

# Pennsylvania Fish and Boat Commission

## Fish Health Inspection Protocol for Importation into the Commonwealth and Introduction into Waters of the Commonwealth

Pennsylvania Fish and Boat Commission  
Division of Fish Production Services  
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This Pennsylvania Fish and Boat Commission (PFBC) Fish Health Inspection Protocol (Protocol) applies to the procedures needed to import fish or fish eggs into the Commonwealth of Pennsylvania, or to introduce fish into the waters of the Commonwealth as indicated in Title 58, Chapter 71a of the Pennsylvania Code. The detection of certain pathogens may warrant additional actions from other state or federal agencies.

### **Fish Health Testing Requirements for the Importation of Fish into the Commonwealth**

A fish health inspection report or certification document for the shipping facility that meets the requirements in this Protocol must accompany all importations of fish listed on the PFBC's Species by Watershed Approved for Open System (Flow Through) Propagation and Introductions list: <https://www.fishandboat.com/Fish/PennsylvaniaFishes/Documents/speciesapp.pdf>.

Specific testing requirements may vary depending on the **species** of fish, **location** of the shipping facility or source, and the **designated end use** of the fish being imported into the Commonwealth of Pennsylvania (PA) (Table 1). Fish being imported for direct stocking into waters of the Commonwealth must also comply with the stocking/introduction section of this Protocol. Fish being imported into the Commonwealth from facilities or waterbodies within the Great Lakes basin must refer to the PFBC's VHS regulation (58 Pa. Code § 71a.7), in addition to this Protocol.

Additional testing **will be required** if the importing facility has received fish or fish eggs from a facility or source that has not met the minimum testing requirements outlined in Table 1 of this Protocol.

Testing is **not** required if the shipping facility received fish or eggs from a facility that is within zones enzootic for the specific pathogens and parasites found in Table 1 of this Protocol, and the original source or facility has met the minimum testing requirements for the pathogens and parasites found in Table 1 of this Protocol.

Documentation of fish health testing from the original source shall remain with the shipment in addition to the documentation of the shipping facility's fish health testing. Shipping facilities shall retain all importation records for a minimum of seven (7) years.

Additional testing may be required by the Pennsylvania Department of Agriculture or the U.S. Department of Agriculture for Closed System Aquaculture Facilities.

Exemptions for importations can be found in 58 Pa. Code § 71.6a(d)(1).

**Table 1. PFBC Fish Health Testing Requirements for the Importation of Fish into Pennsylvania.**

<b>Pathogen</b>	<b>Testing Requirements for Shipping Facility or Waterbody</b>
<b>Viral Hemorrhagic Septicemia (except IVb) (VHSv)</b>	Facility or source testing is required for <b>all fish</b> or <b>fish eggs</b> imported from or having originated in zones enzootic for the pathogen (Alaska, Washington, Idaho, Oregon, California, and British Columbia (Canada)).
<b>Viral Hemorrhagic Septicemia IVb</b>	Fish originating from sources within the <b>Great Lakes basin</b> must comply with 58 Pa. Code § 71.a7.
<b>Infectious Hematopoietic Necrosis Virus (IHNv)</b>	Facility or source testing is required for all <b>salmonids</b> and <b>salmonid eggs</b> imported from facilities or having originated in zones enzootic for the pathogen (Alaska, Washington, Idaho, Oregon, California, and British Columbia (Canada)).
<b>Infectious Salmon Anemia Virus (ISAv)</b>	Testing is <b>only</b> required for <b>Atlantic Salmon</b> ( <i>Salmo salar</i> ), <b>Brown Trout</b> ( <i>Salmo trutta</i> ), <b>Rainbow Trout</b> ( <i>Oncorhynchus mykiss</i> ), and <b>Atlantic Herring</b> ( <i>Clupea harengus</i> ) imported from or having originated in zones enzootic for the pathogen (Maine (USA), New Brunswick (Canada), and Nova Scotia (Canada)).
<b>Spring Viremia of Carp Virus (SVCv)</b>	Facility or source testing required for all species of fish imported into the Commonwealth of PA which are listed as a susceptible host species by the OIE Aquatic Manual ( <a href="#">Aquatic Manual Online Access - OIE - World Organisation for Animal Health</a> ) <b>and also</b> listed on the PFBC's Species by Watershed Approved for Open System (Flow Through) Propagation and Introductions list: <a href="https://www.fishandboat.com/Fish/PennsylvaniaFishes/Documents/speciesapp.pdf">https://www.fishandboat.com/Fish/PennsylvaniaFishes/Documents/speciesapp.pdf</a> .
<b>Tetracapsuloides bryosalmonae (PKD)</b>	Testing is required for all <b>salmonids</b> imported from or having originated in zones enzootic for the pathogen (California, Idaho, Washington, British Columbia (Canada), and Newfoundland (Canada)). Testing is not required for the importation of disinfected eggs from a zone enzootic for the pathogen. Acceptable disinfection protocols for salmonid egg disinfection include protocols found in the OIE Aquatic Code: <a href="#">Aquatic Code Online Access - OIE - World Organisation for Animal Health</a>
<b>Ceratomyxa shasta (CS)</b>	Facility or source testing is required for all <b>salmonids</b> being imported from or having originated in zones enzootic for the pathogen (Alaska, Washington, Idaho, Oregon, California, and British Columbia (Canada)). Testing is not required for the importation of disinfected eggs from a zone enzootic for the pathogen. Acceptable

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disinfection protocols for salmonid egg disinfection include protocols found in the OIE Aquatic Code:

[Aquatic Code Online Access - OIE - World Organisation for Animal Health](#)

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<b>Parasitic Copepods belonging to the genus <i>Salmincola</i>*</b>	Certification is required for all <b>Rainbow Trout</b> ( <i>Oncorhynchus mykiss</i> ) and <b>Brook Trout</b> ( <i>Salvelinus fontinalis</i> ) imported into the Commonwealth. *Testing is not required for the importation of eggs.
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\*<https://www.fishandboat.com/Fish/FishingRegulations/Documents/GillLiceCertificationProtocol.pdf>

### **Fish Health Testing Requirements for the Introduction of Fish into Waters of the Commonwealth**

Fish being introduced into waters of the Commonwealth need to originate from facilities, lots, or sources that have had a fish health inspection as described in this Protocol. Specific testing requirements may vary depending on the **species, origin, and final location** of fish being introduced into waters of the Commonwealth (Table 2).

Fish originating from sources within the Great Lakes basin must comply with the PFBC VHSv regulations.

Additional requirements may be in place if fish are being imported into the Commonwealth for direct stocking (Table 1).

**Table 2. Fish Health Testing Requirements for the Stocking of Fish into Waters of the Commonwealth.**

<b>Stocking/Introduction Location</b>	<b>Fish Health Testing Requirements</b>
<p>Introduction of all <b>Rainbow Trout</b> (<i>Oncorhynchus mykiss</i>) and <b>Brook trout</b> (<i>Salvelinus fontinalis</i>) into <b>all waters of the Commonwealth</b></p>	<p>Fish must be obtained from a facility, lot, or shipment that has been certified gill lice free, following the PFBC's Gill Lice Certification Protocol*</p>
<p>Includes all color variants, strains, and hybrids of Rainbow Trout and Brook Trout; this includes but is not limited to Golden Trout, Albino, and Tiger Trout</p>	<p>Closed system facilities and aquariums that have only received eggs, obtain eggs from captive broodstock at the facility, or only received fish from a facility that is certified as gill lice free are exempt from the gill lice certification requirements</p>
<p>Stocking of fish into the <b>Lake Erie and Lake Ontario watersheds (includes portions of Erie, Crawford, and Potter Counties)</b></p>	<p>Fish must be obtained from a <b>facility</b> or be from a <b>lot</b> of fish that have tested negative for the following pathogens and parasites following the PFBC's Protocol:</p>
	<p><b>Infectious Pancreatic Necrosis Virus (IPNV)</b> - All Species</p> <p><b>Spring Viremia of Carp Virus (SVCv)</b> - Species listed as a susceptible host species by the OIE Aquatic Manual (<a href="#">Aquatic Manual Online Access - OIE - World Organisation for Animal Health</a>) and also listed on the PFBC's Species by Watershed Approved for Open System (Flow Through) Propagation and Introductions list</p> <p><b>Koi Herpes Virus (KHV)</b> - Carp only (Including Koi)</p> <p><b>Viral Hemorrhagic Septicemia Virus (VHSV)</b> - All Species</p> <p><b>Largemouth Bass Virus (LMBv)</b> - <i>Centrarchids</i> only</p> <p><b>Aeromonas salmonicida (AS)</b> - All Species</p> <p><b>Yersinia ruckeri (YR)</b> - All Species</p> <p><b>Renibacterium salmoninarum (BK)</b> - Salmonids</p> <p><b>Myxobolus cerebralis MC</b> (Whirling Disease) - Salmonids only</p>
<p>Specific waters of the Commonwealth that have <b>species reintroduction protection</b> and/or <b>restoration efforts</b> in place, and Commonwealth waters that have active <b>habitat restoration</b> or <b>rehabilitation</b> efforts in place</p>	<p>The PFBC may require specific fish health testing for these waters and will notify the stocking authorization applicant during the stocking authorization review process</p>

\*<https://www.fishandboat.com/Fish/FishingRegulations/Documents/GillLiceCertificationProtocol.pdf>

## Fish Health Inspection Protocol

Fish health inspections may be deemed invalid if using protocols different than those described in this document. Contact the PFBC's Fish Health Unit to ensure that those protocols are acceptable prior to initiating the inspection process.

If an inspection is conducted for a specific lot or group of fish from a facility, biosecurity measures must be in place to ensure the lot or group of fish remains isolated from the untested fish at the facility.

All Fish Health Inspections must be conducted by a PFBC Recognized **Official**.

- **Recognized Officials**

- An Accredited and Licensed Veterinarian (the Veterinarian must be licensed in the state where the facility is located);
- American Fisheries Society (AFS) Certified Fish Pathologist;
- AFS Certified Aquatic Animal Health Inspector;
- Government employees with demonstrated capability to perform sample collection and fish health inspections;
- University or college personnel with demonstrated capability to perform sample collection and fish health inspections;
- Private laboratory personnel with demonstrated capability to perform sample collection and fish health inspections; or
- Individual appointed by the state's competent authority or by the PFBC.

- **Inspection Frequency**

- A facility inspection is applicable for one calendar year (365 days) from the date of inspection.

- **Facility Fish Health Inspection**

- Facility is defined as the physical location/street address of the fish being certified. A facility inspection will consist of all lots of fish located at the facility being certified.
- If multiple facilities are owned by a single entity, a separate inspection must be completed for each facility.
- A **facility** fish health inspection is the statistically based sampling of all fish lots from a facility for the applicable pathogens.

- Sample size (Total Number of Fish Sampled) for a fish health inspection shall be determined using methods detailed in the most recent editions of the American Fisheries Society (AFS) Fish Health Section Blue Book: Suggested Procedures for the Detection and Identification of Certain Finfish and Shellfish Pathogens (U.S. Fish & Wildlife Service & American Fisheries Society-Fish Health Section) [BLUE BOOK | AFS Fish Health Section \(fisheries.org\)](#) or the Manual of Diagnostic Tests for Aquatic Animals (OIE – World Organisation of Animal Health) [Aquatic Manual Online Access - OIE - World Organisation for Animal Health](#).
  - When following the AFS recommended protocol, at minimum, all lots should be sampled at the 5% Assumed Pathogen Prevalence Level (APPL) (Table 4).
  - Facilities that choose to use the OIE inspection protocol typically sample 150 farm. Facilities that choose to follow this protocol and culture both salmonid species and non-salmonid species, shall test a minimum of 150 non-salmonids and 150 salmonids for the pathogens of concern, thus ensuring that a minimum of 150 salmonids are tested.
    - The following **Salmonids** are approved for introduction into waters of the Commonwealth:
      - **Brook Trout** - *Salvelinus fontinalis*;
      - **Brown Trout** - *Salmo trutta*;
      - **Rainbow Trout, Steelhead, Kamloops** - *Oncorhynchus mykiss*;
      - **Golden Rainbow Trout** - *Oncorhynchus mykiss*;
      - **Tiger Trout** - *Salmo trutta x Salvelinus fontinalis*;
      - **Albino Trout** - All Species; and
      - **Coho Salmon** - *Oncorhynchus kisutch* (only Erie and Genesee).
    - All other species of fish approved for introduction into waters of the Commonwealth are **Non-Salmonids** and can be found on the PFBC's Species by Watershed Approved for Open System (Flow Through) Propagation and Introductions list:  
<https://www.fishandboat.com/Fish/PennsylvaniaFishes/Documents/speciesapp.pdf>.
- Additional fish may need to be inspected for gill lice (*Salmincola*) certification:  
<https://www.fishandboat.com/Fish/FishingRegulations/Documents/GillLiceCertificationProtocol.pdf>.
- Fish are to be assigned to one of three (3) groups, based on either size or age (Table 3).
- When sampling is required at the 2% or 5% assumed pathogen prevalence level (APPL) with a 95% confidence level, Table 4 should be referenced.

- **Lot Definition**

- For the PFBC Protocol, a lot will be defined as either a **Broodstock Lot**, **Non-Broodstock Lot**, **Baitfish Lot**, or **Wild Fish Lot**. Specific definitions for these categories are provided below.
- **Lot (Broodstock):** a group of sexually mature fish of the same species that share a common water source and are specifically designated as brood.
- **Lot (Non-Broodstock):** a group of non-brood fish of the same species and age group that have continuously shared a common water source throughout their life history.
- **Lot (Baitfish):** a pooled sample of a single species that is held in a self-contained holding structure. A new lot will be formed anytime untested fish are added to an existing lot. When distinct lots are combined, a new lot is formed. The addition of fish from another inspected/tested lot will not result in the creation of a new lot.
- **Lot (Wild Fish):** a pooled sample of a single species that is obtained from a discrete spawning population collected from a body of water. The lot may contain various age groups that can be combined into a single lot.

**Table 3. Categories for Grouping Fish for Sample Collection.**

Designation	Total Length	Age
Fingerling	2 – 6 cm. (0.79 – 2.36 in.)	< 12 months of age
Yearling/Adult	> 6 cm. (2.36 in.)	Non-brood fish greater than 12 months of age
Broodstock	> 6 cm. (2.36 in.)	Sexually mature fish greater than 12 months of age and used as broodstock

**Table 4. Sample Number Based on an Assumed Pathogen Prevalence Level (APPL) in the Population of 2% or 5%.**

Lot Size (number of fish)	Number of Fish Required for Sample	
	5% APPL	2% APPL
50	35	50
100	45	75
250	50	110
500	55	130
2,000	60	145
>100,000	60	150

(AFS-FHS (American Fisheries Society-Fish Health Section). 2014. FHS blue book: suggested procedures for the detection and identification of certain finfish and shellfish pathogens, 2020 edition. Accessible at: [https://units.fisheries.org/fhs/fish-health-section-blue-book-2020; Chapter 2 \(wpengine.com\)](https://units.fisheries.org/fhs/fish-health-section-blue-book-2020;Chapter%20(wpengine.com)))

## Fish Health Inspection Report

At a minimum, a Facility Fish Health Inspection Report shall include the following:

- Name and Location of the Facility;
- Name of Owner of the Facility;
- Facility contact/owner phone number;
- Inspection Date;
- Dates of three (3) prior inspections, if applicable;
- Water source, if applicable (name of stream/lake);
- Type of water source (open/closed/protected);
- Lot information;
  - Species
  - Approximate number in lot
  - Number sampled
  - Lot Designation/Name
  - Lab ID #
- Pathogens Tested for;
  - Results (Positive/Negative)
  - Protocol used (AFS/OIE/other)
- Name/Address/Phone/ of Official collecting fish;
- Name/Address/Phone of lab conducting the testing; and
  - Signature of the laboratory official/manager.

**A sample form is included at the end of this document and can be used, if needed.**

### Accepted Diagnostic Methods

- The PFBC recommends that all surveillance, screening, and confirmatory methods be performed following the procedures described in this document or the methods listed as recommended or suitable in the in the most recent additions of the following:
  - **American Fisheries Society Fish Health Section Blue Book:** Suggested Procedures for the Detection and Identification of Certain Finfish and Shellfish Pathogens (US Fish & Wildlife Service (USFWS) & the American Fisheries Society-Fish Health Section (AFS-FHS)).  
[BLUE BOOK | AFS Fish Health Section \(fisheries.org\)](https://www.fisheries.org/blue-book/)
  - **World Organisation of Animal Health (OIE):** Manual of Diagnostic Tests for Aquatic Animals.  
[Aquatic Manual Online Access - OIE - World Organisation for Animal Health](https://www.oie.int/eng/normes/mmanu/mmanu01.htm)
  - **PFBC Gill Lice Certification Protocol**
    - When certifying that fish are free of parasitic copepods belonging to the family *salmincola*, inspectors should follow the PFBC's Protocol for Certification of



Salmonids for the Presence of Gill Lice:

<https://www.fishandboat.com/Fish/FishingRegulations/Documents/GillLiceCertificationProtocol.pdf>.

- **Whirling Disease Protocol**
  - When screening for *Myxobolus cerebralis* (Whirling Disease), the sample should include a minimum of 60 specimens from the most susceptible lot on site.
  
- **Bacterial Kidney Disease Protocol**
  - When screening for *Renibacterium salmoninarum* (Bacterial Kidney Disease), the culture method using Selective Kidney Disease Media (SKDM) as described in the AFS Bluebook is acceptable as the initial screening process. If using SKDM as the initial screening process, confirmation must be done on the isolate using Fluorescent Antibody Test (FAT) or Polymerase Chain Reaction (PCR), as described in the AFS Blue Book.

#### **Demonstration of Freedom from a Pathogen Once Detected at a Facility**

If a pathogen has been detected at a facility, to be considered negative for that pathogen, the facility must, at a minimum, complete one of the two testing procedures outlined below:

1. Test all susceptible lots of fish on site and achieve negative results three (3) consecutive times with a minimum of four (4) months between testing and testing must be conducted at the 2% prevalence level (Table 4), or
2. Conduct three (3) annual inspections following the PFBC's Fish Health Inspection Protocol, sampling all susceptible lots of fish present at the 5% prevalence level, and achieve negative results (Table 4).

Prior to initiating a testing option to demonstrate freedom from a pathogen, the facility may take measures to eliminate the pathogen such as depopulation, treatment, and disinfecting facilities.

#### **Importation of Fish from Other Facilities**

If fish are imported from another facility that is positive for a pathogen, the receiving facility will be considered positive for that pathogen. For the imported lot of fish to be considered negative for that pathogen, the fish must be held in isolation and undergo the appropriate testing, as previously described.

A facility will not be considered positive for a pathogen if the fish are imported from a facility that is located in the pathogen's enzootic zone and the shipping facility has met the required criteria to be considered negative for that pathogen. This only applies to the fish being transferred. Fish health inspections may still be required for other groups of fish on site.

Facilities must maintain documentation, including applicable fish health inspection reports for all fish imported into the facility from outside sources for a minimum of seven (7) years. This documentation must be provided to the inspecting official.

All questions regarding this protocol should be directed to:

PFBC Fish Health Unit Leader  
Phone: (814) 353-2223

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**Pennsylvania Fish and Boat Commission**  
**Facility Fish Health Inspection Report**

Date of Issuance:

Facility Information		
Facility Name:	Owner:	County:
PA Dept Ag ID #:	Phone Number:	Email:
Address:		
Water source: ( ) Open ( ) Closed Name of source if Open:		
Species on site:		
Total # of Fish Collected:	Total # of Lots on Site:	
Have fish been imported into the Facility since the previous inspection ( ) Yes ( ) No If Yes, please provide fish health inspection reports for importing facilities.		
Comments:		

Fish Health Official Responsible for Collection of Fish Information	
Name:	
Phone:	Email: License Number If applicable:
Official Type:	( ) Accredited and Licensed Veterinarian , ( ) AFS Certified Fish Health Inspector or Pathologist ( ) Government employee, ( ) University/college personnel, ( ) Private Lab personnel, ( ) Individual Appointed by the PA Dept. of Ag. or PFBC
Address:	
Comments:	
Laboratory Information	

**Pennsylvania Fish and Boat Commission**  
**Facility Fish Health Inspection Report**

<b>Name of Laboratory:</b>		
<b>Phone: (    )</b>	<b>Email:</b>	<b>License Number If applicable:</b>
<b>Address:</b>		
<b>Protocols Used:</b> (    ) AFS (    ) OIE If other protocols are being used, please specify in comments section.		

Lot Identifier	Species	Total # in Lot	# Sampled	Lab Identifier	Pathogens Tested For (+ / - ), NT if not tested for										
					VHSV	IHNv	As	Yr							

**Comments:**

<b>Signature of Laboratory Official:</b>	<b>Date:</b>
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