

PRE-REQUISITES

Environmental Science & Bird Study Merit Badge Day

Hosted by the National Loon Center

Enjoy this hands-on opportunity to explore concepts in environmental science and bird studies through the lens of loons, freshwater stewardship, and the Crosslake community. Participants will learn on the open waters of Cross Lake aboard the Stewardship loon pontoon and on the lakeshore at the Crosslake Recreation Area. At the end of the day, participants will have completed all requirements for the Environmental Science Merit Badge and be well on their way to completing the Bird Study Badge.

Program Structure

- Location: Crosslake Recreation Area
 - 35507 County Road 66, Crosslake, MN 56442
 - Parking available onsite in lot adjacent to ACOE building and lot adjacent to playground
- Date: 5/30/2026

Pre-requisites (starred videos optional - watching the videos ahead of time will help with background knowledge to get the most out of the event!)

- ES1. What is Environmental Science? (Video)
- ES2. Ecology
 - Merlin Bird App Description (Video)*
 - iNaturalist App Description (Video)*
 - Observe Nature Like a Scientist! (Video)*
 - Observing Nature (Video)
 - Choose an area approved by a counselor and observe (sight, sound, and smell) the ecosystem over a two-day period
 - Make notes about the living, nonliving, and former living components. Include information about interactions among the components, including the food chain, predators, native species, and invasive species. Identify how human activities have affected the ecosystem.
 - Scouts should come prepared having completed this exercise and taken notes
- ES4. Water Pollution
 - Hydrologic Cycle (Video)
 - Understanding a Drinking Water Quality Report (Video)*
 - Drinking Water Treatment (Video)
 - Waste Water Treatment (Video)
- ES5. Land Pollution
 - Soil Erosion: Causes, Effects, Solutions (Video)
 - How was the Grand Canyon Formed? (Video)
 - Do we really need pesticides? (Video)*

- Bald Eagle Study (Video)*
- ES6. Rare, Threatened, or Endangered Species
 - Are Endangered Species Worth Saving? (Video)
 - Butterfly Habitat Restoration (Video)
 - Fisheries Habitat Restoration (Video)
- ES8. Pollination
 - The Power of Pollinators (Video)
 - How Pollination Works (Video)
- ES9. Invasive Species
 - The Threat of Invasive Species (Video)
 - Why We Don't Kill Off Invasive Species (Video)*
- ES10. Environmental Impact Topics
 - What is an EIA? (Video)*
 - EIA issues (Video)*
 - EIAs - Key to Sustainable Development (Video)
- ES11. Careers in Environmental Science
 - EnvSci Future Careers (Video)
 - What do Environmental Engineers Do? (Video)
 - What do Environmental Scientists Do? (Video)
- BS1. Explain the need for bird study and why birds are useful indicators of the quality of the environment. Describe how birds are part of the ecosystem.
 - Why are Birds Important? (Video)
 - Why Birds Matter (Video)*
- BS3. Optics
 - Selecting Your First Binoculars for Birdwatching - the 5 Things You Need to Know (Video)
 - How to Get Crystal Clear Focus With Your Binoculars (Video)
 - How to Use Binoculars for Bird Watching - A Beginners Guide (Video)
 - How to Clean Your Binoculars (Video)
 - What's the Difference - Spotting Scope vs. Binoculars for Birdwatching (Website)
- BS5. Bird Listing
 - How to Keep Birding Records in a Field Notebook (Video)
 - Bring a bird notebook to the event
- BS6. Bird Adaptations
 - Bird Feeding Adaptations: How Beaks are Adapted to What Birds Eat (Video)
 - Adaptations in Birds - What Makes a Bird Suitable to Fly? (Video)
 - AMAZING Bird Feet! (Video)
 - Discover the Hidden Genius of Bird Feathers (Video)*
- BS7. Birdsong
 - 25 Iconic Birdsongs (Video)
 - Two Types of Communication Between Birds: Understanding Bird Language Songs and Calls (Video)*
- BS12. LNT
 - Leave No Trace Basics (video)*
 - Leave No Trace Outdoor Ethics (video)

