

BAITFISH¹⁷¹

Project Termination Report for the Period
September 1, 1992 to September 30, 1995

NCRAC FUNDING LEVEL: \$61,973 (September 1, 1992 to September 30, 1995)

PARTICIPANTS:

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Non-Funded Collaborators:

Charles Berry, Jr	South Dakota Coop. Fishery & Wildlife Unit	South Dakota
Carl Gollon	Gollon Brothers Fish Farm	Wisconsin
Dirk Peterson	Minnesota Department of Natural Resources	Minnesota
Charles Rabeni	Missouri Cooperative Fishery & Wildlife Unit	Missouri

REASONS FOR TERMINATION

The objectives for this project were completed.

PROJECT OBJECTIVES

- (1) Conduct a comprehensive survey of the status of the baitfish industry in selected North Central states to determine: (a) species used; (b) sizes of species marketed; (c) sources of species; (d) seasonal availability; (e) shortfalls in supplies; (f) relative value of various fish and nonfish species; and (g) common problems of the industry that may need to be addressed by research.
- (2) Estimate the costs of culturing bait species commonly used in the North Central Region (NCR) in selected types of production facilities, e.g., extensive and intensive pond culture, tanks, raceways.
- (3) Estimate the economic contribution (output, employment, income) generated by the bait industry to selected state economies.
- (4) Assemble a list of rules and regulations for each state affecting the baitfish culture industry.
- (5) As time permits, summarize biological life cycle information for several underused or unused species that have culture potential and which may match needs of the regional industry.

PRINCIPAL ACCOMPLISHMENTS

OBJECTIVE 1

The many species and sizes used were identified; the most important baitfish was the fathead minnow and non-fish bait was the night crawler. About two-thirds of baitfish were harvested from the wild; the rest were cultured. Non-fish bait was about 50:50 wild vs. cultured. Availability varied seasonally and shortages were identified. Values of various fish and non-fish baits were estimated; baitfish composed 64%, and non-fish bait, 36% of the estimated value of bait. Bait mortality was a problem for 50% or more of wholesalers and retailers. Better temperature control and handling and transport would probably reduce mortality.

OBJECTIVE 2

The 107 respondents who reported growing baitfish on the 1990 survey of fish growers in the Economics and Marketing project were resurveyed about their baitfish enterprises, the sales of

baitfish, and the costs of producing those baitfish during 1993. After three mailings and numerous follow-up telephone calls, a total of 33 surveys were completed, of which only 10 were useable. The remaining respondents were no longer in the baitfish business or handled only wild-caught species. Even for the 10 useable responses, the data provided was not sufficient for detailed budget analysis. Four of 10 reported sales of less than \$10,000 during 1993 while only one reported baitfish sales in excess of \$40,000. Nearly all operations could reach break even, i.e., cover their reported costs, within the sales class they reported.

OBJECTIVE 3

The value of the industry was estimated in six state economies. For all six combined, the total minimum estimated value in 1992 was about \$165 million for baitfish and \$92 million for non-fish bait.

OBJECTIVE 4

A list of rules and regulations affecting the bait industry was assembled for the 12 states in the NCR.

OBJECTIVE 5

Several species of important baitfish that are harvested from the wild were identified for investigation of potential for fish culture. At least one, the emerald shiner, will be studied with funding from another source.

IMPACTS

- Identification of the most important baitfish species, fathead minnows, and non-bait, night crawlers, was accomplished. Protection and research may be needed in the future.
- Identification of supply shortages indicates species for which increasing the supply would aid the industry. Baits commonly in short supply include: fathead minnows, lake shiners, golden shiners, night crawlers, leeches, and crayfish.
- Identification of disease and handling problems indicates areas for fruitful future research and extension efforts.
- Estimates of economic value, \$165 million for baitfish and \$92 million for non-fish bait for six states, emphasize the importance of the industry to those state economies.
- Inconsistent state regulations identified as problematic to the industry.
- Study has generated more than 50 inquiries on baitfish culture and markets.
- Aquaculture shortcourse offered, March 1993.
- Copes served as moderator of afternoon session of the Governor's Conference on Agriculture: Wisconsin Aquaculture 1994, University of Wisconsin-Stevens Point, February 1994.

RECOMMENDED FOLLOW-UP ACTIVITIES

- Study problems identified by the survey respondents and increase extension educational information on proper bait handling procedures.
- Investigate culture methods for important non-propagated species and potentially valuable unused species.
- Study ways to alleviate supply shortages.

PUBLICATIONS, MANUSCRIPTS, OR PAPERS PRESENTED

See [Appendix](#).

SUPPORT

YEARS	NCRAC- USDA FUNDING	OTHER SUPPORT					TOTAL SUPPORT
		UNIVER- SITY	INDUSTRY	OTHER FEDERAL	OTHER	TOTAL	
1992- 95	\$61,973	\$44,482	\$2,000 ^a	\$16,132 ^b		\$62,614	\$124,587
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^aVarious bait dealers

^bU.S. Fish and Wildlife Service and National Biological Service (Wisconsin Cooperative Fishery Research Unit)