

# TOOLS OF THE TRADE: USE OF A MOBILE LABORATORY FOR IDENTIFYING FISH DISEASES ON FARMS

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## Abstract

Extension personnel use various tools to help diagnose aquatic animal diseases, water quality problems and aquatic weed identification. Diagnosing aquatic animal diseases requires the use of water chemistry test kits, streaking various agar plates to determine if bacteria are the cause of a disease and molecular techniques, all of which are standard equipment in fish disease diagnostic laboratories. Most diagnostic laboratories depend on producers to bring animals, water and plants to the lab for diagnostics. Unfortunately, the person who delivers the samples is often just a farmworker and does not have all the details related to the problem. To circumvent this, we retrofitted a small recreational vehicle (RV) that would contain everything except the ability to run molecular diagnostics. This tool enables Extension personnel to visit the farm and the pond of concern to the producer. On-site diagnostics ensure that moribund or sick fish are collected, water samples are fresh and allows the diagnostician to see the behavior of the fish. Additionally, the onset of the COVID pandemic resulted in the closure of several labs leaving producers with limited options for disease diagnosis. This mobile lab enabled farm visits while safely social distancing, making this RV a valuable tool used frequently during the COVID pandemic.

## Advantages of a Mobile Lab

1. Diagnostician can go to the pond the producer is having trouble with and observe fish behavior
2. Fish obtained for diagnosis are fresh dead or alive and euthanized
3. Water quality is conducted in real time with water from the affected pond
4. During the pandemic, social distancing was easily achieved
5. The owner or farm manager is available for any questions
6. The mobile lab allowed the diagnostician to visit 250 farms during the pandemic, which is three times the average number of visits in a year
7. Can be adapted for other Extension purposes

## Acknowledgements

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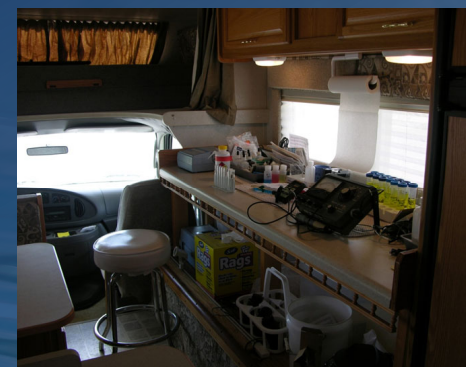
2005 Winnebago Minnie purchased for conversion into lab. This vehicle is 22' long.



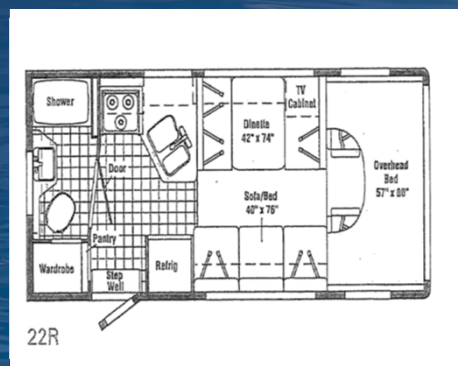
Maps of the farms with labeled pond numbers helped with social distancing during the pandemic. Producers need not be present when the diagnostician is on the farm. Pond numbers enabled location of problem ponds.



The dinette seat that was removed was replaced with a small shelf for the microscope. The table serves as the necropsy area.



The couch was replaced with a stainless steel table. This area is used for water quality testing, weighing and measuring fish.



Original floor plan of the mobile fish lab. The sofa and one seat in the dinette area were removed for redesign of the space.



Sometimes the map of the ponds is not needed, and problem ponds are easily spotted. Massive fish kill due to toxic algae.