

2015 NCRAC ANNUAL PROGRESS REPORT

Project Title: Economic Impact Assessment [Termination Report]

Key Word(s): Economics/Marketing

Total Funds Committed: \$18,810

Initial Project Schedule: September 1, 2012 to August 31, 2014

Current Project Year: September 1, 2013 to August 31, 2014

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Reason for Termination: Project objectives completed and funds have been terminated per multiple participants' resignations.

Project Objectives

1. Characterize the aquaculture industry throughout the NCR (species, systems, purpose, size, sales, jobs, etc.).
2. Determine the direct, indirect and induced contributions of the aquaculture industry to regional and state – by - state economies.

Project Summary

The aquaculture industry in the NCR suffers from a lack of clearly documented information that describes the industry (e.g., species, systems, purpose, size, sales, jobs, etc.) and its economic value to the region. This information is critical to assist NCR producers to inform and leverage the support of political, regulatory and educational decision-makers on issues that impact aquaculture production and expansion of the industry.

Technical Summary and Analysis

Using the 2013 Census of Aquaculture we explore the contribution of aquaculture to the North Central Region (NCR) economy. In 2013 there were 336 aquacultural enterprises with total sales of \$36.7 million, for average sales of \$109,300 per firm. Using input-output analysis to construct regional economic models of the NCR states we find that this level of activity created 520 jobs, \$16.8 million in labor income (wages, salaries and proprietor income), \$36.5 million in total income and \$71.2 million in industrial sales or revenue. This economic activity generates \$2.6 million in state and local government revenues and over \$3.8 million in federal government revenues. The level of economic impact of aquaculture varies significantly across the NCR states with the smallest impact being in Kansas and the largest in Missouri.

Principal Accomplishments

Objectives 1 & 2.— According to the latest US USDA Census of Aquaculture (2013) the North Central Region (NCR) states there are 336 aquacultural enterprises with total sales of \$36.7 million, for average sales of \$109,300 per firm; North Dakota was not included in this study due to lack of identified aquaculture operations. There is significant variation in aquacultural activities across the NCR states. Kansas has the lowest level of activity with only four firms and \$571,600 in sales, but per firm sales is greater than the regional average. Wisconsin has the most

aquaculture firms at 80 but has one of the lowest per firm sales in the Midwest. It is clear that there is significant heterogeneity in the scale of aquaculture across the NCR states. Indeed, Indiana has only seven firms but the average sales per firm is the highest in the region at \$311,800.

Impacts

In 2013 there were 336 aquacultural enterprises with total sales of \$36.7 million, for average sales of \$109,300 per firm. In this study we find this aquaculture supports 520 jobs and \$71.19 million in industrial sales in addition to \$16.8 million in labor related income. The North Central Regional state with the largest employment impact is Missouri with 216 jobs, Wisconsin with 128 jobs and Ohio with 104 to only seven jobs in Kansas. The economic activity associated with aquaculture also generated tax revenues that flow to state and local governments in the study region (\$2.65 million) as well as the federal government (\$3.83 million).

Recommended Follow-Up Activities

Future economics projects should be considered as new USDA aquaculture census are developed as this information is critical to understanding the economic impacts of the regional aquaculture industry.

Publications, Manuscripts, Workshops, and Conferences

See the Appendix for a cumulative output for all NCRAC-Funded Economics/Marketing activities.

Technical Update

Table 1: Aquaculture Activity in the Midwest

2013 Census of Aquaculture	Sales (\$1,000)	Number of Establishments	Sales per Establishment (\$1,000)
Illinois	\$2,861.3	23	\$124.4
Indiana	\$2,182.8	7	\$311.8
Iowa	\$2,811.1	31	\$90.7
Kansas	\$571.6	4	\$142.9
Michigan	\$1,529.2	32	\$47.8
Minnesota	\$5,615.6	35	\$160.4
Missouri	\$7,437.3	35	\$212.5
Nebraska	\$2,405.2	21	\$114.5
Ohio	\$4,757.9	61	\$78.0
South Dakota	\$1,233.2	7	\$176.2
Wisconsin	\$5,303.4	80	\$66.3
Region as a Whole	\$36,708.6	336	\$109.3

Table 2: Detailed Impact Analysis Aquaculture and the North Central Region

	Employment	Labor Income (000\$)	Total Income (000\$)	Industry Revenue/Sales (000\$)
Direct	319	\$7,702.9	\$19,934.9	\$36,441.2
Indirect	109	\$4,865.2	\$9,139.9	\$21,929.8
Induced	93	\$4,283.4	\$7,422.2	\$12,817.7
Total	520	\$16,851.6	\$36,497.1	\$71,188.7
Agriculture	380	\$9,806.8	\$23,243.3	\$44,711.1
Mining	1	\$24.8	\$51.2	\$153.8
Construction	4	\$227.1	\$287.6	\$484.4
Manufacturing	8	\$665.9	\$1,913.1	\$8,314.3
Trans. Ins. Pub. Utilities	9	\$626.1	\$1,134.9	\$2,070.9
Trade (Retail & Wholesale)	24	\$1,133.8	\$1,854.3	\$2,683.6
Services	93	\$4,226.0	\$7,860.2	\$12,492.7
Government	2	\$141.2	\$152.5	\$277.8

Table 3: Tax Revenue Generated (000\$)

Sales Taxes	\$954.7
Income Taxes	\$359.0
Property Taxes	\$937.2
Other	\$401.3
Total St & Loc Revenue	\$2,652.2
Corp Profit Taxes	\$1,140.7
Income Taxes	\$1,100.5
Other	\$1,594.1
Total Federal Revenue	\$3,835.4

Table 4: Economic Contributions of Aquaculture (\$1,000)

	Sales (2013 Census)	Number of Farms	Sales per Farm	Employment	Labor Income (000\$)	Total Income (000\$)	Industry Revenue/Sales (000\$)
						<u>Economic Impacts</u>	
Illinois	\$2,861.3	23	\$124.4	32	\$1,259.0	\$2,552.7	\$4,717.2
Indiana	\$2,182.8	7	\$311.8	32	\$756.6	\$1,801.2	\$3,389.4
Iowa	\$2,811.1	31	\$90.7	24	\$937.9	\$2,292.9	\$4,368.8
Kansas	\$571.6	4	\$142.9	7	\$215.9	\$454.5	\$858.2
Michigan	\$1,529.2	32	\$47.8	36	\$684.7	\$1,295.6	\$2,406.0
Minnesota	\$5,615.6	35	\$160.4	64	\$1,924.6	\$4,851.7	\$9,241.2
Missouri	\$7,437.3	35	\$212.5	216	\$2,503.1	\$6,145.5	\$11,527.9
Nebraska	\$2,405.2	21	\$114.5	18	\$854.2	\$1,902.8	\$3,621.8
Ohio	\$4,757.9	61	\$78.0	104	\$2,025.7	\$4,108.0	\$7,782.1
South Dakota	\$1,233.2	7	\$176.2	12	\$543.1	\$982.1	\$1,852.7
Wisconsin	\$5,303.4	80	\$66.3	128	\$2,496.5	\$4,508.0	\$8,422.5
Region as a Whole	\$36,708.6	336	\$109.3	520	\$16,851.6	\$36,497.1	\$71,188.7