

Louisiana Master Naturalist Northwest Chapter Curriculum



Core curriculum topics: 9 total: participant must attend 7 out of 9 (note Topic #1 and #9 are mandatory attendance, exam will be given at session #9). Participants should attempt to attend a missed course during a following session (limited to space availability and pre-registration would be required).

- 1) **Biodiversity & Ecology:** (6 hours)
 - Define biodiversity and its role in community and ecosystem dynamics
 - Describe levels of organization in ecology: organisms, populations, communities and ecosystems
 - Introductory topics in Biological classification (naming and arrangement of organisms)
 - Factors affecting populations growth and dynamics
 - Understand the dynamic nature of ecosystems and communities
 - Understand abiotic and biotic factors determining the nature of different ecosystems
 - Discuss the hydrologic cycle, nitrogen cycle and carbon cycle
 - Describe energy flow in an ecosystem (food webs, trophic relationships)
 - Ecoregions of Louisiana (char. of regions including climate, geology, and soils)
 - Conservation (brief history of U.S. conservation, establishment of conservation agencies, Louisiana conservation). ecosystem services, invasive, pollution, over-consumption, endangered species, role of people

- 2) **Wildflowers** (6 hours)
 - Diversity and distribution of wildflowers in Louisiana
 - Role of wildflowers in Louisiana ecosystems
 - Natural history and basic biology
 - Adaptations and how these relate to environmental factors
 - Taxonomy
 - Identification and key characteristics
 - Threats and/or issues relating to wildflowers of Louisiana
 - Recognizing common wildflowers occurring in the local ecosystems
 - Recognizing rare or special species that indicate habitat quality
 - Techniques and methods for studying wildflowers

- 3) **Trees & shrubs** (6 hours)
 - Diversity and distribution of trees and shrubs of Louisiana
 - The role of trees and shrubs in Louisiana ecosystems
 - Natural history and basic biology
 - Adaptations and how these relate to environmental factors
 - Taxonomy
 - Identification and key characteristics
 - Threats and/or issues relating to trees and shrubs of Louisiana
 - Recognizing common trees and shrubs occurring in the local ecosystems
 - Recognizing rare or special species that indicate habitat quality
 - Techniques and methods for studying trees and shrubs

- 4) **Insects/spiders** (6 hours)
 - Diversity and distribution of insects and spiders of Louisiana
 - The role of insects and spiders in Louisiana ecosystems
 - Natural history and basic biology

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- Adaptations and how these relate to environmental factors
 - Taxonomy
 - Identification and key characteristics
 - Threats and/or issues relating to insects and spiders of Louisiana
 - Recognizing common insects and spiders occurring in the local ecosystems
 - Recognizing rare or special species that indicate habitat quality
 - Techniques and methods for studying insects and spiders
- 5) **Amphibians & reptiles** (6 hours)
- Diversity and distribution of amphibians and reptiles in Louisiana
 - Role of amphibians and reptiles in Louisiana ecosystems
 - Natural history and basic biology
 - Adaptations and how these relate to environmental factors
 - Taxonomy
 - Identification and key characteristics
 - Threats and/or issues relating to amphibians and reptiles of Louisiana
 - Recognizing common species occurring in the local ecosystems
 - Recognizing rare or special species that indicate habitat quality
 - Techniques and methods for studying amphibians and reptiles
- 6) **Birds** (6 hours)
- Diversity and distribution of birds of Louisiana
 - The role of birds in Louisiana ecosystems
 - Natural history and basic biology
 - Adaptations and how these relate to environmental factors
 - Taxonomy
 - Identification and key characteristics
 - Threats and/or issues relating to birds of Louisiana
 - Recognizing common birds and (their calls) occurring in the local ecosystems
 - Recognizing rare or special species that indicate habitat quality
 - Techniques and methods for studying birds
- 7) **Aquatic Life** (6 hours)
- Diversity and distribution of aquatic systems of Louisiana
 - Characteristics of major types of freshwater aquatic systems (streams, rivers ponds, lakes and reservoirs) in Louisiana
 - Describe the flora and fauna of aquatic systems of Louisiana
 - Identification of common aquatics of Louisiana
 - How aquatic systems function and the factors affecting this function
 - Threats and/or issues relating to aquatic systems of Louisiana
 - Principles, tools, and methods for management of aquatic systems in Louisiana
 - Role of Louisiana state agencies in managing aquatic systems
 - Citizen stewardship
- 8) **Red River Dynamics** (6 hours)
- History of the Red River
 - Understanding the importance/function of the Red River Watershed

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- Ecology of the Red River
- How NW LA impacts coastal erosion and restoration
- Water cycles, hydrology, lock and dam systems
- River Management
- Wildlife common to the Red River

9) **Interpretation & Volunteering:** (4 hours, includes exam)

- Define interpretation
- Types of interpretation
- Develop an outline for an interpretive experience
- Know your audience: differences between the adult and child learner
- How to manage the audience
- Understand the difference between education and advocacy and which is appropriate for interpretive program

Advanced Elective topics: to be offered on a rotating basis after first class of Master Naturalists. Enrollment is offered to those who have completed the core curriculum topics or to current Master naturalist students above their requirement obligation.

Archeology (major archeological sites in LA)

Basic Geography of the state with focus on NE LA. Include map reading skills, GPS and GIS introduction.

Birding by Song

Bottomland vs upland forests

Butterflies

Dragonflies

Edible Plants

Forest Communities

Fungi

Geology

Invasive Plants

Mammals--->--->---> Included as elective in the 2015 schedule. Please see the topics to be covered in the next page.

Nature Journaling/Photography

Outdoor Survival skills

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Explorations in a Mammalian Habitat of the Ouachita Mountains of Arkansas

The objectives of this course include, but are not limited to, a brief review of the following topics:

1. The characteristics that distinguish mammals from other animals.
 2. The kinds (taxa) of mammals known from the Ouachita Mountains Biological Station.
 3. The preferred habitats of the local mammalian fauna.
 4. Dietary needs of the local mammals.
 5. Predators of the local mammals.
 6. Seasonal abundance of the local mammals.
 7. Daily activity patterns of the local mammals.
 8. Recognizing evidence of the presence of mammals.
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1. The characteristics that distinguish mammals from other animals.
Hair, mammary glands, dentary-squamosal suspensorium, 3 ear bones, muscular diaphragm, 7 cervical vertebrae (most).
 2. The kinds (taxa) of mammals known from the Ouachita Mountains Biological Station.

Didelphis virginiana – Virginia Opossum
Dasyurus novemcinctus – Nine-banded Armadillo
Blarina carolinensis – Southern Short-tailed Shrew
Sorex longirostris -- Southeastern Shrew
Scalopus aquaticus -- Eastern Mole
Lasionycteris noctivagans -- Silver-haired Bat
Nycteris borealis – Hoary Bat
Nycteris cinereus – Eastern Red Bat
Eptesicus fuscus – Big Brown Bat
Pipistrellus subflavus – Eastern Pipistrell
Sylvilagus floridanus – Eastern Cottontail
Castor canadensis -- American Beaver
Marmota monax -- Woodchuck
Sciurus carolinensis -- Eastern Gray Squirrel
Sciurus niger – Fox Squirrel
Glaucomys volans – Southern Flying Squirrel
Tamias striatus -- Eastern Chipmunk
Neotoma floridana – Eastern Wood Rat
Reithrodontomys fulvescens -- Fulvous Harvest Mouse
Peromyscus leucopus -- Deermouse
Peromyscus atwateri – Texas Deermouse
Peromyscus maniculatus – White-footed Deermouse
Rattus norvegicus – Roof Rat
Mus musculus – House Mouse
Microtus pensylvanicus – Woodland Vole
Lynx rufus – Bobcat