



Wetland Management Professional Micro-credential

Northern Kentucky University - Research and Education Field Station



Agency personnel, consultants, ecologists, landowners, students, and citizens concerned with wetland habitats will find the courses associated with this professional micro-credential essential to understanding what defines these habitats, their health and regulation, and how to manage them.



The Professional Micro-credential

In a series of practical intensive field-experience based short courses, participants can learn how to identify wetland plants (winter and summer); identify upland or non-wetland plants (spring); determine and delineate the boundaries of a wetland in the field; assess the ecological quality of a wetland; understand regulatory standards; and learn techniques for invasive species control and for monitoring project success. The courses: Winter Wetland Plant Identification, Upland Plant Identification, Wetland Plant Identification, Wetland Delineation, and Wetland Rapid Assessment/Invasives Monitoring will be taught from February through August 2026. To acquire this professional micro-credential, digitally credentialed through Credly, two mandatory courses (Wetland Plant Identification and Wetland Delineation) and one elective course must be completed. Come join us, your career enhancement begins this year!



Testimonials:

“Jacob Bartley is an amazing instructor with a vast amount of knowledge regarding wetlands. I would highly recommend any wetland course that Mr. Bartley is responsible to instruct.”

“Jacob is a capable and knowledgeable instructor. I would highly recommend this course to anyone who will be conducting wetland delineations or working in wetlands or other natural systems.”

“I’ve never learned more at a PD event!”

Contact us:

Phone: 859-572-1407 | Email: refs@nku.edu | Web: <https://www.nku.edu/refs.html>

WETLANDS MANAGEMENT PROFESSIONAL MICROCREDENTIAL

Wetlands are a critical part of our ecosystem, abating flooding and regulating waterways. The Northern Kentucky University *Wetlands Management Microcredential* will provide professionals, students, and anyone interested in the knowledge to identify wetland plants, identify common upland or non-wetland plants found at wetland margins or borders, assess wetland biodiversity and ecological quality, and learn wetland determination/delineation through investigation of the field indicators.

These professional short courses will cover criteria and reporting for the Eastern Mountain Piedmont region as well as the Midwest region and be conducted through the NKU Research and Education Field Station (REFS).

SLOS: After completing the Wetlands Management micro-credential, students will have:

- Learned species identification from live and preserved specimens
- Learned field techniques in flagging, mapping and establishing wetlands boundaries; survey techniques using GPS equipment and GIS software; and how to identify hydrology, vegetative, and hydric soil indicators
- Learned standard site survey and habitat quality evaluations.
- Learned to field-identify non-native invasive species and how to properly control and eradicate invasive species for habitat management (elective)
- Learned mitigation and/or water quality project planning and design, aquatic and wetlands permitting, and field techniques in habitat restoration (elective)

Microcredential Course Criteria:

- Wetland Plant Identification (req)
- Wetland Delineation (req)
- One elective



2026 Courses:

WINTER WETLAND PLANT ID & VEGETATIVE HABITAT ASSESSMENT (elective): (3 days)

Learn plant identification tied into wetland determinations and delineations, as well as ecological quality assessments using ORAM, KYRAM, and other field protocols under winter conditions. Identifying vegetation when plants are dormant can increase your ability to evaluate habitat quality in wetlands when others are stuck in the office.

Date: February 11-13 Cost: \$800* Location: NKU REFS

Cost: \$800 professional, up to 50% off student rate [Registration \(click here\)](#)

UPLAND PLANT IDENTIFICATION (elective): (3 days)

Learn to identify and assess upland or non-wetland vegetation that occurs at wetland margins or borders wetland habitat. Learn these non-wetland plants that are commonly found from live and preserved specimens. Course is taught during the period when spring flowers are still present and woody plants have begun to leaf out. This course provides the knowledge base for accurate plant identifications that are required for wetland determinations and delineations, as well as ecological quality assessment of habitats.

Date: May 13-15 Cost: \$800* Location: NKU REFS

Cost: \$800 professional, up to 50% off student rate [Registration \(click here\)](#)

WETLANDS PLANT IDENTIFICATION (requirement): (3 days)

Learn to identify wetland and some common upland or non-wetland plant species from live and preserved specimens. This course provides the knowledge base for accurate plant identifications that are required for wetland determinations and delineations, as well as ecological quality assessment of wetland habitats. Class will travel to several different wetland sites.

Date: June 17-19 Cost: \$800* Location: NKU REFS

Cost: \$800 professional, up to 50% off student rate [Registration \(click here\)](#)

WETLANDS DELINEATION (requirement): (4 days)

Learn field protocols to confidently locate, identify, and map wetland versus non-wetland habitat. Topics covered will focus on wetland hydrology, hydric soil, and wetland vegetation field indicators. Course will cover the 1987 US ACOE Delineation Manual and the Eastern Mountains and Piedmont Regional Supplement, as well as wetlands in the Midwest.

Date: July 6-9 or July 20-23 (latter date is tentative) Cost: \$1100* Location: NKU REFS

Cost: \$1100 professional, up to 50% off student rate [Registration \(click here\)](#)

WETLAND RAPID ASSESSMENT & INVASIVES MONITORING (elective): (3 days)

Learn to execute/conduct ecological quality assessments of existing wetlands using ORAM, KYRAM, and other field protocols. Additionally, learn how to field identify those non-native invasive plant species that invade wetlands and correctly manage them to improve habitat. Course content will also include field techniques and protocols of vegetation monitoring for both baseline conditions and monitoring project success.

Date: August 5-7 Cost: \$800* Location: NKU REFS

Cost: \$800 professional, up to 50% off student rate [Registration \(click here\)](#)

*** Once registered, an invoice will be sent with payment options.**

The Instructor:

Jacob Bartley:

Jacob is the owner and Senior Ecologist-Botanist for Plum Hill Ecological Services, an ecological consulting firm and native plant farm located in Northern Kentucky. Jacob is an alumnus of Northern Kentucky University and has over 20 years of experience managing projects involving applied ecology and natural areas. Jacob's expertise includes botanical inventories, ecological site assessments, vegetation monitoring, vegetation community mapping, floristic quality mapping, invasive species mapping, invasive species management, habitat restoration planning, wetland delineations, and wetland mitigation. Jacob is highly experienced in preparing habitat management plans, technical writing reports, and has conducted numerous vegetation monitoring techniques and protocols for wetland and stream mitigation projects.



Jacob has extensive experience in native plant propagation and habitat restoration practices. He currently is the Project Director of Red Stone Farm Wetland Mitigation Bank (Corps Huntington District) and provides applied ecological services for organizations in Northern Kentucky and the Cincinnati region such as NKU's Center for Environmental Restoration, Boone County Parks, The Boone Conservancy, Campbell County Conservation District, The Arc of Appalachia, TNC, and other land conservation/management organizations. Additionally, Jacob has conducted numerous wetland delineations for private companies.

WINTER WETLAND PLANT ID & VEGETATIVE HABITAT ASSESSMENT

Course Title: *Winter ID of Wetland Plants and Winter Assessments of Forested and Emergent Wetlands*

Course Mission: This training will aid students in learning winter identification of common wetland trees, shrubs, forbs, and graminoids in the Army Corps of Engineers Eastern Mountains and Piedmont (EMP) and Midwest Region. This course will aid professionals in completing wetland determinations and delineations, as well as ecological assessments during the winter months. In addition to winter ID of wetland plants, students will also gain knowledge of completing ecological assessments to forested and emergent wetlands during the winter months with leaf off.



Focusing on winter characteristics such as winter colors, leaf buds, twigs, or leftover seed aids to ID plant species. Students will also conduct ORAM and KY-RAM wetland assessments.

Course Timeline: 3-day course (25 hrs). Course will be 1/2 day in classroom and 2.5 days in the field training. Course will require travel to diverse wetland sites in addition to the St. Anne's field station.

Date: February 11-13, 2026

Cost: \$800 professional; \$400 NKU student; \$480 non-NKU student

Registration: [Click Here](#)

Course Materials: Provided

Course Objectives:

- Ability to id (scientific and common name) and learn characteristics of common wetland plant species of the EMP and Midwest in winter with leaf off
- Learn wetland or habitat indicators for wetland plant species in winter
- Become familiar with a variety of wetland plants
- Learn to determine if a site satisfies hydrophytic vegetation requirements
- Become familiar with emergent, shrub, and forested wetland plant communities in winter
- Learn characteristics of wetland plant morphology in winter
- Use of taxonomic keys
- Learn online and literature reference materials useful in wetland plant id



Reminder: Dress appropriately for weather.

UPLAND PLANT IDENTIFICATION

Course Mission: This training will aid students in learning identification of common upland or non-wetland trees, shrubs, forbs, and graminoids found at wetland margins and borders of the Army Corps of Engineers Eastern Mountains and Piedmont (EMP) and Midwest Regions. This course will aid professionals in completing wetland determinations and delineations, as well as ecological assessments. In addition, students will also gain knowledge of completing ecological assessments of upland or non-wetland habitat bordering wetlands.



Course Timeline: 3-day course (25 hrs). Course will be mostly in the field training on all three days. Course will be conducted at the St. Anne field station and will include travel to other Northern Kentucky sites in order to become familiar with those upland or non-wetland plants found at wetland borders.



Date: May 13-15, 2026 Cost: \$800 professional; \$400 NKU student; \$480 non-NKU student

Registration: [Click Here](#)

Course Materials: Provided.

Course Objectives:

- Ability to id (scientific and common name) and learn characteristics of common upland or non-wetland plant species of wetland borders in the EMP and Midwest.
- Become familiar with a variety of common upland plants found at wetland borders
- Become familiar with upland plant communities and their ecological quality based on vegetation present
- Learn characteristics of plant morphology
- Use of taxonomic keys
- Learn online and literature reference materials useful in plant id

Reminder: Dress appropriately for weather.

WETLAND PLANT IDENTIFICATION

Course Title: *Common Wetland Plants Identification*

Course Mission: This training will encompass why learning wetland plants is important for those involved in wetland profession and associated fields. Wetland plant id is a necessary step to learn to correctly identify wetlands. Many wetlands management and assessment methods are dependent on identifying wetland plant species. Course is focused on the common wetland plant species found in the ACOE Eastern Mountains and Piedmont (EMP) Region, as well as the Midwest.



Course Timeline: 3-day course (25 hrs). Course will be 1 day in classroom and 2 days in field training. Course will require travel to diverse wetland sites in addition to the St. Anne's field station.

Date: June 17-19, 2026

Cost: \$800 professional; \$400 NKU student; \$480 non-NKU student

Registration: [Click Here](#)

Course Materials: Provided

Course Objectives:

- Ability to id (scientific and common name) and learn characteristics of common wetland plant species of the EMP and Midwest
- Learn wetland or habitat indicators for wetland plant species
- Become familiar with a variety of wetland plants
- Learn to determine if a site satisfies hydrophytic vegetation requirements

- Become familiar with emergent, shrub, and forested wetland plant communities and their ecological quality based on the vegetation present
- Learn characteristics of wetland plant morphology
- Use of taxonomic keys
- Learn online and literature reference materials useful in wetland plant id



Reminder: Dress appropriately for weather and mosquitos.

WETLAND DELINEATION

Course Title: ACOE Wetland Determination and Delineation / Including Regional Supplements for Eastern Mountains and Piedmont & Midwest

Course Mission: This training will encompass the 1987 Wetland Delineation Manual and Eastern Mountains Piedmont (EMP) / Midwest Region protocols to train an individual to identify and map the presence/boundaries of wetlands.



Course Timeline: 4-day course (30+ hrs). Course will be 1.5 days in classroom and 2.5 days in field. There is an optional day field trip to a pristine wetland in SW Ohio.

Date: July 6-9, 2026 or July 20-23, 2026 (tentative)

Cost: \$1100 professional; \$550 NKU student; \$660 non-NKU student

Registration: [Click here](#).

Course Materials: Provided

Course Objectives:

- History of Wetland Regulations
- Gain the knowledge for an individual to determine and delineate wetland boundaries per the protocols of ACOE, state, and local agencies

WETLAND DELINEATION - continued

- Course covers in detail the Eastern Mountains and Piedmont / Midwest Regional Supplement
- Learn to determine if a site satisfies hydrophytic vegetation requirements
- Learn to identify some wetland plant species
- Learn to determine if a site satisfies hydrology requirement based on field indicators of hydrology
- Learn to determine if a site has hydric soils based on field indicators
- Understand biological, chemical, and physical features of wetlands
- Learn to determine boundaries of a wetland or if a site is within a wetland
- Learn to determine if a water is a WOTUS based on the 2015 Clean Water Rule, and current regulations for WOTUS.



Course Topics:

- ACOE 1987 Wetland Delineation Manual and Regional Supplements of the EMP and Midwest
- History of Wetland Regulations
- Definitions of WOTUS and how it has changed over time
- Cowardin System
- Wetland hydrology - Primary and secondary field indicators
- Hydric soils indicators and in the field identification
- Hydrophytic Vegetation Indicators and conducting a vegetation survey
- Learn how to thoroughly fill out wetland determination forms
- Learn online and literature reference materials useful in wetland determinations



Reminder: Dress appropriately for weather and mosquitos

RAPID ASSESSMENT OF WETLANDS & INVASIVE PLANT MONITORING

Course Title: Rapid Assessment of Wetlands & Invasive Plant Monitoring

Course Mission: To gain experience in advanced ecological techniques to monitor projects that restore/enhance wetlands and steps for removal of those non-native invasive plant species

Date: August 5-7, 2026

Cost: \$800 professional; \$400 NKU student; \$480 non-NKU student

Registration: [Click here](#).



Course Materials: Provided

Course Description: From determining baseline conditions to project success, this 3-day course will provide and demonstrate to students applied ecology field techniques for monitoring wetland enhancement and restoration (wetland re-establishment and enhancement) projects. Class participants will obtain and practice those field techniques utilized to gather baseline data and monitor hydrology, vegetation, and soils for wetland enhancement or restoration projects. Students will learn to conduct rapid wetland ecological quality assessments with ORAM and KY-WRAM, as well as vegetation assessments such as VIBI (Vegetative Index of Biotic Integrity). Classes will learn how to set-up field samplings plots or stations and conduct vegetation and hydrology sampling for monitoring events. Students will acquire and exercise additional knowledge and techniques of wetland plant identification (both native and non-native invasive species), invasive plant species management, as well as refreshing their knowledge of identifying and delineating wetlands vs uplands.

Reminder: Dress appropriately for weather and mosquitos

