1993
AQUACULTURE &
MARINE SCIENCE
PROGRAMS
A MESSAGE FROM THE DIRECTOR OF THE
MARYLAND COOPERATIVE EXTENSION SERVICE

"ADDRESSING NEW PROBLEMS"

During 1993 the Cooperative Extension Service University
of Maryland System will be offering many educational programs
dealing with problems facing our State and Nation. Our
commitment is to provide research based information through
quality Extension programming. Programs are developed with
the active involvement of the citizens who are affected by them.

We are proud to offer a well developed Sea Grant
Extension Program and to work with other states in sharing our
resources to solve our shared problems.

Aquaculture continues to be a basic thrust of our program
activities. This follows the expansion of the industry in our
state and the status of aquaculture as one of the fastest
growing areas of agriculture. Programs have broadened to
include marketing, business planning, and environmental
management as integral parts of the formation of new ventures.

Other issues have emerged which are being addressed by
our Agents and Specialists. The potential impact of the spread
of Zebra Mussels has been highlighted for special emphasis
this year. This will enable Maryland to be proactive in
anticipation of impacts by this animal. We are including local
programs as well as regional, cooperative efforts.

Water safety is a constant concern for people who live in a
state dominated by marine activities. We have joined with
others to promote educational efforts aimed at commercial
fishermen and at professional lifesaving personnel.

In addition to programs, tours, and special conferences, we
will be participating in a satellite teleconference at our Riverdale
downlink site. Expanding technology has helped bring
information transfer to new frontiers.

We invite you to participate in the programs which are
included in this publication. We are proud of them and feel that
they show our continuing pledge to help people help
themselves.

Craig S. Oliver, Director
Cooperative Extension Service
University of Maryland System
SEA GRANT EXTENSION PROGRAM
COOPERATIVE EXTENSION SERVICE
UNIVERSITY OF MARYLAND SYSTEM

WHO WE ARE....

The Sea Grant Extension Program (SGEP) is one of the four program areas of the Cooperative Extension Service (MCES). We involve many University of Maryland System (UMS) units as we help to focus the best research and education on state and national issues.

MCES has provided continuing, off campus, research based educational programs for over 75 years in Agriculture, Home Economics, and 4-H and Youth, through local county offices. MCES and the Agricultural Experiment Station (AES) form the Maryland Institute for Agriculture and Natural Resources (MIANR).

SGEP Area Agents are located in each region of Maryland--Eastern Shore, Southern Maryland, and the Upper Bay. They provide assistance to citizens on aquaculture and marine science issues. Agents are supported by State Specialists who conduct research on identified industry problems. These specialists are located within academic departments of the University of Maryland System.

Currently, Specialists in Finfish and Shellfish Aquaculture are at the Horn Point Environmental Lab (HPEL) in Cambridge and have joint appointments with the Center for Environmental and Estuarine Studies (CEES). An Economics Specialist is located at College Park (UMCP) in the Resource Economics Department. A Seafood Specialist is located in Princess Anne at the University of Maryland Eastern Shore (UMES).

SGEP funding comes from state and county sources, and from the Office of Sea Grant within the Department of Commerce. Sea Grant was established to do for the oceans what the Land Grant System did for agriculture—to make the United States a World leader. The UMS is proud to be a Sea Grant, as well as Land Grant, University.

While the organizational chart may be confusing, Maryland aquafarmers should remember the most important fact—assistance is only a phone call away!
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AQUACULTURE IN MARYLAND
SITUATION AND OUTLOOK

CATFISH:
Statewide, approximately 50 acres are in production. Some operators of closed, recirculating system are also evaluating catfish as an alternative to tilapia. The Cooperative Extension Service coordinates a spring sale of fingerlings for stocking in various systems, as well as arranging for feed supplied to be available for the growers. Most of the fish have been processed through the Virginia Fish Farmer’s Association plant but some local processing has also been developed.

The market has been very good for the locally raised product, particularly if delivered fresh. Best acceptance has been for 4 to 7 ounce fillets (1.5 to 2.5 lb fish) with very little market for whole fish at present. Frozen fillets gaining wider acceptance. Marketing efforts beginning in many areas to introduce the product, and could increase demand substantially in future. At present, demand exceeds supply in many niche markets.

1993 OUTLOOK: Slowly increasing acreage; stable prices; continuing market demand for local product.

STRIPED BASS AND HYBRIDS:
Less than 100 surface acres are actively farmed at this time. Additional acreage is currently being designed and built. Experimental open water net pens may become reality in 1993 allowing accurate assessment of financial and environmental risks associated with these production facilities. Recirculating systems used for minor production as well as flow through tanks in operation this year.

Maryland producers offering locally produced fingerlings during 1993, bringing current cost of seed stock down. Competition among feed suppliers also expected to impact this important variable cost.

Market has been good for farm raised fish, even during periods of competition with wild caught striped bass. Markets exist for small (1 lb) fish through large sizes (over 3 lbs) in different buyer categories. Farm raised fish can be marketed at smaller sizes than wild caught. This feature, in addition to year round availability, has made product attractive in marketplace. Fish generally marketed whole with some processing occurring for fillets. Facility operated by the Maryland Food Center Authority at Rock Hall MD has been utilized fairly consistently by growers and marketers.
1993 OUTLOOK: Aggressive acreage increase; modest price decline; continued development of strong niche markets.

TROUT:
While trout culture has existed in western Maryland, recent interest has been as a winter culture animal in non traditional areas. Trout are purchased in the fall, usually in November, and raised throughout the winter until spring water temperatures approach lethal range. Then they are harvested and sold. Individual culture operations usually yield less than 1,000 pounds annually and harvest is marketed whole, fresh, and locally.

Current production in interior tanks, outside in open ponds and cages. Growth rates of an inch per month not uncommon. Feeds readily available and cooperative buying of fingerlings and feeds are common among regional producers.

1993 OUTLOOK: Possible increase in production; stable price structure.

TILAPIA:
Tilapia are cultured in many closed systems although few are commercial size. Current production leaders live marketing in niche markets. Prices for premium fish seem good although depth of market still unknown. Probably will accept expansion due to large, highly populated areas north and south of Maryland.

Competition from foreign produced fish, imported as frozen fillets, would seem to preclude much development from closed system operators due to higher production costs. Problems of off flavor affect some tank cultured animals and operators need to pay attention to quality control to hold market.

1993 OUTLOOK: Possible large increase in production; fairly stable niche market; competition from imports affecting frozen or processed product.

GAMEFISH:
Gamefish production in Maryland is low at this time. Most fish received from other states. May be due to competition from state supported hatchery operations selling at subsidized prices to small pond owners. Little incentive for local producers at this time and with current competition.
Increase in pond construction and awareness of potential that exists for stocking and management has increased demand in recent years. Increase in fee fishing operations may boost demand for larger animals throughout business season.

1993 OUTLOOK: Modest production increase; small increase in acreage; continued demand.

OYSTERS:
The diseases MSX and Dermo continue to destroy cultured, as well as public oyster stocks. Areas which continue to support oysters are those in low salinity. Most oyster leases, however, are in higher salinity regions. Bans on further leasing in areas which could be productive prevent anyone from beginning production or using them to move oysters to minimize loss. Where private production exists, theft continues to be second largest problem with little concern from any part of legal system.

Although most oyster culture has been and continues to be on bottom, raft and rack systems have been tried on the Eastern Shore and, coupled with enlightened marketing, seem to be economically effective.

Remote setting as effective means of producing seed oysters continues to increase. Several operators who have effectively integrated techniques into their businesses begin harvest in 1993.

Prices for oysters up due to shortage of product from public bars. Cultured oysters treated as quality enhanced product and sold in selective markets could continue to be quite lucrative in next several years.

1993 OUTLOOK: Good market demand; no increase in acreage due to restrictive laws and lack of legal protection; little increase in production.

CRAWFISH:
Relative newcomer to Maryland with most operations in the Delmarva region, crawfish acreage has remained steady at less than 100 acres with most producers using existing ponds for production.

Harvest by trap with no mechanized operations in use. Production stated 500 lbs/acre with some higher claimed. Live market available as food in region for large, purged crawfish. Relatively untapped bait market with potential exists.
Some production certified organic as strong marketing tool. Health food and related establishments selling at retail prices above normal for this.

1993 OUTLOOK: Good market demand; some increase in acreage; moderate increase in production.

SOFT CRABS:
Shedding peelers for soft crab production has been going on for decades in Maryland. Recent advances in closed system technology have seen strong shift towards these systems due to convenience and economics of locating them away from expensive shoreside property. Poor water quality in many parts of the Bay cause significant mortality problems which closed systems can help cut down.

Markets developed in Orient and other areas in addition to domestic market. Sophisticated processing plants offer rigid grade and quality standards and have helped make an international product. Plants sometimes offer shedding tanks to local harvesters for weekly rental. These are flow through systems with plants taking care of water supply for shedders who sell product to the plant.

Industry problems in 1992 had mostly to do with decreased supplies of peelers, along with a general downturn in crab landings. Whether this was weather related or reduction in stocks currently being debated, along with new management measures for lower fishing pressure.

Shedders becoming more aware that quality product begins at harvest level and animals must be treated better from boat in order for significant decreases in mortality to result in better production and profit.

1993 OUTLOOK: Decrease in production; reasonably firm market.
PROGRAMS:

Evening and single day programs offer a quick way of learning more about aquaculture. Our topics cover a wide range of subjects and are taught by University and industry experts.

This year the University of Maryland System is pleased to be cooperating in several programs with institutions in our neighboring state of Delaware. We hope these will help to strengthen our educational programs for all our citizens.

Read through the listings to see what is offered near you. Further information may be obtained from the "CONTACT" source or from any of the Sea Grant Extension Program (SGEP) Area Agents. The listings are as complete as possible. Where necessary, they are listed as "TBA" (To Be Announced).

Please call if you are interested in attending any programs since changes may have occurred in dates or locations and some have limited attendance. Also, printed materials are frequently distributed at programs; calling ahead will ensure that enough copies are available for all who attend.

Finfish Production:

DATE: JAN 23
SUBJECT: ECONOMICS IN FISHERIES MANAGEMENT
LOCATION: Ocean City Convention Center, Ocean City
TIME: 12:20 PM
CONTACT: Any Sea Grant Agent in MD
NOTE: Part of the East Coast Commercial Fisherman's Trade Expo. Will include seafood marketing and new opportunities like cooperatives.

DATE: JAN 24
SUBJECT: QUALITY HANDLING SEAFOOD PRODUCTS
LOCATION: Martin Fish Company, West Ocean City and Ocean City Convention Center, Ocean City
TIME: 9:00-10:30 AM and 11:00-12:00 NOON
CONTACT: Any Sea Grant Agent in MD
NOTE: Part of the East Coast Commercial Fisherman's Trade Expo. Begins dockside at Martin Fish Co. with demonstration of handling techniques. Concludes at Convention Center discussing safe processing and handling seafood.
DATE: JAN 27  
SUBJECT: CATFISH GROWING SEMINAR  
LOCATION: SMECO Building, Hughesville, Charles County  
TIME: 7 PM  
CONTACT: St. Mary's Extension Office  
NOTE: A basic program for the beginning fish farmer. Covers the management and requirements for raising channel catfish.

DATE: FEB 9  
SUBJECT: CATFISH FARM MANAGEMENT I  
LOCATION: Charlotte Hall Public Library  
TIME: 6:30 PM  
CONTACT: St. Mary's Extension Office  
NOTE: REGISTRATION REQUIRED. The first section of an advanced program covering the systems, management, and marketing of channel catfish.

DATE: FEB 11  
SUBJECT: CATFISH FARM MANAGEMENT II  
LOCATION: Charlotte Hall Public Library  
TIME: 6:30 PM  
CONTACT: St. Mary's Extension Office  
NOTE: REGISTRATION REQUIRED. The second section of an advanced program covering the systems, management, and marketing of channel catfish.

DATE: APR 2  
SUBJECT: THE SIGNIFICANCE OF SHAD IN THE NORTHERN CHESAPEAKE  
LOCATION: Havre de Grace  
TIME: TBA  
CONTACT: Harford County Extension Office  
NOTE: Featuring tour of the Lock House Shad Museum, Havre de Grace, MDNR shad rearing ponds and the Fish Ladder at Conowingo Dam.

DATE: MAY 28-29  
SUBJECT: TROUT: MANAGEMENT, CULTURE & ANGLING OPPORTUNITIES IN MARYLAND  
LOCATION: TBA
TIME: TBA
CONTACT: Harford County Extension Office
NOTE: Visits to specially managed Maryland trout streams including Gunpowder River, Hunting Creek, Savage River and North Fork of the Potomac. Will also visit Maryland hatcheries producing trout for stocking. An overnight trip for a limited number of people. REGISTRATION REQUIRED.

DATE: JUN 11
SUBJECT: VISIT TO A WORKING FISH FARM
LOCATION: Walnut Point Farm, Chestertown MD
TIME: 10 AM
CONTACT: Sea Grant Area Agents or DE Aquaculture Resource Center
NOTE: Program includes demonstrations of production methods, equipment, and techniques for aquaculture species with commercial potential in this region. Conducted in cooperation with the University of Maryland System and the University of Delaware.

DATE: SEP 9
SUBJECT: VISIT TO A WORKING FISH FARM
LOCATION: Walnut Point Farm, Chestertown MD
TIME: 10 AM
CONTACT: Sea Grant Area Agents or DE Aquaculture Resource Center
NOTE: Program includes demonstrations of production methods, equipment, and techniques for aquaculture species with commercial potential in this region. Conducted in cooperation with the University of Maryland System and the University of Delaware.

DATE: SEP 14
SUBJECT: WINTER TROUT PRODUCTION WORKSHOP
LOCATION: TBA
TIME: TBA
CONTACT: Any MD Sea Grant Area Agent
NOTE: Covers experiences of trout producers in Maryland; recommendations for winter production including stocking, feeds, monitoring, and health management.
Shellfish Production:

DATE: JAN 7
SUBJECT: BEGINNING SHELLFISH CULTURE
LOCATION: Fish Farm Expo, New Orleans, LA
TIME: 8 AM
CONTACT: Wye Research & Education Center, Queenstown MD
NOTE: Part of Bivalve Production seminar. Covers factors necessary to begin production of shellfish aquaculture.

DATE: JAN 7
SUBJECT: BIVALVE CULTURE METHODS
LOCATION: Fish Farm Expo, New Orleans, LA
TIME: 8 AM
CONTACT: Horn Point Environmental Lab, Cambridge, MD
NOTE: Part of Bivalve Production seminar. Includes techniques for raising bivalves in coastal waters.

DATE: JAN 22
SUBJECT: EAST COAST SHELLFISH WORKSHOP
LOCATION: Sheraton, Ocean City
TIME: 9 AM
CONTACT: Any MD Sea Grant Area Agent
NOTE: The workshop will focus on management, marketing and shellfish handling to help with business planning from startup to final sale.

DATE: MAY-JUN
SUBJECT: REMOTE SETTING OF OYSTER SEED
LOCATION: Horn Point Environmental Lab, Cambridge
TIME: TBA
CONTACT: Any MD Sea Grant Area Agent
NOTE: Demonstrations of cost effective methods of producing seed oysters will be conducted in cooperation with growers. Covers nursery, growout operations and management.
General Aquaculture:

DATE: FEB 23
SUBJECT: POND MANAGEMENT FOR ORNAMENTAL PLANTS AND FISH
LOCATION: Longwood Gardens, Kennett Square, PA
TIME: TBA
CONTACT: Harford County Extension Office
NOTE: In-Service Training.

DATE: FEB 24
SUBJECT: AQUACULTURE AND ORNAMENTALS
LOCATION: Rockville, MD
TIME: TBA
CONTACT: Harford County Extension Office
NOTE: At the Annual Meeting of Landscape Contractors' Association. Use of aquaculture in aesthetics and proper care of culture animals.

DATE: MAR 10
SUBJECT: BUSINESS MANAGEMENT AND MARKETING FOR FISHERIES AND AQUACULTURE
LOCATION: Dover, DE
TIME: 7 PM
CONTACT: MD Sea Grant Area Agents or DE Aquaculture Resource Center
NOTE: Business planning for getting a seafood business developed and operating properly. Use of computer aids including AQUASIM, a user-friendly financial management program for aquaculture. Includes the latest survey results on the status and potential of aquaculture in Maryland and Delaware.

DATE: MAR 27 & 28
SUBJECT: FISHING TRADE SHOW AND SEMINAR
LOCATION: Solomons, MD
TIME: TBA
CONTACT: Harford County Extension Office
NOTE: A recreational fishing program with opportunities for learning new methods of production.
DATE: MAR 30  
SUBJECT: FARM POND MANAGEMENT  
LOCATION: Prince Frederick SMECO Building  
TIME: 7 PM  
CONTACT: St. Mary's Extension Office  
NOTE: Basic operation of farm ponds including design, construction, and management of fish and plant populations.

DATE: MAY 6  
SUBJECT: FEE FISHING AND OTHER OPPORTUNITIES IN MARYLAND  
LOCATION: Harford County Extension Office  
TIME: 7:00-9:00 PM  
CONTACT: Harford County Extension Office  
NOTE: Opportunities for commercial operation of fish out operations and other potential money making ventures.

DATE: MAY 12  
SUBJECT: AQUATIC PLANT CONTROL & IDENTIFICATION  
LOCATION: Charlotte Hall Public Library  
TIME: 7 PM  
CONTACT: St. Mary's County Extension Office  
NOTE: Identifying and controlling aquatic vegetation in freshwater ponds by biological, mechanical and chemical methods.

Water Quality:

DATE: JAN 9  
SUBJECT: CHEMICAL TEST KITS IN AQUACULTURE EDUCATION  
LOCATION: Fish Farmers Expo, New Orleans, LA  
TIME: TBA  
CONTACT: Harford County Extension Office  
NOTE: Part of educational training seminar. Includes an overview of test kits available for water quality monitoring and factors to consider when purchasing equipment.
DATE: MAY 11
SUBJECT: WATER QUALITY MONITORING & MANAGEMENT
LOCATION: Walnut Point Farm, Chestertown, MD
TIME: 9 AM
CONTACT: Sea Grant Area Agents or DE Aquaculture Resource Center
NOTE: In depth, hands-on program utilizing water quality monitoring kits and equipment required for successful management of an aquaculture facility. REGISTRATION REQUIRED. PRIORITY GIVEN TO THOSE ENGAGED IN COMMERCIAL AQUACULTURE.

Water Safety:

DATE: JAN 22
SUBJECT: COMMERCIAL FISHERMEN’S SAFETY SEMINAR
LOCATION: Convention Center, Ocean City MD
TIME: 9:00 AM
CONTACT: Sea Grant Area Agents
NOTE: Classroom and applied training in lifesaving equipment and techniques for commercial fishermen.

DATE: APR 16-18
SUBJECT: MID ATLANTIC LIFESAVING SEMINAR
LOCATION: Rehoboth Beach and Vicinity, DE
TIME: TBA
CONTACT: Eastern Shore Area Agent or DE Sea Grant Recreational Agent
NOTE: A program for lifesaving professionals. Friday evening will provide an overview of Sea Grant programs in the Mid Atlantic region and tour of the College of Marine Studies at Lewes, DE. Educational programs and exhibits will take place on Saturday at the Rehoboth Beach Convention Center. Separate sessions will be held for lifeguards and supervisors reflecting topics of interest to each group. A Mid Atlantic regional meeting of the United States Lifesaving Association will follow the seminars. Sunday will involve beach demonstrations of equipment at a nearby location.
Environmental Programs:

DATE: JAN 23
SUBJECT: CHANGE AND CHALLENGE ON THE CHESAPEAKE
LOCATION: Ocean City Convention Center
TIME: 11 AM
CONTACT: Eastern Shore Area Sea Grant Agent
NOTE: Part of the East Coast Trade Expo. A panel to discuss the past, present and future conflicts in the Bay, the seafood industry and the political arena.

DATE: JAN 23
SUBJECT: EXOTIC SPECIES AND THE BAY
LOCATION: Ocean City Convention Center
TIME: 2 PM
CONTACT: Eastern Shore Area Sea Grant Agent
NOTE: Part of the East Coast Commercial Fishermen's and Aquaculture Trade Expo.

DATE: MAR 10-12
SUBJECT: MID ATLANTIC ZEBRA MUSSEL CONFERENCE
LOCATION: Baltimore, MD
TIME: TBA
CONTACT: Harford County Extension Office
NOTE: Regional conference to discuss the impact of zebra mussels on rivers and waters of the Chesapeake Bay. REGISTRATION REQUIRED.

DATE: MAR 16
SUBJECT: ZEBRA MUSSELS: A THREAT TO MARYLAND WATERS
LOCATION: Solomons, MD
TIME: TBA
CONTACT: Harford County Extension Office
NOTE: The biology, ecology and economic consequences of Zebra Mussel introduction into Maryland waters is discussed. Visual materials documenting the disruption zebra mussels have caused in the Great Lakes and the northeast are presented along with impacts and "at risk" areas in Maryland.

DATE: APR 16
SUBJECT: ZEBRA MUSSELS: A THREAT TO MARYLAND WATERS

-15-
LOCATION: MRPA, Ocean City, MD
TIME: 9 AM - 12:15 PM
CONTACT: Harford County Extension Office
NOTE: The biology, ecology and economic consequences of Zebra Mussel introduction into Maryland waters will be discussed.

DATE: APR 26
SUBJECT: ZEBRA MUSSELS: A THREAT TO MARYLAND WATERS
LOCATION: Chestertown, MD
TIME: 9 AM - 12:15 PM
CONTACT: Harford County Extension Office
NOTE: The biology, ecology and economic consequences of Zebra Mussel introduction into Maryland waters will be discussed.

DATE: MAY 18
SUBJECT: INTRODUCING THE ZEBRA MUSSEL
LOCATION: Charlotte Hall Public Library
TIME: 7 PM
CONTACT: St. Mary’s County Extension Office
NOTE: Identification and control of the Zebra Mussel.

Crab Shedding:

DATE: MAR 23
SUBJECT: SUCCESSFUL SOFT CRAB PRODUCTION
LOCATION: Higher Education Bldg, Delaware Tech, Georgetown DE
TIME: 7 PM
CONTACT: MD Sea Grant Area Agents or DE Aquaculture Resource Center
NOTE: Covers design, operation and management of crab shedding operations including flow through and recirculating systems.

DATE: MAR 24
SUBJECT: SUCCESSFUL SOFT CRAB PRODUCTION
LOCATION: Harford County Extension Office
TIME: 7-9 PM
CONTACT: Harford County Extension Office or Area Agents
NOTE: Covers design, operation and management of crab shedding operations including flow through and recirculating systems.
A NATIONAL SATELLITE TELECONFERENCE
"INVESTING IN FRESHWATER AQUACULTURE"
APRIL 10, 1993
RIVERDALE, MARYLAND

The latest in technology will be available to Maryland aquafarmers in 1993. The University of Maryland will be participating with the Illinois-Indiana Sea Grant College Program, the North Central Regional Aquaculture Center, and the US Department of Agriculture Extension Service in a two hour satellite teleconference on Saturday, April 10.

This technology will allow farmers from around the United States to participate in an interactive program on the status and future of aquaculture. We invite you to join us in this exciting new program method.

The satellite broadcast will provide timely and accurate information for those involved in, or considering, a future in aquaculture. The teleconference will feature on-farm examples from the Midwest and South. Topics will include bait, sport, and food fish produced in ponds, raceways, and cages. One segment will focus on the status of commercial recirculating or "closed" systems.

During the program, the audience will be able to question the speakers and further aquaculture information will be available from the moderator at the University of Maryland's downlink site. Our site is located at Riverdale, Maryland close to the College Park campus.

For registration or more information on attending the satellite program, please call any Sea Grant Area Agent.
Begin on the important Chesapeake Bay spawning grounds, harvesting the broodstock. Transport them back to the University of Maryland's Horn Point Hatchery where you will learn to stage eggs, spawn fish, and care for the larvae until stocking. Then move on to preparation and management of fingerling ponds and production of juvenile fish through stocking and growout.

The program will include both classroom and field experiences with nationally known experts and include trips to local production facilities as well as the latest reference materials. Included this year will be a new information on broodstock maintenance, genetics and production of polyploids, feeds and feeding, water quality monitoring and maintenance, and other important factors in the growth of these important commercial fish.

Because of the intensely concentrated and hands-on nature of the program, it is offered only once a year and is LIMITED TO TEN PARTICIPANTS.

The Horn Point Lab is located on Maryland's Eastern Shore near Cambridge and is convenient to major travel routes, with lodging and restaurants located nearby. For more information on program, registration, or lodging contact:

SEA GRANT EXTENSION OFFICE
UNIVERSITY OF MARYLAND HORNE POINT LAB
PO BOX 775, CAMBRIDGE MD 21613
TELEPHONE 410 228 8200 / FAX 410 476 5490
"AQUACULTURE IN THE MID ATLANTIC"

JUNE 8 TO 10, 1993
SHERATON CONFERENCE CENTER
RT. 13, DOVER, DELAWARE

This annual conference was begun in Maryland in 1979. It has become a multi-state program bringing fish and shellfish farmers the latest information to make them money. It includes a trade show and three days of workshops on production, finance, marketing, and seafood technology.

This year, the program will be held in Dover DE. Workshops and trade show will be held at the Sheraton and at ponds located nearby at Delaware State College. Be sure to mark the dates on your calendar. Program topics for 1993 include:

PLANNING FOR COMMERCIAL AQUACULTURE
RECIRCULATING SYSTEMS
COMPUTERS IN AQUACULTURE
POND PRODUCTION SYSTEMS
WATER QUALITY AND AERATION
FISH HEALTH DIAGNOSTICS
AQUACULTURE SPECIES
FISH NUTRITION AND HEALTH MANAGEMENT
BROODSTOCK DEVELOPMENT AND GENETICS
PERMITS AND LEGAL CHALLENGES
SEAFOOD UPDATE
FOOD ISSUES AND QUALITY ASSURANCE

For more information, contact any of the Maryland Sea Grant Area Agents or the Delaware Aquaculture Resource Office.
Due to the interest in closed cycle or recirculating aquaculture systems, the Cooperative Extension Service University of Maryland System are organizing a special tour and training program. The group will travel to the University of North Carolina's "Fish Farm", located near Raleigh and Virginia Tech at Blacksburg, Virginia. Space will be limited and registration required.

The registration fee will cover round trip transportation and double occupancy accommodations. Meals will not be included. The program is open to all persons interested in this type of aquaculture. Priority will be given to those residing in Maryland and Delaware.

If you are interested in this exciting and highly educational trip some of the foremost recirculating aquaculture facilities in the region, please call:

DAN TERLIZZI  
Area Agent, Upper Bay  
Hartford County Extension Office  
2335 Rock Spring Road, PO Box 663  
Forest Hill, MD 21050  
Tel: 410 638 3255  
Fax: 410 638 3053
PUBLICATIONS, PERIODICALS, AUDIO/VISUALS
The University of Maryland Sea Grant Extension Program produces a wide range of publications dealing with aquaculture topics. Single copies of most publications are free of charge and stocked by many local county Extension offices. For a list of publications, contact the University of Maryland Sea Grant College, Communications Office, 0112 Skinner Hall, University of Maryland, College Park, MD 20742, TEL: 301 405 6371.

NEWSLETTERS
The MARYLAND AQUAFARMER, a newsletter for fish and shellfish farmers in Maryland, is produced four times a year by the Sea Grant Extension Program agents and specialists and distributed free of charge to those having an interest in aquaculture. Copies and subscriptions may be request by writing to: Editor, MARYLAND AQUAFARMER, Wye Research & Education Center, PO Box 169, Queenstown, MD 21658 (TEL: 410 827 8056; FAX: 410 827 9039).

Also, most County Agricultural Science Agents have newsletters which address topics of interest to farmers in their areas and announce programs, demonstrations and tours. In most cases, these are distributed on a monthly basis and offer a quick means of becoming informed about Extension activities. For mailing list information, call your local County Extension Office.

EDUCATIONAL VIDEO TAPES
Video tapes on aquaculture are available on loan, free of charge, to Maryland residents through the Cooperative Extension Service. some of University of Maryland productions; while some have been produced by other agencies and institutions and may have application to Maryland aquaculture. Check with your local County Extension Office for titles and availability.
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