

## **Southeast Minnesota Envirothon 2012 Water Resources Study Guide**

The water resources test at the 2012 southeast Minnesota Envirothon will emphasize increasing your understanding of the Non-Point Source provisions of the Federal Clean Water Act, Minnesota Clean Water Rules, the TMDL process, and non-point source pollution in general.

The basic subjects that will be useful to study are:

- Non-Point source water pollution as dealt with in the Federal Clean Water Act
- Chapter 7050 of Minnesota's pollution control laws
- TMDL process and how we deal with non-point source pollution
- Individual contaminants and how they are managed

### **The United States Environmental Protection Agency:**

Summary of the Clean Water Act

<http://www.epa.gov/lawsregs/laws/cwa.html>

The Clean Water Act in full (focus on pages 173 – 180)

<http://epw.senate.gov/water.pdf>

### **The Minnesota Pollution Control Agency:**

Watersheds defined:

<http://www.pca.state.mn.us/index.php/water/water-types-and-programs/surface-water/watershed-approach/what-is-a-watershed.html>

The watershed approach for assessing water quality problems:

<http://www.pca.state.mn.us/index.php/water/water-types-and-programs/surface-water/watershed-approach/watershed-approach.html>

Waters of the state, contaminants and standards (chapter 7050 of the MN Pollution Control Laws), explore the various provisions:

<https://www.revisor.mn.gov/rules/?id=7050>

Surface water monitoring in MN (particularly note the glossary):

<http://www.pca.state.mn.us/index.php/topics/environmental-data/eda-environmental-data-access/eda-surface-water-searches/eda-surface-water-data-home.html>

TMDL process in Minnesota:

<http://www.pca.state.mn.us/index.php/water/water-types-and-programs/minnesotas-impaired-waters-and-tmdls/minnesotas-impaired-waters-and-total-maximum-daily-loads-tmdls.html>

## **Minnesota Department of Agriculture:**

Herbicide BMPs:

<http://www.mda.state.mn.us/protecting/bmps/herbicidebmps/~media/Files/protecting/bmps/bmpsforagherbicides.ashx>

Acetochlor:

<http://www.mda.state.mn.us/protecting/bmps/herbicidebmps/~media/Files/protecting/bmps/bmpsforacetochlor.ashx>

Atrazine:

<http://www.mda.state.mn.us/protecting/bmps/herbicidebmps/~media/Files/protecting/bmps/bmpsforatrazine.ashx>

## **The University of Minnesota Extension:**

Nitrogen best management Practices:

<http://www.extension.umn.edu/distribution/cropsystems/DC8560.pdf>

Why does this lake look like pea soup?:

<http://www.extension.umn.edu/distribution/naturalresources/00015.html>

Animal related pathogens:

<http://www.extension.umn.edu/distribution/livestocksystems/DI8544.html>

Phosphorus:

<http://www.extension.umn.edu/nutrient-management/Docs/FO-6796-B-1.pdf>

Tillage:

<http://www.extension.umn.edu/distribution/cropsystems/DC8315.html#toc>

Lawns and gardens:

<http://www.extension.umn.edu/distribution/horticulture/DG2923.html>