Research on Bay Scallop Aquaculture and Enhancement

Objectives of bay scallop research are to:

1. Develop modern technology for commercial production of the bay scallop from spawn to plate using both intensive and extensive cultivation strategies.
2. Investigate the potential to increase adductor muscle yield through genetic selection and bio-engineering.
3. Investigate the effects of biological factors and culture conditions on disease susceptibility.
4. Explore the potential for enhancing or re-establishing natural scallop populations in areas that historically supported a wild fishery but are not now productive.
5. Transfer technology to regional entrepreneurs via on-site training, the Annual Milford Aquaculture Seminar and other means.
6. Provide educational opportunities from secondary to university students in marine science and aquaculture.

WHY BAY SCALLOPS?

• The scallop's rapid growth rate, high market value and an unstable supply make it a good candidate for aquaculture.

• The potential exists for producing a market-size scallop in one growing season.

• Declines in natural scallop populations from historically productive levels suggest potential for enhancement by planting hatchery-reared scallops in selected areas.

• Success of transplanting will depend upon improved knowledge of what constitutes suitable habitat for scallops.

• While much is known about nutrition of other bivalve mollusks (e.g., oysters and clams), relatively little is known about what constitutes an optimal diet for the bay scallop.

• Little has been done previously in systematic breeding of scallops to improve particular traits.

• The biological characteristics of the bay scallop, a functional hermaphrodite, provide a potential advantage for genetic manipulation.

• Although we have demonstrated that bay scallops can be reared to maturity, current methods are not economically viable.

• In other nations, scallops are being raised successfully commercially. Methods need to be optimized for the US coast and economy.

• Scallop field grow-out in suspended nets uses more of the water column, thus less bottom area, than other shellfish (clams, oysters).

• Economical culture methods will be devised that can be carried out in areas where they will not interfere with the commercial shellfish industry.

• Bay scallop aquaculture enterprise promises to provide new jobs in an ecologically-sound industry.

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