

Mudpuppy Survey Methods

Illinois Department of Natural Resources (IDNR) has developed Mudpuppy survey guidance for those conducting such activities in coordination with IDNR. The goals for these surveys are to detect Mudpuppy presence and estimate abundance within a focal area. Methods may be adjusted to suit alternative goals. IDNR strongly recommends coordination prior to initiating Mudpuppy surveys. IDNR developed these guidelines using best available science and may revise them as necessary.

Surveys shall occur when water temperatures are less than 10° Celsius (50° Fahrenheit). Mudpuppy shall be collected using baited modified minnow or panfish traps. The focal area shall be divided into 100 square meter cells and one trap shall be placed within each cell in habitat suitable for Mudpuppy (e.g., boulders, logs, cut banks). Traps shall be deployed for a minimum of 4 nights per trap and traps shall be checked daily. Length of all captured Mudpuppy shall be measured and each individual shall be uniquely marked using Passive Integrated Transponders (PIT tags), Visible Implant Elastomer (VIE tags), or other approved tags so that recaptures of tagged individuals may be recorded. Captured Mudpuppy are returned to their locale of origin.

Survey Extent

When applicable, survey area includes both the focal area (for many surveys, the area of direct impact, or ADI) and a relevant buffer. The ADI typically is delineated by impact footprint (including equipment staging/access). Extent of lateral and longitudinal buffers around the focal area is determined by the type and intensity of impact. IDNR typically uses 5m, 10m, 30m, or 50m buffers, often with the downstream buffer greater than lateral or upstream buffers.

Minimum Data Standards

A report shall be submitted to IDNR following survey efforts and include a description of survey methodology, map with trap locations (including GPS coordinates), habitat characteristics within each trapping cell, and trap and date of capture, length, and tag ID of each Mudpuppy captured. Abundance within the focal area shall be estimated using capture-mark-recapture analytical methods.

Monitoring Frequency and Extent

Post-impact monitoring may be recommended to evaluate efficacy of avoidance and minimization measures or recovery of Mudpuppy. IDNR recommends monitoring events one- and three-years post-impact to evaluate short and long-term survival or recovery. Both the focal area and relevant buffer are included in the monitoring extent.

Permitting Mudpuppy Surveys and Relocation

Mudpuppy is protected under the Illinois Aquatic Life Code and Illinois Endangered Species Act. Capturing and handling Mudpuppy requires a Scientific Collection permit and Endangered Species permit. If IDNR requests relocation of captured Mudpuppy an Aquatic Life Relocation permit is required.