

WRAC fact sheet

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The Effects of Regulations on the U.S. Salmonid Industry: Virginia 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 state of Virginia (Figure 1).

The total statewide on-farm regulatory cost burden for Virginia was \$177,766 per year (adjusted for coverage). Per farm, annual regulatory costs averaged \$28,801 and \$0.33 per pound. The greatest percentage of the increased regulatory costs on farms was related to costs of manpower (79%), followed by required equipment purchases (16%) and direct costs, which included testing for fish health certificates and effluent discharges (4%). The cost of the permits was only 1% of total regulatory cost (Table 1).

In addition to the increased on-farm costs, regulatory actions resulted in lost sales revenue that included: \$17,000 per year in lost market sales, \$35,000 per year in lost revenue from reduced production capacity. No lost sales due to thwarted expansion attempts were reported by Virginia respondents. Per farm, lost market sales were \$4,250 per year, and the value of lost production averaged \$8,750 per year. Regulatory costs on farms constituted 11% of total costs on Virginia salmonid farms and lost sales revenue 4% of total costs.

* 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



Figure 1. State surveyed

*The total on-farm
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Table 1. Virginia on-farm regulatory costs

Cost category	% of total regulatory costs
Direct costs (testing, etc.)	4%
Manpower	79%
Farm-level changes	16%
Permits/licenses	1%

Respondents reported that the most problematic regulations were those associated with state regulations, processing, fish health testing required to obtain health certificates for interstate transport, and the Lacey Act that is enforced by the U.S. Fish and Wildlife Service (Figure 2). In terms of costs, EPA effluent discharge regulations were the most costly (62%) of total regulatory costs, followed by county and local regulations (36%) and fish health testing to obtain certificates for interstate transport (2%) (Figure 3).

In summary, on average, the regulatory costs on salmonid farms in Virginia cost less per farm, less per pound of fish, and slightly less as a percentage of total costs than the national average (Table 2). Lost revenue as a percentage of total costs in Virginia was also less than that at the national level.

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 Virginia 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).

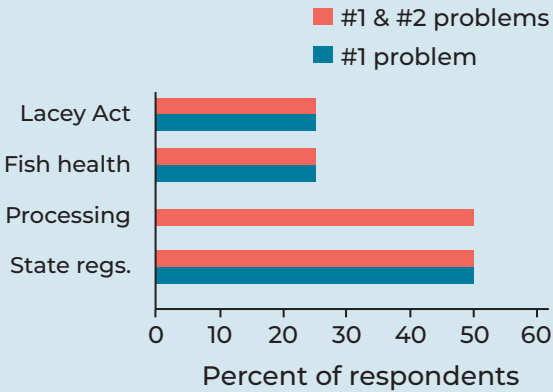


Figure 2. Most problematic regulations in Virginia

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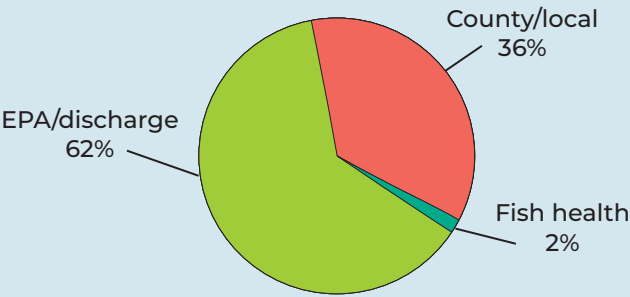


Figure 3. Types of regulations in Virginia: percent of total regulatory costs

Table 2. Summary of national and Virginia study results

Regulatory burdens and impacts	National findings	Virginia
BURDEN		
Total national on-farm regulatory cost burden	\$16.1 million/year	\$177,766/year
Per farm average regulatory cost	\$150,506/farm	\$28,801/farm
Average regulatory cost per pound of production*	\$1.23/pound	\$0.33/pound
Percent regulatory costs of total farm costs	12%	11%
IMPACT		
Lost market sales	\$7.1 million/year	\$17,000/year
Lost revenue from reduced production	\$5.3 million/year	\$35,000/year
Estimated lost revenue due to thwarted expansion attempts	\$40.1 million/year	\$0
Percent lost revenue sales of total costs	28%	4%
* 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.

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