

Environmental Geology
Geology 322
(150 points --- open book and notes)

Name _____
Spring 2007

1. Fill in the blank (2.5 pts *per blank* filled in correctly, total of 50 pts):

_____ is a legal concept that suggests that all people own certain basic natural resources, such as beaches, rivers, lakes, etc. and that these resources cannot be sold by the government.

In relationship to wetlands, the abbreviation "HGM" stands for

Name the dominant *type* of slope failure near Sand Hill Church _____

General Electric and other manufacturers of electrical equipment polluted the Hudson River, NY with the carcinogenic and persistent organic chemical abbreviated as _____.

Anti-pollution legislation, such as the Clean Water Act, Clean Air Act, Superfund, Resource Conservation and Recovery Act, among others, reflects a new way to uphold the *Law of* _____.

_____ wrote about a land ethic, the concept of including land in our moral community, and the "AB cleavage".

_____ provides a step-by-step way to evaluate the *functional capability* of a wetland.

The *Argo Tunnel* served two main purposes in the Central City and Idaho Springs Mining District of Colorado. These were to 1) _____ and 2)

_____.

Constructed _____ were shown to be effective in reducing acid mine drainage and toxic metal concentrations to Clear Creek from the Big Five Tunnel.

Wetlands can provide benefits & ecological services. Three of these might be:

1) _____, 2) _____, and 3) _____.

Coon Creek is a tributary to the _____ River

GIS stands for _____.

GPR stands for _____.

SAR (a measure of soil sodicity) stands for _____.

The Denny Regrade is in the downtown area of what U.S. city? _____

A technique for weighting dissimilar attributes, abbreviated *AHP*, stands for what?

LiDAR provides *what kind* of environmental information? _____

Use separate paper for questions 2, 3, and 4

2. (25 pts) In class we reviewed three different classification / functional assessment methods for wetlands. These were the original *U.S. Fish and Wildlife Service Circular 39*, the *US Fish and Wildlife Service 1979 Cowardin and others* system, and the *1993 HGM*.

Choose one of the three and describe the way the classification works, its major components, and its advantages and disadvantages.

3. (25 pts) Most natural geological hazards can be mitigated or reduced by *three distinct strategies*. What are the three and give an example of how each might be implemented to reduce the threat of an earthquake or swarm of landslides.

4. (25 pts) Describe the potential and real environmental hazards associated with municipal (city and town / residential and business) waste disposal. What are the ways that municipal waste disposal can be managed?

5. (25 pts) Course assessment and reflection (assigned last week).