

The Effects of Regulations on the U.S. Salmonid Industry: Midwest States Findings*

Carole R. Engle & Jonathan van Senten,
VA Seafood AREC, Virginia Tech University
Gary Fornshell, University of Idaho

A national survey of the U.S. salmonid (trout, salmon, arctic char) industry was conducted in 2017–2018 to measure the farm-level costs of regulations. This fact sheet reports findings from the midwest states (Figure 1).

The total statewide on-farm regulatory cost burden for the midwest states was \$246,991 per year (adjusted for coverage). Per farm, annual regulatory costs averaged \$47,916 and \$0.50 per pound. The majority of the increased regulatory costs on farms were related to manpower (53%), followed by direct costs, which included testing for fish health certificates and effluent discharges (35%), and on-farm changes (10%). The cost of permits constituted 2% of the regulatory cost burden (Table 1)

In addition to the increased on-farm costs, regulatory actions resulted in lost sales revenue that included: \$35,000 per year in lost market sales and \$17,000 per year in lost revenue from reduced production capacity. No lost sales revenue was reported due to thwarted expansion attempts. Per farm, lost market sales were \$6,900 per year, and the value of lost production averaged \$3,400 per year. Regulatory costs constituted 9% of total costs on midwest salmonid farms and lost sales revenue 1% of total costs.

Respondents reported that the most problematic regulations were those associated with fish health testing required for certificates for interstate transport, transportation (U.S. Department of Transportation), effluent discharge regulations, the Lacey Act (enforced by the U.S.

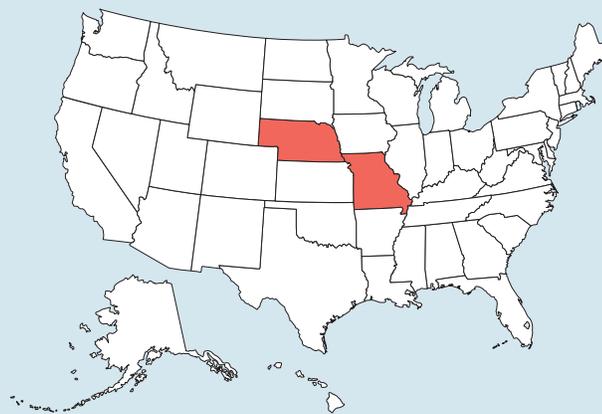


Figure 1. States surveyed

The total statewide on-farm regulatory cost burden for midwest states was \$246,991 per year.

Table 1. Midwest states on-farm regulatory costs

Cost category	% of total regulatory costs
Direct costs (testing, etc.)	35%
Manpower	53%
Farm-level changes	10%
Permits/licenses	2%

* Engle, C.R., J. van Senten, and G. Fornshell. 2019. Regulatory costs on U.S. salmonid farms. *Journal of the World Aquaculture Society* 50(3):522–549; DOI: 10.1111/jwas12604

Fish and Wildlife Service), and bird depredation permitting (Figure 2). In terms of costs, county and local regulations constituted the greatest percentage of total regulatory costs (52%), followed by effluent discharge regulations (28%) and fish health testing for health certificates (20%) (Figure 3).

In summary, the regulatory costs on salmonid farms in the midwest states cost less, on average, per farm, at a lower average cost per pound of fish and a lower percentage of total costs than the national average (Table 2). Nevertheless, at 9% of total farm costs, regulations constituted a substantial cost burden on midwest farms. Lost revenue as a percentage of total costs was less than that of the national average.

Study results showed that the regulatory cost burden on the U.S. salmonid industry has increased farm costs substantially and constrained the industry's ability to increase product supply to meet strong market demand, which is being met by increasing trout and salmon imports. Innovative regulatory monitoring and compliance frameworks that reduce the on-farm regulatory cost burden are needed. The types of regulatory reforms with potential to reduce regulatory costs in the midwest states include: reduced frequency of testing for effluent discharge and fish health certificates, adoption of uniform fish health testing standards, adoption of risk-based approaches to environmental management, and development of clear appeals processes for aquaculture farmers (Table 3).

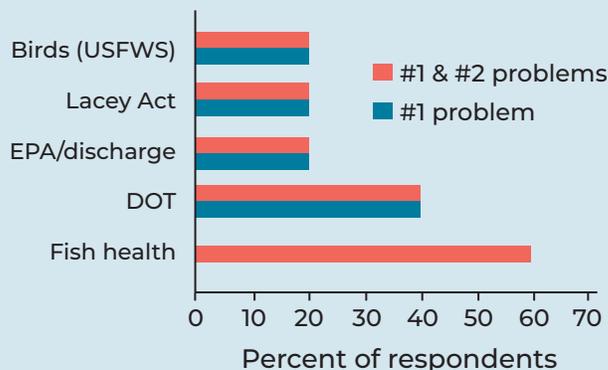


Figure 2. Most problematic regulations in midwest states

In summary, the regulatory costs on salmonid farms in midwest states cost less, on average, per farm, at a lower average cost per pound of fish and a lower percentage of total costs than the national average.

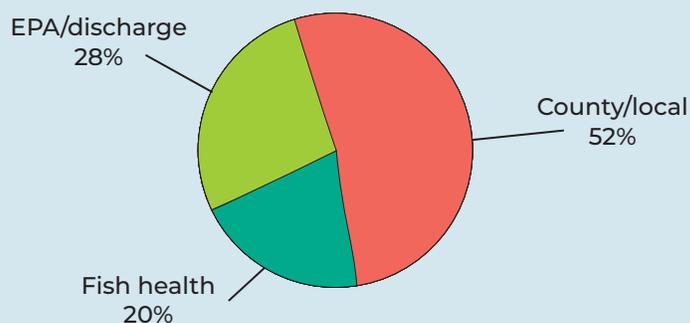


Figure 3. Types of regulations in midwest states: percent of total regulatory costs

Table 2. Summary of national and midwest states study results

Regulatory burdens and impacts	National findings	Midwest states
BURDEN		
Total national on-farm regulatory cost burden	\$16.1 million/year	\$246,991/year
Per farm average regulatory cost	\$150,506/farm	\$47,916/farm
Average regulatory cost per pound of production*	\$1.23/pound	\$0.50/pound
Percent regulatory costs of total farm costs	12%	9%
IMPACT		
Lost market sales	\$7.1 million/year	\$35,000/year
Lost revenue from reduced production	\$5.3 million/year	\$17,000/year
Estimated lost revenue due to thwarted expansion attempts	\$40.1 million/year	\$0
Percent lost revenue sales of total costs	28%	1%
* Averaged by farm		

Table 3. Regulatory reforms with potential to reduce regulatory costs

Regulatory reforms
<ul style="list-style-type: none"> • Reduce regulatory redundancy • For farms with history of good performance: <ul style="list-style-type: none"> ◦ Reduce frequency of effluent testing ◦ Reduce frequency of fish health testing • Adopt uniform fish health testing standards • Develop clear appeal procedures for farmers • Adopt risk-based approaches to environmental management

For more information, contact Carole Engle at cengle8523@gmail.com or Jonathan van Senten at jvansenten@vt.edu.

This project was supported by the Western Regional Aquaculture Center award number 2014-38500-22309 from the United States Department of Agriculture National Institute of Food and Agriculture, the United States Trout Farmers Association, and USDA-APHIS Cooperative Agreement award number 422526.