

Advanced Sedges of Minnesota Three Day Identification Workshop

- Instructed by:** Jason Husveth, MS, Botanist/Ecologist
- Dates:** Wednesday, July 17, Thursday, July 18, and Friday, July 19, 2024
- Lab Location:** University of Minnesota Plant Growth Facilities, Lab 136, St. Paul Campus
- Field Location:** Sedge Diverse Native Habitats, Anoka Sand Plain Sites, Anoka/Isanti Counties, MN
- Cost:** \$700 per Student (Enrollment is Limited to 22 Students)
- Accreditation:** Approved for 18 Direct Hours of Continuing Education Units (CEUs) applicable to the Minnesota's Wetland Professional Certification Program

After 14 years of offering the Minnesota Sedge Identification Workshop, Critical Connections Ecological Services, Inc. is pleased to offer for the first time a three day advanced sedge identification workshop. The advanced workshop will be taught in July to capitalize on the later season phenology of *Carex* section *Ovales* and the other non-*Carex* genera of the *Cyperaceae* in Minnesota. The workshop will be taught in the lab on Wednesday July 17 and Thursday July 18, 2024. On Friday, July 19, we will explore native sedge genera and species in diverse native wetland and upland plant communities of the Anoka Sand Plain.

The advanced identification workshop will be taught by Jason Husveth and will build upon the format and structure of past sedge workshops with two days in the lab and one full day in the field. At the request of past workshop attendees, the advanced workshop will focus on the most difficult group within the genus *Carex* (Section *Ovales*; 20 species) as well as taxa within the non-*Carex* genera of Minnesota (e.g. *Cyperus*, *Scleria*, *Eleocharis*, *Dulichium*, *Eriophorum*, *Scirpus*, *Schoenoplectus*, *Schoenoplectiella*). The workshop will once again be taught within a modern plant laboratory at the University of Minnesota's St. Paul Campus Plant Growth Facility, and in the field at diverse native sites in Anoka and Isanti Counties. The lab curriculum will be taught using live and pressed specimens and our collection of mature perigynia and sedge achenes. Participants will have access to live specimens of dozens of species, dissecting microscopes, hand lenses, metric rulers, and electronic and printed keys.

The advanced workshop will be useful to a wide array of students, including novice and experienced field botanists, wetland ecologists, and wetland professionals with an interest in identifying Minnesota *Carex Ovales* and non-*Carex* sedge taxa to species. Those who have attended the Minnesota Sedge Identification Workshop (or similar) in past years and those with a firm knowledge of the genus *Carex* are encouraged to take the advanced workshop. As in the past, this course will be accredited 18 direct hours of continuing education units (CEUs) by the Minnesota Board of Water and Soil Resource's (BWSR) Wetland Professional Certification Program (WPCP).

Please note that CCES **will not be offering** the usual introductory Minnesota Sedge Identification Workshop in June of 2024. The advanced sedge identification workshop will be held in July 2024.

Participants of the advanced workshop can expect to complete the three day workshop with:

- 1) An introduction and basic knowledge of all sedge (*Cyperaceae*) genera occurring in Minnesota (15 genera as per Welby Smith, 2018),
- 2) The ability to successfully key and recognize many of the *Ovales* sedges within the genus *Carex*, both in the lab and in the field,
- 3) Knowledge of required specimen collection methods to enable proper *Carex* and non-*Carex* sedge identification in the lab (students often make a personal collection of pressed specimens from live material provided at the workshop),
- 4) Lab and field experience with the non-*Carex* sedge genera and species within the following genera: *Bulboschoenus*, *Bulbostylis*, *Cladium*, *Cyperus*, *Dulichium*, *Eleocharis*, *Eriophorum*, *Fimbristylis*, *Rhynchospora*, *Schoenoplectiella*, *Schoenoplectus*, *Scirpus*, *Scleria*, *Trichophorum*,
- 5) The ability to use dichotomous keys to correctly key and identify Minnesota sedge genera to species in the lab and field, and,
- 6) Experience applying two days of laboratory learning and keying in the field within sedge-diverse plant communities and natural areas.



Jason Husveth is a professional ecologist and botanist working throughout Minnesota and the Upper Midwestern United States. Jason has over twentyfive years of academic, professional, field, and herbarium experience identifying, collecting, photographing, and documenting sedge species in Minnesota and throughout the Upper Midwest. Jason has been trained in sedge identification by Dr. Anton Reznicek (Flora of North America, Michigan Flora), Dr. Robert H. Mohlenbrock (Flora of Illinois), Dr. Susan Galatowitsch (University of Minnesota), and Dr. William Norris (Sedges of Iowa). Mr. Husveth has taught sedge identification courses in the field and in lab settings and has leddozens of plant identification field trips within native wetland and upland plant communities throughout Minnesota. Jason not only knows and loves sedges; he knows how to teach others how to navigate through sedge diversity and taxonomy by understanding the key underlying concepts of how to identify, learn, and remember sedge species of Minnesota. Jason specializes in peatland restorations of the Anoka Sand Plain (MN), Floristic Quality Assessment, wetland mitigation

banking, natural community classification, assessment, and mapping, and rare species survey and conservation throughout the Upper Midwestern United States.

Minnesota Board of Water and Soil Resource's (BWSR) Wetland Professional Certification Program (WPCP) Continuing Education Credits:

From 2012-2023, the University of Minnesota Wetland Delineator Certification Program(WDCP) has recognized the sedge workshop as eligible for wetland delineator continuing education credits. For the 2024advanced workshop, the Minnesota Wetland Professional Certification Program (MWPCP) has approved this three day advanced sedge identification workshop for **18 direct hours of continuing education credits** applicable to maintaining MWPCP certification. If you have further questionsabout MWPCPcontinuing education credits, please contact Jason Husveth at jhusveth@ccesinc.com. Additional details and updated information regarding this workshop can be found at: www.ccesinc.com/workshops.

Advanced Sedges of Minnesota

Workshop Agenda:

Day 1: Wednesday, July 17, 2024

Location: University of Minnesota Plant Growth Facilities, Lab 136, St. Paul Campus (St. Paul, MN)

8:00 to 8:30AM	Check In and Registration
8:30 to 9:00AM	Introduction and Purpose of the Advanced Sedge Workshop
9:00 to 10:30AM	Overview of the <i>Cyperaceae</i> Genera in Minnesota (15 Recognized Genera)
10:00 to 10:30AM	Break with Refreshments, and Individual Instruction
10:30AM to 12:00PM	Introduction to the <i>Carex</i> Section <i>Ovales</i> of Minnesota (20 Recognized Species that are Notoriously Difficult to Distinguish – No Problem!)
12:00 to 1:15PM	Lunch Break – Student Center Cafeteria or Local Restaurants
1:15 to 3:00PM	Group Keying of <i>Carex</i> Section <i>Ovales</i> from Live Specimens
3:00 to 3:30PM	Break with Refreshments, and Individual Instruction
3:30 to 4:30PM	Group and Individual Keying of <i>Carex</i> Section <i>Ovales</i> from Live Specimens
4:30PM	Adjourn

Day 2: Thursday, July 18, 2024

Location: University of Minnesota Plant Growth Facilities, Lab 136, St. Paul Campus (St. Paul, MN)

8:00 to 8:15AM	Check In
8:15 to 9:00AM	Review of <i>Carex</i> Section <i>Ovales</i> – Key Concepts for the Field and Lab
9:00 to 10:30AM	Keying of <i>Eleocharis</i> (Spikerush) Species of Minnesota from Live Specimens
10:30 to 11:00AM	Break with Refreshments, and Individual Instruction
11:00AM to 12:00PM	Keying of the <i>Eriophorum</i> (Cottongrass) Species of Minnesota
12:00 to 1:00PM	Lunch Break – Student Center Cafeteria, or Local Restaurants
1:00 to 2:00PM	The Bulrushes of Minnesota (<i>Bolboschoenus</i> , <i>Schoenoplectiella</i> , <i>Schoenoplectus</i> , <i>Scirpus</i> , <i>Trichophorum</i> , Oh My!)
2:00 to 3:00PM	Keying of <i>Cyperus</i> (Flat Sedge) Species of Minnesota from Live Specimens
3:00 to 3:15PM	Break with Refreshments, and Individual Instruction
3:15PM to 4:15PM	Rare and Oddball <i>Cyperaceae</i> Species of Minnesota (Live and Pressed Specimens)
4:15PM to 4:30PM	Review of Lab Concepts and Directions for Friday Field Day
4:30PM	Adjourn

Day 3: Friday, July 19, 2024

Location: Sedge Diverse Plant Communities of Northern Anoka and Southern Isanti Counties, MN

8:30AM to 12:00PM	Meet at First Anoka Sand Plain Site in Anoka/Isanti Counties, MN (TBD)
12:00PM to 1:15PM	Lunch Break: Eat Lunch and Mobilize to Second Field Site
1:15PM to 4:00PM	Meet at Second Anoka Sand Plain Site in Anoka /Isanti Counties, MN (TBD)
4:00PM	Adjourn

Registration Information

Registration for this three day workshop will be on a first come, first served basis. Registration will be open until filled. Registration is confirmed with full payment of registration fee. To maximize the instructors' time with each workshop participant, **registration will be limited to 22 students**. A waitlist will be maintained to allow for cancellations. Registration fees are non-refundable after June 1, 2024.

Once registration information and payments are received, all registration confirmations and workshop correspondence will be sent via email by Jason Husveth (jhusveth@ccesinc.com).

Registration fees will include refreshments and course materials. Other accommodations, such as lunch, campus parking, transportation, and lodging, will be at the registrants' own expense. If you cannot afford the full registration fee, please contact the instructor to discuss alternative arrangements.

Registration Fee: \$700 per attendee

Please make check payable to **Critical Connections Ecological Services, Inc.**

Special payment accommodations can be made via PayPal, upon request, and will include a PayPal surcharge.

Mail Registration Form and Payment to:

Critical Connections Ecological Services, Inc.
c/o Sedge Workshop
450 Main Street North
Suite 130
Stillwater, MN 55082

Registration Form

Advanced Sedges of Minnesota– Three Day Identification Workshop

Instructor: Jason Husveth, Critical Connections Ecological Services, Inc.

Dates: Wednesday, July 17 through Friday, July 19, 2024

**Location: University of Minnesota Plant Growth Facilities, Lab 136
1908 Dudley Ave, St. Paul Campus,
St. Paul, Minnesota**

Student Name: _____

Organization /Company: _____

Address: _____

Cell Phone Number: _____ (for field day)

Email: _____

Questions?

Please contact Jason Husveth, Course Instructor at jhusveth@ccesinc.com

For more information, please visit: www.ccesinc.com/workshops