1997 Report of Region 1 - Northeast

Dr. Moxostoma, otherwise known as Bob Jenkins of Roanoke College, has about 14 manuscripts planned on this group. One of the earliest will be a synthesis of anatomy and a key to the 30-species *Moxostoma* group. He studied nearly all species in 1996 to have comparable amounts of data (much new) for all taxa. The tentatively named Carolina redhorse, new species, clearly is sister to the golden redhorse, *M. erythrurum*. It is known only from the Carolinas. Five specimens are known from the Pee Dee drainage, all from the Fall Zone (at Blewett Falls Dam) to the middle coastal plain (I-95 bridge). This species is extremely rare in the Pee Dee River, such that it seems not useful to purposefully search for it there. All of the large amount of boat-shocking conducted in the Pee Dee River during 1992-96 (in search of the robust redhorse) yielded two of the four river specimens; the other two were taken in 1979-89. The other Pee Dee drainage specimen is a juvenile from the lower reach of a Fall Zone tributary in 1961. From the Cape Fear drainage, by early 1996 four specimens were known from and near the Fall Zone, from upper Cape Fear and lower Deep and Haw rivers. In two days of May 1996, Wayne Starnes, Gerald Potter, NCWRC personnel with two shockerboats and Jenkins captured 12 Carolina redhorses. They also saw them spawning. Jenkins and Starnes will author the analysis of the two-species *erythrurum* group. Jenkins and Starnes also plan to complete the systematic study, started with the late Ernie Lachner, of the Atlantic slope barbeled species of *Cyprinella*. With a cast of several, including Paul Angermeier and Steve McInninch, Jenkins is collating for publication the significant new records, range extensions, etc. of Virginia freshwater fishes.

Gene Maurakis is now with the Science Museum of Virginia. He created an exhibition on freshwater fishes of the James River (19 species from montane, piedmont, and coastal plain) with associated graphics which represents the first installment of a $3 million Life Sciences Gallery. He and Bill Woolcott published an update of Raney's 1950 account of freshwater fishes of the James River in Va. J. Sci. (1996) and are revising manuscripts on *Percina nevisense*, formerly *P. peltata*, from Roanoke, Chowan, Tar, and Neuse rivers. Gene also received a grant for stimulants that attract minnows to gravel nests of nestbuilding species.

Mike Pinder (Virginia Game and Inland Fisheries), because of manpower constraints, got little accomplished on last year's proposed projects. He did conduct a stream survey on Indian Creek, a headwaters tributary of the Clinch River in Tazwell Co. They collected 34 species in the 12-mile reach, including *Percina burtoni*. Indian Creek supports one of the remaining populations of an endangered mussel, the tan riffleshell, as well as the purple bean mussel. There is mining activity in the watershed and Mike has been meeting with them to minimize their impacts. He has several projects planned for 1997 including an evaluation of the diet of stocked muskellunge in the Clinch River. There is concern that muskies may be impacting the host fish species of several mussels. His Department is also starting to rear nongame fishes to stock that may be hosts for endangered mussels. They also might try to induce madtom spawning in the many raceways present at the hatchery. He will also be doing a complete taxa survey of all the wildlife management areas in VA, possibly starting with the Clinch Mountain Management Area.

Wayne Starnes, Curator of Ichthyology, NC State Museum of Natural Sciences, is becoming adjusted to his new role. Much of his time is spent on meetings and the new museum exhibits. He has moved most of the UNC-IMS fish collection (about 60 tons) to Raleigh. He hopes to have the new wet collection facility ready in Fall 1997 although they had to go out for bids again. Stephen Busack is the new Director of Research for the Museum. Steve is a herpetologist who came from the Fish and Wildlife Forensics Lab in Oregon. One of his primary tasks this spring is to get the endangered fish report out. Good Luck! Also, Art Bogan, a malacologist, is the new Curator of Aquatic Invertebrates.

Mary Moser at the University of North Carolina at Wilmington is busy again on the Cape Fear and Waccamaw rivers. She will also be investigating the carpsuckers in the lower Cape Fear.

Fritz Rohde at North Carolina Division of Marine Fisheries, along with Starnes, Jenkins, and J.R. Shute, is working on the descriptions of the broadtail madtoms. The population in the Northeast Cape Fear River may have been extirpated by Hurricane Fran. Rohde and Rudy Arndt of Richard Stockton College of New Jersey are continuing their work on South Carolina freshwater fishes. They would appreciate any records that y'all may have. Rohde is working with Joe Quattro at University of South Carolina on *Elassoma phylogenies* using mtDNA.

F. Rohde

1997 Report of Region 2 - Southeast

Conservation Notes (due to pressing obligations and putting off this years report until the very last minute, only topical conservation notes are provided).

Georgia- The TVA recently exercised the Right of Eminent Domain to clear a swath across a private land owners property for a power line right-of-way, which crosses an unnamed tributary of the Conasauga River in Murray County, Georgia. This tributary contains the only known reproducing population of *Etheostoma trisella* in the Georgia portion of the Conasauga River (the other is Mill Creek in Tennessee). Photographs of the cleared area show it to encompass the riparian zones and relatively large areas of adjacent sloping banks in the creek hollow. The purpose of the power line is to provide additional power to the Dalton, Georgia area (principally for the growing carpet mill industry). The land owner, a Mr. James Turner, was unsuccessful in soliciting assistance from any federal agency to slow down or stop this action. According to an article appearing in The Chatworth Times, 11 December 1996, vol. 111-44, p. 5, the TVA cut the power line crossing in opposition to the landowner's wishes and without reaching a mutually satisfactory agreement for the cost of the land. Apparently the TVA decided to construct this new power line rather than pay fees to Georgia Power for use of existing power lines.

Certainly a vastly larger number of private land owners have suffered significant loss of property due to the enactment of the right of eminent domain as opposed to constraints placed on property to protect endangered species.

The robust redhorse Recovery Group has had limited success in their efforts to artificially propagate the huge sucker for restocking within its native range. According to Bud Freeman (University of Georgia), the 1995 year class experienced 92% mortality in holding ponds prior to stocking, but some 3000 fish were stocked at several sites in the Broad River. Unfortunately, only one fish out of 96,000 fry survived from the 1996 propagation effort. Jimmy Evans (Georgia Department of Natural Resources) has prepared a manuscript for the Waterpower 1997 Conference documenting the early events that transpired after the discovery of the Oconee River population of the robust redhorse; the manuscript cites esoteric sources, such as letters in file, that will certainly be untraceable 50 years from now.

Although it does not harbor any endangered fishes, the Okefenokee Swamp may become a threatened aquatic ecosystem. DuPont is planning to mine the trail ridge area along the eastern boundary of the swamp for titanium. The mine will be an open pit on 38,000 acres of land and is projected to be active for 50 years. If DuPont is granted mining permits, some fear the swamp will be severely degraded by alteration of hydrological cycles and pollution. For more information, contact the Okefenokee Campaign, Sierra Club, 1447 Peachtree St., Suite 305, Atlanta, GA 30309.

Florida- Ken Sulak, Florida Caribbean Science Center (formerly Southeastern Fisheries Research Center, and then Southeastern Biological Science Center) has been able to identify at

least one area in the Suwannee River where the Gulf sturgeon spawns. Ken and Jim Clugston have a manuscript under review for Transactions of the American Fisheries Society describing spawning periodicity and habitat of the Gulf sturgeon. This is the first documentation of such associations for the threatened Gulf sturgeon. Howard Jelks, also of the Florida Caribbean Science Center, is completing the umpteenth draft of the Okaloosa darter Recovery Plan, certainly the most revised fish plan in the southeast.

Noel Burkhead

1997 Report of Region 3 - North-Central

Status surveys and other interesting finds:

Ron Cicerello and Ellis Laudermilk, of the Kentucky State Nature Preserves Commission (KSNPC) report news from Kentucky. In 1996, the KSNPC published a list of rare plants and animals (Transactions of the Kentucky Academy of Science 57:69-91) that includes 29% (63 species) of Kentucky's fish fauna. Developed with the assistance of state and regional specialists, the list will be revised annually.

Bill Pearson and Charles Boston of the University of Louisville completed a range wide distribution and status survey of *Amblyopsis spelaea*, the northern cavefish, in 1995 that yielded reliable records for 21 sites in Kentucky and 44 in Indiana. They counted 994 cavefish at eight sites in Indiana and 17 sites in Kentucky in 1993-1994, and used mark and recapture to conservatively estimate a total of 5602 *A. spelaea*. When unexplored or inaccessible habitat was considered, they extrapolated the estimate to 56,000 individuals.

During 1995, *Ammocrypta clara*, formerly considered extirpated from Kentucky where the last of three records was collected in 1938, was found in the Green River in Mammoth Cave National Park and in the North Fork Kentucky River. The North Fork Kentucky River site has yielded only one specimen during several sampling efforts over the years, and the Green River population is localized based on previous efforts in the park. *Ammocrypta clara* will be added to the Kentucky State Nature Preserves Commission rare species list as endangered. *Ammocrypta pellucida* was also found at several sites in the North Fork Kentucky River where it previously had been collected only in 1925. One hundred seventeen sites within the upper Kentucky River drainage (mainly in the North and Middle forks thus far) have been sampled under contract with the Kentucky Department for Surface Mining Reclamation and Enforcement to provide information about rare aquatic organisms for the coal mining permitting process. Of approximately 75 native fishes known from the North Fork drainage, 63 species have been collected recently, including all percids known from the drainage except *Etheostoma maculatum*. Additional sampling probably would narrow the difference further, suggesting that most of the North Fork fish fauna has survived 25 years of intensive strip mining for coal.

The Kentucky Department of Transportation is planning to reconstruct KY 119 along the upper Poor Fork of the Cumberland River in southeastern Kentucky. Channelization and other construction activities will impact the federally threatened *Phoxinus cumberlandensis*, the blackside dace, and one of two population centers for the endemic *Etheostoma nigrum susanae*, the upper Cumberland johnny darter.

Rick Mayden and Bernie Kuhajda at the University of Alabama report news of their efforts in Alabama. They continue to monitor the status of the *Speoplatyrhinus poulsoni*, Alabama cavefish, in Key Cave near Florence. The population appears stable, and *Typhlichthys subterraneus*, southern cavefish, continue to co-exist with the Alabama cavefish. Rick and Bernie are also continuing work on the *Etheostoma zonistium* complex. Graduate student Jessica

Boyce is completing her thesis on activity patterns for different populations of *E. tuscumbia*, Tuscumbia darter, with comments on reproduction and diet.

Recent efforts to collect *Erimystax cahni*, slender chub, at known localities indicated that this species had disappeared again, and fears were mounting that this time it might be terminal. The UT ichthyology class collected and released one adult at Frost Ford on the Clinch River on 9 October, but no additional specimens were taken the following day. During the same two days of effort, four specimens of *Noturus stanauli*, pygmy madtom, were also caught and released--two from along the south shore and two along the north shore.

Chris Skelton (University of Tennessee student) completed his survey to determine the current status of the undescribed *Phoxinus*, recently known as 'laurel dace'. He concluded that the 'laurel dace' is currently known from four Tennessee River tributaries on the Walden Ridge portion of the Cumberland Plateau, Bledsoe County, Tennessee. Two populations occur in the Sale Creek system (Horn Branch of Rock Creek, Cupp Creek), one in the Soddy Creek system, and three in the Piney River system (Bumbee, Mocassin and Young's creeks). These systems enter the Tennessee River in Chickamauga and Watts Bar reservoirs.

Pat Rakes, Conservation Fisheries, Inc. (CFI), has completed his status survey of *Fundulus julisia*, Barrens topminnow. No new populations were discovered. Currently, there are four populations in the Cumberland River Drainage and one in the Elk River system of the Tennessee River Drainage. Only one of the Cumberland River populations is stable, and all are small, localized and tenuous. Pat made recommendations for long-term conservation of the species.

J.R. Shute and Pat Rakes (CFI) continued work begun by Brooks Burr (Southern Illinois University, Carbondale) to determine the status of the undescribed 'chucky madtom', *Noturus* sp. cf. *elegans*. Field surveys conducted through 1996 produced no additional chucky madtom populations. The 'chucky madtom' is currently known only from Little Chucky Creek, Nolichucky River system of the Tennessee River drainage (Greene, Co., TN), although the species is very rare, even in Little Chucky Creek.

The survey by J.R. Shute and Pat Rakes (CFI) for duskytail darters, *Etheostoma percnurum*, in the Big South Fork system of the Cumberland River, continued through 1996. In addition to the downstream range extension of duskytail darters in the mainstem of the Big South Fork, reported in 1996, the upstream range has been expanded by about two river miles.

In his resurvey of the fishes of the New River portion of the Big South Fork of the Cumberland, Brian Evans (University of Tennessee student) continues to find *Etheostoma cinereum* abundant. He also obtained specimens of *Moxostoma macrolepidotum breviceps* (first for the New) and *M. carinatum* (second for the Big South Fork, first from the Tennessee portion). Perhaps the biggest surprise was the collection of a second specimen of *Noturus exilis*--at Brimstone Creek. The 1953 specimen housed at CU, from the same site, had been treated with some skepticism.

In the Tennessee portion of the Upper Cumberland, Bo Baxter's (University of Tennessee student) continued work indicates that *Notropis r. rubellus*, *Etheostoma baileyi*, and *E. sagitta* are widespread and abundant. *Etheostoma nigrum susanae*, Cumberland johnny darter and *Ericymba buccata*, silverjaw minnow were only taken at one site.

Charlie Saylor and Ed Scott, Tennessee Valley Authority (TVA), report results of 1996 TVA surveys. Snail darters, *Percina tanasi*, are now distributed from the mouth of the French Broad River near Knoxville, upstream almost to Douglas Dam (about 30 river miles), and are relatively common in the lower end of this reach. They were also present again in the lower end of the Little River, near Maryville. In Virginia, *E. acuticeps*, sharphead darter, was collected again, in the South Fork of the Holston River, and its range was extended upstream. *Percina macrocephala*, longhead darter, was collected in the North Fork of the Holston River above Saltville. In Copper Creek, one live and one dead *Noturus flavipinnis*, yellowfin madtom, were observed, as well as one *E. percnurum* and several *Percina burtoni*, blotchside logperch. On the Tennessee side, *C. monacha*, spotfin chub, continues to be present in the Holston River at Surgoinsville, and *E. acuticeps* are still common in the Nolichucky River. They found *P. macrocephala* in Rock Creek of the Emory River system; this species hasn't been seen in the Emory system since the mid 1970's. In the Emory River, the distribution of *C. monacha* was extended upstream several river miles, to above the mouth of the Obed River. In the Alabama portion of the Tennessee River drainage, *P. burtoni* was extended up the Estill Fork of the Paint Rock River system almost to the Tennessee/Alabama state line. In 1997, in preparation for assessing subwatersheds and designating new River Action Teams, sampling efforts will be concentrated in the French Broad and Little Tennessee watersheds. Other sampling is scheduled for the Duck/Buffalo system, and tributaries of Kentucky, Pickwich, and Wilson reservoirs.

Captive propagation, reintroduction, and other management activities:
As mentioned above, anticipating that Etnier's recent Clinch River cahni find might be a preview to a few years of abundance, J.R. Shute and Pat Rakes will be using *E. dissimilis* as a surrogate to try to unlock the secrets of captive rearing of *Erimystax*.

Captive populations are being maintained at CFI for the following species: spotfin chub, C*yprinella monacha*; blackside dace, *Phoxinus cumberlandensis*; Barrens top-minnow, *Fundulus julisia*; smoky madtom, *Noturus baileyi*; yellowfin madtom, *N. flavipinnis*; spring pygmy sunfish, *Elassoma alabamae*; boulder darter, *Etheostoma wapiti*; and duskytail darter, *E. percnurum*. The Tennessee Aquarium has obtained all necessary permits to assist in rearing *C. monacha* produced by CFI to stocking size.

No stockings were made in 1996 using captively produced boulder darters or blackside dace. As previously reported, *C. monacha*, *N. baileyi*, *N. flavipinnis*, and *E. percnurum*, were again captively propagated. Individuals produced in 1995 were stocked in late spring 1996, and individuals produced in 1996 will be stocked in spring 1997. To date, a cumulative total of more than 2500 *C. monacha*, 1000 *N. bailey*, 500 *N. flavipinnis*, and nearly 1000 *E. percnurum* have been reintroduced into Abrams Creek in the Great Smoky Mountains National Park, (Blount

County, TN). For the second consecutive year, reproduction was documented for *E. percnurum* and *N. baileyi*. Three of the four reintroduced species (*N. baileyi*, *N. flavipinnis*, *E. percnurum*) were observed in Abrams Creek during the 1996 field season.

As recommended by Noel Burkhead to provide supplemental boulder darter spawning substrates, the Tennessee Wildlife Resources Agency (TWRA) and CFI placed more than 50 artificial structures at a boulder darter locality in the Elk River. These structures were placed in a variety of habitats and flow conditions. As more than 120 boulder darters have been captively produced, this management technique may be used to expand the range of the species within the Elk River, or augment existing populations.

Local and regional watershed activities:
The KSNPC continues to purchase land to establish a nature preserve to protect Terrapin Creek. This western Kentucky tributary to the Obion River contains Kentucky's most unique fish fauna. In cooperation with the Kentucky Chapter of The Nature Conservancy, KSNPC is drafting a strategic plan to protect the Green River from Green River Reservoir downstream to Mammoth Cave National Park as a bioreserve. More than 100 fish and 50 mussel taxa are known from this 100 mile river segment.

Peggy W. Shute and David A. Etnier

1997 Report of Region 4 - South-Central

Bud Freeman at the University of Georgia's Institute of Ecology in Athens reports that TVA has received a permit to construct a new powerline in northwest Georgia that will cross the Conasauga River five times. Recent TVA activities in the system have already destroyed a small stream that was the only known spawning site for *Etheostoma trisella* in Georgia. A truck spilled its pesticide load into a tributary of the middle Etowah River system, which killed fish for several miles, including the federally Threatened *Etheostoma scotti*; there was no prosecution because the action was deemed not willful. On the positive side, Bud has co-authored a Tennessee Aquarium publication on a Stakeholder's guide to the Conasauga River in Tennessee and Georgia, which facilitates education and conservation efforts. Likewise, the community-based Conasauga River Alliance, which is composed of stakeholders in the area, will soon be working with a full time resource specialist hired by The Nature Conservancy. Bud has documented spawning behavior of *Percina antesella* in artificial streams and is conducting a life history study on *Percina aurolineata* in the Coosawattee River. Additional studies on the Coosawattee and Etowah river systems include spatial distributional databases of fish collections and current land-use practices. David Walters, a MS student, is finishing his thesis on the distribution of fishes in the Conasauga River system, which includes incorporating all collection information into a GIS based spatial database and assessing temporal shifts in the faunal community, identifying sensitive species, and recommending strategies for management. Another MS student, Kevin Barnes, is studying sedimentation impacts on fish assemblages in the upper Blue-Ridge portion of the Etowah River system. Bud also reports that Georgia fisheries biologists are considering the reintroduction of *Acipenser fulvescens* into the upper Coosa River system. In the upper Tallapoosa River, a second and third specimen of *Moxostoma carinatum* were collected by Mary Freeman and the Auburn Coop. unit (and others), respectively. Lastly, Judy Johnson, working with the Auburn Coop. unit, discovered the federally listed *Lampsilis altilis* in the Tallapoosa River above Harris Reservoir; the Georgia portion of the system remains unsampled.

Frank Parauka at the U.S. Fish and Wildlife Service in Panama City, Florida, along with the North Carolina Coop. unit, has been studying the movement and spawning habitat of *Acipenser oxyrhynchus desotoi* in the Choctawhatchee River system in Alabama and Florida. Fifteen adult sturgeon were radio-tagged and tracked. The results indicated that migratory patterns differed according to sex and reproductive condition, with ripe females entering the river in spring and migrating upriver more than 125 miles. Gulf sturgeon appear to be utilizing hardbottom areas 81 miles upriver and beyond for spawning, including the Pea River. Additional habitat characterization on a one mile stretch of river was initiated to develop a classification scheme for predicting the importance of these habitats to the life history of the sturgeon. Future field work will attempt to establish habitat characteristics of spawning sites, and to continue studying relative differences in migratory behavior related to sex and reproductive condition.

Carl Couret at the Service's office in Daphne, Alabama has been involved in the formation of the Tri-State Water Management Plan. Legislators in the three states are preparing to vote on the

plan which allocates an "as yet to be determined" amount of water to various states. Once passed at the state level, the plan must receive the go ahead from the U.S. Congress. Unlike previous drafts, the current plan has the wording of "conserving biodiversity" and "maintaining water quality." Carl is concerned that if water allocation to Alabama is reduced, flow requirements necessary to comply with water quality laws may lead to many headwaters being impounded to store water for low flow periods.

Malcolm Pierson of the Alabama Power Company in Birmingham has completed an extensive five year fish study in the Coosa River below Jordan Dam (Elmore County). Preliminary results indicate that the 2000 cfs minimum continuous flow has improved habitat for most fish species. Reproductive success has been documented for *Cycleptus elongatus* and *Moxostoma carinatum*. *Crystallaria asprella* have been documented from the main channel of the Coosa River and juvenile mussels of several species have been collected in recent years.

Randy Haddock of the Cahaba River Society reports that the executive director of the Society, Beth Stewart, will serve as co-chair on the Jefferson County Stormwater Management Committee to develop recommendations for the county on how to comply with implementation of a new water pollution control program mandated by the Alabama Department of Environmental Management. ADEM, with the help of EPA, is adopting a basin-wide management approach to water pollution in Alabama, and the first effort will be the Cahaba River system. Randy also reported that a grant from the Chesapeake Bay Foundation will allow the Society to develop a new educational program that will be leading numerous teacher and student field trips in the Black Warrior and Cahaba river systems. Lastly, Randy indicated that three of the six gastropods species recently proposed for federal listing in Alabama are presently found in the Cahaba River system.

Bob Stiles at Samford University continues to study the biology of *Cottus pygmaeus* in Coldwater Spring, Calhoun County, Alabama. He is using transects and bottom sampling to assess the population, which appears healthy. He is just starting to collect data on prey items available and how it relates to stomach contents.

Scott Mettee of the Geological Survey of Alabama in Tuscaloosa reports that the Fishes of Alabama and the Mobile Basin became available in December 1996. This 832-page publication (650+ pages in color) was completed as a cooperative effort of the Survey and Alabama Game and Fish Division with funding provided by the USFWS. Introductory chapters include Physical Setting, Fish Distribution, Anatomy, and a Key to 29 families of freshwater and marine fishes known to inhabit freshwater. Most of the book is devoted to two-page species accounts; one page provides a color distribution map generated using GIS technology, and the other page includes information on the distributions, physical characteristics, adult size, habitat and biology, and protected status of 300+ species. Color photos of individual species are included in the species accounts as well as in the Anatomy chapter and the Key to Families. Illustrated taxonomic keys to species occur within each family discussion. Two colorized tables contain checklists to species within Alabama's 16 river systems and 67 counties. Scott also reports that Survey staff

documented the movement of specimens of *Cycleptus elongatus* from 68 to 134 miles downstream and over Claiborne Lock and Dam following spawning in the Alabama River in 1995 and 1996. Another study found healthy populations of the federally Threatened *Noturus munitus* in the lower Cahaba River. A biological water quality project will be completed in the lower Cahaba River this year with the results published by the Survey. Studies in the Tennessee River drainage will include documenting Alabama cave shrimp movements in Madison County.

Stuart Poss at the Gulf Coast Research Lab in Ocean Springs, Mississippi completed a contract with the U.S. EPA that resulted in a workshop on identifying potentially endangered species in the Gulf of Mexico and investigations into the research needs for these species. This work utilized the archived collections of ichthyological museums which possessed major holdings of species from the Gulf to document rare and potentially imperiled species. Historical evidence was evaluated to establish that 23 species of fishes may be disappearing, becoming rare, or are otherwise imperiled over parts of their range, and one species was found to be extinct in the Gulf. The results of the workshop and associated information will be available on the U.S. EPA Information Network (GIN).

Mark Peterson, also at the Research Lab, just finished sampling for Gulf Coast *Cycleptus elongatus* from the Pearl and Pascagoula rivers. A MS student, Doug Snyder, is finishing his thesis on the life history of *Enneacanthus gloriosus*; a separate habitat paper on the bluespotted sunfish is due out in March in J. Freshwater Ecol. Mark also just finished a final report on the distribution and habitat of *Fundulus jenkinsi* in Jackson County, where he recorded the first collection of the species in the Pascagoula River. He hopes to get funding to look elsewhere in the Pascagoula.

Melvin Warren at the U.S. Forest Service Hydrology Lab in Oxford, Mississippi reports that he and Wendell Haag have a manuscript coming out in JNABS documenting fish-hosts and reproductive strategies for six species of Mobile Basin mussels, including four federally listed species. They also have a manuscript in review on fish-hosts, mussel communities, and habitat interrelationships in the upper Sipsey Fork (Black Warrior River). Melvin and Wendell will conduct fish-host trials for two or more mussel species from Shoal Creek watershed in Talladega National Forest in east-central Alabama. They also plan to quantitatively sample the mussel fauna in Little South Fork Cumberland River this summer and assess the interrelationships of the fish and mussel community, with emphasis on the effects of surface mining on the lower third of the river. Melvin and Mitzi Pardew are completing a manuscript documenting effects of road crossings on fish movement in several streams, and Melvin and Davis Lonzarich are revising a manuscript documenting the effects of habitat spacing and sequence on the ability of small-stream fishes to re-colonize defaunated stream pools; both studies were in the Ouachita National Forest.

Carol Johnston, also at the Hydrology Lab, reports research activities on population dynamics of rare fishes in the Conasauga River. She is also studying sound production in darters, as well as running experimental studies on the role of female choice on reproductive success of hosts in

nest association systems. Lastly, Carol is identifying characteristics of mobile and non-mobile fish populations of selected stream fishes.

Steve Ross at the University of Southern Mississippi in Hattiesburg reports that Todd Slack completed his dissertation on the interaction of flooding and stream fish assemblages and that he is now working as a post-doc on *Acipenser oxyrhynchus desotoi* and on larval ecology of *Etheostoma rubrum*. Brett Albanese is completing his thesis on the life history of *Pteronotropis signipinnis*. Todd and Brett have completed a distributional study of *Notropis chalybaeus* in Mississippi. This species was not collected from any of the historical sites, and was found at only one new site (on the Escatawpa River). Martin O'Connell is continuing work on the use of floodplains by stream fishes. Martin, Todd, John Erwing, and Steve are completing a manuscript on the distribution of *Notropis melanostomus* in Mississippi, primarily in oxbow lakes off of the Pascagoula River. Steve and T. Rauch completed a survey for *Leptolucania ommata* and failed to find any individuals at the historic site in Jackson Creek, or in any other Mississippi stream. Lastly, The Inland Fishes of Mississippi is scheduled for publication by the University Press of Mississippi in March 1998!

Chris Taylor at Mississippi State University in Starkville is compiling all historic records from the Tombigbee River as a baseline database for future work in the drainage. Along these lines, Chris has a graduate student studying the spatial and temporal distribution of fishes in Luxapallila Creek relative to historical collections.

Jan Hoover at the Corps of Engineers Waterways Experiment Station in Vicksburg, Mississippi reports that he and his staff have tagged 250 *Scaphirhynchus platorynchus* with Peterson discs over the last two years; over 50 of these were also tagged with PIT tags and field measurements and counts were made. So far there have been two recaptures. They have collected, measured, tagged, and released two *Scaphirhynchus albus* this winter, but several sturgeon have been "pallid-ish." Jan hopes many more pallid sturgeon will be tagged before the river comes up later this spring. They are also collecting the first brood stock specimens for a fish hatchery in Louisiana.

Hank Bart at Tulane University has learned via the Louisiana Audubon Society that the Corps of Engineers is planning to build a water-control structure at Wilson Slough (a scenic waterway) on the Pearl River to prevent the slough from capturing more of the flow of the main river, then dredge a pilot channel in the river between the control structure and Walkiah Bluff. This project's purpose is to benefit a boat launch in the area. Unfortunately, this section of the river is home to one of the largest mussel beds left in the Pearl, and dredging would almost certainly destroy it. The project may be hampered by a serious mercury contamination problem in the river, which would be exacerbated by more dredging. Hank and R.D. Suttkus are almost certain that *Percina aurora* is extirpated from the Pearl River. Collections at all historic sites for this species over the last two years produced only two specimens from the Leaf River above Hattiesburg. The only other record during this time period was one specimen from the Leaf River by a crew from the Illinois Natural History Survey last year. An emergency meeting with federal and state agencies

and area ichthyologists resulted in an agreement to pool resources on all future field work and incorporate snorkeling surveys. A decision to list the species will be made after a third year of field work. Pat Rakes of Conservation Fisheries, Inc. and Steve Ross (USM) agreed to use *Percina copelandi* and *P. brevicauda*, respectively, as surrogate species to learn about breeding and lab propagation protocols to be used for *P. aurora*.

Bob Cashner at the University of New Orleans reports that his graduate students are busy with projects in Region IV. Jeff Stewart is doing a comprehensive study of fish communities in the Bogue Chitto River (Pearl River). Chris Schieble is working on the life history of *Ambloplites ariommus* in the Pearl River drainage. Jeff, Chris, and Bob are involved in a study of Lawrence Creek, a small tributary to the Bogue Chitto that has a surprisingly high species richness. They are also involved in a large, four-year nekton survey of Lake Pontchartrain. Samples at sites collected by Thompson and Verrett in 1979 were begun in October 1996. Lastly, Bob reports that a former student's survey of Bayou Lacombe in 1988 was completely devoid of any *Cyprinella venusta*, even though it was the most abundant species collected in a 1975 survey of the bayou. Monthly samples each spring for the past two years have still not found a single specimen of *C. venusta*.

Bruce Thompson at Louisiana State University reports that the descriptions of the last two southeastern logperch are well underway. The Gulf logperch is in press as Occ. Pap. Mus. Nat. Sci., LSU No. 72. The Mobile logperch is in review. One more paper is planned; a synthesis and phylogeny of all southern forms, including shape analyses.

Brooks Burr at Southern Illinois University at Carbondale reports the collection of a juvenile specimen of *Cichlasoma cyanoguttatum* in June 1996 from Irish Bayou, Louisiana (Lake Pontchartrain), which represents either a pet release or is evidence of reproduction. He also has collected young-of-the-year silver carp in a ponded area near the Ohio River mouth. Brooks is still getting records of *Mugil cephalus* in the lower Ohio and adjacent Mississippi rivers.

Rick Mayden and Herb Boschung at the University of Alabama in Tuscaloosa are working on the completion of their Alabama fish book. Rick and Brooks Burr are completing their systematic study on the *Cycleptus elongatus* complex. Rick is also examining variation in the *Etheostoma ditrema*, *E. ramseyi*, and *E. zonistium* complexes, as well as finishing a status survey on *Etheostoma ditrema*. Graduate student Rex Strange is studying the systematics of the southern walleye. Cesar Blanco is studying habitat usage of *Etheostoma chermocki* in Turkey Creek (Black Warrior River). Results of this study will be used to assist in the development of a watershed management plan for Turkey Creek by Jefferson County and the USFWS.

Ron Larson with the U.S. Fish and Wildlife Service in Jackson, Mississippi has been the driving force in the formation of a recovery plan for *Scaphirhynchus suttkusi* in cooperation with state and federal agencies and business coalitions. The Service is funding a retrofit for the Marion Fish Hatchery for Alabama sturgeon propagation. Funding will also be provided to the State, Auburn Coop. unit, and the Corps of Engineers Waterways Experiment Station for broodstock collection

efforts in the lower Alabama River. Plans are to have four to five netting/trotline crews on the river during April and May. Ron reports that the Alabama sturgeon is currently a candidate for federal listing. On a different topic, Ron is also trying to secure funds to begin several new Section VI projects in his region.

Bernie Kuhajda

1997 Report of Region 5 - Northwest

The U.S. Army Corps of Engineers is gathering environmental documentation and developing preliminary plans to construct the White River Navigation Project from the mouth upstream to Batesville, AR, a distance of approximately 255 river miles. The project was re-authorized by the Water Resources Development Act of 1996 and proposes to construct and maintain a 200 foot wide by nine foot deep navigation channel. The White River supports good populations of paddlefish and sturgeon along with a substantial commercial mussel fishery. The proposed navigation project will seriously impact numerous gravel shoals and provide a vector for the increased dispersal of the zebra mussel into the middle reaches of the mainstem White River. Representatives from the Arkansas Game and Fish Commission, Arkansas State University, and the Shell Exporters of America (SEA) are coordinating efforts to provide information to the Corps of Engineers, so that all environmental and economic costs/benefits are included in NEPA documentation for the project. As the project develops, the SFC will be asked to make a position statement regarding the project.

Crooked Creek (White River drainage, north central Arkansas), one of the premier smallmouth bass streams in Arkansas and the Southeast, fell just short of receiving designation as an extraordinary resource (ER) stream in Arkansas which would have prevented instream gravel mining in the water body. This came on the heels of an economic analysis provided by a Governor's Task Force which determined that instream gravel mining in Crooked Creek was not cost effective given the adverse impacts to the fishery and other stream resources and functions. The Arkansas Department of Pollution and Ecology promulgated its Regulation 15 during 1996 which provides permitting and controls for instream gravel mining operations. The ADPC&E Commission has decided to delay the ER designation for Crooked Creek until the effectiveness of Regulation 15 on preserving the water body can be evaluated. To date, there have been three applications for instream gravel mining permits to remove aggregate materials from Crooked Creek.

Arkansas fishes are swimming a little easier these days as Neil Douglas of Northeast Louisiana University is retiring this spring. Neil and his students have provided numerous distributional surveys and amassed quite a database of fish distribution and relative abundance within Arkansas.

Henry Robison (Southern Arkansas University) reports that he and Bruce Thompson (Louisiana State University) are continuing to analyze and rewrite their manuscript revising the *Percina nasuta* complex in Arkansas. Robison reports that they are "almost there". Additionally, Robison reports that Pat Ceas of Eastern Kentucky University continues his work on the *Etheostoma spectabile* complex in Missouri and Arkansas.

John L. Harris

1997 Report of Region 6 - Southwest

Jack Killgore, U.S. Army Engineer Waterways Experiment Station (WES), begins a larval fish study this spring in Big Cypress Bayou (Red River drainage) to evaluate hydrologic influences on spawning success of riverine fishes. The ultimate goal is to restore floodplain habitats by optimizing reservoir releases.

Jack, Phil Kirk (WES), Jim Morrow (WES) and Howard Rogillio (LA Dept of Wildlife and Fisheries) continue their studies of the demography, distribution, movements and status of Gulf sturgeon, *Acipenser oxyrhynchus desotoi* in the West Pearl River/Lake Pontchartrain system. To date more than 250 fish have been tagged, 15 with radio tags and pectoral spines examined from more than 70 individuals. Age and growth data are being used by Jim and Phil to develop and refine the first population model developed for this species.

Chad Keith, Northeast Louisiana University (NLU) and Frank Pezold (NLU) are initiating a study of seasonal changes in fish communities associated with aquatic macrophyte beds. Frank Pezold and Amy Frobish (NLU) are studying larval fish production in the Ouachita River. Neil Douglas (NLU) is continuing work on his book.

Conservation concerns in the area are many. Gary Tilyou (Louisiana Department of Wildlife and Fisheries) identified several major issues including: mercury contamination in sportfish and the possible effect this may have on length regulations, freshwater mussel harvest and its impact on mussel populations, and the use of grass carp to control aquatic vegetation in public waters. In north Louisiana grass carp were recently introduced into a portion of Bayou Desiard and in 1994 in Caney Lake. Headlines in the Monroe NewsStar last year were reading "think of grass-eating piranha and that's what you've got" and "Grass Carp Out of Control." Basically, Caney Lake is a Trophy bass lake (reservoir) that was stocked after impoundment with introduced Florida bass. Then someone introduced hydrilla in 1988. In 1992 there were 500 acres of hydrilla. The entire lake is under 5000 acres. The 12,000 introduced grass carp have denuded the lake except for lily pads. The Louisiana Department of Wildlife and Fisheries has been attempting to reduce the number by a variety of methods, including electrofishing and a bow-hunting season. Other carp immigrants from Arkansas have become well-established in NE Louisiana waterways. LaFourche Bayou (tributary to Ouachita River) is a hotbed for silver carp and bighead carp. One 35-lb specimen was recently added to the Museum of Zoology when it jumped out of the water and struck a frog gigger in the chest. He wrestled it down and contributed its body to science.

In Texas and Oklahoma the Red River Chloride Control Project is still being fought out. It started in 1957 when Congress authorized the US Army Corps of Engineers to develop a plan to control salt levels in the Red River. Lake Texoma was built in 1944 and since then has become a greater resource for recreation than for drinking water. Ninety-seven percent of the time it is too saline for municipal (=Dallas) use. Reduction of the salt load is opposed because of the threat to the striped bass fishery in Lake Texoma (a multimillion dollar enterprise) and the effect on native species that have evolved in the saline environment.

Frank Pezold