

MAPPING OUR PARKS

Lesson 3: Who should help reduce runoff to your site, and how does your site compare to another national park site?

Overview

In the previous lesson, you calculated the volume of stormwater runoff flowing to your national park stream site.

In this final lesson, you will consider who should work with National Park Service rangers to manage stormwater runoff flowing to your site. You will also compare management of your stream site with management of another national park stream site.

Materials

- FieldScope
- Pen or pencil
- *MOP Report*

Directions

1. Your stream site is in a national park; but what about its watershed? As a class or in small groups, discuss why it might be an issue if your watershed is not completely contained in the park.
2. Launch FieldScope, display your site, compute your watershed, and decrease watershed opacity to 0 (refer to Lesson 1 if you forget how to do this). Show the *National Park Boundaries* layer and estimate the percentage of your watershed that is contained within a national park boundary. Record this percentage on your *MOP Report (3.1)*. Determine the name of this national park by clicking on the **Query Point** button , and then clicking inside the park boundary. Record the park name on your *MOP Report (3.2)*.
3. Use the steps below to determine who should work with the National Park Service to reduce stormwater runoff to your stream site.
 - Show the *State Boundaries* layer, and use the **Query Point** tool to determine which state(s) should be involved to reduce stormwater runoff in your watershed. Record this on your *MOP Report (3.3)*. Hide this layer when you are done.

- Under *Basemap*, change *Terrain Map* to *Street Map* to determine which cities, towns, agencies, organizations, companies, or individuals should be involved to reduce stormwater runoff in your watershed (for example, government officials, highway officials, railroad operators, golf course owners, park managers). List these on your *MOP Report (3.4)*. Be as specific as you can. Return your basemap to *Terrain Map* when you are done.
 - Show the *Land Cover* layer, and determine additional groups and individuals who should be involved to reduce stormwater runoff in your watershed (for example, farmers, ranchers, mine operators). List these on your *MOP Report (3.5)*.
4. Use the steps below to examine another national park stream site provided by your teacher.
- Hide the *Land Cover* and *National Park Boundaries* layers.
 - Use the Student Observation pull-down button  to select this site and your site.
 - Pan and zoom to the other park site, and then compute the watershed for this other site and decrease watershed opacity to 0 (refer to Lesson 1 if you forget how to do this).
 - As a class or in small groups, discuss any errors in the computed watershed and how you know this.
- Hold down the Control (PC) or Command (Mac) key to select more than one site.
5. Show the *Land Cover* layer. Compare land cover in this other watershed to land cover in your watershed. Determine which watershed (yours or the other one) will have a bigger problem with stormwater runoff. Record your answer on your *MOP Report (3.6)*, and explain why you think this.
6. Examine the *National Park Boundaries*, *State Boundaries*, *Land Cover*, and *Street Map* layers for this other watershed. Review Step 3 if you need help with this. Think about which states, cities, towns, agencies, organizations, companies, or individuals should work to reduce stormwater runoff. Based on this, describe which watershed (yours or the other one) will be more difficult to manage in terms of stormwater runoff. Record your answer on your *MOP Report (3.7)*, and explain why you think this.
7. Answer the reflection questions, and then close FieldScope.

