



U.S. Fish & Wildlife Service

# National Conservation Training Center

Conserving the Nature of America

## CSP1101 - Conservation Biology of Freshwater Mussels

Course Code	<b>CSP1101</b>
Course Title	<b>Conservation Biology of Freshwater Mussels</b>
Description	<p>This is an introductory course on the biology and ecology of freshwater mussels and the conservation issues facing this highly endangered group of animals. Topics to be covered include anatomy, physiology, life history, health, ecosystem services, mussels as biomonitors, conservation status, population impacts, conservation measures (relocation, propagation, conservation genetics), legal issues (permits and the ESA, Section 7 consultations, critical habitat) and field techniques (survey techniques, sampling techniques, habitat assessment). This course will address key characters for identification of freshwater mussels and will provide opportunities in the laboratory to practice with dichotomous keys, however due to time constraints and the regional nature of mussel assemblages; this is NOT a mussel identification course.</p> <p><b>Objectives:</b></p> <ul style="list-style-type: none"><li>• recognize the key shell characters used in freshwater mussel identification</li><li>• identify the internal organs and soft tissue parts of a freshwater mussel</li><li>• describe suspension feeding, particle sorting, ingestion, digestion and assimilation in freshwater mussels</li><li>• describe locomotion, circulation, respiration, osmoregulation and excretion in freshwater mussels</li><li>• describe nervous and reproductive system function in freshwater mussels</li><li>• describe the life cycle of freshwater mussels</li><li>• discuss the various strategies used for larval attachment to the host fish</li><li>• describe the biotic and abiotic interactions that affect freshwater mussel populations</li><li>• list the ecosystem services that freshwater mussels provide</li><li>• list the impacts to freshwater mussel populations</li><li>• describe the conservation measures used to recover freshwater mussel populations</li><li>• discuss the genetic concerns with freshwater mussel conservation measures</li><li>• describe techniques for handling, marking, tagging and relocation</li><li>• discuss the basic steps in freshwater mussel culture, propagation and rearing</li><li>• identify the legal issues related to freshwater mussel conservation (permits, Section 7 consultations, designation of critical habitat)</li><li>• compare and contrast survey techniques used in large rivers and wadeable streams</li></ul> <p><b>Target Audience:</b> Biologists who work with freshwater mussels in their daily work but have little or no formal knowledge of their biology, physiology and life history.</p>
Delivery Method	Instructor Led
Non-FWS Fee	\$1,195.00
Instructional Hours	36
Credits/CEUs	3.0
Course Content Contact	Matthew Patterson: <a href="mailto:matthew_patterson@fws.gov">matthew_patterson@fws.gov</a> ; (304) 876-7473; <a href="mailto:matthew_patterson@fws.gov">matthew_patterson@fws.gov</a>
Curriculum Category	<b>Aquatic Species Biology and Conservation</b>
Course Frequency	Once per year
Registration Link	Register in DOI Talent
DOI TALENT Course Type	ILT
College Credit Name	Semester Hours

College Credit Value	2

**Schedule: CSP1101 - Conservation Biology of Freshwater Mussels**

Start	End	Session Information	Location	Session Contact
8/5/2018	8/9/2018	For registration questions: sharon_howard@fws.gov For course content questions: eric_kelchlin@fws.gov Class begins at 8:00am on the first day and ends at noon on the last day	Moline, IL	sharon_howard@fws.gov