

# NCRAC

North Central Regional Aquaculture Center

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Request for  
**Regional Research and  
Outreach Project Pre-  
Proposals Funding  
Year 2021**

DEADLINE  
Friday, July 3, 2020  
EXTENDED!

**REQUEST FOR THE NORTH CENTRAL  
REGIONAL AQUACULTURE CENTER**

**REGIONAL RESEARCH AND  
OUTREACH PROJECT  
PRE-PROPOSALS**

**for FUNDING YEAR 2021**



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Quinn Zuercher, Administrative Specialist I, 515-294-4622,  
[quinnmz@iastate.edu](mailto:quinnmz@iastate.edu)**

**Pre-proposals are due by 5 p.m. (CDST)  
Friday, June 19, 2020**



# North Central Regional Aquaculture Center

## Request for Regional Research and Outreach Project Pre-Proposals for Funding Year 2021

### Proposed Research Areas

The North Central Regional Aquaculture Center (NCRAC) is seeking pre-proposals for five targeted research areas (TRAs), three targeted industry development areas (TIDAs), and two targeted extension/education areas (TEAs) under four themes. Pre-proposals will also be accepted under theme D. These areas were developed using extensive input from aquaculture industry, extension, and research representatives throughout the region.

There is approximately \$1,000,000 available from NCRAC yearly grants to fund relevant and selected projects. NCRAC will fund projects for up to two years.

- **Theme A: Aquaculture Production**
  - TRA 1. Reproduction/Early Life History
  - TRA 2. Nutrition
  - TRA 3. Culture Systems
  - TRA 4. Fish Health
  - TRA 5. Enhanced Growth Technology
- **Theme B: Industry Development**
  - TIDA 1. Marketing/Promotion/Merchandizing
  - TIDA 2. Economics/Cooperative Development/Partnerships
  - TIDA 3. Regulations
- **Theme C: Extension/Education**
  - TEA 1. Producer Education
  - TEA 2. Consumer Education
- **Theme D: Emerging Opportunities/Issues**

### Project Submission & Review Schedule

<i>Pre-proposals are due by 5 p.m. (CDST)</i>	<i>Friday, June 19, 2020</i>
Notification of pre-proposal review outcome	Late July
Full proposals due by 5:00 p.m. (CDST)	Early September
External, IAC/TC, and Board reviews	September through November
Notification of Funding Decisions	Late March
Projects scheduled to begin ( <i>dependent on release of funds</i> )	September

## **Specific Criteria for Regional Projects**

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

- Involves at least two institutions and activities within two states depending on the nature of the problem and the most effective use of resources within the North Central Region (NCR).
- Three (3) Letters of Support from Industry members who are not directly involved in the proposed project are required.
- Likely to attract additional support for research and/or outreach on the problem that will not otherwise be addressed using other resources.
- Can be made sufficiently specific to promise significant accomplishment within four or fewer years.
- Can be effectively organized and conducted on a regional level, ensuring coordinated and complementary contributions by all participants.
- Can include onsite or farm locations to provide proof of concept or real time economic analysis.
- Produces results that can provide the solution to a problem of fundamental importance or fill an information-gap in knowledge from the standpoint of present and future aquaculture in the North Central Region.
- Contain an outreach component with defined objectives and deliverables.
- Research on the problem requires more scientific labor, equipment, and facilities than are generally available at individual research institutions (the resources of two or more research institutions are required).
- Is adaptable and particularly suitable for inter-institutional cooperation, resulting in better use of limited resources and research funds.
- Complements and enhances ongoing research by participating research institutions.
- It is intended that funded project participants be from the NCR. However, if expertise is unavailable within the region, experts from outside the NCR can become participants and receive NCRAC funds. Justification is needed if institutions outside the region are utilized.

## **Pre-Proposal Review**

Executive committee members of Industry Advisory Council (IAC), Technical Committee/Research (TC/R) and Technical Committee/Extension (TC/E) will conduct electronic reviews of RFAs; IAC – industry relevance, TC/E – deliverables and extension products, TC/R – technical merit/scientific method.

## Conflict of Interest

Any member of the IAC or TC who desires involvement in any capacity with proposed and funded projects may remain on the IAC or TC. However, any member who is funded by a NCRAC project or potentially may be funded by a proposal under consideration at the IAC/TC annual meeting must be excused during any final deliberation or review leading to a vote related to said project or proposal. He/she is also excluded from any vote related to said project or proposal during any breakout sessions of the IAC and Research and Extension Subcommittees of the TC. The chair of the session announces when final deliberation or review leading to a vote is to commence and excuses those with a conflict of interest. Further, an individual who has been identified as having a Conflict of Interest may still provide objective input into other projects under consideration. Receipt of individual input implies no conflicting affiliations or interests of that individual.

## Submission

- Email submission is preferred and electronic signatures are allowed. Submit entire Pre-Proposal as a single PDF or MS Word to the NCRAC Administrative Office by email to Quinn Zuercher [quinnmz@iastate.edu](mailto:quinnmz@iastate.edu).
- Signed Authorized Organizational Representative (AOR) forms are **not** required by NCRAC at this time.
- See Guidelines section for specific instructions.

## Deadline for submission of pre-proposals is Friday, June 19, 2020.

- NCRAC encourages **early submission** of pre-proposals. If a pre-proposal is received at least two weeks prior to the final deadline the Administrative Office will review the pre-proposal using the checklist and inform the authors what requirements are not met, thereby providing the authors time to adjust and re-submit before the final deadline.
- A Pre-Proposal must be received by the announced deadline. Electronic submission by the due date qualifies as meeting the deadline—the printed copy must be received within a day of the deadline.
- Each element is addressed in the order presented on the Checklist.
- Include checked and signed Checklist by the lead Principal Investigator (PI).
- NCRAC also strongly encourages investigators who are submitting a pre-proposal for the first time to consult with the Executive Director, Dr. Joseph E. Morris ([jemorris@iastate.edu](mailto:jemorris@iastate.edu)) and the Administrative Specialist, Quinn Zuercher [quinnmz@iastate.edu](mailto:quinnmz@iastate.edu).
- To meet the deadline of Friday, June 19, 2020, please plan accordingly to ensure inclusion of all necessary components and signatures.

# Targeted Research, Industry Development and Extension Areas for Pre-Proposals to NCRAC for FY2021

Listening Sessions were hosted prior to the North Central Regional Aquaculture Conference in Columbus, Ohio in 2020. Our goals for the listening sessions were two-fold. One was to develop effective communication between research, extension, and industry. Second, was to use the feedback in the listening sessions to optimize and clarify the direction to the future submittal of proposals by the research and extension community.

Information from these materials should be used to develop pre-proposals that address industry needs. These materials include: original posters of the identified industry needs, a summary document of identified industry needs in 2020, and a summary document of the NCRAC priorities identified in the NCRAC White Papers developed in 2000. The web site for these materials is <https://www.ncrac.org/ncrac-2020-conference-listening-sessions-summary>.

## ***Theme A: Aquaculture Production***

### **Targeted Research Area (TRA) A-1: Reproduction / Early Life History**

Examples of specific issues:

- Broodstock quality / management
- Monosex production
- Larval / early rearing
- Out-of-sequence/spawning

### **TRA A-2: Nutrition**

Examples of specific issues:

- First feeding enhancement
- Fishmeal / fish oil replacement
- Cost-effective diets
- Feed management strategies
- Alternative / Novel Diet Ingredients

### **TRA A-3: Culture Systems**

Examples of specific issues:

- Waste management
- Water Quality
- Technology improvements / profitability
- Alternative production systems
- Aquaponics using alternative species

### **TRA A-4: Fish Health**

Examples of specific issues:

- Drug development / approval
- Immune system enhancement
- Disease diagnostics/ surveillance / prevention
- Biosecurity development
- Animal welfare
- Biosecurity

- Alternative disease prevention/control measures

**TRA A-5: Enhanced Growth Technology**

Examples of specific issues:

- Improved strains
- Genetic improvement/selection
- Culture method improvements

***Theme B: Industry Development***

**Targeted Industry Development Area (TIDA) B-1: Marketing / Promotion / Merchandizing**

Examples of specific issues:

- Branding methods
- Value-added products
- Market identification including local foods

**TIDA B-2: Economics / Cooperative Development / Partnerships**

Examples of specific issues:

- Financing strategies
- On-farm / commercial scale cost assessments
- Methods for developing cooperatives
- Cost-effectiveness/profitability

**TIDA B-3: Regulations**

Examples of specific issues:

- Partnerships/resolution/facilitation
- Impacts including costs

***Theme C: Extension / Education***

**Targeted Extension Area (TEA) C-1: Producer Education**

Examples of specific issues:

- Workshops / conferences/ hands-on training
- Electronic education development
- Workforce development
- Product transportation
- Regulation impacts
- Biosecurity / BMP's
- Disease prevention / surveillance / response
- Farm safety
- Best management practices
- Underrepresented groups

**TEA C-2: Consumer Education**

Examples of specific issues:

- Health benefits
- Food safety
- Public awareness

***Theme D: Emerging Opportunities / Issues***

Examples of specific issues:

- Sustainability

## Guidelines: Pre-Proposal Format

Pre-proposal shall not exceed four (4) pages not including the references, budget, and the 1-page vita for all project participants.

*Targeted Research/ Industry Development/ Extension Area or Emerging Opportunities/ Issues being addressed.*

### Project Title

#### Investigator(s):

Name:

Affiliation:

Street Address:

City, State, Zip Code

Phone:

Fax:

E-mail:

#### Project Summary:

Text limited to 200 words (approximately half a page) that describes the project in everyday language without the use of scientific or technical jargon. State the problem, challenge or issue your project is addressing. Include dollar estimates if it's an economic issue (e.g., a potential decrease in feed costs). Briefly, tell how this project will address or solve the problem or challenge. Answer the "Who cares?" or "So what?" question: Why is this worth the attention of people? How does this impact the lives of real people? What difference will it make, and to whom? What is the benefit or potential benefit of a successful project? Indicate targeted research/industry/extension/emerging issue being addressed

#### Objective(s):

State objectives clearly and concisely in a logical sequence. Include only those objectives on which significant progress can be made during the life of the project with the facilities, and human and financial resources committed in the Pre-proposal. Objectives should be related to a coordinated effort of individuals involved, and should relate to a problem of regional scope.

#### Approach:

Procedures should to correspond with each numbered objective and described in sufficient detail to clearly delineate the methodology to be followed. Descriptions should be adequate enough to allow a reviewer familiar with the subject to evaluate the approach. The responsibilities, work assignments, and budgets for each participating institution must be stated in the procedure for each objective.

#### Facilities Available:

Describe the facilities available, the location of each facility and specific procedure(s) to be conducted at the location. Sufficient information should be included to enable the reviewer to assess the suitability of facilities and to evaluate the joint planning and coordination by the Work Group.

#### Outreach and Evaluation Plan:

A well-considered and appropriate outreach component is an essential part of any NCRAC project. Increasing attention to the quality of outreach has been emphasized by USDA-NIFA, and has received considerable emphasis from NCRAC's Board of Directors. To ensure the necessary Extension/Outreach components are included in the full proposal investigators should review

<http://www.ncrac.org/files/presentation/file/NCRAC%20Logic%20Model%20and%20Impact%20Statements.pdf>

for needed details and include text that addresses program development and delivery. A complete Logic Model will be required for all full proposal submissions.



**Estimated Summary Budget for Year \_\_\_\_\_**

For All Participating Institutions  
(additional budget pages should be prepared for each year of proposed project)

	Institution (PI name)	Institution (PI name)	Institution (PI name)	Institution (PI name)	TOTAL
Salaries					
Benefits					
Supplies					
Equipment					
Other					
<b>TOTAL</b>					

## VITA

Name  
Address

Phone:  
Fax:  
E-mail:

### EDUCATION

B.S. (Institution, Year, Major/Field of Study)  
M.S. (Institution, Year, Major/Field of Study)  
Ph.D. (Institution, Year, Major/Field of Study)

### POSITIONS

List each position on a separate line from newest to oldest

### SCIENTIFIC AND PROFESSIONAL ORGANIZATIONS

List alphabetically each organization on a separate line

### SELECTED PUBLICATIONS

List from newest to oldest relevant publications. Follow format of the American Fisheries Society which is as follows, including spelling out journal titles:

(1) ARTICLES IN JOURNALS AND OTHER PERIODICALS listed in *BIOSIS Serial Sources* (BIOSIS, Philadelphia): author(s); year; title; serial; volume; issue (if needed); inclusive pages. Include the issue number only when each issue starts with page 1.

Crawshaw, L. I., D. E. Lemons, M. Palmer, and J. M. Messing. 1982. Behavioral and metabolic aspects of low temperature dormancy in the brown bullhead, *Ictalurus nebulosus*. *Journal of Comparative Physiology B* 148:41–47.

Hochachka, P. W. 1990. Scope for survival: a conceptual “mirror” to Fry’s scope for activity. *Transactions of the American Fisheries Society* 119:622–628.

Kennedy, V. S. 1990. Anticipated effects of climate change on estuarine and coastal fisheries. *Fisheries* 15(6):16–24.

Kent, M. L., G. S. Traxler, D. Kieser, J. Richard, S. C. Dawe, R. W. Shaw, G. Propseri-Portia, J. Ketcheson, and T. P. T. Evelyn. 1998. Survey of salmonid pathogens in ocean-caught fishes in British Columbia, Canada. *Journal of Aquatic Animal Health* 10:211–219.

(2) BOOK: author(s); year; title; edition (other than 1<sup>st</sup>) or volume (if part of a series); publisher; city; state, province, or country (only if needed to locate city). Omit the number of pages.

APHA (American Public Health Association), American Water Works Association, and Water Environment Federation. 1992. Standard methods for the examination of water and wastewater, 18<sup>th</sup> edition. APHA, Washington, D.C.

Hoar, W. S., and D. J. Randall, editors. 1988 *Fish physiology*, volume 11, part B. Academic Press, New York.

Rheinheimer, G. 1985. *Aquatic microbiology*, 3<sup>rd</sup> edition. Wiley, New York.

Waters, T. F. 1995. *Sediment in streams: sources, biological effects, and control*. American Fisheries Society, Monograph 7, Bethesda, Maryland.

(3) ARTICLE IN A BOOK: author(s); year; title; inclusive pages; editor(s); book title; publisher; series name (if appropriate); city; state, province or country (only if needed to locate city). Identify conference proceedings by year of publication, *not* by the year of the meeting, and give the publisher's name and location (i.e., where the proceedings may be obtained), *not* the location of the meeting.

Adams, S. M., and J. E. Breck. 1990. Bioenergetics. Pages 389–415 in C. B. Schreck and P. B. Moyle, editors. *Methods for fish biology*. American Fisheries Society, Bethesda, Maryland.

Campton, D. E. 1995. Genetic effects of hatchery fish on wild populations of Pacific salmon and steelhead: what do we really know? Pages 337–353 in H. L. Schramm, Jr., and R. G. Piper, editors. *Uses and effects of cultured fishes in aquatic ecosystems*. American Fisheries Society, Symposium 15, Bethesda, Maryland.

Livingstone, A. C., and C. F. Rabeni. 1991. Food-habitat relations of underyearling smallmouth bass in an Ozark stream. Pages 76–83 in D. C. Jackson, editor. *The first international smallmouth bass symposium*. Mississippi Agriculture and Forestry Experiment Station, Mississippi State University, Mississippi State.

(4) DISSERTATION OR THESIS: author; year; title; dissertation; university; city; state, province, or country (only if needed to locate city).

Chitwood, J. B. 1978. The effects of threadfin shad as a forage species for largemouth bass in combination with bluegill, redear, and other forage species. Master's thesis. Auburn University, Auburn, Alabama.

Hartman, K. J. 1993. Striped bass, bluefish, and weakfish in the Chesapeake Bay: energetic, trophic linkages, and bioenergetics model applications. Doctoral dissertation. University of Maryland, College Park.

(5) GOVERNMENT PUBLICATION: author(s) or agency; year; title; agency; type and number of publication; city; state, province, or country (only if needed to locate city).

EPA (U.S. Environmental Protection Agency). 1986. Quality criteria for water. EPA, Report 440/5–86–001, Washington, D.C.

Gimbarzevsky, P. 1988. Mass wasting on the Queen Charlotte Islands: a regional inventory. British Columbia Ministry of Forests and Lands, Land Management Report 29, Victoria.

(6) CONTACT REPORT: author(s); year; title; organizations that issued the report (if different from the author); organization that received the report; receiver's city; state, province, or country (only if needed to locate city).

Smith, A. B. 1986. Turbine-induced fish mortality at Highrise Dam, 1985. Report of Robertson Consultants to Prairie Utilities, Jonesville, Alberta.

(7) INTERNET CITATIONS: author(s) or agency; year; title; publisher; URL; month and year accessed.

Baldwin, N. A., R. W. Saalfield, M. R. Dochoda, H. J. Buettner, and R. L. Eshenroder. 2000. Commercial fish production in the Great Lakes 1867–1996. Great Lakes Fishery Commission. Available: [www.glfrc.org/databases/commercial/commerc.asp](http://www.glfrc.org/databases/commercial/commerc.asp). (September 2000).

## CHECKLIST FOR SUBMISSION OF PRE-PROPOSALS

- \_\_\_ Follow guidelines with the exception of the budget sheets
- \_\_\_ Format manuscripts for 22 x 28 cm (8½ x 11 inch).
- \_\_\_ Number *all* pages sequentially.
- \_\_\_ Use 10-12 font; Times New Roman. Do not justify right margins.
- \_\_\_ Format headings appropriately
- \_\_\_ Leave at least a 2.5-cm (1-inch) margin on all sides.
- \_\_\_ Use metric units of measurement with English units in parenthesis, e.g., 2.54 cm (1 inch).
- \_\_\_ Define all abbreviations the first time they are used.
- \_\_\_ Express ratios by using a slant line (e.g., mg/L).
- \_\_\_ Scientific names should accompany common names in the title and when they are first mentioned in the abstract and in the text. Authority for scientific names need not accompany the genus and species unless needed for clarity.
- \_\_\_ Spell out one to ten unless followed by a unit of measurement (e.g., four fish, 4 kg, 14 fish). Do not begin a sentence with a numeral. Use 1,000 instead of 1000; 0.13 instead of .13; and % instead of percent.
- \_\_\_ Use the 24-hour clock for dial time: 0830, not 8:30 a.m. Calendar date should be day month year (7 August 1990).
- \_\_\_ Assemble the manuscript in this order: Title Page, Project Summary, Objective(s), Approach, Facilities, Budget, and Curriculum Vitae for Principal Investigators (PIs).
- \_\_\_ Three *Letters of Support* (not directly associated with the project) from industry members or associations are required to provide additional evidence of the benefits to the aquaculture industry of the proposed project.
- \_\_\_ All identified co- PIs have been provided a final draft of the pre-proposal.
- \_\_\_ Submit in Word and PDF format

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

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Principal Investigator Signature

Date