

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

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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 state of Michigan (Figure 1).

The total statewide on-farm regulatory cost burden for Michigan was \$552,086 per year (adjusted for coverage). Per farm, annual regulatory costs averaged \$91,094 and \$0.90 per pound. The majority of the increased regulatory costs on farms were related to manpower costs (76%), direct costs for testing discharge effluents and fish health certificates (12%), and farm-level changes (11%), but permits constituted only 1% of the regulatory cost burden (Table 1).

In addition to the increased on-farm costs, regulatory actions resulted in lost sales revenue that included: \$371,000 per year in lost market sales and \$990,000 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 \$61,783 per year, and the value of lost production averaged \$165,000 per year. Regulatory costs on farms constituted 19% of total costs on Michigan salmonid farms and lost sales revenue 31% of total costs.

Respondents reported that the most problematic regulations were those associated with testing for fish health certificates for interstate transport, followed by EPA effluent discharge permitting, water access, the U.S. Food and Drug Administration Veterinary Feed Directives, the Lacey Act (enforced by the U.S. Fish and Wildlife Service),

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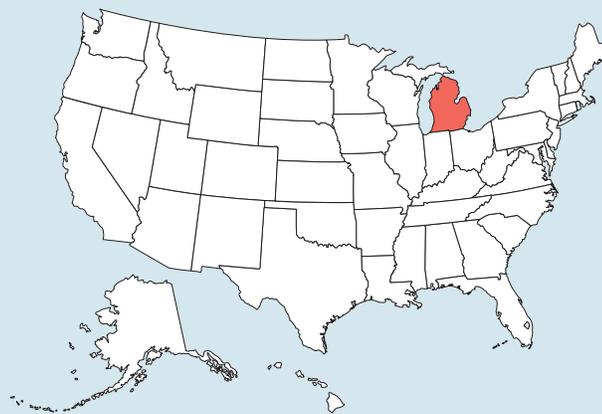


Figure 1. State surveyed

The total statewide on-farm regulatory cost burden for Michigan was \$552,086 per year.

Table 1. Michigan on-farm regulatory costs

| Cost category | % of total regulatory costs |
|------------------------------|-----------------------------|
| Direct costs (testing, etc.) | 12% |
| Manpower | 76% |
| Farm-level changes | 11% |
| Permits/licenses | 1% |

and the total regulatory burden (Figure 2). In terms of costs, effluent discharge regulations comprised the greatest percentage of total regulatory costs (64%), followed by county and local regulations (24%), fish health testing for certification for interstate transportation (8%), and food safety-related regulations (4%) (Figure 3).

In summary, the regulatory costs on salmonid farms in Michigan cost less, on average, per farm, at a lower average cost per pound of fish, but constituted a greater percentage of total costs than the national average (Table 2). Salmonid farms in Michigan tend to be smaller than in some other states, and smaller farms have lower overall regulatory costs per farm. Those costs, however, also tend to compose a greater proportion of total farm costs, as exhibited in Michigan. Lost revenue as a percentage of total costs was also greater than the national average, indicating that regulations have resulted in lost markets and reduced the scale of production on Michigan farms.

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 Michigan 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).

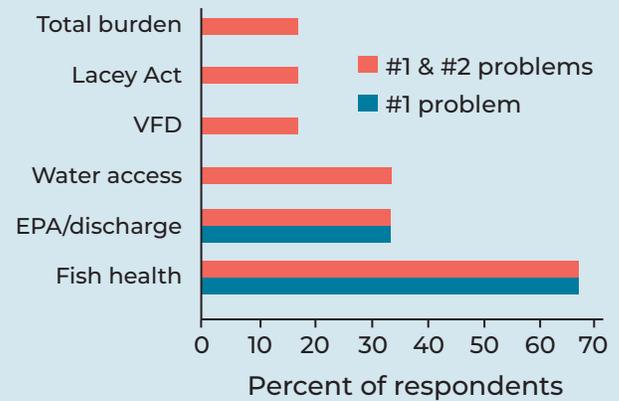


Figure 2. Most problematic regulations in Michigan

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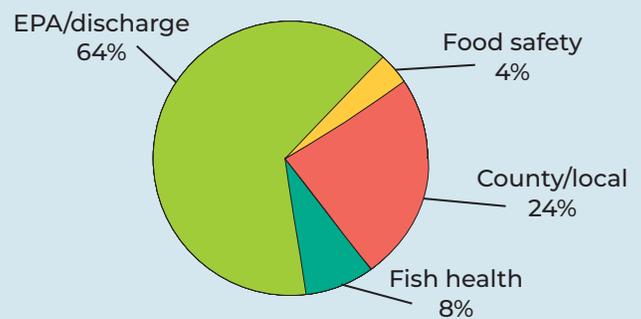


Figure 3. Types of regulations in Michigan: percent of total regulatory costs

Table 2. Summary of national and Michigan study results

| Regulatory burdens and impacts | National findings | Michigan |
|---|---------------------|----------------|
| BURDEN | | |
| Total national on-farm regulatory cost burden | \$16.1 million/year | \$552,086/year |
| Per farm average regulatory cost | \$150,506/farm | \$91,094/farm |
| Average regulatory cost per pound of production* | \$1.23/pound | \$0.90/pound |
| Percent regulatory costs of total farm costs | 12% | 19% |
| IMPACT | | |
| Lost market sales | \$7.1 million/year | \$371,000/year |
| Lost revenue from reduced production | \$5.3 million/year | \$990,000/year |
| Estimated lost revenue due to thwarted expansion attempts | \$40.1 million/year | \$0 |
| Percent lost revenue sales of total costs | 28% | 31% |
| * 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 |

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