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Station

2008 Missouri Envirothon Wildlife Ecostation

1. Walk around the area (see map on table for area boundary) and assess the existing habitat. Use the attached On-site Habitat recommendations Score Card and determine which practices are needed for each species indicated on the scoresheet to improve their habitat. The landowner is interested in improving the area for rabbits. He has not seen rabbits in years and has heard that habitat management can bring them back. He wants to be able to take his sons deer hunting and see more bluebirds along the drive.(15 points)

See next page

2. Early stages of plant succession are more productive for wildlife such as cottontail rabbits. Name two different management practices that you could use at this site that would encourage early plant succession stages. (4 points)

Timber harvest, brushpiles

3. Millions of acres of Missouri forest and prairie have been converted to tall fescue. Describe two disadvantages to wildlife? (4 points) Describe one method to control fescue. (2 points)

Crowd out food producing plants, decrease diversity, cover up bareground or become too thick for wildlife movement, produce toxins which kill fetuses of rabbits and other small mammal.

Herbicide, repeated burning, plow/disk

4. At what stage of succession is the area marked by the sign "A". (2 points)

Stage 5 or 6 accepted

5. Explain the term 'plant succession'. (3 points)

Every acre of soil and water has a definite sequence in plant cover that occurs over time. The different stages of this sequence are called successional stages.

6. Using the aerial photo provided. Prioritize the four circles, 1-4. #1 the most suitable habitat and #4 the least suitable habitat, for each of the 4 species indicated on the attached Aerial Photo Score Card. (10 points)

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On-site Habitat recommendations Score Card

Eastern Deciduous Forest	Eastern Cottontail	Eastern Wild Turkey	Whitetail Deer	Eastern Bluebird												
2. Brush chopping (mowing)																
3. Brush piles																
5. Controlled (prescribed burning)																
6. Corridors																
8. Decrease bag/creel/season limit																
9. Disking																
10. Fertilize ponds																
12. Fish (pond) or wildlife survey																
14. Grain, leave unharvested																
15. Harvest timing (crops/hay)																
16. Increase bag/creel/season limit																
17. Livestock grazing management																
18. Nesting boxes/structures/platforms																
19. Plant food plots																
20. Plant grass and forbs																
21. Plant mast trees																
22. Plant trees or shrubs																
24. Ponds, clear muddy water																
25. Pond construction																
27. Ponds, deepen edges																
28. Ponds, remove trees near dike																
29. Ponds, repair spillway																
30. Ponds, reseed watershed/filter strip																
31. Ponds, restock																
32. Ponds, stop leaks																
34. Roosting platforms/perching poles																
35. Root plowing																
37. Snags, dead, down woody material																
41. Tillage, eliminate in fall																
42. Timber harvest, clear-cut																
43. Timber harvest, selective cut																
44. Water control structures																
45. Water developments for wildlife																
46. Wildlife damage management																
47. Tall Fescue Conversion (MO only)																

Habitat Management Recommendations Scorecard

Possible 15 points (score recorded on number 1 of the first page)

Score = [(total correct – total incorrect)/total possible correct] x 15

Activity Scorecard

Instructions: For each species, rank the areas outlined for their habitat value. Mark an "X" in the box with the appropriate ranking for each species. DO NOT consider potential of the area - only its present quality. DO NOT consider surrounding areas - only areas outlined.

Wildlife Species

Habitat Evaluation of Aerial Photographs. (10 points)

	1	2	3	4	5	6	7	8
	Eastern Bluebird	E. Wild Turkey	N. Bobwhite	G. Horned Owl				
1 2 3 4								
1 2 4 3								
1 3 2 4								
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Score								

Score

Wildlife
Total

1. List two examples of forestry management practices that are used to improve wildlife diversity within a timber stand and list for each practice one of the 6 wildlife species studied from the Wildlife Resources Guide that would benefit from the practice. (4 points)

Timber harvest – rabbits, turkey, deer, quail
Brushpiles – cottontail, bobwhite quail
Snags – great horned owl, eastern bluebird
Nest boxes – eastern bluebird, great horned owl

2. List 3 animals, from the species studied in the Wildlife Resources Guide, that would use the “brushy” habitat that is commonly found 2 to 7 years after a clear cut harvest? (3 points)

Rabbits, quail, deer, turkey

3. Explain the difference between a den tree and a snag tree and how each are utilized by wildlife. (4 points)

A den tree is typically alive with a hollow trunk or limbs providing a long term den site for wildlife. The type of wildlife will depend on the size of the den. A snag tree is typically a dead standing tree that is used primarily by a variety of woodpeckers for constructing nesting holes and benefits a variety of insect eating birds for a food source under bark or within the wood of the tree. It is a temporary habitat component and will fall to the ground and lose its value as a snag within a few years.

4. What tree listed below can best tolerate a prescribed fire used to improve wildlife habitat? (1 points)

- a. Sugar Maple
- b. Shortleaf Pine**
- c. Eastern Red Cedar
- d. Green Ash

5. What type of timber management is most detrimental to the Eastern Gray Squirrel? (2 points)

Clearcut

6. Which bird would likely use the thorns on a honeylocust tree to impale its food on? (1 points)

Loggerhead shrike
Bald Eagle
Blue Jay
Red tailed hawk

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1. Name the common Missouri animal with this track. (3 points)

Beaver

2. While walking along the lake shore you discover a fecal pile over 1 inch in diameter and full of wild berry/fruit seeds and fish scales. What animal do you think it is from and why? (3 points)

Raccoon, is the only omnivore which would commonly be found along the lake shore with both berries and fish scales. The other most probable would be a possum, but the diameter would be smaller in size than what was found.

3. Name the Missouri aquatic mammal skin. (3 points)

Otter

4. Place all of these animals in an ascending food chain. (6 points)

- a. Green Sunfish
- b. Phytoplankton
- c. Bullfrog
- d. Raccoon
- e. Caddis Fly
- f. Bobcat

- 1 - Phytoplankton
2- Caddis fly
3- Bullfrog
4- Green Sunfish
5- Raccoon
6- Bobcat

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1. Productivity of soils has a direct effect on wildlife habitat. What is the benefit of a deep soil (Horizon A) with high nutrient levels? (2 points)

More seed production, more diversity of plants, more cover

And what would be a negative aspect upon wildlife habitat of high nutrient levels? (2 points)

Vegetation grows too thick for ground dwelling wildlife or vegetation grows so fast that plant succession changes enough to deter a preferred species of wildlife.

2. Wildlife needs warm season grasses for food and cover, and they use ponds for water. Would the location of the soil pit be a good location to construct a shallow wildlife watering facility?(2 points)

3. Most Missouri amphibians and reptiles prefer: (2 points)

- a. ***Moist soils covered with leaf litter***
- b. Well-drained, dry soils
- c. Shallow rocky soils with minimum vegetation
- d. Both b and c

4. Planting legumes into a cool season pasture adds diversity for wildlife. Legumes also fix what nutrient into the soil, which is utilized by the cool season grass? (2 points)

nitrogen

5. Steep, south facing rocky slopes have a very low available water capacity. Explain how a soil with a very low available water capacity would affect wildlife populations and behavior. (3 points)

The available water capacity would affect the types of plants and survival of plants during the hottest, driest parts of the year. This would affect wildlife food and cover amounts. Less cover means that smaller wildlife species will avoid the area most of the time to avoid exposing themselves to predators and the elements. Less food production would alter the feeding patterns and travel patterns of wildlife in the area as they search for more abundant food in other locations.

6. Soil fertility will determine which of the following for wildlife? (2 points)

- a. Health and vigor
- b. Reproduction
- c. Size of animals and plants
- d. ***All of the above***

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1. Describe three impacts on local wildlife caused by the high amount of recreational activity in and around the lake. (6 points)

Habitat destruction due to construction of roads, marinas, housing and stores built to handle the recreation industry.

Disturbance of nesting animals and avoidance of the area by breeding wildlife species results in fewer animals and animal species in the area.

Animals which do not like fragmentation of the forest will no longer utilize the area.

Animals such as raccoon and deer will rely on humans for a food source from gardens, refuse and landscaping.

More unpleasant human/wildlife interactions resulting in destruction of the offending animal such as road kills, animals in attics, flowerbeds, under porches, etc.

Inadvertent introduction of a number of invasive species into the lake and forest, which will crowd out desirable species.

2. Gypsy moth, an invasive species which can cause widespread defoliation of oak forests, are known to hitch rides to Missouri on recreational vehicles that have been in gypsy moth infested areas of the eastern U.S. If gypsy moth become established in Missouri, list some of the effects on wildlife this species will have. (5 points)

Defoliation of our oak forests by gypsy moth will reduce food and cover currently available for many species of wildlife. The reduced food may affect other insects which depend on the forest canopy, cause less acorn production due to stress of defoliation on the trees affecting deer, turkey, squirrel and other species utilizing acorns for food and reduced food and cover for songbirds in the forest canopy affecting nest success and depredation rates.

3. Before the lake was built, human impacts from development in this area were very low. List two ideas that could be implemented to reduce the impacts on native wildlife from construction/development/landscape practices. (4 points)

Zoning laws could be used to limit or confine developments. Provide green belts or undeveloped areas through the community that are off limits during the late spring and summer nesting seasons to human activities. Require boat hulls and bilges be cleaned prior to boats entering the waters. Prohibit the use of invasive species for landscaping purposes. Plant deer resistant landscaping materials and properly dispose of refuse/wastes.

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