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EWP Funds Help the City of Jackson Repair Infrastructure

By Julie A. Best

Clarke County has a history as rich as the soil along the banks of the Tombigbee and Alabama Rivers which form its boundaries. Jackson, which was named after President Andrew Jackson, is one of five municipalities in the county. Jackson is a quaint southern town perched on the banks of the Tombigbee River.

Originating in Mississippi, the Tombigbee River enters Alabama at Aliceville Lake in Pickens County. From there it flows to the southeast and joins forces with the Black Warrior River, its largest tributary. The upper portion of the Tombigbee Basin encompasses about 9,000 square miles. Below the confluence with the Black Warrior River near Demopolis is the lower portion of the basin. Here the river flows 175 miles and drains 4,659 square miles in seven Alabama counties before the Tombigbee merges with the Alabama River and becomes the Mobile River, which flows into the Mobile Bay.



Storm water from Hurricane Katrina caused erosion problems along several streets in the city of Jackson. With financial and technical assistance from the Emergency Watershed Protection Program, which is administered by USDA-Natural Resources Conservation Service, several of these sites were repaired.

The Tombigbee River, and all that goes with this mighty body of water, has a major influence on the city of Jackson. The river influences the industry of the town. Barges transport coal, ores, crude and fuel oils, chemicals, aggregates and forest products up and down the river. While the river has a major economic influence on the town, it also plays a significant role in other ways. One specific problem associated with the soils along the river basin is erosion. Jackson has struggled for years with gullies that form because of the soil erosion.

The soil along the river basin is basically old sandy material underlying a cap of clay. Drew Wright, District Conservationist with USDA-Natural Resources Conservation Service (NRCS) in Clarke County, said, "Once this soil starts eroding, it goes. Recent damage from Hurricane Katrina left Jackson with a real problem. The wind and rains associated with the hurricane broke that clay cap and erosion became immense." The results were threats to public and private property of the citizens along with real safety concerns in some locations.

Mayor Richard Long said, "The problem in Jackson is the terrain and the soil. The water has got to go somewhere and it picks the easiest place to wash away."

City Administrator Jesse Miller explained, "There are slopes on the east and west sides of town. The end result is eroded soil which forms gullies. Some of these gullies look like the back side of the moon, the crevices are so deep. The gullies have a tendency to eat into the streets of the town. The city has been working on these erosion problems for years."

Soil erosion in Jackson is a constant battle. Add to that equation a natural disaster, such as a hurricane, and the problem is multiplied.

The Emergency Watershed Protection (EWP) Program is a program administered by NRCS to provide technical and financial assistance to municipalities that have experienced damage from natural disasters. Eligible measures include repair of existing water control structures, removing debris and sediment from channels and ditches, and establishing vegetative cover to control erosion. The stabilization of activated gullies following the storm and the newly formed gullies following Hurricane Katrina were the target of EWP in Jackson.

After Hurricane Katrina, the district conservationist serving Clarke County contacted each of the municipalities in the county to ascertain if there was damage to infrastructure. Jackson responded to that inquiry and a damage survey report (DSR) was filed.

The DSR is the first step in determining if a site is eligible for federal assistance through the EWP program. The DSR is an assessment of a natural occurrence to evaluate the extent of the hazard to life and property in order to determine if the basic conditions exist to support a reasonable request for emergency funding. In any natural disaster situation, two conditions must be met in order to qualify for emergency funding: 1) the natural occurrence is sudden, unusual and causes serious damage to life or property; and 2) the extent of the serious damage covers a wide area. The natural occurrence over a wide area must have inflicted unusual heavy economic loss to the community.

Hurricane Katrina was not thought of as a storm that affected the inland areas very much. However, areas like Jackson with its unique soils and

erosion tendencies suffered massive new damage. The large rain and winds associated with the storm blew down trees and there was enough rain to cause enormous damages to infrastructure. There were numerous sites throughout the city. In many cases, the old gullies became active after Hurricane Katrina. Gullies were threatening homes, businesses and roadways.

Miller said, "A city the size of Jackson cannot generate enough tax base to take care of problems generated by a hurricane. We have to have some federal assistance. NRCS knows what they are doing. The agency has been very helpful to us. They perform the damage survey reports and they can tell us rather quickly if we can get assistance through the Emergency Watershed Protection Program. That is significant in itself—if NRCS can't help us, then we know right away that we need to look elsewhere for funds. NRCS talks straight to us."

After Hurricane Katrina, Jackson applied for and received both financial and technical assistance to repair infrastructure damage through the EWP program. Brian Coaker, Soil Conservation Technician with NRCS, worked closely with the municipal staff of Jackson to get the gullies repaired. Coaker told about a site along Portis Avenue, "The gully was threatening houses plus a dead-end street. To correct the problem, we replaced the pipe system that drains literally a third of the town. We used a pipe system and installed four man-hole outlets that funnel the water into a stable riprap outlet."

At another site, the road was jeopardized. Coaker said, "The road is the only access to the neighborhood. The gully had come right to the edge of the road in two places. The corrective method chosen was a system of pipe drops — pipe inlets to pick up water off the street — and then a second drop outlet to stabilize it into a riprap basin."

"Riprap was used everywhere practical. In our area, it is the most economical method for erosion control and gully stabilization. Occasionally, we encounter situations where rock simply will not work," stated Coaker, "In those situations, NRCS engineers and technicians work with the city's engineer to determine the most cost efficient method that will remove the hazard. In some situations we faced in Jackson, we had to install a pipe drop structure to get the water to a stable outlet."

Structures in steep terrain, as in Jackson, typically require multiple inlets to handle the large and intense rainfall events experienced with tropical storms and hurricanes in south Alabama. Safely transporting these flows down a steep slope in many cases requires complex engineered structures. Many different methods have been applied in Jackson including riprap, pipe and gabions. Being cost effective yet removing the hazard is the goal of NRCS in assisting municipalities through the EWP process.



To carry the water to a stable outlet, a series of step-down drains was installed on several sites.

Mayor Long said, "Everything in the town runs to the river. Over the past few years, NRCS has done an excellent job in helping us repair many of these gullies. With a population of 5,419, Jackson can't make these kinds of repairs by itself. If NRCS did not provide the cost-share assistance, and the City of Jackson provide the matching funds, we would still have multiple gullies in the town. The EWP program has been a God-send. To be able to repair three and four gullies all in one year has made a tremendous difference. We just couldn't make that kind of progress on our own."

Mayor Long went on to say, "The success of the program, as I see it, can be attributed to two elements. The city employees know the facts and the data needed to apply for the funding. NRCS employees evaluate the project and give us the technical and financial assistance needed to repair the problem. It's an effort of both agencies to get together and work out the problems."

According to Mayor Long, there is more than one benefit to the completed projects. "When the projects are finished, the sites look good as well as take care of the problem."

The EWP projects in Jackson have truly been a team effort. The city officials have learned the system Alabama NRCS has in place and NRCS local employees and contracting officials at the NRCS Alabama state office have worked out a system to provide timely delivery of the program.

"This program is a classic win-win," said Drew Wright. "We are able to stop massive erosion, protect public and private property, remove safety hazards to the public and do it in an efficient, cost-effective manner. I believe it is one of the best programs we have in NRCS to assist municipalities suffering infrastructure damage following storm events."

The total cost of projects completed in the city of Jackson since Hurricane Katrina was \$1,869,677. NRCS paid 75 percent of the cost of the repair; Jackson picked up the remaining 25 percent.

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