Macroinvertebrates

Collection of macroinvertebrates are planned out before every fiscal year. The UWSP bug lab has an annual capacity of ~500 samples. The streams team and biologists organize and prioritize the yearly sampling. Samples are typically collected in the late fall. UWSP lab enters data about the status of samples into SWIMS when they receive the samples, when they start the samples, and when they complete the samples so that we can closely track the status. UWSP sends an email to a DNR programmer (Jim Hudson) and data managers and then the data is loaded into SWIMS usually within one business day. From collection to finish, samples typically take 10 -12 months to get into SWIMS.

A smaller set of samples is sometimes analyzed by UW-Superior Lab. Getting these samples into SWIMS is a longer process as the data needs to be formatted and checked for completeness. The sample analysis can be shorter than 10 months but these samples can also take up to a week to get into SWIMS because of the formatting that needs to be done.

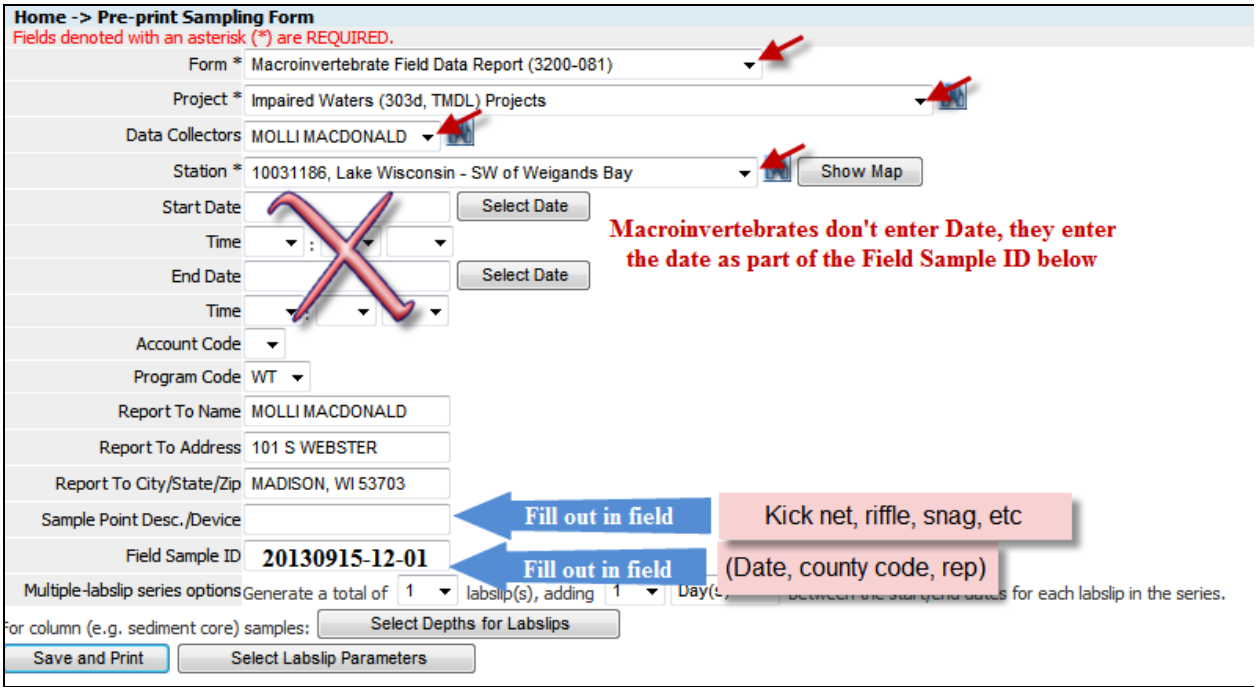
Labslips for Macroinvertebrate sampling are generated in SWIMS. There are two kinds of labslips for this kind of work :

Macroinvertebrate Field Data Report (3200-081) is used for wadeable streams and rivers.
Non-wadeable Macroinvertebrate Field Data Report (3200-136) is used for larger rivers and lakes.
Make sure to fill out the correct one.

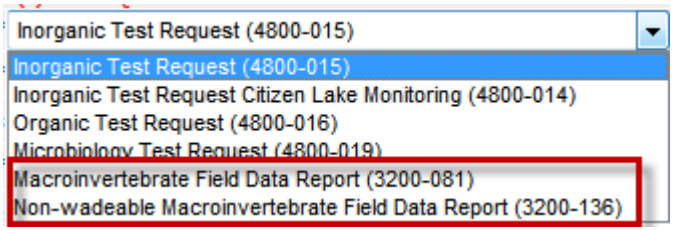
Labslips can be generated from either:

a. My Projects Tab in the Tasks menu, click on Generate Labslips
b. Submit Data Tab, click on Generate Labslip

Filling out the labslip:



Choose the form (labslip type) from drop down menu:



Macroinvertebrate Field Data Report = wadeable sites
Non-wadeable Macroinvertebrate Field Data Report = non-wadeable, larger river sites

Choose correct project using drop down menu
Choose data collectors using drop down menu
Choose station using drop down menu
Leave times and dates blank. Write in these fields when data is collected. This gives the labslip more flexibility for when it can be used.

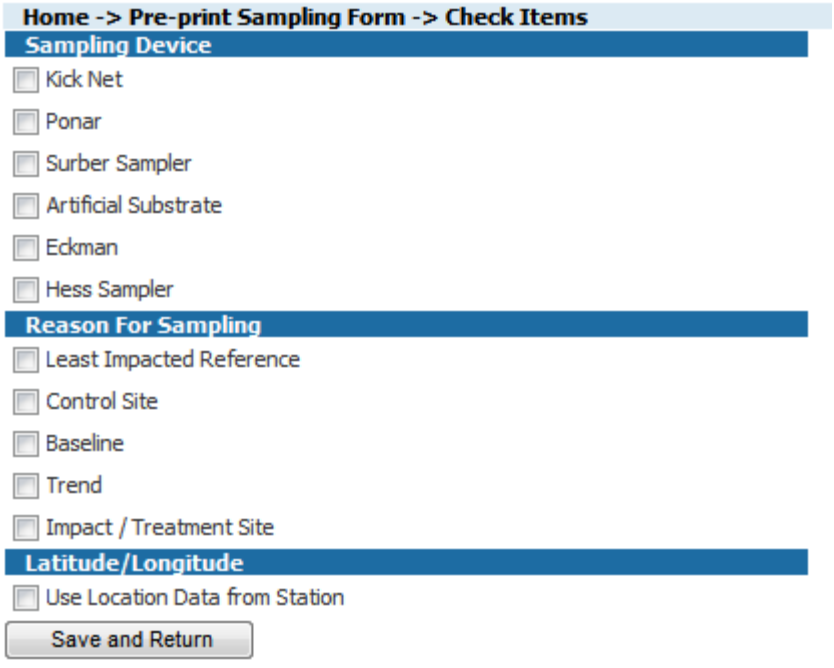
Report to Name will default to whoever is logged into SWIMS

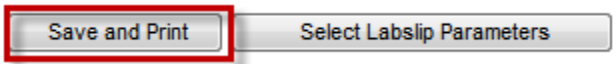
Fill out Sample Point Description/Device in field

Fill out Field Sample ID in field. Typical coding is date, county code and rep # (20110913-12-01). This code incorporates the date the sample was collected. There is no other place on the labslip for the date. Should we add a separate spot for the date?

Skip 'Multiple Labslip Series Options' and 'Select Depths for Labslips' for this kind or labslip.

Click on Select Labslip Parameters





You will see a print preview of your labslip with top half of labslip filled out. Print the labslip.

Wadeable Labslip generated from SWIMS: **(Wait on inserting screenshot as macro labslip is being redone in Winter 2013/2014.)**

State of Wisconsin

Macroinvertebrate Field Data Report
Form 3200-081 (R 9/00) Page 1 of 2

Instructions: Bold fields must be completed.

Station Summary

Waterbody Name	Waterbody ID Code	Sample ID (YYYYMMDD-CY-FD)
PEBBLE BROOK	769500	20131108-68-01

Fill out in field. Date is incorporated into Sample ID

Sampling Location	Fill out in field	Township	Range	Section	1/4 - 1/4	1/4
		6N	19E	27	NW	SW

SWIMS Station ID	SWIMS Station Name	Database Key
683232	PEBBLE BROOK AT GLENDALE RD (BI	85652207

Latitude	Longitude
42.9484734	-88.2456981

Basin (WMU)	Watershed Name	County
FOX (IL)	MIDDLE FOX RIVER - ILLINOIS	WAUKESHA

Sample and Site Descriptors

Sample Collector (Last Name, First)	Project Name
RACHEL GALL	SER NC STREAM STRATIFIED SITES 2013

Sampling Device

[X] Kick Net [ ] Surber Sampler [ ] Eckman
[ ] Ponar [ ] Artificial Substrate [ ] Hess Sampler [ ] Other: _____

Habitat Sampled

[ ] Riffle [ ] Run [ ] Pool
[ ] Microhabitat [ ] Shoreline Composite [ ] Proportionally-Sampled Habitat
[ ] Littoral Zone [ ] Profundal Zone [ ] Wetland

Fill out in field

Total Sampling Time (min)	Estimated Area Sampled (m^2)	Number of Samples in Composite	Replicate No._____ of _____

Reason For Sampling

[ ] Least Impacted Reference [ ] Baseline [ ] Impact / Treatment Site
[ ] Control Site [ ] Trend [ ] Other: _____

Water Color	Water Temp. (C)	D.O. (mg/l)	D.O. (% sat.)	pH (su)	Turbidity (NTUs)	TDS (mg/l)
[ ] Clear [ ] Turbid [ ] Stained						

Conductivity (umhos/cm)	Stream Order	Stream Gradient (m/km)	Estimated Stream Velocity (m/s)
			[ ] Slow (< 0.15 m/s) [ ] Moderate (0.15 m/s - 0.5 m/s) [ ] Fast (> 0.5 m/s)

Measured Velocity (mps)	Average Stream Depth (m)	Average Stream Width (m)

Composition of Substrate Sampled (Percent):

Bedrock:_____ Boulders (261 mm - 4.1 m dia.): _____ Rubble (65 - 260 mm dia.): _____ Gravel (2 - 64 mm dia.):_____

Sand:_____ Clay:_____ Silt:_____ Muck:_____ Overhanging Vegetation:_____

Aquatic Macrophytes:_____ Leaf Snags:_____ Course Woody Debris:_____ Other (_____):_____

Embeddedness of Substrate at Sample Site (%)	Canopy Cover at Sample Site (%)

Stream and Watershed Descriptors

N = Not a problem
U = Present, but uncertain as to degree of impact
P = Present, and probably creating a problem
Blank = Uncertain

Factors that may be influencing Water Resource Integrity	Local	Water-shed	Factors that may be influencing Water Resource Integrity	Local	Water-shed
Biological			**Chemical**		
Macrophytes			Chlorine		
Filamentous Algae			Organic Toxics		
Planktonic Algae			Inorganic Toxics		
Diatoms / Periphyton			Nutrients		
Slimes			Dissolved Oxygen		
Iron Bacteria			Other - Specify:		
Exotics - Specify:			**Sources of Stream Impacts**		
Other - Specify:			Urban NPS		
Physical			Construction Erosion		
Sludge			Point Source - Specify:		
Thermal			Cropland Erosion		
Turbidity			Pasturing		
Sedimentation / Channel Aggradation			Bank Erosion		
Hydraulic Scour / Channel Incision			Barnyard Run-Off		
Bank Erosion			Tile Drainage - Organic Soils		
Upstream Channelization			Tile Drainage - Mineral Soils		
Local Channelization			Septic Systems		
Low Flow			Tributary(s)		
Upstream Impoundment			Springs		
Dow nstream Impoundment			Wetland Drainage		
Other - Specify:			Other - Specify:		

Comments

Special Instructions for Laboratory

For Lab Use Only		
Sample Sorter	Taxonomist	Estimated Percent of Sample Sorted
Date Processed	Specimens Saved	

Fill out in field. This info is useful for determining questionable metrics once the counts are completed.

Non-wadeable labslip:

State of Wisconsin

Non-Wadeable Macroinvertebrate Field Data Report

Form 3200-136 (R 10/11) Page 1 of 2

Station Summary

Waterbody Name	WBIC	Field Seq no. generated by SWIMS
BLACK RIVER	1676700	64111789

SWIMS Station ID	SWIMS Station Name		
10033693	[illegible]		
Field Sample ID (retrieval date)	BLACK RIVER	HALLS CREEK	JACKSON

Example: 20110913-12-01 (date, county code, rep)

Project Name LARGE RIVER MACROINVERTEBRATE SAMPLING

Latitude	Longitude	Determination Method	Datum Used
44.39506	-90.74542		

Site Access Details: _____

Sample and Site Descriptors

Sampling Device

[X] Standard Non-w adeable Hester Dendy — Hester Dendy Area Calculation = Plate Size (cm) _____

Number of Plates _____

[ ] Other Device: _____ — Device Area Calculation = Plate Size (cm) _____

Habitat Sampled

[ ] Suspended [X] River Bed

Snags (no./100m) _____ Avg. size (dbh)_____ Coniferous and/or Deciduous (circle)

Riparian Land Use, Vegetation, and Condition: _____

Substrate Composition

Bedrock_____ % Boulder _____% Cobble _____% Gravel_____ %

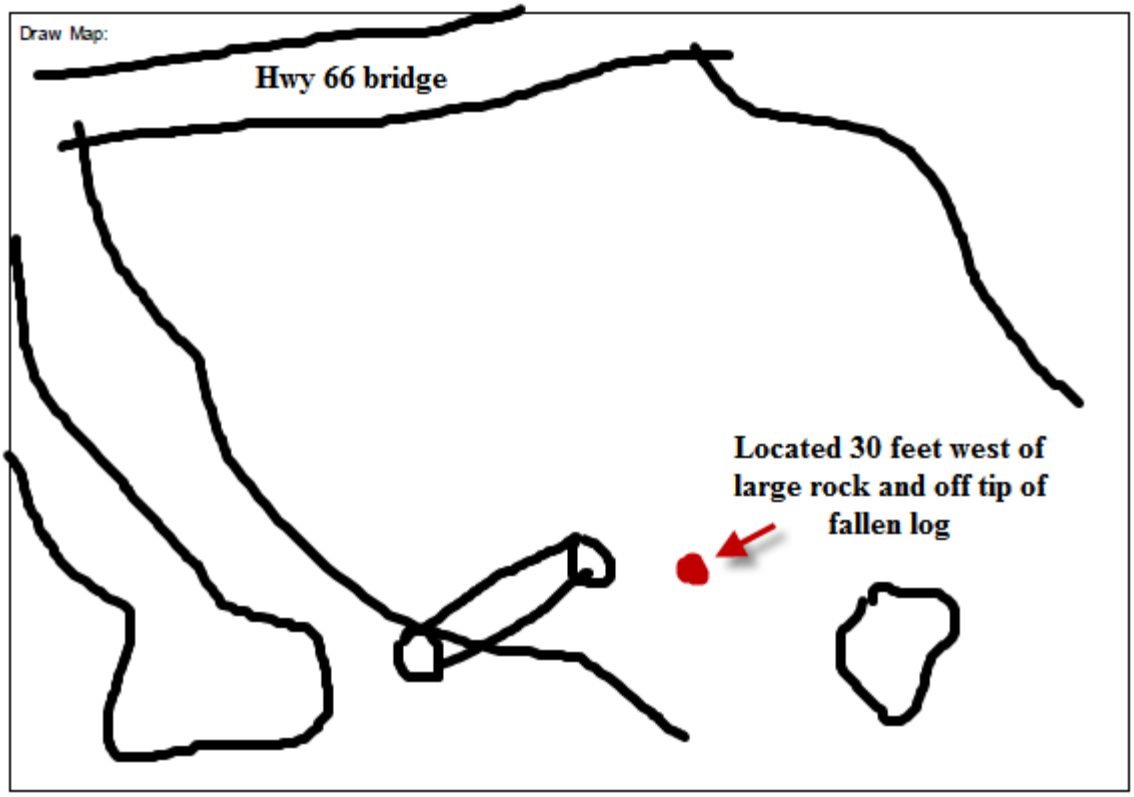
Sand _____ % Silt _____ % Clay _____% Muck _____ %

Aquatic Macrophytes_____% CWD _____ % Other (_____): _____%

Field Measurements

	Deployment	Retrieval	Total Colonization Time (Days)
Date:			
Time:			
Personnel:			
Water Depth at Location (m):			
Sampler Height Above Substrate (m):			
Bank Placement: R L			
Distance From Bank:			
Water Temp (C):			
Water Color (clear, turbid, stained):			
D.O. (mg/L):			
pH:			
Conductivity:			
Transparency Tube (cm):			
Turbidity (NTUs):			
Water Velocity (m/s):			

Draw Map:



Ethanol replaced the second day?	Yes	No
Label on inside of jar?	Yes	No
Label on outside of jar?	Yes	No

Additional Notes:

For Lab Use Only		
Sample Sorter	Taxonomist	Estimated Percent of Sample Sorted
Date Processed	Specimens Saved	

Downloading Bug Data:

In SWIMS, you are able to download just the Bug Metrics for your projects or sites.

Go to the Find Data tab, Search Results, and choose Common Bug Metrics from the drop down menu under Parameter Group. Common bug metrics include the following:

Shannon's Diversity Index
FBI
IBI
HBI
SWIMS HBI Max 10
Species Richness
Genera Richness
Percent EPT Genera
Percent EPT Individuals
Percent Scrapers
Percent Filterers
Percent Shredders
Percent Gatherers
Percent Chironomids