

## 2023 Dragonfly and Damselfly Survey Hawthorne Crossing Conservation Area

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The Hawthorne Crossing Conservation Area, managed by the Campbell County Conservation District, encompasses 135 acres along the lower Licking River. Until a management plan is approved and trails constructed, access is by appointment only. The district gave permission for a 2023 survey of the dragonflies and damselflies (Odonates) of the conservation area. Survey visits were conducted at least twice a month through the flight season. Observations were photographed and posted on iNaturalist. Twenty-nine Odonate species were documented including five first-recorded species records for Campbell County. Four habitats within Hawthorne Crossing were selected for the survey: 1. Riffle Creek. 2. Pond. 3. Wetland. 4. Licking River.

1. Riffle Creek: Hawthorne Crossing protects approximately 2000 linear feet of Riffle Creek including the mouth of the creek, as it flows into the Licking River. Riffle Creek maintained shallow pools with continuous light flow through the summer months. Twelve species were observed. It is possible that stream restoration on property, which includes the creation of some deeper pools, will attract more Odonate species over the next few years.
2. Pond: The survey included the largest of the three property ponds. Twelve species were observed including a Spatterdock Darner *Rhionaeschna mutata* which is listed Critically Endangered (NatureServe) in Kentucky. This is the 6<sup>th</sup> documented *R. mutata* observation in Kentucky.
3. Wetland: The small wetland area includes a few depressions in semi-permeable soil. They remained damp, but without standing water in late summer. Two species were observed in the wetland site that were not observed elsewhere on the property: Slender Spreadwing *Lestus rectangularis* and Blue-faced Meadowhawk *Sympetrum ambiguum*.
4. Licking River: A large sand and gravel bar immediately downstream of the mouth of Riffle Creek is the site of the original low water crossing, and it is the last shallows on the 303-mile long Licking River. Beyond Hawthorne Crossing, the remaining 14 miles of the Licking River is affected by the Ohio River's Markland Dam, and it is deeper, slower and more silted. Two floodplain meadows on property, each approximately 150 yards long and 50 yards wide, were productive for foraging Clubtail (*Gomphidae*) dragonflies. Six Gomphidae species were observed in the meadows: Black-shouldered Spinyleg *Dromogomphus spinosus*, Flag-tailed Spinyleg *Dromogomphus spoliatus*, Russett-tipped Clubtail *Stylurus plagiatus*, Cobra Clubtail *Gomphurus vastus*, Midland Clubtail *Gomphurus fraternus* and Green-faced Clubtail *Hylogomphus viridifrons*. Outside of 2023 Licking River observations, there are few documented Kentucky observations of the last four species, especially *H. viridifrons*.

Species	Flight Dates	Sites	
CALOPTERYGIDAE			
Smoky Rubyspot <i>Hetaerina titia</i>	Aug 22	3	
Ebony Jewelwing <i>Calopterix maculata</i>	May 22-Jun 14	1	
COENAGRIONIDAE			
Dusky Dancer <i>Argia translata</i>	Jul 24	4	
Blue-fronted Dancer <i>Argia apicalis</i>	Jun 14-Sep 18	1, 2, 4	
Blue-tipped Dancer <i>Argia tibialis</i>	May 31-Jun 29	1, 4	R
Powdered Dancer <i>Argia moesta</i>	May 31-Aug 22	1, 2, 3, 4	
Variable Dancer <i>Argia fumipennis</i>	May 31	1	
AESHNIDAE			
Spatterdock Darner <i>Rhionaeschna mutata</i>	June 14	2	R
Common Green Darner <i>Anax junius</i>	Jun 14--Sep 18	2, 3	
COENAGRIONIDAE			
Fragile Forktail <i>Ischnura posita</i>	May 5-Aug 22	2, 3, 4	
Eastern Forktail <i>Ischnura verticalis</i>	May 5-Jun 29	2, 3	
Stream Bluet <i>Anallagma exulans</i>	May 22-Aug 11	4	
GOMPHIDAE			
Black-shouldered Spinyleg <i>Dromogomphus spinosus</i>	Jun 14-Aug 22	1, 4	R
Flag-tailed Spinyleg <i>Dromogomphus spoliatus</i>	Jul 11-Aug 11	4	R
Russett-tipped Clubtail <i>Stylurus plagiatus</i>	Aug 22	4	
Cobra Clubtail <i>Gomphurus vastus</i>	May 17-Jul 11	4	
Midland Clubtail <i>Gomphurus fraternus</i>	May 8-Jun 14	4	
Green-faced Clubtail <i>Hylogomphus viridifrons</i>	May 8-May 17	4	R
Unicorn Clubtail <i>Arigomphus villosipes</i>	May 17-May 31	2	
LIBELLULIDAE			
Slaty Skimmer <i>Libellula incesta</i>	Jun 14-Aug 22	2	
Spangled Skimmer <i>Libellula cyanea</i>	May 31-Jun 14	2	
Widow Skimmer <i>Libellula luctuosa</i>	Jun 14-Jul 11	2	
Black Saddlebags <i>Tamea lacerate</i>	Jun 14-Jul 11	2	
Common Whitetail <i>Plathemis lydia</i>	May 17-Jun 29	2, 3	
Eastern Pondhawk <i>Erythemis simplicicollis</i>	May 17-Aug 22	1, 2, 4	
Blue-faced Meadowhawk <i>Sympetrum ambiguum</i>	Aug 22-Sep 18	3	
Blue Dasher <i>Pachydiplax longipennis</i>	May 31-Aug 22	2, 3	
LESTIDAE			
Slender Spreadwing <i>Lestus rectangularis</i>	May 22	3	
MACROMIDAE			
Swift River Cruiser <i>Macromia illinoensis</i>	May 17	4	

Sites: 1. Riffle Creek. 2. Pond. 3. Wetland. 4. Licking River.

R (Record): Campbell County species, first recorded observation based on a review of Odonata Central and iNaturalist posted observations.