NAME: _____ DATE: _____ CLASS PERIOD: _____

NOTES SHEET: WATERSHEDS AND HUMAN IMPACTS

Hellbender Education

How do we define the scale of a watershed?

- Generally, the larger a waterway, the _____ its watershed
- Smaller waterways, like _____ and small _____, also have watersheds, but they are smaller!
- Think of it like nesting bowls: the watershed of a tiny stream is a small part of the watershed of a large river.

Where is the closest watershed to me?

- You're in one _____!
- Everyone lives in a watershed - rainwater that falls right here will flow into a body of water (which likely flows into another)
- Everything we do to the _____ has the potential to affect the _____ because of _____ through watersheds

Where does all the rainwater go?

- Much of it ends up in the oceans
- A lot of rainwater can soak into, or _____, the ground to become part of the _____
- This depends on soil type – hard clay soils are less _____, so water tends to flow over them toward lower ground
- The movement of this water connects large areas of land
- Impacts that _____ have on water in one area can greatly affect water in another.

Human Impacts in Watersheds

Deforestation:

- Removal of trees _____
- More _____ flows into waterways (not held in place by tree roots anymore!)
- **Think**: What would this mean for hellbender salamanders? For other organisms living in streams and rivers?

Urban construction:

- _____ and construction of large buildings – how does this affect water flow?
  - Water can't _____, and therefore lots of runoff is generated
  - Can lead to _____

- Runoff from urban areas picks up all kinds of _____ and _____ as it moves across these hard surfaces
- Ends up in surface *and* groundwater _____

Farming:

- Farmland must be cleared of _____ first!
- Carried by rainwater into streams:
  - _____**:** can cause overgrowth of algae and a reduction in dissolved oxygen
  - _____**:** toxic to many organisms
- Animals grazing in the _____ (the interface between a waterway and the surrounding terrestrial environment)
  - _____ banks
  - Direct deposition of _____

Mining:

- Construction of mines:
  - creates impervious surfaces like _____
  - often involves the use of explosives for _____, which can drastically alter water flow patterns
- Introduction of toxic _____ to water
- _____ from mines can disrupt the _____ of waterways

Hydroelectric dams

- Alter flow patterns, often flooding large areas
- Slower-moving water resulting from dam construction is often much _____
- Can limit the flow of important _____ to downstream areas
- Prevent movement of _____ _____