

Aquaculture Business Planning

Matt Parker

University of Maryland Extension

Aquaculture Business Planning

- Business Plan
- Income
- Variable Costs
- Fixed Costs
- Depreciation
- Income statement
- Cash flow statement
- Marketing and Sales
- Record Keeping

Business Plan

- Tells your story so lender can understand it
- Shows if your business will be profitable (or not)
- Demonstrates you have put thought into the business planning process
- Shows your projected income and expenditures

Income

- Anything you sell
- Different prices for different products
 - Fresh on ice vs processed or value added
- You need to keep track of all sales and the prices for each

Variable Costs

- Costs associated with production
 - Feed
 - Fingerlings
 - Electricity
 - Fuel
 - Labor

Fixed Costs

- Cost not associated with production
 - Loan payments
 - Taxes
 - Permits and fees
 - Insurance

Depreciation

- Non-cash expense
- Straight line method
 - $\text{Annual Depreciation} = \frac{\text{Purchase price} - \text{salvage value}}{\text{Years of useful life}}$
- Declining balance
 - $\text{Annual Depreciation} = \text{Depreciation rate} * \text{Book value}$

The Income Statement

- Summaries or projects income and expenses for the year
- Includes all sources of income and all expenses.
- May contain other useful information.

Operating Costs and Returns

Year 2, fingerling & foodfish production

	unit	price/unit (\$)	# unit	TOTAL (\$)	% of total	\$/lb harv
Gross Receipts						
hybrid striped bass	lb	2.00	248,064	496,128		

Variable Costs

fingerlings	per	0.20	214,588	42,918	10.66%	0.17
1st year fingerling feed	lb	0.26	100,320	26,083	6.48%	0.11
2nd year feed	lb	0.20	634,752	126,950	31.53%	0.51
chemicals	acre	100.00	77	7,700	1.91%	0.03
electrical usage						
aeration	hr	0.85	37,080	31,518	7.83%	0.13
water supply	hr	1.50	13,561	20,341	5.05%	0.08
fuel						
aeration	hr	1.50	9,270	13,905	3.45%	0.06
misc.	acre	15.00	193	2,888	0.72%	0.01
repair & maint. of equip.	mo	598.75	12	7,185	1.78%	0.03
office overhead	mo	50.00	12	600	0.15%	0.00
hired labor	month	0.00	-	-	0.00%	-
pescalator rental	day	500.00	1	500	0.12%	0.00
interest on operating funds	total			11,323	2.81%	0.05
marketing cost	total			1,500	0.37%	0.01
harvest (box,ice,harvest labor)	lb	0.15	248,064	37,210	9.24%	0.15
Subtotal, variable costs				330,620	82.12%	1.33

Fixed Costs*

payment on land and const. debt	total			41,987	10.43%	0.17
payment on equipment debt	total			25,201	6.26%	0.10
property taxes and insurance	acre	50.00	96	4,813	1.20%	0.02
Subtotal, fixed costs				72,001	17.88%	0.29

TOTAL COSTS

402,621 100.00% 1.62

*Excludes annual depreciation, estimated at \$21,997.83

RETURNS SUMMARY

Returns to owner's management, labor, and capital

	lb	farm	water acre
Returns above variable costs	\$ 0.67	\$ 165,508	\$ 2,149
Returns above total costs	\$ 0.38	\$ 93,507	\$ 1,214
Breakeven price/lb above variable costs	\$ 1.33		
Breakeven price/lb above all costs	\$ 1.62		

Cash Flow

- Cash flow sheets looks like an income statement, but it shows how cash flows from one time period to the next.
- You may forecast a yearly profit, but do you have enough cash to pay the bills each month?

Year 2

month

	1	2	3	4	5	6	7	8	9	10	11	12	TOTAL
fingerlings						42,918							42,918
fingerling feed	-	-	-	-	-	856	6,513	5,613	5,613	5,613	1,122	749	26,078
foodfish feed	774	2,742	6,233	6,233	13,012	17,633	17,633	17,633	17,633	17,633	5,878	3,910	126,950
chemicals			2,567			2,567			2,567				7,700
electrical usage													-
aeration	1,106	1,106	1,106	1,106	2,212	4,424	4,424	4,424	4,424	3,871	1,659	1,659	31,518
water supply	3,228	3,228	19	41	53	5,990	2,756	2,761	588	583	555	538	20,341
fuel													-
aeration	488	488	488	488	976	1,952	1,952	1,952	1,952	1,708	732	732	13,905
misc.	241	241	241	241	241	241	241	241	241	241	241	241	2,888
repair & maint.	599	599	599	599	599	599	599	599	599	599	599	599	7,185
office overhead	50	50	50	50	50	50	50	50	50	50	50	50	600
hired labor	-	-	-	-	-	-	-	-	-	-	-	-	-
pescalator rental												500	500
other equipment rental													-
marketing cost										1,500			1,500
harvest costs										12,403	12,403	12,403	37,210
property taxes & insurance												4,813	4,813
TOTAL USES OF CASH	6,485	8,454	11,302	8,758	17,143	77,228	34,167	33,272	33,666	44,200	23,238	26,192	324,105

TOTAL SOURCES OF CASH													-
Harvested Fish										134,207	134,207	134,207	402,621
Other Income													-
TOTAL	-	-	-	-	-	-	-	-	-	134,207	134,207	134,207	402,621
CASH FLOW BY MONTH	(6,485)	(8,454)	(11,302)	(8,758)	(17,143)	(77,228)	(34,167)	(33,272)	(33,666)	90,007	110,969	108,015	
CUMULATIVE FROM YEAR 1	(114,471)	(122,925)	(134,227)	(142,985)	(160,127)	(237,355)	(271,522)	(304,794)	(338,460)	(248,454)	(137,484)	(29,470)	(29,470)

+ interest costs (11,323)
CUM. TOTAL= (40,792)

Marketing and Sales

- Wholesale or retail markets?
- Value added opportunities?
- Niche markets?
- Brand name?
- What does the buyer want?

Record Keeping

- Good business planning is good record keeping
- Production records
- Financial records
- Allows you to plan your business's future and learn from your mistakes.

Questions?

For assistance contact:

Matt Parker

Aquaculture Business Specialist

University of Maryland Extension

410-222-6759

mparke11@umd.edu