

PART VI

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APPENDIX I: TRAINING AND INFORMATION NEEDS

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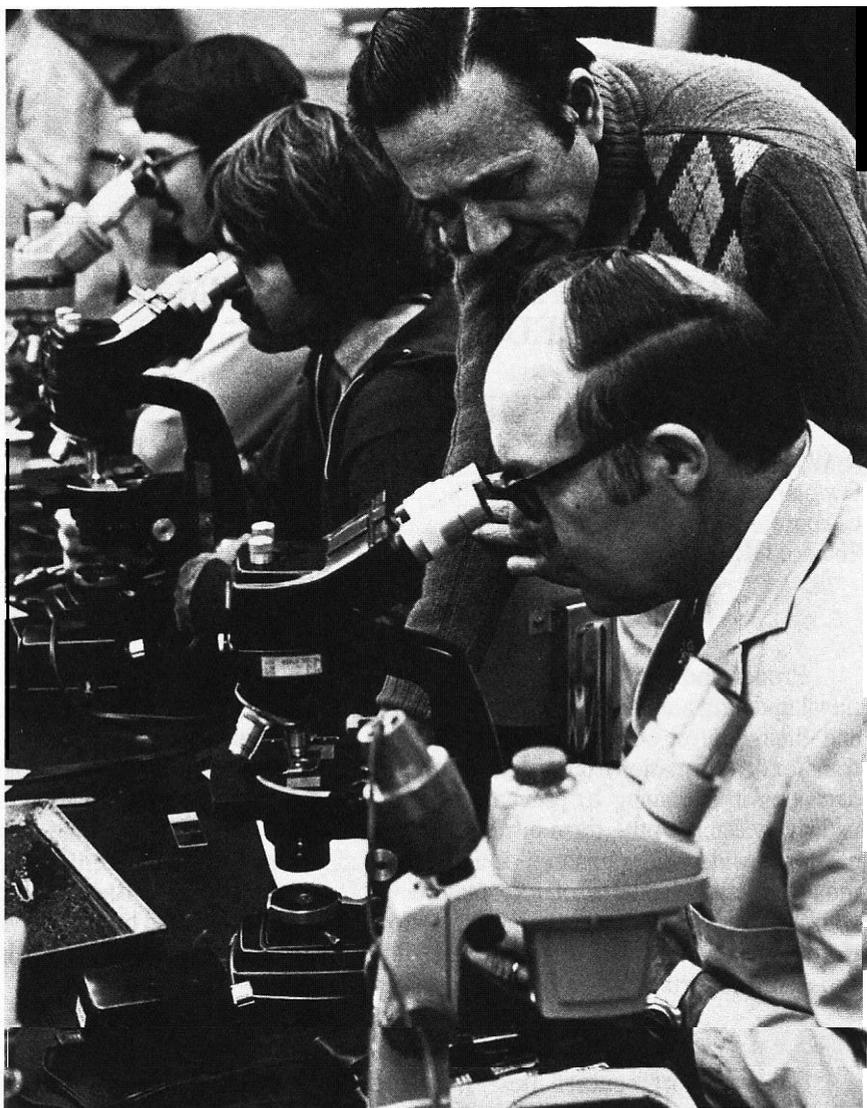
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Toledo, OH

Proper and appropriate methods of fish health management require continual updating and revision as new developments in our knowledge of diseases and their control occur. The practicing fish culturist is dependent upon the transfer of information from researchers to assist him in making the best possible decisions in managing to prevent or treat fish diseases. That information is usually available in the form of reports or publications, but such information is often not widely disseminated or available to all fish culturists. Therefore, the most effective transfer of information is often transmitted through short courses, trade associations, or word of mouth. Such sources also help to serve the needs of the novice fish culturist, for whom training and information is especially important, in making appropriate management decisions.

CONTINUING EDUCATION OPPORTUNITIES

Several short courses (less than one week duration) and other more intensive training opportunities in relation to fish diseases in the Great Lakes region are available to fish culturists from both the public and private sectors. In general, the short courses are intended to assist individuals in recognizing signs of disease, treating those diseases, and in managing to prevent their recurrence. Intense courses of study are available for those persons whose position or interests may require disease diagnostic capabilities in addition to appropriate therapeutic knowledge. Individual needs can best be satisfied by contacting the appropriate laboratory or institution for a course outline, specific dates of offering, and application forms. The courses which should best assist hatchery personnel in the Great Lakes area are listed in Table 1.



Students on a fish disease short course at the National Fisheries Center, Leetown, WV (U.S. Fish and Wildl. Serv.)

TECHNICAL EXCHANGE

As knowledge and techniques for fish health management are developed, it is necessary that such information be transmitted to fish culturists on a timely basis. The exchange of scientific information traditionally occurs through the publication of results in technical journals, oral presentation of papers at scientific meetings, and workshops or seminars dedicated to a specific topic. A list of

periodicals with technical and non-technical information on the subjects of fish diseases and fish health management is provided below.

Aquaculture Magazine

Fish Disease Leaflets

Fish Health News

Journal of Fish Biology

Canadian Journal of Fisheries and Aquatic Sciences

Journal of Ichthyology

Progressive Fish Culturist

Salmonid

Transactions of the American Fisheries Society

Annual meetings of the American Fisheries Society (5410 Grosvenor Lane, Bethesda, MD 20014), and the U.S. Trout Farmers Association (P.O. Box 171, Lake Ozark, MO 65049) and Ontario Trout Farmers Association (c/o Trillium Springs Fish Farm, R.R. 2, Holland Centre, Ontario NOH 1R0) offer opportunities to hear presentations of recent scientific findings. The AFS meetings can be expected to be technical in scope, while the USTFA and OTFA meetings will provide information directed toward applications of new knowledge.

Workshops offer excellent opportunities for the exchange of ideas among scientists and fish culturists. Regional fish disease workshops are held on an annual basis exactly for this purpose. Detailed information on dates and program are available from the U.S. Fish and Wildlife Service, Fish Disease Control Center, P.O. Box 1595 La Crosse, WI 54601.0146.

CONCLUSIONS

Adequate opportunities for training and updating fish culturists on fish health management techniques exist. The real concern then becomes the need for greater participation by fish culturists in these activities. Within the public sector, budgetary restrictions and priorities at the hatchery often prohibit the attendance of the hatchery manager or biologist at conferences, workshops, or short courses. Fish culturists in the private sector suffer the same problems, in addition to a lack of awareness of what can be gained.

The need for fish health management must be impressed on all fish culturists. Public agencies should insure that all facilities, both public and private are promptly made aware of any new activities or techniques related to fish health management as they are developed. The present flow of information on a timely basis all too often excludes fish culturists in the private sector, and even then, the reports are not on a level that is useful or understandable to them. Their interests in fish health management exist but are not always fertilized. Primary contact with other fish culturists is through regional or national trade associations. Agencies, as a group or singly, need to include all of the fish culture community in the flow of information on this subject. Communication, and not regulation, will establish a positive approach to educating fish culturists at all levels.

Table 1. Continuing Education in Fish Health Management

Sponsoring Institution/Agency	Course Title	Instructor	Location	Frequency	Contact
Fish and Wildlife Service, U.S. Dept. of Interior; and Univ. of Wisconsin - La Crosse	Introduction to Fish Health	J.W. Warren H.M. Jackson	La Crosse, WI	Annual (one-week course)	J.W. Warren; Fish Disease Control Center; P.O. Box 1595; La Crosse, WI 54601-0146 AC 608/783-6451
Fisheries Academy, Fish and Wildlife Service U.S. Dept. of Interior	Fish Health Management	Staff of National Fish Health Research Laboratory	Leetown, WV	Annual (Nine-month course)	Superintendent Fisheries Academy; National Fisheries Center; Leetown; Route 3; Box 700; Kearneysville, WV 25430 AC 304/725-8461
	Fish Diseases	"	"	Annual (one-week courses)	"
University of Idaho	Fish Health Management	G.W. Klontz	At Hatchery	As requested by host agency	Dr. G.W. Klontz; Dept. of Fish and Wildlife Resources; Univ. of Idaho; Moscow, Idaho 83843; AC 280/885-6336
Haywood Technical College	Fish Health	Invited Experts	Clyde, NC	Annual	Charles W. Johnson; Fishery Training Specialist; Haywood Technical College; Freedlander Drive; Clyde, NC 28721-9454 AC 704/627-2821