

# Crappie Recruitment Relative to Flooding in Northwest Mississippi Flood Control Reservoirs

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*Abstract:* Crappies (*Pomoxis* spp.) evolved in river systems as floodplain specialists, thriving in backwaters and temporally inundated habitats, moving in and out of these environments to exploit changing conditions. In reservoirs with fluctuating water levels, the amount of floodplain habitat available depends on timing and magnitude of water level rises. We assessed crappie recruitment in four flood-control reservoirs relative to floodplain inundation. Recruitment of young-of-the-year crappies in the reservoirs was indexed with samples taken with trap nets in late summer. Crappie recruitment in reservoirs with more flooded habitat at the onset of the spawning period (approximately 1 March) was higher than in reservoirs with minimal or no flooding. Grenada Lake (3,330 ha over conservation pool) and Arkabutla Lake (922 ha over conservation pool) averaged 40 and 21 crappie per trap net, respectively. Conversely, Enid Lake (255 ha over conservation pool) and Sardis Lake (324 ha under conservation pool) averaged seven and six crappie per trap net, respectively. The alteration of rule curves to include biologically significant flooding may be a useful management strategy for promoting crappie recruitment in reservoirs where substantial sections of the floodplain may be inundated.

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