

As the song tells us, “Old Man River, he just keeps rolling along” - but he doesn’t necessarily roll where we want him to. Human efforts at controlling the river and its massive tributaries succeed at times but seem always doomed to eventual failure. We are playing defense against an opponent that is infinitely patient, needing only to find the right time and place to overcome or sidestep our efforts and knock us flat.

[Mississippi River Tragedies](#), by [Christine Klein](#) and [Sandra Zellmer](#), surveys the history of floods and flood control on the great river. Tragedy is an apt description of the loss of life, livelihoods, and homes in the great floods in this vast watershed, from the great flood of 1927 to today. Sadly, many of our efforts to prevent these tragedies have perversely increased the extent of people and property at risk.

The fundamental dynamic, as Klein and Zellmer recount it, is a familiar one. The government builds levees intended to reduce flood risk, typically protecting against the hundred year flood. The levee sets off a flood of a different kind in the form of real estate development. Buyers are unaware that a “hundred year flood” has a over a one-in-four chance of occurring during the life of a thirty-year mortgage - assuming of course that the levee actually performs as designed. Eventually, the levee fails, and the inhabitants demand federal disaster relief.

Over time, we have haltingly made progress in limiting this dynamic. The federal flood insurance program is intended to foster land use restrictions in flood plains and force property owners to bear some of the risks of flooding. Yet the program has retained subsidies for many property owners and loopholes that allow others to avoid coverage. Congress has tried to reduce the subsidies and close the loopholes, but has encountered sometimes-fierce political resistance. In the meantime, owners invoke the resources of the property rights movement to defend against land use restrictions. Sometimes these efforts work. But sometimes the result is as bad as you might expect - like the mile-long strip mall built on the site of a major flood.

There is no escape from a major government role in this area for two reasons. The first is that flood control is full of externalities - my levee often increases your flood risk. So the government has to be involved in flood prevention. The second is that democracies are seemingly incapable of allowing their citizens to drown or of leaving them all destitute after a flood. So disaster relief is unavoidable. But these efforts encourage private risk-taking, which the government must then counteract. And of course, in dealing with all of these problems, there are the usual political pitfalls and the usual frailties of human reasoning, which afflict civil engineers and policymakers as well as the rest of us.

Klein and Zellmer offer some sensible proposals for reform: ensuring that constitutional protection for property rights does not serve to shield floodplain development, tightening federal flood insurance, and improving cost-benefit analysis for flood control projects. Most importantly, they remind us to temper our confidence. It is hubris to think that concrete walls and earthworks will tame the river. Flood disasters are products of landscape change - failure to leave room for the river and for natural storage of excess water in forests and wetlands. If we do not leave space for Old Man River, he may make space for himself at our expense.