


Fish Health Requirements and Response to Fish Disease Events

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(DATCP)

A stylized, layered mountain range graphic in shades of teal and blue, located in the bottom right corner of the slide.

DATCP Fish Health



- ◆ National model for fish health programs
- ◆ Requirements:
 - Import permits
 - Health certificates
 - Record-keeping
 - Reportable diseases
- ◆ Veterinary education
- ◆ **Fish farmer education**

Distribution of Wisconsin Fish Farms

Fish Farm Type
ALL (2121 Fish Farms)

- ▲ Type 2 (395)
- Type 1 (1726)

Type 1: A person holding a type 1 registration certificate may do any of the following:

- Allow fishing at the fish farm, including public fishing for a fee.

- Sell or distribute live fish or fish eggs to a food processing plant, retail food establishment or restaurant at which the fish or fish eggs are held for not more than 90 days pending slaughter or sale to consumers at that facility, provided that the facility does not discharge to waters of the state any untreated water used to hold or process these fish or fish eggs.

Wisconsin Aquaculture Species Raised



And of course



Numbers

- ◆ 2551 Fish Farms – Type 1
- ◆ 205 Fish Farms – Type 2
- ◆ 82 Fish Farms - Type 3
- ◆ 2838 Total

- ◆ 45 TROUT FARMS
- ◆ 11 Atlantic salmon
- ◆ 4 Coho and chinook salmon
(resource hatcheries)

Likelihood for
a disease to
occur



Consequences
if disease
occurs

Whether
regulation
is
appropriate

Move fish from farm to farm (no fish health certificate)

Your farm



Another
person's
farm

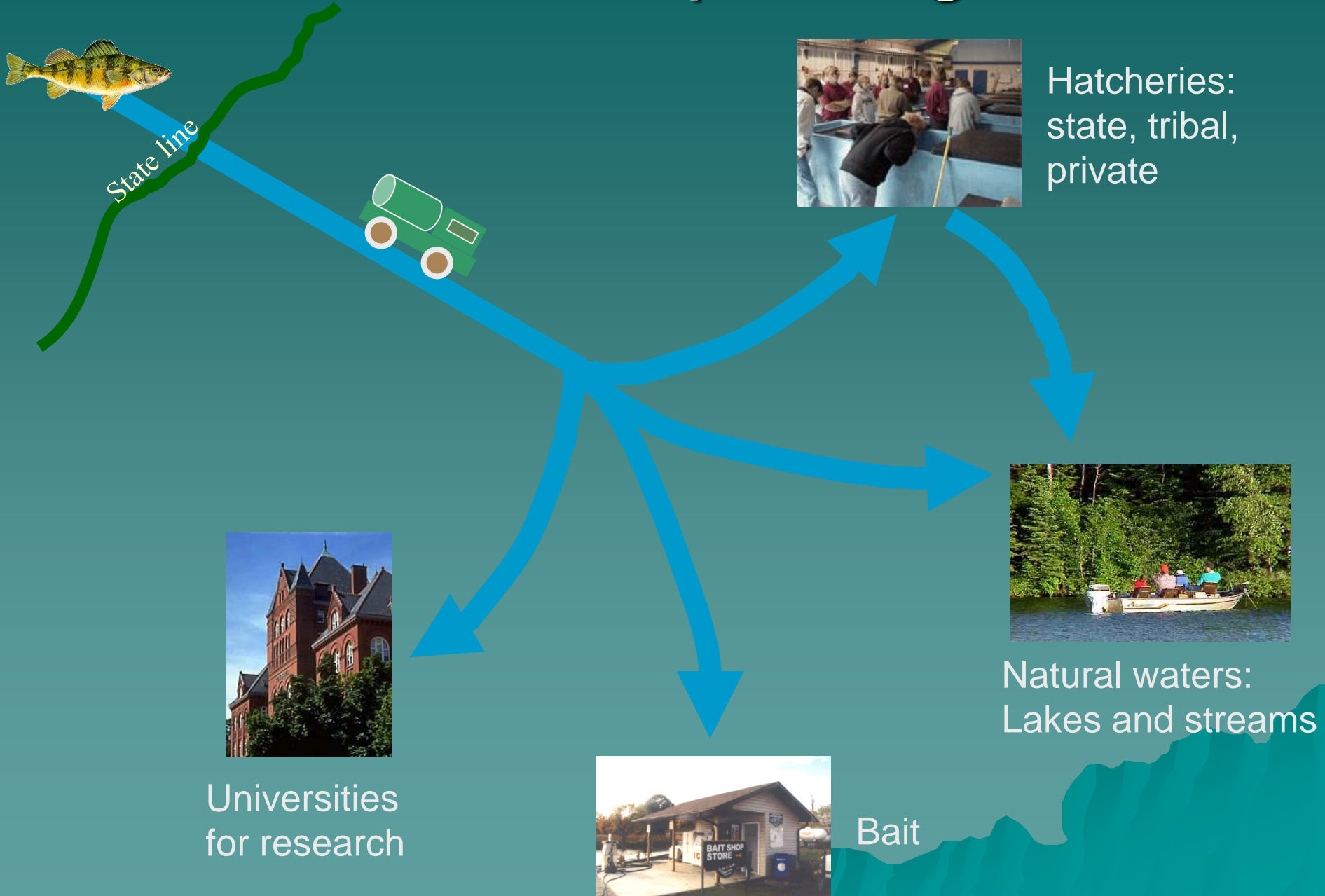
Move fish from your farm to stock into lakes or rivers or non- registered ponds (Need Fish Health Certificate)



Your farm

Stocking lake
or river or non-
registered pond

Fish health import regulations



Post-1997 FOR IMPORTS

- ◆ VHS
- ◆ IHN
- ◆ Whirling Disease

Reporting OIE Reportable Diseases

- ◆ DATCP
- ◆ DNR (if it affects wild populations)
- ◆ USDA (APHIS)- within 24 hours
- ◆ OIE- within 24 hours




Wisconsin Department of
Agriculture, Trade and Consumer Protection



Reportable Disease (not necessarily actionable)


- ◆ Channel catfish virus
- ◆ Enteric septicemia of catfish
- ◆ Epizootic hematopoietic necrosis
- ◆ Infectious hematopoietic necrosis
- ◆ Largemouth bass virus
- ◆ Mycobacteriosis infection
- ◆ Oncorhynchus masou virus disease
- ◆ Proliferative kidney disease
- ◆ Spring viremia of carp
- ◆ Streptococcus iniae
- ◆ Viral hemorrhagic septicemia
- ◆ Whirling disease (Myxobolus cerebralis)
- ◆ White sturgeon iridovirus

Formulating a Plan of Action


- ◆ What if you get a positive VHS test result?
 - ◆ What would you do?
 - ◆ What would your state do?
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- A stylized, dark teal silhouette of a mountain range is located in the bottom right corner of the slide, partially overlapping the bottom edge of the text area.

Response

(Based on Experience)

- ◆ Quarantine
 - ◆ Re-test
 - ◆ Depopulation
 - ◆ Disposal
 - ◆ Disinfection
 - ◆ Re-test
 - ◆ Indemnity (?)
 - ◆ Return to business
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- A stylized, dark teal silhouette of a mountain range is located in the bottom right corner of the slide, extending from the right edge towards the center.

Formulating a Plan of Action

- ◆ First step: Quarantine
 - ◆ How many fish do we need to sample to confirm our diagnosis?
 - ◆ From which ponds/tanks should we sample?
 - ◆ Do we want to sample in other locations?
 - ◆ What containment steps should we take?
 - ◆ What do we do if it is confirmed?
- 
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LOS

Hatchery 2



Perimeter Buffer

The background is a solid teal color. It is decorated with several realistic-looking water droplets and bubbles of various sizes. Some are clustered in the top-left corner, others are scattered along the top edge, and a larger group is in the bottom-right corner, appearing to rise from a darker, textured teal area that looks like a rock or a pool of water.

END

◆ QUESTIONS?

Supplemental Slides

Assessing and Reducing Risks of Fish Diseases

14 Point Biosecurity Steps

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PMCID: PMC3427559

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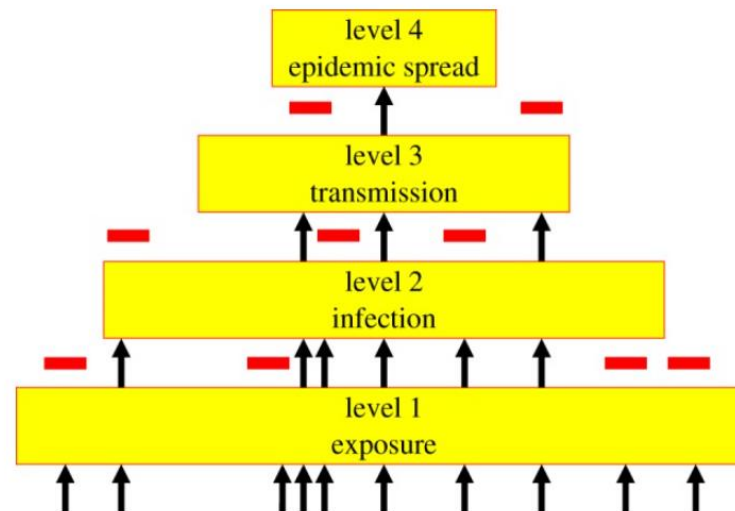
PMID: [22966141](#)

doi: [\[10.1098/rstb.2011.0354\]](#)

Human viruses: discovery and emergence

[Mark Woolhouse](#),* [Fiona Scott](#), [Zoe Hudson](#), [Richard Howey](#), and [Margo Chase-Topping](#)

Figure 3.



The pathogen pyramid (adapted from [30]). Each level represents a different degree of interaction between pathogens and humans, ranging from exposure through to epidemic spread. Some pathogens are able to progress from one level to the next (arrows); others are prevented from doing so by biological or ecological barriers (bars)—see main text.

H Heterosporosis (farms); **VHS** viral hemorrhagic septicemia (farms); **WD** whirling disease; **Fno** Francisella noatunensis; **IHN** Infectious hematopoietic necrosis **TB** bovine tuberculosis; **AI** highly pathogenic avian influenza

Table 3. Matrix for assessing risk

Likelihood estimate	Consequence rating					
		insignificant	minor	moderate	major	catastrophic
	remote	negligible	low H	low WD	low	medium
	unlikely	low	low	medium	medium VHS	high
	possible	low	medium	medium Fno	high IHN	high
	likely	low		high	TB high	extreme AI
	certain	medium	high	high	extreme	extreme

Table 4. Interpretation of risk

Risk level*	Explanation and management response
Negligible	Acceptable level of risk. No action required.
Low	Acceptable level of risk. On-going monitoring may be required.
Medium	Unacceptable level of risk. Active management is required to reduce the level of risk.
High	Unacceptable level of risk. Intervention is required to mitigate the risk.
Extreme	Unacceptable level of risk. Urgent intervention is required to mitigate the level of risk.

Heterosporosis
Whirling Disease
VHS (farms)
Francisella


IHN from west coast

Bovine Tuberculosis


HP Avian Influenza

*Risk level determined by combination of likelihood and consequence score using the *risk* matrix (Table 3).

How?

1. Look at the 14 point biosecurity principals
 2. Write your farm's plan
 3. Have your plan reviewed or audited
 4. Revisit plan annually
 5. Revise plan when disease information in the state changes or farm practices change
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14 Points

1. Biosecurity responsibility
 2. Training
 3. Line of Separation (LOS)
 4. Perimeter Buffer Area (PBA)
 5. Personnel
 6. Wild Birds and Predators
 7. Equipment and Vehicles
 8. Mortality Disposal
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14 Points

- 9. Fish Waste Management
- 10. Replacement Fish
- 11. Water Supply
- 12. Feed
- 13. Reporting of Elevated Morbidity and Mortality
- 14. Audit