisheries and culture operations in the Northeast.

NRAC seeks proposals that address innovative methods to prevent or minimize infection or to economically treat diseased crops that will reduce mortality. Genetic work that will lead to the development of commercially viable, disease-resistant strains of American oysters or hard clams specifically for culture in the Northeast can also be supported. Projects that include industry participation are encouraged.

Improved Feeds for Fish and Shellfish Production

This topic is focused on reducing feed and feeding costs for shellfish and finfish, especially but not exclusively for hatchery operations. A large proportion of the expenses of operating a hatchery are devoted directly to live food or live food production and (for fish) costly artificial weaning diets. Often smaller operations do not have either the capital or operational size to take advantage of modern feed production systems, feed formulations, or efficient feeding systems. High feed costs are a major constraint on profitability for hatcheries and for grow-out. High feed costs also affect the affordability of seed and fingerlings for grow-out operations.

NRAC seeks proposals to research the development of improved feeds, feeding technology and feed production methods for production of freshwater and marine fish (including bait, ornamental and foodfish) and shellfish. The overall goal is to reduce feed and feeding costs while improving feed production and efficiency. Possible proposals may address but are not limited to the development of technologies to locally produce nutritionally optimal feeds, develop or demonstrate low cost methods to produce live feed or adapt existing feeding methods or technologies that will make them more economically viable. Participation of finfish and shellfish aquaculture operations in the project is highly encouraged.

Environmental Impacts of Aquaculture Code TRA-06-02

Goal: Determine the positive and negative impacts of aquaculture activities on the environment, including impacts on ecosystem biodiversity and integrity, and define strategies to eliminate or mitigate negative impacts and take advantage of positive impacts.

Statement of Problem

Most aquaculture production and processing systems operate in the aquatic environment. The plant and animals being grown are used for food and for other

non-food uses that provide a benefit to society. However, feed, nutrients, and other materials are added to the environment as a consequence of the production or processing operation. The living organisms produced in these, or any other systems, are not 100 percent efficient in converting food to usable end product. Thus, there are some materials added to the environment, some of which are detrimental and some of which are beneficial. Shellfish culture does not require external food sources, but the addition of shellfish and shellfish culture gear to the environment results in some environmental changes. Which activities and results from aquaculture operations are beneficial and which are detrimental may be dependent on local conditions, specific culture practices, and other variables. Ideally we can eliminate or mitigate the detrimental effects and maximize the beneficial ones. Achieving this goal requires quantitative and qualitative knowledge of the inputs and outputs to aquaculture systems.

Human population growth, new concern for aquatic resources, multiple stresses on the environment, and resource allocation concerns have led to growing conflicts between the aquaculture industry and other sectors of the economy. Public perceptions of the aquaculture industry have often suffered. The Northeast regional aquaculture industry must be environmentally sustainable if it is to prosper. Thus, it is critical that all of the impacts, both positive and negative, that aquaculture operations have on the environment be clearly identified, and that the industry proactively encourage positive impacts while minimizing or eliminating negative impacts.

For this RFA, the focus is in two specific areas where progress can result in significant gains in knowledge that can be utilized in the culture process and in system management or where this information can be used to improve the environmental image of the northeast aquaculture industry. These areas are:

1. Environmental effects of shellfish and finfish aquaculture.
2. Improved technology for reducing, treating, or recycling wastes from aquaculture facilities

Specific Goals:

Environmental Effects of Shellfish and Finfish Culture

Although there is considerable information on the positive and negative effects of shellfish and finfish culture on the environment, there are also gaps in this information. There is a need to review and summarize existing information so it is readily available to the industry and to regulators. In addition, major reviews of Federal regulations for aquaculture are currently underway which may have serious consequences for shellfish and finfish farms, and place new environmental requirements on both new and existing

businesses. Solid information on the interaction of aquaculture operations and surrounding ecosystems is required to make informed decisions.

NRAC seeks proposals to: (1) Identify and investigate gaps in information on the interactions of shellfish and finfish culture and the environment; and (2) To develop culture strategies to minimize negative environmental effects where they occur. These include but are not limited to: studies on the effects of existing aquaculture operations, practices and remediation strategies in the areas of critical fish habitat, submerged aquatic vegetation, benthic ecosystems and bird populations. Ecosystem research on the interactions of aquatic farms, including phytoplankton and zooplankton communities that lead to a larger goal of assessing farm siting issues and carrying capacity at a farm and estuary-wide scale is also needed. NRAC also seeks information on the effects of various harvest methods, including the environmental effects of dredging in shellfish operations and changes to harvest methods or dredge design that will minimize negative environmental impacts. Involvement of commercial aquaculture farms in the studies of environmental effects is strongly encouraged, and NRAC specifically seeks proposals that will lead to on-farm solutions.

Improved technology for reducing, treating, or recycling wastes from aquaculture facilities

As large scale point sources of environmental pollution are being reduced, more attention is being focused on smaller sized pollution sources and non-point source pollution. As a result, many states have either imposed new environmental regulations or are considering such regulations for aquaculture facilities. This is particularly prominent in land-based aquaculture facilities where allowable levels of pollutants are being decreased in state discharge permits. New regulations requiring various levels of treatment technology, and new limits or restrictions on how wastes may be disposed of are increasingly common challenges. In addition, the federal government has indicated its desire to review the environmental impacts of various aquaculture industries with the potential to impose new environmental regulations or criteria. It is incumbent on the aquaculture industry to develop new technologies or processes to meet this changing regulatory landscape in a proactive manner.

NRAC seeks proposals to identify and investigate new technologies or processes that will reduce, treat or recycle wastes from existing aquaculture facilities. These include but are not limited to studies on new methods for disposing of solid waste and sludge from aquaculture operations, new technologies to recycle or reuse facility wastes, and new or improved designs for waste treatment equipment that will improve farm efficiency and reduce waste discharges. Proposals addressing this topic must demonstrate how they meet the needs of existing facilities in the Northeast and how they can be integrated into existing facilities in the Northeast region.

**NRAC 2006 Pre-Proposal
Title Page**

Project Title: _____

Targeted Research Area Code (e.g. TRA-06-01): **Project Duration** (months): _____

Total Funding Requested from NRAC: \$ _____

States with Participants in Project (circle / list):

CT DE ME MD MA NH NJ NY PA RI VT WV Wash, DC / Other: _____

Project Coordinator (Lead Principal Investigator) (name/position/institution/address/phone/fax/email):
(one name only)

Principal Investigator(s) (name/position/institution/address/phone/fax/email):

Cooperating, Non-funded Participant(s) (name/position/institution/address/phone/fax/email):

Project Coordinator's Signature: _____ **Date:** _____

NRAC 2006 Pre-Proposal Description of Project Categories/ Body of Pre-Proposal

1.0 WHY: Justify the problem or issue addressed by the proposed project.

2.0 WHAT: State the objectives of the project and their relationship to the problem/issue described above.

2.1 Describe the product, process, or program that will result from successful accomplishment of the project objectives.

2.2 Identify and describe the end-users and beneficiaries of the project results.

2.3 Indicate what measurable economic benefits will result from the use of the product/process/program.

3.0 WHERE: Identify the states and region (e.g. Chesapeake Bay) and describe the environment (land-based system, freshwater, nearshore, etc.) where the project results will be immediately applicable. Where else may the results be transferred to and applied?

4.0 WHO: Describe who will be involved in the project and their respective roles and responsibilities. Attach a one page vita of each funded participant. (Guidelines on Page 9)

5.0 HOW: Describe how the project will be carried out and achieve the objectives defined above. Describe the supporting facilities that will be made available to the project. How will project results be evaluated? How will the results or products be transferred to industry or public entities?

6.0 WHEN: Indicate desired starting and completion dates (months) for the proposed project (i.e. account for seasonality of data collection). Provide a clear time line for completion of objectives with due dates specified for all products (Funding would not be available until August 2007).

7.0 BUDGET SUMMARY:

NRAC will not pay for indirect costs (overhead), student tuition remission, and capital costs. These may not be included as a component of Matching Funds. Matching Funds or cost sharing funds are not required but if included should be shown on the budget sheet.

Funds Requested

	Funds Requested from NRAC	Matching Funds
Salaries and Wages		
A. Principal Investigators	_____	_____
B. Research Assoc./Postdoctorates	_____	_____
C. Graduate/Prebaccalaureate Students	_____	_____
D. Other Professionals (<u>not</u> consultants)	_____	_____
Fringe Benefits	_____	_____
Non-expendable Equipment	_____	_____
Materials and Supplies	_____	_____
Travel	_____	_____
Publication Costs/Page Charges	_____	_____
Other Direct Costs	_____	_____
Lab Analyses	_____	_____
Consultant Services	_____	_____
Subcontracting	_____	_____
Phone/Fax/Photocopy/Postage	_____	_____
TOTALS	_____	_____
(Enter these values on the title/signature page)		

8.0 VITA (RÉSUMÉ) GUIDELINES:

Name

Address

Phone

Fax

Email

EDUCATION

B.S. (Institution, Year)

M.S. (Institution, Year)

Ph.D. (Institution, Year)

POSITIONS

List each position on a separate line from newest to oldest.

SCIENTIFIC AND PROFESSIONAL ORGANIZATION

List alphabetically each organization on a separate line.

SELECTED PUBLICATIONS

List relevant publications from newest to oldest.

9.0 OTHER FUNDING:

Are you applying for funds for this work to other agencies? _____

If yes, which / how much? _____

CHECKLIST FOR SUBMISSION OF PRE-PROPOSALS

Pre-Proposal Format:

_____ Margins (minimum): top 1", sides and bottom 0.5"

_____ Font not smaller than: Times Roman 12 pt.

_____ Separate title page

_____ Body: limited to 3 (single sided) pages

_____ Separate budget page

_____ Resume/vita: 1-page per participant

Did You Include the Following?

_____ Two originals (single-sided) signed by the PC or PI and each stapled in upper left corner

_____ Original signatures on signature/title page of the two hard copies

_____ Vita (résumé) for each researcher or cooperator

_____ One Electronic copy submitted as a single WORD document

Do NOT:

_____ Include bibliography and / or reference material

_____ Submit in binders or folders

_____ Include letters of support (these are to be submitted with full proposals only)

_____ Include a cover