

Catfish and Buffalo Populations in Upriver Versus Downriver Pools of the Illinois River

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Buffalo (*Ictiobus* spp.) and catfish (Ictalurid) are the two most commercially harvested groups of native fishes in the Illinois River (IL). Channel Catfish *Ictalurus punctatus* and Flathead Catfish *Pylodictis olivaris* are also among the most recreationally harvested fishes in the Illinois River. Additionally, Smallmouth Buffalo *Ictiobus bubalus* are vastly the most abundant buffalo species. Within the Illinois River, commercial fishers are allowed unregulated buffalo harvest and unlimited harvest of catfishes over 15 inches. Aside from invasive carps, commercial harvest above Route 89 near Spring Valley, IL is prohibited due to increased contaminants in the Upper Illinois River. In addition to the difference in commercial fishing regulations, these upriver pools have substantially more rocky substrates, while the downriver pools are dominated by sand and silt. We investigated the potential effects that these different regulations and habitats may have on Channel Catfish, Flathead Catfish, and Smallmouth Buffalo relative abundance, size structure, and condition. Because the Route 89 bridge is within the Peoria Pool of the Illinois River, this pool was used as a buffer between the lower, commercially harvestable pools (Alton and La Grange) and the upper, non-commercially harvestable pools (Marseilles and Starved Rock). From June-October of 2019 - 2021, the aforementioned species were sampled using paired small and large hoop nets baited with soybean cake. Fishes were measured to the 10mm bin from June-September 15. From September 16-October 31, fishes were measured to the nearest millimeter and weighed to the nearest gram. Relative abundance was calculated using catch per unit effort (CPUE) as fish per hoop net set. Also, we used relative weight (W_r) to compare condition and proportional size distribution (PSD) to examine size structure.