ETB261

Cost of Regulations on
Producers of Baitfish and Sportfish in Arkansas

UNIVERSITY *of* ARKANSAS AT PINE BLUFF
1873™

School of Agriculture, Fisheries and Human Sciences

Cooperative Extension Program

University of Arkansas at Pine Bluff, United States Department of Agriculture, and County Governments Cooperating

BLANK PAGE

Table of Contents

Acknowledgments

A special thank you to all survey participants and contributing individuals who helped with this project. This study was funded in part by USDA APHIS Cooperative Agreement Award No.14-9200-0403-CA.

Authors

Jonathan van Senten, Ph.D.
Post-doctoral Research Associate
Virginia Seafood AREC
Virginia Polytechnic Institute and State University

Carole R. Engle, Ph.D.
Aquaculture Economist, Engle-Stone Aquatic$ LLC
Adjunct Faculty, Virginia Seafood AREC
Virginia Polytechnic Institute and State University

Anita M. Kelly, Ph.D.
Extension Fisheries Specialist
1890 Cooperative Extension Program
University of Arkansas at Pine Bluff

Luke A. Roy, Ph.D.
Extension Aquaculture Specialist
1890 Cooperative Extension Program
University of Arkansas at Pine Bluff

Cost of Regulations on Producers of Baitfish and Sportfish in Arkansas

Introduction

Globally, aquaculture remains one of the fastest growing animal production systems. In the United States, however, this growth rate has lagged behind that of other aquaculture-producing countries. Faced with a complex regulatory environment, consisting of over 1,000 laws, there is evidence to suggest that the industry in the United States is being constrained by redundant and stifling regulations (Engle and Stone, 2013). The costs and impacts of regulations on producers of baitfish and sportfish in the United States were estimated based on a survey of the most important baitfish and sportfish producing states. Together, the 13 states of Alabama, Arkansas, Florida, Illinois, Kansas, Louisiana, New York, North Carolina, Ohio, Pennsylvania, Texas, Virginia and Wisconsin represented 81 percent of the United States baitfish and sportfish production volume in 2013 (USDA, 2014). Thirty-four percent of all baitfish and sportfish farms responded to the survey, capturing 74 percent of the national baitfish and sportfish production. The response rate in Arkansas was 89 percent of known producers.

Arkansas Is Different

The results from this study revealed that Arkansas was different from the other states in a number of ways. According to the latest Census of Aquaculture, Arkansas represented over 60 percent of the national production value of baitfish and sportfish, with the second largest state, Ohio, accounting for only 6 percent of national production (USDA, 2014). Baitfish and sportfish farms in Arkansas tended to be larger than in other states, with a state average of 857 acres per farm (Table 1). Arkansas producers sold and shipped fish to the highest average number of other states, averaging 18 states per farm (range: 1 to 50). Moreover, Arkansas producers were the only group that participated in a formal state certification program as part of their fish health inspection activities. While many respondents (78 percent in total across the national survey) performed fish health testing, only Arkansas producers had a state supervised and sanctioned program – the Arkansas Bait and Ornamental Certification Program of the Arkansas State Plant Board. These combined factors mean that the costs of regulations on producers in Arkansas are likely also different from producers of baitfish and sportfish in other states.

Table 1. Summary of Results Arkansas vs. National

Category	Arkansas	National
Response rate by number of farms	89%	34%
Response rate by production volume	67%	74%
Average farm size (acre)	847	385
Number of states shipped to	18	10
Number of regulations identified	305	498
Average number of Federal permits per farm	2	1
Average number of State permits per farm	9	6
Average number of annual permit renewals	20	13
Annual estimated regulatory cost	$7,284,781	$12,027,128
Average regulatory cost per farm	$260,171	$148,554
Average regulatory cost per acre	$423	$2,989
Average regulatory cost as percent of total cost	18%	25%

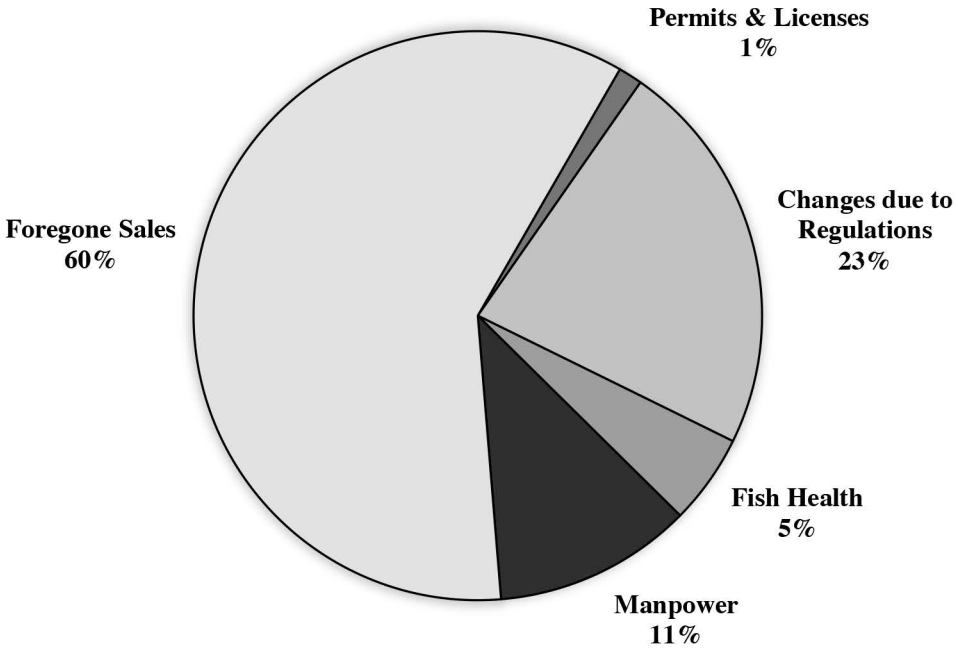
Regulatory Costs

Based on the survey data, the total annual regulatory cost to the United States baitfish and sportfish industry was estimated to be $12 million, with Arkansas accounting for an estimated $7.3 million (Table 1). The average annual regulatory cost per farm in Arkansas was approximately $260,000, or roughly $420 per acre. Across all participating producers in the study, the national average regulatory cost was estimated to be approximately $150,000 per farm. Regula-tory costs were also examined as a percent of total production and marketing costs on the farm, which was found to be on average 18 percent for Arkansas producers and 25 percent nationally.

Breakdown of Regulatory Costs

Regulatory costs can be broken down into two broad components, namely direct and indirect costs. The direct costs are the actual costs imposed on the business by the regulation; for example, the cost of a permit or a license. Indirect costs may be defined as a cost that results from complying with regulations even though not directly prescribed by that regulation; for example, hiring additional labor to ensure regulatory compliance, purchasing new equipment, or losing sales as a result of a ban or restriction. Survey data showed that direct costs, which consisted mainly of permits and license costs, composed only 1 percent of the

Figure 1. Breakdown of Annual Regulatory Cost



total regulatory cost affecting farms (Fig. 1). The average number of state permits required per farm for producers in Arkansas was nine (range: 1 to 34); whereas the average number of federal permits per farm required was two (range: 1 to 6). Although some permits and licenses required only annual renewals, others were more frequent, ranging from biannual to a per-shipment requirement. The average number of permit and license renewals per farm in Arkansas over the course of one year was found to be 20 renewals, but this ranged from one to 182. Increased numbers of renewals translate to increased manpower requirements on farms to apply, process and maintain records of permits and licenses. Hence, manpower costs constituted a large portion of overall regulatory costs, 11 percent (Fig. 1).

Lost and Foregone Sales

The largest portion of regulatory cost (60 percent) was that of lost or foregone sales (Fig. 1). Sixty-three percent of all survey respondents indicated that they had lost sales as a result of regulations. In Arkansas, 72 percent of respondents indicated that they had lost an average of $137,149 per year per farm (range from $30,000 to $750,000). Lost and foregone sales limit the ability of farms to spread their production costs over increased volumes of production to reduce per-unit costs. Thus, regulations have a "dual impact" on farms by increasing both the cost of doing business and by restricting the ability of producers to spread these costs over a larger production volume.

Changes Due to Regulations

The next largest category of regulatory cost was followed by changes on the farm as a result of complying with regulations (23 percent). Nearly half of all survey respondents indicated having made changes in their business as a result of complying with regulations. Examples of these changes included changes in infrastructure and management, equipment purchases, as well as changes to labor. The estimated annual cost of changes due to regulations for Arkansas producers was $64,522 per farm, but ranged from $100 to $625,000 per farm. It should be noted that this particular category of indirect regulatory cost was highly variable both in the nature of the changes being made, as well as the cost of the changes. Some of these changes have had continued effects on the farm, resulting in annual costs, where others have consisted of one-time costs.

Manpower to Comply

Manpower to comply with regulations represented 11 percent of annual regulatory costs. This category accounted for the value of time spent by management and employees on activities such as record keeping, applying for permits, determining which regulations their business needs to comply with, filing reports and attending meetings. There was variability amongst respondents for this category; some respondents indicated having employee positions solely tasked with processing permits and regulatory record keeping. Due to the difficulty in accounting for time spent over the course of a year on regulatory compliance activities, the research team believed that many producers likely underestimated the manpower to comply with regulations.

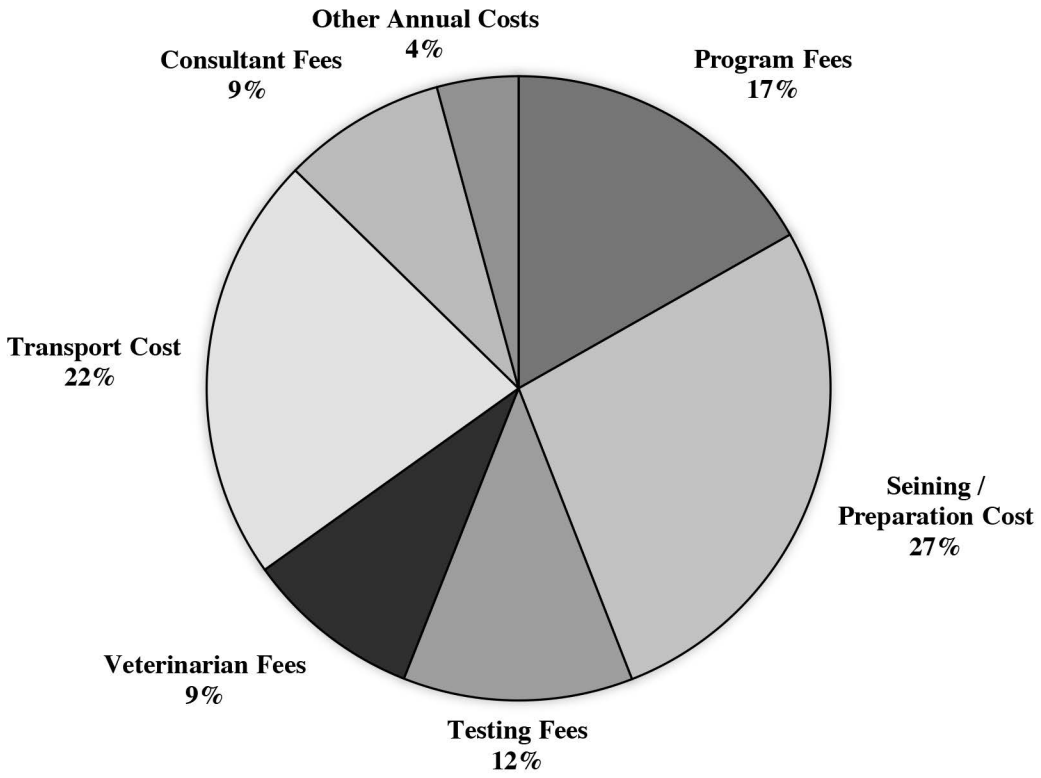
Fish Health Testing

Fish health costs comprised 5 percent of the average total annual regulatory cost to the bait-fish and sportfish industry (Fig. 1). The average annual cost of fish health was $14,500 per farm in Arkansas. Eighty percent of the respondents in Arkansas participated in the state's certification program, and the average cost per fish health test under the Arkansas program was $4,400 per test, with 4.6 tests on average performed each year. The largest cost components of fish health testing were the seining/preparatory costs (27 percent) and the transport costs (22 percent) (Fig. 2). This was followed by the program fee (17 percent) that was paid to the Arkansas State Plant Board, and testing costs (12 percent).

Farm Size and Cost

It is important to note that many of the regulatory costs captured by the survey took the form of fixed costs. This means that regardless of farm size, producers ultimately paid the same fees, or incurred similar expenses so they could be in compliance with regulations. For example, state permit and license costs are fixed, as are fish health testing fees and veterinary fees. This means that small farms have to spread similar costs over a smaller production acreage and volume, thereby increasing their relative cost per acre. On a national level, regulatory costs were estimated to be $13,914 per acre for small farms

Figure 2. Breakdown of Certified Fish Health Testing Costs



(less than 50 acres), $1,778 per acre for medium farms (between 50 and 500 acres) and $794 per acre for large farms (larger than 500 acres). The effect of this on small farms was that the average regulatory cost was 29 percent of total costs, as opposed to 16 percent on large farms. From our findings we can conclude that the regulatory burden is relatively greater on small farms under the current regulatory framework. This is a troubling sign given that the most recent Census of Aquaculture depicts a reduction in the number of farms and acres used for baitfish and sportfish culture. While the number of large farms has remained the same from 2005 to 2013, the number of medium farms has declined by 21 percent, and small farms by 29 percent.

Conclusion

This study has shown that regulatory costs are substantial for the baitfish and sportfish industry in the United States and especially in Arkansas, given Arkansas' prominence in this industry segment. Study results showed that the direct costs of the permits and licenses composed only a small portion (1 percent) of the overall regulatory cost. Indirect costs associated with manpower for compliance and lost/foregone sales and those related to fish health account for the greatest portion of total regulatory costs. In addition to this, some farms contend with a high number of license and permit renewals in order for them to market and sell their products, which

results in increased manpower costs or taking time away from managers who would otherwise focus on production activities. Lastly, the impact of lost and foregone sales cannot be overstated. Restricted access to markets, in some cases complete loss of access, in the face of high regulatory costs can have serious negative consequences for the industry. Therefore, it is important that policy makers consider the economic implications of rules and regulations and work to find ways to streamline, simplify and reduce redundancy amongst regulations.

References

Engle, C. R., and N. Stone. 2013. Competitiveness of U.S. aquaculture within the current U.S. regulatory framework. Aquaculture Economics & Management 17(3): 251-280.

USDA. 2014. Census of Aquaculture (2012). Available: http://www.agcensus.usda.gov/Publications/2012/Online_Resources/Aquaculture/aquacen.pdf (September, 2015)

van Senten, J., and C. R. Engle. In Review. The costs of regulations on U.S. baitfish and sportfish producers. Journal of the World Aquaculture Society.

BLANK PAGE

UNIVERSITY of ARKANSAS AT PINE BLUFF
1873™

School of Agriculture, Fisheries and Human Sciences

Cooperative Extension Program

The University of Arkansas at Pine Bluff is fully accredited by The Higher Learning Commission,
230 South LaSalle Street, Suite 7-500, Chicago, IL 60604, 1-800-621-7440/FAX: 312-263-7462.

Printed by University of Arkansas Cooperative Extension Service Printing Services.

Issued in furtherance of Extension work, Act of September 29, 1977, in cooperation with the U.S. Department of Agriculture, Dr. Edmund R. Buckner, interim dean/director, 1890 Research and Extension Programs, Cooperative Extension Program, University of Arkansas at Pine Bluff.

ETB261-PD-12-2016N