

# CHANNELIZATION

## Human-Related Issues

### Summary:

Channelization is exactly what it sounds like, the human process of straightening and deepening channels in rivers. Primarily, it is done to make the river easier and safer for larger boats to pass through, to provide a channel that is stable and unchanging, and to protect developed cities and towns from river meander.

Before the Missouri River was channelized, it was long and meandering, filled with tree snags and islands. Channelization began in 1934 by the U.S. Army Corps of Engineers. They built wooden

structures called wing dikes that jutted out from the Missouri River's banks. The wing dikes cause the water near them to slow down, causing the sediment to settle over time until it eventually became part of the bank, thus narrowing and straightening the main channel of the Missouri River. The U.S. Army Corps of Engineers also wove mats out of willow tree leaves and placed them on the banks to stabilize them. By 1977, areas where the Missouri River once flowed were being used as farmland.

Under these changes, barges can use the Missouri River and more river traffic in general can be supported. For agriculture, channelization and bank stabilization makes land that is closer to rivers more stable and thus easier to farm. However, with such major changes come environmental consequences.

Some of the greatest issues include loss of wetland habitats, reduced woody debris being washed into the Missouri River, erosion, channel incision and a decrease in species diversity. Erosion and channel incision can be a serious threat to infrastructure, especially in developed areas. Erosion is increased particularly by the straightening aspect of channelization. By removing the natural bends from rivers, the water has a longer time to build up speed, and this means the water pulls much more of the surrounding soil with it.



*This is the Missouri River at Indian Cave Bend one year after channelization began, in October 1935.*

# CONT. CHANNELIZATION



As the Missouri River floods less often and less severely because of upstream dams, the wetlands that have developed around it have lost the vital nutrients provided by deposited sediment. Additionally, because the river flows so fast and straight, there is very little of the slow, shallow habitat and sandbars that were found in the unchannelized and meandering Missouri River. This has been detrimental to animals who rely on slow-moving water or sandbars for their habitats, such as the Pallid Sturgeon, which seeks out slow-moving water during its juvenile life stage.

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**For More Information:** This is issue number 9 in volume I of issues all related to the Missouri River. To access the rest of the collection, visit the Missouri River Relief Education page at [riverrelief.org](http://riverrelief.org). This issue was published in June 2018.