

WV Fish Health Certification: Results of Year 1

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Why does this project exist?

Background on Certification

- Regulations that apply to transport of live salmonid fish into the U.S. and across state lines
- State regulations are often different from federal regulations and regulations are different from state-to-state
- Before approval to transport is given, fish are sampled and checked for pathogens

Advantages of Certification

- Helps protect:
 - The farm buying fish
 - The farm selling fish
 - The industry
 - Wild fish populations
- Marketing advantage to producer
 - Fee-fishing, stocking, food sales – within and out of state

Disadvantages

- Cost (likely offset by gains)
- Increased regulation
- Currently, regulations are not coordinated and often are not risk-based

Meeting State of Maryland Requirements

- Sample 60 fish for:
 - IPNV (Infectious pancreatic necrosis virus) (III)
 - IHNV (Infectious hematopoietic necrosis virus) (I)
 - VHSV (Viral hemorrhagic septicemia virus) (I)
 - *Renibacterium salmoninarum* (Bacterial kidney disease) (II)
 - *Myxobolus cerebralis* (Whirling disease) (II)
 - SVCV (Spring Viremia of Carp) (I)
- Sample 27 fish for:
 - *Yersinia ruckeri* (Enteric redmouth) (III)
 - *Aeromonas salmonicida* (Furunculosis) (II)

MD Classification Scheme

- **PRIORITY I – ABSOLUTE AVOIDANCE**
 - Fish will not be permitted to enter MD
- **PRIORITY II – AVOIDANCE DESIRED, ACHIEVED BY MINIMIZATION OF RISK**
 - Fish will not be allowed to enter MD if fish show signs of disease and more than 10% are infected
- **PRIORITY III – AVOIDANCE DESIRED, BUT NOT MANDATORY**
 - May still be allowed to enter MD, transport of fish showing signs is discouraged

Process

- Visit farm - Sampled 15 farms: 6 private, 9 state (8 individual clients)
- Interview farmer about conditions

Aquaculture Farm Inspection Form

Name of Farm: _____ Date: _____
Address: _____

Contact Person: _____
Title: _____
Phone: _____

Review the following questions with the farm owner/operator. For any "yes" response, provide details to the question, except where noted otherwise.

I. Fish Health

a. Any new introduction of fish to the ponds?	Y	N
b. Any new broodstock introduced into the facility?	Y	N
c. Have additions to premises been quarantined and tested? (explain if No)	Y	N
d. Has there been any unusual die-off of fish?	Y	N
e. Any changes to fish such as increase in deformities, decreases in weight gain, reproductive efficiency or % survivability?	Y	N
f. Any new diseases diagnosed on premises in last 6 months?	Y	N

II. Facilities

a. Any changes to the water source for the ponds?	Y	N
b. Have any new ponds been added?	Y	N
c. Have there been any visitors from other aquaculture farms or foreign countries to the facility?	Y	N
d. Have there been any complaints from clients regarding your fish?	Y	N
e. Has there been any change in the local bird population (i.e., numbers and types of birds)?	Y	N
f. Are new employees trained in biosecurity procedures? (explain if NO)	Y	N

Facility meets requirements: Yes [] No []

Signature of Inspector

Date

Process (cont.)

- Sample fish
- Send coded samples to MD Dept. of Agriculture
- Process *M. cerebralis* samples at the FI, send to pathology laboratory
- Receive results from MD Dept. of Agriculture
- Report confidential results and recommendations to client



Costs

- Total Cost per Farm: \$4,000 to \$5,000
 - Site inspection, fish sampling
 - Technical assistance
 - Follow-up
 - Supplies
 - Expenses
 - Fee for histology laboratory to prepare slides for *M. cerebralis*
 - MD Department of Agriculture laboratory fee

Summary of Farm Conditions

Species	Rainbow, brook, brown and golden trout, Arctic char
Production	>75% for fee fishing; total production about 1 million lbs.
Water supply	Spring water (assumed to be pathogen-free); One farm combined spring water with river water; At three farms water ran above ground or collected in a pond before entering the rearing units
Egg Source	Trout Lodge, WA (6); Canada (1); Black Canyon, WA (1); Own broodstock or received eggs from another WV facility (7)

Results for Certifiable Pathogens

Pathogen (Disease) (Priority Level)	No. farms positive out of no. farms sampled
IPNV (Infectious Pancreatic Necrosis) (III)	1 out of 15
<i>R. salmoninarum</i> (Bacterial Kidney Disease) (II)	2 out of 15
<i>Myxobolus cerebralis</i> (Whirling Disease) (II)	2 out of 8
<i>Aeromonas salmonicida</i> (Furunculosis) (II)	2 out of 15
IHNV (Infectious Hematopoietic Necrosis) (I)	0 out of 15
VHSV (Viral Hemorrhagic Septicemia) (I)	0 out of 15
<i>Y. Ruckeri</i> (Enteric Redmouth) (III)	0 out of 15
SVCV (Spring Viremia of Carp) (I)	0 out of 15

Results cont.

IPNV	Fish population showed signs of IPN, 45 out of 60 were positive
<i>M. cerebralis</i> (WD)	Fish population showed signs of WD; 3 out of 60 at one farm, 39 out of 60 at 2 nd farm – both had dirt ponds
<i>A. salmonicida</i> (Furunculosis)	No signs of furunculosis; 1 out of 27 fish positive at both farms
<i>R. salmoninarum</i> (BKD)	No signs of BKD; 3 out of 60 positive at 1 farm, 2 out of 60 positive at 2 nd farm (these are likely to be false-positives)

The background features three large, overlapping circles. Each circle contains several concentric rings of varying radii, creating a ripple effect. The circles overlap in the center, and the lines of the rings also intersect. The overall aesthetic is clean and geometric.

Work in 2002