

Biological Characteristics of the Middle Island Creek Muskellunge Population, West Virginia

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Abstract: Muskellunge *Esox masquinongy ohioensis* were examined to determine biological characteristics, movement patterns, and habitat preferences, and to evaluate these characteristics between a catch-and-release reach and standard regulation reaches on Middle Island Creek, a stream in west central West Virginia. Between 2002 and 2007, 245 muskellunge were collected 371 times with pDC-boatmounted electrofishing equipment. Individual fish were measured, and muskellunge great than 450 mm were inserted with two different tags prior to release. Release locations were noted with global positioning system (GPS) and later included into a fisheries geographic information system (GIS). Sixty-eight fish were recaptured 142 times during subsequent electrofishing-based surveys and via anglers. Recaptured locations were noted with GPS, included in the GIS, and compared with initial capture locations. Movement patterns and growth rates varied between sexes. Significant population differences between the catch-and-release reach and standard regulation reaches were not found. Tag retention for both tag types was found to be acceptable. Exploitation by anglers was minimal, and no changes in fishing regulations will be recommended.

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