

Shiawassee Refuge Assesses Northern Pike Habitat

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Shiawassee National Wildlife Refuge has partnered with the Alpena National Fish and Wildlife Conservation Office and refuge volunteers to assess the contribution of refuge wetlands to northern pike reproduction in the Saginaw Bay watershed. Northern pike were once much more plentiful in the Saginaw system. Refuge visitors often speak of great pike abundance, especially during spring as pike swam up ditches to spawn in headwater wetlands. However, pike numbers have declined due to loss of these wetlands in other areas of the watershed.

Refuge marshes provide excellent spawning habitat for adult pike and nursery habitat for young-of-the-year and juvenile pike. However, water levels in these marshes are primarily managed to provide habitat for migratory birds which the refuge was established to protect. Additionally, refuge dikes and water control structures are thought to be a barrier to pike attempting to access impounded marshes.



Deputy Refuge Manager Edward De Vries displays adult northern pike captured in refuge marsh. Steven F. Kahl/USFWS; 4/2008

This assessment is a follow up to work completed in 2000 in which pike use was measured in a marsh with no dikes adjacent to a river and a marsh surrounded by dikes. Pike numbers were also measured in a third marsh with a breached dike. In 2008, pike were netted in all three marshes, however, the breached dike was fixed in 2003.



*Northern pike access refuge marshes when water flows over spillways.
Edward De Vries/USFWS; 4/2008*

Preliminary data reinforce that refuge marshes provide important habitat for spawning and young of the year pike. Importantly, the marsh with no dikes yielded the most adult pike. However, this assessment confirmed that pike do access impounded marshes during high water periods in early spring as water flows over spillways or as dikes are completely inundated. In fact, a trap in a marsh surrounded by dike caught 23 adult pike in less than one day.

Moreover, refuge dikes may enhance reproduction overall, by yielding better nursery habitat. No young of the year pike were caught in the marsh without dikes in either year. Without dikes, no water was retained in this wetland as river levels receded. Thus, the marsh dried out leaving no habitat for fry. Young of the year pike were caught in refuge marshes that retained water after rivers

receded. The refuge's diked wetlands may play an even greater role as this drying process has become magnified by reduced Great Lakes water levels.



Young of the year northern pike from refuge marsh. Anjanette Bowen/USFWS; 6/2008