

- Go to [www.mastonline.org](http://www.mastonline.org)
- Log in with your user name and password

## **EXERCISE 1: REDUCTIONS FROM CURRENT PROGRESS**

In this exercise, you will review the steps to create a scenario and make reductions from current progress. This exercise was demonstrated in the webinar on 7/19/2011.

### **2009 Progress**

1. Click on *add scenario*
2. In scenario name, type a title for your scenario. Consider using the date and a descriptive word, e.g.: 07262011\_2009Progress
3. Add a description of your choice
4. Select the source data year of 2010
5. Select the geographical scale of county
6. Select the geographical area of your choice. Multiple boxes may be checked.
7. Select a scenario to copy for each BMP set. Select 2009 Progress for all sectors.
8. Click *add*
9. Click on the *Summary* tab at top of page
10. Click on the word *Download* underneath the summary table Land use Loads

### **No BMP**

1. Click on *add scenario*
2. In scenario name, type NoBMP
3. Add a description of your choice
4. Select the source data year of 2010
5. Select the geographical scale of county
6. Select the same geographical area as the 2009 Progress scenario you created.
7. Click *add*
8. Click on the *Summary* tab at top of page
9. Click on the word *Download* underneath the summary table Land use Loads

## Additional Reductions

In this scenario, we are going to make five changes to reduce loads. We will then compare these results to the 2009 Progress and a No BMP scenario.

1. Select *edit scenario* for the first scenario you created, the one based on the 2009 progress in the first part of this exercise.
2. Navigate to the agriculture page by clicking on the *Agriculture* tab at the top of the page
3. Delete the nutrient management BMP on all land uses
4. Add the enhanced nutrient management BMP on all land uses. You could also choose to reduce nutrient management by half and add enhanced nutrient management to substitute for the other half. For example, if nutrient management were implemented on 90% of the land, reduce nutrient management to 45% and add enhanced nutrient management for 45%.
5. Add cover crop standard drilled rye on high loading lands. Choose a percent implementation that is reasonable in your area.
6. Click on the *Urban* tab. Add the BMP bioswale at a reasonable level of implementation. Select those land uses on which you think it will be adopted.
7. While still on the urban BMP page, add urban forest buffers on appropriate land uses at a reasonable level of implementation.
8. Click on the *Summary* tab at top of page
9. Click on the word *Download* underneath the summary table Land use Loads

Compare the No BMP, 07212011\_2009Progress, and 07212011\_Test land use loads in excel. Sum the loads by sector.

Create a histogram for nitrogen with load on the y-axis and sector on the x-axis.

## **EXERCISE 2: IMPACT OF LAND USE CHANGE AND EFFECTIVENESS BMPS**

In this exercise, you will compare the effect of urban nutrient management, tree planting, and urban nutrient management combined with tree planting.

### **Urban Nutrient Management**

1. Click on *add scenario*
2. In scenario name, type a title for your scenario. Consider using the date and a descriptive word, e.g.: 07262011\_UrbanComparison.
3. Add a description of your choice
4. Select the source data year of 2010
5. Select the geographical scale of county
6. Select the geographical area of your choice. Multiple boxes may be checked.
7. There is no need to load any data for other scenarios for this example. Click *add* to create this scenario.
8. On the Urban BMP page, add urban nutrient management at a reasonable implementation level on County Phase I/II MS4 Pervious.
9. Click on the *Summary* tab at top of page
10. Click on the word *Download* underneath the summary table Land use Loads

### **Tree Planting**

1. On the Urban BMP page, delete urban nutrient management.
2. Add tree planting at a reasonable implementation level and on County Phase I/II MS4 Pervious.
3. Click on the *Summary* tab at top of page
4. Click on the word *Download* underneath the summary table Land use Loads

### **Urban nutrient management and tree planting**

1. On the Urban BMP page, add urban nutrient management back into the scenario at the previous level of implementation and on County Phase I/II MS4 Pervious.
2. Leave tree planting in the scenario.
3. Click on the *Summary* tab at top of page
4. Click on the word *Download* underneath the summary table Land use Loads

In excel, sum the urban and forested loads for each of the three scenarios. Compare the nitrogen load among the three scenarios. Create a histogram for nitrogen with urban plus forested load on the y-axis and scenario on the x-axis.

### **EXERCISE 3: RUNNING OUT OF ACRES TO IMPLEMENT A BMP**

It is possible that a BMP selected will not be credited. This is most commonly because BMPs are selected to cover greater than 100% of the land available. In this exercise, we create a very simple scenario with two BMPs to illustrate this point. This circumstance is most likely to occur when a multitude of BMPs are selected and the user loses track of the total percentage.

1. Click on *add scenario*
2. In scenario name, type a title for your scenario. Consider using the date and a descriptive word, e.g.: 07262011\_Test2.
3. Add a description of your choice
4. Select the source data year of 2010
5. Select the geographical scale of county
6. Select the geographical area of your choice. Multiple boxes may be checked.
7. There is no need to load any data for other scenarios for this example. Click *add* to create this scenario.
8. On the Urban BMP page, add Urban Infiltration Practices - no sand\veg no underdrain at a 90% implementation level on County Phase I/II MS4 Pervious.
9. On the Urban BMP page, add Wet Ponds and Wetlands at a 20% implementation level on County Phase I/II MS4 Pervious.
10. Click on the *Summary* tab at top of page
11. Click on the [Bmps Submitted vs. Credited](#) link at the bottom of the page.
12. Save the file and extract the contents.
13. Open the Land use Loads file in excel.
14. Compare the amount of acres submitted (column F) and amount of acres credited (column G).

Wet ponds and wetlands is third in the sequence of group 43. Urban Infiltration Practices - no sand\veg no underdrain is sixth in the sequence of group 43. The area of land for Wetponds and wetlands is calculated first.

*Prepared by:*

Olivia Devereux, Interstate Commission on the Potomac River Basin (ICPRB)

301-274-8114

[odevereux@icprb.org](mailto:odevereux@icprb.org)