



2000 AREA Conference Abstracts
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Professional Development

Title of Presentation: WILD About Aquatic Education, Part 1

Presenter: Barbara Bonsall Wood, Ph.D., Project Manager, Project WILD; 707 Conservation Lane; Gaithersburg, MD 20879; (301)527-8900

Abstract: Take another look at Project WILD Aquatic! Over the past two years Project WILD has launched an extensive evaluation of its educational programs and materials, updated its learning framework to coincide with today's educational standards and natural resource issues, and revised its core curriculum materials, including the popular Project WILD Aquatic K-12 Curriculum and Activity Guide.

Learn about the approach Project WILD took to enhance its programs, from understanding constituents' needs, to updating its conceptual framework, to developing new activities and revising old favorites. Surveys of state fish and wildlife agency directors, educators, and academic administrators and a review of current practices led Project WILD to strengthen its Aquatic educational content in key areas such as ecological knowledge, social and political knowledge, and the sustaining of fish and wildlife resources. These three major sections now form the basis for Project WILD's conceptual framework, and reflect a developmental structure of increasing complexity.

A dozen new and significantly revised Project WILD Aquatic activities, in addition to thirty-six updated activities, provide opportunities for to learn about changes and adaptation in aquatic wildlife, biodiversity, impacts of political and legislative frameworks on aquatic wildlife; and principles of aquatic wildlife management. During the session, such new activities as Dam Design, Sockeye Scents, Silt: A Dirty Work, and Sea Turtles International will be highlighted. Suggestions will be given for introducing Project WILD Aquatic to new audiences and using the new curriculum and activity guides for advanced training of educators already familiar with Project WILD.

Title of Presentation: WILD About Aquatic Education, Part 2

Presenter(s): Barbara Bonsall Wood, Ph.D., Project Manager, Project WILD; 707 Conservation Lane; Gaithersburg, MD 20879; (301)527-8900

Abstract: Newly revised for the year 2000, Project WILD Aquatic takes a fresh approach to professional development and training of education program staff, volunteers, and classroom teachers! Easily tailored to specific uses and audiences, such as aquarium settings, after-school programs, and elementary, middle, or high school classrooms, the Project WILD Aquatic program serves as an invitation for educators and their students to explore and understand the fascinating world of water and the aquatic habitats it supports.

Water in all its forms is one of the most dramatic of today's arenas in which informed, responsible and constructive actions are needed. Aquatic species and aquatic ecosystems

give humans early and clear warning about the quality of the water environment upon which we all depend. This session allows you to “dive in” and experience some of the new Project WILD Aquatic activities like Sea Turtles International and updated activities like Net Gain, Net Effect to examine the human and cultural influences on the sustaining of our aquatic wildlife resources.

Learn to use the new Project WILD Aquatic learning framework and topic indices to create a customized training program for educators from all types of backgrounds and educational settings, and to promote your aquatic education programs in new ways. While this session is an excellent follow-up to the WILD About Aquatic Education session, participation in this earlier session is not required.

Title of Presentation: Using RBFF to Achieve State ARE Goals

Presenter: Bruce Matthews, President and CEO, Recreational Boating and Fishing Foundation, 601 N Fairfax St. Suite 140, Alexandria, VA 22314 703-519-0013, fax 703-519-9565, bmatthews@rbff.org Kristen LaVine, Program Manager, Recreational Boating & Fishing Foundation, klavine@rbff.org

Abstract: The Recreational Boating and Fishing Foundation was formed to carry out a national strategic plan to increase participation in fishing and boating, thereby increasing stewardship for the aquatic resources that support these activities. RBFF’s mission can best (and arguably only) be accomplished through successful collaborating and partnering among stakeholders. In so doing RBFF intends to build ownership of its efforts, and outcomes, among a broad array of key stakeholder groups including State Aquatic Educators. This goal requires a broad-based visionary strategy that combines both marketing and education approaches. If they are to be successful in accomplishing their charge, RBFF will need to: 1) assist aquatic resources, angler and boater educators in overcoming constraints and operating more effective programs; 2) facilitate networking and interaction among educators, and with stakeholders sharing education interests; 3) train stakeholders to use best practices in customer service, product delivery, target marketing, and education and outreach programs, including program delivery and evaluation of these programs; and 4) identify and disseminate information about innovative education and outreach programs. This interactive presentation will not only review what actions RBFF is currently taking to meet their objectives, but also ask for audience input on how RBFF and AREA can work together to help meet the goals of State Aquatic Resource Educators. Audience members should come prepared with the goals and objectives of their state programs and ideas for RBFF. Participants will walk away with a minimum of three specific ideas on how to use RBFF to deliver better programs in their home states.

Title of Presentation: Aquatic Nuisance Species: A Wealth of Opportunities For Personal and Professional Advancement

Presenter: Joe Starinchak, Outreach Coordinator, USFWS, Division of Fish & Wildlife Management Assistance, 4401 N. Fairfax Drive, #840, Arlington, VA 22203, Ph. 703.358.2018, Fax 703.358.2044, Email: joe_starinchak@fws.gov

Abstract: Aquatic Nuisance Species: A Wealth of Opportunities For Personal and Professional Advancement. Nationally, the ANS Task Force is responsible for coordinating prevention and control activities for aquatic nuisance species. Seven federal agency and ten ex officio members oversee provisions of the Non-indigenous Aquatic Nuisance Species Prevention and Control Act of 1990. One provision of the Act allows states to develop state/interstate plans to prevent and control ANS. Funding to implement ANS plans may be provided by the USFWS. Through this provision, ARE coordinators have tremendous opportunities to enhance education/outreach programs within their agencies. Specifically, you can: Be your agency's catalyst for developing/implementing a state ANS plan, Provide your expertise during the process to elevate and expand the role and influence of education/outreach, Expand ARE efforts by potentially leveraging additional internal support, Develop external support by partnering with Sea Grant to develop education/outreach portion of your state ANS plan, Through your efforts, the ANS issue can produce tangible benefits. Your state will be able to address ANS comprehensively, raise its awareness, build statewide partnerships, while you can increase your influence and raise your own program scope and capabilities. In some coastal states, the NOAA Sea Grant program conducts ANS education/outreach activities. While this is part of their agency's purview; as ARE staff, you can benefit from this situation. Partnering can create synergy while positioning you to represent your agency's perspective about the ANS outreach/education. For non-coastal states, you have more room for growth because you are your state's primary aquatic education expertise. The bottom line is that, as an association and as individuals, we need to seize the ANS issue. By positioning ourselves properly, we can generate multiple benefits for everyone: our programs, our agencies, our states, the Association, and ourselves.

Title of Presentation: Tips for Effective Interpretation

Presenter: Cindy Borgwordt; Missouri Department of Conservation; Aquatic Resource Education Coordinator; PO Box 180; Jefferson city, MO 65102

Abstract: Several approaches are typically available to choose from for providing messages or experiences to the public or our colleagues. The variety of interpretive tools can formats such as presentations, brochures, exhibits, an interactive CD ROM, computer games, presentations and tours. However, it is essential to pick the right tool for the situation, and then produce that tool using the basic interpretation philosophies to be effective. The tool needs to match the audience, the physical environment, the learning opportunity and topic, the budget and the technology. Then, an evaluation is the only means to determine if your effort did what you had intended.

Tips for determining what interpretive tool to use for your particular effort will be introduced. The objective, audience, experience desired and location all directly impact what you have available as effective tools. We will walk through a quick layout, learn how and why to produce thumb nail sketches and most importantly, learn how and why to do mock ups.

Theories of visitor studies will be presented. Traffic patterns, time spent at exhibits, color, physical environment considerations and visitor behavior will be discussed. This interactive discussion will address brochure layout, exhibit layout, exhibit media, type size and face, developing exhibit goals, using color and tips for developing interactive. Evaluating the final product will be briefly introduced.

Model Program

Title of Presentation: Wildlife Forever's State Fish Art Project

Presenter: Brian Czock, Wildlife Forever, 10365 West 70th street, Minneapolis MN 55344
952-833-1522; bczock@wildlifeforever.org

Abstract: An overview of Wildlife Forever's State Fish Art Project and how it can be used in your state will be presented. Included will be details on the contest, examples from other states and information on the Something's Fishy Curriculum Supplement.

Title of Presentation: Yellow Perch Hatch, Raise and Release Project

Presenter: Cindy Boyle, Outdoor Educator, Arlington Echo Outdoor Education Center, Anne Arundel County Public Schools, 975 Indian Landing Road, Millersville, Maryland 21108. 410-222-3822. cindy_boyle@hotmail.com.

Abstract: The Yellow Perch Hatch, Raise and Release Project is an outreach program of Anne Arundel County Public Schools through Arlington Echo Outdoor Education Center. The program supports MSPAP and Student Service Learning. Students collect yellow perch eggs, hatch and raise them in specialized aquariums in their classrooms and eventually release them into local streams. The Outdoor Education Program provides training and support for the schools.

A grant from the Maryland Department of Natural Resources, Aquatic Resources Education Program supports the project. The grant covers substitutes for a fall inservice, a spring egg collection date, and money for replacement materials/equipment to keep the aquaculture systems operative. The fall inservice prepares participants for the upcoming project year. Students assemble and prepare tanks for the spring collection. Egg strands are collected in early to mid-March. The fish are raised in the classroom and as the fish grow, students are responsible for daily feeding, for monitoring water quality and

documenting growth. Students collect data, organize information and use critical thinking skills to problem solve issues/concerns related to the raising process. By June, some of the 1-2 inch yellow perch are released in local streams. Remaining fish are transferred to a larger aquaculture system at Arlington Echo Outdoor Education Center. These perch continue to grow (8-10 inches), at which time they are tagged, in cooperation with the Maryland Department of Natural Resources biologists, and released into the Severn River.

Presentation Title: WOW!: The Wonders of Wetlands

Presenter: David Christopher, Wetlands Educator, Environmental Concern Inc., P. O. Box P, St. Michaels, MD 21663; telephone 410-745-9620; fax 410-745-3517; Email educate@wetland.org.

Abstract: Wetlands, those transitional zones between land and water, exist all over the world. Most aquatic organisms are dependent upon these unique habitats for a portion of their lives, while some live only in wetlands. Because wetlands are transitional, they have characteristics of both land and water, as well as characteristics that are unique, but often misunderstood. WOW!: The Wonders of Wetlands provides background material to help educators understand these mysterious places and hands-on activities to guide students in exploring them. WOW!: The Wonders of Wetlands is an educator=s guide that contains 44+ hands-on, multi-disciplinary activities for children in grades K-12. These activities cover a variety of topics and are designed to give students an appreciation of wetlands and their importance. Many activities are designed for outdoor use; some are more appropriately done indoors. All WOW! activities have recently been correlated to the National Science Content Standards. WOW! guides are available through Project WET or directly from Environmental Concern. While not a requirement, training is strongly encouraged for those using WOW! activities. Educator Workshops and Facilitator Training Workshops are available wherever requested through Environmental Concern. Both types of workshops as well as wetland courses for educators and professionals are also scheduled throughout the year at Environmental Concern=s facility in St. Michaels, Maryland. In this presentation, participants will be introduced to the WOW! educators= guide and take part in activities from the WOW! book. Participants will receive a copy of each activity presented, and information on wetland publications and training opportunities.

Title of Presentation: The Everglades Case Study: A Watershed Education Curriculum
Presenter: Dr. Tom Marcinkowski, Florida Institute of Technology 150 W. University Boulevard;
Melbourne, FL 32901-6975 PH: (321) 674-8946; FX: (321) 674-7598; EM: marcinko@fit.edu

Abstract: The Greater Everglades Watershed (GEW) has been of national interest since the 1940s. Since 1900, half of the historic sawgrass marsh was lost to development, and changes in GEW surface hydrology have impacted natural and nearby human communities. More recently, the GEW has become the focus of the world's largest ecosystem restoration effort. Despite its significance, reviews of aquatic/watershed education materials (Andrews, 1992, 1995) indicated an absence of materials on the GEW designed to address the full range of goals and objectives for environmental and aquatic/watershed education. In response to teacher requests, efforts were made to obtain funding for the development and field testing of a sequential curriculum (i.e., a curriculum insert) that addressed the entire watershed (i.e., its geography, natural history and ecology, cultural history and legacy of human impacts, current problems and issues, restoration plans and efforts, and citizen involvement). Funds for The Everglades Case Study were provided by the South Florida Water Management District (Florida DEP) and the National Fish and Wildlife Foundation. The curriculum was designed to meld the above contents with a skill development and application sequence prepared by Dr. Harold Hungerford and his colleagues over the past 25 years (i.e., in Investigating and Evaluating Env. Issues and Actions, and related extended case studies). A Licensing Agreement was formed with the publisher of these curricula to permit legal use of copyrighted material. A Writing Team designed and wrote this curriculum, with review by members of three advisory committees (Scientific and Technical, Education, Balance of Perspective). Drafts of this curriculum were edited and formatted for field test use. Already trained middle and secondary teachers participated in a field test over the 1998-99 school year, using a quasi-experimental pre/post control group design. The field test draft was then edited for final publication. This presentation will address the following: (a) an introduction to The Everglades Case Study project and its "fit" to ARE; (b) an overview of this project; (c) a description of important features of The Everglades Case Study curriculum, the accompanying Teachers Guide and web page, and planned distribution mechanisms; (d) anticipated outcomes from using this curriculum and preliminary results from this field test; and (e) anticipated impacts of this project and these products (e.g., for the resource and agencies).

Title of Presentation: Panel Discussion: Long-Term Community Based Sportfishing Programs
Presenters: Phil Genova, author First Cast- Teaching Kids to Fly Fish and First Cast Fly Fishing Education Curriculum

Shahab Farzanegan, Program Manager, Community Fly Fisher, Cornell Cooperative Extension, Ithaca, NY

Jon Lyman, Education Program Manager, Alaska Fish and Game

Jim Hatchell, Director, Greenstreams

Trout Unlimited, Representative TBA

Abstract: Research shows that lifetime participation in sportfishing is decided at a fairly early age. The factors that influence a young person's decision to take up fishing as a lifetime activity must include five consistent elements:

- Threshold Experience
- Mentor
- Proper Equipment
- Places to Fish
- Social Support

The panel and audience will discuss how to include these elements in a community program and partner with agencies, sportsman's groups, the fishing industry and schools.

Title of Presentation: Fishing Partners: Iowa DNR and 4-H Making a Difference

Presenter: Judy Levings, Iowa State University Extension, Iowa State University, 33 Curtiss Hall, Ames, Iowa 50011 515-294-4764, jlevings@iastate.edu

Barb Gigar, Aquatic Education Specialist, Iowa Department of Natural Resources, 2473 160th Rd., Guthrie Center, Iowa 50115 515-747-2200

Abstract: Discover how Iowa 4-H and the DNR Aquatic Education program are making a difference in the lives of youth and the environment through their unique partnership. See how they are targeting youth and volunteers through promoting 4-H Fish Iowa project clubs, after school programs, day camps and extended overnight camps throughout the state. Lots of ideas have been implemented with great success. Check out their curriculum, website, mini-grants program, and publications.

Title of Presentation: SC Reel Kids (Youth and Fishing in South Carolina)

Presenter: BeBe Harrison, SCDNR Aquatic Education Specialist PO Box 167 Columbia, SC 29202; (803)-737-8483 nancyhar@scdnr.state.sc.us

Abstract: Anglers and non-anglers are both interested in more environmental/aquatic education for the youth of South Carolina. For the past two years, the South Carolina Department of Natural Resources is currently using evaluation and survey methods to determine what youth are looking for and what is needed in the aquatic education arena. SC Reel Kids is an aquatic education program that has been developed using data

collected in these surveys. SC Reel Kids is designed to be fun, educational, and hands-on. The program will introduce youth under 16 to the aquatic world through angling, conserving and protecting aquatic habitat, and aquatic study. The program is similar to scouting and the youth will receive rewards after accomplishing goals. Some of these goals include catching their first fish, visiting a fish hatchery, visiting a state park, and creating aquatic artwork. The background information, development of the program, and the program itself will be presented.

Title of Presentation: Florida's Clean Marina Program: Compliance through Education

Presenter: Debora Morgan Hall, Senior Management Analyst -- Program

Development/Education/Outreach, Florida Department of Environmental Protection, Division of Law Enforcement, 3900 Commonwealth Blvd, Tallahassee, FL 32399-3000, Telephone 850-488-5757 ext 139; e mail Debora.S.Hall@dep.state.fl.us

Abstract: There is a direct link to the future of the marina industry and clean water. Clean water is necessary for the livelihood and the well being of our communities. If the waters are too polluted to recreate, then the boaters will go elsewhere. To meet both the letter and the spirit of our state's environmental laws, the Florida Department of Environmental Protection has been in partnership with both private and public entities in the marine industry to develop a Clean Marina Program. First and most importantly, we want to ensure that we provide educational information to marinas and boaters on pollution prevention measures. Understanding the complexities of our resources and learning how we affect our environment, for better or for worse, will improve how we manage our coastal environment. We have designed the Florida Clean Marina program to introduce simple, innovative solutions called Marina Environmental Measures. The aim of the Clean Marina Program (CMP) is prevention. Marinas and boaters may not be aware of the environmental laws, rules and jurisdictions with which they must comply. Compound that with the reality that environmental and operational problems are usually addressed after they happen rather than anticipated.

The goal of CMP is Clean Marina Designation. Designation lets boaters that use the marina know that these businesses adhere to — or exceed program criteria, including Marina Environmental Measures. Voluntary participation, “pier” pressure and desire to do environmentally conscious activities and reinforcement of current regulatory processes are the common elements. This approach provides opportunities for public and private entities to work together, as well as, provide incentives and remove institutional roadblocks to wise resource stewardship.

Title of Presentation: Fish Iowa! B Getting PE Programs Hooked on Fishing

Presenter: Barb Gigar Coordinator, Aquatic Education Program Iowa Department of Natural Resources 2473 160th Road Guthrie Center, IA 50115-8518 Phone/fax: 515/747-2200 Email: bgigar@netins.net

Abstract: The Iowa Department of Natural Resources has been involved in teaching fishing skills for decades. As part of the first formal aquatic education program, funded with Wallop-Breaux funds, an effort was launched to teach fishing skills in physical education classes. This approach was taken because individuals might be reached who would not attend traditional fishing clinics, we could reach a diverse audience, and the payback in terms of program participants would be great. We estimate that personnel from 70+ percent of Iowa's public school districts have been trained, reaching over 100,000 students each year. The process followed in Iowa to develop materials and a system for working with physical education classes will be outlined. The challenges and rewards involved with this approach will be discussed and recent surveys conducted to assess the effectiveness of this approach will be presented.

Title of Presentation: POW!: The Planning of Wetlands

Presenter: Karen L. Ripple, Education Director, Environmental Concern Inc., P. O. Box P, St. Michaels, MD 21663; telephone 410-745-9620; fax 410-745-3517; Email educate@wetland.org.

Abstract: Wetlands, those transitional zones between land and water, exist all over the world, but are rapidly disappearing. Most aquatic organisms are dependent upon these unique habitats for at least a portion of their lives and some live their entire lives in wetlands. One way of providing for these species that face staggering habitat losses is to create, restore, and enhance wetlands, then monitor them. POW!: The Planning of Wetlands trains educators to do just that. (A planned wetland is one that is created, restored, or enhanced.)

POW! is both a manual and a course designed to guide educators and students through wetland projects using a series of hands-on activities. Background information on the technical aspects of designing and constructing wetlands is provided in the manual as well as a series of activities that lead educators and students step-by-step through the process. Monitoring activities cover the areas of hydrology, water quality, soils, plants, and animals of all kinds. All activities are correlated with the National Science Content Standards. The overall format of POW! is similar to that of WOW!: The Wonders of Wetlands which was also created and published by Environmental Concern Inc., a small non-profit organization devoted entirely to wetlands.

In the presentation, participants will view both natural and planned wetlands, be introduced to the guide and course, and take part in an activity from POW!. Participants will receive a copy of the activity presented, and information on wetland publications and training opportunities.

Program Evaluation

Title of Presentation: An Overview of Three Aquatic Education Programs in Missouri.

Presenters: Janice Schnake Greene, Associate Professor of Biology, Southwest Missouri State University, 901 S. National Avenue, Springfield, MO 65804 (417) 836-5306, JaniceGreene@mail.smsu.edu; Gregg Krumme, Department of Biology, Southwest Missouri State University, 901 S. National Avenue, Springfield, MO 65804, (417) 836-5126; Brian Roddiger, Department of Biology, Southwest Missouri State University, 901 S. National Avenue, Springfield, MO 65804, (417) 836-5126

Abstract: Missouri has been active in conservation education for many years. It has 56,000 miles of flowing surface water and several large lakes, therefore, aquatic education is an important part of the overall conservation education program. This presentation will look at three studies dealing with aquatic education. The first study examined 6th and 12th graders= knowledge, attitudes and behaviors related to conservation. Overall, students had a good understanding of aquatic concepts including a watershed, groundwater, riparian zones, and aquatic food chains. However, students did not understand how soil erosion affects aquatic systems or the functions of wetlands. The second study evaluated the Missouri Stream Team Program. The Missouri Department of Conservation, Missouri Department of Natural Resources, and the Conservation Federation of Missouri developed the Stream Team Program to foster education, stewardship, and advocacy. An evaluation of students experienced in Stream Teams and non-experienced students= knowledge and attitudes was conducted in 1997/98. Significant differences in knowledge were found between experienced and non-experienced individuals, grade levels, and schools. Analysis of attitude scores revealed significant differences between groups and between gender. In general, individuals with Stream Team experience scored higher than non-experienced individuals in knowledge and attitudes. The third study is an evaluation of education programs at the Roaring River Trout Hatchery in Cassville, Missouri. Four hundred visitors to the hatchery were surveyed to look at knowledge and attitudes of aquatic resources and perceptions of programs. Results will be discussed.

Title of Presentation: Evaluating Florida's Kid's Fishing Clinics, the First Years.

Presenter: Rob Kramer, Florida Fish and Wildlife Conservation Commission, Division of Marine Fisheries, Outreach and Education Section, 2590 Executive Center Circle East, Suite 204, Tallahassee, FL 32301, ph 850/488-6058, fax 850/488-7152,

Abstract: The Kids' Fishing Clinics program consists of one-day clinics held in coastal areas around Florida. Between September 1996 and April 2000, just over 15,000 kids participated in 41 clinics. With community support, over 13,500 rod combos were given to participating children. The goal of these clinics is to teach responsible resource stewardship. Added benefits include teaching a lifetime hobby that has positive lasting effects. In a preliminary effort to evaluate the clinic's effectiveness, Responsive

Management, Inc. was contracted in the spring of 1999 to survey participants from the first two years of the clinic. Two hundred recipients of rods, 200 non-recipients and 200 non-participants, were asked a series of questions regarding their fishing behavior before and after a clinic as well as their knowledge of marine resource management and protection. Results show that 79% of all participants really liked the clinic. Thirteen (13) percent of clinic participants had not fished before attending a clinic, and 31% had fished less than five times. Eighty-one (81) percent of all clinic participants have fished since attending a clinic and 63% have purchased fishing equipment. Nineteen (19) percent more non-recipients than recipients bought a fishing rod, but 17% more recipients bought tackle than non-recipients. Results from the rest of the survey will be presented as well as the parameters for the current survey being conducted.

Title of Presentation: Evaluation of the Pennsylvania 4H Sportsfishing Program: Assessment of Youth Attitudes, Motivations, and Constraints towards Fishing

Authors: Marisa E. Oliva, Research Assistant, School of Forest Resources; The Pennsylvania State University, 111 Ferguson Bldg., State College, PA, 16801. meo134@psu.edu Dr. Grace A. Wang, Assistant Professor, Natural Resource Sciences ; The Pennsylvania State University 208 Ferguson Building, University Park, PA 16802 gaw5@psu.edu

Abstract: In an effort to recruit and retain youth anglers, the Pennsylvania Fish and Boat Commission (PaFBC), the Pennsylvania State University and Pennsylvania 4H are collaborating to develop a Sportsfishing Project book. One goal of the PaFBC in reaching out to new populations is to increase the base of licensed anglers, in turn providing continuing monetary support for future sportsfishing and educational programs. The purpose of the study is to evaluate the project in terms of its usefulness and viability as a curriculum that provides children with the opportunity and ability to become anglers, regardless of location or socioeconomic constraints. In counties selected, short surveys and focus groups are administered to Pennsylvania youth, ages 10-12 in both rural and urban 4H settings. Preliminary findings indicate that parental attitude towards fishing and social inclusion of youth is an important influence on a child's experience and attitude towards fishing. Preliminary conclusions suggest that: Parental involvement and support of a child's desire to fish needs to be emphasized in most communities; especially in urban cities; social settings with adults and mentors should be encouraged, especially among females and minorities; and barriers that prevent access to "fishing waters" need to be eliminated, by bringing the kids to the water. The study is both quantitative and qualitative in scope. Data is gathered using several interrelated components: questionnaires, focus groups, and surveys. Data from surveys and the evaluation are coded and translated using the SPSS statistical package. Information from focus groups and evaluation booklet are analyzed qualitatively.

Title of Presentation: Case Studies from an Evaluation of Aquatic Resource Education Programs in the Southeastern United States

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Lyle Soniat Wildlife Education Administrator Louisiana Department of Wildlife and Fisheries; P. O. Box 98000 Baton Rouge, LA 70808-9000 225-765-2915 soniat_lm@wlf.state.la.us

Abstract: This paper presents a summary and cross-state comparison of case studies from 10 Aquatic Resource Education Programs (AREPs) in the Southeastern United States: Alabama, Florida-Freshwater program, Florida-Saltwater program, Georgia, Kentucky, Louisiana, Mississippi, North Carolina, Puerto Rico, and the Virgin Islands. This study follows up on results from an earlier study that described and compared the components of the programs in these states (Teddlie, Davis, and Soniat, 1998, 2000). The data sources for the case studies include the results from a 26-page survey and from site visits that involved extensive observation and interviews. Each case study includes descriptions of the best practices related to participation, awareness, and appreciation and suggestions for improvement. The cross-state comparisons will also include information concerning the relative effort of each state program in terms of the allocation and actual expenditure of available aquatic resource education funds. Information on different organizational and staffing patterns will also be presented. Overall recommendations for program improvement across the region will be presented.

Title of Presentation: An evaluation of the Chesapeake Bay Foundation's education programs

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Abstract: The Chesapeake Bay Foundation (CBF) is the largest regional conservation organization in the country and is known for its grades 5-12 youth and K-12 teacher environmental education programs. These programs include six types of field trips for youth, five middle school curricula, three restoration projects, a student "alumni" program, and teacher training workshops and courses. We recently assessed the CBF education program's outcomes by examining to what extent the different programs resulted in changes in characteristics associated with environmentally responsible behaviors (Hungerford and Volk, 1990). Youth and teachers who participated prior to and during 1998 were sampled. Data were collected through pre/post/retention-tests, mail surveys, and focus groups. Evaluation participants included 3,403 youth and 772 teachers. Results supported improvements to a range of extents in knowledge of ecology, issues, and actions, as well as skill in actions, environmental sensitivity, personal responsibility, locus of control, and intention to act. There was also evidence that environmentally responsible actions increased as a result of participation in CBF education programs. This presentation will focus on our evaluation's results but will also describe recommendations and subsequent changes to CBF's education programs. [This evaluation was funded by the CBF Education Program through a grant from the Toyota Motor Corporation.]