

SEA GRANT PROJECT SUMMARY FORM 90-2 DEVELOPMENT PROPOSAL

- (1) INSTITUTION: Southern Illinois University Carbondale (1a) ICODE:
(2) TITLE: Increasing the Availability of Veterinarians for Indiana and Illinois Aquaculturists
(3) PROJECT NUMBER: (4) REVISION DATE:
(5) PROJECT STATUS: (6) INITIATION DATE:
(7) COMPLETION DATE:
- (8) SUB PROGRAM:
- (9) PRINCIPAL INVESTIGATOR: Jesse Trushenski (9a) EFFORT: 0.12 person
months
(9b) AFFILIATION: Southern Illinois University Carbondale, Fisheries and Illinois
Aquaculture Center
(9c) AFFILIATION CODE:
- (10) CO-PRINCIPAL INVESTIGATORS:
(10a) EFFORT:
(10b) AFFILIATION:
(10c) AFFILIATION CODE:
- (11) ASSOCIATE INVESTIGATOR 1: Teresa Dudis (11a) EFFORT: 1.4 person
months
(11b) AFFILIATION: USDA, APHIS, Veterinary Services, Illinois
(11c) AFFILIATION CODE:
- (12) ASSOCIATE INVESTIGATOR 2: Steven Shults (12a) EFFORT: 0.12 person
months
(12b) AFFILIATION: Illinois Department of Natural Resources, Aquaculture / ANS Program
(12c) AFFILIATION CODE:
- (13) S.G. FUNDS: (14) STATE MATCHING FUNDS:
(15) LAST YEAR'S SG FUNDS: (16) LAST YEAR'S MATCHING FUNDS:
(17) PASS-THROUGH FUNDS: (18) LAST YEAR'S PASS-THROUGH FUNDS:
(19) RELATED PROJECTS:
(20) PARENT PROJECTS:
(21) SEA GRANT STRATEGIC PLAN CLASSIFICATION:
- (22) OBJECTIVES: To develop and deliver an introductory fish health class for veterinarians and veterinary students, fisheries professionals and students, and other stakeholders in Illinois and Indiana for the purpose of 1) generating interest in the field of aquaculture, 2) transmitting information about opportunities in aquaculture, 3) and providing a basic understanding and working knowledge of fish health in culture settings.

(23) PROBLEM:

Many experts agree that aquaculture is the only sustainable means of providing enough seafood supply to meet the ever growing world demand. “In a time when fish from oceans and other waterways are being harvested at unsustainable rates, aquaculture has become the fastest growing food production industry in the world, and a major industry in the United States” (www.iiseagrant.org/topics.html). Today, nearly half of all seafood products produced throughout the world is farmed. Freshwater commercial aquaculture in the United States was valued to be an \$800 million industry in 2005. Additionally, the annual estimated economic value of recreational fresh water fisheries (a significant portion of which is supported by cultured fish) is estimated to be \$25.4 billion.

Promoting and maintaining fish health is one of the primary challenges facing aquaculturists today. Culturists must have effective preventative and therapeutic strategies in their fish health ‘toolbox’ in order to manage livestock health and well-being, minimize costs, and provide a quality product to human consumers worldwide. A crucial component of on-farm livestock health management is ready access to competent veterinary support—culturists need to establish effective working relationships with veterinarians for access to diagnostic services, therapeutants under veterinary feed directives (i.e., Aquaflor[®]) or available by prescription only, and most importantly, experienced guidance in maintaining aquatic animal health. Unfortunately, most veterinary schools do not offer coursework or ‘hands-on’ training in aquatic animal health, and specialized training in traditional livestock medicine is insufficient to prepare veterinarians for practicing in aquaculture. Such basic aspects of veterinary medicine as method of treatment are called into question when dealing with aquatic animals. Without training in aquatic animal health and judicious use of approved aquaculture drugs, veterinarians are ill-equipped to serve the growing number of aquaculturists in the U.S.

(24) RATIONALE (IMPACT OF PROBLEM):

Due to lack of available and trained veterinarians (especially in those areas where the commercial aquaculture facilities are located), fish health and production are not optimized. Appropriate diagnostic and treatment plans are not always implemented leading to decreased production and lost opportunities for revenues. Without access to experienced veterinary support, farmers resort to managing their livestock using the methods available to the home aquarium hobbyist. Use of unapproved drugs and chemicals is common, as is the misuse of approved products. The ultimate consequences of these activities are ineffective health management on the farm, increased losses, and the potential for unsafe product to reach the marketplace.

(25) METHODOLOGY:

We propose to offer an educational workshop to veterinarians in Illinois and Indiana to increase their awareness of aquaculture in the region and to increase their confidence in assisting aquaculturists in managing the health of their livestock. Four to eight-hour workshop(s) will be developed and held in conjunction with established veterinary conferences in the states of Indiana and Illinois and will incorporate the following topics in a short-course, continuing

education format:

- Aquaculture as growing industry business in the U.S. and abroad
- Opportunities for aquaculture veterinarians in the Midwest—the IL/IN fish farming industry
- Basic aspects of aquaculture and fish husbandry
- Common regional fish diseases
- Judicious use of approved aquaculture drugs
- Risk management/HACCP/biosecurity issues
- Regulatory challenges – e.g., VHS, invasive species, use of chemicals, drugs, and biologics
- Available resources including additional continuing educational opportunities

Presentations will be given by experts in the relevant topical areas. These presentations and the workshop discussions will be captured and used in the development of continuing education modules for veterinarians throughout the region (online or other self-taught formats).

Products will be shared with organizations such as the American Veterinary Medical Association, the APHIS veterinary accreditation staff, the Illinois and Indiana state veterinary medical associations, and the Virginia-Maryland Regional College of Veterinary Medicine's Center for Government and Corporate Veterinary Medicine for potential collaborations on a broader scale throughout the country.

(26) EXPECTED RESULTS AND IMPACT:

Veterinarians and veterinary students will become more aware of the advantages and opportunities afforded by a career in aquaculture and have access to resources and avenues for pursuing careers in the field of aquaculture medicine. Many will pursue additional educational opportunities in the field and ultimately, the desired outcome is an increase in the number of veterinarians with expertise in fish health available to aquaculturists. This will result in:

- Overall improvements in farmed fish health with a concomitant increase in the volume and monetary value of aquaculture products, and
- Greater compliance with state and federal health standards resulting in increased environmental safety and a more secure food supply.