



AQUACULTURE FACT SHEET

Sea Grant is a unique partnership between the nation's universities and its primary ocean agency, the National Oceanic and Atmospheric Administration (NOAA). Connecticut Sea Grant, based at the University of Connecticut, collaborates with maritime industries and coastal communities to identify needs, and fund research, outreach, and educational activities that have special relevance to Connecticut and Long Island Sound. Its mission is to foster the wise use and conservation of our nation's coastal and marine resources.

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Decision-Making Factors for Investment in Aquaculture

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The following checklist identifies factors that should be considered in preparing or evaluating an aquaculture business plan. Aquaculturists or fish farmers must evaluate their: 1) production management capabilities; 2) marketing management capabilities; 3) financial management capabilities; 4) available resources (i.e., land, water, capital, labor); 5) financial position of the business (i.e., profitability, solvency and liquidity); and 6) commitment to a new, high risk enterprise.

Management Factors

- 🍏 What are your goals and objectives for the aquaculture business?
- 🍏 Which type(s) of aquaculture interest you? Species____ Production method____
- 🍏 Will your operation be a separate hatchery, nursery or grow-out operation or a combination of the individual operations?
- 🍏 What level of management intensity (extensive, semi-intensive, intensive) and/or degree of integration with other products will the enterprise have?
- 🍏 Is there a market potential, management, or cost efficiency reason for a particular size business?
- 🍏 What experience do you have to manage the operation?
- 🍏 Are you willing to provide the time and effort required to learn how to and/or to grow the product?
- 🍏 Do you think that you will like the work and skills needed to produce the product?
- 🍏 What skills and abilities will be needed to make the business successful?
- 🍏 How will the business be organized?
Sole proprietorship__ partnership__ corporation__ other____
- 🍏 How much money can you survive on?
- 🍏 How much money can you afford to invest?
- 🍏 How will the business affect your family?
- 🍏 How will the new business affect your present job?
- 🍏 Will the aquaculture operation require hired labor? Full-time__ part-time__
- 🍏 How long do you expect for the business to become operational?
- 🍏 How long do you expect for the business to become profitable?
- 🍏 Are you in an area where the production facility can be leased or sold if you decide to cease operation?

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- 🍏 Do you have the necessary legal permits to produce the product?
- 🍏 Do you know where to obtain information and technical assistance on the aquaculture of your selected species?

Financial Factors

- 🍏 What are the necessary financial requirements for facility construction and crop production?
- 🍏 What equipment, land, facilities, etc. do you possess?
- 🍏 Is the profit potential for the selected product higher than that for other alternative products or other investments?
- 🍏 What equipment needs are there for the operation?
- 🍏 What are the costs of production – operating, fixed, total, per pound (kg), per piece?
- 🍏 What are the initial construction costs?
- 🍏 What are the equipment replacement costs for the business?
- 🍏 What is the timing of cash inflows and outflows from the business (cash flow)?
- 🍏 What is the project's annual income from the business?
- 🍏 When will the money invested in the business be paid back from income produced by the business?
- 🍏 How will price, cost and yield variability affect the financial analysis?
- 🍏 Will current interest rates and interest costs on investment and operating capital permit a reasonable profit?
- 🍏 Will the expected profit provide an adequate return for your labor, management and risk?
- 🍏 Are you using expected production and mortality values that are realistic for your situation?
- 🍏 Can you afford to delay income from the time the operation is started (i.e. pond construction) until you sell your first harvest?
- 🍏 Have you decided upon a record-keeping system for management and future borrowing purposes?
- 🍏 Will a lender arrange financing that fits your income stream?
- 🍏 Do you have a business plan?

Physical Factors

- 🍏 What are the land, water column or water bottom size requirements for the operation?
- 🍏 How is the access to the area?
- 🍏 Will you need a shore-based facility for coastal aquaculture operations?
- 🍏 Will the soils hold water economically?
- 🍏 Have the soils been tested for pesticide residue?
- 🍏 Is there water available to fill ponds within a reasonable time and replace natural losses of water from seepage and evaporation?
- 🍏 Is the water quality suitable for your product?
 Temperature__ alkalinity__ dissolved oxygen__ hardness__ salinity__ ammonia__ pH__
 turbidity__ water current__
- 🍏 Is the area protected from or susceptible to storms?
- 🍏 Can you reach the area regardless of the weather?
- 🍏 Will someone live close to the area to permit frequent observation and necessary management actions?
- 🍏 Is there area available for expansion in the future if desired?
- 🍏 Is your area classified as a wetland?
- 🍏 Are there any other Federal or State regulations restricting use of the site?

Production Factors

- 🍌 Are quality fingerlings or seeds available at competitive prices?
- 🍌 Will you produce or purchase fingerlings or seeds?
- 🍌 Are quality feeds available?
- 🍌 Can you purchase and store feed in bulk?
- 🍌 Can you purchase needed production equipment locally?
- 🍌 Can you make needed production equipment?
- 🍌 Can you get specialized production equipment serviced locally?
- 🍌 Is trained and reliable labor available?
- 🍌 What diseases and predators affect the species?
- 🍌 Are dependable disease diagnostic services available?
- 🍌 What electric sources are available?
- 🍌 How many favorable growing season days are there in a year?
- 🍌 What is the length of the expected production cycle?
- 🍌 Will you produce single batches of product or will you multiple harvest with replacement stocking?
- 🍌 Is your production goal reasonable for your location and available environmental resources?
- 🍌 What could cause losses in the operation?

Marketing Factors

- 🍌 Do you have a marketing plan?
- 🍌 Do you know of an established market for your product?
- 🍌 Can you compete at the production, cost and marketing levels with other farmers in the state, out-of-state or foreign?
- 🍌 How far (distance) are suitable markets and how long does it take to reach them?
- 🍌 Within the market area, who is buying or potentially might buy your product?
wholesalers__ restaurants__ seafood stores__ supermarkets__ individuals__ cooperative__
sport fishermen__ pet stores__ bait dealers__ other__
- 🍌 What are the payment practices?
- 🍌 Is the prospective buyer dependable for payment and are the terms of payment reasonable?
- 🍌 Are there enough buyers in the area for the amount of product you expect to produce?
- 🍌 What are the market requirements of your product?
Volume__ size__ quality__ form__ packaging__
- 🍌 Which is the product form?
live__ iced__ frozen__ whole__ headed and gutted__ fillets/steaks__
- 🍌 What is the preferred quantity of each product per unit time?
- 🍌 What are the seasonal prices for each product form?
- 🍌 What are the seasonal demands for each product form?
- 🍌 How will the price and production of substitute products affect your market and production plans?
- 🍌 What are your market options for excess production and undersized product?
- 🍌 Can you provide consistent supply and quality?
- 🍌 Do you understand how quality problems can affect the marketability of your product?
- 🍌 Will you need to dehydrate the product?
- 🍌 How profitable is it for you to produce the sizes and amounts of product desired by your buyer?
- 🍌 Is there are market for you when you want to sell your product?
- 🍌 Is your production location able to accommodate a truck to pick up the product?

- 🍏 How will you harvest the product and transport it to the market location?
- 🍏 Will you be able to harvest year-round?
- 🍏 Do you have an alternative marketing strategy in case it is needed?
- 🍏 Will you have a staff member to handle marketing or will you?
- 🍏 How much will marketing costs add to your production costs?
Processing__ packaging__ ice/cooling__ transportation__ advertising/promotion__ billing__
- 🍏 If you are planning to retail or process your product, do you meet State and local health and sanitation requirements?
- 🍏 Do you have the required legal permits to market the fish?
- 🍏 Do you know where to obtain marketing assistance?

Risk Factors

- 🍏 What are your production risks?
- 🍏 What are your marketing risks?
- 🍏 How can these risks be reduced?
- 🍏 Are you prepared to handle these possible problems?
- 🍏 Poor water quality
- 🍏 Fish diseases and parasites
- 🍏 Pesticide contamination
- 🍏 Off-flavor
- 🍏 Predation
- 🍏 Aquatic weeds
- 🍏 Poachers and vandals
- 🍏 Low prices and high production costs
- 🍏 Equipment failure and breakdown
- 🍏 Personal stress
- 🍏 Working long hours during the day and night
- 🍏 Shifts in market demand
- 🍏 Crop loss due to storms

References

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