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Wetlands: Natural flood defense

Swamps absorb rising water

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ST. LOUIS — Nature had a way of dealing with floods.

Man destroyed it. The destruction of millions of acres of wetlands in the vast Mississippi River basin to make way for farming and development removed a buffer that would have spared the Midwest from much of this summer's devastation, according to scientists and conservationists.

Wetlands, which are nature's tools for purifying water, act as huge sponges to absorb and then gradually release water, preventing rivers from rising too rapidly. The cost of destroying them is being calculated in billions of dollars in lost crops and homes as torrents of floodwater rush unleashed over the constructed levees of the nation's heartland.

That cost is being tabulated right now in the nation's heartland. "This is a good example of the

cumulative impact of the drastic losses of wetlands," said Ralph Thier, one of the federal government's leading wetlands scientists. "As a result, these areas no longer retain water, so it just aggravates a natural problem."

In the two centuries since the settlers arrived in the Midwest, Illinois has lost 85 percent of its wetlands; Iowa, 89 percent; Missouri, 87 percent, and Minnesota, 42 percent, according to a 1990 report to Congress by the U.S. Fish and Wildlife Service. The agency also found that more than 50 percent of the nation's wetlands had been destroyed.

"Man's actions have greatly increased both the flood and the amount of flood damage," said Jerry Scholtzko, a wildlife biologist with the U.S. Fish and Wildlife Service in Minnesota.

Scientists say it is impossible to gauge precisely how much of the 16,000 square miles now underwater in the Midwest would have been saved if wetlands had been preserved. The Great Flood of '93 is of such magnitude that little could have been done to stop all the sweeping destruction. But wetlands, many scientists say, are nature's — and should be people's

— best defense against flooding.

Formed millenniums ago, wetlands are ecological wonders that most people view only as swamps dotted with cattails and tufts of wool grass. But their tasks are vital: They recharge rivers, take toxins out of groundwater and they can hold back awesome tides of floodwaters.

A recent study by Bill Willen, a biologist with the U.S. Fish and Wildlife Service, found that in the basin of the Mississippi and Missouri rivers more than 17 million acres of wetlands have been destroyed across eight states. If those wetlands had been protected, Willen said, they could have retained a volume of water that, spread over an area equal to 1,000 football fields, would run 4½ miles deep. "That's a tremendous amount of water," he said.

Government laws and regulations to preserve wetlands first took effect in the 1970s, more than a century after the Midwestern frontier was settled and people started filling in unwanted bogs. Scientists both in and out of government say today's laws are weak, often ignored and result in roughly 300,000 acres of wetlands being destroyed nationwide each year.