Mote Aquaculture Research Park: Marine Finfish Infrastructure, Resources and Partnership Opportunities

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Mote Aquaculture Research Park

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MOTE MARINE LABORATORY & AQUARIUM
Leading the Way in Global
Marine Science and Education

Mote Aquaculture Research Park
Sustainable Land-based Fish Farming

- Fish reproduction, larval rearing & on-growing technologies for stock enhancement and food production
- Development of land-based recirculating aquaculture systems (RAS) & integrated aquaculture systems (IAS)

INFRASTRUCTURE:
Mote Aquaculture Research Park
Property: 100 hectares
Covered Infrastructure: >125K sq ft
Zero-discharge Marine RAS

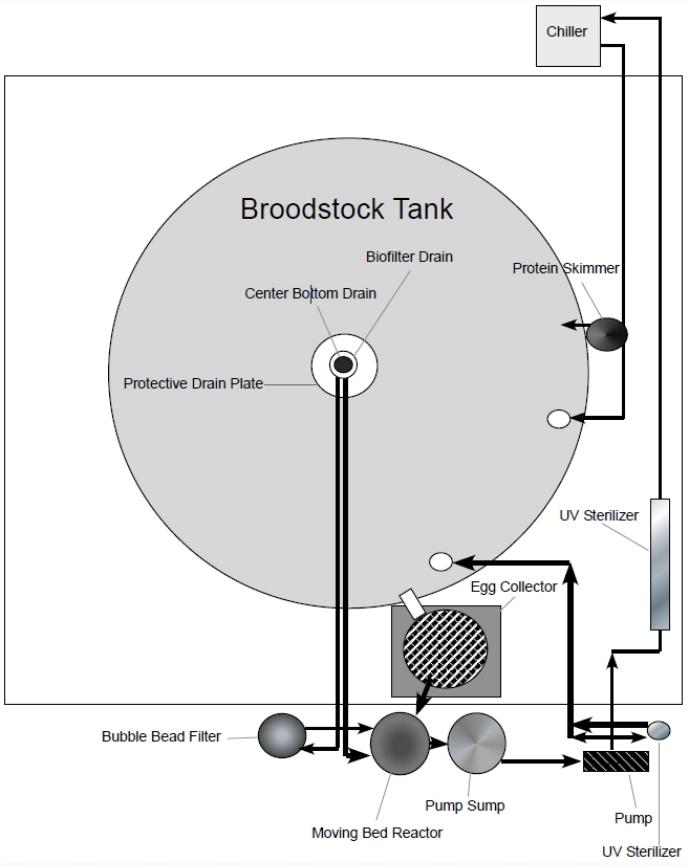
Commercial-Scale Indoor RAS for all production stages

Large-scale Freshwater Fish Growout

Marine Growout

Marine Broodstock

Broodstock (Group) Maturation & Spawning Tanks



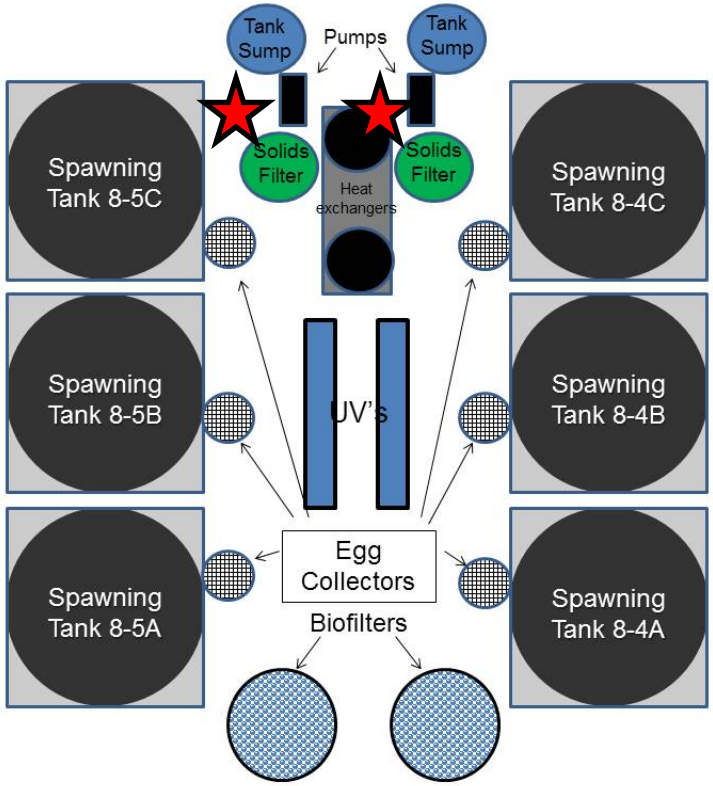
7 independent systems:

three 44.5 m^3 tanks

four 25-m^3 tanks

Denitrification

Individual Broodstock Spawning Tanks

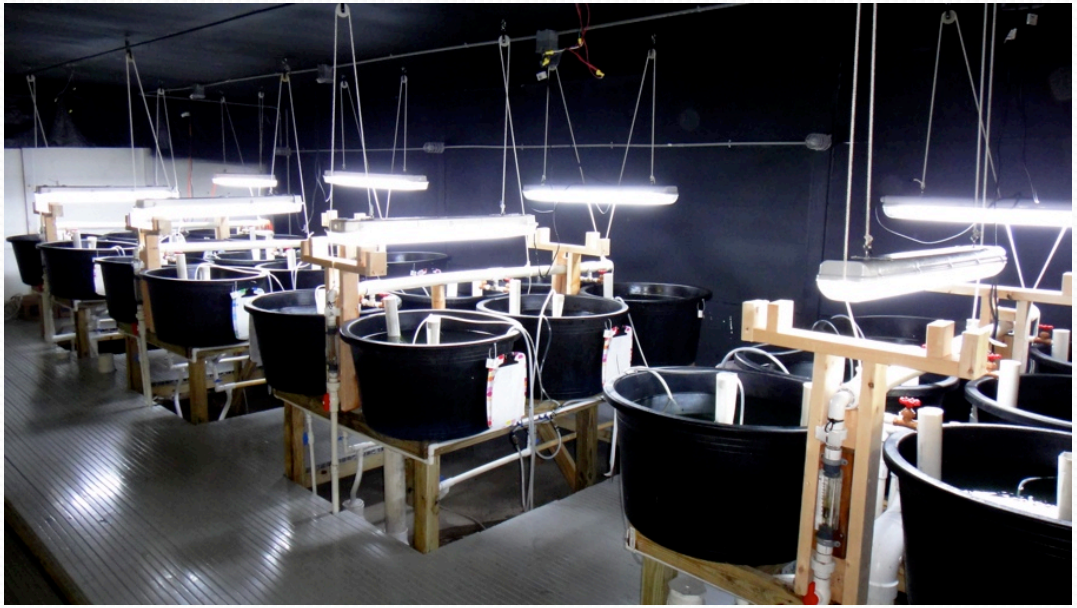


2 independent systems:
three 3.3 m^3 tanks

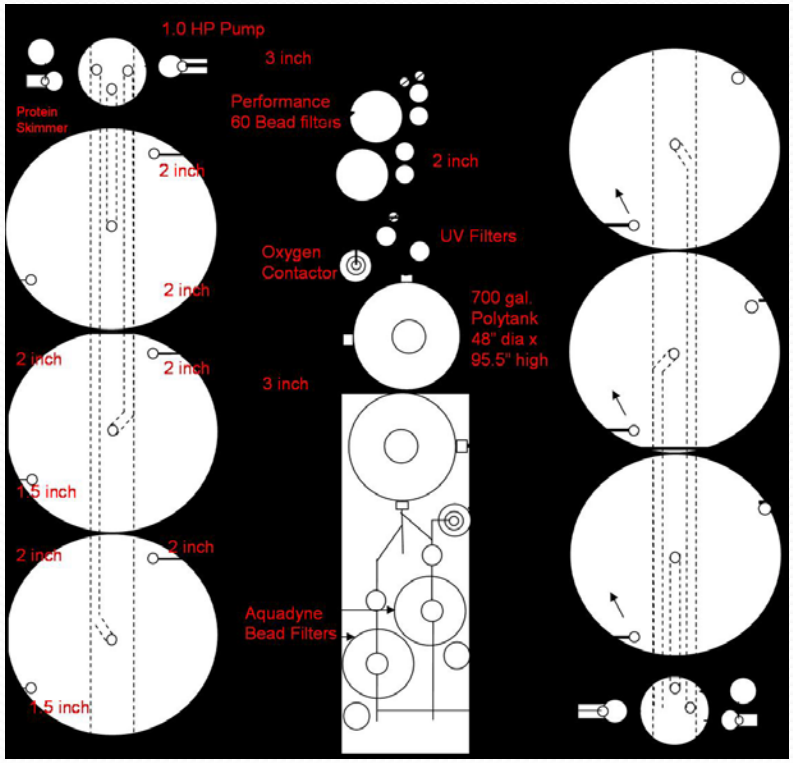
Larval experimental tanks

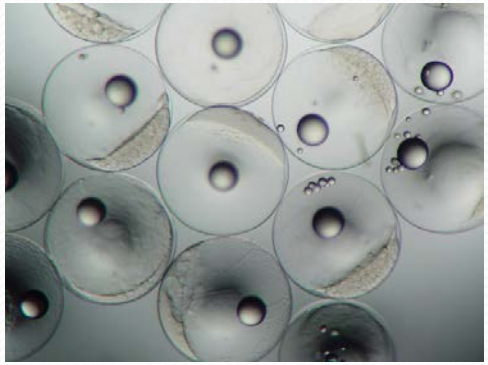
Three 4-tank (100 L) RAS systems

Four 6-tank (130 L) RAS systems



Larval Production Tanks





Two 3-tank (3.3 m^3) tank systems

Fingerling Production/Experimental Tanks

3 Systems: 18 1-m^3 tanks, 12 1-m^3 tanks + 12 2-m^3 tanks

Growout Production/ Experimental Systems

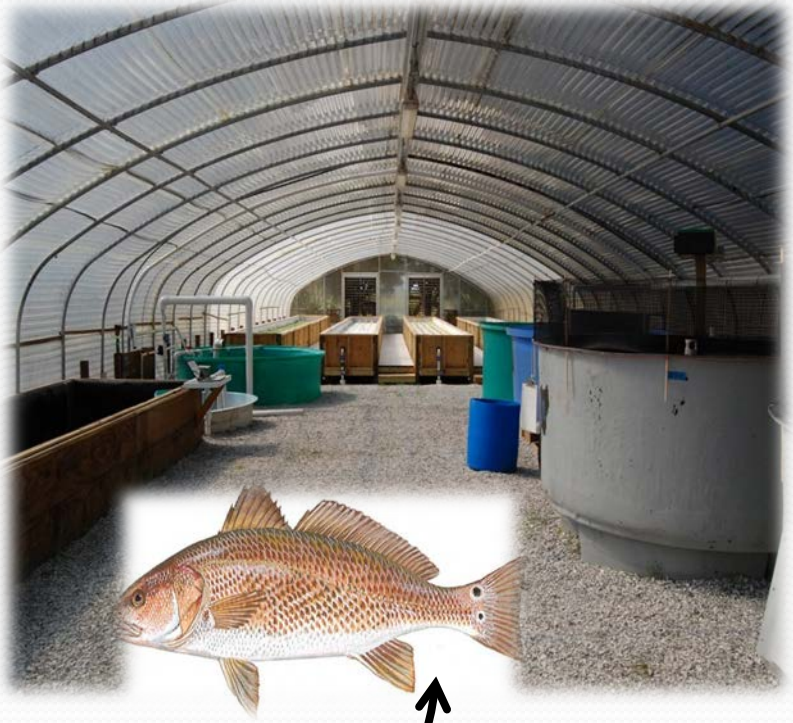
Six 8.9 m^3 tanks +

One 35.7 m^3 tank

Linked to a large-scale RAS Filtration System

- -Solids - drum filter & foam fractionator
- -Biofiltration - moving bed bioreactor
- -CO_2 degassing
- -Disinfection -UV
- -Oxygen injection

Integrated Aquaculture/Aquaponic RAS System



Redfish

Saltwort

Sea purslane

MARINE FINFISH RESOURCES










Maturation & Spawning Technology with Common Snook

Large-scale production of snook for marine stock enhancement

Maturation & Spawning Technology with Florida Pompano *Trachinotus carolinus*

Expand Supply of Emerging Marine Finfish Fingerlings for Land-based Aquaculture

Red Drum (Redfish) *Sciaenops ocellatus*

Production of Marine Finfish Fingerlings for Land-based Aquaculture & Stock Enhancement

Maturation & Spawning Technology with Almaco Jack *Seriola rivoliana*

Expand Supply of Emerging Marine Finfish Fingerlings for Offshore Aquaculture

Industry, University, Government & Foundation Partnerships

Focus on addressing bottlenecks in aquaculture and system technologies/APPLIED RESEARCH & Supporting Industry Needs

- Developing maturation & spawning technologies for new/emerging species
- Improving larval rearing methods to increase production
- Developing & Testing new diets for broodstock, larvae and growout applications
- Developing commercial-scale growout technologies in zero-discharge RAS
- Short-term production of live feeds, larvae & fingerlings to support industry & government needs

Industry, University, Government & Foundation Partnerships

Industry Partnerships:

- Ocean ERA/Kampachi Farms; Aquaco Farms; Osprey Biotechnics; Aquatic Plants of Florida; Caribbean Sea Farms

Government Agency Partnerships:

- Florida Fish & Wildlife Conservation Commission (>25 years); Gulf State Marine Fisheries Commission; Florida & National Sea Grant College Program; Florida Division of Agriculture & Consumer Services, Division of Aquaculture; NOAA Fisheries, Southwest Fisheries Science Center; USDA-AFRI

University Partnerships:

- University of South Florida; University of Maryland Baltimore; University of Texas Marine Science Institute; Auburn University; University of Florida – IFAS; Florida Atlantic University, Harbor Branch Oceanographic Institution; University of South Mississippi, Gulf Coast Research Laboratory

Foundation Partnerships:

- Good Food Institute; Mote Scientific Foundation