REGIONAL AQUACULTURE EXTENSION SPECIALIST (RAES)\(^1\)

Project Progress Report for the Period
September 1, 2009 to August 31, 2010

NCRAC FUNDING: $74,700 (September 1, 2009 to August 31, 2010)

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PROJECT OBJECTIVES
1. In conjunction with the NCRAC Industry Advisory Council and state aquaculture extension contacts, assess and prioritize North Central Region (NCR) industry needs, focusing on issues with regional significance.
2. Develop and implement strategies to address pertinent needs - interact with pertinent NCRAC and non-NCRAC aquaculture initiatives to accomplish identified strategies.
3. Develop and facilitate “linkages” among agencies, industry, academia, and other relevant entities to foster open, meaningful dialog on critical NCR issues.
4. Coordinate efforts for seeking non-NCRAC support to facilitate information and technology transfer to the industry.

ANTICIPATED BENEFITS
A number of national, state, and regional extension programs exist within the U.S. from which the NCR aquaculture community can draw information. This work plan is intended to help interconnect these efforts and streamline information and technology to the industry.

A number of issues impacting the NCR aquaculture industry (e.g., imports, state and federal budgets, Viral Hemorrhagic Septicemia [VHS]), are driven largely by factors outside the region. In this type of environment, fostering communications and network development in support of the NCR industry is crucial. Project team members and their affiliations have the necessary infrastructure in place to facilitate important dialog and communications for the industry.

\(^{1}\) NCRAC has funded a number of Extension activities, both as stand-alone projects or as components of species- or topical-specific projects. This Progress Report is for one of the 16 stand-alone Extension projects, the second Regional Aquaculture Extension Specialist (RAES) project, which is chaired by Christopher Weeks. It is a 2-year project that began September 1, 2009.
Information and technology transfer in the form of “deliverables” from research and extension has been identified by the North Central Regional Aquaculture Center’s (NCRAC) Industry Advisory Council (IAC) as a critical component for NCRAC initiatives. In today’s global markets, it is extremely important to stay abreast of national and international developments. Through this work plan the project team will identify critical industry needs, seek avenues of non-NCRAC support, evaluate existing information and technologies relevant to the industry, and help make pertinent information in the form of deliverables more accessible by the industry and the aquaculture community.

PROGRESS AND PRINCIPAL ACCOMPLISHMENTS

OBJECTIVE 1

NCR aquaculture industry critical needs were identified through activities such as the 2009 NCRAC Aquaculture Industry Survey, workshops, and direct personal communication. For example, the RAES attended six meetings/workshops in Indiana, Michigan, Ohio, and Wisconsin in 2009-2010. The RAES presented at four of these meetings in topic areas of NCRAC procedures and updates, regulatory fish health information, NCR production information, and NCR producer concerns. These activities also provided important networking opportunities with industry members and extension and research personnel from across the region.

The most frequent response in terms of critical needs as reported by industry members in 2009-2010 is alleviation and clarification of strict regulations imposed on the industry. This response is confirmed also in the 2009 NCRAC Aquaculture Industry Survey, but only by industry members. Academic and agency personnel surveyed believe top impediments facing NCR aquaculture industry development are other than regulatory. Based on our most current information, impediments as identified by the various aquaculture related groups in the NCR are as follows:

- All groups combined: lack of funding and loans, lack of industry cooperation, and regulations.
- Industry: regulations, feed costs, and lack of funding and loans.
- Academia personnel: lack of industry cooperation, lack of funding and loans, and access to fish health specialists.
- State and federal agency personnel: effective education and extension programs, technology, and lack of species specific diets.

A noteworthy finding from the assessment is that different sectors of the NCR aquaculture community perceive problem areas substantially different.

OBJECTIVE 2

To date, the RAES has committed substantial effort to help clarify regulations imposed on NCR aquaculture producers. This effort includes:

- Monitor and update the NCRAC Web site State Importation and Transportation Requirements for Cultured Aquatic Animals (herein referred to as the NCRAC Regulation Web site). The site was originally developed by the current RAES in 2003 and it was improved in 2009 with help from the NCRAC Associate Director’s office as part of the RAES project. The Regulation Web site receives 500+ views per month and has been given a main link from the Animal and Plant Health Inspection Service (APHIS) aquaculture Web site: http://www.aphis.usda.gov/animal_health/animal_dis_spec/aquaculture/aquastate.shtml.
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- A summary of the import requirements for NCR states has recently been added to the NCR Aquaculture Roadmap Web site in table format. The summary is unique, concise, and has been receiving good feedback: http://www.ncrac.org/roadmap/webinfo/pdf_downloads/NCRAC%20import%20ref.pdf.
- Seek out information from aquaculture related list serves, news, and personal contact information from across the nation in order to disseminate important up-to-date information to the industry.
- Work with regulators and industry personnel across the region to try to minimize disruption of commerce due to VHS.
- Encourage active participation by the NCR aquaculture community in regulatory rule making processes. Examples include posting for, and industry solicitation for Federal Register comments in regards to APHIS actions on VHS and the National Aquatic Animal Health Plan.

Information transfer is another major focus area for the RAES. We recognized that a number of very good aquaculture extension and outreach tools exist across the nation (e.g., the Aquaculture Network Information Center [AquaNIC], University extension Web sites, etc). Yet, through phone calls, e-mails, and conversations, individuals have expressed views that current, pertinent, and useful information for specific aquaculture topics is hard to find. In 2009, the RAES initiated a project to enhance the NCR Aquaculture Roadmap from its original short PDF file, into a user-friendly Web site designed for easy access of information. The Web site provides access to all RAC publications, other non-copyrighted articles, regulations, NCR state associations, extension Web sites, extension, research, and state agency contacts across the region, upcoming events, and other materials. The NCR Aquaculture Roadmap URL address is http://www.ncrac.org/roadmap/index.htm.

Current news items and potentially useful topical information is actively sought from several national and international sources by the RAES for posting to the NCR Fish Culture List Serve. The list serve currently has 125 subscribers and has increased every year since it was facilitated by the RAES in 2008. The NCR Fish Culture List Serve is maintained from Iowa State University and supported by NCRAC’s Associate Director’s office. Subscription is available through the NCR Aquaculture Roadmap Web site.

Attendance at state association meetings and workshops, and numerous site visits to commercial facilities has proven to be a very useful method for information dissemination and communication regarding industry concerns. In addition, through the course of this project, the RAES has been experiencing a substantial increase in phone calls and e-mail inquiries from across the NCR aquaculture community.

One task initiated under this objective examines effectiveness of past and current research programs and extension utilities in the NCR. Through quarterly conferencing, RAES project team members have concluded that this is an important, but potentially difficult undertaking. The term “impact” was identified as a key parameter for further assessment. Indicators of success include quantifiable components (production, value, number of registered facilities, state association membership, etc.) as well as qualitative items (working relationships with environmental agencies, political environment, etc.). This task will
be carried forward by the RAES project team (see WORK PLANNED section).

OBJECTIVE 3
In 2009-2010 the RAES gave presentations at the Michigan Aquaculture Association Meeting, Michigan Department of Agriculture Meeting for Aquatic Animal Health, the Wisconsin Workshop for Veterinarians on Fish Regulatory Medicine, and the Indiana Aquaculture Workshop. The RAES also facilitated and presented at the NCRAC Baitfish Workshop held at the La Crosse Fish Health Center, Wisconsin, and participated in the National Aquaculture Association’s (NAA) 4P Workshop, as well as a Hazard Analysis and Critical Control Point Workshop on VHS and Biosecurity, both of which were held in Ohio. The primary goal of the RAES throughout the course of these meetings has been to network with industry, academia, and regulatory agency personnel for the purpose of promoting NCR aquaculture industry interests and development.

The RAES project team has identified three organizations where increased membership base among NCRAC members would likely help promote NCR industry interests. These include NAA, Farm Bureau, and the National Association of State Aquaculture Coordinators. In addition, the RAES is currently in the planning stage for an industry development workshop in which we hope to partner with two regional non-NCRAC entities.

OBJECTIVE 4
Tasks identified under Objective 4 include (a) pursuing potential avenues for non-NCRAC support such as funding, information, and technology transfer to the NCR industry, and (b) providing industry access to deliverables from research and extension activities via internet and extension outlets. Both of these tasks have been initiated as per descriptions of progress for Objectives 1–3 (above). The RAES project team plans to focus on expanding such activities in the coming year.

WORK PLANNED
RAES activities underway will be continued through the course of this project. These include, but are not limited to, the NCR Fish Culture List Serve, the NCRAC Regulation and Roadmap Web sites, and continued liaison services to the industry. Improvements to these outreach methods will be made pending recommendations from the NCR aquaculture community. With the existing information transfer projects functioning and current, the RAES project team plans to shift a good portion of focus over to Objectives 3 and 4, specifically partnership building and seeking additional non-NCRAC support for the industry.

In addition to the 2009 survey, the RAES team plans to facilitate or participate in 1-2 additional region-wide industry development projects. Currently we are assessing the feasibility of holding a walleye industry development workshop within the next 3-4 months. We are also looking to undertake or contribute to an industry economic development project (e.g. Market Maker™).

One of the more difficult tasks in the RAES project plan is to assess how research and extension projects conducted on behalf of industry development can be measured in terms of impacts on the industry. We plan to identify and collect potential deterministic variables (e.g. number of extension personnel, state and federal funding levels, etc.), and indicators of success (trends in production and annual sales, registration numbers, etc.) from individual states across
the NCR. We will then construct a dataset of this information which can be used for assessment purposes. These initial steps should provide important information including the feasibility for obtaining data and maintaining a current dataset. While statistical analysis might be beyond the scope of this RAES project, it is our intent to provide preliminary recommendations as to how measurable outcomes might be better integrated into NCRAC projects.

The RAES project plan calls for a NCR Aquaculture Critical Needs Assessment Report as one of the final deliverable products. This report is expected to be completed by the end of the August 2011.

IMPACTS
Recorded visits to Web pages in the NCRAC regulation Web site totaled 829 for the month of September 2010. Visits to the NCR Aquaculture Roadmap pages totaled 164.

The NCR Baitfish Production Workshop held in September 2010, included 11 speakers and had 22 participants. Participant evaluations showed predominately good to excellent ratings.

The number of USDA-certified veterinarians interested in expanding into aquatic animal health appears to be increasing based on veterinarian attendance at meetings and workshops across the NCR. This trend is due to diligence among many people across the nation, and the RAES team will continue to encourage and support this development to the best of its ability.

RAES industry liaison activities include working with state and federal agency personnel to clarify regulations. On average, this probably occurs about once per month. In addition, updates to the NCRAC regulation Web site are frequent. A side result of these activities is that the RAES has been building working relationships with more regulating agency personnel across the region and nation.

SUPPORT
NCRAC funds provided to date total $74,700; a total of $150,000 has been allocated for this 2-year project.

PUBLICATIONS, MANUSCRIPTS, OR PAPERS PRESENTED
See the Appendix for a cumulative output for all NCRAC-funded Extension activities.
APPENDIX
EXTENSION

NCRAC Extension Fact Sheet Series


NCRAC Technical Bulletin Series


NCRAC Publications Office, Iowa State University, Ames.


Yeo, S. In review. Vermicomposting for processing aquaculture system sludge. NCRAC Technical Bulletin Series #120, NCRAC Publications Office, Iowa State University, Ames.


NCRAC Video Series


Video Series #102, NCRAC Publications Office, Iowa State University, Ames.


NCRAC Culture Series


Other Videos


CD-ROMs


Situation and Outlook Report


Other Publications in Print


Workshops/Conferences/Symposia/Papers Presented


Midwest Regional Cage Fish Culture Workshop, Jasper, Indiana, August 24-25, 1990. (LaDon Swann)

Aquaculture Leader Training for Great Lakes Sea Grant Extension Agents, Manitowoc, Wisconsin, October 23, 1990. (David J. Landkamer and LaDon Swann)

Regional Workshop of Commercial Fish Culture Using Water Reuse Systems, Normal, Illinois, November 2-3, 1990. (LaDon Swann)

1st North Central Regional Aquaculture Conference, Kalamazoo, Michigan, March 18-21, 1991. (Donald L. Garling, Lead; David J. Landkamer, Joseph E. Morris and Ronald Kinnunen, Steering Committee)


Fish Transportation Workshops, Marion, Illinois, April 6, 1991 and West Lafayette, Indiana, April 20, 1991. (LaDon Swann and Daniel A. Selock)

Regional Workshop on Commercial Fish Culture Using Water Recirculating Systems, Normal, Illinois, November 15-16, 1991. (LaDon Swann)

1st National Aquaculture Extension Workshop, Ferndale, Arkansas, March 3-7, 1992. (Joseph E. Morris, Steering Committee)

Regional Workshop on Commercial Fish Culture Using Water Recirculating Systems, Normal, Illinois, November 19-20, 1992. (LaDon Swann)

In-Service Training for CES and Sea Grant Personnel, Gretna, Nebraska, February 9, 1993. (Terrence B. Kayes and Joseph E. Morris)

Aquaculture Leader Training, Alexandria, Minnesota, March 6, 1993. (Jeffrey L. Gunderson and Joseph E. Morris)

Investing in Freshwater Aquaculture, Satellite Videoconference, Purdue University, April 10, 1993. (LaDon Swann)

National Extension Wildlife and Fisheries Workshop, Kansas City, Missouri, April 29-May 2, 1993. (Joseph E. Morris)


Yellow Perch and Hybrid Striped Bass Aquaculture Workshop, Piketon, Ohio, July 9, 1994. (James E. Ebeling and Christopher C. Kohler)

Workshop on Getting Started in Commercial Aquaculture Raising Crayfish and Yellow Perch, Jasper, Indiana, October 14-15, 1994. (LaDon Swann)

Aquaculture in the Age of the Information Highway (World Aquaculture Society special session), San Diego, California, February 7, 1995. (LaDon Swann)

2nd North Central Regional Aquaculture Conference, Minneapolis, Minnesota, February 17-18, 1995. (Jeffrey L. Gunderson, Lead; Fred P. Binkowski, Donald L. Garling, Terrence B. Kayes, Ronald E. Kinnunen, Joseph E. Morris, and LaDon Swann, Steering Committee)

Walleye Culture Workshop, Minneapolis, Minnesota, February 17-18, 1995. (Jeffrey L. Gunderson)

Aquaculture in the Age of the Information Highway. Multimedia session, 18 month meeting of the Sea Grant Great Lakes Network, Niagara Falls, Ontario, May 6, 1995. (LaDon Swann)

AquaNIC. Annual Meeting of the Aquaculture Association of Canada, Nanaimo, British Columbia, June 5, 1995. (LaDon Swann)

Yellow Perch Aquaculture Workshop, Spring Lake, Michigan, June 15-16, 1995. (Donald L. Garling)

Rainbow Trout Production: Indoors/Outdoors, Piketon, Ohio, July 8, 1995. (James E. Ebeling)

North Central Regional Aquaculture Center Hybrid Striped Bass Workshop, Champaign, Illinois, November 2-4, 1995. (Christopher C. Kohler, LaDon Swann, and Joseph E. Morris)

3rd North Central Regional Aquaculture Conference, Indianapolis, Indiana, February 6-7, 1997. (LaDon Swann)


Internet Resources for Aquaculture Education and Communications: Present and Future, 9th National Extension Wildlife, Fisheries, and Aquaculture Conference, Portland, Maine, September 29-October 2, 1999. (LaDon Swann)


“I’ve got this hog barn...” Videoconference Workshop, Lima, Ohio, November 16, 2002. (Laura G. Tiu)


Use of Natural Ponds for Fish and Baitfish Production, Aquaculture America 2003, Louisville, Kentucky, February 18-21, 2003. (Ronald E. Kinnunen)

Hybrid Walleye Workshop, Jackson, Missouri, March 5, 2003. (Ronald E. Kinnunen and Robert A. Pierce II)


Great Lakes Native American Involvement in Fisheries Extension Programs, 3rd National Aquaculture Extension Conference, Tucson, Arizona, April 7-11, 2003. (Ronald E. Kinnunen and Charles Pistis)

On Farm Demonstration of Freshwater Shrimp Culture in Southern Ohio, 3rd National Aquaculture Extension Conference, Tucson, Arizona, April 7-11, 2003. (Laura G. Tiu)


Introduction to Recirculating Aquaculture Workshop, Bellevue, Ohio, March 20, 2004. (Laura G. Tiu)


Aquaculture Field Day, Lincoln University Carver Farm, Missouri, October 2004. (Robert A. Pierce)
Yellow Perch Aquaculture Workshop, Bad River Tribal Hatchery Program, Milwaukee, Wisconsin, December 2004. (Fred P. Binkowski)

Yellow Perch and Lake Sturgeon Workshop, Lac du Flambeau Tribal Hatchery, Milwaukee, Wisconsin, February 2005. (Fred P. Binkowski)

Yellow Perch Aquaculture Workshop, Kearney, Nebraska, February 26, 2005. (Fred B. Binkowski)


Aquaculture Overview, National Farm and Ranch Business Management Education Association Annual Conference, Wooster, Ohio, June 13, 2005. (Laura G. Tiu)


Yellow Perch Spawning Workshop, Milwaukee, Wisconsin, November 2, 2006. (Fred B. Binkowski).

AIS-HACCP Train-the-Trainer Workshop, Columbus, Ohio, February 9, 2007. (Ronald E. Kinnunen and Jeff Gunderson)

Conversion of Livestock Barns into Fish Production Facilities IP Videoconference, Purdue University, West Lafayette, Indiana, March 8, 2007. (Kwamena K. Quagrainie)

Tri-State Aquaculture Conference/Workshop, Ashland, Nebraska, March 17, 2007. (Fred B. Binkowski and Joseph E. Morris)

Freshwater Prawn Production Workshop, Sellersburg, Indiana, April 14, 2007. (Kwamena K. Quagrainie)

Using Sensory Analysis to Better Position a Fish Product in the Market Place, 4th National Aquaculture Extension Conference, Cincinnati, Ohio, May 1-3, 2007. (Ronald E. Kinnunen)

The HACCP Approach to Prevent the Spread Of Aquatic Invasive Species by Aquaculture and Baitfish Operations, 4th National Aquaculture Extension Conference, Cincinnati, Ohio, May 1-3, 2007. (Ronald E. Kinnunen)

The VHS Virus in the Great Lakes Region, 92nd Annual Meeting and Professional Improvement Conference, National Association of County Agricultural Agents, Grand Rapids, Michigan, July 17, 2007. (Ronald E. Kinnunen)

The HACCP Approach to Prevent the Spread of Aquatic Invasive Species by Aquaculture and Baitfish Operations, 92nd Annual Meeting and Professional Improvement Conference, Association of County Agricultural Agents, Grand Rapids, Michigan, July 17, 2007. (Ronald E. Kinnunen)

AIS-HACCP Training Workshop, Clare, Michigan, July 30, 2007. (Ronald E. Kinnunen)

AIS-HACCP Training Workshop, Rogers, Minnesota, September 6, 2007. (Ronald E. Kinnunen and Jeff Gunderson)


AIS-HACCP Training Workshop, Stevens Point, Wisconsin, October 26, 2007. (Ronald E. Kinnunen and Phil Moy)

AIS-HACCP Training Workshop, Pierre, South Dakota, January 4, 2008. (Ronald E. Kinnunen and Jeff Gunderson)


North Central Regional Aquaculture Center VHS Project, Michigan Aquaculture Association
Annual Conference, Clare, Michigan, February 12, 2008. (Ronald E. Kinnunen)

VHS: a Regional Industry Perspective, Illinois VHS Conference and Workshop, Rend Lake, Indiana, April 26, 2008 (Christopher T. Weeks)


AIS-HACCP Training Workshop, Indianapolis, Indiana, July 23, 2008. (Ronald E. Kinnunen and Kristin TePas)

Seafood HACCP Training Workshop, Bay Mills, Michigan, December 9-11, 2008. (Ronald E. Kinnunen)

North Central Regional Aquaculture Center Seeks Input from the Missouri Aquaculture Industry, Missouri Aquaculture Association Meeting and Biosecurity Workshop, Jefferson City, Missouri, January 23, 2009. (Christopher T. Weeks)

AIS-HACCP Training Workshop, Ashland, Nebraska, October 15, 2009. (Ronald E. Kinnunen and Richard Clayton)

Aquaculture in Michigan – A Brief Overview of Status, Regulatory Structures and Impacting Factor, Lansing, Michigan, January 22, 2010. (Christopher T. Weeks)


Seafood HACCP Training Workshop, Bay Mills, Michigan, March 9-11, 2010. (Ronald E. Kinnunen)

Certified Pesticide Applicators Workshop, Aquatic Plant Identification and Control, Wetmore, Michigan, March 19, 2010. (Ronald E. Kinnunen and Jim Islieb)


Biosecurity and VHS Virus Update, NCRAC Baitfish Workshop, La Crosse, Wisconsin, September 21, 2010. (Ronald E. Kinnunen)


Online fish health program for fish farmers. The 35th Annual Eastern Fish Health Workshop, Shepherdstown, Shepherdstown, West Virginia, May 24-28, 2010. (Myron J. Kebus)

NCRAC Baitfish Workshop, La Crosse, Wisconsin, September 21, 2010. (Jeff Gunderson, Joseph E. Morris and Ronald E. Kinnunen)

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