

Aquaculture In NC

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Aquaculture Specialist

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Services



What we'll talk about

- Regulations
 - Freshwater species
 - Marine species
- Resources
 - Technical assistance
 - Business planning and permitting assistance
- Parts of a business plan

Freshwater Aquaculture

- General Statute 106-758
 - 21 species covered
 - Other freshwater species must be approved by NC Wildlife Resources Commission
 - Application to culture non-approved species
- 3 categories of licenses
 - Production License
 - Fee-fishing License
 - Holding Tank/Pond License

Marine Aquaculture

- Regulated by NCDMF
- Finfish
 - Aquaculture Operations Permit
 - Currently only flounder specified for aquaculture in regulations
- Shellfish
 - Shellfish bottom lease
 - Water column lease

Technical Assistance

- NC Cooperative Extension Service
 - Aquaculture Specialists
 - Mike Frinsko- Trenton NC
 - Steve Gabel- Edenton NC
 - Molly Sandfoss- Marion NC
 - Skip Thompson- Waynesville NC
 - Dennis Delong- Raleigh NC
- NCSU
 - Dr. Craig Sullivan
 - Dr. Tom Losordo
 - Dr. Harry Daniels
 - Dr. Jeff Hinshaw
 - Dr. David Green
- NC SeaGrant
 - Dr. Marc Turano

Business Planning and Technical Assistance

- NC Dept. of Agriculture and Consumer Services
 - Debra Sloan- Franklin NC
 - Matt Parker- New Bern NC
 - William Small- Elizabeth City, NC
 - Promotions

Online Assistance

- NC Cooperative Extension Website
 - <http://www.ces.ncsu.edu/nreos/wild/aquaculture/index.html>
- NCDA&CS Website
 - <http://www.ncagr.com/aquacult>
- Aquanic.org
- Southern Regional Aquaculture Center
 - <http://www.msstate.edu/dept/srac/>

Quick and Dirty Business Plan Outline

- Executive Summary
- Company Description
- Marketing Strategy and Implementation
- Financial Plan

Executive Summary

- A 1-2 page summary of the entire plan
 - Objectives
 - Mission
 - Keys to success
- Even though it is first, write it last

Company Description

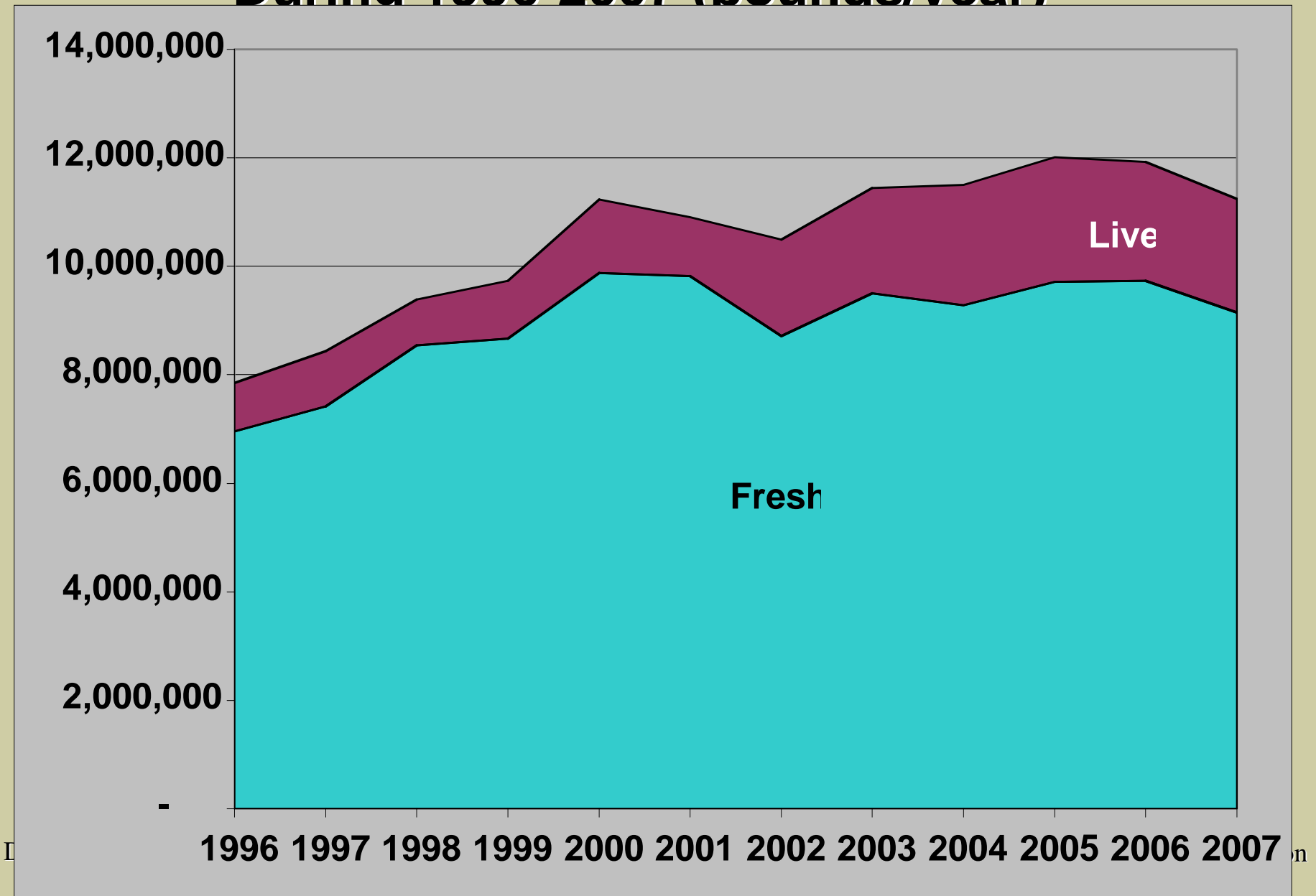
- Location and facilities
- Outline of startup plan
- Organizational setup
 - Corporation
 - Partnership
 - Sole Proprietorship
 - Describe all owners

Marketing

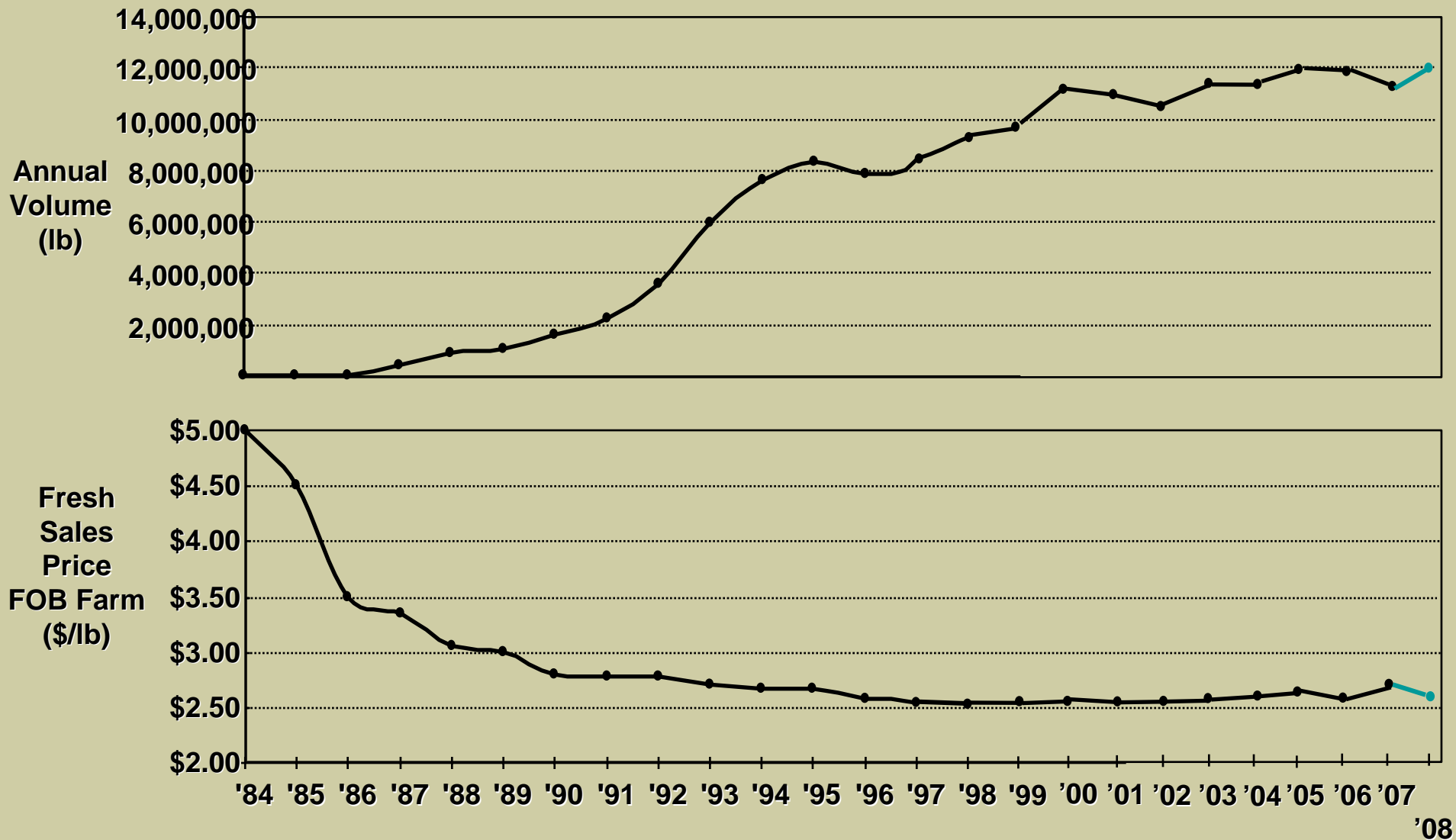
- Perhaps the most important section
- 5 P's
 - Product
 - Place (Distribution)
 - Promotion
 - Price
 - Politics
- Describe your market in general including competition



Changes in Sales of Hybrid Striped Bass During 1996-2007 (pounds/year)



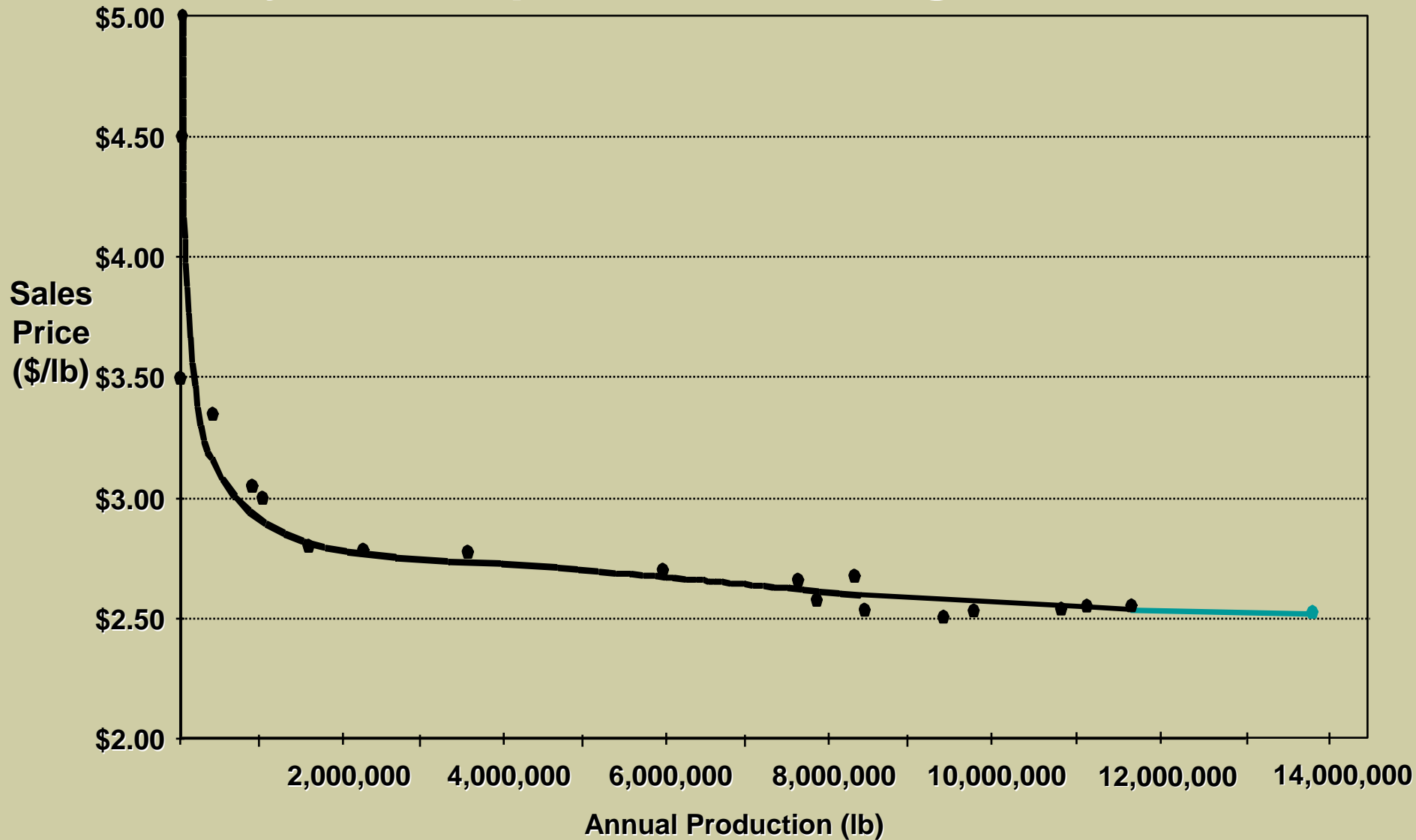
Price-Volume Relationship for Farmed Hybrid Striped Bass During 1984-2007



Data from state Aquaculture Extension Programs and a survey of major producers

Kent SeaTech Corporation

Price-Volume Relationship for Farmed Hybrid Striped Bass During 1984-2008



Data from state Aquaculture Extension Programs and a survey of major producers

Kent SeaTech Corporation

Financial Plan

- Key assumptions
- Break-even analysis
- Projected financial statements
 - P & L Statement
 - Cash Flow Statement
 - Balance Sheet
- Long-term plans

The following 3 slides are from
Jim Carlberg at Kent Sea Tech
Presentation at WAS 2008,
Orlando FL

Year 3 and thereafter

	unit	price/unit (\$)	# unit	TOTAL (\$)	% of total	\$/lb harv
Gross Receipts						
hybrid striped bass	lb	2.50	310,080	775,200		
Variable Costs						
fingerlings	per	0.20	268,235	53,647	12.22%	0.17
1st year fingerling feed	lb	0.26	125,400	32,604	7.43%	0.11
2cnd year feed	lb	0.20	793,440	158,688	36.14%	0.51
chemicals	acre	25.00	80	2,000	0.46%	0.01
electrical usage						
aeration	hr	0.85	44,700	37,995	8.65%	0.12
water supply	hr	1.50	15,756	23,634	5.38%	0.08
fuel						
aeration	hr	1.50	11,175	16,763	3.82%	0.05
misc.	acre	15.00	200	3,000	0.68%	0.01
repair & maint. of equip.	mo	986.25	12	11,835	2.70%	0.04
office overhead	mo	50.00	12	600	0.14%	0.00
hired labor	hrs	210.00	8	1,680	0.38%	0.01
pescalator rental	day	500.00	10	5,000	1.14%	0.02
interest on operating funds	total			20,055	4.57%	0.06
marketing cost	total			1,000	0.23%	0.00
harvest (box,ice,harvest labor)	lb	0.15	310,080	46,512	10.59%	0.15
Subtotal, variable costs				415,012	94.52%	1.34
Fixed Costs*						
payment on land and const. debt	total			12,653	2.88%	0.04
payment on equipment debt	total			6,420	1.46%	0.02
property taxes and insurance	acre	50.00	100	5,000	1.14%	0.02
Subtotal, fixed costs				24,074	5.48%	0.08
TOTAL COSTS				439,086	100.00%	1.42

*Excludes annual depreciation, estimated at \$ 23,708.33

Cash Flow Summary

	expense	income	balance
initial equity*	351,600		(351,600)
year 1	145,488		(497,088)
year 2	441,449	775,200	(163,337)
year 3	439,086	775,200	172,777
year 4	439,086	775,200	508,891
year 5	439,086	775,200	845,005
year 6	439,086	775,200	1,181,119
year 7	439,086	775,200	1,517,232
year 8	439,086	775,200	1,853,346
year 9	439,086	775,200	2,189,460
year 10	439,086	775,200	2,525,574

Break-even Analysis

Year 2 RETURNS SUMMARY

Returns to owner's management, labor, and capital

	lb	farm	water acre
Returns above variable costs	\$ 1.16	\$ 359,294	\$ 4,491
Returns above total costs	\$ 1.08	\$ 333,751	\$ 4,172
Breakeven price/lb above variable costs	\$ 1.34		
Breakeven price/lb above all costs	\$ 1.42		

Year 3+ RETURNS SUMMARY

Returns to owner's management, labor, and capital

	lb	farm	water acre
Returns above variable costs	\$ 1.16	\$ 360,188	\$ 4,502
Returns above total costs	\$ 1.08	\$ 336,114	\$ 4,201
Breakeven price/lb above variable costs	\$ 1.34		
Breakeven price/lb above all costs	\$ 1.42		

Balance Sheet for Mr. John, December 31, 1991

Assets

Current assets	dollars
Bank balance	25,000
Fish fingerings	114,570
Feed and supplies	1,075
Total current assets	140,645

Intermediate assets	
Machinery & equipment	11,810
Broodstock	19,380
Total intermediate assets	31,190

Fixed assets	
Land	96,000
Pond system	210,000
Hatchery & building & well	13,510
Total fixed assets	319,510

Total assets 491,345

Net worth 330,875

Liabilities

Current liabilities	dollars
Operating loan	52,500
Interest on operating loan	4,200
Principal payment on mortgage	2,500
Interest on mortgage	3,000
	<u>62,200</u>

Intermediate liabilities	
Payment on equipment	2,270

Long-term liabilities	
Mortgage	96,000

Total liabilities 160,470

From Jolly and Clonts

Additional Resources

- Internet
- Farm Management by Kay & Edwards
- Economics of Aquaculture by Jolly & Clonts
- Small Business Association
 - S.C.O.R.E
 - Service Corp of Retired Executives
- NC Small Business and Technology Development Center