

2008 NEW HAMPSHIRE ENVIROTHON: FISH AND WILDLIFE TEST

SECTION I - Wildlife Identification [1 pt each]

Team #: _____

Calls

1.

2.

3.

4.

Fish

5.

6.

7.

8.

9.

10.

Amphibians/Reptiles

11.

12.

13.

Mammals

14.

15.

16.

17.

18.

19.

Birds

20.

21.

22.

23.

24.

25.

2008 NEW HAMPSHIRE ENVIROTHON: FISH AND WILDLIFE TEST

SECTION I - Wildlife Identification [1 pt each]

Team #: _____

Calls

1. *Bullfrog*
2. *Ruffed Grouse*
3. *American Robin*
4. *Killdeer*

Fish

5. *Smallmouth Bass*
6. *Pumpkinseed Sunfish*
7. *Yellow Perch*
8. *Brook Trout*
9. *Walleye*
10. *Brown Bullhead*

Amphibians/Reptiles

11. *Wood Frog*
12. *Wood Turtle*
13. *Northern Black Racer*

Mammals

14. *Fisher (pelt)*
15. *Beaver (track/scat)*
16. *Coyote (track/scat)*
17. *Ermine (pelt)*
18. *Bobcat (pelt)*
19. *Moose (scat/pelt)*

Birds

20. *Wood Duck female*
21. *Wood Thrush*
22. *Peregrine Falcon*
23. *Tufted Titmouse*
24. *Green Heron*
25. *American Woodcock*

SECTION II

Team #: _____

Match the following words to their corresponding definitions (2 points each)

- | | | |
|--------------------|-----|---|
| Omnivore | ___ | a. Number of individuals in a population that a given habitat can support |
| Consumptive Use | ___ | b. A domestic animal that has escaped or been abandoned and now lives and acts like a wild animal |
| Carrying Capacity | ___ | c. Organisms that are active during the night |
| Ecotone | ___ | d. Organisms that feed on nonliving organic matter |
| Symbiosis | ___ | e. A commodity or resource that is able to replace itself |
| Feral | ___ | f. The biochemical process where the energy of light is converted into chemical energy in plants |
| Homeotherm | ___ | g. The area, comprised of food, water, shelter, and cover, where a plant or animal prefers to live |
| Photosynthesis | ___ | h. Organisms that feed on both plant and animal material |
| Renewable Resource | ___ | i. Organisms that are active during the day |
| Nocturnal | ___ | j. A group of animal and plant species living together and having close interactions in a defined area |
| Succession | ___ | k. An animal whose body temperature is independent of the temperature of its surroundings |
| Community | ___ | l. An association between two organisms where one derives benefit and the other is neither benefited nor harmed |
| Habitat | ___ | m. The sequence of change in habitat types that occurs after a site has been modified by a disturbance |
| Anthropomorphism | ___ | n. The attribution of human characteristics to non-humans, especially animals |
| Taxonomy | ___ | o. A habitat type defined as the sharp transition of two or more distinctly different habitat types |
| | | p. A system of arranging animals and plants into natural, related groups based on some factor common to each |
| | | q. Activities that involve the harvest of wildlife, such as hunting and fishing |
| | | r. A wild animal that has been captured and now lives and acts like a domestic animal |
| | | s. An association between two organisms where each one derives benefit from the association |
| | | t. An animal whose body temperature varies with the temperature of its surroundings |

SECTION II

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Match the following words to their corresponding definitions (2 points each)

Omnivore	<u>h</u>	a. Number of individuals in a population that a given habitat can support
Consumptive Use	<u>q</u>	b. A domestic animal that has escaped or been abandoned and now lives and acts like a wild animal
Carrying Capacity	<u>a</u>	c. Organisms that are active during the night
Ecotone	<u>o</u>	d. Organisms that feed on nonliving organic matter
Symbiosis	<u>s</u>	e. A commodity or resource that is able to replace itself
Feral	<u>b</u>	f. The biochemical process where the energy of light is converted into chemical energy in plants
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		p. A system of arranging animals and plants into natural, related groups based on some factor common to each
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		r. A wild animal that has been captured and now lives and acts like a domestic animal
		s. An association between two organisms where each one derives benefit from the association
		t. An animal whose body temperature varies with the temperature of its surroundings

Section III – Concepts

Team #: _____

Question 1: Look out over the landscape in front of you. Using your knowledge of the habitat preferences, ranges, and limiting factors of the species listed below, tell us whether you would expect the species to be present or absent on this site and in each case give one reason to support your answer (10 pts).

Species	Present/Absent?	Why?
Red Fox	_____	_____ _____
Common Merganser	_____	_____ _____
Black Bear	_____	_____ _____
Piping Plover	_____	_____ _____
Timber Rattlesnake	_____	_____ _____

Section III – Concepts

Team #: _____

Question 2a: Describe or diagram a food web that has the white-tailed deer as its key component (3 pts).

Question 2b: Describe or diagram a food web that has the wild turkey as its key component (3 pts).

Question 2c: Describe or diagram a food web that has the yellow perch as its key component (3 pts).

Question 2d: What is the primary recreational activity that influences population levels of these three species (1 pt)?

Section III – Concepts

Team #: _____

Question 3: Since the creation of the Pittman-Robertson Act in 1937, more than \$2 billion in federal funds, raised from a tax on ammunition and firearms earmarked for sport hunting, has gone to state fish and wildlife agencies for wildlife restoration projects. In addition, since passage of the Sport Fish Restoration Act (Dingell-Johnson) Act) in 1950 more than 2.6 billion has been generated via a ten percent federal excise tax on some fishing and boating-related equipment, to improve recreational fishing and boating opportunities.

3a: If you were a manager of Pittman-Robertson funds in New Hampshire, identify three types of projects you could authorize for the spending of those funds (6 pts).

1) _____

2) _____

3) _____

3b: If you were a manager of Sport Fish Restoration Funds in New Hampshire, identify two types of projects you could authorize for the spending of those funds (4 pts).

1) _____

2) _____

Question 4: Recreational opportunities are a primary reason people choose to live by or visit New Hampshire lakes and rivers, and the demand on our natural resources is always increasing. That increasing demand also increases the potential for damage to water quality and shorelines. Many aquatic recreational activities involve the use of motorized watercraft, including motor boats for fishing or water-skiing and Personal Watercraft (jet skis). Poor management of these activities can lead to poor water quality, degraded fish and wildlife habitat, pose a health risk for water-contact recreation, and threaten the safety of our drinking water supply. Best Management Practices (BMPs) are actions that Resource Managers can take to reduce the impact on the environment and wildlife. With this in mind, you have been just been appointed as a Park Manager for a “new” state park in New Hampshire. The park has a large, pristine, cold water lake with robust trout populations and two pairs of common loons nesting on the lake.

4a: Name three BMPs you would put into place to reduce the aquatic recreational impact on the park’s lake and wildlife (6 pts.).

- 1) _____
- 2) _____
- 3) _____

4b: A new 200’ long paved road to a new boat ramp will be constructed through a forested wetland. Name three negative impacts to wildlife and their associated habitats because of this construction. Include the species of wildlife that could be affected and how. (9 pts).

1) Impact? _____

Species Affected? _____ How? _____

2) Impact? _____

Species Affected? _____ How? _____

3) Impact? _____

Species Affected? _____ How? _____

Section III – Concepts

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Species	Present/Absent?	Why?
Red Fox	_____P_____	<i>Suitable habitat, lots of prey, denning sites</i>
Common Merganser	_____A_____	<i>No water (at least none big enough), no food (fish), no cavities near water.</i>
Black Bear	_____P_____	<i>lots of food (herbs, nuts, berries, small mammals), suitable summer habitat</i>
Piping Plover	_____A_____	<i>nests and feeds along coast, on beaches, (anyone see the ocean or a beach nearby?)</i>
Timber Rattlesnake	_____A_____	<i>out of range, common in areas not frequented by humans (habitat suitable)</i>

Section III – Concepts

Team #: _____

Question 2a: Describe or diagram a food web that has the white-tailed deer as its key component (3 pts).

A – See diagram at end of document

Question 2b: Describe or diagram a food web that has the wild turkey as its key component (3 pts).

Question 2c: Describe or diagram a food web that has the yellow perch as its key component (3 pts).

Question 2d: What is the primary recreational activity that influences population levels of these three species (1 pt)? *A – Consumptive Use (hunting and fishing)*

Section III – Concepts

Team #: _____

Question 3: Since the creation of the Pittman-Robertson Act in 1937, more than \$2 billion in federal funds, raised from a tax on ammunition and firearms earmarked for sport hunting, has gone to state fish and wildlife agencies for wildlife restoration projects. In addition, since passage of the Sport Fish Restoration Act (Dingell-Johnson) Act) in 1950 more than 2.6 billion has been generated via a ten percent federal excise tax on some fishing and boating-related equipment, to improve recreational fishing and boating opportunities.

3a: If you were a manager of Pittman-Robertson funds in New Hampshire, identify three types of projects you could authorize for the spending of those funds (6 pts).

1) _____

2) _____

3) _____

3b: If you were a manager of Sport Fish Restoration Funds in New Hampshire, identify two types of projects you could authorize for the spending of those funds (4 pts).

1) _____

2) _____

3a Answer - pay farmers to leave standing corn, plant specific fruiting trees and shrubs, maintenance of open fields, manage forest for specific wildlife species, etc.

3b Answer - stream enhancement, including creation of riffle areas, addition of logs for shelter and planting for shade, building fish ladders and specific flow areas to direct fish upstream, boat launch facilities

Question 4: Recreational opportunities are a primary reason people choose to live by or visit New Hampshire lakes and rivers, and the demand on our natural resources is always increasing. That increasing demand also increases the potential for damage to water quality and shorelines. Many aquatic recreational activities involve the use of motorized watercraft, including motor boats for fishing or water-skiing and Personal Watercraft (jet skis). Poor management of these activities can lead to poor water quality, degraded fish and wildlife habitat, pose a health risk for water-contact recreation, and threaten the safety of our drinking water supply. Best Management Practices (BMPs) are actions that Resource Managers can take to reduce the impact on the environment and wildlife. With this in mind, you have been just been appointed as a Park Manager for a “new” state park in New Hampshire. The park has a large, pristine, cold water lake with robust trout populations and two pairs of common loons nesting on the lake.

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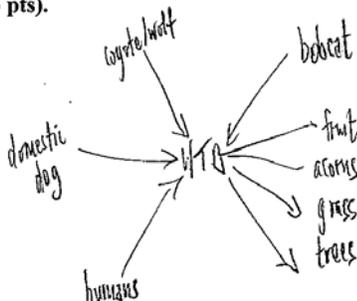
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Species Affected? _____ How? _____
- 2) Impact? _____
Species Affected? _____ How? _____
- 3) Impact? _____
Species Affected? _____ How? _____

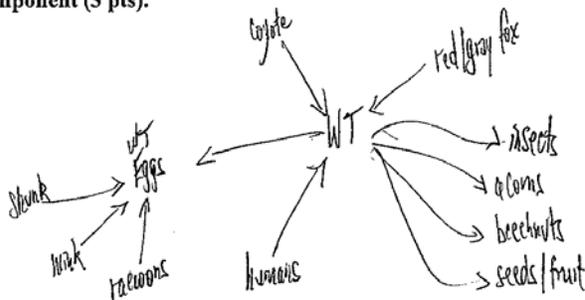
4a Answers - install fuel storage tanks far away from the waterfront, properly store and dispose of all wastewater and human waste, establish “No Wake Zones”, enforce fishing laws (i.e. lead sinkers), outreach programs, inspect boats and trailers to avoid moving non-native plants or animals from one water body to another.

4b Answers - Destruction of vernal pools (amphibians), Contaminated sediments and soils by oil and gas spills to the paved road or directly into the water body when the watercraft are dropped in (amphibs and fish), Noise could affect nesting birds, habitat fragmentation (birds, amphibs)

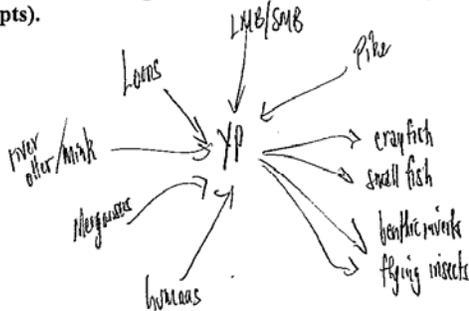
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