

Driving in Wisconsin in the winter



This is what you want to see!!



A large group of salmon, likely Chinook or Coho, are captured in mid-leap from the water. Their bodies are arched, and their mouths are open, showing their pinkish-red gills. The fish are covered in dark spots and have a silvery sheen. The background is a clear blue sky.

Welcome to Wisconsin!!!





University of Wisconsin-Stevens Point Northern Aquaculture Demonstration Facility

Greg Fischer, Assistant Director/Research Program Manager



Mission: Support sustainable aquaculture through public education and advance the discovery, dissemination and application of knowledge for aquaculture in a northern climate



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The facility's mission is to promote public education and advance the discovery, dissemination and application of knowledge for sustainable aquaculture in a northern climate.

This is accomplished by:

- *Demonstrating production-scale aquaculture.*
- *Conducting applied research on commercial scale.*
- *Providing outreach and extension services.*
- *Providing training, workshops and educational opportunities.*
- *Building and strengthening cooperative relationships among commercial aquaculturists, tribal, state and federal agencies.*
- *Working with fish growers on fish health issues, assessments, training and permitting.*
- *Developing best management practices for an environmentally, economically sustainable industry.*



Facility Overview



UWSP NADF Facility



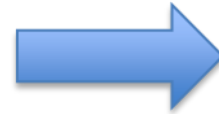
Water In and Water Out

Effluent Management

2- High Capacity Wells



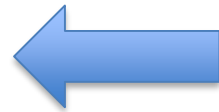
NADF Facility



2- Settling ponds

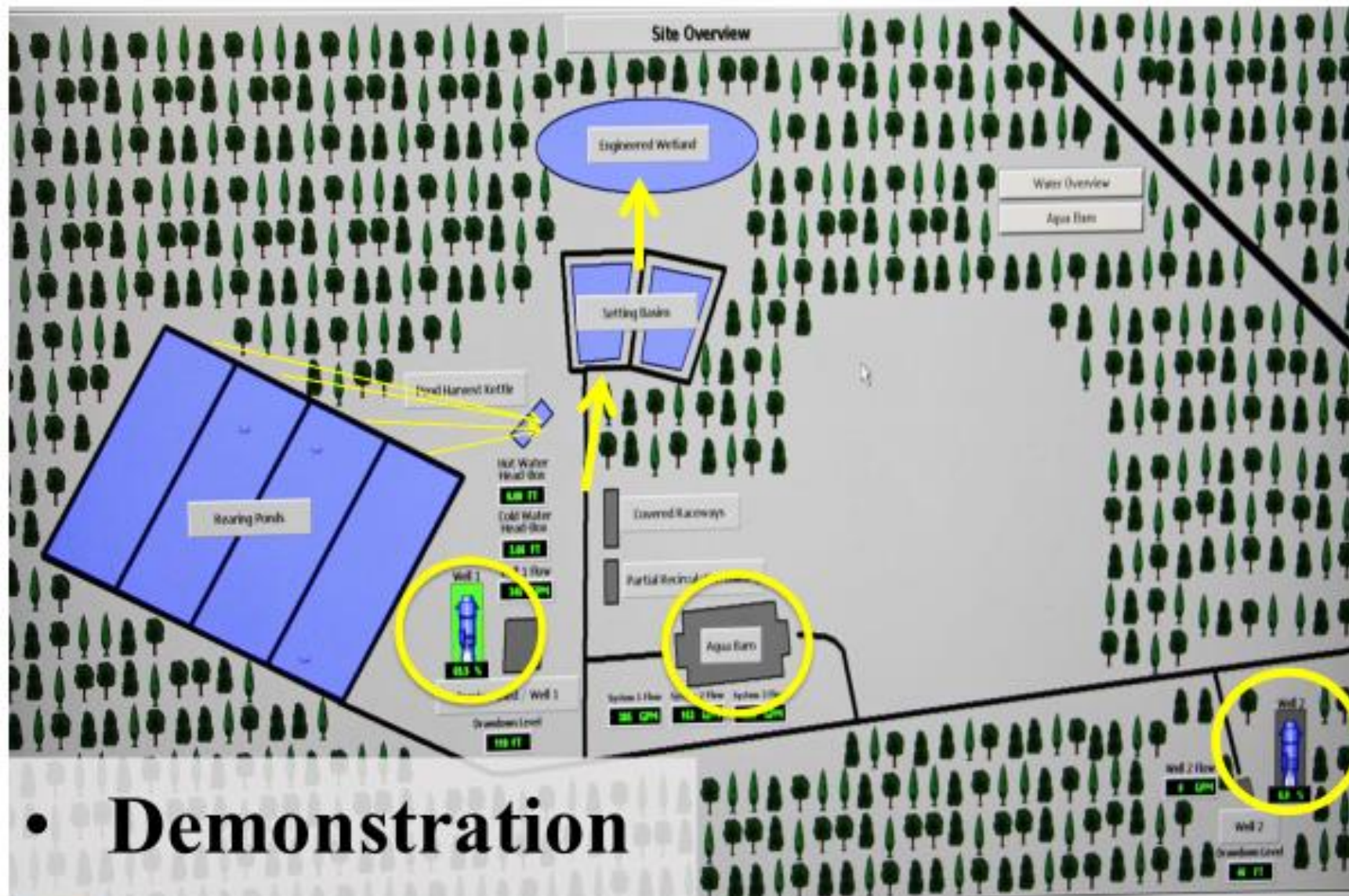


Lake Superior



1- Engineered Polishing Wetland





- Demonstration



Outdoor Rearing Ponds and Kettle

- Four 0.5 acre rearing ponds
- Clay lined bottoms
- Well water supply line
- Electrical supply line
- Aeration Supply line
- Drainable
- Collecting Kettle



Raceways



Coldwater and Coolwater Recycle Systems

- 10,000-12,000 gallons systems
- Fluidized sand biofilters
- Hydrotech drum filters
- UV sterilization
- Gas stripping/oxygen addition
- Water temperature control
- Duplicate tank design for replication



- **Applied Research**

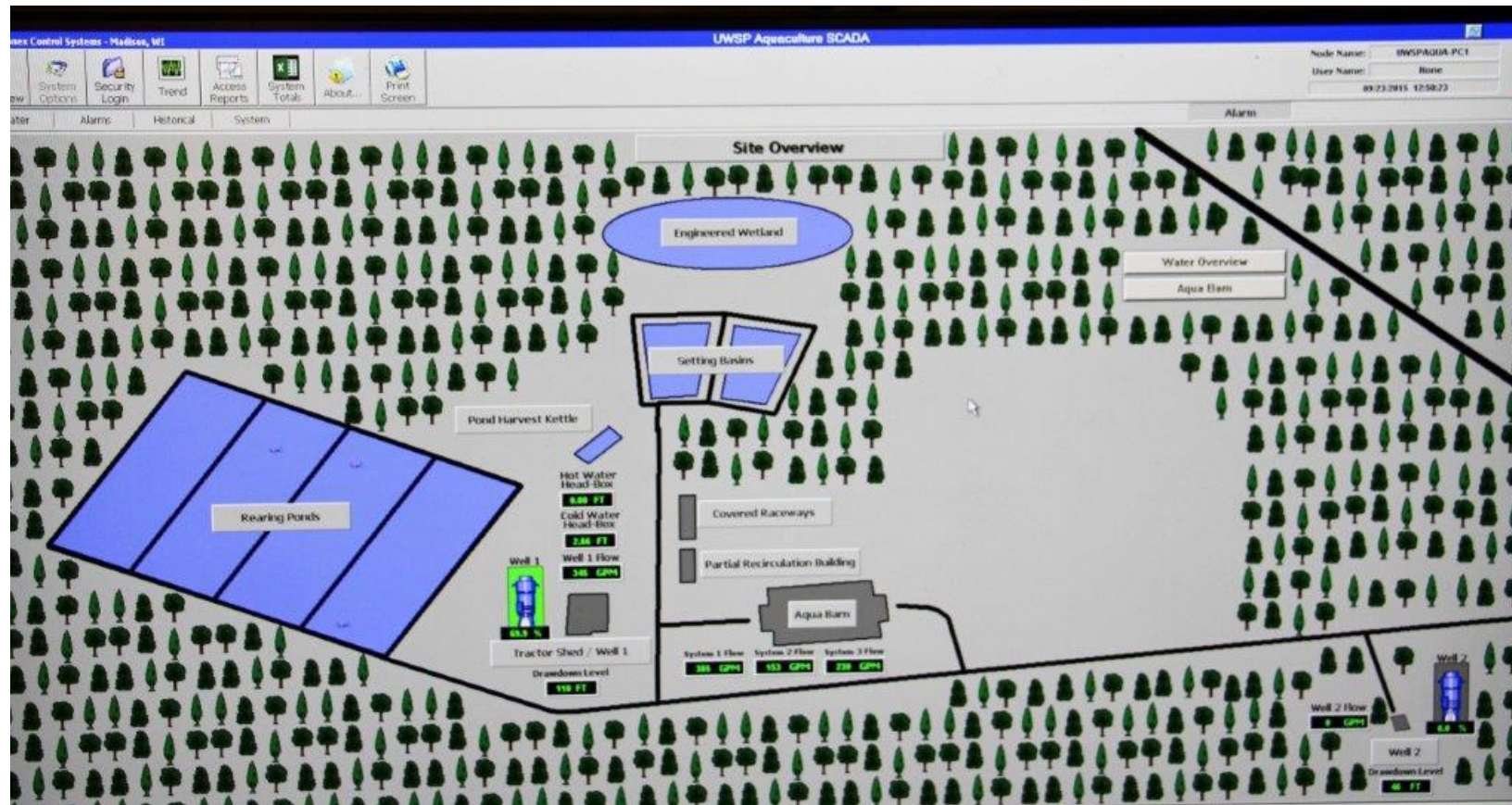


Multiple Species Capability & Experience

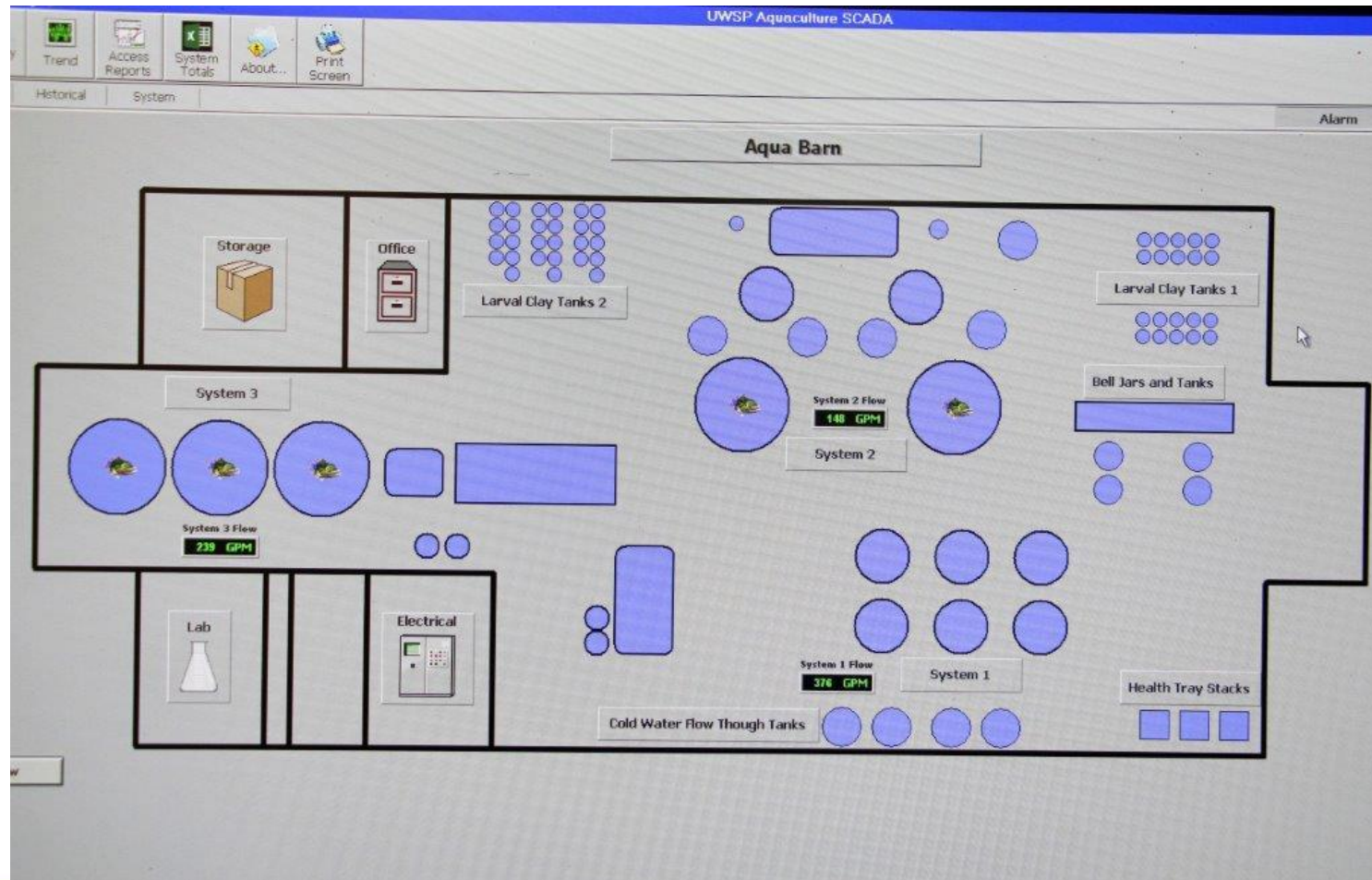


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Alarms and Monitoring



Alarms and Monitoring



- **Cooperative Partnerships**
 Private Industry
 State, Federal and Tribal Agencies
 Conservation Agencies and other Universities



- **Outreach, Training & Technology Transfer**



Atlantic Salmon Projects(2013-2019)

UWSP NADF Atlantic Salmon Broodstock Project

- Beginning-2013
- Cascade strain
- From CFFI
- Multiple egg collections same female
- Ending size 50 lbs
- Project end -November 2019





2018 Sea Grant Project-Ongoing

Overcoming barriers to support the growth of land-based Atlantic salmon production in the Great Lakes region

Partners

- Wisconsin Sea Grant
- Conservation Fund Freshwater Institute
- Superior Fresh
- Riverence

Objectives: We propose to examine two critical barriers to land-based salmon production in order to support the growth of this industry in the Great Lakes region and beyond:

1) Saprolegniasis

- High and low dosages of both hydrogen peroxide and peracetic acid
- Two age groups of fish
- Early, low immunocompetence life-stage (<5g) fish
- Post smoltification (<100 g) fish
- Two facilities with different water quality (soft vs hard)



2018 Sea Grant Project-Ongoing

Overcoming barriers to support the growth of land-based Atlantic salmon production in the Great Lakes region

2) Off-flavor

The flavor profile of farmed fish must be flawless, without earthy or musty flavors (i.e., “off-flavor”). We propose to test two practices to depurate off-flavors from Atlantic salmon before slaughter: (i) we will examine the effect of swimming speed (<0.5 body length/sec (BL/s) versus 1.5-2 BL/s) and dissolved oxygen concentration (60-70% vs 100% saturation) on the kinetics of geosmin removal from market-size Atlantic salmon, and (ii) we will test different makeup water flushing rates on the kinetics of geosmin removal from different biomasses of market-size Atlantic salmon



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Gregory Fischer
Assistant Director/Research Program Manager III
University of Wisconsin-Stevens Point
Northern Aquaculture Demonstration Facility
36445 State Hwy 13
P.O. Box 165
Bayfield, WI 54814
Phone: 715-779-3461
aquaculture.uwsp.edu

 
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