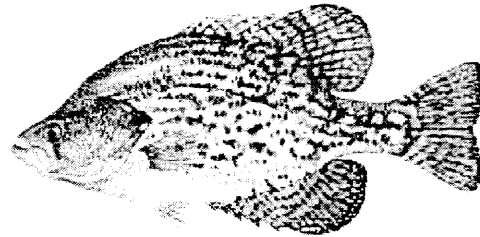
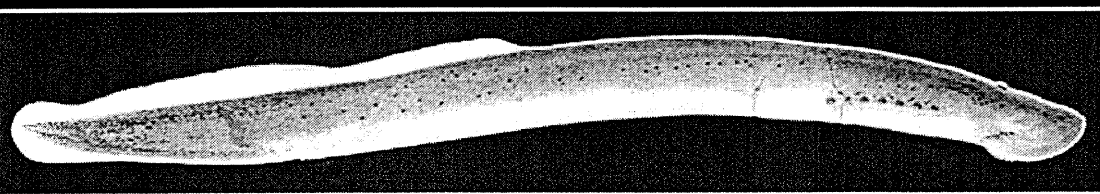


ICTALURUS FURGATUS  
BLUE CATFISH  
POISSON - CHAT



Black Crappie  
*Pomoxis nigromaculatus*



Chestnut lamprey-*Ichthyomyzon castaneus*

# Table of Contents

<u>Section</u>	<u>Page</u>
Presidents Letter	1
Meeting Minutes	3
Alabama	5
Florida	7
Georgia	9
Kentucky	13
Mississippi	17
North Carolina	21
South Carolina	25
Tennessee	27

# **SWPBA**

## **Southeastern Water Pollution Biologist Association**

Hello Everyone:

I hope everybody had an enjoyable holiday season and is recharged as we go into the year 2000. It's hard to believe 2000 is finally here. The year has started off a little on the cool side here in North Carolina with three recent snow events in the Raleigh area in a two-week time frame. The last one was a record breaker with total snowfall amounts in the neighborhood of 20 inches. The snow storms on top of the 500-year flooding and three hurricanes last fall have helped to add a few extra environmental challenges for us this year. I'm sure all the other states have a few items to challenge them as well. These should make for good presentations and discussions at this year's meeting.

Before getting into the scoop on the 2000 SWPBA meeting, I would first like to congratulate Dave Chestnut, Jim Glover, and all the folks from South Carolina for a great job with the meeting last year in Myrtle Beach. While there was some discussion and effort made to have this year's meeting in the North Carolina mountains, the beach won out. The hotel was much more accommodating and being a coastal fellow myself, Atlantic Beach was an easy decision. Here are the important specifics:

### **2000 SPWBA Meeting**

Date: November 7-9, 2000  
Place: Ramada Inn, Atlantic Beach, NC  
Phone: 1-800-338-1533  
Rates: \$30.00 for a single, \$36.00 for a double

The hotel is right on the beach and ALL rooms are oceanfront. We are hoping that the lower room rates will help those without funding still be able to attend the meeting. The exact cost of registration is still up in the air a bit but \$35.00 seems to be a good bet. Registration cost will include a banquet on Wednesday night. I'll include some information about the Atlantic Beach area and more meeting details in the next newsletter.

Speaking of the newsletter, thanks to Larry Eaton for taking on the task. As all of you that have done the job before know, it can be very taxing. Larry will also be doing the majority of the work in putting the meeting program together. If anyone has any questions in these areas please contact:

Larry Eaton  
Phone: (919)733-6946  
Fax: (919)733-9959  
Email: [larry.eaton@ncmail.net](mailto:larry.eaton@ncmail.net)

If you can't get in touch with Larry or have any other business or questions, send them my way:

Neil Medlin

Phone: (919)733-6946

Fax: (919)733-9959

Email: [neil.medlin@ncmail.net](mailto:neil.medlin@ncmail.net)

That's all for now. Stay safe and have some fun as the field season starts up.

Neil

## 1999 SWPBA Business Meeting

Dave Chestnut, 1999 President of SWPBA, called the business meeting to order at 11:30 AM.

### Old Business

Jim Glover, 1999 Secretary of SWPBA, read the minutes from the 1998 business meeting.

Dave Chestnut asked for the discussion of the 1998 minutes. Lythia Metzmeier made the motion that the second sentence under the New Business section of the 1998 minutes be amended from "South Carolina accepted responsibility for hosting the 1998 SWPBA meeting", to "South Carolina accepted responsibility for hosting the 1999 SWPBA meeting." Susan Cohn seconded the motion. The motion was passed with a unanimous Aye.

Dave Chestnut discussed changes in the SWPBA Constitution and By-Laws and opened the floor for discussion. Mike Beiser offered to amend the constitution to substitute gender neutral language for masculine language where there is referral to a person. There were no objections. Mike Beiser also raised the point that each state should get one vote regardless of the size of the membership. He noted that the host state will usually have more members and that a simple majority would bias the vote. During discussion of this point it was noted that there was no longer a quorum at the 1999 Business Meeting and thus any changes to the Constitution and By-Laws could not be voted on. It was agreed that further discussion be tabled until the 2000 meeting.

### New Business

The First order of business was to elect officers for next year. North Carolina accepted responsibility for hosting the 2000 SWPBA meeting.

Nominations for president were open. Lythia Metzmeier nominated Neil Medlin for the 2000 SWPBA president. Mike Beiser seconded the motion. Nominations were closed and the vote was accepted by the membership with a unanimous Aye. Nominations for secretary were open. Trish MacPherson nominated Larry Eaton for secretary. Skip Call seconded the nomination. Nominations were closed and the vote was accepted by the membership with a unanimous Aye.

Dave Chestnut thanked all those who made the 1999 SWPBA Annual Meeting a success including, all those at South Carolina DHEC, the vendors, and Delbert Hicks, Ron Raschke, and Bill Peltier who provided and prepared the pig for the banquet.

Dave Chestnut turned the worm over to Neil Medlin. Neil discussed next years meeting and asked if there was a preference for where the 2000 meeting should be held. After a short discussion Neil asked if there was any other new business. Vernon Beaty suggested that SWPBA might want to consider having a Vice President in addition to a President and a Secretary. After a short discussion it was decided that the system seemed to be working with only two officers.

With no new business Trish MacPherson moved to adjourn the 1999 Business meeting. Mike Beiser seconded the motion. The 1999 business meeting was adjourned at approximately 12:15 PM.

## *News from ALABAMA*

### *Reservoir Water Quality Monitoring (RWQM) Program*

Intensive water quality monitoring of reservoirs in the Chattahoochee and Conecuh River basins was completed October 1999. These reservoirs were monitored monthly April-October at multiple locations. Collected data will allow ADEM to estimate the current water quality and trophic state of impounded waters in these basins. Data collected by this project will be used to update the 305(b) Water Quality Report to Congress, ADEM Reservoir Water Quality Monitoring (RWQM) Program database, ADEM Fish Tissue Monitoring Program database, and will be added to the ADEM GIS database.

Reservoirs of the Coosa, Tallapoosa, Tombigbee, and Escatawpa basins were monitored once during August in accordance with the two-year monitoring rotation of all lakes in the state. The final draft of the Intensive Water Quality Survey of Warrior River Basin Reservoirs 1998 has been completed. Copies will be available by January 2000.

For further information on the RWQM Program contact Fred Leslie at (334) 260-2752 or [fal@adem.state.al.us](mailto:fal@adem.state.al.us).

### *Fish Tissue Monitoring Program*

Scheduled fish collection for fall 1999 has been completed and the lab is now analyzing tissue samples. Waterbodies sampled in this most recent effort included: West Point, Harding and W.F George Reservoirs of the Chattahoochee River; Logan Martin Reservoir and Choccolocco Creek; Point A Reservoir, Patsaliga Creek and Gantt Reservoir of the Conecuh River; Mobile River, Halls Mill Creek Rabbit Creek and Three Mile Creek of Mobile County. Four embayments of Wheeler Reservoir Flint, Spring, Second and Dry Creeks. Sampling for this fiscal year also included three sites downstream of bleached kraft paper mill discharges as a supplement to required NPDES dioxin monitoring. In all, a total of 29 sites were sampled with approximately 360 fish were collected. For further information on the Fish Tissue Monitoring Program contact Chris Harman at (334) 260-2751 or [cdh@adem.state.al.us](mailto:cdh@adem.state.al.us).

### *Point / Nonpoint Source Assessment Programs*

Environmental Indicators (EI) Section staff continued monitoring quarterly for water quality indicators at 12 stations within the Paint Rock River watershed. Sampling will end in April 2000 for the Paint Rock River Nonpoint Source Watershed Project. Macroinvertebrate identification and analysis of 1999 samples is currently in progress. For further information on the Paint Rock River Nonpoint Source Watershed Project contact Audra Jones at (334) 260-2754 or [abj@adem.state.al.us](mailto:abj@adem.state.al.us).

The 1998 Nonpoint Source screening project for the Tennessee River basin is in the reporting phase. Subwatershed information regarding landuse and animal populations compiled by the local Soil and Water Conservation District offices is also being incorporated into the final report. Part II of the project included funds to collect additional data on selected 303(d) segments in the Tennessee Basin. This information will be used to assist in developing the TMDLs for these segments.

The 1999 water quality assessment of the Chattahoochee, Choctawhatchee, Chipola, and Perdido-Escambia River Basins is in the data analysis and reporting phase. The study area encompasses twenty counties in southeast Alabama. The area includes sixteen hydrologic cataloging units which comprise 137 sub-watersheds and 11,303 square miles of drainage. To focus on non-point source pollution and areas that have not been studied with the past five years, EIS created an Arcview project with point source and previous study data layers. Then utilizing the Conservation Worksheets provided by the NRCS, twenty-seven sub-watersheds were selected for study. Upon selection of the various sub-watersheds, wadeable streams within the sub-watersheds were selected for assessment. EIS conducted fifty macroinvertebrate community surveys/ twenty-seven fish community surveys, and collected chemical samples at twenty-seven locations.

#### Reference Site Selection

Ecoregional reference site reconnaissance in the newly revised subregions in the northern half of Alabama has begun. Once all of the data has been collected, we will begin the task of selecting approximately twenty new reference sites. This number may change, one way or the other, as we determine the amount of heterogeneity in each of the subregions.

#### Data Management/Storage

The 104(b)(3) Project titled *Enhancement of ADEM's Watershed Assessment Capabilities Through Improved Methods of Transfer and Access to Water Quality Data* is continuing. The Department's Y2K effort slowed progress during November and December of 1999. Now that we have all survived this relatively intact, we can begin again in earnest to complete the database. User testing of a major portion of the database is ongoing. Help files and a User Documentation Manual have been drafted and are being used during user testing. For more information on this project contact Vickie Hulcher at (334) 260-2747 or [vjh@adem.state.al.us](mailto:vjh@adem.state.al.us).

#### GOOD NEWS

To all of you who were around a few years ago, a long lost bug-buddy is returning "home". Lisa Houston will be rejoining the Environmental Indicators Section in mid February from the University of Anchorage, Alaska. I'm sure you all are happy to have her back in the membership, and she will be glad to hear from all of her old friends.



# FLORIDA

## Florida Department of Environmental Protection (DEP)

### Lake Bioassessment Protocol Development

The final “**Development of Biological Index for Florida Lakes**” report should be completed within a couple of months. The draft Executive Summary follows:

“The Florida Department of Environmental Protection (DEP) began developing a lake bioassessment protocol to be able to monitor and assess the biological condition of Florida lakes. The Florida DEP monitors state waters to protect and manage ecosystem health. The lake bioassessment protocol is a tool for the ambient monitoring program, in support of Florida’s water quality standards. This document describes data analysis of the lake assessment monitoring, and develops an index for lake biological assessment.

The framework for bioassessment consists of characterizing reference conditions upon which comparisons can be made, and identifying appropriate biological attributes with which to measure the condition. Reference conditions are selected to be the “best available” conditions for a particular region or area, and are intended to be representative of sustainable ecosystem health. They do not necessarily represent pristine conditions uninfluenced by human activities.

An earlier geographic regionalization based on topography, natural water chemistry, lake origin, lake hydrology, and soils identified 47 lake regions in Florida (Griffith et al. 1996). This report summarizes data collected between 1993 and 1996 from 122 reference and 84 non-reference lakes within 36 of the lake regions. Macroinvertebrate species composition was related to several environmental variables: Secchi depth, Kjeldahl nitrogen, total nitrogen, total phosphorus, chlorophyll *a*, water color, and pH.

Classification of Florida lakes, using both chemical water quality and biological species composition, revealed that Florida lakes can be best classified according to water pH, water color, and ecoregion of the lake basin. A convenient classification is then to divide the lakes into 4 water chemistry groups: acid-clear, acid-colored, alkaline-clear, and alkaline-colored. Benthic macroinvertebrate species composition is most strongly affected by lake water color, and somewhat less by water pH and the geographic ecoregion of the lake.

Thirty potential benthic invertebrate metrics were tested that were relevant to attributes of lake ecology. Six metrics were included in 3 alternative multimetric indexes: total number of taxa, number of OET taxa (odonates, ephemeropterans, trichopterans), Shannon-Wiener index, % OET, % Diptera, and the Hulbert lake index. In addition to the benthic macroinvertebrate index, 2 alternative trophic state biotic indexes were developed using the chlorophyll *a*, and Secchi depth (system function measures).

The principle stressors present in the data set were nutrient enrichment/eutrophication. All 3 alternative macroinvertebrate indexes were able to distinguish reference sites from non-reference sites in Ecoregion 65, the Southeast Plains, located in north and northwest Florida. Only 2 macroinvertebrate indexes, based on the 95<sup>th</sup> percentile and on a covariate model, were partly successful in Ecoregion 75, the Southern Coastal Plain, which includes most of peninsular

Florida. In this region, the 2 trophic indexes were more successful in discriminating reference sites from non-reference sites.

#### Nutrient Criteria Development Projects

As part of EPA's effort to have states develop nutrient criteria as part of their water quality standards, DEP has received a grant from EPA to explore the role of paleolimnology in establishment of a database for nitrogen and phosphorus. Approaches to predict reference conditions without the use of identified reference lakes include watershed loading models combined with mass-balance models, where the loadings are extrapolated to watersheds with no anthropogenic point or non-point sources of nutrients; and paleolimnological reconstruction of past conditions for a given lake. Watershed loading models would require digitized watersheds of lakes, a difficult undertaking with Florida's extensive groundwater movement and flat topography. Paleolimnology may be the only reasonable option for this approach in Florida. Individual paleolimnological reconstructions can be used as independent tests of all the predictive modeling approaches.

Paleolimnological reconstructions have been done for a number of Florida lakes by researchers at the University of Florida, and several more reconstructions are ongoing. The existing work needs to be integrated and interpreted with respect to extrapolating presettlement reference conditions for nutrient criteria, in the context of Florida lake types and lake regions.

#### Northwest Florida

Donald Ray reports that the NW DEP lab has completed 27 ecosummaries and placed them on the FDEP website ([www.dep.state.fl.us](http://www.dep.state.fl.us)). Likewise, Randy Payne has completed a **"Report on the Biological and Chemical Condition of Four Northwest Florida Lakes Sampled Summer 1997 and Winter 1998"**. This report is for Lakes Bear, Crescent, Juniper and Sand Hammock and can be accessed on the website at: [http://www.dep.state.fl.us/nwd/ecosys/Lakes/97-98\\_Cover.htm](http://www.dep.state.fl.us/nwd/ecosys/Lakes/97-98_Cover.htm)

#### Deadhead Logging

A **Florida Deadhead Logging Technical Advisory Committee** (DLTAC) has been formed to: recommend ways of permitting deadhead removal to minimize negative environmental impacts, best management practices (BMP's) and permitting criteria based on scientific data. The DLTAC is comprised of scientists from multiple disciplines (e.g., fishery biologists, invertebrate taxonomists, geologists) and multiple agencies, as well as, private consultants. DEP has been conducting habitat assessments and invertebrate sampling (dipnet and driftnet collections) in rivers permitted for deadhead removal.

Bioassessment of deadhead logs (white cedar, pine, and cypress) in 5 NW Florida streams found that Total Taxa, the Florida Indices, and EPT species were all higher than historical scores for multi-habitat monitoring. Large woody debris of decay resistant conifers was found to be the most important factor providing for fish and wildlife habitat in Florida panhandle streams.

**Watershed Planning and Monitoring Program (WPMP)**  
**Water Protection Branch**  
**Environmental Protection Division**  
**Georgia Department of Natural Resources**

A new year is here and so is a new submission to the 2000 SWPBA newsletter! We hope everyone had a healthy and prosperous new year. Y2K-*NOT!* may have dampened a few celebrations, but hopefully everyone came back to their jobs after the holidays and found their work still there on the computer. I was hoping that it might actually disappear (kidding, of course).

Our sincere thanks go out to South Carolina for hosting the annual conference this past October. President Dave Chestnut, Secretary Jim Glover, and the rest of the crew did a wonderful job of setting up the event and catering to the needs of the participants. Paper presentation was varied and informative, and the event seemed to go quite smoothly. The banquet was spectacular. Those old retired EPA guys really know how to cook a pig! Way to go, Dave and Jim, on a difficult but rewarding endeavor. Just think, next year you get to sit and enjoy the meeting! We've been busy here in Georgia since our return from the conference. We came back to find that work had waited for us! Habitat and macro invertebrate assessment work in support of the TMDL process continued, as well as Basin Major Lakes Monitoring. Standards compliance sampling stopped after October, but the data continues to come in. Basin studies have swung full circle and we are again focusing on the Chattahoochee-Flint basins for 2000. Basin Major Lake Monitoring for 2000 starts in March, and Major Lakes Compliance Sampling for Standards starts again in April. Officially, Georgia is still under drought conditions, and a dry Spring may cause additional sampling on lakes not currently scheduled for 2000. All in all, our typical busy year is shaping up nicely.

**SIGNIFICANT ACTIVITIES**

In accordance with the "zero tolerance" policy adopted by the Board of Natural Resources, a total of 12 consent Orders were issued for the months of October, November and December, resulting in fines totaling \$25,150. These orders were executed throughout the geographic area of the state and covered permit violations and overflows.

With the concurrence of the Administrative Law Judge, EPD began confidential settlement discussions with (a) the petitioners who filed the three administrative appeals of the issuance of the General NPDES Permit for storm water discharges from construction activities in August 1999 and (b) the environmental groups who intervened in the administrative appeal process. The Administrative Law Judge agreed to delay the hearing proceedings for sixty (60) days to allow for confidential settlement discussions. The first two meetings were held in October, then 4 in November. A professional facilitator was retained to assist with the negotiations. Three associates from the NonPoint Source Program and two lawyers from the Attorney General's Office represented EPD at these meetings. After six meetings, the participants were cautiously optimistic about reaching agreement. Confidential settlement discussions between EPD, the petitioners who filed the administrative appeal of the issuance of the construction activity general

NPDES permit, and the environmental groups who intervened in the administrative appeal process continued through the month of December. In mid-December, a three week time extension was granted by the Administrative Law Judge to allow these meeting to continue into January. Meetings were held on December 1, 3, 15 and 22, 1999. During the last meeting on the 22nd, substantial agreement was reach on the text of the permit. Final consensus on the permit and a formal settlement agreement are expected in mid-January. Shortly after the final agreement is signed by all parties, the new general NPDES permit will be public noticed and a hearing scheduled.

#### Georgia's Eighth Annual River Cleanup Week:

This year's River Cleanup, "*Rivers Alive*," was a great success. Achievements include a two-fold increase in participation from 3,600 to at least 8,000 individuals. Large cleanups occurred in every major city and watershed. We created, produced and distributed over 8,000 Rivers Alive T-shirts for all volunteers. A steering committee was formed comprised of 60 plus Federal, State, and local government groups, State and local nonprofit, corporations and private citizens. Nine corporations provided funding for all "*Rivers Alive*" T-shirts. DNR provided funding for a promotional video. In addition, the steering committee produced a Jeff Foxworthy radio PSA, river cleanup banners, promotional news article templates and more. A final cleanup tally report of our cleanup results should be available shortly.

A public hearing on proposed amendments to water quality rules for Lake Lanier was held on September 30, 1999, in Gainesville, GA. A second public hearing on the proposed water quality standards was held on November 10, 1999, at the Forsyth County Administration Building. About 120 people attended and provided comments on the proposed standards.

On November 17 Linda Harn gave a presentation on water quality at the "Alabama-Georgia Symposium: Management of Lake Eufaula/Walter F. George", held at the Lakepoint Resort State Park in Eufaula, Alabama. The symposium, sponsored by the City of Eufaula and the Eufaula/Barbour County Tourism Council, focused on water quality, fisheries, and the local economy specifically associated with the largemouth bass fishery and tourism revenues.

On December 20, 1999, Federal Judge Thrash signed the First Amended Consent Decree that was negotiated by EPA/EPD/City of Atlanta to resolve a Federal Complaint filed jointly by EPD/EPA. The Consent Decree requires the City to develop and implement programs, and to construct new facilities to improve the management, operation, and maintenance of its sewer collection system, industrial pretreatment program, and its wastewater treatment plants.

Larry Hedges represented EPD at the November 2 meeting of the Erosion and Sediment Control Technical Study Committee, also known as Dirt II. The main topic was the turbidity monitoring and the design of the E&S control plan for a new elementary school, which will serve as the field verification site for Dirt II's computer modeling element. Additional agenda items included selecting a firm to conduct Dirt II's cost/benefit element, and finalizing the Request For Proposals for Dirt II's video element. These activities are being funded through a \$400,000 state grant.

In December, Michael Basmajian transferred from the EPD Laboratory to the Ambient Monitoring Unit. Steve Whitlock transferred from the Water Resources Management Branch to the the Modeling/Planning Unit.

## **Watershed Planning and Monitoring Program**

The Water Protection Branch associates hosted a public hearing on October 1 at the A. L. Burruss Institute of Public Service in Kennesaw to present, discuss and solicit input on proposed supplemental water quality standards for Lake Allatoona.

At the request of committee members, a WPB associate participated in meetings of the Georgia House-Senate West Georgia Rivers Study Committee in October.

At the request of committee members, a WPB associate participated in a meeting of the Georgia House Lake Lanier Study Committee in October.

A Chattahoochee River Basin Local Advisory Committee meeting was held in Atlanta on December 2nd.

A River Basin Management Planning Team (RBMP) Meeting was held on December 15th.

Local Advisory Committee RBMP meetings were held for the Savannah and Ogeechee River basins in December also.

An associate attended an EPA sponsored workshop in Athens on Water Quality Modeling.

Watershed Assessment scoping meetings were held with Paulding County, Habersham County and the City of Emerson.

On December 9th unit personnel performed a process control evaluation and receiving stream survey at the Soperton Water Pollution Control Plant in Treutlen County. The work was coordinated with personnel of the Permitting, Compliance & Enforcement Program and the Middle Georgia Regional Office who also participated. The facility was identified as needing follow-up during two Compliance Sampling Inspections conducted during River Basin Management Plan sampling in calendar 1999.

Water quality standards for Lake Lanier were public noticed a third time in December with public hearing scheduled for January and presentation to the Board of Natural Resources in January. Dialogue continues with interested parties on the draft lake standards for the Lake.

Several associates attended a US EPA Region IV / States meeting to discuss 303(d) listing issues for the next iteration of the listing cycle.

## **Ambient Monitoring Unit**

The Ambient Monitoring Unit (AMU) has been busy during the first month of the new year. We've been spending the majority of our time picking through the numerous TMDL samples collected in 1999. Since this is the first time that our team has worked together in the lab, we've been testing and trying different methods of subsampling in order to make these samples manageable. We've also started to identify macro invertebrates collected in the Ocmulgee and Oconee River basins. We are tackling these TMDL's as a team, but individually we have our own little side projects. Becky Blasius has been working hard to get our entomological data base

up and running. Shannon Winsness is in the process of pushing a 319 grant through, which will allow Columbus State University to locate reference sites for the AMU. Kristen Sanford is planning our upcoming chemical sampling in the Chattahoochee and Flint River basins for 2000.

# Kentucky News

## Ecological Support Section

Right now the ESS is in the process of writing up the Kentucky River Basin biological and water quality assessments (sampled in 1998), doing the taxonomy and data analyses for the Salt and Licking River basins (sampled in 1999), and planning for the upcoming sampling of the Cumberland, Tennessee, and Mississippi River basins (Y2K). Now that we are starting the third year of the five-year cycle, we are starting to find out how much fun juggling can be!

Biologists from the Reference Reach program are working to develop macroinvertebrate metric criteria for headwater streams in the eastern coalfield region of Kentucky. Nonpoint source section biologists will be assisting them in the sampling and analysis. In addition, we are working on refining our metrics for fish, macroinvertebrate and algal bioassessment indices.

EDAS is working for us! We've taken the basic version we received from EPA (developed by Tetra Tech) and modified it to include algae and fish as well as macroinvertebrates. We now have about 1000 sampling sites entered into the database (spanning nearly twenty years of collections). This database will eventually be shared with other agencies in Kentucky (Fish and Wildlife, the Daniel Boone National Forest, Nature Preserves Commission) and the universities that cooperate with us in the watershed biological monitoring program.

Skip Call, Lythia Metzmeier and Greg Pond are planning on attending the NABS meeting in Keystone, CO (May 28 – June 1). Skip will be presenting a paper and Greg and Lythia are presenting posters. If you attend the meeting, be sure to attend their presentations.

NEW STAFF: Denise Moyer started full time with us in September. She was working as an interim employee on a 9 month contract when Ron Houpp retired last August, and she was able to fill his position (although those of you who know Ron know nobody could fill his shoes!). Denise attended Murray State University for graduate school. She has completed her course work and is finishing her thesis on biogeochemical relationships in Kentucky Lake sediments.

After a little shuffling, we have two full field teams again:

Watershed Biological Monitoring and Intensive Surveys: Lythia Metzmeier, algae; Skip Call, macroinvertebrates; and Denise Moyer, fish.

Reference Reach and High Quality Water assessments – John Brumley, algae; Greg Pond, macroinvertebrates; and Mike Compton, fish.

## Nonpoint Source Section

### Staff Changes:

Luckily, we have only two staff changes to report (so far): Joel Murphy joined our staff as a Contract Manager, and Dave Harmon joined us as an Environmental Scientist. Joel is in charge of our odd-year grants, and Dave is our On-Site Wastewater guy — basically, “Straight pipes R us.” Both of these guys are Eastern Kentucky University grads (like so many of us here...) and started in October 1999.

#### Year 2000 Kentucky Nonpoint Source Conference:

The 2000 NPS Conference will be held in Bowling Green, KY on May 23–25, at the University Plaza Hotel & Convention Center. The conference, sponsored by the Kentucky Division of Water, Nonpoint Source Section, and the University of Kentucky, Water Resources Research Institute, will feature speakers on agricultural, urban and community issues surrounding nonpoint sources of pollution. This conference will provide opportunities for participants to meet one-on-one with many of the 319(h) contractors through extended interactive poster sessions. In addition to podium and poster presentations, there will be a field trip to an agricultural demonstration site and a visit to the American Cave Museum. The projects presented at the conference are funded with Clean Water Act, §319(h) funds from the U.S. Environmental Protection Agency. For more information, contact Geaunita Caylor, University of KY/OISTL, 606-257-2820 or e-mail [gcaylor@engr.uky.edu](mailto:gcaylor@engr.uky.edu)

#### Grants:

The FFY 92 Kentucky Nonpoint Source Implementation Grant close-out has been submitted to EPA for review and approval. The FFY 93 grant is currently in the process of being closed. The FFY 1999 §319(h) grant was finally awarded in December 1999, and accepted for federal assistance of \$3,416,800 with a non-federal match of \$2,277,867. This grant consists of 26 projects, seven of which are biological assessment monitoring projects.

#### Biologists:

Our Biologists are busy working away on the final reports of our last two watershed demonstration projects. No new news to report on these, yet, but hopefully they'll have something done by the next newsletter. They are also busily planning field activities for projects they are working on this year. The first is a sampling project with the Reference Reach program to develop macroinvertebrate metric criteria for 1<sup>st</sup>–2<sup>nd</sup> order streams in the eastern coalfield region of Kentucky. The second project is an evaluation of stream channel restoration in improving biological integrity using macroinvertebrates.

One of our biologists, Steve McMurray, has recently published two articles. If you're interested in obtaining reprints, you can send him e-mail to: [Steve.McMurray@mail.state.ky.us](mailto:Steve.McMurray@mail.state.ky.us):

McMurray, S.E., G.A. Schuster, and B.A. Ramey. 1999. Possible decline in reproduction in a freshwater unionid (Mollusca: Bivalvia) community in the Licking River at Butler, Kentucky. *Journal of the Kentucky Academy of Science* 60(2):67-72.

In the Licking River at Butler, Pendleton County, Kentucky, glochidia, fishes, and unionids were collected to analyze recruitment in an historically diverse unionid community. Only 14 unionid glochidia and 50 juvenile *Corbicula fluminea*, were collected with drift nets. No fishes collected had any evidence of glochidial infestation. A small percentage of the unionids collected (13.5%) had gills modified as marsupia. Sex ratios, stage of gametogenesis, and marsupial contents of two target species (*Actinonaias ligamentina* and *Elliptio dilatata*) were determined in the laboratory. *Actinonaias ligamentina* was found to exhibit



a 1:1 male-to-female ratio; *E. dilatata* had a ratio statistically different from 1:1. Causal factors for this possible decline in reproduction were unclear.

McMurray, S.E., G.A. Schuster, and B.A. Ramey. 1999. Recruitment in a freshwater unionid (Mollusca: Bivalvia) community downstream of Cave Run Lake in the Licking River, Kentucky. American Malacological Bulletin 15(1):57-63.

Unionids, fish, and glochidia were collected to determine why recruitment had ceased or had been dramatically decreased in a speciose unionid community in the Licking River at Moores Ferry, Kentucky, 35.4 km downstream of Cave Run Lake. Only six unionid glochidia were collected with drift nets, and only six fish collected had infestations of glochidia. A small percentage (10.1%) of the unionids observed had their gills modified as marsupia. An analysis of water temperature and discharge indicated no significant difference in average monthly discharge ( $p>0.05$ ) and a significant decrease in temperature ( $p<0.05$ ) between pre- and post-impoundment periods. Average monthly discharge and temperature may not be as biologically important as the spikes of discharge and corresponding sudden decreases in temperature that are caused by releases of hypolimnion water from the reservoir.

### **Water Quality Certification Section**

The KY 401 program acquired 1.2 million (in-lieu fee) for 8000 feet of stream impact relating to expansion of the Cincinnati Airport. Northern KY University will administer this in-lieu fee process by funding stream restoration projects in north central KY. The KY DOW is looking into expanding the in-lieu fee concept as an option for stream mitigation.

Presently, stream mitigation/restoration is a front burner issue with the 401 program. We are in the process of learning as much as we can about this topic and attempting to develop policy/guidance.

### **Bioassay Section**

In following with the Watershed initiative, will be conducting WET compliance tests in the Cumberland, Mississippi and Tennessee River Basins this year. Scheduled are 14 municipals and 8 industrial facilities.

The section will continue to develop and expand its sediment-testing program by conducting a study "Use of Toxicity Testing to Monitor Sediments in the Upper and Lower Cumberland, Tennessee and Mississippi River Watersheds." This study is being conducted under the Section 319(h) Nonpoint Source program. If you have any questions or would like information, please contact Betty Beshoar.

The news on the sediment scene is that we are going to get a 319 grant to run chemical analysis and sediment toxicity tests on mining impacted streams in the Upper Cumberland. We plan on piloting the stage sediment samplers in the Elkhorn Creek, based on what we have learned from David Braatz of Duke Power in North Carolina. This measures suspended sediment as the stream rises in response to storm events. We are also trying to establish reference values for Kentucky for sediment constituents of concern, predominantly metals. We will be starting this effort in the

Upper Cumberland watershed as well. This is just in the planning stage and I am not sure if it is appropriate for the newsletter or not, but that is what is going on beside our bioassay stuff.

### **Standards and Specifications Section**

1. STORET - Giles will be attending (hopefully) a training workshop in Denver in early March using STORET 1.1; we hope to be entering data by May
2. 305b report - electronic data entry nearly complete; data has been entered for over 1700 stream miles in the Kentucky River watershed; write-up of an abbreviated report for the Kentucky River watershed should be completed by April 1
3. Identification of probabilistic samples from the Salt and Licking rivers is underway; recon of probabilistic sites for the upcoming Jackson Purchase/Cumberland River watershed is to be conducted next week (providing we don't get snowed in)
4. Water quality sampling of the Salt and Licking rivers continues through March; most streams currently ice covered except in riffle areas; high temperatures have been in the 20's with lows at night in single digits; water sampling has to say to least been challenging

# Mississippi Happenings

We hope the new millennium finds each of you healthy and happy with new excitement as we start a new year and century. Here at the Mississippi Dept. of Environmental Quality we are saying goodbye to our longtime Executive Director and friend, Mr. Jimmy Palmer, who recently retired, and are welcoming Mr. Charles Chisolm to that position. Mr. Chisolm has been our Office of Pollution Control head and is no stranger.

## Mississippi's Largest Oil Spill

On December 21, 1999, 1,734 barrels of crude oil flowed into the Leaf River near Collins from a broken pipeline. The oil flowed over land, through wetlands affecting six miles of tributaries and flowed for approximately three miles within the Leaf River. A natural resource damage assessment study plan is currently being devised.

## Ambient Monitoring and Whole Basin Studies

Monthly sampling of a physical/chemical ambient network consisted of 63 sites within the state. An additional sampling network, consisting of 31 sites, mostly on large reservoirs, the Mississippi River, and the Mississippi Sound were also sampled on a quarterly basis. Biological assessments were conducted at 48 sites statewide and included in these were visits to sites considered to be Ecoregional Reference Sites.

Physical/chemical, macroinvertebrate, and chlorophyll-a sampling and analysis, as well as fish work continues on the Big Black and Tombigbee Basins. Monitoring and data gathering within the Yazoo and Pearl River Basins are being planned and should begin this year.

## Beach Monitoring Program

Biological Section staff have assisted the GCRL in monitoring water quality off of the coastal beaches within the state. Samples are collected in one meter of water just off of the shoreline, with 20 samples/month being analyzed at the OPC Laboratory.

Through this monitoring effort, three areas have been identified as having consistently high coliform counts: Pascagoula Beach near Covert; Gulfport Beach near the end of Courthouse Road; and the beach in the vicinity of the Gulfport Small Craft Harbor. During periods of heavy rains, many other areas along the Mississippi coast also were noted to have high bacteria levels.

## Algal Community Monitoring near Pascagoula and Gautier

Staff biologists have assisted the Gulf Coast Research Laboratory (GCRL) in the collection of phytoplankton samples for a comparative study to document the effects of industrial activities on the water bodies in the vicinity of Pascagoula and Gautier. The monitoring of these areas was completed as of 1 Jan. 1999. Personnel at the GCRL are reviewing data and will release it to MDEQ in the near future.

## St. Martin Bayou Fecal Coliform Study

This study, to document levels of coliform bacteria was begun in February 1997. Twenty-six sites throughout the St. Martin Bayou watershed (which feeds the Back Bay of Biloxi) continue to be sampled on a monthly basis. It is believed that much of the problem has occurred due to failing septic systems. This study is coupled with upgrades in the residential sewerage treatment systems. As of the end of February 1999, one of the three large areas being connected to new sewer lines became operational. The remaining areas should be on-line within a few months. High levels of coliforms remain commonplace throughout this area.

### GMNET Program

An outline of a proposed database to be used for the storage and reporting of aquatic mortalities throughout the Gulf of Mexico was sent to all GMNET representatives. It is anticipated that a preliminary database will be distributed for review within the year.

### Pearl River Valley Water Supply District (PRVWSD) Chlorophyll a Monitoring

Six monthly samples from one site in the Ross Barnett Reservoir have been collected and analyzed for chlorophyll a and nutrient concentrations as part of the monitoring effort of the Pearl River Valley Water Supply District. In addition, four sites on the body of Ross Barnett are now being sampled on a quarterly basis. All samples collected for chlorophyll-a analysis have been extracted and analyzed. The Biological Services Section also prepared a proposal to conduct monitoring for Zebra Mussels on the Barnett Reservoir at the request of the PRVWSD.

### Workshop on Habitat and Biological Assessment

Biological Section staff involved with macroinvertebrate bioassessments participated in an internal workshop to assure consistency among investigators. All staff members conducted a complete bioassessment at a single stream site to determine if the results produced by each scientist provided a similar water quality assessment. Results of this exercise are currently in review, and will be released to staff scientists in the near future.

### Pfiesteria Monitoring

Biological Services Section staff submitted a grant request to EPA to obtain funding to monitor the Mississippi Gulf Coast for the presence of Pfiesteria or Pfiesteria-like organisms. This effort will involve working closely with personnel from the Gulf Coast Research Lab in locating areas where physical-chemical conditions favor outbreaks of these organisms, the collection and analysis of sediment samples from these areas, and analysis of the algal community present in these areas.

### Wasteload Allocation (WLA) Studies

North Regional biologists assisted by conducting bioassessments associated with WLA studies on Chiawapa, Joe's, Town, Poplar, Howard, and Mayhew Creeks during the reporting period. The samples from the bioassessments are currently being identified and enumerated.

In the central region, studies were done on Bogue Chitto Creek (303(d) List issue), Tallahaga Creek (WLA), and on an unnamed tributary of the Big Black River near Durant (303(d) List issue).

### Study on the Bay of St. Louis

Similar to studies done the previous three years, staff from various sections of MDEQ met with representatives from US EPA and intensively sampled Bay St. Louis for several days. Samples were collected around the clock within the Bay, and other sampling efforts focused upon some of the tributaries that feed the Bay. The purpose of this sampling was to provide additional data for modeling efforts. It was hoped that some samples could be collected during storm events, but there were none.

#### The Escatawpa River Study

Also in the spring, MDEQ staff again met with EPA staff to conduct sampling on the Escatawpa River. This effort also lasted for several days and involved intense chemical sampling.

### FISH TISSUE MONITORING

Fish tissue collections made were for Mercury analyses, Dioxin monitoring, Basin monitoring, Ambient monitoring, and some special investigations. These efforts are summarized below:

#### Ambient and Whole Basin Studies Fish Tissue Collection

There were a total of 60 samples from 25 sites to satisfy monitoring requirements dictated by the ambient and basin monitoring networks collected during this period. Nineteen fish samples were processed, but analysis has not been completed.

#### Dioxin in the Leaf River Basin

We received results from Georgia Pacific from fish tissue collected last year, and all samples were below advisory levels. Fish tissue collections began in July, 1999, and were completed and submitted for analysis.

#### Dioxin in the Escatawpa River Basin

International Paper has contracted a private firm to collect fish tissue to fulfill their NPDES fish tissue monitoring requirements. Fish collections were made during this period and tissue was sent to a contract lab for analysis. Results have been received and evaluated.

#### Mercury Studies

Personnel sampled 23 sites in 1999, along with additional sampling on waters with existing advisories. There are currently Mercury advisories on 8 waterbodies throughout the state. Those waterbodies are: Enid Reservoir, the Yocana River, the Yockanookany River, the Escatawpa River, the Pascagoula River, Archusa Creek Water Park, the Gulf of Mexico, and the Bogue Chitto River. Most of the samples collected this year are awaiting processing.

#### Fish Tissue Collection at Country Club Lake

A fish consumption advisory is still in effect for Country Club Lake due to elevated levels of Dioxin and PCPs. Partial data have been received on previously collected samples and are currently under evaluation.

#### Collection of Fish Tissue on Old River Lake

Due to results obtained from a study conducted by Mississippi State University, Biological Section staff have undertaken the collection of fish tissue from Old River Lake, a small oxbow of

the Yockanookany River to collect fish tissue for analysis of PCBs. In addition, collections were made at two sites on the main trunk of the Yockanookany River, below the confluence with Conehoma Creek and at a reference site approximately five river miles upstream of this confluence. These results are not available at this time.

### Review of Monitoring Plan for Bayou Casotte

Biology Section staff have reviewed a study plan submitted by a consulting firm for the fish tissue monitoring of Bayou Casotte and several nearby bayous. Lead in fish tissue is the primary focus of this study. The work is expected to begin in the near future.

### Goodbyes

A heartfelt goodbye goes out to Matt Hicks who has accepted a position within our Water Quality Assessment Branch. Matt will be greatly missed by his colleagues here in the Biological Services Section and we all wish him and his family the best of luck in their move from Oxford to Jackson.

# NORTH CAROLINA

## BIOLOGICAL ASSESSMENT UNIT

### **Basin Assessment**

We continued collections at basinwide sites through October, completing our sampling in the Watauga, White Oak, Roanoke, Little Tennessee, Hiwassee and Savannah basins. Basin write-ups are in first or second draft, and will soon be merged with the information generated by other groups within the Environmental Sciences Branch.

We have started planning for the next round of basins: Broad, Neuse, Chowan, and Pasquotank. This will be the third round of sampling for the Neuse basin, with a greater potential to detect long-term trends in water quality. One complicating factor, however, will be any residual effects of recent hurricanes on the coastal portion of the Neuse River basin. As usual, all swamp streams must be sampled in February, and reconnaissance of these areas has already begun. There has been little work on swamp streams in the northeast corner of the state, and many of these streams will be evaluated for the first time. Results from the February surveys will be evaluated to determine if streams in this geographic area can be rated using the draft swamp criteria.

### **Special Studies**

Pigeon River. The Pigeon River was resampled, after high flows, to evaluate the amount of recovery below the Canton paper-mill discharge. We found a rating of Good upstream and Fair downstream, both declines from sampling in July 1997.

Swannanoa River tributaries. Several small tributaries were sampled to help prioritize management efforts.

Post Hurricane Sampling. Several coastal plain streams were sampled to evaluate the effects of Hurricanes Dennis, Floyd and Irene. Only small changes were observed at reference sites.

303d streams. Many streams on North Carolina's 303d list may have been inappropriately rated, as their diversity was affected by natural stress. Such natural stresses include small size, seasonal flow, or swamp drainage. Many of these sites were revisited in late 1999 to document conditions that would verify the inappropriate use of present criteria.

### **Fisheries**

Study plans are being developed for basinwide sampling of fish community structure and to document potential fish tissue problems associated with the extreme flooding caused by the hurricanes of 1999.

## AQUATIC TOXICOLOGY UNIT

The Unit continues to participate in the Carolinas Area Aquatic Toxicologists. For those not familiar with this group, it is a loose association of toxicity testing laboratories based in North and South Carolina. Members include the both states' toxicity testing programs, WET laboratories operated by the major power utilities, one municipal lab, and several commercial contract laboratories. At the most recent meeting, Aquatic Toxicology Unit supervisor Matt Matthews gave an update on the Division's WET enforcement policy and a general presentation on the Division's expectations for toxicity reduction evaluations.

The Unit has begun experimenting with using Microtox to detect toxins produced by algae, including the *Pfiesteria* toxin. Sandy Mort is currently rearing toxin-producing algae in our lab as part of the ongoing project.

Lastly, the Unit bids fond good-byes to Melissa Rosebrock and John Giorgino. Melissa has been trying to relocate to the Winston-Salem area for quite sometime and has taken a job with our Winston-Salem Regional Office, staying the Water Quality Section. John has taken a job as an aquatic population survey biologist working with a special project funded by the Clean Water Management Trust Fund. Many thanks to Melissa and John for their years of hard work in the Aquatic Toxicology Unit and good luck in their new endeavors.

## ECOSYSTEMS UNIT

Environmental Sciences has made a substantial investment in time and resources to investigate the effects of hurricane Floyd. This includes sampling, field monitoring, and development of a \$2 million response plan, mandated by the legislature, to assess chemical and biological effects of the storm including projects to:

- \*assess the fisheries resources of the Pamlico Sound,
- \*assess biomarkers of fish health,
- \*deploy SPMDs to monitor bioaccumulative pollutants,
- \*establish automated monitoring and sample collection platforms on cross-sound ferries
- \*sample sediment and fish/shellfish tissue for storm borne pollutants.

Monitoring and related information was made available to the public as it became available by developing and publishing a web page on Floyd activities at <http://esb.ehnr.state.nc.us/Floyd.htm>.

The SWIMS ambient database management system is nearing completion. We'll send out notice when it goes public.

We have set up a free e-mail listserver for SWPBA members. With this server, you will be able to send an e-mail to a single source and reach all of the SWPBA members that have signed onto the list. If you are interested, go to the web site:

<http://www.onelist.com/subscribe/SWPBA>

and follow the instructions for registering. You can remove yourself from the listserver any time you care to.

The Ecosystems Unit bids farewell to Cathy Tyndall and Niki Flint who, along with John Giorgino, are moving to a two year pilot program to investigate impaired waterbodies and develop implementation plans for improvement. We are recruiting for these positions at the time of this writing.



## INTENSIVE SURVEY UNIT

The DWQ has been working with stakeholders concerning algal bloom problems at Lake Santeetlah. Efforts to reduce nutrient input from trout farms and the development of a trout farm permitting policy with the goal of improving water quality in the lake have been ongoing. Additional follow-up studies were performed during the 1999 growing season to evaluate any water quality changes since the last study was performed in 1993. The report of these results should be available for the next newsletter.

A substantial amount of staff effort has been devoted to the protection of sensitive lakes through the re-classification process to either HQW or ORW designation. Thorpe Reservoir, Phelps Lake, Lake Waccamaw, and Lake Montonia have all been successfully re-classified to provide for additional levels of protection.

The Hurricanes left a lot of damage on stream gages among other things. A concrete gage house that was built in the 1920's on Contentnea Creek disappeared. Our staff has worked closely with USGS to restore this and other gages to operational status.

### North Carolina's comments on EPA's Nutrient Criteria for Lakes and Reservoirs

We all must appreciate EPA's willingness to respond to the Clean Water Action Plan's aggressive stance on developing nutrient criteria. We support the need for nutrient management and we also recognize that the challenge put to EPA is formidable. North Carolina has been recognized as a national leader in nutrient management for years. And we recognize that we need to do even more. Thus, we have very carefully reviewed this document. We believe that the document needs substantial additional work.

The document fails to demonstrate an association, cause and effect relationship, or correlation between the ecoregion approach and use support. This demonstration is vital to the defensibility of ecoregion based nutrient criteria. Regulatory control of nutrient over-enrichment must rely on biological responses to nutrient delivery as well as environmental effects. The thrust of the current document is a comparative approach to reference conditions rather than environmental effects.

In addition to developing this criteria document, EPA should recognize and support additional efforts aimed at eutrophication management. Our challenge in protecting North Carolina's waters from over-enrichment is more frequently associated with limited resources. Resource limitations include development of site specific models and evaluations, the lack of comprehensive and effective volunteer management strategies, the lack of broad based public support for mandatory nutrient management initiatives, and local concerns over zoning and land use management governance. It is our opinion that an ecoregion based phosphorus concentration standard will provide little public support for generating the resources needed to reverse the impacts of nutrient over-enrichment. For a copy of North Carolina's detailed comments to EPA on the Lakes and Reservoir Nutrient Criteria Document please contact the Environmental Sciences Branch at 919/733-9960.

# SOUTH CAROLINA

## The South Carolina department of Health and Environmental Control

### Aquatic Biology Section

#### **Fisheries**

We have hired two new employees to work in the fish tissue program. Barrett Stone comes to us from the Water Quality Monitoring Section, and Brad Martin comes to us from the Waste Water Program in our Central Midlands District Office. We are currently collecting and processing fish for the fish tissue program, and reviewing the 1999 data for a new Fish Consumption Advisory. We will be focusing on the Savannah Basin this year and hope to sample approximately one hundred and twenty-five stations statewide and collect at least 1800 fish. We have added two coastal sites on the Cooper River that will be collected by the South Carolina Department of Natural Resources.

#### **Phycology Program**

The Phycology Program staff truly enjoyed the SWPBA meeting at Springmaid Beach last October. There was an excellent variety of presentations during the day, and the opportunity to socialize and talk shop with our SWPBA friends in the evenings was not to be missed.

The period since the SWPBA meeting has been devoted to assessing the activities of the past sampling season. Summary reports for chlorophyll analyses, the *Pfiesteria* Monitoring and Surveillance Program, the Ambient Monitoring Program, and the Fish Kill/ Algal bloom Investigation Program are in various stages of completion.

Some of you who were at the SWPBA meeting may recall our discussion of the nuisance algal blooms of *Hydrodictyon reticulatum* and *Pithophora* sp. in the Reedy River arm of Lake Greenwood, S. C. You may further recall that these massive algal blooms spurred property owners and lake users to form a citizens group for Lake restoration. All the while SCDHEC was involved in very contentious legal proceedings with a major discharger to prevent increased phosphorus loading in the watershed. The legal proceedings have since taken a turn for the better. There is a strong possibility that the discharger will agree to, without further litigation, the phosphorus limits originally suggested by SCDHEC.

#### **Macroinvertebrate Program**

We are still in the process of identifying our 1999 samples. With the responsibilities of SWPBA and increasing demands for extension work we have gotten behind on the things we love the most- collecting and identifying macroinvertebrates. We plan on starting our winter swamp sampling in February. Traditionally we collect 25-30 swamp streams in the Coastal Plain Ecoregion of SC and we hope to do that again this year. We are excited to have several of Dr. John Morse's, Clemson University, graduate students go out in the field with us this year including one from Russia.

## WATER QUALITY MONITORING SECTION

### General News

**Barrett Stone** decided that, “a bad day fishing was better than a good day at the office”, so he moved downstairs to the ABS. Now we can turn off the air-conditioner and take off our parkas! Many of you may remember **Mark Giffin**. He will be replacing Barrett in the WQMS as soon as we can defrost his desk. Mark brings with him many years of experience in biology and water quality assessment.

### Identification and Mitigation of NPS Fecal Coliform Bacteria:

The pilot project for this study was scheduled to begin January 24, 00 (date of the great snow storm of the millennium). Needless to say it didn't happen and has been rescheduled. In anticipation of beginning the full study, we are in the process of creating a **full-time temporary position** to coordinate the study efforts. We expect to have this position posted by the end of February. If you know of any graduating students that would like to step into some fecals, have them give us a call.

That's all for now. Hopefully, we will be able to update our other projects in future newsletters.

# TENNESSEE

## **DEPARTMENTS**

### **Agriculture (TDA), Environment and Conservation (TDEC), and Health (TDH)**

#### ***News from the BEST\****

*\* Biologist and Environmental Specialist Teams*

#### TDA - The Nonpoint Source Program

The Nonpoint Source Program, NPS, is part of the Administration and Grants section in the Tennessee Department of Agriculture

(<http://www.state.tn.us/agriculture/administ/resource1.html>). The program's major responsibility is the management of the section 319(h) grant for run-off pollution from the U.S. Environmental Protection Agency (EPA). Each year the program submits a grant work plan request for funds from EPA. The grant addresses all sources of nonpoint source pollution (NPS) and includes an attachment listing types of nonpoint source pollutants. At this site, a detailed outline, and requirements can be found under Request for Proposal and EPA Requirements.

NPS, 319(h) funds are designated as demonstration 'seed' money that is meant to develop interest in an area by demonstrating best available technology (BAT). With the new Clean Water Initiative, we are focusing a large percent of our monies to clean up streams on the 1998 303d list. These are streams that are not obtaining their designated uses. This list is developed by TDEC's Water Pollution Control. We are emphasizing a well-rounded program with projects that encompass all types of nonpoint source pollutants for FY-2000. One large project involves representatives from TDH, USDA NRCS (Natural Resources Conservation Service) and TDEC who are developing a State of Tennessee Unified Watershed Assessment and Restoration Plan. Details of this project can be found at <http://www.state.tn.us/environment/wpc/watershed>.

#### TDEC

##### **Assault Bill Amended to Add Greater Protection for State Workers**

Several TDEC employees have been assaulted in recent years while carrying out their jobs. During the last legislative session, the Reengineering Enforcement Process Evaluation Team recognized the dire need to protect workers from assaults and recommended changes to the General Assembly by amending TCA 39-13-102.

The purpose of the Act was to deter anyone considering assault or interference of a TDEC employee. The existing law defines "aggravated assault" and directs the court to consider as an enhancement factor at the time of sentencing that the victim of the aggravated assault was performing specific official duties (e.g. a law enforcement officer, firefighter, correctional officer, probation officer, emergency medical technician, paramedic, etc.). Language amending this act added any "*State employee whose job duties are performing regulatory or inspection functions.*"

#### TDEC – DOE Oversight

Jim Harless, Environmental Program Manager in the DOE Oversight Division, was recently selected to speak on the program of the National Environmental Health Association. Jim spoke on the topic of "*Citizen Environmental Advisory Boards*" using the example of citizen boards that operate in the Oak Ridge area. He discussed the various boards that, Oak Ridge, as a community, has access to. These include the City of Oak Ridge Environmental Quality Advisory Board, the Roane County Advisory Board, the Local Oversight Committee with its citizen panel and the DOE Site Specific Advisory Board. In addition to working with these entities, TDEC supports the evaluation of a possible Health Advisory Forum that will be based in Oak Ridge.

### **TDEC - Water Pollution Control - Central Office** **Watershed Management Section**

The **Tenth Tennessee Water Resources Symposium** will be held **April 10-12, 2000 at Montgomery Bell State Park**, in Burns, Tennessee, approximately 30 miles due west of Nashville. (You remember. SWPBA was officially formed at the 1976 meeting at this park; of course it looks a little different now). The Symposium Chair and President of the Tennessee Section of the American Water Resources Association is Sherry Wang, Manager of the Watershed Management Section (615-532-0656). Attendees represent TDEC, TDA, TVA, USGS, CORPS, EPA, Universities, and Water and Wastewater Treatment Plants. The symposium will cover a wide range of topics including Southeast Water Supply Planning, Ground Water, Reservoir Modeling and Improvement, Wetlands, Watershed Planning, Lower Tennessee NAWQA, CAFO (Confined Animal Feeding Operations), Stormwater, and Education, and Regulations and Policy. Room reservations need to be made by Feb.15 (615-797-3101 or 800-250-8613). The rooms (\$50.00) have been reserved under AWRA. Preregister for the symposium before April 6 at a cost of \$90.00. The onsite registration fee is \$110.00. The fee covers a bound copy abstract summaries, daily onsite lunches, receptions, and coffee breaks. For a brochure and Registration Form contact David Duhl at 615-532-0438.

### **TDH – Aquatic Biology Section**

#### **Probabilistic Monitoring of Subregion 71i (Inner Nashville Basin)**

TDEC – WPC submitted a proposal to use Federal 104(b)(3) funds to conduct a water quality study of subregion 71i - Inner Nashville Basin, which is part of the Interior Plateau ecoregion (71). The area is characterized by thin soils, karst limestone, intermittent surface streams, and cedar glades. The Aquatic Biology Section would collect and analyze chemical, physical, and biological data at approximately 50 randomly selected sites. Assistance was requested from EPA's REMAP program to identify the appropriate number of randomized sampling sites and to develop a system for randomly selecting specific stream sites for sample collection. Data will be compared and contrasted with two existing databases: data collected at reference streams within the same ecoregion and the Division of Water Pollution Control's overall use support data provided by targeted monitoring (as presented in the 303(d) List and 305(b) Report). Probabilistic monitoring will be evaluated as a tool for future monitoring efforts in Tennessee. The project will be done over two years.

***That's All Folks!***

