

## Environmental Science Merit Badge Prerequisites

In order to complete the workshop in one day, you must do the following in advance: **#1, #2, #3B**(choose one of 1-3), **#3D (#3), #3E** (choose one of 1-3) and **#6**.

Please email these to [programs@dunwoodynature.org](mailto:programs@dunwoodynature.org) before the clinic date for faster check-off on the day of the clinic.

**1.** Make a timeline of the history of environmental science in America. Identify the contribution made by the Boy Scouts of America to environmental science. Include dates, names of people or organizations, and important events.

**2.** Define the following terms: population, community, ecosystem, biosphere, symbiosis, niche, habitat, conservation, threatened species, endangered species, extinction, pollution prevention, brownfield, ozone, watershed, airshed, nonpoint source, hybrid vehicle, fuel cell.

**3.** Do ONE activity from EACH of the following categories (using the activities in this pamphlet as the basis for planning

### **B. Air Pollution**

(1) Perform an experiment to test for particulates that contribute to air pollution. Discuss your findings with your counselor.

(2) Record the trips taken, mileage, and fuel consumption of a family car for seven days, and calculate how many miles per gallon the car gets. Determine whether any trips could have been combined ("chained") rather than taken out and back. Using the idea of trip chaining, determine how many miles and gallons of gas could have been saved in those seven days

(3) Explain what is acid rain. In your explanation, tell how it affects plants and the environment and the steps society can take to help reduce its effects.

### **D. Land Pollution**

(3) Photograph an area affected by erosion. Share your photographs with your counselor and discuss why the area has eroded and what might be done to help alleviate the erosion.

### **E. Endangered Species**

(1) Do research on one endangered species found in your state. Find out what its natural habitat is, why it is endangered, what is being done to preserve it, and how many individual organisms are left in the

wild. Prepare a 100-word report about the organism, including a drawing. Present your report to your patrol or troop.

(2) Do research on one species that was endangered or threatened but which has now recovered. Find out how the organism recovered, and what its new status is. Write a 100-word report on the species and discuss it with your counselor.

(3) With your parent's and counselor's approval, work with a natural resource professional to identify two projects that have been approved to improve the habitat for a threatened or endangered species in your area. Visit the site of one of these projects and report on what you saw.

**6.** Find out about three career opportunities in environmental science. Pick one and find out the education, training, and experience required for this profession. Discuss this with your counselor, and explain why this profession might interest you.