Science on Seneca
Cruise Data Sheet

Date _____

School _____

Lead Teacher _____

Name of Course _____

Number of Students _____

Please return this data report to:

Barb Halfman/Geoscience Department
Hobart and William Smith Colleges
300 Pulteney St.
Geneva, NY 14456

At each sample location, you will be able to experience one or more of the data collection methods: chemistry, biology, sediments and physical parameters. At each stop that a sample is taken, indicate on the data sheet the location (latitude and longitude) and the depth at which any samples were collected.

Physical Parameters

Date_____

Weather Conditions (include units of measurement)

Air Temperature _____ Barometer reading _____

Describe water surface: calm, choppy, rough

Wind Speed _____ Wind Direction _____

Percent of the sky covered by clouds _____

What else can you describe about the site and the weather conditions? What can you see on shore?

Chemical Results

Follow the instructions provided in the SOS manual and with the kits on the boat. Please dispose of the chemical waste in appropriate waste containers! If you make a mistake in your methods (such as adding too much of a chemical), indicate that on the sheet next to the parameter you are measuring.

	Stop #1	Stop #2	Stop#3
Latitude	_____	_____	_____
Longitude	_____	_____	_____
Sample Temp	_____	_____	_____
Sample Depth	_____	_____	_____
pH	_____	_____	_____
Chloride	_____	_____	_____
Dissolved Oxygen	_____	_____	_____

Secchi Disk Observations

Secchi Disc Depth (m)	_____	_____	_____
Time of Day	_____	_____	_____

Plankton Collection

Date_____

Location of Sample Site

Latitude_____ Longitude _____

Water depth at sample site (specify units _____

1) Prepare a microscope slide of the sample. Using a few drops of 'Detain' will help to slow the plankton down.
2) Identify and/or draw each type of plankton you find.
3) Tally each type until you reach 100 total. What are the percentages of each?
4) If your sample does not have much to look at, make a second slide sample and add the numbers from both slides.

Use this space and the back of this sheet to draw and tally your plankton.

Drawing   **Identification**   **Number Found**

Plankton Collection

Date_____

Drawing   **Identification**   **Number Found**

Sediment Dredge Analysis

Date_____

Location of Sample Site

Latitude_____ Longitude _____

Water depth at sample site (specify units) _____

Character of surface (circle one)   soupy   soft   stiff

Temperature (specify units) _____

Acid Reaction (circle one)   None   Weak   Strong

Smell (circle one)   None   Weak   Strong

Describe the reaction and smell:

Describe the type and location of any mussels you find:

Describe any plant material:

Describe the type and location of any moving creatures you see:

What non-living items did you find?

Cut and scrape the sides of the sample with a spatula. Number and describe the layers, note the color and texture – are they different and why? Use a separate sheet to describe and sketch one of the split faces of the block.

Particle Size Analysis

Date_____

Location of Sample Site

Latitude_____ Longitude _____

Water depth at sample site (specify units) _____

Total Volume of Original Sample (VOS) _____

Sieve Mesh Size	Volume Retained	% of total volume retained
_____	_____	_____
_____	_____	_____
_____	_____	_____
_____	_____	_____

Total Volume retained of sieves   _____

Gravel Volume   _____

Total volume retained (TVR) (Gravel + Sand)   _____

Volume lost (VOS-TVR) (silt)   _____

Classroom Discussion

The following questions are options for classroom discussion after the SOS field trip. (You do not have to send this information back to SOS).

1) Plankton Identification: Biologists believe that the diversity of organisms found in an ecosystem is an important measure of ecosystem stability.

Example:

> Ecosystem X: 200 individuals of Type A
> Ecosystem Y: 180 of Type A and 10 each of Type B and C
> Ecosystem Z: 66 of each of the three types A,B,C

Back in the classroom -hypothesize what would happen if an invasive fish species that only preys on Type A individuals was introduced into the ecosystem. Which ecosystem is most able to adapt to the invasive species?

2) Chemistry Results: Compare your findings with other groups. How does sample depth affect any of the parameters, and why? Do any of the data seem unlikely, possibly due to mistakes in doing the analyses?

3) Sediment Analysis: Compare your findings with your classmates. What are the differences you find at various sample depths and why?