

Introduction to Freshwater Prawn Economics

Matt Parker

NCDA & CS

Aquaculture Business Specialist

Key Terms

- Fixed Cost- Costs that incur regardless of production
- Variable Cost- Costs that incur directly as a result of production
- Economies of Scale- cost of production falls as output increases and the business gets larger

Assumptions

- Land is already owned
- Fixed costs NOT included
- Stocking density of 10,000 prawns/acre
- Size at harvest 0.1 lbs.
- Feed conversion ratio 2.5:1
- Survival 72%
- Sales price of \$6.00/lb whole
- Each pond is 2 acres

Initial Investment

	2 Acres	6 Acres	10 Acres	20 Acres
Pond Construction	\$2,750	\$8,250	\$13,750	\$27,500
Water Supply	\$21,000	\$23,000	\$25,000	\$30,000
Equipment	\$31,200	\$39,000	\$51,000	\$70,500
Total	\$54,950	\$70,250	\$89,750	\$128,000
Investment per acre	\$27,475	\$11,708	\$8,970	\$6,400

Operational Expenses

	2 Acres	6 Acres	10 Acres	20 Acres
Sales	\$9,840	\$29,520	\$49,200	\$98,400
PL's	\$1,300	\$3,900	\$6,500	\$13,000
Feed	\$683	\$2,050	\$3,417	\$6,835
Other	\$3,841	\$4,930	\$6,019	\$8,741
Total Variable Cost	\$5,825	\$10,881	\$15,936	\$28,576
Returns Above VC	\$4,015	\$18,639	\$33,264	\$69,842

Financial Summary

	2 Acres	6 Acres	10 Acres	20 Acres
Sales	\$9,840	\$29,520	\$49,200	\$98,400
Total Variable Cost	\$5,825	\$10,881	\$15,936	\$28,576
Return above VC	\$4,015	\$18,639	\$33,264	\$69,842
Break Even Price above VC	\$3.55/lb	\$2.21/lb	\$1.94/lb	\$1.74/lb

Freshwater Prawn Summary

- Economies of scale
 - Larger farms more profitable
- Income in first year
- Markets
 - Where are you going to sell that many prawns at once?
- Fixed costs could double break even price

Further Assistance and Information

- NCDA & CS Publications and Staff
 - <http://www.ncagr.com/aquacult/pubs.html>
 - Matt Parker
- NC Cooperative Extension Service
 - Mike Frinsko and Steve Gabel
- Other Farmers
- Aquanic
 - <http://www.aquanic.org>

State Regulations

- NCDA&CS Aquaculture Production Permit
 - Free
 - Valid for 5 years
 - Covers 21 species
 - Can be obtained within a few weeks for covered species
 - <http://www.ncagr.com/aquacult/license.html>



NC Dept of Agriculture and Consumer Services Aquaculture License Application

*****All information required unless otherwise noted*****

Facility Name and Mailing Address		Owner or Responsible Party and Address		
Physical Location		County of Farm Location		
Telephone number(s):				
Farm		Home	Mobile	Fax
Email Address (optional)		Farm Website (optional)		
 		http:// 		
License(s) Requested				
<input type="checkbox"/>		5 year Aquaculture Production (includes Holding Tank/Pond) License.		
<input type="checkbox"/>		5 year Fee Fishing License		
<input type="checkbox"/>		2 year Holding Tank/Pond License		

Would you like your farm contact information listed on the NCDA Aquaculture website?

*Farms located in NC only

Yes No (<http://www.ncagr.com/aquacult/product.html>)

Primary species to be produced and description of primary activities
(see attached list for species):

Please return this completed application to:
NC Dept of Agriculture and Consumer Services
Attn: Martha Worley
1001 Mail Service Center
Raleigh NC 27699-1001

Covered Species

Bluegill *Lepomis macrochirus*
Redear Sunfish *Lepomis microlophus*
Redbreast Sunfish *Lepomis auritus*
Green sunfish *Lepomis cyanellus*
(Also any hybrids using above
species of the genus *Lepomis*)
Black Crappie *Pomoxis*
nigromaculatus
White Crappie *Pomoxis annularis*
Largemouth Bass *Micropterus*
salmoides (northern strain)
Smallmouth Bass *Micropterus*
dolomieu
White Catfish *Ictalurus catus*
Channel Catfish *Ictalurus punctatus*

Golden Shiner *Notemigonus*
crysoleucas
Fathead Minnow *Pimephales*
promelas
Goldfish *Carassius auratus*
Rainbow Trout *Oncorhynchus mykiss*
Brown Trout *Salmo trutta*
Brook Trout *Salvelinus fontinalis*
Common Carp *Cyprinus carpio*
Crayfish *Procambarus species*
Yellow Perch *Perca flavescens*
Hybrid Striped Bass *Morone saxatilis*
X M. chrysops
American Alligator *Alligator*
mississippiensis

Non-Covered Species

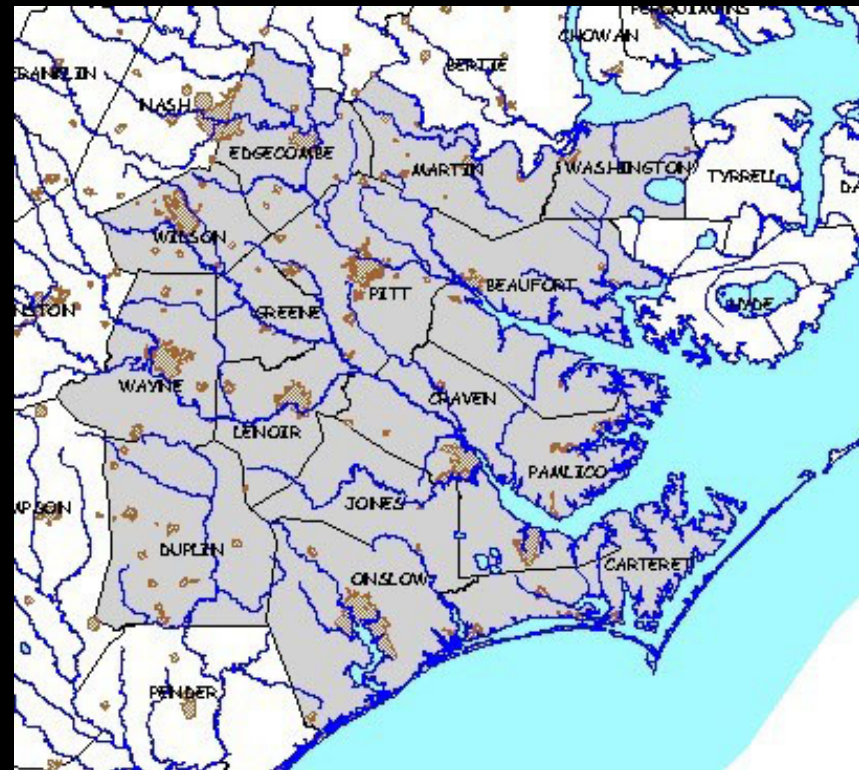
Written permission needed from NC Wildlife Resources Commission for species not covered by NCDA&CS Aquaculture Production Permit

Non-Covered Species

- Apply for NCDA&CS Permit
- Complete NCWRC Application for non-approved species
- NCWRC arranges for site visit to determine if there may be any environmental impacts
- NCWRC informs NCDA&CS of approval/denial
- NCDA&CS issues permit along with a copy of written permission from NCWRC
- Can possibly take at least a month for approval process

Other Regulatory Issues

- Local Business Regulations
- Wetlands
 - Run Away!!
- Division of Land Resources
 - Land disturbance
- Capacity Use Area
 - Water issues
- HACCP
 - Processing



Capacity Use Area Shown in Grey

State Agency Contact Numbers

- Division of Water Quality
 - (919)733-4064
 - <http://www.ncwater.org>
- Division of Land Resources
 - Land Quality Section
 - 919-733-3833
 - <http://www.dlr.enr.state.nc.us/>
- Natural Resource Conservation Service
 - Local offices
 - <http://www.nc.nrcs.usda.gov/>