Model State Fish Health Programs

The following descriptions of two state programs are included as examples of some of the ways that state agencies currently are addressing fish and aquatic animal health issues. No two programs are alike and they can be tailored to fit the needs of individual states. These program descriptions were submitted by the corresponding states and additional information on them can be obtained from the Vermont Fish and Wildlife Department and the Michigan Department of Natural Resources Fisheries Division.

A. VERMONT'S FISH HEALTH PROGRAM

A comprehensive fish health program must have many initiatives (or individual programs) working in unison to reduce the threat fish pathogens pose to the natural resource. The following identify the initiatives/programs that contribute to an overall fish health program with the following objectives:

Objectives:

Development and implementation of a comprehensive fish health program that's objectives are to prevent the introduction of fish pathogens into Vermont, the movement fish pathogens within Vermont, and/or the elimination or restriction of fish pathogens in Vermont.

- Prevent the importation into, or transfer within Vermont, of fish infected with certain listed pathogens as defined in the New England Fish Health Guidelines and/or the Northeast Fish Health Committee Guidelines for Fish Importation,
- Identify the distribution of pathogens in state waters and in the fish culture program (state, federal and commercial).
- Restrict or eliminate fish pathogens wherever practicable.
- Discourage the rearing of infected or diseased fish.
- Prevent the release of clinically diseased fish.

Initiatives/Programs

1. Participate in and implement within Vermont two regional fish health programs
    - New England Fish Health Committee
    - Northeast Fish Health Committee

Vermont has historically participated on the New England Fish Health Committee. The committee recently expanded to the Northeast Fish Health Committee. These committees provide uniform guidance in fish health management on a regional scale to assist in reducing the introduction or distribution of pathogens. In addition, participation on these committees provides

access to technical expertise and frequently support to a state's fish health program that individual states could not achieve.

The New England Fish Health Committee developed the New England Fish Health Guidelines. The New England Fish Health Guidelines provided relatively comprehensive guidance in fish health management for hatcheries and fish movement particularly for salmonids. The Northeast Fish Health Committee developed the Northeast Guidelines for Fish Importation. The Northeast Guidelines for Fish Health Importation provides guidance in the fish health requirements for fish importation and has been expanded to include most common families of fish that could be imported.

2. Importation regulations requiring permits for all fish imported into the state.
    - Multiple years of fish health inspections are required.
    - No wild fish can be imported into the state.

Vermont developed the regulations necessary to implement the New England and later the Northeast Fish Health Committees Guidelines for Fish Importation to reduce the risk of pathogens being introduced into the state. All pathogens listed in these guidelines must be inspected for. Wild fish (including bait) are not permitted to be imported unless the department determines that the intent of such importation is for scientific purposes or for purposes of re-establishment of fish populations.

3. Annual fish health inspections at state, federal and commercial hatcheries and routine diagnostic work when there is any concern with fish health for state (federal and if requested commercial) fish culture stations.

All fish culture stations in Vermont are required to have annual fish health inspections. This ensures pathogens are not moved between facilities or to waters of the state where they not been found before. It also provides some management options for moving fish or eggs (e.g. disinfected eggs can moved from a facility positive for furunculous to a facility that is negative with almost no risk of transferring the pathogen). Often the detection of a pathogen is during routine diagnostic work rather than through the annual inspection. This provides an additional tool to determine the presence of pathogens and the need to manage for those pathogens.

4. Bio-security plans for all state hatcheries.

State fish culture stations (and federal) have biosecurity plans to decrease the risk of introducing or spreading fish pathogens. All state fish culture supervisors and staff have had several fish health training programs. In addition, Hazard Analysis and Critical Control Point (HACCP) training was provided to supervisors of the state fish culture stations and some commercial growers and bait fish dealers.

5. Review all stocking to ensure that hatcheries do not stock any "listed" pathogens in waters of the state where they had not been stocked in the past.

To limit the distribution of pathogens all state (and federal) stocking is reviewed before stocking to ensure pathogens are not moved to waters where they have not been found in the past.

6. Survey waters of the state to determine the presence and distribution of pathogens including investigating fish kills.

In order to limit the distribution of pathogens or prevent the introduction into new areas it is important to know their distribution. This also provides information on the fish health status of a wild population for fishery managers to consider when managing a fish population.

7. Requiring multiple years of fish health inspections of the wild fish populations if the state is transferred fish from one water body to another.

If fish are moved from one water body to another within the state a fish health survey on the wild fish is conducted for several years to ensure that pathogens are also not being moved.

8. Regulations preventing the movement of live sports caught fish so they cannot be introduced to other water bodies.

To prevent the public from inadvertently moving fish pathogens by moving angled fish from one water body to another, fish caught by anglers are not allowed to be transported alive.

9. Regulations preventing the movement of bait fish have been adopted.

Bait fish can only be used in the waterbody where collected. Anglers are not allowed to leave the water body with live bait. Commercial harvesters can only sell the bait for use on the water body collected.

Staff/ Facilities

- Laboratory facilities capable performing virological, bacteriological and parasite testing.
- Two fish health biologist (certified American Fisheries Society Fish Health Inspectors).
- Various department teams/fishery mangers have developed management plans for different pathogens.