

Southeastern Water Pollution Biologists
Association

Spring Newsletter

March 2005

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Tennessee, Alabama, Florida, and Georgia updates not available at this time

PRESIDENT'S LETTER

Fellow SWPBA Members:

I hope that this New Year finds each of you well. I'm sure that all of you have your plates full, so thank you for taking the time to read our association's newsletter. I would like to start off by once again expressing my heartfelt thanks (I'm sure that I speak for the rest of the association also) to the hosts of the 2004 meeting. Lisa Huff and the rest of the ADEM crew really did an outstanding job in the face of a huge natural disaster, just to provide us with a place to have the meeting - - - and they did it grand fashion on short notice! The organization is indebted to you all for going above and beyond the call of duty to host the annual meeting.

Now on to current issues and the 2005 annual meeting: Our Bylaws state that one of the President's duties is to appoint a Local Arrangements Program Chairperson and three members of the Executive Committee, one of whom must be from the host state. I hereby appoint Barb Viskup, MDEQ South Regional Biologist, as the Local Arrangements Chair. I appoint Chip Cutcliff from Georgia EPD, Jim Glover from South Carolina DHEC, and Alice Dossett from Mississippi DEQ to the Executive Committee for 2005.

The 2005 Annual Meeting of our association will be held in Biloxi, Mississippi, November 8-10, 2005. The host hotel is the Isle of Capri Biloxi, and the meeting will be held at the J.L. Scott Marine Education Center, right next door to the host hotel. The rate at the Isle of Capri is \$62.00 per night, plus tax. A catered welcome reception is planned for Monday night at the casino. We will determine the meeting registration fee at a later date, and publish it along with registration forms, T-shirt design, order forms and reservation instructions in the next issue of the newsletter.

It is certainly not too early to begin thinking of topics for discussion for our annual meeting. Please notify me via e-mail (Mike.Beiser@deq.state.ms.us) if you have an idea for a topic. Among potential topics that we have discussed internally are nutrient criteria development; a panel discussion on experiences had participating in the National Wadeable Streams Assessment; and monitoring activities in coastal/estuarine waters.

Currently, we are planning to have Joe Flotemersch present a classroom and field demonstration workshop on large river sampling. This will probably be conducted as a pre- or post-meeting exercise. As was announced at the Auburn SWPBA Meeting, our banquet will be hosted by CC Lynch and Associates, our vendor for YSI products, and promises "shrimp a hundred different ways". We have a very unique setting planned for the banquet - - you'll just have to come to find out where!

Long-time SWPBA member Phil Bass, Director of MDEQ's Office of Pollution Control, will give our Keynote Address. Phil has been with MDEQ for over 30 years, and was an original SWPBA member, serving the Association as President in 1980. He will speak on the changes that he has noted in our science during his involvement as a water pollution biologist.

Until Next Time,

Mike Beiser
SWPBA President, 2005

MISSISSIPPI HAPPENINGS

Here in Mississippi, we are in the middle of our winter index period for stream bioassessments. Our folks are in the field collecting data, while another team is in the lab processing the benthic samples. We in Mississippi would like to say “Thanks” to the crew from ADEM for a great SWPBA Meeting. We realize the difficulty of re-planning an entire meeting due to the hurricane, and are grateful to the ADEM staff for their efforts to find a place to host our meeting on short notice.

On a different note, the MDEQ Biological Services Section is undergoing some reorganization. This is a part of the larger reorganization between our Field Services and Surface Water Divisions. The Biology Section will now be divided into three sections, Surface Water Monitoring, Compliance and Enforcement Monitoring, and Assessment. Alice Dossett will head the Surface Water Monitoring Section, with duties including collection of data for 305(b) and 303(d) biological assessments, nutrient criteria development monitoring, TMDL, WLA data collection, and data collection for studies necessary to supply data for the Basin Management approach. Mike Beiser will head the Compliance and Enforcement Monitoring Section, and the duties of that section include the fish tissue sampling program, fish tissue advisory task force, Natural Resources Damage Assessment and Restoration (NRDAR) Program, assisting with Brownfields studies, and providing biological data for compliance and enforcement actions. Bill Stephens has recently been hired (see “Another New Face” below) to head our Assessment Section. This section will assess the data generated by the other two sections, as well as other areas within MDEQ, for 305(b) reporting purposes, preparation of the 305(b) report, 303(d) list, assess data for nutrient criteria and other standards development, prepare 106 and other work plans.

After staff are placed within the respective sections, we will provide a list or organizational chart illustrating which staff members are in which section, so that the appropriate person can be contacted by the SWPBA Membership.

Long-Time SWPBA Member Phil Bass to Receive Award.

Phil Bass, Director of the MDEQ Office of Pollution Control, and a biologist is the recipient of the Mississippi Wildlife Federation Fisheries Conservationist of the Year Award. Phil started his career at the Mississippi Department of Environmental Quality (DEQ) in 1973 as an aquatic biologist after graduating from the University of Southern Mississippi and spending two years teaching junior high science. For 32 years, Phil has worked steadily and deliberately to move the course of Mississippi’s ecological history. After four years working in the DEQ lab, Phil served as the Lab Director from 1977 to 1992. From 1992 to 2000 he was the Chief of Field Services, leading the lab, three DEQ regional field offices, and the Environmental Operator Training Program. In 2000 he was appointed by Executive Director Charles Chisolm to succeed him as Director of the Office of Pollution Control, the office responsible for all of the agency’s environmental programs, a position that he holds to this day.

Phil was one of the original SWPBA members and served as SWPBA President in 1980. Phil has always been extremely supportive of SWPBA. I know that all of the SWPBA members will join us in congratulating Phil on this most-deserved recognition.

Way to go Phil!

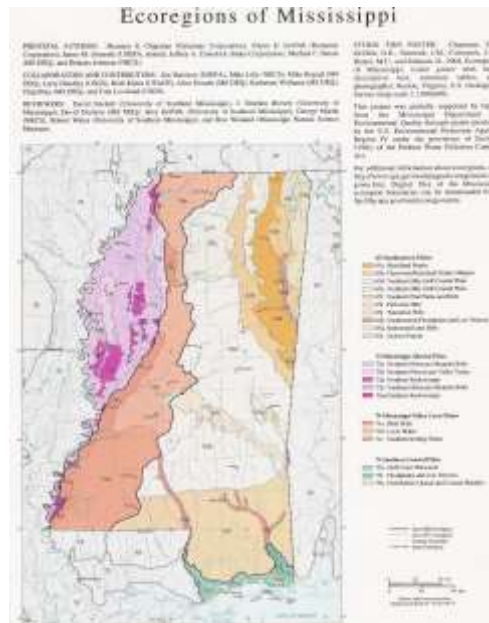
Another New Face

As mentioned above, Dr. Bill Stephens has joined the MDEQ staff to head the Assessment Section. Bill received his Ph.D. in Environmental Science from Arkansas State University in August 2004 under the direction of Dr. Jerry Farris. His research concentrated on the characterization and assessment of aquaculture effluents in the Deltas of Arkansas and Mississippi.

Since the Delta is typically viewed as a unique area with extensive agriculture and aquaculture inputs and associated drainages, these systems require a unique perspective. Having been a catfish farmer in the Delta since 1979 has allowed his research efforts to combine real-life farm scenarios to help formulate his research objectives. Bill is currently revising two accepted manuscripts, *Considerations for assessments of Wadeable Drainage Systems in the Agriculturally Dominated Deltas of Arkansas and Mississippi* and *Assessment of Temporal Toxicity in Foodfish and Baitfish Pond Effluents in the Lower Mississippi River Valley*.

Ecoregions of Mississippi Available

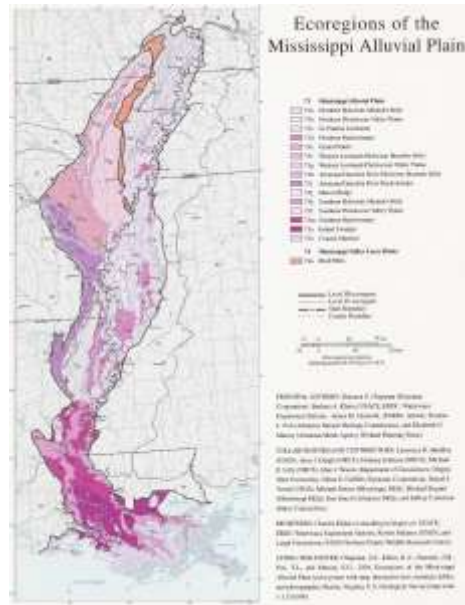
The Poster illustrating the Ecoregions of Mississippi is now available (see Figure).



If you would like a copy of the poster, please contact Mike Beiser, at Mike_Beiser@deq.state.ms.us.

Ecoregions of the Mississippi Alluvial Plain Available

The poster illustrating the Level IV Ecoregions of the Mississippi Alluvial Plain (#73) is now available (See Figure).



This ecoregion stretches from Louisiana northward to Missouri and southern Illinois. A limited number of copies are available, please contact Mike Beiser, at Mike_Beiser@deq.state.ms.us to receive a copy.

Field Activities

As we have been involved in numerous studies of a long-term nature, our field activities have changed little since the last SWPBA Newsletter.

National Coastal Assessment

David Barnes, Emily Cotton, and Barb Viskup again represented the Biological Services Section during this sampling effort. Samples were collected during August and September. Fifty sites throughout the Mississippi Sound were sampled, with benthos, fish, sediments and water column samples collected for various analyses, as well as various field measurements.

Field Reconnaissance and Biological Sampling for Wadeable Streams

We continue our efforts to sample the 303(d) listed waters of the state, those waters requiring WLA studies, and those wadeable streams where potential water quality problems are suspected. The 2003-04 sampling effort consisted of approximately 90 sites (including replicated and duplicated sites). All of the material has been sorted and sub-sampled, with taxonomy nearly complete.

During October of this year, staff biologists began the reconnaissance of sites for the next portion of this study. Similar to the previous collection efforts, these sites were situated statewide with the exception of the Mississippi Alluvial Plain which has been the focus of a separate monitoring effort. Approximately 100 sites are scheduled for sampling. Sampling got off to a really good start, but has been hampered somewhat by recent rainfall.

Nutrient Criteria Development Projects

We have been heavily involved in data collection from Wadeable streams, lakes and reservoirs, and estuaries with the intent of using these data to develop nutrient criteria for our state's water quality standards. In 2005, an effort will begin to address nutrients in non-Wadeable streams and large rivers.

Lakes and Reservoirs Nutrient Criteria Development Study

The large reservoir portion of this study was conducted from November of 2002 until November 2004, and included the 50 largest lakes or reservoirs in the state. A total of 98 sampling locations were situated on these lentic systems. Sample collection for nutrients, chlorophyll, dissolved oxygen, pH, specific conductance, transparency, and profiling are conducted during mid-March through mid-April, then again during June-September. During the spring of 2004, we sampled the tributaries emptying into a few selected lakes and reservoirs, and the outflows. Data will be reviewed and additional work is likely to fill in some gaps.

Our second phase of the project began in November 2005, involved approximately 50 lakes of smaller surface acreage. These will be sampled for a two-year period according to a scheme similar to that outlined above.

Wadeable Streams Nutrient Criteria Development Study

In March 2004 we began to collect data to ultimately use for the development of nutrient criteria for Wadeable streams. Sample size for this study was 102 sites, most of which had been previously bioassessed. Two samplings were conducted in the spring (March and April) and another two were conducted during the late summer (September and October). Water samples were collected for chlorophyll, nutrient analysis, and in-situ parameters, and at a subset of the sites a periphyton survey will be conducted this year. This portion of the study is expected to be of two years duration.

National Wadeable Streams Assessment Project

MDEQ is participating in the Wadeable Streams Assessment (WSA) Project, and is contracting the field and laboratory work to the Department of Wildlife and Fisheries at Mississippi State University. A total of 13 sites was sampled, and currently being processed. It is anticipated that the deadlines for completion of sample processing and identification will be met.

Natural Resource Damage Assessments

Staff Biologists continue to be involved in several projects of this nature:

Leaf River Oil Spill near Collins.

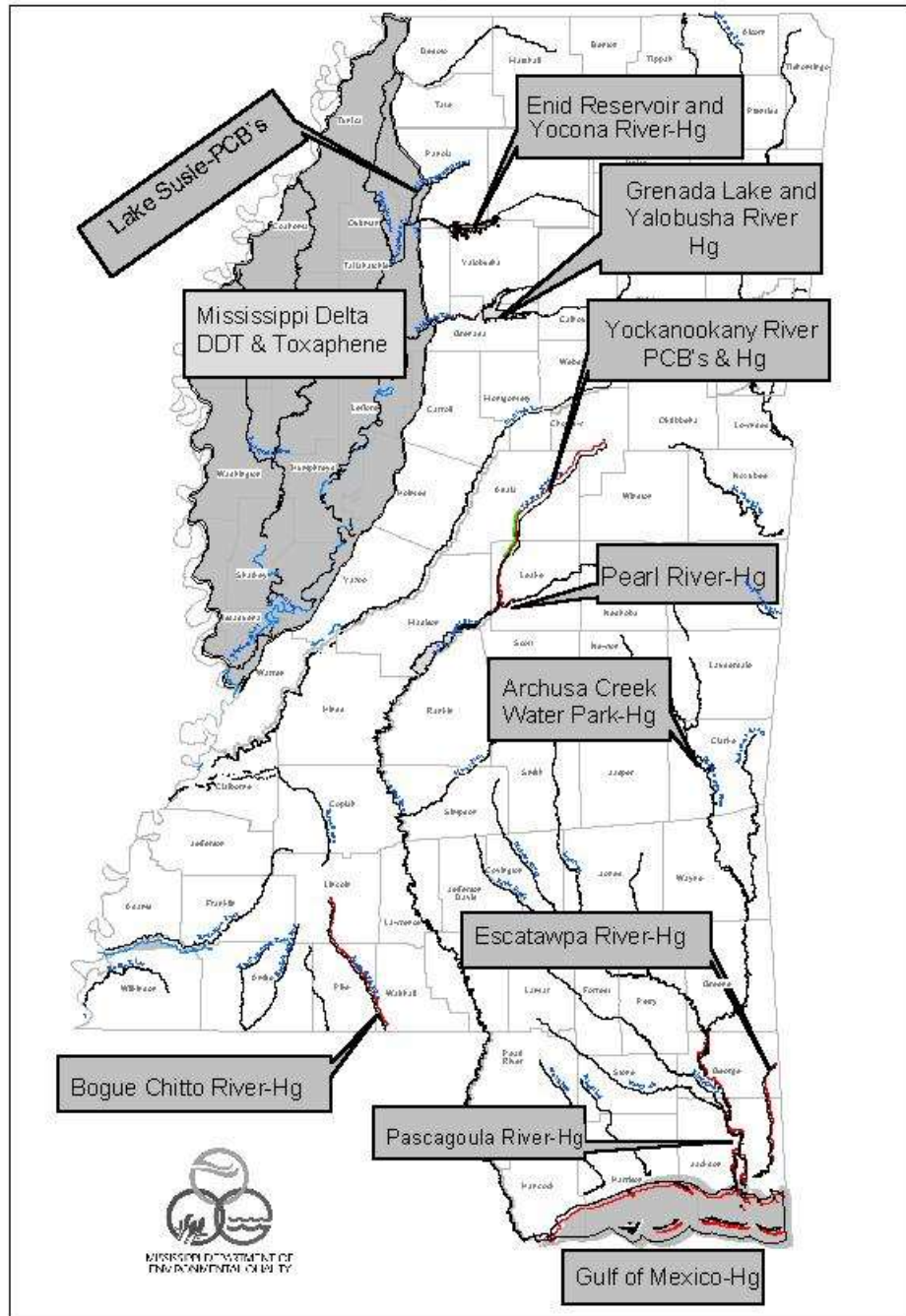
This NRDA is now fully in the restoration phase. We have approved the design for restoration of the stream, and are hopeful that the construction will begin in February. Restoration activities include: a Rosgen-type stream restoration on the unnamed tributary into which the bulk of the spilled crude flowed; construction, placement, and monitoring of wood duck boxes to replace the losses and lost services resulting from the wood duck mortality associated with the spill; enhancement of wetland acreage and restoration of stream riparian zones at a nearby Nature Conservancy Preserve; and continued monitoring and potential remediation of the groundwater resources that were contaminated.

Fish Tissue Monitoring Program

A figure illustrating all advisories currently in effect in Mississippi waters is given below:

Mississippi Fish Advisories

July 2001



STATE OF SOUTH CAROLINA

Department of Health and Environmental Control

AQUATIC BIOLOGY SECTION

Macroinvertebrate Group

The macroinvertebrate group continues to remain very busy with our general monitoring activities. We are currently finishing the identification work on our 2004 Broad River samples and will begin collecting our winter swamp samples in February 05. Jim Glover has participated in the several National Wadable Streams Workgroups held in Corvallis OR, Washington DC, and Albuquerque NM. Other activities have included identification of samples collected as part of the joint bioassessment project held in Alabama, reviewing bioassessment reports, and continuing discussions with permit writers on including instream bioassessments on NPDES permits.

Phycology Program

Thanks to our colleagues in Alabama for hosting a very informative and enjoyable 2004 SWPBA meeting! Their efforts to plan and host the meeting despite the destructive hurricane are truly appreciated.

The Phycology Program staff is still in the midst of analyzing a backlog of phytoplankton samples recently collected from the ambient monitoring program. However, summary reports and data analyses are nearly complete for the 2004 chlorophyll work. In 2004, chlorophyll samples were collected at 107 lake and estuarine stations once per month May through October. An additional 62 estuarine stations were sampled for chlorophyll once during the summer for the South Carolina Estuarine and Coastal Assessment Program (SCECAP). We will be collecting a similar number of chlorophyll samples in 2005 in our ambient monitoring program.

WATER QUALITY MONITORING SECTION

Ambient Monitoring Group

The folks (3) in the Section have been busy getting ready for 2006. We are in the process of preparing for the recon's for the stream sites for the Probability-Based Monitoring Program. We will visit 70 stream sites in the next couple of months. Of these 70 locations we hope to select 30 random stations that our monitoring staff will sample monthly during the upcoming year.

The South Carolina Estuarine and Coastal Assessment Program (SCECAP)

The South Carolina Estuarine and Coastal Assessment Program (SCECAP) is a cooperative probability-based coastal estuarine monitoring venture between SCDHEC, Bureau of Water, and the South Carolina Department of Natural Resources (SCDNR), Marine Resources Research Institute (MRRI). The second technical report from the SCECAP effort has been finalized. This report is the second of a series planned to provide periodic updated information on the condition of South Carolina's estuarine habitats. This report is based on the 2001-2002 SCECAP data and can be found this web site (<http://www.dnr.state.sc.us/marine/scecap>). In the past years both agencies sampled approximately 60 sites one-time during the summer (June-Sept.) to satisfy our commitment to this program. However, due to

budget cuts only about 40 sites will be sampled in 2005. SCDHEC will continue to sample 30 of the sites on a monthly basis for the year as the estuarine component of our Probability-Based Monitoring Program.

Monitoring Strategy for Calendar Year 2005

Dave Chestnut is still in the process of reformatting our traditional annual State of South Carolina Monitoring Strategy to better reflect the USEPA *Elements of a State Water Monitoring and Assessment Program*. Management has been adamant that the new format continues to satisfy all of our historic needs as well as the QAPP requirements for EPA in awarding Section 106 Grant funds. As some of you might know this has been no easy task.

Kentucky SWPBA Update

Ecological Support Section

Since our last update John Brumley has become the Section Supervisor. John has been with DOW for 16 years and we look forward to him serving in his new capacity. We are hiring a new biologist to fill John's old position, although we cannot disclose who that might be or whom we are stealing her from. Mark Vogel has also been hired away from Bioassay to fill the macroinvertebrate gap left by Skip Call and Greg Pond.

We are working on plans to monitor 50+ sites in the Cumberland and Four Rivers sections of Kentucky. Field season will probably begin in April with western Kentucky and continue through October. We hope to complete an update of our SOP manual this winter, but emergency issues like the recent oil spill have taken up more of our office time this winter than we would like. Speaking of oil spill, Tennessee and Mississippi might want to keep a lookout for a nice sheen on the Mississippi River coming their direction.

401 Water Quality Certification Section

John Dovak has moved from the Supervisor position to a job with the Transportation Cabinet. Mariam Wiley, who had been the administrative assistant, retired in December. Jenni Garland is the proud new mother of Luke, her second child, and will be out on Family Medical Leave for three months. This leaves Danny Peake and John Rundle holding down the fort and trying to fill the gaps left by everyone else. Danny will be the acting supervisor until a new supervisor can be hired. We are excited to announce the hiring of a new administrative assistant, Cinda Walling, who started in late January. She has jumped in swimming and has been a great help to us all. TEMPO assimilation is almost complete, and has allowed us to work more closely with other branches in KDOW in permitting Kentucky's waterways. The 401 Section is currently studying the assumption of the COE 404 program.

Standards & Specifications Section

Last year was very busy and 2005 appears it will be equally so. We started the year with the 2004 305(b) report due by April 1. We instituted some changes to our stream assessment process to enhance our reach indexing process. A major goal as we began writing the 2004 305(b) report was to georeference all of the assessed waters and the corresponding uses in the two Basin Management Units (BMU) emphasized in that report. That was accomplished and the report, along with the reach-indexing product, may be viewed at: <http://www.water.ky.gov/sw/swmonitor/305b/305b+Reports.htm>. Aside from the current report, we went back and completed reach indexing for 305(b) reports from 2000 and 2002, as well as updated the 1998 maps. We have undertaken an effort to better serve the public and in-house regulators through a georeferencing project to map all of our special use waters (reference reach, exceptional, outstanding state resource waters (those support threatened & endangered spp.), state wild rivers and federal wild and scenic rivers)). Those GIS products will be available on the Division of Water website sometime during the first half of this year.

With the 2006 305(b) report, we anticipate putting together an integrated report, containing both the 305(b) and 303(d) sections of the biennial report. This should be aided with the upgrade of our ADB to 2.1 (should be a beta version any day) which will incorporate some better accounting functions that will track assessment and monitoring information on individual water segments.

Last spring and summer we monitored 50 streams through the probability biomonitoring program. The streams were monitored using macroinvertebrates as the indicator community; additionally, data were collected for physicochemical, nutrient, and habitat evaluation. This program is employed to primarily

support 305(b) reporting requirements. From this statistically designed monitoring network, percent aquatic life use support level can be extrapolated across each BMU, and ultimately the commonwealth. We are currently seeking an aquatic invertebrate biologist to coordinate this program. Sampling begins in April, so we will all give a collective sigh of relief once this position is filled (if anyone is interested, you may obtain information on this position at: <http://www.benthos.org/Classified/index.cfm/task/List>).

Our ambient monitoring network focus has been on the Salt and Licking rivers BMUs this year. There are 32 monitoring stations in these two basins that have been sampled monthly for this monitoring year (April 04-March 05). The statewide ambient network stations outside of these BMUs continue to be monitored bimonthly.

The clean lakes program monitored 17 reservoirs this past year. Evaluation of each designated use is made based on physicochemical, nutrient and chlorophyll *a* analysis. An important element of this program is to provide DOW with trends in trophic state through a long-term monitoring program. Sample collection occurs during spring, summer and fall (April through October). In addition to these 17 relatively small reservoirs, Army Corps of Engineers monitored two major reservoirs.

Non-point Source Section

Rodney has been so busy since Steve left that he doesn't have time to write an update at this point. They do hope to fill the vacant Environmental Biologist II position sometime this spring. If you are interested in moving to Kentucky, don't hesitate to contact Rodney at Rodney.Pierce@ky.gov and get more info about the position.

TMDL Section

The TMDL Biologists are wrapping up the 2004 sampling season and are gearing up to begin the 2005 sampling season. This year they will be focusing on sampling for pathogens in the Upper Cumberland, Kentucky, and Licking Rivers. The TMDL section will be using a mobile biological trailer outfitted for *E. coli* testing. They will also be involved in collecting macroinvertebrates from selected sites within the Clark's River in western Kentucky.

Within the Kentucky Watershed Basin plan, the TMDL program is continuing to plan for the 2005-2006 year. Internal and external project cooperation for TMDL monitoring and TMDL development is on-going between adjacent states, federal and state agencies, local governments, and private industry from the Clarks River watershed in southwestern Kentucky. Local watershed basin groups have been informed of the state's upcoming activities, and included in the planning and development stages of accomplishing the work. TMDL staff has also created a tracking database for impaired waters on the 303(d) list, complementing other existing databases currently being used, and updated information on GIS data layers. We expect the 303(d) list of impaired waters to be officially approved by EPA by March 2005.

In conjunction with the Ecological Support Section, TMDL staff is working with management staff in the Division of Water and Wastewater Treatment plants to find agreement and methods to meet TMDLs needed for an urban area in central Kentucky. This is a fairly high controversy project, and one to stay tuned for more excitement in the future. This is a first step toward establishing numeric nutrient criteria for the state, and should complement the upcoming new Water Quality Standards currently in review with EPA in increasing the health of Kentucky streams.

News from North Carolina

Aquatic Toxicology Unit (ATU)

As part of the Unit's support of the NC Department of Environment and Natural Resources Ecosystems Enhancement Program, ATU member Sandy Mort has investigated a battery of off-the-shelf toxicity test kits that eliminate culturing and detect wider ranges of toxic impacts such as mutagenicity and effects of endocrine disruptor compounds. The application of these tests will be coupled with habitat evaluation and chemical sampling in order to characterize and possibly identify sources of impairment in particular watersheds. In addition, Sandy is evaluating the use of immunological tests to identify specific toxicants. In August of 2004, we filled our vacant testing biologist position. Susie Meadows comes to us from Cornell University, where she worked in a mammalian cell culture laboratory.

On the compliance/enforcement front, NC facilities with WET limits maintained an average 97.5% compliance rate during the calendar year 2004.

Fish Community Accomplishments

Unlike in 2003 when the sampling efforts were constantly hindered by never ending rains and high flows, 2004's efforts were record setting! Over a period of eight months, 142 stream sites were evaluated. The sampling seasons saw field work completed on:

- two of DWQ's Ecosystems Enhancement Program projects (Mountain Creek (Yadkin River basin)) and Catheys/Hollands Creeks (Broad River basin));
- basinwide monitoring in the Roanoke, Watauga, Little Tennessee, and Hiwassee River basins;
- a biological impact special study due to catastrophic flash flooding from Hurricanes Frances, Ivan, and Jeanne in the French Broad and Watauga River basins, and
- a project with North Carolina State University on urban fish communities.

The project with NCSU was a Water Resources Research Institute-funded project: "*Stream fish as bioindicators of water quality: assessing threshold responses to urbanization and correlations with invertebrate indices.*" It will correlate fish, benthic macroinvertebrate, percent impervious area, and an urbanization index data from approximately 130 samples sites to determine thresholds for measures of urbanization.

Staff also participated in the Pigeon River Fish Re-Introduction Project (French Broad River basin, Haywood County, NC and Cocke County, TN) by transplanting almost 2,000 fish of four species of shiners (Silver, Telescope, Saffron, and Mirror) from Cosby Creek (TN) and the upper Pigeon River to the Pigeon River in NC below the paper mill. The project was described in an article (Pigeon River Revival) in the December 2004 issue *Wildlife in North Carolina*.

Staff completed the second year of a survey for organic pollutants in fish tissue during 2004. The survey was scheduled for 2003 through 2005 to further assess the character of pesticide contamination throughout the state. The survey is intended as a Tier 1 type study whose primary goal is to identify mainstem inland waterbodies where organic contaminants exceed specified human health screening values for edible fish. Sites where contaminants are identified would require more intensive follow-up sampling. Staff collected a top predator and bottom feeding species at each of 17 sites throughout the Yadkin, Lumber, Cape Fear, Neuse, Tar, and Roanoke River basins. Additional pesticide surveys are planned in the northeastern and western river basins in 2005.

Staff also assisted US Fish & Wildlife Service personnel in an assessment of mercury levels in fish on eastern North Carolina wildlife refuges during the 2004 field season. The goal of the study is to identify sites where commonly consumed fish species are contaminated and may present health risks to the public and/or wildlife. Commonly consumed species were collected from Mattamuskeet, Pocosin Lakes, Alligator River, and Pee Dee National Wildlife Refuges and analyzed for total mercury.

The North Carolina Wildlife Resources Commission requested Staff assistance during 2004 in the analyses of hatchery-raised rainbow, brown, and brook trout for baseline PCB contaminants. NCWRC personnel

submitted the fish to Staff for processing and analysis. Results from the pesticide, mercury and PCB analyses are forth coming.

Benthos Accomplishments

The benthos program completed nearly 155 total benthos samples since the start of the field season last February. These samples included work conducted for routine basinwide sampling in the Roanoke, Hiwassee, Savannah, and Little Tennessee river basins. Thirteen swamp samples were also completed for applicable waterbodies in the Roanoke River Basin.

The aforementioned totals also reflect samples collected as part of 10 TMDL studies, 3 EEP studies, an enforcement action, an ORW survey, and a hypolimnetic dam release study. In addition, approximately 12 new sites were assessed during basinwide sampling at the request of the regional offices. These new sites reflected recent impacts in the basin that have occurred since the last basinwide sample cycle five years ago. These new sites were added as part of DWQ's ongoing effort to better coordinate biological and chemical sampling efforts with the regional offices.

In December of 2004, the benthos program also conducted post-hurricane sampling in several particularly flood-impacted reference streams at the request of the Asheville Regional Office. This study was initiated as part of an effort to identify potential deleterious impacts on the benthic communities in these streams. North Carolina also participated in the EPA's National Wadeable Streams Assessment survey and collected biological, chemical, and physical data on 18 randomly selected waterbodies. These randomly selected sites ranged from large (50+ meter) wide rivers, to small streams less than half a meter in width. Waterbodies from all of North Carolina's major ecoregions were sampled for this study. Benthic samples from this work are presently being processed in our lab and results and interpretation from this study should be available late this spring.

News from EPA

Spring SWPBA Newsletter

The Athens biologists are getting ready for a busy field season, and we may even bring some of the engineers along to help! As you know we work hand in hand together here in Athens to get the work done for the Region 4 program office and the states, and likewise we enjoy our close professional relationships with the many state biologists across Region 4. This year we have an ambitious project schedule! The project list includes all those that have been given a “high priority” by the R4 Water Management Division, and it is important to note that a number of them have originated from our state partners. We look forward to collecting and analyzing data that will be useful in making sound water quality management decisions, and that includes learning along with the many state biologists that accompany us into the field. With that in mind I have attached a list of our planned projects for this year. As you know the dates may change and a project or two may be added or dropped, but this is what we are working off of for right now. If you have any questions about projects on the list (or projects that did not make the list!), call your R4 contact or me. For more specific project details get in contact with the project leaders here in Athens. The SWPBA meeting was a great experience for me and one of the most productive (not to mention fun) meetings I have ever attended. Next year we hope to present several papers on work we have done across the region. Thanks again for your support as we move forward with our water quality program here in Athens!

Bill Cosgrove
(706) 355-8616