Competitive angling tournaments targeting black bass, particularly largemouth bass (*Micropterus salmoides*), have become extremely popular in recent years and are now conducted on most lakes in Illinois. Tournament angling involves catching the fish, holding it in a livewell, and relocating it to a weigh-in station for measurement before being released. Individual largemouth bass are particularly vulnerable to angling in Illinois in April and May while spawning because they are inshore, visible to anglers, and close to the nest. Males create nests in shallow water and will continue to guard the brood for several weeks until they are able to disperse into the habitat. When a male is angled off the nest or away from its brood, fry are left unprotected and are readily preyed upon by fish, crayfish, and other nest predators. Males will return to the nest after tournament angling; however, our previous research showed that when a fish is angled from the nest in a tournament, nests are more likely to be abandoned and the brood lost compared to fish that are subjected to catch-and-release angling or left unangled. It is uncertain if loss of individual nests results in a decrease in lake-wide recruitment or if other nests experience higher survival of fry and can compensate for loss of the angled nest. It is also unknown what
the combined effects of tournament mortality, stress, and nest abandonment can have on a fish population and the life history traits of individual fish.

We are conducting an experiment at the Ridge Lake Biological Station to examine the effects of tournament-style angling of nesting largemouth bass in a population previously unexploited during the spawning season. Ridge Lake is a 14-acre experimental lake in Fox Ridge State Park, Charleston, IL (Figure 1), owned and operated by the Illinois Natural History Survey. A complete controlled creel survey has been conducted on the lake since its impoundment in 1941 and is ongoing to this day. In 2007, we began conducting spring tournaments in April and May for four years (2007, 2010, 2013, and 2015); the lake remained closed to fishing in the spring in the six off years (2006, 2008, 2009, 2011, 2012, and 2014). Tournaments were conducted by volunteer angling groups (e.g., student organizations, staff of biological stations, and angling clubs), including the:

- Champaign Urbana Bass Fishing Club,
- Eastern Illinois University Bass Fishing Team,
- Heritage High School,
- Illinois River Biological Station Staff,
- Kaskaskia Biological Station Staff,
- Sam Parr Biological Station Staff,
- Sullivan High School Science Club,
- University of Illinois Bass Fishing Team,
- and University of Illinois Student Subunit of the Illinois American Fisheries Society (Figure 2).

Thirty-four tournaments were held with anglers catching a total of 962 fish (Table 1). During each tournament, anglers fished for approximately four hours, targeting largemouth bass. All fish caught were brought back to the dock, measured for total length and weight, and had scales collected. The fish were then kept in a lakeside pen for two hours following the tournament before being released back into the lake. Recruitment of largemouth bass was measured as the relative catch per unit effort (CPUE) from fall electrofishing samples and mean density of young-of-year largemouth bass collected in seines in late August and early September. We monitored largemouth bass populations and prey resources in Ridge Lake through both tournament and non-tournament years and examined the relationship between spring angling tournaments and lake-wide recruitment.

There was no significant difference between tournament and non-tournament years for total largemouth bass CPUE ($F = 1.17; P = 0.32$), CPUE of young-of-year largemouth bass, ($F = 1.85; P = 0.22$), or CPUE of largemouth bass greater than 356 mm ($F = 0.94; P = 0.36$) from fall electrofishing samples (Figure 3). We also observed no significant differences in young-of-year largemouth bass in fall seine hauls, with a mean of 0.057 fish/m$^2$ ($+/-0.012$SE) for control years and 0.10 fish/m$^2$ ($+/-0.06$SE) in tournament years ($F = 0.76; P = 0.41$). Thus far, we have not observed any influence of spring tournaments on the abundance of young-of-year largemouth bass recruits nor have we observed a decrease in the abundance of adult largemouth bass as a result. Because we did not observe reduced recruitment due to tournament activity, we cannot recommend closing lakes to spring tournaments, at least on an alternate-year schedule. Ongoing research focuses on the effects of tournaments on largemouth bass populations, how much tournament pressure a fish population can tolerate, and what management can be used to limit potential negative effects.

Matthew Diana and David Wahl, INHS

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**TABLE 1** Results of largemouth bass tournaments conducted on Ridge Lake in April and May during the spawning season.

<table>
<thead>
<tr>
<th>YEAR</th>
<th>NUMBER OF TOURNAMENTS</th>
<th>MEAN TOURNAMENT LENGTH (HRS)</th>
<th>TOTAL HOURS OF TOURNAMENT</th>
<th>NUMBER OF ANGLERS</th>
<th>ANGLER HOURS</th>
<th>NUMBER CAUGHT</th>
<th>TOTAL WEIGHT (G)</th>
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<td>448</td>
<td>160939</td>
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<tr>
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<td>86073</td>
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<tr>
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<td>51</td>
<td>189</td>
<td>140</td>
<td>81784</td>
</tr>
<tr>
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<td>29</td>
<td>34</td>
<td>117</td>
<td>207</td>
<td>138719</td>
</tr>
</tbody>
</table>

**FIGURE 3** Catch per unit effort (CPUE) from spring electrofishing at Ridge Lake in years with tournaments and years without. Catch rates are reported for total largemouth bass (white bars), young-of-year (Y0Y) largemouth bass (gray bars), and legal-sized largemouth bass (>356 mm; black bars). Error bars show the standard error of the mean.