

QUESTIONS & ANSWERS

Q- Why should I teach wildlife management?

A - Many life skills can be learned from teaching wildlife management concepts:

- Basic wildlife principles (basic needs, interactions, succession, riparian buffers, corridors, etc.)
- Increased understanding of wildlife ecology and management practices
- Enhance teamwork, decision making, leadership, and interpersonal/social skills.
- Enhance oral and written communication
- Long term - people with an understanding of wildlife needs will be able to make informed decisions about civic decisions involving our natural resources. And they will be able to create at least some wildlife habitat where ever they live (cities, town, and rural areas)
- Many Indiana Science Standards that may be studied while teaching wildlife management, including:
 - B.1.38 - introduced species
 - B.1.39 - stability of ecosystems
 - B.1.40 - cyclic fluctuations of ecosystems
 - B.1.41 - humans can alter the equilibrium of ecosystems
 - B.1.45 - how the physical environment may influence organism's development
 - B.1.47 - ecology studies the varieties and interactions of living things across space
 - Env.1.1 - stability of ecosystems
 - Env.1.2 - ecosystem recovery
 - Env.1.3 - ecosystem cyclic fluctuations
 - Env.1.4 - how human activities can alter ecosystems
 - Env.1.12 - process of succession
 - Env.1.14 - limits of the amount of life an environment can support
 - Env.1.19 - growth rates of populations
 - Env.1.20 - resources (e.g., food supplies) affect populations
 - Env.1.27 - value of managing natural resources as an ecological unit

Q - Why do you keep referring to the contest, or "career development event?"

A - We use the wildlife habitat management contest to give students a goal to aim for and a way to evaluate their progress. Anyone can learn from the materials provided, and it is not necessary to participate in the contest. We generally refer to this event as Career Development to reflect that the concepts learned in both studying for the contest and the contest itself help youth develop necessary life skills, as noted above.

Q - What is a forb?

A - A forb is a non-woody, broad-leafed plant (not grass). Examples include: dandelion, goldenrod, any of the mustards, and many wildflower plants.

Q - How do I get started teaching about wildlife management?

A - Students need to understand basic wildlife needs: food, shelter (cover), water, and space. These needs must be satisfied in ample quantities and accessible year around. With the

knowledge of wildlife needs they can develop a wildlife management plan by noting what is available and what is lacking for any given plot of land. Teaching students to identify various types of foods, and what animals eat these foods helps them write their management plan. Similarly, wildlife managers often will view aerial photographs of the land they are managing to see what water, cover, and corridors are available for wildlife. Knowing what is available and what the habits and range of each species you are managing for is required to write a management plan.

To teach students to identify wildlife foods:

1. Discuss, in general terms, what different groups eat. For example, different types of bird each fruits, berries, meat, or seeds. The National Wildlife Handbook (available through the website www.whep.org/ - click on "new manual" \$12 for hard copy, \$10 for CD-ROM) lists food preferences for the species used in the contest.
2. Find various types of wildlife foods and have students identify both the general category of food (e.g. a sunflower seed would be listed as "seed" and represent all seeds). Then have your students check the animals that eat each of the food categories. This is explained further in the National Handbook. There is also an answer key in the National Handbook. Note that the answer key is the compilation of the agreements between many wildlife biologists but, as with many areas of research, there is not 100% agreement. We use the answers provided in the National Handbook.
3. The more students practice this activity the more skilled they will become.

To teach students to analyze habitat from aerial photographs.

1. Youth can learn to distinguish many things from aerial photographs. They should be able to see roads, water features (lakes, ponds, and rivers), homes, businesses, farms, etc. To evaluate a photograph for wildlife they also need to be able to approximate the percent forest cover, the availability of corridors between forested areas and to water.
2. Students also need to know what various species of wildlife require in order to compare two areas. For example, birds can access water without needing corridors, whereas small mammals generally need corridors for safe passage to water. Some species of birds may need forest edges and open fields for a nesting site while others need interior forest areas for nesting.
3. Once youth learn to read an aerial photo and know the basic requirements for a species they can rank different photographs as providing the best...to...the poorest habitat for the species.
4. In the contest we also ask youth to defend their aerial photos placements to a judge (called giving their oral reasons). They will be given 5 minutes to explain their choices for two species. They must explain what features they saw in the photos that made one aerial photo preferable to another for each species. They will be told which 2 species they will be given oral reasons for. See Teaching Oral Reasons and the example Oral Reasons, one link up.
5. In the contest youth are required to place 4 photos for 8 species, giving oral reasons for two species. Hormel scoring is used. Hormel scoring allows for partial credit based on the similarity of two photos. For example, the possible point total is 50 (traditionally) for each evaluation of a set of photos. If two photos are determined (by our wildlife biologists) to be very similar a student might get 48 points if they

switched the similar photos. However, if they switched the order of two dissimilar photos they might get just 15 points for a particular species.

6. References - 4-H 910, Wildlife Habitat Evaluation with Aerial Photographs - this manual provides aerial photographs and general guidelines for what youth should be able to notice about each photo. (It does not provide photo analysis for individual species.) It is available from Purdue's Media Distribution Center or through your local Extension office.

Writing a Wildlife Management Plan

This activity brings together many different skills. Students must have a good understanding of wildlife needs for the species being managed, be able to evaluate the land and determine what must be changed, sometimes consider the economics of their recommendations (actually, this is always a real consideration for wildlife biologists, but we don't always require it for the contest), and present their recommendations clearly and concisely. These general concepts are needed in both the urban and rural management plan writing.

1. You can have students work in teams or individually. Show the students the plot of land to be managed. You can use an urban plot, a rural plot, sketch of any plot of land (include some structures and indicate water, trees, forests, etc.), a portion of an aerial photograph or topo map, or the example given under *Field Condition Sheet* (one level up).
2. Ask the students to evaluate the plot for one or more specific species of wildlife. Use the guidelines given under *Writing a Wildlife Plan* (one level up).
3. Evaluate the student's plans or give them the score sheet (last page of *Writing a Wildlife Plan*) and have them self-evaluate.

Q - How do I get my team involved in the state contest?

A - If you decide to bring a team of youth to the state invitational CDE follow the following steps:

- Find kids who are interested in learning more about wildlife and willing to put some time and effort into studying.
- Obtain a National Wildlife Evaluation (WHEP) Handbook from Oklahoma State University (available at www.whep.org/).
- Work with these youth to help them learn basic wildlife principles. The National WHEP Handbook has a great deal of useful information. There are also resources from Purdue (www.agcom.purdue.edu/AgCom/emu/PAGE/index.html or ask at your County Extension Office. Call 888-EXT-INFO (1-888-398-4636) or go to www.admin.ces.purdue.edu/field/fs/countyoffices.html, to find the office nearest you). Personnel at your county Extension Office may be able to help locate additional resources (people and materials). The Indiana Department of Natural Resources wildlife biologist might also be willing to talk to your group about wildlife management. See the website <http://www.state.in.us/dnr/fishwild/biologist.htm> for a listing of IDNR fish and wildlife biologists.
- Find out the date of the contest in January or February so you can be sure to get your registration in on time (required, with payment) and make other necessary plans.

- Register your team through your county Extension office for the State Invitational (check in February or early March for site and registration form. Note that the current form does not have a box to check for Independent teams (non 4-H or FFA) but Independent teams are allowed in the WHEP CDE. Please make a box labeled Independent or Other.
- Bring your team(s) to the contest on time and ready to go.
Check website (www.four-h.purdue.edu/Judging/judging.html) for results. (The management plan takes so long to grade that we are not able to announce results the day of the contest.)

Q - How is the contest is scored?

A - There are 3 activities in the Indiana WHEP CDE (Wildlife Habitat Evaluation Career Development Event). They are: identifying common wildlife foods, ranking habitats for different species using aerial photographs, and writing a wildlife management plan. The first two (foods & photos) are completed by each participant individually. The wildlife management plan is written by of team of 3-4 youth (one plan is turned in for each team). The following weights are given to these activities:

- Foods - 20%
- Aerial Photos - 30%
- Management Plan - 50%

Only team scores are calculated. This is done by the following method:

1. Determination of individual scores (Foods + Photos):

Foods: $\text{score}/400 * 20 = \text{points}$

Photos: $\text{score}/500 * 30 = \text{points}$

Individual Score: Foods score + Photos score

Notes:

- Score - number of points received for each part
- There are 400 possible points for the foods portion of the CDE (350 boxes on the answer sheet).
- There is a possible 500 points for the Photos portion of the CDE (8 species ranked using Hormel scoring plus 50 pts each for the two oral reasons)

2. Determination of team score:

- The top 3 individual scores per team are used to determine the average Foods + Photos team score. (e.g., the top 3 scores as determined in #1 divided by 3 = **Team (Foods + Photos) Score**)
- Management Plan - scored on a scale of 50 points = **Team Management Plan Score** (Note: see the Writing a Management Plan link)

3. **Total = Team (Foods + Photos) score + Management Plan score**

Q - Are there any other reference materials that might be helpful?

A – We recommend:

- www.four-h.purdue.edu/whep/, Indiana 4-H Wildlife Habitat Evaluation CDE resource webpage.
- www.whep.org/, National 4-H Wildlife Habitat Evaluation CDE resource webpage.

- Everything WILD, www.agriculture.purdue.edu/fnr/wildlife/, from the Department of Forestry and Natural Resource, Purdue University
- <http://www.state.in.us/dnr/fishwild/>, the Indiana Department of Natural Resources also has many publications available.
- The new Indiana 4-H Wildlife project manuals cover many of the topics that youth need to know about wildlife habitats. General wildlife concepts are presented in age-appropriate topics and activities. Your local county Extension office has a catalog that lists all available publications from the Purdue School of Agriculture, www.ces.purdue.edu/marketing/.

New Indiana 4-H Wildlife manuals - General wildlife concepts are presented in age-appropriate topics and activities. The first manual initiates the study of wildlife by focusing on a few species. The degree of complexity and reference to outside materials increases as the age level increases. The ultimate goal of these manuals is that interested youth learn to understand wildlife needs, know where to get additional information, and are able to create wildlife habitat where ever they live. The topics included at the different levels fall into the general categories:

Level A: 3rd - 4th grades

- wildlife growth
- wildlife identification
- wildlife terms
- habitats
- food chains
- bird feeders & bird baths

Level B: 5th - 6th grades

- habitat components
- migration
- predators/prey
- endangered species
- wildlife histories
- wildlife populations
- food webs
- wildlife identification

Level C: 7th - 9th grades

- tracks and other animal signs
- more on habitats
- aerial photos
- population changes
- Indiana wildlife information
- Indiana wildlife management

Level D: 10th - 12th grades

- managing land for wildlife
- Careers
- Current wildlife topics
- Resources