

2009 & 10

# ANNUAL REPORT

Dr. Jim Tidwell  
Principles of Aquaculture

Dr. Bob Durborow  
Fish Diseases  
Water Quality Mgt.

Dr. Boris Gomelsky  
Fish Genetics  
Fish Reproduction &  
Spawning Techniques

Dr. Steve Mims  
Fish Reproduction &  
Spawning Techniques



**FIVE  
VIDEO-BASED  
ONLINE  
COURSES  
EXPAND  
KSU  
AQUACULTURE'S  
BORDERS**

**Students in 36 States and 18 Countries**

**Kentucky State University Aquaculture**

**Text by Aquaculture Staff**

**Compilation by Karla Johnson**

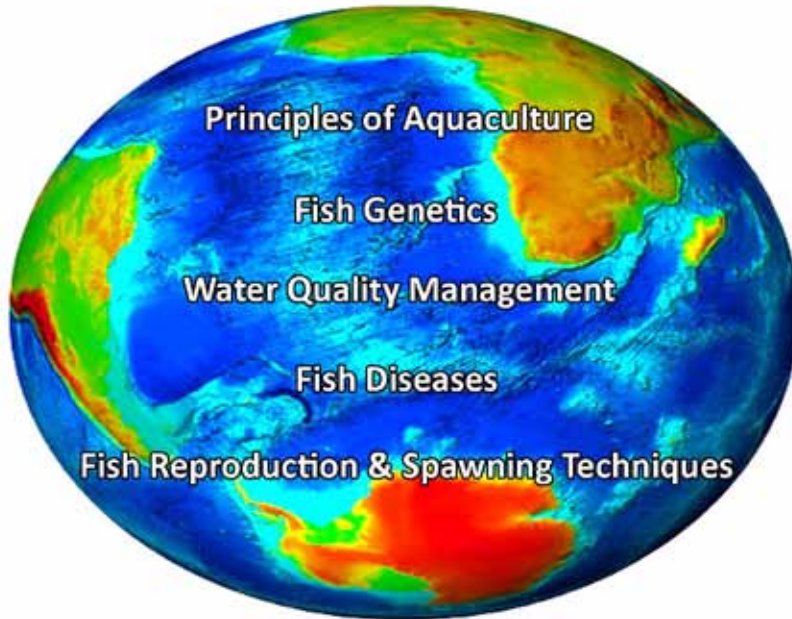
**Layout and Photography by  
Tod Porter & Charles Weibel**

**Edited by  
Dr. James Tidwell & Leigh Anne Bright**

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## ***Aquaculture's Online Students Located 'Round the World***

**A**quaculture's online students can be found around the world. And these students are not just participating in traditional keyboard online courses, but engaged in video-based instruction. Students see the instructor as he/she teaches, view video clips, PowerPoint presentations and lab/ field experiments.

*I loved the format, it was like I was there in the classroom. R.E.*

Currently, KSU Aquaculture counts past and present online students from 36 states and 18 foreign countries, and this does not include on-campus students from other states and countries.

Most students participating in online courses are seeking a bachelor's or master's degree; however, fisheries and aquaculture professionals also sign-on for professional development training. Five video-based courses are now available with updates under way on *Principles of Aquaculture*, and initial work begins soon on a fisheries course.

## **FIELD DAY ANSWERS QUESTIONS FOR FARMERS AND GROWERS**

The July 25, 2009, KSU Aquaculture Field Day at the Aquaculture Research Center was quite a success with over 50 persons participating. Twelve stations, from fish species to aquaponics to video editing, were set up so attendees could focus on their areas of interest.

Drs. Benson, Tidwell and Durborow welcomed aquaculture enthusiasts and introduced presentations conducted by KSU Extension Specialists, faculty and staff. Then it was off to the 12 stations that were hands-on for the most part. Attendees could see a variety of fish species and get their questions answered directly by experts.



## **EEC Recipient of Conservation Stewardship Award**

KSU's Environmental Education Center was selected to receive the 2009 Kentucky Heritage Land Conservation Fund Stewardship Award. "This award recognizes excellent stewardship of a KHLCF competitive project with an approved Final Resource Management plan (FRMP). The Kentucky Heritage Land Conservation Board applauds the outstanding work of the KSU Environmental Education Center and wishes to express its sincere appreciation of the hard work and dedication that you, your staff and volunteers demonstrate in not only providing excellent educational opportunities to connect students and faculty with nature but also conserving and protecting one of Kentucky's natural treasures."

## Executive Summary

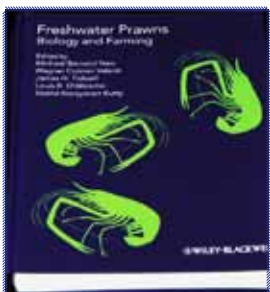
Dr. Benson dreamed of it, fought for it, and now it's a reality: KSU Land Grant's Center for Sustainability of Farms and Families.



## Center for Sustainability of Farms and Families

### SUSTAINABLE FARM IDEAS HAVE BECOME NATIONAL MODEL

Mac Stone, former KSU farm manager, credited KSU Land Grant's phenomenal growth to Land Grant Director Dr. Harold Benson's foresight and his willingness to listen to his staff's ideas. As a result, the university began the Third Thursday workshops which have become a national model for sustainability education; added a mobile processing unit which aids farmers around the state; introduced small- and limited-resource farmers to new types of livestock and crops; and developed an organic agriculture program for limited-resource farmers.



### Internationally Known Freshwater Prawn Experts Author Text

Dr. Jim Tidwell and four other internationally known aquaculture scientists from England, Brazil, and India, have teamed to produce the definitive work on the farming and biology of freshwater prawns. The 560-page book, *Freshwater Prawns: Biology and Farming*, covers general biology and

every aspect of farming freshwater prawns, from current research to development and commercial practice, and is intended to stimulate further in-depth understanding of this important species which generates around two billion dollars annually. The book, which retails for \$254.99, is published by Wiley-Blackwell.



*On the drawing board*

### ***New Facility to Open Door to Intensive Recirculating Systems***

**T**his new production lab will contain the facilities needed to evaluate and develop intensive recirculating systems. Interest in the production of fish and shrimp indoors under controlled conditions continues to increase, especially since environmental concerns are paramount. These systems operate with much lower demands for water and allow year-round growth, and allow for production of species (such as ocean shrimp) far from their natural environment, near large and profitable market centers, without the risk of disease, escape or pollution.

The building will also permit the expansion of genetics research in aquaculture. Currently only 1-2% of the animals raised in aquaculture have been selected for improved genetics, which includes faster growth and greater disease resistance. This lab will greatly increase KSU's ability to produce and evaluate promising genetic lines of different species, and allow our students to be trained in cutting-edge molecular genetics techniques and with state-of-the-art equipment.



### ***Aquaculture's High-Tech Display a HIT at the World Equestrian Games***

Thousands of horse lovers from 'round the world also liked KSU's high-tech display that promoted Aquaculture's video-based online courses.

### **Searching for a Chef**

The fifth annual Great Annual Kentucky Seafood Cook-Off brought together the best chefs from across the state. The participants gathered at Jefferson Community and Technical College in Louisville for the competition. Winner Jeremy Ashby, from Azur Restaurant in Lexington, represented Kentucky at the Great American Seafood Cook-Off in New Orleans in August 2010.

# 2009-10 ANNUAL REPORT

## Executive Summary

### BATON ROUGE, LA

### FRANKFORT, KY



**KSU student Josh Patterson defended his thesis via video while working on his Ph.D. at LSU.**

**Mussel Study Featured on PBS**



**Andy at Work**

KSU Aquaculture graduate student Andrew McDonald is finishing up his thesis research at the Kentucky Fish and Wildlife Resources' Center for Mollusk Conservation at the Forks of Elkhorn near Frankfort. Under the guidance of Dr. Monte McGregor, he has been assisting with freshwater mussel propagation efforts, as well as carrying out his own thesis experiments. Culturing freshwater mussels in captivity is of growing importance because they are the most threatened group of animals in North America, and many species are in danger of extinction.



**The Sun Came Out** and buyers lined-up to purchase freshwater prawns from KSU grad students. Dr. Dasgupta (R) collected data on the buyers.

**KSU Prawn Sales Provide Marketing Research for Kentucky Growers While Generating Funds for Graduate Students to Present Their Research at International Venues.**

## PERSONNEL

Harold R. Benson, Ph.D., Director of Land Grant Program

Charles Bennett, Ph.D., Dean of Math, Science, Technology and Health

Kimberly Holmes, Ph.D, Associate Director of Land Grant Program

James H. Tidwell, Ph.D., Professor and Chair & PI freshwater shrimp & largemouth bass

Sid Dasgupta, Ph.D., Associate Professor, Economics & Marketing

Robert M. Durborow, Ph.D., Professor, State Specialist, Fish Disease Diagnostic Laboratory

Boris Gomelsky, Ph.D., Associate Professor, Principal Investigator, genetics, crappie and koi

Steven D. Mims, Ph.D., Professor, Principal Investigator, paddlefish and sturgeon

Carl D. Webster, Ph.D., Professor, Principal Investigator, aquaculture nutrition

William A. Wurts, Ph.D., Senior State Specialist for Aquaculture, Western Kentucky

Forrest S. Wynne, M.S., State Specialist for Aquaculture, Western Kentucky

Shawn Coyle, M.S., Co-Investigator, freshwater prawn and largemouth bass projects

Richard Onders, M.S., Co-Investigator, paddlefish, and sturgeon projects

Ken Thompson, M.S., Co-Investigator, red claw crayfish & hybrid striped bass nutrition

Tod Porter, M.A., Multimedia Producer for Aquaculture programs

Nathan Cochran, M.S., Distance Learning Specialist

William Bean, M.S., K-12 Aquaculture Educator/Recruiter for Aquaculture programs

William Stilwell, M.S., Manager/Environmental Education Center

Leigh Anne Bright, M.S., Research Assistant

Kyle Schneider, M.S., Research Assistant

Charles Weibel, B.S., Digital Graphics Specialist

Daniel Yancey, B.S., Farm Manager for Aquaculture Research Facility

Karla Johnson, A.S., Administrative Assistant II

Carolyn Bolton, A.S., Administrative Assistant II

Robert Janes, Fish Culture Assistant

Pauline Jackson, Maintenance Worker III



## LONG-TERM VISION

Kentucky State University will remain the lead institution for aquaculture in Kentucky, and one of the premier programs in the nation. Involvement of on-site students in relevant, real-world research will continue. Outreach through video and Web-based courses will be expanded.

## FACILITIES

Kentucky State University's Aquaculture Research Center is the only such facility in the Commonwealth of Kentucky. Facilities at the Aquaculture Research Center include 33 research ponds (24 1/10th acre and 9 1/20th acre). A 3,000-square-foot hatchery houses spawning, holding, and experimental tanks. A 4,000-square-foot office/laboratory building includes an histology laboratory, offices, and conference/classroom space. The 3,500-square-foot nutrition laboratory contains a wet laboratory for aquarium studies, a feed preparation/water quality laboratory, office/computer space, and an analytical laboratory. A 3,000-square-foot greenhouse facility contains temperature control systems capable of evaluating three temperature levels in eighteen 950-gallon tanks, as well as recirculating shrimp hatchery system. A second 3,000-square-foot greenhouse contains four 10,000-gallon tanks for broodstock holding and conditioning. A 120,000-gallon, 24-tank facility, designed as a pond microcosm facility, was completed fall 2003. These facilities may be utilized for student research and teaching.

A classroom/multi-purpose building for instruction, research, library resources, and distance learning was completed in 2005. The building also includes a Fish Disease Diagnostic Laboratory that is fully equipped with incubators, microscopes, and video microscopy. It is used to provide disease diagnostics to producers from across Kentucky and the surrounding region. A processing room is designed for food science research and has equipment for processing, freezing and packaging – all in one room. The videoconferencing facility is scheduled for an upgrade to high definition. A new Production Technologies and Genetics Laboratory is currently in the design phase.

## ORGANIZATIONAL STRUCTURE

The Division of Aquaculture is the only program at KSU that addresses all three of the traditional Land Grant university roles: research, teaching, and extension. Research and extension responsibilities are administratively housed within the Land Grant Program under the supervision of Dr. Harold Benson, Director of the Land Grant Program, and Dr. Kimberly Holmes, Associate Director. Academics are administratively housed within the College of Math, Science, Technology and Health, administered by the Dean, Dr. Charles Bennett. Both of the Land Grant functions (research and extension) and the academic functions are supervised by the Vice-President for Academic Affairs and Provost, Dr. James Chapman.

## RESEARCH

The goal of the KSU Aquaculture Research Program is to increase the knowledge-base in aquaculture, and thereby facilitate increases in farm income and the productivity of on-farm water resources in Kentucky and around the world. This is to be accomplished by examining and developing production technologies suitable for the climatic and physiographic conditions prevalent in Kentucky and similar regions. To meet these goals, the KSU Aquaculture Research Program's initial studies were directed toward the development and adaptation of pond- and cage-culture techniques for channel catfish and trout. However, the USDA expects newly developing aquaculture species to experience rapid expansion by adapting existing production and processing systems already developed for traditional species. Development of these new species is expected to occur largely in states, like Kentucky, which do not currently have well-established production, processing, or marketing infrastructures for aquaculture.

The intent of the research, extension, and education activities is to assist Kentucky producers in this future development by investigating all aspects of the production of aquaculture species that can be produced profitably in Kentucky. **The KSU Aquaculture Program is widely recognized as being the lead program nationally and internationally in the areas of paddlefish culture, freshwater prawn culture, production of largemouth bass on-feed, and fish meal replacement research for catfish and hybrid striped bass.**

## EXTENSION

Research information is of little practical value unless it is communicated to producers in a useful and understandable form. Training and extension programs serve as the primary means of transferring this knowledge from the researchers to the end users. KSU Aquaculture Specialists are integrated into the UK Cooperative Extension System. Specialists are housed in western Kentucky at the UK Princeton Research and Extension Center (Dr. Wurts), in central Kentucky at KSU's main campus (Dr. Durborow), and Forrest Wynne is in the Purchase Area in western Kentucky to assist and support the catfish industry.

## DISTANCE EDUCATION

Students from all over the United States and many foreign countries have become involved in KSU's Aquaculture Program by taking online (Internet) courses. During the reporting period, three more video-based courses have been completed and are now enrolling students.

The new online courses: *Fish Reproduction and Spawning Techniques* and *Water Quality Management*, became available in the 2009 fall semester and 2010 spring semester. Additionally, *Fish Genetics*, first offered in 2002 as a traditional online course, has been updated and converted into a video-based course. Currently the Division of Aquaculture has five online, video-based courses:

- *Principles of Aquaculture* - Instructor: Dr. Jim Tidwell
- *Fish Diseases* - Instructor: Dr. Bob Durborow
- *Fish Genetics* - Instructor: Dr. Boris Gomelsky
- *Water Quality Management* - Instructor: Dr. Bob Durborow
- *Fish Production and Spawning Techniques* - Instructors: Dr. Boris Gomelsky & Dr. Steve Mims

Online students from 36 states and 18 countries have enrolled in KSU Aquaculture courses — with a success rate exceeding 90 percent.

## UNDERGRADUATE AND GRADUATE EDUCATION

Kentucky State University began offering an undergraduate Minor in Aquaculture in 1992 within the Division of Math and Sciences. No other university in the Commonwealth offers an aquaculture curriculum. In 1999, the Council on Post-Secondary Education approved KSU to offer a Master of Science degree in Aquaculture/Aquatic Science. KSU now has eight full-time graduate students, and six part-time graduate students, not counting online students. The program awarded its first M.S. degree in May 2002, and has now awarded 27 Master of Science degrees.

### *FALL 2009*

#### Undergraduate Courses

Gomelsky	AQU 407-V1	Fish Genetics
Durborow	AQU 411-01	Fish Diseases
Tidwell	AQU 422-V1	Principles of Aquaculture
Tidwell	AQU 451-01	Survey of Production Methods
Gould	AQU 480-01	Intro to Geographic Information Systems (GIS)

#### Graduate Courses

Gomelsky	AQU 507-V1	Fish Genetics
Durborow	AQU 511-01	Fish Diseases
Tidwell	AQU 522-V1	Principles of Aquaculture
Tidwell	AQU 551-01	Survey of Production Methods
Zourarakis	AQU 580-01	Intro to Geographic Information Systems (GIS)

## UNDERGRADUATE AND GRADUATE EDUCATION

### *SPRING 2010*

#### Undergraduate Courses

Gomelsky	AQU 407-V1	Fish Genetics
Dasgupta	AQU 409-01	Biostatistics
Durborow	AQU 414-V1	Basics of Fish Diseases
Dasgupta	AQU 416-01	Computer Applications in Statistics
Tidwell	AQU 422-V1	Principles of Aquaculture
Gould	AQU 480-01	Intro to Geographic Information Systems (GIS)

#### Graduate Courses

Gomelsky	AQU 507-01	Fish Genetics
Dasgupta	AQU 509-01	Biostatistics
Durborow	AQU 514-V1	Basics of Fish Diseases
Dasgupta	AQU 516-01	Computer Applications in Statistics
Tidwell	AQU 522-V1	Principles of Aquaculture
Zourarakis	AQU 580-01	Intro to Geographic Information Systems (GIS)

### *SUMMER 2010*

#### Undergraduate Courses

Tidwell	AQU 422-V1	Principles of Aquaculture
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#### Graduate Courses

Tidwell	AQU 522-V1	Principles of Aquaculture
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## K-12 OUTREACH

### **Overview**

Traditionally, the Aquaculture Education Program has served the educational needs of three distinct groups: (1) K-12 students, (2) their educators, and (3) the general public. The largest service group is the K-12 students which are required to learn specific (core) scientific and mathematical concepts, as mandated by the Kentucky Department of Education. Due to the nature of aquaculture, its principals clearly demonstrate both the integration and practical applications of biological, chemical, and mathematical core concepts. In addition, many K-12 students have interest in vocational agriculture and aquaculture increases the choices among agricultural careers.

K-12 educators are the next service group and the teachers are divided into two categories: traditional science and vocational agriculture. Traditional science educators use aquaculture to (1) reinforce scientific core concepts; (2) illustrate the interactions occurring in “real-world” science; and (3) improve their students’ laboratory and practical skills. Vocational agriculture educators teach similar core concepts but usually from an animal husbandry perspective. In 2009-10, 46 vocational agriculture educators in Kentucky were teaching aquaculture courses. To assist both sets of educators, the Aquaculture Education Program is constantly updating its selection of aquaculture curriculum and laboratory activities. The Aquaculture Education Web site ( [www.ksuaquaed.org](http://www.ksuaquaed.org) ) has become an important tool for K-12 educators. Due to this increasing need, the Web site is undergoing major improvements to better serve these educators, which includes opportunities for professional development offered through KSU.

### **Major Accomplishments of 2009-10**

- The Free Fish Program donates aquatic species to K-12 educators for the purpose of stocking educational systems. The program allows K-12 students to actively raise fish (i.e. koi and tilapia) in recirculation systems. Many schools sell their aqua crops during FFA Greenhouse Sales, with the monies being used for educational purposes. Thirty schools participated in the Free Fish Program in 2009-10.
- Served as the PACT Youth Director. PACT is a week-long summer program for 5th, 6th, and 7th graders. As the director, duties included designing the educational content (for three age groups); hiring of three leader teachers and several undergraduate student staff; and overseeing the entire program. In 2009-10, 75 students from Kentucky and Ohio participated.
- The Northern Kentucky Youth Development Center (NKYDC, an Alternative school in Crittenden, KY) has completed building an indoor production system. This new recirculation system has increased the number of students that may take aquaculture courses at NKYDC.
- Future Farmers of America (FFA) Aquaculture Impromptu Judge: Bluegrass Region Day (hosted at University of Kentucky). This marks the sixth year as an aquaculture judge in the impromptu category.

## ENVIRONMENTAL EDUCATION CENTER

Within Land Grant, our Program Area designation is Aquaculture and Natural Resources. With that charge, responsibilities for KSU's Environmental Education Center have been placed within the Division of Aquaculture. This 300-acre property provides opportunities for students to learn about the environment all the way from kindergarten through graduate school. This is particularly important to urban and minority student populations who are extremely underrepresented in the natural resources and environmental professions.

Facilities at the EEC are designed to ensure access and learning experiences for students who are physically, visually, or hearing impaired. During the reporting period, the EEC received three grants totaling over \$61,750: one to develop an ADA compliant trail, one to cover transportation and lodging for professional development on educating special needs students, and one for the Mobile EEC to educate students about CFL light bulbs. For those who cannot come to the KSU-EEC, the mobile EEC unit goes to them. During the 09/10 year, we have had over 726 visitors to the EEC (42 groups), the Mobile EEC unit made over 3,231 direct contacts in 58 classes in nine Kentucky counties, and the Web site, to date, has received over 22,000 contacts.

## PROFESSIONAL SOCIETIES AND TECHNICAL ASSOCIATIONS

Shawn Coyle serves on the Board of Directors for the U.S. Freshwater Prawn and Shrimp Growers Association, Inc.

Dr. Robert Durborow is a member of the American Fisheries Society (AFS) and AFS Fish Health & Fish Culture Sections and the World Aquaculture Society.

Dr. Boris Gomelsky is a member of the World Aquaculture Society and the U.S. Aquaculture Society.

Dr. Steve Mims is a member of the World Aquaculture Society, the Sturgeon Specialist Group, IUCN-World Conservation Union and the USAS Subcommittee for Student Chapters.

Ken Thompson is a member of Kentucky Academy of Science (KAS) (2009-present), Kentucky Aquaculture Association (KAA), World Aquaculture Society (WAS), and the U.S. Aquaculture Society.

Dr. Jim Tidwell is a Past President of the U.S. Aquaculture Society and the World Aquaculture Society, and serves on the Publications Committee of USDA's Southern Regional Aquaculture Center (SRAC).

Dr. Carl Webster is a Past President of the U.S. Aquaculture Society.

Dr. William Wurts, World Aquaculture Society (member, 29 years), U.S. Aquaculture Society, Phi Beta Kappa.

Forrest Wynne is a member of the World Aquaculture Society and the U.S. Chapter of the World Aquaculture Society, the Catfish Farmers of America and the Kentucky Aquaculture Association.

## SCIENTIFIC JOURNALS

Dr. Boris Gomelsky is an Associate Editor of the North American Journal of Aquaculture.

Dr. Jim Tidwell serves on the Editorial Board of the “Journal of Fisheries and Aquatic Sciences,” published by the Korean Society of Fisheries and Aquatic Science.

Dr. Webster is Editor-in-Chief of the “Journal of the World Aquaculture Society,” (JWAS) an international scientific journal publishing original, peer-reviewed, English-language papers on the culture of aquatic plants and animals. It is the scientific journal of the World Aquaculture Society, the largest professional aquaculture organization in the world with over 4000 members. JWAS is published bi-monthly and covers nutrition, disease, genetics and breeding, physiology, environmental quality, culture systems engineering, husbandry practices, and economics and marketing as well as a number of other topics related to the culture of aquatic organisms.

## INTERNATIONAL ACTIVITIES

In November 2009, Dr. Mims was invited to the University of Bohemia in Ceske Budejovice, Czech Republic, as a speaker at World of Science Without Borders - Celebration of Velvet Revolution.

Dr. Mims also spoke at the Institute of Research Fish Culture and Hydrobiology, Vodnany, Czech Republic, via collaboration with Dr. Otomar Linhart. In addition, Dr. Mims collaborates with Dr. Akos Horvath, First Institute of Biochemistry of Semmelweis Medical University, Budapest, Hungary; Dr. Hong Ji, College of Animal Sciences, Northwest Sci-Tech University of Ag and Forestry, Yangling, China; and Dr. Vitaliy Behk, Institute of Fisheries, Keiv, Ukraine. The resulting collaboration is involved with paddlefish research including sperm cryopreservation, sex manipulation, reservoir ranching and cage culture.

Dr. Tidwell was an invited speaker at the workshop entitled “Strategies for the Development of Dominican Aquaculture 2010-2015.” The meeting was hosted by the Dominican Institute for Research in Agriculture Livestock and Forestry Research (IDAF). The resulting document is to serve as the national aquaculture plan for the Dominican Republic.

Dr. Tidwell is working with the Dominican Aquaculture Association (ADOA) and the IDAF on the adoption of current production technologies and the development of aquaculture diets based on Dominican agro-industrial products and by-products.



## PUBLICATIONS – Journal Articles (Student names in **BOLD** in all sections)

### *Published:*

- Cochran, N. J.**, Coyle, S. D. and Tidwell, J. H. 2009. Evaluation of reduced fish meal diets for second year growth of the largemouth bass, *Micropterus salmoides*. Journal of the World Aquaculture Society 40(6):735-743.
- Joseph, P., Suman, S. P., Li, S., Xiong, Y. L., Webster, C. D., Thompson, K. R. and Metts, L. S. 2009. Fishmeal-based diet decreases red color of sunshine bass (*Morone chrysops X Morone saxatilis*) filets. Journal of Food Science & Technology 42:730-734.
- Horváth, A., Urbányi, B., Wang, C. and Mims, S. D. 2010. Cryopreservation of paddlefish sperm in 5-ml straws. Journal of Applied Ichthyology 26(5):715-719.
- Novelo, N. D.**, Gomelsky, B. and Pomper, K. W. 2010. Inheritance and reliability of random amplified polymorphic DNA (RAPD) markers in two consecutive generations of common carp (*Cyprinus carpio L.*). Aquaculture Research 41:220-226.
- Onders, R. J., Mims, S. D., Webster, C. D. and Gannam, A. L. 2009. Apparent digestibility coefficients of macronutrients in diets of three protein levels fed to paddlefish, *Polyodon spathula* (Walbaum). Aquaculture Research 40(15):1785-1788.
- Pomper, K. W., Lowe, J. D., Lu, L., Crabtree, S. B., Dutta, S., **Schneider, K.** and Tidwell, J. H. 2010. Characterization and identification of papaw cultivars and advanced selections by simple sequence repeat markers. Journal of the American Horticulture Society 135:143-149.
- Rawles, S. D., Thompson, K. R., Metts, L. S., Gannam, A. L., Twibell, R. G., Brady, Y. J. and Webster, C. D. 2010. A comparison of two faecal collection methods for protein and amino acid digestibility coefficients for menhaden fish meal and two grades of poultry by-product meals in market-size sunshine bass. Aquaculture Nutrition 16:81-90.

### *In Press:*

- Chen, G., Xiong, Y. L., Newman, M. C., Webster, C. D., Thompson, K. R. and Metts, L. S. In press. Carbon dioxide atmospheric packaging reduces microbial survival and physicochemical changes in red claw crayfish, *Cherax quadricarinatus*, tail muscle during frozen storage. Journal of the World Aquaculture Society.
- Coyle, S. D., Bright, L. A., **Wood, D.**, **Neal, R.** and Tidwell, J. H. In press. Performance of Pacific white shrimp, *Litopenaeus vannamei*, reared in zero-exchange tank systems exposed to different light sources and intensities. Journal of the World Aquaculture Society.

## PUBLICATIONS – Journal Articles (CONT)

### *In Press*

- Gomelsky, B., Schneider, K. J. and **Alsaqafi, A. S.** In press. Inheritance of long fins in ornamental (koi) carp. North American Journal of Aquaculture.
- Metts, L. S., Rawles, S. D., Brady, Y. J., Thompson, K. R., Gannam, A. L., Twibell, R. G. and Webster, C. D. In press. Amino acid availability from selected animal and plant derived feedstuffs for market size sunshine bass (*Morone chrysops X M. saxatilis*). Aquaculture Nutrition.
- Neal, R. S.**, Boudreau, B. M., Coyle, S. D. and Tidwell, J. H. In press. Evaluation of stocking density and light level on the growth and survival of the Pacific white shrimp, *Litopenaeus vannamei*, reared in zero-exchange systems. Journal of the World Aquaculture Society.
- Ogunsanya, T.**, Durborow, R. M., Webster, C. D., Tidwell, J. H., Thompson, K. R. and Coyle, S. In press. Toxicity of rotenone to giant river prawn. North American Journal of Aquaculture.
- Ogunsanya, T. O.**, Durborow, R. M., Myers, M. L., Cole, H. P. and Thompson, S. L. In press. Safety on North Carolina and Kentucky trout farms: Avoiding work-related hazards. Journal of Agromedicine.
- Onders, R. J., Mims, S. D. and Dasgupta, S. In press. Effect of size-grading and feeding frequency on growth and size distribution of paddlefish, *Polyodon spathula*. Journal of World Aquaculture Society.
- Rawles, S. D., Thompson, K. R., Brady, Y. J., Metts, L. S., Aksoy, M. Y., Gannam, A. L., Twibell, R. G., Ostrand, S. and Webster, C.D. In press. Effects of feed grade poultry by-product meal, soybean meal and protein level in the diet on the performance and immune status of pond-grown sunshine bass (*Morone chrysops X M. saxatilis*). Aquaculture Nutrition.
- Thompson, K. R., **Bailey, T. J.**, Metts, L. S. and Webster, C. D. In press. Growth response and fatty acid composition of juvenile red claw crayfish (*Cherax quadricarinatus*) fed different sources of dietary lipid. Aquaculture Nutrition.
- Tidwell, J. H., Coyle, S. D. and Bright, L. A. In press. Polyculture of Nile tilapia, *Oreochromis niloticus*, either confined in cages or unconfined in freshwater prawn, *Macrobrachium rosenbergii*, ponds. Journal of the World Aquaculture Society.

## GRANTS

- Bhattaacharyya, S. and Mims, S. D. 2010. An environment management system for real time monitoring of fish farms with wireless sensor network. 1890 Institution Capacity Building Grant. Requested \$282,678. Not Funded.
- Gomelsky, B. and Durborow, R. 2010. Research grant “Genetic Improvement of Color Traits and Field Trials for Ornamental (Koi) Carp,” submitted for a USDA Research Capacity Building Grant. Requested \$260,226. Not funded.

## GRANTS (CONT)

- Mims, S. D., Dasgupta, S., Onders, R. J., Porter, T., Cochran, N., Weibel, C., DeVries, D. and Wright, R. 2010. Integrated sustainable aquaculture research and teaching for rural communities and their economies. 1890 Institution Capacity Building Grant. Requested \$530,132. Funded \$498,324.
- Stilwell, W. and Tidwell, J. H. 2010. Phase II development at the Kentucky State University Environmental Education Center. Kentucky Heritage Land Conservation Fund Board. Requested \$118,377. Funded at \$60,000.
- Tidwell, J. H., English, J. and Porter, T. 2010. Enhancing content and increasing enrollment through the sharing of video-based online course technology. Thurgood Marshall College Fund's Technology Research Awards for Faculty; Awards for Faculty Innovation Grant. Requested \$56,677. Not Funded.
- Wurts, W. A. Sustainable small-scale catfish farming demonstration for the 2010's. 1890s Capacity Building Grants Program. Requested \$144,000. Not Funded.
- Wynne, F. 2009. Transportation of warmwater fishes: equipment and guidelines. Southern Regional Aquaculture Center USDA/NIFA Publications Grant – Year 14. Requested \$2000. Funded.
- Wynne, F. 2010. Chemical removal of of fish from ponds. Southern Regional Aquaculture Center USDA/NIFA Publications Grant–Year 15. Requested \$2000. Funded.

## BOOK CHAPTERS AND BOOKS PUBLISHED OR IN PRESS

### *Chapters:*

- Coyle, S. D., Alston, D. E. and Sampaio, C. M. S. 2010. Nursery system management. Pages 108-126. In *Freshwater Prawns: Biology and Farming*. New, M. B., Valenti, W. C., Tidwell, J. H., D'Abramo, L. R. and M. N. Kutty (Eds.). Wiley-Blackwell.
- Mims, S. and Onders, R. J. In prep. Reservoir ranching. In *Aquaculture Production Methods*. J. H. Tidwell (Ed.). Wiley-Blackwell.
- Mims, S. D., Tsvetkova, L. I., Wayman, W., Urbanyi, B. and Gomelsky, B. In press. Cryopreservation of sturgeon and paddlefish sperm. In *Cryopreservation in Aquatic Species*. T. Tiersch and C. Greene (Eds.). World Aquaculture Society.

## BOOK CHAPTERS AND BOOKS PUBLISHED OR IN PRESS (CONT)

### *Chapters:*

- Tidwell, J. H. In press. Prawn (Freshwater Shrimp) Culture. In Encyclopedia of Animal Science, 2nd edition. Taylor and Francis.
- Tidwell, J. H. and D'Abramo, L. R. 2010. Grow-out Systems – Culture in Temperate Zones. Pages 180-194. In Freshwater Prawn Culture: The farming of *Macrobrachium rosenbergii*. New, M. B., Valenti, W. C.,

### *Books:*

- Mims, S. D. and Shelton, W. L. In prep. Paddlefish Aquaculture. Wiley-Blackwell.
- New, M. B., Valenti, W. C., Tidwell, J. H., D'Abramo, L. R. and M. N. Kutty (Eds.). 2010. Freshwater Prawns: Biology and Farming. Blackwell Science.
- Tidwell, J. H. (In Prep) Aquaculture Production Methods. Blackwell Science.

## PROFESSIONAL TECHNICAL MAGAZINES

- Metts, L. S., Thompson, K. R. and Webster, C. D. 2009. Evaluating alternative protein sources to replace fish meal in feeds for Nile tilapia fry. Hatchery International November 10(6):27.
- Metts, L. S., Thompson, K. R., Muzinic, L. A. and Webster, C. D. 2009. Effects of feeding practical diets containing different protein levels to Australian red claw (*Cherax quadricarinatus*). World Aquaculture 40(1):16-18.
- Mims, S. D. 2009. Wastewater reuse supports paddlefish project. Global Aquaculture Advocate July/August:44-46.
- Schneider, K. J., Odeyemi, O.,** Coyle, S. D. and Tidwell, J. H. In press. Preliminary experiments leading to genetic improvement of the freshwater prawn *Macrobrachium rosenbergii*. Global Aquaculture Advocate.
- Wurts, W. A. 2010. Paddlefish *Polyodon spathula* polyculture with freshwater shrimp *Macrobrachium rosenbergii*. World Aquaculture 41(2):30-31.
- Wurts, W. A. In press. Farming algal fuel: economics challenge process potential. Global Aquaculture Advocate.

## FACULTY AWARDS

- Tidwell, J. H. Awarded the 2009 Certificate of Appreciation by the United States Freshwater Prawn and Shrimp Growers Association in recognition of "tireless work in the establishment and continued promotion of the freshwater prawn industry in the United States."

## STUDENT AWARDS

### *Undergraduate Students*

**David Jones** received the Outstanding Sophomore in Mathematics and Sciences award, studied with Dr. Mims, spring 2010.

**Latoyah Elliott** won third place in the Agricultural Sciences division at KAS for her presentation “Comparison of Morphological Percentages of Three Different Genetic Strains of Freshwater Prawn (*Macrobrachium rosenbergii*) Raised in Ponds in Kentucky.” She was mentored by Shawn Coyle and Leigh Anne Bright.

**Gina Guillen** won best scientific paper, REAP Summer 2009. Mentors: Dr. Webster and Ken Thompson.

**Triston Mullins**, senior at Georgetown College, was awarded a \$4,000 grant from the Howard Hughes Medical Institute to participate in research and studied under Dr. Mims and Mr. Onders at ARC, summer 2010.

### *Graduate Students*

**Jamie Greene** won third place and \$250 in the competition for graduate research paper poster entitled “Brine absorption and microstructural properties of paddlefish meat treated with four brine solutions and hot smoked,” Institute of Food Technologists Aquatic Food Products Division, Chicago, IL, July 17-21, 2010.

**Kelly Probst** won the Outstanding Graduate Student Award for academic excellence and leadership, April 8, 2010.

## PUBLISHED ABSTRACTS

Coyle, S., Bright, L. A. and Tidwell, J. H. 2010. Recent developments in feed training largemouth bass fry. Aquaculture 2010 Abstracts, San Diego, CA, p. 230.

Coyle, S., **Neal, R.** and Tidwell, J. H. 2010. Kentucky experience with marine shrimp bio-floc systems. Aquaculture 2010 Abstracts, San Diego, CA, p. 229.

Delles, R. M., Xiong, Y. L., Liu, Z., Rentfrow, G. K. and Tidwell, J. H. 2010. The influence of genetic diversity of freshwater prawns, *Macrobrachium rosenbergii*, on muscle oxidation and textural changes induced by freeze-thaw cycles. Annual meeting of the Institute of Food Technologists, Abst. No. 235-01.

## PUBLISHED ABSTRACTS (CONT)

- Durborow, R. M. 2010. Trout farm safety in Kentucky and North Carolina. Eastern Fish Health Workshop Proceedings, Shepherdstown, WV, p. 96.
- Gomelsky, B., **Schneider, K. J.** and Glennon, R. P. 2010. Ploidy identification in ornamental (koi) carp based on scale cover. Aquaculture 2010 Abstracts, San Diego, CA, p. 942.
- Liu, J., Xiong, Y. L., Liu, Z., True, A. D., Rentfrow, G. K. and Tidwell, J. H. 2010. Influence of genetic strains on physiochemical properties and protein stability of freshwater prawns (*Macrobrachium rosenbergii*) stored at 2 C. Annual Meeting of the Institute of Food Technologists, Abst. No. 181-12.
- Mims, S. D., Wilhelm, M. and Onders, R. J. 2010. Reuse technology at a wastewater treatment plant for fish culture. Aquaculture 2010 Abstracts, San Diego, CA, p. 680.
- Odeyemi, O., Coyle, S. D., **Schneider, K. J.**, Bright, L. A., Gomelsky, B. and Tidwell, J. H. 2010. Comparison of three genetic strains of freshwater prawn, *Macrobrachium rosenbergii*, under two management technologies. Aquaculture 2010 Abstracts, San Diego, CA, p. 728.
- Onders, R. J. and Mims, S. D. 2010. Reservoir ranching of paddlefish. Aquaculture 2010 Abstracts, San Diego, CA, p. 737.
- Thompson, K. R., Metts, L. S. and Webster, C. D. 2010. Small-scale cage culture of sunshine bass: potential for farm income and crop diversification. Aquaculture 2010 Abstracts, San Diego, CA, p. 1001.
- Thompson, K. R., Metts, L. S. and Webster, C. D. 2010. The challenges (and possible solutions) of producing the Australian red claw crayfish, *Cherax quadricarinatus*, in Kentucky. Aquaculture 2010 Abstracts, San Diego, CA, p. 1002.
- Tidwell, J. H., Coyle, S. D. and Bright, L. A. 2010. Effect of feed pellet characteristics on growth and feed efficiencies of the largemouth bass, *Micropterus salmoides*. Aquaculture 2010 Abstracts, San Diego, CA, p. 1004.
- Velasquez, A., Patterson, J.**, Thompson, K. R. and Webster, C. D. 2010. A preliminary study evaluating growth and survival for juvenile Nile tilapia, *Oreochromis niloticus*, with diets containing alternative raw materials as total replacement for fish meal. Poster number 102. Aquaculture 2010 Abstracts, San Diego, CA, p. 1149.
- Wurts, W. A. 2010. Sustainable aquaculture: the changing horizon. Aquaculture 2010 Abstracts, San Diego, CA, p. 1104.

## PUBLISHED ABSTRACTS (CONT)

Wurts, W. A. 2010. Farming algal fuel: an aquaculture production perspective. Aquaculture 2010 Abstracts, San Diego, CA, p. 1105.

Wurts, W. A. 2010. Low-input aquaculture. Aquaculture 2010 Abstracts, San Diego, CA, p. 1106.

Wurts, W. A. 2010. Salt use to reduce stress. Aquaculture 2010 Abstracts, San Diego, CA, p. 1107.

Wynne F. S. 2009. Live-hauling food-size channel catfish, *Ictalurus punctatus*. Aquaculture 2010 Abstracts, San Diego, CA, p. 1108.

Wynne F. S. 2009. Small-scale catfish production to supply the live-haul/fee fishing market in Kentucky, a non-traditional aquaculture market. Aquaculture 2010 Abstracts, San Diego, CA, p. 1109.

## EXTENSION AND LAY PUBLICATIONS

**Patterson, J. T., Velasquez, A.,** Metts, L. S., Thompson, K. R. and Webster, C. D. 2010. Growth performance of Nile tilapia fry fed diets with alternative protein sources. Kentucky Aquatic Farming 23(1):3-5.

**Schneider, K. J., Wood, D. R., Odeyemi, O.,** Coyle, S. D., Bright, L. A. and Tidwell, J. H. 2010. Comparison of three different genetic strains of the freshwater prawn (*Macrobrachium rosenbergii*) raised in ponds in Kentucky. Kentucky Aquatic Farming 23(1):9-10.

Thompson, K. R., **Velasquez, A.,** Metts, L. S., Muzinic, L. A. and Webster, C. D. 2010. In press. Use of soybean meal and distiller's dried grains with solubles in feeds for Australian red claw grown in Kentucky ponds. Soybean Meal Magazine.

**Velasquez, A.,** Thompson, K. R., **Trosvik, K. A.,** Metts, L. S. and Webster, C. D. 2010. In press. Replacement of fish meal with soybean meal and yeast in organic diets for Nile tilapia. Soybean Meal Magazine.

Wynne, F. and Wurts, W. A. 2009. Live-hauling channel catfish. Kentucky State University, Division of Aquaculture, Cooperative Extension Program, 27 pp bulletin.

Wynne F. S. and Masser, M. P. 2010 . Chemical removal of fish from ponds. Southern Regional Aquaculture Center fact sheet No. 4101.

Wynne F.S. and Wurts, W.A. In press. Transportation of warmwater fish: equipment and guidelines. Southern Regional Aquaculture Center fact sheet No. 390.

## SCIENTIFIC PRESENTATIONS

- Bright, L. A., Coyle, S. D. and Tidwell, J. H. 2009. Comparison of two genetic strains of largemouth bass and their hybrids in terms of feed training success and first-year growth. American Fisheries Society, 139th Annual Meeting, Nashville, Tennessee, August 30 - September 3.
- Coyle, S. D., Bright, L. A. and Tidwell, J. H. 2009. Advances in feed training largemouth bass fingerlings. American Fisheries Society, 139th Annual Meeting, Nashville, Tennessee, August 30 - September 3.
- Coyle, S. D., Bright, L. A. and Tidwell, J. H. 2009. Development of fry feeding protocols for indoor larviculture of largemouth bass. American Fisheries Society, 139th Annual Meeting, Nashville, Tennessee, August 30 - September 3.
- Coyle, S., Bright, L. A. and Tidwell, J. 2010. Recent developments in feed training largemouth bass fry. Aquaculture 2010, San Diego, California, March 1-5.
- Coyle, S., **Neal, R.** and Tidwell, J. 2010. Kentucky experience with marine shrimp bio-floc systems. Aquaculture 2010, San Diego, California, March 1-5.
- Coyle, S., **Neal, R., Wood, D.** and Tidwell, J. H. 2010. Heterotrophic systems: lessons learned from Magnolia Shrimp Company. Kentucky Aquaculture Association Annual Meeting, Kentucky State University, Frankfort, Kentucky, March 27.
- Durborow, R. and **Ogunsanya, T.** 2009. Trout farm safety in Kentucky and North Carolina. U.S. Trout Farmers Association Fall Conference, Harrisburg, PA, Oct. 1-3.
- Elliott, L.,** Coyle, S., **Schneider, K.** and Tidwell, J. 2009. Comparison of morphological percentages of three different genetic strains of freshwater prawn, *Macrobrachium rosenbergii*, raised in ponds in Kentucky. Kentucky of Academy of Science. Northern Kentucky University, November 13 -14.
- Gomelsky, B., **Schneider, K. J.** and Glennon, R. P. 2010. Ploidy identification in ornamental (koi) carp based on scale cover. Aquaculture 2010, San Diego, CA, March, 2010.
- Mims, S. D. Use of paddlefish by Alabama catfish farmers. Guest speaker, Greensboro Alabama Fish Farming Center presentation series. July 16, 2009.
- Mims, S. D. 2009. Paddlefish: the other black gold. Guest speaker to Research Institute of Fish Culture and Hydrobiology, Vodnany, Czech Republic. November 23, 2009.



## SCIENTIFIC PRESENTATIONS (CONT)

- Mims, S. D. 2009. Overview of reproduction biology studies on paddlefish, *Polyodon spathula*, between University of South Bohemia Research Institute of Fish Culture and Hydrobiology and Kentucky State University Aquaculture Research Center. University of Bohemia in a World of Science without Borders, Celebration of Velvet Revolution, Ceske Budejovicich, Czech Republic.
- Mims, S. D., **Wilhelm, M.** and Onders, R. J. 2010. Reuse technology at a wastewater treatment plant for fish culture. Aquaculture 2010, San Diego, CA, March 5, 2010.
- Odeyemi, O.**, Coyle, S. D., **Schneider, K. J.**, Bright, L. A., Gomelsky, B. and J. H. Tidwell. 2010. Comparison of three genetic strains of freshwater prawn, *Macrobrachium rosenbergii*, under two management technologies. Aquaculture 2010, San Diego, CA, March 1-5.
- Onders, R. J. and Mims, S. D. 2010. Reservoir ranching of paddlefish. Aquaculture 2010, San Diego, CA, March 1-5.
- Schneider, K.**, Coyle, S. D., Bright, L. A., Gomelsky, B. and Tidwell, J.H. 2010. Pond grow-out evaluation of intra-specific prawn hybrids. U.S. Freshwater Prawn and Shrimp Growers Association, 10th Annual Meeting, Tunica, Mississippi. December 4.
- Thompson, K. R., Metts, L. S. and Webster, C. D. 2010. Small-scale cage culture of sunshine bass: potential for farm income and crop diversification. Aquaculture 2010, San Diego, CA, March 1-5.
- Thompson, K. R., Metts, L. S. and Webster, C. D. 2010. Overview of KSU sunshine bass research. Co-presenters Dr. Delbert Gatlin and Dr. Jesse Trushenski. Aquaculture 2010, San Diego, California, March 1-5.
- Thompson, K. R., Metts, L. S. and Webster, C. D. 2010. The challenges (and possible solutions) of producing the Australian red claw crayfish, *Cherax quadricarinatus*, in Kentucky. Aquaculture 2010, San Diego, California, March 1-5.
- Tidwell, J., Coyle, S. D. and Bright, L. A. 2010. Effect of feed pellet characteristics on growth and feed efficiencies of the largemouth bass, *Micropterus salmoides*. Aquaculture 2010, San Diego, California, March 1-5.
- Tidwell, J. H. and Coyle, S. D. 2009. A review of nutrition research and diet development for largemouth bass. American Fisheries Society, 139th Annual Meeting, Nashville, Tennessee, August 30 – September 3.
- Tidwell, J., Gomelsky, B., D'Abramo, L., **Schneider, K.**, Coyle, S., **Wood, D.** and **Odeyemi, O.** 2009. Genetic improvements of prawns: progress report. Ninth annual convention of the United States Freshwater Prawn Growers Association. Tunica, Mississippi, December 4.

## SCIENTIFIC PRESENTATIONS (CONT)

- Tidwell, J. H. and Coyle, S. D. 2009. A review of nutrition research and diet development for largemouth bass. American Fisheries Society, 139th annual meeting, Nashville, TN, August 30 - September 3.
- Tidwell, J. H. 2009. Aquaculture and algae, natural connections. Invited presentation at the Ohio River Valley Algae Symposium. Henderson, KY, August 12-13.
- Wurts, W. A. 2010. Sustainable aquaculture: the changing horizon. Invited presentation at Aquaculture 2010, San Diego, CA, March 1-5.
- Wurts, W. A. 2010. Salt use to reduce stress. Invited presentation at Aquaculture 2010, San Diego, CA, March 1-5.
- Wurts, W. A. 2010. Farming algal fuel: an aquaculture production perspective. Invited presentation at Aquaculture 2010, San Diego, CA, March 1-5.
- Wurts, W. A. 2010. Low input aquaculture. Invited presentation at Aquaculture 2010, San Diego, CA, March 1-5.
- Wynne F. S. 2009. Small-scale catfish production to supply the live-haul/fee fishing market in Kentucky - a non-traditional aquaculture market. Aquaculture 2010, San Diego, CA, March 1-5.
- Wynne F. S. 2009. Live hauling food size channel catfish, *Ictalurus punctatus*. Aquaculture 2010, San Diego, CA, March 1-5.

## POSTER PRESENTATIONS

- Elliott, L.,** Coyle, S., **Schneider, K.** and Tidwell, J. 2009. Comparison of morphological percentages of three different genetic strains of freshwater prawn, *Macrobrachium rosenbergii*, raised in ponds in Kentucky. Kentucky Minority and Small Farms Conference, Frankfort, KY, November 17-19.
- Elliott, L.,** Coyle, S., **Schneider, K.** and Tidwell, J. 2010. Comparison of morphotype percentages of three different genetic strains of the freshwater prawn (*Macrobrachium rosenbergii*) raised in ponds in Kentucky. Posters-at-the-Capitol, Frankfort, Kentucky, January 28.
- Greene, J.,** Xiong, Y. Liu, Z. and Mims, S. 2010. Brine absorption and microstructural properties of paddlefish (*Polyodon spathula*) meat treated with four brine solutions and hot smoked. Institute of Food Technologists Aquatic Food Products Division: Graduate research paper poster competition. Chicago, IL, July 17-21, 2010.

## POSTER PRESENTATIONS (CONT)

- Lowe, J., Dutta, S., Lu, L., Pomper, K., Crabtree, S. and **Schneider, K.** 2009. Pawpaw cultivar fingerprinting and progeny determination using simple sequence repeat markers. Annual meeting of the American Society for Horticultural Science, St. Louis, MO, July 25-28.
- Lu, L., Pomper, K., Kaul, K., Rajendran, N. and Tidwell, J. 2009. Introducing modern molecular biology and biotechnology to students and the public in Kentucky. Annual meeting of the American Society for Horticultural Science, St. Louis, MO, July 25-28.
- Metts, L. S., Thompson, K. R. and Webster, C. D. 2010. Replacing menhaden fish meal in diets fed to sunshine bass in ponds with poultry by-product meal and soybean meal with decreasing levels of protein. Multistate Aquaculture Forum (West Virginia, Ohio, Kentucky, and Michigan), January 16.
- Pomper, K., Lowe, J., Lu, L., Crabtree, S., Dutta, S., **Schneider, K.** and Tidwell, J. 2009. Assessment of genetic diversity of pawpaw (*Asimina triloba*) cultivars with simple sequence repeat markers. Annual meeting of the American Society for Horticultural Science, St. Louis, MO, July 25-28.
- Velasquez, A., Patterson, J.,** Thompson, K. R. and Webster, C. D. 2010. A preliminary study evaluating growth and survival for juvenile Nile tilapia, *Oreochromis niloticus*, with diets containing alternative raw materials as total replacement for fish meal. Aquaculture 2010, San Diego, CA, March 1-5.
- Wilhelm, M. P.,** Onders, R. J. and Mims, S. D. 2010. An examination of the potential accumulation of contaminants in paddlefish, *Polyodon spathula*, grown in treated wastewater effluent. Sixth Kentucky Innovation and Entrepreneurship Conference, Lexington, April 6.

## EXTENSION/LAY PRESENTATIONS

- Bean, W. 2009. Presented "Careers in Aquaculture" and recruiting information about undergraduate and graduate degree programs at KSU to camp participants at the Latino Leadership and College Experience Camp (40 students), about 20 facilitators, and 20 professionals coming from KSU, Lexmark, BCTCS, Georgetown College, McKendree University, University of Louisville, USDA, and KYCAN (CPE). Frankfort, KY, July 30.
- Bean, W. 2009. Presented "Small-scale Aquaculture" at the Woodland Owners Short Course hosted by UK Cooperate Extension (35 participants). Ashland, KY, August 29.
- Bean, W. 2009. Presented an overview of aquaculture at Meadowthorpe Elementary School in the Mobile Classroom (120 students). Lexington, KY, September 25.

## EXTENSION/LAY PRESENTATIONS (CONT)

- Bean, W. 2009. Presented at the Ag Awareness Day hosted by the Scott County Farm Bureau in the Mobile Classroom (600 students). Georgetown, KY, September 29.
- Bean, W. 2009. Presented at the Spencer County Ag Day hosted by the Spencer County Elementary School in the Mobile Classroom (300 students). September 30.
- Bean, W. 2009. Presented at Pioneer Day hosted by the Cane Run Elementary School in the Mobile Classroom (300 students). Louisville, KY, October 30.
- Bean, W. 2010. Presented "Aquaponics" at the Garrard County Women in Ag Day (130 students). Lancaster, KY, February 1.
- Dasgupta, S. and Onders, R. J. Interviewed by Erik Eckholm, *The New York Times* about ascribing economic value to Asian Carp. Published April 21, 2010.
- Dasgupta, S. and Onders, R. J. Interviewed by Katheran Wasson, *The State Journal*, published April 18, 2010 about ascribing economic value to Asian Carp.
- Durborow, R. M. 2010. Aquaculture in Kentucky: 2009-10. Multistate Aquaculture Forum at Marshall University, West Virginia. (about 100 attendees)
- Durborow, R. M. 2010. Viral hemorrhagic septicemia (VHS) and how it affects fish transport across state lines. Fish-Hauling Workshop at Kentucky State University, March 27.
- Durborow, R. M. 2010. Aquatic weed control. Aquatic Herbicide Applicators Workshop for continuing education units at Kentucky State University, March 26.
- Durborow, R. M. 2010. Aquatic weed control presentation for Pesticide Applicators License CEU credits. Princeton, KY workshop with Forrest Wynne and William Wurts (11 in attendance). February 12.
- Durborow, R. M. 2010. Trout farm safety in Kentucky and North Carolina. Guest lecture presented to University of Kentucky graduate class CPH 729 – Health of Agricultural Populations, Robert McKnight, professor. March 2.
- Durborow, R. M. 2010. Trout Farm Safety in Kentucky and North Carolina. Eastern Fish Health Workshop, Shepherdstown, WV, May 27. 200 attendees.
- Mims, S. D. 2009. Ranching paddlefish in water supply lakes in Kentucky. Guest speaker, Boy Scout Council meeting, Hopkinsville, KY, September 14.

## EXTENSION/LAY PRESENTATIONS (CONT)

- Mims, S. D. 2009. Reuse of decommissioned wastewater plants. Guest speaker. Winchester Municipality Utilities Counsel meeting, Winchester, KY, November 10.
- Mims, S. D. 2009. A Career as a professor/researcher in aquaculture. Guest speaker. Career Development class, Franklin County High School, Frankfort, December 2.
- Mims, S. D. 2009. Reuse of decommissioned wastewater plants. Williamstown Utilities Counsel meeting, December 15.
- Mims, S. D. 2010. Sustainable aquaculture strategies. Meeting on urban food supplies. Open House Conference. Shekinah Ranch Aquaculture Center, Dayton, OH, May 22.
- Redden, A. and Kahill, W.** 2009. Paddlefish production display at ColorFest. Bernheim Forest, October 16-17.
- Tidwell, J. H. 2010. Research update. Kentucky Aquaculture Association Annual Meeting, Kentucky State University, Frankfort, KY, March 27.
- Tidwell, J. H. 2010. Kentucky: aquaculture research highlights. Multistate Aquaculture Forum, Huntington, WV, January 16.
- Wynne, F. 2009. Conducted a radio program broadcast in Lawrence County, KY, and the surrounding region with Julia Hinkle, ANR agent, regarding recreational pond management issues, October 9.
- Wynne, F. 2009. Presented an aquatic plant control program for commercial pesticide applicators at the Morehead State University Demonstration Farm – approximately 75 attended December 10.
- Wynne F. S., Wurts, W.A. and Durborow, R. M. 2010. Conducted an aquatic plant/algae identification and control training program for commercial pesticide applicators at the UK Research and Education Center in Princeton on February 12, 12 attended.
- Wynne F. S., Wurts, W.A. and Durborow, R. M. 2010. Conducted an aquatic plant/algae identification and control training program for commercial pesticide applicators at the KSU Aquaculture Research Center on March 26, 20 attended.
- Wurts, W.A. 2009. Aquatic weed control and pond management. Nighttime workshop in Henderson Co, September 1.
- Wurts, W.A. 2009. Top 10 Aquatic weeds. Aquatic weed control In-service Training for county agents and pesticide applicators held in Morehead, KY, December 10.

## EXTENSION/LAY PRESENTATIONS (CONT)

- Wurts, W.A. 2009. Alkalinity and the use of copper sulfate. Aquatic weed control In-service Training for county agents and pesticide applicators held in Morehead, KY, December 10.
- Wurts, W.A. 2010. Top 10 aquatic weeds. Aquatic weed control In-service Training for county agents and pesticide applicators held in Princeton, KY, February 12.
- Wurts, W.A. 2010. Alkalinity and the use of copper sulfate. Aquatic weed control In-service Training for county agents and pesticide applicators held in Princeton, KY, February, 12.
- Wurts, W.A. 2010. Top 10 aquatic weeds. Aquatic weed control In-service Training for county agents and pesticide applicators held in Frankfort, KY, March 26.
- Wurts, W.A. 2010. Alkalinity and the use of copper sulfate. Aquatic weed control In-service Training for county agents and pesticide applicators held in Frankfort, KY, March 26.
- Wurts, W.A. 2010. Salt use to reduce handling stress. Live-Haul landowner and producer workshop. Frankfort, KY, March 27.
- Wurts, W.A. 2010. Transporting Catfish Fry and Small Fish. Live-Haul landowner and producer workshop. Frankfort, KY, March 27.
- Wurts, W.A. 2010. Managing water quality in ponds. Grayson Co. Pond Management Field Day, June 11.
- Wurts, W.A. 2010. Aquatic weed identification and control. Grayson Co. Pond Management Field Day, June 11.
- Wurts W.A., F.S. Wynne and R.M. Durborow 2010. Live Fish Hauling and VHS Workshop conducted at the KSU Aquaculture Research Center in Frankfort on March 27, five attended.
- Wynne F. S. 2010. Small-scale Catfish Production to Supply the Live Haul/Fee Fishing Market in Kentucky—a Non-Traditional Aquaculture Market. Presented during the annual meeting of the Kentucky Aquaculture Association at the KSU Aquaculture Research Center on March 27 – Approximately 30 attended.
- Wynne F. S. 2010. Powell County Recreational Pond Tour and Management Program – June 10, 12 attended.
- Wynne F. S. 2010. Recreational and Livestock Pond Management Program – Caneyville, KY, June 11, 12 attended.

## SERVICE TO THE PROFESSION AND UNIVERSITY

- Bean, W. 2009. Set-up and staffed a booth at the Kentucky State Fair in partnership with the Kentucky Soybean Board (28,000 K-12 students and general public attended during the 10 day event), Louisville, KY, August 19–30.
- Bean, W. 2009. Represented the Division of Math and Science as well as the Division of Aquaculture at the KSU 2009 Fall Open House. Discussions were directed towards available biology (including aquaculture minor), chemistry, and mathematics options at the undergraduate level, Frankfort, KY, September 19.
- Bean, W. 2009. Participated in Youth Fest at the CCU with the Mobile Classroom (250 students and parents), Frankfort, KY, September 12.
- Bean, W. 2009. Participated in Richmond’s Kids Fest with the Mobile Classroom (450 students and parents), Richmond, KY, September 13.
- Bean, W. 2009. Participated in the “Grow it, Wear it, Eat it Showcase” hosted by UK Cooperative Extension agents (600 students). Assisted by KSU graduate students Andy Redden and Andy McDowell. Alexandria, KY, September 28 – October 2.
- Bean, W. 2010. Invited to discuss implementing aquaculture systems into a new agriculture facility for Eastside Tech School, Lexington, KY, February 22.
- Bean, W. 2010. Future Farmers of America (FFA) Aquaculture Impromptu Judge: Bluegrass Region Day (Hosted at University of Kentucky), March 17.
- Bean, W. 2010. Represented the Division of Math and Science as well as the Division of Aquaculture at the KSU 2010 spring Open House, Frankfort, KY, April 2.
- Bean, W. 2010. Served as the 2010 Director of the Pathways and Access to Careers in Technology (PACT) Program, Frankfort, KY, June 4-12.
- Bean, W. 2010. Summer Program for Paul Sawyer Library for two age groups. Presentations were about the Water Cycle, Aquatic Environments on Earth, and the Diversity of Aquatic Life. Hosted in the Mobile Classroom, Frankfort, KY, May 3.
- Bright, L. A. 2009. Represented KSU during one day of touring in Western Kentucky at the annual meeting of Kentucky Women in Agriculture conference, Bowling Green, KY.
- Bright, L. A. Moderated the session, Advances in Bass Culture for the American Fisheries Society, 139th Annual Meeting, Nashville, Tennessee, August 30 - September 3.

## SERVICE TO THE PROFESSION AND UNIVERSITY (CONT)

- Bright, L. A. 2010. Attended and presented a speech for recruiting session of Kentucky high school students at the request of Roosevelt Shelton.
- Cochran, N. C. 2009. Converted Chinese aquaculture video to AVI.
- Cochran, N. C. 2009. Dubbed Dr. Sias' Thurgood Marshall introduction to tape.
- Cochran, N. C. 2009. Traveled to Tunica, Mississippi, to attend Freshwater Prawn Growers Association meeting, December 3-5.
- Coyle, S. C. 2009-2010. Working with a commercial largemouth bass producer in Nelson County in the design and construction of an intensive larviculture system.
- Coyle, S. D. Consulted with the harvest of regional prawn growers including Susan Harkins, Nat Henton, Randy Kendall and the North Point Correctional Facility.
- Coyle, S. D. Worked with Angela Caporelli from KDA to host a group of food product buyers representing Whole Foods grocery store chain. Regional farm touring and gourmet lunch were provided.
- Durborow, R. M., Wurts, W. and Wynne, F. 2009. Exhibit at Princeton Field Day hosted by University of Kentucky and Kentucky State University. (1,600 contacts)
- Durborow, R. M., Wynne, F., and Wurts, W. 2009. Organized and hosted KSU Aquaculture Field Day involving almost entire Aquaculture Division faculty and staff and 50 attendees.
- Durborow, R. M., Coyle, S. and Schneider, K. 2009. Aquaculture/agriculture field day at Hoppy and Nat Henton's prawn farm hosted by Chris Jeffcoat (Woodford County Ag Agent). 400 in attendance.
- Durborow, R. M., **Ogunsanya, T., Redden, A.**, and Kahill, W. 2009. Fish health inspection of Koerner's paddlefish for transport to out-of-state market.
- Durborow, R. M. 2009. Farm visit in Madison County with Brandon Sears, County Extension Agent for Ag and Natural Resources.
- Durborow, R. M. 2009. Farm visit in Clay County with Jeff Casada, County Extension Agent for Ag and Natural Resources.
- Durborow, R. M. 2009. Farm visit in Anderson County with Tommy Yankey, County Extension Agent for Ag and Natural Resources.



## SERVICE TO THE PROFESSION AND UNIVERSITY (CONT)

- Durborow, R. M. 2009. Farm visit in Spencer County with Bryce Roberts, County Extension Agent for Ag and Natural Resources.
- Durborow, R. M., Tidwell, J. and Webster, C. 2009. Served on Jamie Greene's graduate committee for her thesis defense in August.
- Durborow, R. M. 2009. Office visit from Bob Anderson, hydroponics consultant (formerly of U.K.), and Dumont Gouge.
- Durborow, R. M. 2009. Farm visit in Clinton County with Phil Smith, County Extension Agent for Ag and Natural Resources.
- Durborow, R. M. 2009. Farm Visit in Fayette County at Brown Sharp's farm (6200 Athens Walnut Hill Road; off of route 418).
- Durborow, R. M. 2009. Met with Aquaculture Task Force at Capitol Annex, September 21.
- Durborow, R. M. and Gomelsky, B. 2009. Met with KSU Curriculum Committee to approve modifying 4-credit Fish Diseases and Water Quality Management courses to 3 credit hours to make them online-compatible.
- Durborow, R. M. 2009. Eleven (11) fish disease diagnostic laboratory cases involving channel catfish, largemouth bass, koi, goldfish, hybrid striped bass, paddlefish, and red swamp crawfish (*Procambarus clarkii*) from fish samples submitted from Georgetown, Bardstown, Louisville, Hodgenville, Ohio University, and Kentucky State University.
- Durborow, R. M. 2009. Fish disease diagnostics case. Helen's Hide-Away in Louisville, KY, Channel catfish and smallmouth buffalo fish.
- Durborow, R. M. 2009. Fish disease diagnostics case. Indiana Aquafarms in Columbus. Marine shrimp.
- Durborow, R. M. 2009. Fish disease diagnostics case. Mark Remlinger and Kurt Utrup, Ohio. Largemouth bass.
- Durborow, R. M. 2009. Fish disease diagnostics case. KSU ARC paddlefish from Dr. Steve Mims and Rick Onders.
- Durborow, R. M. 2009. Fish disease diagnostics case. Kentucky Department of Fish and Wildlife Resources' Center for Mollusk Conservation; Dr. Monte McGregor, Dr. Christopher Owen and Travis Bailey. Largemouth bass serving as host for freshwater mussels.

## SERVICE TO THE PROFESSION AND UNIVERSITY (CONT)

- Durborow, R. M. 2009. Fish disease diagnostics case. Kentucky Department of Fish and Wildlife Resources' Center for Mollusk Conservation; Dr. Monte McGregor, Dr. Christopher Owen and Andy McDonald. channel catfish.
- Durborow, R. M. 2009. Fish disease diagnostics case. Berea College recirculating aquaculture system; Dr. Richard Olson, Ruhyyih Young, Austin Delph, and Stella James. channel catfish and bluegill sunfish.
- Durborow, R. M. 2010. Performed a fish health inspection of rainbow trout from Doe Run Trout Farm to be transported live into Ohio.
- Durborow, R. M. 2010. Fish disease investigation of Angelfish from Franklin, KY.
- Durborow, R. M. 2010. Fish disease investigation of Rainbow Trout from Bell County, KY.
- Durborow, R. M. 2010. Fish disease investigation of Bluegill Sunfish from Dublin, TX.
- Durborow, R. M. 2010. Fish disease investigation of Tilapia. Alltech in Nicholasville, KY.
- Durborow, R. M. 2010. Performed a fish health inspection for Robert Mayer (largemouth bass and bluegills).
- Durborow, R. M. 2010. Performed a fish health inspection for Brush Creek Trout Farm (Akin; managed by Calvin Curry).
- Durborow, R. M. 2010. Performed a fish health inspection for Joyce and Steve Kinder (koi).
- Durborow, R.M. 2010. Performed a fish health inspection for Renee and Keith Koerner (paddlefish).
- Durborow, R. M. 2010. Performed a fish health inspection for Roy Rodriguez, Wingo, KY, (channel catfish), accompanied by Walter Kahill.
- Durborow, R. M. 2010. Two fish disease cases for Shawn Coyle; largemouth bass, channel catfish and fathead minnows.
- Durborow, R. M. 2010. Fish disease case for Brush Creek Trout Farm, Green County.
- Durborow, R. M. 2010. Two fish disease cases for Liz Toohey, Frankfort; koi.
- Durborow, R. M. 2010. Fish disease case for Deep Water Pay Lake, Bonnieville, KY; channel catfish.
- Durborow, R. M. 2010. Two fish disease cases for Robert Mayer, Nelson County; largemouth bass and LMB fingerlings.

## SERVICE TO THE PROFESSION AND UNIVERSITY (CONT)

- Durborow, R. M. 2010. Fish disease case for Mike and Diane Neighbors' Pay Lake, Vine Grove, KY; channel catfish.
- Durborow, R. M. 2010. Fish disease case for Bob and Brenda Stover Pay Lake; channel catfish.
- Durborow, R. M. 2010. Fish disease case for Don Rogers and Mary Gonda, Shelbyville, KY; channel catfish.
- Durborow, R. M. 2010. Fish disease case for Kraig Koontz, Wilmore, KY; discus commercial production business.
- Durborow, R. M. 2010. Fish disease case for Dr. Steve Mims & Rick Onders, KSU; hybrid striped bass from KSUARC and Frankfort Wastewater Treatment Plant.
- Durborow, R.M. 2010. Farm visit to James Garrison, Clay County, to help establish Everett King in minnow production.
- Durborow, R. M. 2010. Farm visit to Bill Mattingly, Lebanon for aquatic weed control.
- Durborow, R. M. 2010. Pond visit to Liz Toohey, Frankfort, with Catherine Frederick.
- Durborow, R. M. 2010. Participated in Alltech Conference in Lexington, KY. Contacts with Simon Davies, Eric Roderick & Carly Daniels.
- Durborow, R. M. and Campbell, K. 2010. Participated in Eastern Fish Health Workshop, Shepherdstown, West Virginia.
- Durborow, R. M. 2010. Served as Andy Redden's major professor in his successful defense of his thesis research in June 2010. Other committee members were Drs. Carl Webster and Boris Gomelsky.
- Durborow, R. M. 2010. Office visit from Phil Scheil, ornamental fish pond management advisor.
- Durborow, R. M. 2010. Pond visit with Anderson County Agent for Ag and Natural Resources to advise pond owner on aquatic weed control.
- Durborow, R. M. 2009. Radio interview on Kentucky Farm Bureau Radio with Mike Feldhaus. Estimated 5,000 contacts, July 2, 2009.
- Durborow, R. M. and Tidwell, J. 2009. Radio interview on Froggy (WFKY, 104.9) about KSU aquaculture activities.
- Durborow, R. M. 2009. Site visits for minnow production for Everett King to Clay, Adair, and Pulaski Counties with James Garrison.

## SERVICE TO THE PROFESSION AND UNIVERSITY (CONT)

Durborow, R. M. 2009. Meeting with Nicholas County Industrial Development Committee at Carlisle Bank to investigate a funding source for Everett King.

Durborow, R. M. 2009. New Agent orientation/tour/presentation for county staff in University of Kentucky county offices.

Gomelsky, B. 2009-2010. Member of KSU Faculty Senate.

Gomelsky, B. 2009-2010. Member of Faculty Senate Curriculum Committee.

Gomelsky, B. 2009-2010. Member of Faculty Recognition Committee.

Gomelsky, B. 2009-2010. Served as the Associate Editor of the North American Journal of Aquaculture.

Gomelsky, B. 2009-2010. Reviewed proposal submitted to USDA Small Business Innovation Research Program (SBIR).

Gomelsky, B. 2009-2010. Reviewed six scientific articles for different scientific journals.

Johnson, K. H. Serving as the Records Management Liaison for the Division of Aquaculture.

Johnson, K. H. Serving as a member of the Kentucky State University Strategic Plan Task Force.

Johnson, K. H. Serving as a member of the Staff Senate from 2010–2012.

Johnson, K. H. 2010 – current. Serving on the Recognition/Election/Education sub-committee.

Johnson, K. H. 2010. Voted Employee of the Month, June.

Mims, S. D. 2009. Paddlefish project at Bernheim Forest. Booth presentation at the Bernheim Arboretum and Research Forest 80th Anniversary Bash. July 11.

Mims, S. D. 2010. Taste of Paddlefish. Bloomfest 2010. Bernheim Forest, Bardstown, KY., May 15.

Mims, S. D. 2009-2010. Member of the Animal Welfare Committee.

Mims, S. D. 2009-2010. Serve on the University Faculty Grievance Hearing Panel.

Mims, S. D. 2009-2010. Serve on the Tenure and Promotion Task Force.

Mims, S. D. 2009-2010. Member of the Professional Concerns Committee (non-senator).

## SERVICE TO THE PROFESSION AND UNIVERSITY (CONT)

Mims, S. D. 2009-2010. Serve on the USAS Subcommittee for Student Chapters.

Mims, S. D. 2009-2010. Member of Paddlefish subcommittee for Aqua Task Force, Ex officio.

Mims, S. D. 2009-2010. Serves as a Treasurer and Volunteer for St. Vincent De Paul Society, Inc., Frankfort.

Porter, T. 2009. Co-authored article with Dr. Tidwell for the Kentucky Academy of Science newsletter

Porter, T. 2009. Tech presentation for African and U of L guests.

Porter, T. 2009. Attended Industrial Video Expo 2009 in Columbus, Ohio.

Porter, T. 2009. Placed Master of Environmental Studies Web site link on Aquaculture Web site

Porter, T. 2009. Provided aquaculture footage to KSU PR for CPE video.

Porter, T. 2010. Did technology presentation for William Bean's community leaders' tour.

Porter, T. 2010. Technology presentations (2) for possible KSU contributors brought by Bill Wilson.

Porter, T. 2010. Attended the Thurgood Marshall Annual Conference in Nashville.

Porter, T. 2010. Attended "XP to Windows" workshop w/ New Horizons in Lexington.

Porter, T. 2010. Negotiating with PSG on second proposal for upgrade of videoconferencing equipment to HD.

Porter, T. 2010. Final changes on three magazine ads, submitted & repeated ad in Farmer's Pride.

Porter, T. 2010. Designed tri-fold to promote fall 2010 classes – printed 400 for Boris' mailing.

Porter, T. 2010. Prepared photos and video for Roosevelt Shelton's visiting high school scholars.

Porter, T. 2010. Edited KSU montage for showing at the Sustainability Center's Grand Opening.

Porter, T. 2010. Serving with Dr. Tidwell on design committee for interpretive center at Paul Sawyer Library.

Porter, T. 2010. Working w/ Bill Wilson to fulfill all WEG requirements.

Porter, T. 2010. Attended the National Association of Broadcasters' conference and post production workshops.

**Schneider, K.** 2009. Consulted with the harvest of regional prawn growers including Steve Price and the North Point Correctional Facility.

## SERVICE TO THE PROFESSION AND UNIVERSITY (CONT)

- Thompson, K. R. 2009. Assisting Dr. Christopher Owens and graduate student **Andy McDonald** in fatty acid analysis of freshwater mussels and operation of GC located in the Nutrition Analytical Lab related to their research program.
- Thompson, K. R. 2009. Assisted **Nathan Bussen** (Dr. Dasgupta's graduate student) in the design and set-up of a freshwater crayfish system for his thesis project.
- Thompson, K. R. 2009. Assisted **Andy Redden** (Dr. Durborow's graduate student) in thesis project in which study was conducted in our Nutrition wet-lab facility and data analysis.
- Thompson, K. R. 2009. Assisted **Tiffany Ogunsanya** (Dr. Durborow's student) in her thesis project in which study was conducted in our Nutrition wet-lab facility and data analysis.
- Tidwell, J. H. 2009. Consulted with the harvest of regional prawn growers including Steve Price, Nat Henton, Randy Kendall, and the North Point Correctional Facility.
- Tidwell, J. H. Interviewed on behalf of KSU's aquaculture program by WLWT News 5.
- Tidwell, J. H. External reviewer on the thesis, "Growth performance and meat quality of *Labeo rohita*, *Catka catka*, and *Cyprinus carpio* under different treatments," by Sumira Abgas at the request of Dr. Tanwir Ahmad Malik, University of Agriculture, Faisalabad, Pakistan.
- Tidwell, J. H. External reviewer on the thesis, "Stock improvement of giant freshwater prawn (*Macrobrachium rosenbergii*) in Vietnam: experimental evaluations of crossbreeding, the impact of domestication on genetic diversity and candidate genes," at the request of Mary Bimblet, The University of Queensland, Australia.
- Tidwell, J. H. Reviewed the prawn section of the Seafood Watch Seafood Report issued by the Monterey Bay Aquarium in Monterey, California.
- Tidwell, J. H. Testified before the Kentucky General Assembly – Joint Sub-Committee on Agriculture.
- Tidwell, J. H. Addressed the Regional Stewardship Advancement committee concerning the EEC and Kentucky river project.
- Tidwell, J. H. Met with Lee Andrews and Leroy Koch from the KYFWS - Kentucky Ecological Field Services - about graduate student internships and research projects.
- Tidwell, J. H. Serve on the Editorial Board of the Korean Journal of Fisheries and Aquatic Sciences.

## SERVICE TO THE PROFESSION AND UNIVERSITY (CONT)

Tidwell, J. H. Interviewed on Frankfort Radio AM1490 concerning the KSU Aquaculture Program.

Tidwell, J. H. 2009. Mentioned for his work at KSU's Aquaculture program for the article "Prawn of Possibilities," by David Mudd; appearing in Business Lexington.

Tidwell, J. H. 2009. Mentored one BIO 410 student, **Latoyah Elliot**.

Tidwell, J. H. 2010. Mentored two R.E.A.P. students, **Chioma Okafor** and **Shawn Moore**.

Tidwell, J. H. 2010. Took Frankfort Middle School on a tour of the KSU Federal Building.

Tidwell, J. H. 2010. Performed a site visit for Breaking New Grounds in Louisville.

Tidwell, J. H. Reviewed three articles for Aquaculture, a peer-reviewed journal.

Tidwell, J. H. Reviewed one article for North American Journal of Aquaculture.

Tidwell, J. H. Reviewed three articles for Aquaculture Research.

Tidwell, J. H. Reviewed one proposal for NCRAC.

Tidwell, J. H. Reviewed one article for ARS.

Tidwell, J. H. Serve on the KSU Animal Welfare Committee.

Tidwell, J. H. Serve on the KSU GIS Advisory Board and Steering Committee

Tidwell, J. H. Serve on the Faculty Development Advisory Council.

Tidwell, J. H. Continues to serve on the university's Strategic Planning Task Force.

Tidwell, J. H. Continues to serve on the university's Biohazard Committee.

Tidwell, J. H. Continues to serve on the university's Institutional Research Committee.

Tidwell, J. H. Continues to serve on the Deans and Chairs Committee.

Tidwell, J. H. Continues to serve on the Graduate Council.

Tidwell, J. H. Serving as Co-Chair of Environmental Education Center Steering Committee.

Webster, C. D. and Thompson, K. R. 2009. Mentored REAP students in USDA Summer Internship program (**Jasmine M. DiProspero** and **Gina Guillen**)

## SERVICE TO THE PROFESSION AND UNIVERSITY (CONT)

Weibel, C. 2009. Attended two-day class "Introduction to ArcGIS."

Weibel, C. 2009. Attended the Governor's Conference on the Environment, September 30.

Weibel, C. 2009. Assisted Wyvette Williams with servicing the large format printer.

Weibel, C. 2009. Repaired large cutter for Wyvette Williams.

Weibel, C. 2009. Did specifications for new computers for Dennis Thomas and Wyvette Williams.

Weibel, C. 2009. Assisted William Stilwell with maintenance at the EEC.

Weibel, C. 2009. Provided AV support for the Nursing Department in the large classroom.

Weibel, C. 2009. Provided photos for EEC Web site

Weibel, C. 2009. Provided photos for Aquaculture Web site.

Weibel, C. 2009. Proctored Extension staff meeting in Distant Learning Classroom, June 09.

Weibel, C. 2009. Seven photos published in Aquaculture Magazine, June 2009

Weibel, C. 2009. Prawn photos submitted to an encyclopedia.

Weibel, C. 2010. Provided Audio/Video support for the Aquatic Herbicide Training, March 26-27.

Weibel, C. 2010. Assisted **Latoya Elliott** with presentation for Kentucky Academy Science meeting.

Weibel, C. 2010. Printed poster for **Latoya Elliott's** "Posters at the Capitol" presentation.

Weibel, C. 2010. Assisted Nursing Program with large classroom.

Weibel, C. 2010. Attended Windows 7 training, March 16-19.

Weibel, C. 2010. New technology trade fair online conference, B & H video/photo/audio.

Weibel, C. 2010. Extension Meeting March 23, "Engage Your Clientele Across the Generations."

Weibel, C. 2010. World Equestrian Games technology display preparation.

Weibel, C. 2010. Visited Centre College, Danville, Kentucky, and reviewed HD equipment for DLC Upgrade.

Weibel, C. 2010. Provided photos of new Center for Sustainable Family and Farms building for invitation.



## SERVICE TO THE PROFESSION AND UNIVERSITY (CONT)

- Weibel, C. 2010. Provided audio tracks and photos for video project at the Grand Opening of the Center for Sustainable Family and Farms.
- Weibel, C. 2010. Published eight photos in "Freshwater Prawns, Biology and Farming." 2010 by Blackwell Publishing Ltd.
- Weibel, C. 2010. Posted "Goat Hoof Care" on YouTube for Ken Andries.
- Weibel, C. 2010. Provided photo for cover of 2010 KSU Commencement program.
- Weibel, C. 2010. Took photos of the Channel Catfish Diet study.
- Wurts, W. A. Served as proposal reviewer for the National Oceanic and Atmospheric Administration for the 2010 Saltonstall-Kennedy Grant Program.
- Wurts, W. A. 2009. As project director, attended the organizational meeting for the 1890s Capacity Building Grant Program at KSU in Frankfort, November 24.
- Wurts, W. A. 2010. Served as special session organizer, coordinator and chair for World Aquaculture 2010, the triennial international conference of the WAS, AFS and NSA in San Diego, CA, March 4 – 5.
- Wurts, W. A. Served as journal reviewer for Reviews in Fisheries Science, 94-page manuscript.
- Wurts, W. A. 2010. Conducted radio program about Live-Hauling Fish for the Jack Cowner Show, April 20.
- Wurts, W. A. 2010. Began serving as Extension Co-Coordinator for NIFA/AFRI proposal.
- Wynne, F. 2009. Presented a pond management and aquatic plant and algae control display at the UK Research and Extension Center Field Day in Princeton on July 23 – approximately 100 visited the display.
- Wynne, F. 2009. Presented an aquaculture extension program display during the KSU Aquaculture Research and Extension Center open house on July 25, 38 attended.
- Wynne, F. 2009. Made a site visit to a Fulton County pond to evaluate the site for a potential pond management demonstration program – July 20, three attended.
- Wynne, F. 2009. Made site visits to a number of McCracken and Graves County ponds to collect aquatic plants and algae specimens for the UK Agricultural Field Day at Princeton – July 22.
- Wynne, F. 2009. Made a site visit to evaluate property for a prospective residential pond in Graves County – September 9.

## SERVICE TO THE PROFESSION AND UNIVERSITY (CONT)

Wynne, F. 2009. Made a site visit to a Carlisle County pond to discuss filamentous algae control – September 11.

Wynne, F. 2009. Made a site visit to a McCracken Co. pond to evaluate water quality and discuss general pond management – September 11.

Wynne, F. 2009. Made a site visit to a western McCracken County location to evaluate the property for the construction of a 2.5 acre pond – September 11.

Wynne, F. 2009. Made a site visit to a southern McCracken County pond to evaluate an aquatic plant control problem and to recommend liming – September 11.

Wynne, F. 2009. Made a site visit to a Ballard County pond to evaluate an aquatic plant control problem – September 17.

Wynne, F. 2009. Made a site visit to a Woodford County freshwater shrimp/tilapia pond to evaluate the lined pond environment and determine the size of shrimp and fish for harvest – September 29.

Wynne, F. 2009. Made a site visit to the NKU campus pond to evaluate water quality and to monitor a nuisance water fowl population – September 30.

Wynne, F. 2009. Made a site visit to a McCracken County pond to evaluate a rooted aquatic plant problem – October 6.

Wynne, F. 2009. Made a site visit to a McCracken County pond to evaluate a filamentous algae and water primrose control problem – October 6.

Wynne, F. 2009. Made a site visit to an ornamental subdivision pond/canal system to evaluate a structural problem and aquatic plant control issues – October 28.

Wynne, F. 2009. Made a site visit to Ken's Bait and Tackle Shop in Lake City to evaluate bait minnow holding systems and related fish losses – November 2 .

Wynne, F. 2009. Made a site visit to a 75-acre, abandoned Graves County clay mine pit to evaluate water quality and discuss fish population management options – November 3.

Wynne, F. 2009. Made a site visit to Ponderosa Farms catfish operation with Tamara Fookarian, regional director, National Algae Association, to discuss catfish farming and how ponds may be used for harvesting algae for alternative energy uses – November 6.

## SERVICE TO THE PROFESSION AND UNIVERSITY (CONT)

- Wynne, F. 2009. Made a site visit to four Crittenden County sport fishing ponds to evaluate water quality and evaluate sites for new ponds – November 23.
- Wynne, F. 2009. Made a site visit to a resort pond near Hardinsburg, KY, to evaluate water quality and a blue-green algae bloom complaint – December 2.
- Wynne, F. 2009. Made a site visit to the Murray State University fish production ponds with Drs. Bill Wurts and Jim Davis (MSU) to evaluate the structures for potential demonstration project use – December 4.
- Wynne, F. 2010. Made a site visit to Lynn Grove to sample female paddlefish with gill nets from catfish ponds to determine egg development – March 8, five attended.
- Wynne, F. 2010. Made a site visit to two Hardin ponds to evaluate water quality in a newly constructed four-acre pond, and a small woodland pond in need of renovation and damaged trees removed from the 2009 ice storm – March 10.
- Wynne, F. 2010. Made a site visit to a one-acre Graves Co. pond to evaluate water quality for potential liming - March 17.
- Wynne, F. 2010. Made a site visit to a west Paducah borrow pit pond to evaluate a filamentous algae problem and to recommend the addition of agricultural limestone – March 19.
- Wynne, F. 2010. Made a site visit to Lynn Grove to assist with the harvest and processing of approximately 800 lbs of male paddlefish for test marketing – March 23, 10 participated.
- Wynne, F. 2010. Made a site visit to the Purchase Medical Center complex pond to evaluate an aquatic plant management problem – April 23.
- Wynne, F. 2010. Made a site visit to Clinton, Kentucky, to evaluate a fish kill that occurred in a small livestock pond – April 27.
- Wynne, F. 2009. Attended a grant writing workshop presented by UK – July 17, 17 attended.
- Wynne, F. 2009. Attended the Southern Regional Aquaculture Center meeting in Memphis to determine project funding for the upcoming year August 6-7, approximately 40 attended.
- Wynne, F. 2009. Attended a KAA and Aquaculture Task Force meeting via video conference at the Marshall County Extension office, August 24.

## SERVICE TO THE PROFESSION AND UNIVERSITY (CONT)

Wynne, F. 2009. Attended an area ANR agents meeting in Marshall County, October 7.

Wynne, F. 2009. Attended a KAA and Aquaculture Task Force meeting via video conference at the Princeton Research and Education Center – 13 attended, October 16.

Wynne, F. 2009. Attended a KSU Land Grant Staff meeting via video conference from the Princeton Research and Education Center – October 27.

Wynne, F. 2009. Attended a KAA board meeting via video conference from the Marshall County Extension office – December 7.

Wynne, F. 2009. Continue to serve as the Technical Committee member representing KSU Aquaculture Extension on the Southern Regional Aquaculture Center reviewing aquaculture funding proposals and requests for proposal.

Wynne, F. 2010. Participated in a WKMS Public Radio (Murray State University) interview with Dr. John Murdock regarding catfish farming and aquaculture in Kentucky, conducted by reporter Angela Hatton on February 24.

Wynne, F. 2010. Attended two Argroterrorism training classes in Florida involving detection, diagnosis, and risk communication – June 23-24.

## TOURS AND PROMOTIONAL ACTIVITIES

Bean, W. 2009. ARC Tour KSU School of Nursing NEEP students (14 students) and “Introduction to Aquaculture” Presentation, July 27.

Bean, W. 2009. ARC Tour Mr. Phillip Garret from Mary Hurst (40 students); “Introduction to Aquaculture” Presentation; and seine demonstration with a large paddlefish (hands-on activity), July 24.

Bean, W. 2009. ARC Tour KSU SEED students (18 students), October 8.

Bean, W. 2009. ARC Tour Quest Farm students (15 students and staff), December 11.

Bean, W. 2010. ARC Tour YMCA Black Achievers (30 students), February 2.

## TOURS AND PROMOTIONAL ACTIVITIES (CONT)

Bean, W. 2010. ARC Tour Frankfort Leadership Group (Frankfort Chamber), March 11.

Bean, W. 2010. ARC Tour for Bill Wilson and two guests, April 14.

Bean, W. 2010. ARC Tour for KSU Admissions (60 students), April 21.

Bean, W. 2010. ARC Tour LSAMP Bridge Program (30 students); "Importance of Applied Science" Presentation; and seine demonstration with a large paddlefish (hands-on activity), June 24.

Durborow, R.M. 2009. Tour for Small, Limited Resource, Minority Farmers Conference at KSU ARC.  
48; 20 F, 30 B.

Durborow, R.M. 2009. Hosted a tour of Aquaculture for Third Thursday sustainable agriculture group.

Thompson, K.R. 2009. Preparation of Poster entitled, "Farming the Australian Red Claw Crayfish in Kentucky," used for Aquaculture Field Day Tour. Aquaculture Research Center, Frankfort, Kentucky, July 25.

Wurts, W.A. 2009. Organized, developed and coordinated hands-on, Kentucky State University Aquatic Weed Identification and Aquaculture exhibit for the University of Kentucky College of Agriculture Field Day in Princeton, KY, July 23.

Wurts, W.. 2009. Developed and set-up exhibit at KSU Aquaculture Field Day/Open House in Frankfort, KY, July 25.

Wynne, F. 2010. Made a site visit to a Paducah housing development retention pond to evaluate a blue-green algae bloom complaint – April 28.

Wynne, F. 2010. Made a site visit to a Wingo, KY, catfish operation with Bob Durborow to collect catfish for VHS sampling and potential sale within West Virginia – May 3.

Wynne, F. 2010. Made a site visit to Oxford, MS, to evaluate a perspective site for a large fee fishing operation – May 13.

Wynne, F. 2010. Made a site visit to a Priorsburg, KY, catfish pond to evaluate a low dissolved oxygen related fish kill – May 26.

Wynne, F. 2010. Made a site visit to a Caneyville, KY, farm to evaluate the site for a potential recreational pond field day – May 28.

## TOURS AND PROMOTIONAL ACTIVITIES (CONT)

Wynne, F. 2010. Made a site visit to a Graves Co. pond to evaluate a low dissolved oxygen related fish kill – June 2.

Wynne, F. 2010. Made a site visit to a McCracken Co. pond to evaluate a watermeal problem – June 4.

Wynne, F. 2010. Made a site visit to a large property containing three ponds to evaluate an algae control problem and monitor water quality – June 4.

Wynne, F. 2010. Made a site visit to an ornamental pond in Mayfield to evaluate water quality and a fish kill – June 8.

Wynne, F. 2010. Made a site visit to Ponderosa farms in Lynn Grove to evaluate the harvesting and loading of catfish into a live-haul truck that had lost two previous loads of fish (Approximately 5,000 lbs) – June 9.

Wynne, F. 2010. Made a site visit to a Paducah pond to evaluate a fish kill and monitor water quality – June 18.

Wynne, F. 2010. Made a site visit to a Hickory, KY, farm pond site where the water treatment plant had accidentally discharged lye into the pond via a drainage ditch. Monitored water quality and made management recommendations – June 21.



Nathan Cochran (L) and Tod Porter record audio and video for a seafood sustainability video production.

## INFORMATION TECHNOLOGY

- Cochran, N. C. 2009. Developed LMB publication PowerPoint for Southern Regional Aquaculture Center.
- Cochran, N. C. 2009. KAA Meeting with call-in from Rick Murdock, July 13, (14 guests).
- Cochran, N. C. 2009. STI Ribbons of America hook-up with Department of Transportation, July 13, (25 guests).
- Cochran, N. C. 2009. KAA Meeting with hook-up to Marshall Co., August 24, (27 guests).
- Cochran, N. C. 2009. Installed new 2TB external hard-drive and began transferring online course AVIs.
- Cochran, N. C. 2009. Traveled to Demopolis, AL, for video recording and photography of catfish farms, shrimp farms, processing plants, feed mills, and partitioned aquaculture systems, October 26-28.
- Cochran, N. C. 2009. Re-converted FRST Flash files for non-embedded for faster loading.
- Cochran, N. C. 2009. Enrolled students for fall semester FRST, FG & POA.
- Cochran, N. C. 2009. Built online course Fish Reproduction on Blackboard.
- Cochran, N. C. 2009. Set up Blackboard courses for fall semester FRST, FG, POA.
- Cochran, N. C. 2009. Converted *Water Quality* Classes 1-12 to FLASH and MPEG4 format.
- Cochran, N. C. 2009. Built WQ Class on the Blackboard Educational Suite.
- Cochran, N. C. 2009. Worked online courses (FRST, POA, FG) for fall 2009.
- Cochran, N. C. 2009. Enrolled students for spring semester online courses (POA, FRST, FD).
- Cochran, N.C. 2009. Set up Blackboard online courses for spring 2010 semester (POA, FD).
- Cochran, N. C. 2009. Re-worked FG PowerPoints for pre-recording (classes 1-17).
- Cochran, N. C. 2009. Worked video formats for ecology video featuring Dr. Sluss.
- Cochran, N. C. 2009. Completed online *Water Quality Management* course.
- Cochran, N. C. 2009. Managed online courses *Principles of Aquaculture*, *Basics of Fish Disease*, *Fish Reproduction & Spawning Techniques*.
- Cochran, N. C. 2009. Recorded classes 1–9 of *Fish Genetics* with Dr. Gomelsky.

## INFORMATION TECHNOLOGY (CONT)

Cochran, N. C. 2009. Edited classes 1 – 5 of *Fish Genetics*.

Cochran, N. C. 2010. Made video to display for legislature dinner.

Cochran, N. C. 2009. Layed JPEG & animations to class 1 – 5 *Fish Genetics*.

Cochran, N. C. 2009. Converted Fish Genetics class 1 – 4 to MPEG4.

Cochran, N. C. 2009. Copied AVI of all classes for *FD, FRST, WQ* and current FG to 2 TB external hard drive.

Cochran, N. C. 2010. Connected with Auburn and LSU for thesis defense for **Josh Patterson**.

Cochran, N. C. 2010. Recorded Class 10-17 FG.

Cochran, N. C. 2010. Edited Class 6-7 FG.

Cochran, N. C. 2010. Retrieved and moved Hard drive from PC to Mac.

Cochran, N. C. 2010. Enrolled students for POA summer semester courses.

Cochran, N. C. 2010. Enrolled students for fall semester *FG, FRST & POA*.

Cochran, N. C. 2010. Completed spring semester courses *FD, FRST, & POA*.

Cochran, N. C. 2010. Running summer semester course *POA*.

Cochran, N. C. 2010. Connected to Georgetown University for teleconference call to assist SEED program.

Cochran, N. C. 2010. Attended HD demo at Centre College for distance learning room.

Cochran, N. C. 2010. Setup and ran teleconference meeting with Princeton for Land Grant Extension meeting.

Cochran, N. C. 2010. Mentored REAP students on video-editing software and on Blackboard Educational Suite.

Durborow, R. M. 2009. Prepared video footage for Animal Planet's *Monsters Inside Me* television series (aired July 1 through August 5). Animal Planet Network.

Durborow, R. M. 2009. Recorded Water Quality Management online course as part of USDA Teaching Capacity Building Grant.

Gomelsky, B. 2009-2010. Taught Online Courses: *Fish Genetics* and *Fish Reproduction*.

Gomelsky, B. 2009-2010. Worked on recording *Fish Genetics* online course to video format



## INFORMATION TECHNOLOGY (CONT)

- Porter, T. 2009. *Sustaining Our Seafood* video: shot video at sewer plant twice, met w/ Ken Bates on animation, & wrote script based on Dr. Mims' content outline.
- Porter, T. 2009. Shot photos on Field Day and placed on Web site.
- Porter, T. 2009. Setup lights with REAP students for portrait photos of students.
- Porter, T. 2009. Transferred one-hour prawn harvest tape from Beta to AVI and Flash for placement on Web.
- Porter, T. 2009. Extensive compression testing for Web placement.
- Porter, T. 2009. Shot HD parasite video for Dr. Durborow.
- Porter, T. 2009. Downloaded Squeeze 5.1 which resolved Sorenson conversion problems with 5.0.
- Porter, T. 2009. Several calls to COT resulting in replacement of CSU/DSU in DL lab.
- Porter, T. 2009. Added many video clips to the Web site.
- Porter, T. 2009. Assisted with Kentucky Highway Dept. videoconferences
- Porter, T. 2009. Setup permanent softlight in Room 101 to ease glare for presenters.
- Porter, T. 2009. Gathered footage, selected music, and edited KSU video introduction for President Sias' acceptance of Thurgood Marshall Award in New York City.
- Porter, T. 2009. Three-day trip to Alabama to shoot catfish video for sustainability video
- Porter, T. 2009. Shot video of paddlefish harvest at sewer plant for inclusion in sustainability video
- Porter, T. 2009. Shot and edited video of Ecology class at EEC. Now on EEC Web site.
- Porter, T. 2009. Did color state fee-fishing map of all counties with Ken Bates.
- Porter, T. 2009. Shot video of Small Farmers' tour of ARC.
- Porter, T. 2009. Took photos of Heritage Board at EEC and provided copies to three members.
- Porter, T. 2009. Directed photo shoot w/ Charles & Nathan of Shrimp Boil for 2008-09 annual report cover.
- Porter, T. 2009. Web maintenance of Aquaculture site, including photos and video clips.
- Porter, T. 2009. Did audio and video on two *Water Quality* lab shoots.

## INFORMATION TECHNOLOGY (CONT)

Porter, T. 2009. Write and layout Executive Summary for 08-09 Annual Report.

Porter, T. 2009. Design and layout ad for use in three magazines – emailed pdf.

Porter, T. 2010. Designed WEG exhibit and worked with Corman and Associates in developing 3-D mockup, and did POs for seven other companies that will provide hardware; presented to President's cabinet; met w/ WEG rep Marilee Myers to discuss KSU exhibit; got three quotes for Microsoft Surface; met w/ Best Buy consultant to select four monitors; registered 11 persons for ID check; wrote three exhibit descriptions; got quote from Post Printing and KSU Copy Shop for tri-fold production.

Porter, T. 2010. Setup one-month student recruitment TV commercial to run on eight cable networks through the Frankfort Plant Board cable system.

Weibel, C. 2009. Backed up Dr. Webster's files onto an external hard drive.

Weibel, C. 2009. Tackled over 109 computer hardware/software and network issues at the ARC.

Weibel, C. 2009. Captured photos for updating the main campus Web site.

Weibel, C. 2009. Provided Audio Visual support for the CPE presentation in Lexington

Weibel, C. 2009. Photos for Thurgood Marshall award video.

Weibel, C. 2009. Upgraded software for capturing images with laptop.

Weibel, C. 2009. Formatted Tod's PC and installed software.

Weibel, C. 2009. Reviewed and ordered computers, computer software/hardware for the ARC.

Weibel, C. 2009. Reviewed and ordered 26 computers for Land Grant.

Weibel, C. 2009. Ordered iPads and accessories for WEG display

Weibel, C. 2009. Reviewed and ordered computers, computer software/hardware.

Weibel, C. 2009. Ordered MAC desktop and external hard drives for Nathan.

Weibel, C. 2009. Replaced and upgraded software for Karla's, Carolyn's and Wes's computers.

Weibel, C. 2009. Published two photos in "Wastewater Reuse Supports Paddlefish Project" in the July/August 2009 issue of the Global Aquaculture Advocate.

## INFORMATION TECHNOLOGY (CONT)

Wurts, W. A. Updated content and links, and collected/analyzed user data for Aquaculture Information Web site. Over 369,234 publications and slideshows were downloaded from July 1, 2009 to June 30, 2010. This represents an average of 1,011 information downloads per day by unique IP addresses.

Wurts, W. A. Continued work with county agents and public to use digital photos via e-mail and the Internet for aquatic weed identification to improve speed and efficiency of service to agents and farmers and broaden effective service area.

## INTERAGENCY INVOLVEMENT

Coyle, S. D. 2010. Worked in cooperation with the Kentucky Department of Agriculture to evaluate an aquaculture farm for a prospective producer in Shelby County.

Durborow, R. M. 2009. Worked with American Fisheries Society Fish Health Section Professional Standards Committee on conference call (serving as past committee chair).

Durborow, R. M. 2009. Collaborated with Natural Resources Conservation Service District Conservationist Gary McFarland (& assistant Tara) in Nicholas County with Everett King, prospective minnow farmer.

Durborow, R. M. 2009. Helped to host federal inspection team for the National Catfish Inspection Program, a branch of the federal Food Safety Inspection Service, led by Dr. Otis Miller, DVM.

Durborow, R. M. 2009. Served as information source for CESO (Ohio engineering firm) bidding for a construction job with the Kentucky Department of Fish and Wildlife Resources at the Minor Clark Hatchery.

Durborow, R. M. and Owen, C. 2009. Interaction with Dr. Tom Fox, malacologist from North Carolina State University consulting with our lab on freshwater mussel culture.

Durborow, R. M. and Owen, C. 2009 - 2010. Collaboration between Kentucky State University Fish Disease Diagnostic Laboratory and Kentucky Department of Fish and Wildlife Resources for freshwater mussel culture.

Durborow, R. M. 2009. Participated in Online Incentive Program directed by Dr. Penny Smith, Jennifer Miles and N'Namdi Paskins.

Durborow, R. M. 2010. Reviewed a CSREES research article.

Durborow, R. M. 2010. Tour for Midway College biology class for Dr. Elizabeth Vaughn.

## INTERAGENCY INVOLVEMENT (CONT)

- Durborow, R. M. and Gomelsky, B. 2010. Participated in Associated Koi Clubs of America Annual Seminar in Nashville, TN. Contacted AKCA membership, Andy and Kelly Goodwin, and Nick Saint Erne, DVM.
- Mims, S. D. 2010. Contracted by Wiley Blackwell to write a book on Paddlefish Culture.
- Mims, S. D. 2009. Collaborating in paddlefish recovery programs with New York (1999) and PA (2009) by supplying fertilized paddlefish eggs to their hatcheries.
- Mims, S. D. Working with Mt. Vernon (Lake Linville), North Laurel Water District (Wood Creek), Madisonville, Mt Sterling, Springfield, Russellville in paddlefish ranching projects. Sampling water quality, phytoplankton and zooplankton in Lake Linville and Wood Creek Lake where paddlefish are stocked.
- Mims, S. D. Demonstration with Aquila International, Inc. (Tim Parrott) and Big Fish Farm, Inc. (Renee Koerner) to grow commercial numbers of paddlefish and hybrid striped bass at Frankfort and Cincinnati wastewater treatment plants, respectively.
- Mims, S. D. Assisted Winchester Municipal Utilities (WPU) in getting approval from Kentucky Division of Water to incorporate aquaculture into WMU's plan in preventing demolition of their decommissioned sewer plant and allowing its use as an aquaculture hatchery facility. Aquila International has a five-year contract to raise fish at this site.
- Mims, S. D. Collaboration with Jack Stickney of Kentucky Rural Water Association to identify municipalities that have water supply lakes for reservoir ranching of paddlefish.
- Dr. James Tidwell was invited by the USDA, Agricultural Research Service (ARS), Office of Scientific Quality Review to organize and Chair a review panel to evaluate proposals submitted by ARS Aquaculture scientists. The review panel convened by Dr. Tidwell had scientists and industry representatives from six states. They met in Beltsville, Maryland, for two days of discussion and deliberation.
- Tidwell, J. H. 2009. Worked with Angela Caporelli from the Kentucky Dept. of Agriculture at the Franklin County Farmers Market to distribute information about aquaculture in Kentucky as well as cook and serve locally grown tilapia and prawn.
- Tidwell, J. H. 2009-2010. Serve on the Southern Regional Aquaculture Center Publication Steering Committee.
- Tidwell, J. H. 2009-2010. Serve as an Ex Officio Board member of the Kentucky Aquaculture Association.
- Tidwell, J. H. 2009-2010. Serve as a member of the World Aquaculture Society/ American Fisheries Society Education Committee.

## INTERAGENCY INVOLVEMENT (CONT)

- Tidwell, J. H. 2009-2010. Serve as a representative for the Translational Research Conference Committee which is chaired by President Ramsey and reports to the Council on Postsecondary Education.
- Tidwell, J. H. 2009-2010. Continues to chair a committee to study the feasibility of intensive recirculating saltwater shrimp production under Kentucky conditions for the Governor's Office of Agricultural Policy. Members include representatives of UK, GOAP, WKU, and Sygen.
- Tidwell, J. H. 2009-2010. Continues to serve on the Governor's appointed Aquaculture Task Force.
- Tidwell, J. H. 2010. Serving on the Research Advisory Council for West Virginia State University.
- Tidwell, J. H. 2010. Provided an external review for a USDA – Agricultural Research Service publication.
- Wurts, W. A. Worked with Vo. Ag. teacher at Caldwell Co. High School to trouble shoot recirculating system design for Vo. Ag. Program, 07/17/2009.
- Wurts, W. A. 2009. Organized and coordinated with UK College of Agriculture Specialists to develop Kentucky State University Aquatic Weed Identification exhibit at the University of Kentucky College of Agriculture Field Day in Princeton, KY. Exhibit was setup and staffed in collaboration with Forrest Wynne and Bob Durborow, 07/23/2009.
- Wurts, W. A. In collaboration with the UK County Extension Agent in Morehead, KY, enlisted the participation of Forrest Wynne to develop and conduct an Aquatic Weed Control In-service Training program for county agents and pesticide applicators, 12/10/2009.
- Wurts, W. A. Served as proposal reviewer for National Oceanic and Atmospheric Administration for the 2010 Saltonstall-Kennedy Grant Program.
- Wurts, W. A. As project director, collaborated with Dr. Jim Davis (MSU), Dr. Carl Webster (KSU) and Forrest Wynne (KSU) to develop and submit a proposal for the 2010 Capacity Building Grants Program.
- Wurts, W. A. As organizer and principal coordinator, collaborated with Dr. Peter Perschbacher and Dr. Joe Tomasso to develop a novel program, recruit speakers and schedule an invited special session for World Aquaculture 2010, the triennial international conference of the WAS, AFS and NSA (March 2010).
- Wurts, W. A. In collaboration with Dr. Peter Perschbacher (UAPB), co-moderated a special session at World Aquaculture 2010, March 4 & 5, 2010.
- Wurts, W. A. In collaboration with Forrest Wynne, conducted Aquatic Weed Control In-service training programs for UK county agents and pesticide applicators (02/12/2010 & 03/26/2010).

## INTERAGENCY INVOLVEMENT (CONT)

Wurts, W. A. In collaboration with Forrest Wynne, conducted a Live-Haul Workshop in Frankfort, KY (03/27/10).

Wurts, W. A. Continued work with UK County Agents to use digital photos via e-mail and Internet for aquatic weed ID.

Wurts, W. A. Member of national eXtension community/group since 2007.

Wurts, W. A. Began serving as Extension Coordinator for the multiple-university NIFA-AFRI proposal addressing the use of alternative plant protein sources for aquaculture feeds.

Wurts, W. A. Began work with Forrest Wynne revising the Fact Sheet No. 390 for the USDA Southern Regional Aquaculture Center (SRAC).

Wynne, F. 2009. Worked with Purchase Area Resource, Conservation and Development District Officer, Bob Johnson, regarding the operation and maintenance of their dissolved oxygen meters for the Water Watch Program – August 17.

Wynne, F. 2009. Met with KYDFWR Director of Fisheries, Gerry Buynak, to discuss how Kentucky catfish growers may supply the department's Urban Fishing Program and to secure functional data lists of fish transport and fee fishing operation license holders – September 30.

Wynne, F. 2009. Requested and evaluated data from KYFWR permit lists for live fish transporters, fee-fishing operations, fish propagators and bait dealers. Created a mailing list for live-fish transporters and fee fishing operations. Created an updated fee fishing facility map for the state of Kentucky with the assistance of Tod Porter – October/December 2009.

Wynne, F. 2009. Sent 33 copies of the recently published manual "Live-Hauling Channel Catfish," by F.S. Wynne and W.A. Wurts to KYFWR live fish transport permit holders – November 2009.

Wynne, F. 2010. Continued work with Dane Balsman, KYFWR Urban Fisheries Biologist, regarding potential live-haulers to stock fish for their urban ponds and lakes during spring and summer 2010.

Wynne, F. 2010. Participated in a conference call to plan the 5th National Extension Specialists' meeting to be in Memphis in 2011 – April 26.

Wynne, F. 2010. Continue to serve as the Technical Committee member representing the KSU Aquaculture Extension Program on the Southern Regional Aquaculture Center reviewing aquaculture funding proposals and requests for proposal.

## SERVICE TO THE COMMUNITY

Bright, L. A. 2008 – 2010. Served as Secretary/Treasurer to non-profit organization 9th Life Catpack, Inc.

Coyle, S. D. 2009-2010. Provide therapy dog work to children at The King's Center.

Durborow, R. M. 2010. Delivered prayer for education in America for National Day of Prayer at Southern Hills United Methodist Church in conjunction with St. Luke UMC.

Mims, S. D. 2009-2010. Serve as a Treasurer and Volunteer for St. Vincent De Paul Society, Inc., Frankfort.

Mims, S. D. 2010. Concession manager for Franklin County High School Lady Volleyball team, Frankfort, KY.

Mims, S. D. 2010. Committee member of Capital Campaign for Good Shepherd Church, Frankfort, KY.

Porter, T. 2010. Serving with Dr. Tidwell on design committee for interpretive center at Paul Sawyer Library.

Thompson, K. R. 2009. Manager, Little League Boys Baseball (10-12 yrs-old; Major League; Summer League), Anderson County Little League, Inc., Lawrenceburg, KY.

Thompson, K. R. 2009. Manager, Little League Boys Baseball (9-12 yrs-old; Fall League), Anderson County Little League, Inc., Lawrenceburg, KY.

Thompson, K. R. 2010. Manager, Little League Boys Baseball (11-12 yrs-old; Major League; Summer League), Anderson County Little League, Inc., Lawrenceburg, KY.

Thompson, K. R. 2010. Manager, Travel Baseball Team (11-13 yrs-old), Lawrenceburg, KY.

Tidwell, J. H. 2009-2010. Serve as an advisor to the Community River Ecology Project sponsored by the Frankfort Tourism Board and Second Street School.

Tidwell, J. H. 2009-2010. Serve as a parent representative on the interview committee at Frankfort High School.

Tidwell, J. H. 2009-2010. Chairing the Comprehensive School Improvement committee for Frankfort High and Frankfort Middle schools.

Tidwell, J. H. 2009-current. Serving on the Economic Stimulus Work Group sub-committee on Homeland Security.

Weibel, C. 2009. Provided photo and video support to North Point Training Center.

Weibel, C. 2009. Worked with Boy Scouts weekend retreat at EEC on August 11 and 12.

## SERVICE TO THE COMMUNITY (CONT)

Weibel, C. 2009. Worked with REAP students on their presentations and attended the event on July 18.

Weibel, C. 2009. Photographed and supplied prints to the Franklin County High School JROTC.

Weibel, C. 2009. Supplied DVD of Small Farm Conference photos to Lois Jackson, State Public Affairs Specialist, USDA NRCS.

Weibel, C. 2010. Photo support for DARE Program graduation, Second Street School, March 5.

Weibel, C. 2010. Served on Jury.

Wynne, F. 2009/2010. Assistant baseball coach, Paducah Tilghman High School.

Wynne, F. 2009/2010. Made seven aphaeresis platelet donations at the Paducah Red Cross Center.

Wynne, F. 2009/2010. Board member of the Greater Paducah Sustainability (GPS, Inc.) Recycling Project.

Wynne, F. 2009/2010. Soccer Boosters President, Paducah Tilghman High.



Children from the Heritage Elementary School in Shelby County exit the Environmental Education Center's mobile unit.



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