

Sedges of Minnesota

Two Day Identification Workshop

- Instructed by:** Mr. Jason Husveth, MS, Botanist/Ecologist
- Dates:** Thursday, June 13 and Friday, June 14, 2019
- Location:** University of Minnesota Plant Growth Facilities, Lab 136, St. Paul Campus
- Cost:** \$450 per Student (Enrollment is Limited to 25 Students)
- Accreditation:** 12.5 Direct Hours of Continuing Education Units (CEUs) for the University of Minnesota's Wetland Delineator Certification Program

Critical Connections Ecological Services, Inc. is pleased to again offer a two day sedge identification workshop on Thursday, June 13 and Friday, June 14, 2019. The course will be taught by Jason Husveth and will focus on the Sedges (*Carex*) of Minnesota. Now in our 10th consecutive year, the workshop is taught within a modern plant laboratory at the University of Minnesota's St. Paul Campus Plant Growth Facility. This two day workshop will be taught 75% in the lab/classroom, and 25% in the field. The curriculum will include an introduction to all of the Minnesota sedge genera (*Cyperaceae*), with a focus on the identification of *Carex* species *using live plant material*. Over 70 *Carex* species (half of the MN native species) were provided as live material at last year's workshop, as well as more than 20 additional species representative of other Minnesota sedge genera. The Minnesota Sedge Identification 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 indentifying *Carex* taxa to species. This course is accredited as 12.5 direct hours of continuing education units (CEUs) for the University of Minnesota's Wetland Delineator Certification Program. An updated and revised taxonomic key to the *Carex* of East-Central Minnesota will be provided. This year, we plan to also teach from Welby Smith's *Sedges and Rushes of Minnesota* book, which was published in August 2018.

Students can expect to complete the two day course with:

- 1) An introduction and basic knowledge of all sedge (*Cyperaceae*) genera occurring in Minnesota (15 genera as per *The Flora of North America*, Vol. 23, 2002),
- 2) The ability to recognize and identify common and unusual Minnesota native *Carex* species in the field and in the lab,
- 3) Knowledge of required specimen collection methods to enable proper *Carex* identification in the lab, (students can make their own collection of pressed specimens from live material provided at the workshop),
- 4) The ability to use dichotomous keys to identify *Carex* to species in the field. Students will be taught useful *Carex* field-identification concepts and shortcuts, as described in Welby Smith's *Sedges and Rushes of Minnesota* (2018), Voss's *Michigan Flora* (Vol. 1.), Wheeler's *Key to the Carex of MN*, Husveth's revised *Key to the Carex of East-Central Minnesota*, Zager and Norris' *Carex of Iowa*, and the *Flora of North America* (Vol. 23: *Cyperaceae*), and,
- 5) Consistent with all of the past nine years, students should expect to be successfully keying live *Carex* specimens to species by the noon lunch break on the first day of the workshop.



Jason Husveth is a professional ecologist and botanist working throughout Minnesota and the Upper Midwestern United States. Jason has over twenty 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 lead dozens 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 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 and rare species survey and conservation throughout the Upper Midwestern United States.



University of Minnesota Wetland Delineator Certification Program Continuing Education Credits:

Over the past seven years (2012-2018), the University of Minnesota Wetland Delineator Certification Program (WDCP) has reviewed and accepted this course as eligible for continuing education credits. For the 2019 workshop, the WDCP has confirmed that successful completion of the entire two day sedge identification workshop will result in **12.5 direct hours of continuing education credit** for each student currently enrolled in the Wetland Delineators Certification Program. If you have further questions about WDCP continuing 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.

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Workshop Agenda:

Day 1: Thursday, June 13, 2019

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	Introductions and Purpose
9:00 to 10:30AM	<i>Cyperaceae</i> : Genera in Minnesota with Slides and Live Specimens
10:30 to 11:00AM	Break with Refreshments, and Individual Instruction
11:00AM to 12:00PM	<i>Carex</i> Species: Introduction to Collecting, Keying, and Identifying <i>Carex</i> of MN Concepts, Identification Tools, and Shortcuts
12:00 to 1:15PM	Lunch Break – Student Center Cafeteria or Local Restaurants
1:15 to 3:00PM	Group Keying of <i>Carex</i> 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> Live Specimens
4:30PM	Adjourn

Day 2: Friday, June 14, 2019

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 10:30AM	<i>Carex</i> diversity in Minnesota (Sub-Genera Groups, 160+ Species Recognized) Sub-Genera Groups with Representative Live Specimens
10:30 to 11:00AM	Break with Refreshments, and Individual Instruction
11:00AM to 12:00PM	Introduction to <i>Ovales</i> Sedges: Key Concepts and Key Identification Characteristics
12:00 to 1:00PM	Lunch Break – Student Center Cafeteria or Local Restaurants
1:00 to 4:00PM	Field Visit to One or Two High Diversity Sedge Habitats in Nearby Anoka County
4:00 to 4:30PM	Review of Major Concepts and Identification Tools, Applying What You Have Learned, and Questions and Answers
4:30PM	Adjourn



Registration Information

Registration for this two day workshop will be on a first come, first served basis. Registration will be open until filled. To maximize the instructors' time with each workshop participant, registration will be limited to 25 students. Registration fees are non-refundable after Monday, May 13, 2019.

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.

Registration Fee: \$450 per attendee

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

Special payment accommodations can be made via PayPal, upon request.

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

Sedges of Minnesota – Two Day Identification Workshop

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

Dates: Thursday, June 13 and Friday, June 14, 2019

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

Student Name: _____

Company/Organization: _____

Address: _____

Phone Number: _____

Email: _____

Questions?

Please contact Jason Husveth, Course Instructor at 651-433-4410 or jhusveth@ccesinc.com
For more information, please visit: www.ccesinc.com/workshops