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Title: Habitat and hydrological effects of low-head dams on the Mississippi and Ohio rivers

Type: Platform presentation

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Abstract:

We sampled sites in the Ohio and impounded Upper Mississippi Rivers to develop indices of habitat and hydrological condition. Discharge in these rivers is controlled by low-head locks and dams. On the Ohio River, the littoral fish cover index, the hydrology index, and a multi-metric large river fish index all improved with greater distance downriver from the nearest upriver dam. As inter-dam distance increased, discharge patterns became more variable but also more predictable, indicating a more complete recovery of a natural hydrograph in reaches with the greatest inter-dam distances. On the Mississippi River, as distance from the upriver dam increased, and the river approached the next downriver dam, the river lost more of its lotic character and these lentic pools did not favor large river fish. This has implications for dam removal, as it is clear that both a sufficient absolute distance from the dam upriver is needed for hydrology to recover and a large enough distance from the downriver dam is needed before impounding creates a lentic, not riverine, habitat. This abstract does not necessarily reflect USEPA policy.