Montana Master Naturalist Course overview

Purpose: *To develop the knowledge, skills, and habits to forge a closer relationship with the natural world.*

The landscape around us is a manuscript written in trees, rocks, bird song, and animal tracks. In this class we will study that manuscript and begin to learn to read its story. This is a class in the basics; an introduction to the naturalist discipline. Our focus will be on developing a set of interlocking skills and knowledge that encompasses the broad sweep of the term *naturalist.* We will work along four main lines: (1) Creating a basic scaffolding of knowledge across a range of topics that will inform (2) our observations of the natural world; (3) establishing a more intimate connection to the Montana landscape and (4) developing the tools to share this knowledge and experience with others.

The course consists of 45 hours of combined classroom and field experience, and includes training in traditional naturalist disciplines such as botany and entomology, wildlife and habitat management, and interpretation and communication. Some topics will be taught by guest naturalists and university instructors who are experts in their fields.

After a minimum of 40 hours of Basic Course training, Montana Master Naturalist course participants will receive certification through the Montana Natural History Center. To maintain certification, Master Naturalists must complete 20 hours of approved volunteer service and 8 hours of continuing education annually. Volunteer service hours may include stewardship projects, education/interpretation projects, and citizen science projects. The goal of volunteer service is to strengthen local communities by improving natural areas and educating people of all ages about Montana's natural environment. Many communities and organizations rely on such citizen volunteers for implementing youth education programs; for operating parks, nature centers, and natural areas; and for providing leadership in local natural resource conservation efforts. A short supply of dedicated and well-informed volunteers is often cited as a limiting factor for community-based conservation efforts. Montana Master Naturalists help fill that gap, sharing their knowledge, curiosity, and expertise, giving thousands of hours a year to their communities. The goal of continuing education is to help Master Naturalists continue to increase their understanding of Montana's ecosystems, flora, and fauna–and it's a great way to meet other naturalists and scientists, too!

Goals & Objectives

I. Develop a foundation of knowledge to facilitate rich natural history observation

After completing the course, participants will be able to…
- … describe the role geology plays in the landscape and ecology of central Montana.
- … identify the basic organization and components of a plant, including the flower.
- … identify the parts of an insect and the basic wing structure of several insect orders.
- … understand basic anatomy and topography of birds.
- … describe the skulls, teeth, and tracks of various mammals.

II. Develop field identification skills including use of dichotomous keys, field guides and other tools

After completing the course, participants will be able to…
- … feel comfortable using field guides and dichotomous keys to make identifications.
- … identify the major gymnosperms that dominate the Montana landscape.
- … classify plants to the family level.
- … identify common Montana birds by sight and sound.
- … identify common Montana mammals by their skulls and tracks.

III. Strengthen a connection with place through careful and ongoing observation of detail and change in the natural world.

After completing the course, participants will be able to…
- … spend time in close investigation of the natural world.
- … connect the knowledge, skill, and experience gained to the local landscape.
- … maintain a record of observations in a field journal.
- … use field sketching and note-taking to sharpen observation skills.
- … feel comfortable reflecting on field experiences.

IV. Develop the skills to interpret the landscape for others

After completing the course, participants will be able to…
- …craft a plan how they want to contribute to scientific knowledge and/or share it with others
- … volunteer with a local organizations doing conservation work

COURSE ASSIGNMENTS

NATURALIST JOURNAL ASSIGNMENT (50 POINTS)

The naturalist journal is an essential part of this course -- it will be the place you practice and solidify the skills you're learning. I'm asking that you journal about the natural world one day a week. Even if you're not taking this class for certification, I urge you to keep a journal. You'll get more out of the class if you do.

What I'm Expecting

- I'm looking for a total of 10 entries. Ideally, you'll space these out throughout the course. One entry each week will get you to ten by the end of the course.

- I expect you to spend about 45 minutes on each journal entry. I don't mean time spent hiking or skiing or even birding, but 45 minutes on actual journaling – observing, reflecting, documenting.

- You can do your journaling from any location outdoors. I *recommend* visiting one site repeatedly because I think you'll find observing changes over time makes your journal richer. However, I am *not* requiring that. The most important thing is getting outside and journaling as much as you can.

- I'm not evaluating you on how good your drawing skills are or how many birds and butterflies you can identify, but instead on the time and effort you're putting into your journal.

- Each entry will be worth up to 5 points and should include:

1.) Place/date/weather
2.) Drawing(s)
3.) Observations (include any measurements, field marks, etc.), questions, and reflections

NATURAL HISTORY INTERPRETATION (20 POINTS)

One of the core skills of a naturalist is the ability to synthesize and communicate personal observations in a meaningful way. Interpretive talks translate science for a general audience. They contain personal observations and relevant and interesting information to help audience members connect with the natural world. To give you practice, you'll be responsible for preparing and teaching a brief 3 - 5 minute lesson on natural history to your fellow students on the final day of class. My main goal is to for you to make use of *your own* observations over time to inform your talk. Let your curiosity guide you.

What I'm expecting: I see this interpretive talk as one good way to synthesize your *firsthand* observations into a meaningful whole with the help of outside research with the goal of educating others. More specifically, I'd like you to:

- Use observations or questions from your journal to guide your choice of the theme of

your talk

• Choose a theme you can illustrate with concrete examples (MAC may have items you can borrow) and/or photos.

• Do a bit of research along the way to put your observations in context.

• Engage the audience with information, questions, stories, etc.

VOLUNTEER SERVICE PLAN (15 POINTS)

One of the goals of the Master Naturalist program is to educate folks who will then put their knowledge to use in the community. I'm asking that you submit a one paragraph service plan to me by the end of the course. Your plan should include details such as where and how you plan to volunteer, pertinent contacts at that location, and the timing of your service. Some opportunities for service include:

- Educational programming at the Audubon Center or parks/monuments
- Restoration/cleanup
    - Arbor Day with Billing Parks & Rec (May): info available at https://www.billingsparks.org/arbor-day/
    - Refresh the Rims with Billings Parks & Rec (October): info available at https://www.billingsparks.org/refresh-rims/
    - National Trails Day (June), Community Trails Day (June) and other multi-day trail projects with the Absaroka-Beartooth Wilderness Foundation, info available at https://abwilderness.org/
    - National Public Lands Day (September): locations/organizations TBD
- Citizen Science
    - Plant species of concern surveys for Montana Natural Heritage Program
    - Short-eared owl surveys for Owl Research Institute
    - Chimney swift surveys for Montana Audubon
    - Species observations for Billings City Parks & MT Natural Heritage Program
    - Journey North: submit observations online for birds, butterflies, and blooms; info available at https://journeynorth.org/projects
    - Monarch Lab: larva monitoring, info available at https://monarchlab.org/mlmp
    - Monarch Watch: fall tagging, info available at https://monarchwatch.org/tagging/
    - Nature's Notebook: phenology observations, info available at https://www.usanpn.org/natures_notebook

POINTS SUMMARY

Naturalist Journal (10 entries x 5 pts):	50 points
Natural History Interpretation:	20 points
Volunteer Service Plan:	15 points
Class attendance & participation:	15 points
TOTAL	100 points

*If you're taking the course for Master Naturalist Certification, you'll need to earn 70/100 pts