



# FISHING BUSINESS MANAGEMENT & ECONOMIC INFORMATION

by **Frederick J. Smith**

Extension Marine Economist  
Oregon State University

*This bulletin was prepared to assist you in understanding some of the terms and concepts of business management as they apply to fishing. There are no "short cuts" to better management, and this bulletin does not pretend to provide ready solutions to your management problems.*

*Unfortunately, the terminology of business management is frequently confusing to the uninitiated. Businessmen, as well as fishermen, have their own "language." Although new (and sometimes confusing) terminology is minimized here, you should be prepared to learn some unfamiliar business management concepts. This requires study, as well as reading, of this bulletin—and sufficient motivation to take advantage of other publications and programs leading towards better business management.*

## **Fishing Is a Business**

Although they often view it as a "way of life," most fishermen rely upon their commercial fishing activity to provide at least a part of the family income. Many Oregon fishermen land as much as \$40,000 worth of fish during a season, yet only a fraction of this \$40,000 is available for family living. The size of that fraction depends upon their competence as business managers.

To be successful, any businessman (service station

operator, farmer, tavern keeper, or fisherman) must first recognize that his business *is* a business. In the words of D. R. Getchell, editor of *The National Fisherman*:

A man can be a crackerjack fisherman and a lousy businessman at the same time.

And this dual role can leave him poor, if not broke.

Unfortunately, not every fisherman has the business training needed to operate independently in this modern world. . . . He may be landing a good catch, and then wonder where the money goes. Poverty always seems just around the corner, no matter how hard he works.

In other words, he needs to be a good manager as well as a good fisherman. He must have adequate information concerning his own and his competitors' businesses, and must have the ability to put this information to good use.

## **Profit: What Is It?**

Is it the amount left in the checking account at year end? Is it the amount on line 27 of IRS form 1040C? Is it something big corporations declare after all dividends are paid? Technically, profit could be defined as any of the above, and more. For our purposes, however, let's define profit as *gross returns less all costs*.

**Variable costs.** Our definition is not as simple as it may appear, because fishermen include different items in the "cost" category. Certainly, such cash expenses as fuel, bait, net replacement, pot repair, etc., are costs. In fact, they can be called *variable costs*; if the vessel is not fished, these costs will not be incurred.

**Fixed costs.** Other cash expenses (insurance, moorage, accounting, etc.) are easily included as costs and are referred to as *fixed costs*—that is, they will remain

the same, regardless of the fishing effort. Although few fishermen will set aside an amount equal to annual depreciation, this is another cost that can legitimately be used in determining profit.

**Opportunity costs.** Finally, an owner may have a considerable investment in his fishing business, an investment that could earn 6, 8, or even 10 percent if loaned to another fisherman. This is income which has been foregone because the owner invested in his own business. The value of unpaid owner/operator labor should also be considered in calculating profit, even though it may not appear in the bank statement or on IRS form 1040C. These are *opportunity costs*.

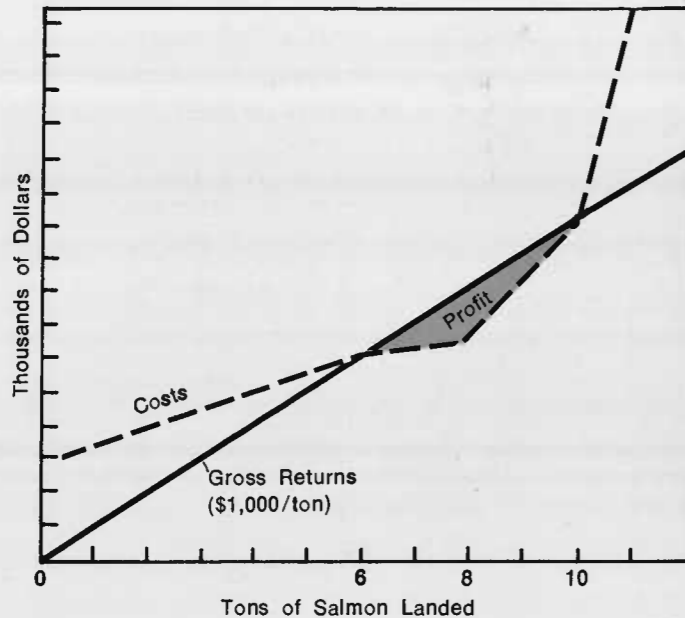
Let's illustrate profit for a 50-foot shrimp and crab vessel:

Gross Returns .....	\$68,000
Less:	
<b>Variable Costs</b>	
Repairs .....	8,600
Fuel .....	1,800
Galley .....	1,700
Bait .....	600
Crewshare .....	17,500
<b>Fixed Costs</b>	
Insurance .....	3,400
Depreciation .....	3,000
Licenses .....	100
Moorage .....	100
<b>Opportunity Costs</b>	
Operator Labor .....	19,000
Interest on Investment (8 percent) .....	4,800
<b>Profit</b> .....	\$ 7,400

The owner of this vessel can extract \$7,400 for family living or any other personal reason and not affect long term business profitability. The operator (who may also be the owner) has earned \$19,000 for his fishing skill and time, and the owner has been fairly compensated for his investment (\$4,800). The \$7,400 profit is a return to the manager for his risk and decisionmaking. (For assistance in profit analysis, see Smith, F.J., *How To Calculate Profit in a Fishing Business*, Oregon State University Extension Service, Sea Grant Marine Advisory Program Publication SG 29, Corvallis, 1973.)

### Profit: Where Is It?

If profit is gross returns less costs, greater profit must come from greater gross returns and/or lesser costs. Gross returns are determined by volume of fish landed and prices received. More fish, more profit—if costs do not increase and prices do not decrease! Landing more fish depends upon their availability in the



### Mini Manage

is a barely competent operator. His profit picture looks like this first chart. For this season, Mini Manage will earn a small profit if he lands between six and ten tons of salmon. Any effort that produces less than six tons will not cover the variable, fixed, and opportunity costs. Any effort producing over ten tons requires so much extra fuel, running time, repairs, etc., that costs exceed the value of salmon landed.

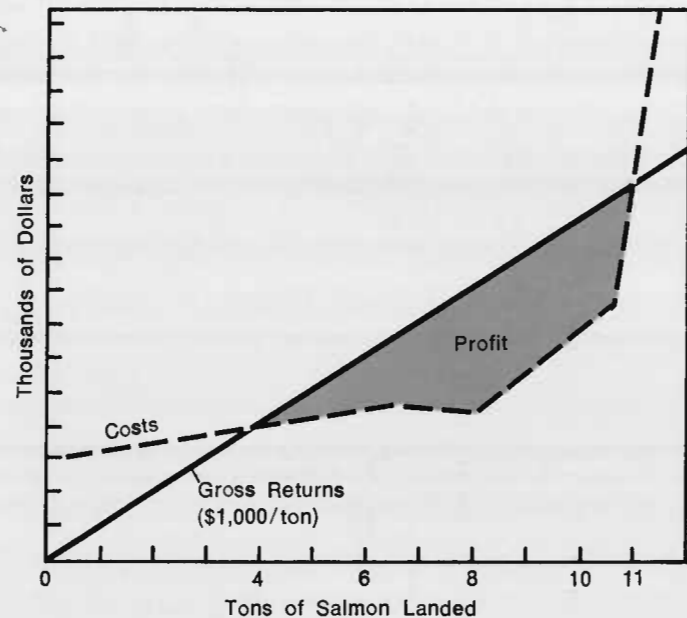
water, and the fisherman's equipment and skill. Some call it luck.

Higher prices mean greater profit—if landings do not decrease or costs do not increase! Unfortunately, higher prices frequently accompany decreased landings. One single fisherman can do little about prices, but collective action can sometimes increase prices. This is accomplished at some cost and risk.

The other side of the profit equation, costs, is more manageable. There are many ways to reduce costs and maintain fishing effort or increase effort without increasing costs. These also lead to greater profit.

### Landings, Prices, and Costs Are Related

Let's illustrate the relationship among landings, prices, costs, and profit by assuming three identical



### Maxi Manage

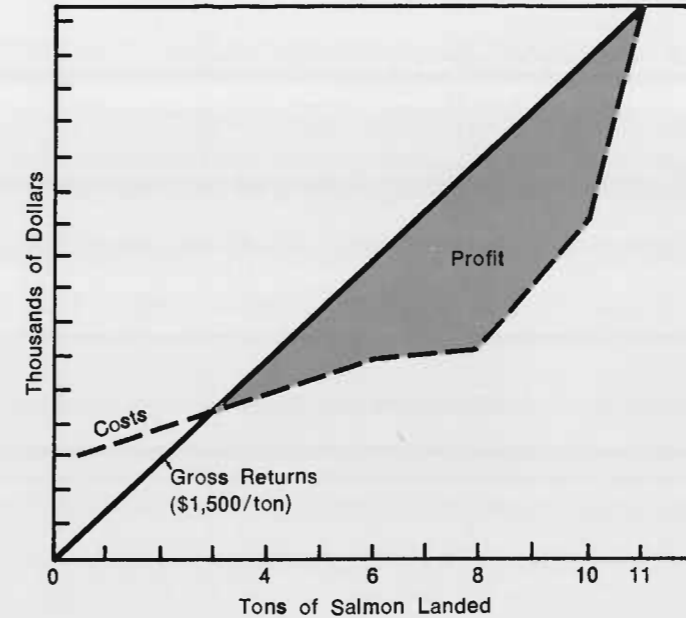
is a skipper who uses every device to keep costs down, regardless of fishing effort. He is an excellent business manager. His profit picture looks like the second chart, above. For this season, Maxi Manage will earn a large profit at eight tons, and the area of profitability is now between four and eleven tons (compared with six and ten for Mini Manage). Notice that it still does not pay to spend the extra money to land anything over eleven tons for this season. The costs of additional fuel, repairs, etc., are greater than the value of additional salmon landed.

salmon-trolling vessels, skippered by three very different people—Mini Manage, Maxi Manage, and Maxi Market (above). Assume also that all three face the same season—that is, the same number of salmon in the ocean. These three charts show the difference in profit experienced by Mini Manage, Maxi Manage, and Maxi Market.

### Information, the First Step

Understanding the relationship among landings, prices, costs, and profit is important but of little value unless you "know" your own business. This requires considerable information: operating efficiency, gear costs, market conditions, repair costs, etc.

There is no one "best" system for accumulating and analyzing such information. You are more qualified than anyone else to choose or develop your own forms,



### Maxi Market

is a man who isn't concerned with costs but manages to land at the right time and place to receive a higher price. His profit picture looks like this third chart. For this season, Maxi Market will earn a large profit at eight tons, and his area of profitability is between three and eleven tons.

books, or ledgers. It makes little sense to spend time learning and using a difficult system that will in the end yield incomplete or inaccurate information.

There are various commercial record systems available, and each offers certain advantages over the self-maintained collection of forms, books, and ledgers. Advantages include:

- being on a "system" (this helps form good recordkeeping habits and a routine),
- greater accuracy in arithmetic, and
- a source of ready reference during the season.

The obvious disadvantage is cost, but for many fishermen an investment in a commercial record system will be repaid many times over. Information about commercial record systems can be obtained from accountants,

banks, consultants, production credit associations, and marine extension agents.

To satisfy the management requirements of the business and at the same time satisfy the tax and legal reporting requirements, you should consider the following:

1. As an absolute minimum, maintain two separate checking accounts, one for the business and the other for personal (or family) use. Keep the accounts completely separate, and pay all business expenses by check. This simple business practice, if maintained consistently, leaves most of the recordkeeping up to the bank!
2. Keep some record (notebook, file folder, or tabular sheet of paper) of all receipts, including total landings, species, quality, date, price, where sold, and total days fishing effort for that landing.
3. Identify, either in the checkbook or on a separate ledger, the nature of each cost. For example, identify each cost appropriately as vessel repair, fuel, galley, or insurance; wherever possible, attribute it to one or more of the products. Crab pot repair should be charged to "crab fishing." The cost of driving the pickup to Seattle for salmon gear, as well as the cost of the gear, should be charged to "salmon."
4. Maintain a log or diary of your daily activity, the activity of your vessel, dates, time, location, gear, weather, and success when fishing.
5. Establish a schedule that will show, on one hand, the payments required on various loans and other obligations and, on the other, the cash you expect to receive.

A variety of other forms and procedures could be suggested, but if you follow these five recommendations, you will have an excellent base for a complete analysis of your business, for accurate and efficient management, for accurate and complete tax reporting, and for obtaining loans.

Accurate and efficient management also requires information concerning the costs and returns for competing fishing businesses. Such information can be obtained from studies conducted by universities, the National Marine Fisheries Service, state fishery agencies, and other public or fishermen's organizations.

An example of fishermen developing such information for their own use is the set of Marine Economics Data Sheets (MEDS) created by selected fishermen in cooperation with Oregon State University's Sea Grant Marine Advisory Program (listed in the MAP Publication SG 24). Other studies that may be helpful in providing costs and returns information on other fisheries are listed on page 6.



Your marine extension agent can be of practical assistance in setting up a record system.

SEA GRANT MARINE ADVISORY PROGRAM OREGON STATE UNIVERSITY CORVALLIS, OREGON 97331

MEDS - 1  
Rev April 1973

MARINE ECONOMICS DATA - 32-FOOT PORT ORFORD THUNDER AND CHASER<sup>1/2</sup>

Description: \$12,000 market value, 32 feet by 11 feet, wood hull, 130 HP diesel engine, stereo, fishometer, 2 radio, automatic pilot, hydraulic salmon puller, crab pot block and 200 pots.

Fishing	Effort <sup>2/3</sup> (days)	Price <sup>4/5</sup>		Production <sup>6/7</sup>		
		Per ton (\$)	Per lb. (\$)	Value (\$/ton)	Weight (\$/lb.)	
Dummers crab...	72	1,300	.65	3	4	
Total salmon...	53	1,200	.60	12	18	
(1) Gross returns.....				\$18,360	\$12,200	\$18,200

Variable costs <sup>8/9</sup>	Season total with:		
	Low production	Medium production	High production
Gas repairs.....	\$1,420	\$ 0	\$ 3,295
Vessel capex.....	795	657	1,452
Transportation.....	923	170	1,093
Bait.....	856	36	912
Fuel.....	291	246	340
Galley.....	149	157	208
Miscellaneous.....	88	56	124
Crewshare (100%).....	—	—	3,620
(2) Total variable costs.....	\$11,294	\$12,472	\$13,548

Fixed costs <sup>10/11</sup>	Season total with:		
	Low production	Medium production	High production
Depreciation.....	\$ 330	\$ 330	\$ 330
Insurance.....	380	380	380
License.....	100	100	100
Moorage.....	75	75	75
Property tax.....	13	13	13
Miscellaneous.....	28	28	28
(3) Total fixed costs.....	\$ 2,191	\$ 2,191	\$ 2,191

This Marine Economics Data Sheet is one of the more than 50 available from your marine extension agent.

## Put Your Economic Information to Work

Assume that an operator of a 40-foot combination vessel has accumulated detailed information as suggested above. His economic information can be summarized as shown at the right. The following illustrates the application of some business management tools and economic principles to his information.

**Cash gain or loss.** The cash gain or loss is useful in determining whether you can meet cash financial commitments during the year. Gain or loss in cash for the fishing business described at the right is *gross stock less all cash outlays*:

<b>Gross stock:</b>	
18 tons of crab × \$750 =	\$13,500
9 tons of salmon × \$1,100 =	9,900
35 tons of tuna × \$440 =	15,400
	<hr/>
Gross returns	\$38,800
<b>Cash outlays:</b>	
Variable costs	\$19,902
Fixed costs except depreciation	5,101
Other payments	4,500
	<hr/>
	\$29,503
<b>Cash gain:</b>	
\$38,800 - 29,503 =	\$ 9,297

A calendar of payments and cash received will be necessary to insure that payments can be met when due. Loan payments, fuel payments, gear payments, etc., should be scheduled to match the periods when cash will be available.

**Return to labor, management, and investment.** This is found by subtracting all costs (except any interest paid) from gross returns:

Gross returns	\$38,800
Variable costs	19,902
Fixed costs, except interest on mortgage or loan	4,811
	<hr/>
Total	\$24,713
Return to labor, management and investment: \$38,800 - 24,713 =	\$14,087

The *return to investment* can be separated from \$14,087 by subtracting the opportunity cost of labor and management. Conversely, the *return to labor and management* can be separated from \$14,087 by subtracting the opportunity cost of investment.

In your own case, if the return to investment is less than the investment opportunity cost, your investment may be too large relative to your labor and management.

If the return to investment is greater than invest-



### Economic Description of a 40-Foot Combination Vessel

**Vessel:** 40 feet by 14 feet, \$40,000 market value, 12-ton capacity, 6 hydraulic pullers, refrigeration, 200 crab pots, and hydraulic pot blocks.

**Fishing effort:** 65 days at sea hauling crab pots, 45 days at sea trolling for salmon, and 55 days at sea trolling for tuna.

**Last year's landings and prices:** 18 tons of crab at \$750/ton, 9 tons of salmon at \$1,100/ton, and 35 tons of tuna at \$440/ton.

<b>Variable Costs:</b>	
Vessel repairs	\$ 2,990
Gear repairs	2,486
Galley	1,525
Fuel	1,196
Transportation	1,100
Bait	789
Ice	71
Miscellaneous	130
Crewshare	9,605
	<hr/>
Total	\$19,902

<b>Fixed Costs:</b>	
Insurance	\$ 2,300
Interest on mortgage	2,100
Depreciation	2,000
Interest on operating loan	190
Moorage	72
Licenses	60
Property tax	37
Miscellaneous	342
	<hr/>
Total	\$ 7,101

<b>Other Payments:</b>	
Principal on mortgage	\$ 4,000
Principal on operating loan	500
	<hr/>
Total	\$ 4,500

ment opportunity cost, your investment may be too small relative to your labor and management.

**Measures of efficiency.** Efficiency is measured by dividing one business factor by another. These are some examples:

- Gross returns ÷ total cost:  
\$38,800 ÷ \$24,713 = \$1.60
- Gross returns ÷ day at sea:  
\$38,800 ÷ 165 = \$235
- Crab gross ÷ day crabbing:  
\$13,500 ÷ 65 = \$208
- Salmon gross ÷ day salmon trolling:  
\$9,900 ÷ 45 = \$220
- Tuna gross ÷ day tuna trolling:  
\$15,400 ÷ 55 = \$280
- Variable cost ÷ ton: \$19,902 ÷ 62 = \$321  
(Variable cost/ton for each species could be calculated if sufficient records are maintained.)
- Variable cost ÷ day at sea:  
\$19,902 ÷ 165 = \$121

You should compare these and other efficiency measures with those of other fishing businesses and with past years for your own fishing business. You can then readily identify weaknesses in your operation.

Additional business management assistance is available from Oregon State University's Marine Advisory Program, your accountant, your banker, your insurance agent, and from business consulting firms.

### Economic Information Is Available

#### Costs and Returns

Ahsan, A. E., J. T. Ball, and J. R. Davidson, "Costs and Earnings of Tuna Vessels in Hawaii," University of Hawaii, UNHI-Seagrant-AR-72-01.

Bell, F. W., and J. W. Hazleton, editors, *Recent Developments and Research in Fisheries Economics* (Dobbs Ferry, N.Y., Oceana Publications, 1967).

Campbell, Blake A., *Returns From Fishing Vessels in British Columbia*, Office of Director, Pacific Region—Fisheries Service, Department of Fisheries and Forestry, 1155 Robson St., Vancouver 5, B.C. (issued periodically).

Carley, D. H., *Economic Analysis of the Commercial Fishery Industry of Georgia*, University of Georgia College of Agriculture Experiment Stations Research Bulletin 37 (June 1968).

"Costs and Earnings of Selected Fishing Enterprises, Nova Scotia," Nova Scotia Department of Fisheries and Economics Branch, Fisheries Service, Department of Fisheries and Forestry, Ottawa (issued periodically).

Green, Roger E., and Gordon C. Broadhead, "Costs and Earnings of Tropical Tuna Vessels Based in California," FIR Reprint 31 from *Fishery Industrial Research* (vol. 3, no. 1), a publication of the Bureau of Commercial Fisheries.

#### Management Aids

Castle, E. N., M. H. Becker, and F. J. Smith, *Farm Business Management* (New York: Macmillan, 1972).

Greene, Mark R., *Insurance and Risk Management for Small Business*, U.S. Small Business Administration, SBA Series No. 30 (Washington, 1970).

Holmsen, Andreas, "Remuneration, Ownership and Investment Decisions in the Fishing Industry," University of Rhode Island, Marine Technical Report No. 1 (1972).

Hourston, W. R., and Blake A. Campbell, "You Are Operating and Managing a Fishing Business," British Columbia Dept. of Fisheries and Forestry (1155 Robson St., Vancouver, B.C.).

Redfield, Michael, "Costs and Profitability in the Commercial Fishing Industry: The Insurance Dilemma," University of Washington, Division of Marine Resources, WSG-MP 71-4 (1971).

Smith, Frederick J., *Incorporating a Fishing Business*, Oregon State University Extension Service, Sea Grant Marine Advisory Program Publication SG 11 (Corvallis, 1973).

*Tax Guide for Small Business*, U.S. Internal Revenue Service, Technical Publications and Services Division, Publication No. 334 (IRS, Washington, D.C. 20224).

Wilson, W. Alan, "An Analysis of Results from the Fishery Economic Survey, 1970," British Columbia Dept. of the Environment, Fisheries Service, Pacific Region, Detail Reports Nos. 1, 2 and 3 (Vancouver, 1971).

Zwick, Jack, *A Handbook of Small Business Finance*, U.S. Small Business Administration, SBA Series No. 15 (Washington, 1965).

Revised 6-73 / 5M



OREGON STATE UNIVERSITY  
**EXTENSION  
SERVICE**

Extension Service, Oregon State University, Corvallis, Joseph R. Cox, director. This publication was produced and distributed in furtherance of the Acts of Congress of May 8 and June 30, 1914. Extension work is a cooperative program of Oregon State University, the U.S. Department of Agriculture, and Oregon counties. Extension's Marine Advisory Program is supported in part by the Sea Grant Program, National Oceanic and Atmospheric Administration, U.S. Department of Commerce.