Walleye Culture 101

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Location

Facilities and Production

Blue Jay Creek Main Station
- Single pass, spring-water fed
- Indoor facility
- Traditional production lake trout, F1 splake, rainbow, incubation and early rearing of walleye intensively, musky intensively.

Sandfield Sub-station
- Lake-water fed (single intake)
- Small number of indoor tanks
- 7 outdoor ponds totalling 2.8 acres
- Species produced
  - overwinters 600 K lake trout;
  - capacity to produce 350 K walleye SPF and 30 K walleye FF
  - 750 K walleye eggs or fry to community hatcheries
- Walleye production bottleneck = ponds
- Not able to meet client demand
Where Blue Jay Stocks its Fish

OMNR BLUE JAY CREEK
Fish Culture Station
Fish Stocking Areas and
Egg/Fry Transfers
Walleye Culture Part 1

Capture and Spawning of Mature fish

Incubation of Walleye eggs

Care and Enumeration of Walleye Fry

Seeding of Walleye Ponds with Fry

Raising of Walleye to Various Stages

Walleye Pond Management, Harvest and stocking
Capture Methods of Spawning Adults

- Trap nets
- Hoop nets
- Electro-fishing Boat
- Generally Live Capture
Egg Collecting

Ryman effect

Correct # adult spawners to collect

Good versus Bad Cross

To Pool or Not to pool Families
Sampling and Egg Conditioning

Preparing eggs for incubation

Mudding and stripping agents
Biosecurity and Gametes
Incubation Egg Development
Accurate Numbers of strong fry for optimal Survival
Accurate planting of Ponds to ensure
“Pond Balance”
Pond Designs
Walleye Pond Preparation

- Dry Pond start
- Dry soya application
- Fry seeding rate
- Fermenting soya bean
- Oxygen/ Temp monitoring
- Weekly sampling of fish
Walleye Pond Harvest

- Draining
- Harvest
Ensuring the BEST pond harvest
Advanced Rearing

- Economics
- Fish Health Management
- Rearing Environment
- Techniques
Thank You!
• Size of mosquito larvae at hatch.
• Cannibals!
• Production of fish for stocking relies on extensive (i.e., pond) culture
• Ponds are expensive and production per unit area is relatively low
• PFCS is currently trying to apply intensive culture techniques from Iowa State.
• If successful, a game changer.
• Many challenges, but making progress
Walleye Culture Considerations

Intensive culture of 24-36 hour old walleye fry

Set up of system Flow Through or Recirculation

Components of the system

Fish requirements
24-36 Hour old fry

Key

Stronger fish to start on diet

Weak fish have perished
Flow Trough vs. Recirculation

Key Factors

Temperature
Oxygen
Turn over (exchange rate)
Diet – Micro
Turbidity
Recirculation
• When you don’t have the temperature profile

Flow Through
• When temperature profile is adequate
System Components

Circular tanks sized appropriately
Fine Screen 30 -50 Micron mesh size
Clay injection to maintain turbidity
- for recirculation only
Inline Heater
Drum filter sized for your system
Recirculation pump sized for the system
Bio Filter and Low head Oxygen system
Ozone generator
Spray bars
Micro feeding system
Mechanics of the system
End Product