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Environmental Education Watershed Stewardship Conservation Programs

What do you know about Stormwater and Your Water Supply?

This survey and the prize are sponsored by the Perkiomen MS4 Partnership, a group of municipalities working together to increase awareness about how stormwater run-off impacts your water supply.

All survey results will be scored and those with the most correct answers will be included in a drawing for a \$100 cash prize. **The deadline for submitting the survey is March 12, 2010. Surveys received after this date will not be included in the drawing.**

Please **complete the survey and mail it to:**

Perkiomen Watershed Conservancy
 1 Skippack Pike
 Schwenksville, PA 19407

Or email it to cgilchrist@perkiomenwatershed.org.

(Emails with a send date later than March 12, 2010 will not be included in the drawing.)

Perkiomen MS4 Partnership Stormwater Survey¹ Answer Form

1. _____	2. _____	3. _____	4. _____	5. _____	6. _____	7. _____
8. _____	9. _____	10. _____	11. _____	12. _____	13. _____	14. _____
15. _____	16. _____	17. _____	18. _____	19. _____	20. _____	

NAME: _____

ADDRESS: _____

PHONE: _____

EMAIL: _____

Where did you learn about this survey? _____

¹ Questions and answers based on the Pennsylvania Stormwater Best Management Practices Manual, Draft – January 2005; Prepared for the Department of Environmental Resources; Prepared by Cahill Associates, Inc. and Perkiomen Watershed Conservancy Environmental Education programs.

Conserving and protecting the land and water resources of the Perkiomen Watershed through a commitment to and leadership in environmental education, watershed stewardship and conservation programs.

Perkiomen MS4 Partnership Stormwater Survey

1. On average, how many inches of rain does the Perkiomen Creek watershed receive each year?
 - a. 37 - 45 inches
 - b. 15 - 22 inches
 - c. 25 - 33 inches
 - d. More than 64 inches

2. "Stormwater" refers to:
 - a. High tides resulting from storms at sea.
 - b. Only the rainwater that has been collected in storm sewers and detention basins.
 - c. Rain that exceeds 3 inches in 24 hours.
 - d. All rainfall, no matter where it falls or how much of it falls.

3. The hydrologic cycle refers to naturally occurring environmental events that include:
 - a. Precipitation, collection, distribution.
 - b. Precipitation, infiltration, evaporation, transpiration and condensation.
 - c. Collection, diversion, retention and detention.
 - d. Wash, rinse, repeat.

4. Stormwater run-off occurs when:
 - a. Rain falls faster than gutters can carry it to storm drains.
 - b. Hard surfaces do not allow water to infiltrate into the ground.
 - c. Detention basins overflow.
 - d. It rains during a full moon.

5. Stormwater run-off is changing in the Perkiomen Creek watershed. The changes **do not** include:
 - a. Increased volume and velocity of stormwater run-off.
 - b. Less recharge to local groundwater supplies.
 - c. Improved boating conditions.
 - d. Greater erosion of creek banks and aquatic habitats.

6. The best land use for controlling stormwater run-off is
 - a. Concrete lined detention basins.
 - b. Lawns
 - c. Downspouts connected directly to storm drains
 - d. Forests

7. Proper stormwater management could eliminate all future flooding incidents.
 - a. True
 - b. False

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8. Increasing volumes of stormwater run-off are changing the physical and aquatic conditions of streams and creeks. These changes occur:
 - a. As a result of infrequent, large storms.
 - b. During small to moderate rainfalls that occur frequently.
 - c. During storms that come after an extended dry spell.
 - d. Only in highly developed areas.

9. About half of the average annual rainfall in the Perkiomen Creek watershed occurs in storms that are:
 - a. Less than 1 inch of rainfall in 24 hours
 - b. 1 to 2 inches of rainfall in 24 hours
 - c. 2 to 3 inches of rainfall in 24 hours
 - d. more than 3 inches of rainfall in 24 hours

10. The main source of water flowing in creeks and streams comes from:
 - a. Run-off from rain events.
 - b. Stormwater from detention basins.
 - c. The groundwater aquifer.
 - d. Discharge from wastewater treatment plants.

11. Paved surfaces and storm sewer systems result in
 - a. More efficient control of stormwater run-off.
 - b. Slower stormwater run-off that is easier to control.
 - c. Better conditions in adjacent creeks and streams because run-off is controlled.
 - d. More stormwater run-off that moves at faster speeds.

12. Stormwater can:
 - a. Dissolve pet and livestock wastes and carry pathogens to nearby creeks.
 - b. Wash vehicle oils and fluids from parking lots into creeks.
 - c. Carry excess fertilizers and pesticides from lawns to creeks.
 - d. Cause wastewater treatment plants to discharge untreated wastewater.
 - e. All of the above.

13. Stormwater that drains to a storm sewer system is treated for pollutants before it is released to a local creek.
 - a. True
 - b. False

14. Groundwater supplies are regularly recharged by:
 - a. Water seeping into the ground from creeks and streams.
 - b. Rainfall that seeps into the ground.
 - c. Water that is pumped underground by water companies.

Perkiomen MS4 Partnership Stormwater Survey

- d. Water that has been trapped deep within the Earth that is slowly moving toward the surface.
15. A watershed is:
- a. A geographic area that drains into a single creek or stream.
 - b. A nonprofit environmental organization.
 - c. A building where water is pumped from the ground into a public water system.
 - d. An area where water does not drain into a receiving creek or stream.
16. Less than ____ of the total water on the planet Earth is available as clean water for human use.
- a. 50%
 - b. 25%
 - c. 12%
 - d. 2%
17. Sediment from eroding stream banks is a natural material and poses no harm to aquatic life.
- a. True
 - b. False
18. A riparian buffer is:
- a. The boundary between the sidewalk and the street curb.
 - b. The area near the creek where trees should not be planted.
 - c. The vegetated area adjacent to waterways that helps filter and slow stormwater.
 - d. The large stone area at the end of a storm drain.
19. Local land uses **are not** a factor in ensuring clean water supplies because:
- a. Local aquifers are vast and will never be depleted.
 - b. Local water suppliers can easily and cheaply filter and purify water supplies for human uses.
 - c. Our aquifer originates many miles away and is therefore not impacted by local land uses.
 - d. None of the Above.
 - e. All of the Above.
20. Issues relating to stormwater management should be addressed:
- a. By large government agencies
 - b. Water supply companies and authorities
 - c. Developers
 - d. Individuals
 - e. All of the above.

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