

Wisconsin Envirothon 2005

Water Resources

Answer Key

Question 1 (8 points)

I
H
A
D
B
G
E
C

Question 2 (5 points)

Transportation
Industry (Power to run grain and lumber mills)
Fish and wildlife (food)
Drinking water
Place to dump waste

Question 3 (5 Points)

Thermal impacts – warmer
Higher nutrient and sediment load
Reduced habitat
Flow Problems- Lower Baseflow due to less infiltration
Higher event flows due to rapid runoff

Question 4 (1 point each)

F
T
F
F
F

Question 5 (2 points each)

Question 6 (5 points)

Rain gardens	Grassed Waterways
Buffer zones	Inlet Protection
Silt Fence	Straw Bales
Select cut on slopes	Erosion Matting
Sedimentation/Detention/Infiltration Ponds	
Contour farming	Phasing of Construction

Question 7 (5 points)

Question 8 (5 points)

Acid Rain
Agriculture cropland sources
Livestock
Road Runoff (salt/sediment)
Septic system contamination

Mercury (atmospheric deposition)
Shoreland/riparian runoff (fertilizers/pesticides/organics)
Contaminated groundwater

Tiebreaker

Dredging operation to provide deepwater habitat for fish and aquatic life primarily to prevent winterkill.

Question 9 (2 points)

A. Groundwater Drainage Lake

Question 10 (8 points, 1 each)

I
A
E
D
H
F
G
C

Question 11 (4 points)

Ag field with herbicides

Question 12 (3 points)

C

Question 13 (3 points)

C

Question 14 (2 points each)

T
F
F
T
F

Question 15 (5 points)

$40 \text{ acres} \times 43,560 \text{ ft}^2/\text{acre} \times 0.3 \times 2.5 \text{ ft/yr} \times 7.481 \text{ gallons/ft}^3 = 10 \text{ million gallons per year}$

Question 16 (5 points)

$27,000 \text{ gallons/day} \times 365 \text{ days/yr} \times 1 \text{ ft}^3/7.481 \text{ gallons} \times 1/2.5 \text{ ft/yr} \times 1/0.3 \times 1 \text{ acre}/43,560 \text{ ft}^2$

Question 17 (2 points)

They are about the same.

Question 18 (2 points each)

B
D
C
E
A