



## Effectiveness of North Central Regional Aquaculture Center (NCRAC) Funded Research in Aquaculture Within the North Central Region (NCR)

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### Funding Effectiveness and Impacts (from 1988 to 2019)

Since its inception in 1988, the North Central Regional Aquaculture Center (NCRAC) has supported aquaculture projects that aim to advance and sustain the aquaculture industry in the North Central Region (NCR). Understanding the effectiveness and impacts of NCRAC-funded projects is essential for the development of future projects that will improve and sustain the aquaculture industry in the NCR. This study reviewed NCRAC-funded projects and examined their effectiveness and impacts on aquaculture farms in the NCR.

A total of 125 projects were funded by NCRAC between 1988 and 2019. NCRAC spent about \$14 million on the 125 projects. Fifty-nine of those projects attracted about \$12 million in leveraged funding from other stakeholders.

The 125 projects and funds allocated to them included: 1) Extension (\$2.87M); 2) national coordinator (\$0.14M); 3) conferences/workshops/symposium (\$0.04M); 4) white papers (\$0.02M); 5) aquaculture drugs (\$1.02M); 6) nutrition (\$0.89M); 7) Viral Hemorrhagic Septicemia (VHS) (\$0.2M); 8) waste and effluent (\$0.45M); 9) aquaponics (\$0.02M); 10) economics and marketing (\$0.69M); 11) hybrid striped bass (\$0.98M); 12) largemouth bass (\$0.33M); 13) baitfish (\$0.26M); 14) crayfish

(\$0.05M); 15) tilapia (\$0.27M); 16) salmonids (\$0.64M); 17) sunfish (\$1.01M); 18) walleye (\$1.15M); 19) yellow perch (\$1.97M); and 20) others (\$0.8M).

NCRAC-funded projects have supported the education of 41 graduate students. Several scholarly presentations and publications that communicate aquaculture-related information to stakeholders have resulted from NCRAC-funded projects, including 187 Extension publications and 241 academic publications.

### Most Effective Projects

- Projects with strong engagement of Extension from conception to termination
- Extension projects
- Projects that quickly responded to major farm level issues in the region, such as VHS.
- Projects that investigated enhanced culture methods

### RECOMMENDATIONS

- Continued recent enhanced support for Extension projects and specialists to further increase Extension presence and direct farm level support.
- There is a need for effective integration and engagement of Extension from initial planning and conception through pre- and full-proposal development and throughout all phases of project implementation.

- There is a need to clarify the core mission, goals, and objectives of NCRAC internally. There are different perspectives within NCRAC as to whether its mission is to primarily develop new aquaculture businesses or to support existing aquaculture businesses with their problems, or some mix of the two.
- NCRAC needs to strengthen and increase cooperation among Extension agents, researchers, and producers not only in listening sessions but in identification of specific regional aquaculture needs.
- Create orienting and on-boarding package for people new to NCRAC and there should also be a condensed version for those seeking membership of NCRAC, including IAC, TC, and BOD.
- Researchers should be required to share progress through quarterly meetings with the industry and Extension liaisons on the project, and project results summarized through appropriate Extension deliverables.
- Enhanced communication
  - a) There is a need for greater communication within NCRAC, within the NCR, with the aquaculture community outside the region, and with the public. P.I.'s should be expected to provide notification of the availability of these materials for posting on the website.
  - b) There is a need for a variety of approaches or formats of outputs that are used to deliver information to farmers. Workshops and conferences, followed by fact sheets, and email notices should form the backbone of an expanded communications program, and revitalization of NCRAC listservs.
  - c) There is a need for more communication with the general public to increase awareness of aquaculture related issues in the region.
  - d) To enhance collaboration within the region, an inventory of research and Extension capacity, including facility and expertise should be developed and made available throughout the region.
  - e) NCRAC should list contact information of aquaculture Extension agents in the region, their specialties, and the areas they oversee on the NCRAC website.
  - f) NCRAC should continue to provide links to the other RACs on the NCRAC website.
- Measures to reduce the regulatory burden on aquaculture businesses in the NCR are needed. NCRAC should form a committee (consisting of producers, researchers, and Extension agents) that will work closely with NCR aquaculturists to identify which regulatory issues to address and the best mechanisms that can be used to address regulatory issues in the region.
- There is a need to develop an on-going impact-monitoring program that can lead to economic estimates of impacts. The end point of a NCRAC project needs to be more than publication of a journal article or fact sheet. A committee should be formed within NCRAC to develop a set of guidelines that require P.I.'s to include metrics for evaluation of the impact of the project, for pre-proposal and full proposals, and then report on the metrics in annual reports and termination reports.
- NCRAC should continue to organize and host its regional aquaculture conferences and seminars. Consideration should be given to expanding these to reach more states in the region; producers requested such meetings in all 12 states. NCRAC could offer to send a representative on an ongoing basis to state aquaculture association meetings to give updates of NCRACs activities.

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