



## Storm Water Savvy, Service Learning Project

Source: Los Angeles Unified School District

### General Information:

Grade Level(s): 9-12

Subject: Science

### Background Information:

Nonpoint source (NPS) pollution, unlike pollution from industrial and sewage treatment plants, comes from many diffuse sources. NPS pollution is caused by rainfall or snowmelt moving over and through the ground. As the storm water runoff moves, it picks up and carries away natural and human-made pollutants, finally depositing them into lakes, rivers, wetlands, coastal waters, and even our underground sources of drinking water. These pollutants include:

- Excess fertilizers, herbicides, and insecticides from agricultural lands and residential areas;
- Oil, grease, and toxic chemicals from urban runoff and energy production;
- Sediment from improperly managed construction sites, crop and forest lands, and eroding stream banks;
- Salt from irrigation practices and acid drainage from abandoned mines;
- Bacteria and nutrients from livestock, pet wastes, and faulty septic systems;

Atmospheric deposition is also a source of nonpoint source pollution.

States report that nonpoint source pollution is the leading remaining cause of water quality problems. The effects of nonpoint source pollutants on specific waters vary and may not always be fully assessed. However, we know that these pollutants have harmful effects on drinking water supplies, recreation, fisheries, and wildlife.

We all play a part in created nonpoint source pollution. Nonpoint source pollution results from a wide variety of human activities on the land. Each of us can contribute to the problem without even realizing it.

We can all work together to reduce and prevent nonpoint source pollution. Some activities are federal responsibilities, such as ensuring that federal lands are properly managed to reduce soil erosion. Some are state responsibilities, for example, developing legislation to govern mining and logging, and to protect groundwater. Others are best handled locally. And each individual can play an important role by practicing conservation and by changing certain everyday habits.

### Project Description:

Students will create a campus storm water policy to guide students, faculty, and the administration in adopting storm water-friendly behaviors while exploring chemistry and environmental concepts. Students will test water found on the campus and in adjacent storm

drains during the rainy season. They will write a campus storm water policy and present their conclusions to the administration, school district, and/or community organizations. Finally students will create a public awareness campaign directed at improving campus storm water habits.

**Community Need(s):**

There is a lack of awareness of how the average citizen contributes to storm water runoff and what can be done to address these issues in Genesee County.

**Potential Community Partner(s):**

Genesee County Drain Commissioner's Office  
Flint River Watershed Coalition  
Genesee County Conservation District

**Content/Skill(s):**

Science-Chemistry  
Language Arts

**Project Components:**

- Students complete a campus stormwater audit
- Students will make three teams: water testing, awareness campaign, public policy and then elect team leaders.
- Students create a task web with project name, goal, necessary supplies, and partners.
- Class collaboratively writes campus storm water policy.
- Class brainstorm and create public awareness campaign.
- Students organize clean-up day on campus or partner with a local organization to do a clean-up day at a local river/stream.
- Students present their policy to administration, community organization, and the school district

**Reflection Prompts:**

- Students create a photo essay showing storm water problems before and after the project.
- Students write a reflective essay on the following question: What factors of led to the problems we currently have regarding storm water?

**Outcomes:**

- Students will be able to determine what the key storm water problems on their campus are.
- Students will be able to describe the connection between storm water problems on campus and those in the community.
- Students will be able to create a plan for solving storm water problems.
- Students will be able to communicate the nature storm water problems and the steps that can be taken to solve them.

**Accommodations/Support for Diverse Learners:**

- Appropriate tasks should be assigned to all students.

- Students should be encouraged to work collaboratively and respect the talents of each of the members of their group.
- Locations should be accessible. When not available, alternative sites should be sought.
- Each group member should have equal opportunities to make significant contributions to the project.