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QUALITY CONTROL/QUALITY ASSURANCE DOCUMENTATION

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0	Document Creation	04/28/2025	

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(Place to acknowledge peer reviewer)

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1.0 SCOPE AND APPLICABILITY

This document presents the North Dakota Department of Environmental Quality, Division of Water Quality's (DWQ) Standard Operating Procedure (SOP) for targeted site selection. This SOP applies to all DWQ field staff, non-DWQ cooperators, and citizen volunteers.

2.0 SUMMARY OF METHOD

The North Dakota Department of Environmental Quality (NDDEQ) utilizes reference (least impaired) and disturbed (most impaired) physical conditions to provide an estimate of natural and human induced variability in biological community structure and in stream habitat quality. Sites are also used to develop threshold values and compile Indices of Biological Integrity (IBI). When selecting reference or disturbed conditions the NDDEQ Watershed Management Program (WMP) must account for natural and climatic variability across the state of North Dakota. To account for environmental variability in North Dakota, the state's total land area was separated into four regions by US Geological Survey Level III Ecoregions and each area was evaluated individually.

The first step in site selection involves a remote sensing component which utilizes an ESRI ArcView Geographic Information System (GIS), ArcGIS Pro extensions and various GIS data layers. The Analytical Tool Interface for Landscape Assessments (ATtILA) extension allows users to calculate many common landscape metrics including: landscape characteristics, riparian characteristics, human stressors and physical characteristics. Grouped metrics are used to estimate anthropogenic stressors in a 600 meter (m) circular buffer around distinct sampling points located on perennial flowing waters of the state. Ultimately a final site score is calculated based on the varying metric scores in the buffer. The most disturbed points are classified with the highest scores while the least disturbed points receive the lowest scores. Selected targeted sites move to the second evaluation step.

The second step is to evaluate each site individually by using additional GIS layers. Sites are plotted and examined for landscape attributes which may result in the site not being suitable for sample collection (e.g. water was too deep). Layers used in screening step two include but are not limited to: roads; aerial photos; public and private land ownership; township, range and section grids; county boundaries; and dam structures. The remaining viable sampling locations are then evaluated with another level of screening.

The third step involves site reconnaissance, also known as 'ground truthing'. During this step, WMP personnel visit selected sites to evaluate using best professional judgment. Some important features to consider while 'ground truthing' are stream

geomorphology, stream habitat alterations (e.g. dams, rip-rap), land use in or adjacent to the riparian zone, and other human influences at or near site locations.

3.0 HEALTH AND SAFETY WARNING

Field personnel should be aware that hazardous conditions potentially exist at every waterbody. If unfavorable conditions are present at the time of sampling, the sample visit should be rescheduled. If hazardous weather conditions arise during sampling, such as lightning or high winds, personnel should cease sampling and move to a safe location.

Field personnel should also be aware of wildlife, insects, and plants that could be harmful as well as heat stroke and hypothermia. A first aid kit should be accessible for any potential cuts, stings, bites, or contact with poisonous plants. Also ensure there is access to water, sunscreen, insect repellant, and extra clothing.

4.0 CAUTIONS

Care should be taken to use the most recent available data, and that data is being utilized in the ArcGIS software. All data needs to be on the same grid framework and should follow NDDEQ standards.

5.0 INTERFERENCES

ArcGIS layers should be running on the same grid.
Note all factors that may affect the stream height/width including estimated inches of rain fall in past 72 hours, and any other comments that may be of interest.

6.0 PERSONNEL QUALIFICATIONS/RESPONSIBILITIES

All personnel must read this SOP annually and acknowledge they have done so via a signature page (see Appendix B). New field personnel must also demonstrate successful performance of the method. The signature page will be signed by both trainee and trainer to confirm that the training was successfully completed and that the new personnel are competent in carrying out this SOP. The signature page will be kept on-file at DWQ along with the official hard copy of this SOP.

7.0 EQUIPMENT AND SUPPLIES

- When Using ATtILA method
    - ArcGIS Pro 3.1 or later with Spatial Analyst Extension

- Analytical Tool Interface for Landscape Assessments (ATtILA) Extension (EPA)
- National Land Cover Data (NLCD) (USGS)
- National Hydrology Dataset (NHD) (USGS)
- National Elevation Dataset (NED) (USGS)
- National Agriculture Imagery Program (NAIP) 2003 Aerial Photography (NRCS) OR Digital Orthophoto Quarter Quadrangles (DOQQ) (USGS)

8.0 PROCEDURE

ATtILA Method

Step 1: Remote Sensing

1. Prepare Stream Reach Shapefile

- In **ArcGIS Pro**, create a shapefile of the stream reaches in the study population using the **National Hydrography Dataset (NHD)**. It is important to check the spatial projection of the downloaded NHD and match the rest of your project to that spatial reference. If you download the NHD in NAD83, use this same projection for all the data layers that will be used by the ATtILA extension.
- For a statewide case, the study population consists of all perennial streams in North Dakota.
- Use the **F_CODE** field in the NHD attribute table to select ***perennial streams*** for your standard study.

2. Generate Point Shapefile and Buffers

- In ArcGIS Pro, use the “Generate Points Along Line” tool to generate a shapefile containing points placed 2,000 meters apart along the NHD lines from Step 1.
- A unique identifier for each point will be created in the point file from above step called ORIG_FID
- Create a 600-meter buffer around each point (ORIG_FID) to define the **assessment unit boundaries** which will be used in ATtILA.

3. Create a Slope Grid

- Using ArcGIS Pro, generate a slope grid (percent rise) from a statewide raster **NED (National Elevation Dataset**). North Dakota’s most current statewide raster can be found as **Hub_ras/DEM_NED_10M** in the shared State HUB geospatial databases.

- Merge individual tiles if your NED dataset consists of multiple tiles using the "Mosaic to New Raster" tool.
- Use the ArcPro Spatial Analyst extension (ensure license for this extension is assigned to your ArcPro account) to run the 'Slope' tool on the NED/DEM and select percent rise at 3% (or other percentage, depending on your study. For ISS TSS, 3% slope has been determined as the desired metric).
- **Ensure the NED raster is** in the correct spatial reference (NAD83 or WGS84) and ensure all layers and rasters used within the ATtILA extension are in the exact same spatial reference. i.e, if the other shapefiles used in this project are in NAD83 or WGS84, ensure all shapefiles match the spatial reference of the raster/slope grid. Use "project" tool if needed.
- **The Slope Raster must have values displayed in 'Percent', not in 'Degrees'.**
- Also, to use the NED in ATtILA, the raster should be in **Integer Grid** (review the layers properties to determine whether it is Floating Point or Integer Grid. If needed, use "Raster Calculator" to convert Floating Point to Integer Grid using the following formula:

  Int("hub_ras.DBO.DEM_NED_10_Band1" + 0.5)

- To determine slope percent, use the **Map Calculator** in **Spatial Analyst** extension for ArcMap/ArcGIS Pro and the function:

  [grid].slope(zFactor, percentRise)

  - Set the zFactor for unit conversion (if x, y, and z are in different units).
  - Set percentRise to true for percent slope or false for degree slope.

4. Create a Public Lands Layer

- Combine public land shapefiles into a single Polygon layer representing all public land areas. The final shapefile/feature class should assign a single value to all public land without distinguishing between land types.
- Input datasets found on North Dakota HUB databases may include:
  - **North Dakota State Parks and Recreation Areas**
  - **North Dakota Game and Fish Lands**
  - **North Dakota Forest Service Lands**
  - **US Fish and Wildlife Lands**
  - **US Forest Service Lands**

- **Bureau of Land Management Lands**

- **Ensure that your final Public Land Layer is projected to the same system as all of the other files being prepared within this guidance document.**

5. Select a Land Cover layer from North Dakota ITD's GIS HUB:

- North Dakota IT GIS HUB provides these metrics in a land cover shapefile available here: hub.ras.DBO.LANDCLASS_NLC_2019_BAND.1
- Ensure that the Landclass data is in the correct spatial reference for your project as it must be in the same. Use the 'Project Raster' tool in ArcPro if needed.
- Ensure that the Landclass data is in Integer Grid rather than floating grid. If needed, use the "Raster Calculator" tool in ArcPro to convert Floating Point to Integer Grid using the following formula:

Int("hub_ras.DBO.DEM_NED_10_Band1" + 0.5)

6. Now that you have the above layers prepared, choose the appropriate NDDEQ Metrics to quantify using the ATtILA Toolkit. E.g. user must ask themselves, what are the desired metrics within the environment when selecting my sample sites?

- Consult the **ATtILA User Manual** and choose metrics relevant to your particular study. The following metrics will be used.
  - Percent forest
  - Percent road density
  - Percent agriculture on > 3% slope
  - Percent herbaceous cover
  - Percent Developed High Intensity
  - Percent within the Riparian Zone (45 m buffer around stream reach)
    - Percent Agriculture
    - Percent Forest
    - Percent Herbaceous Cover

For Help with ATtILA and its many tools go to https://github.com/USEPA/ATtILA2/wiki

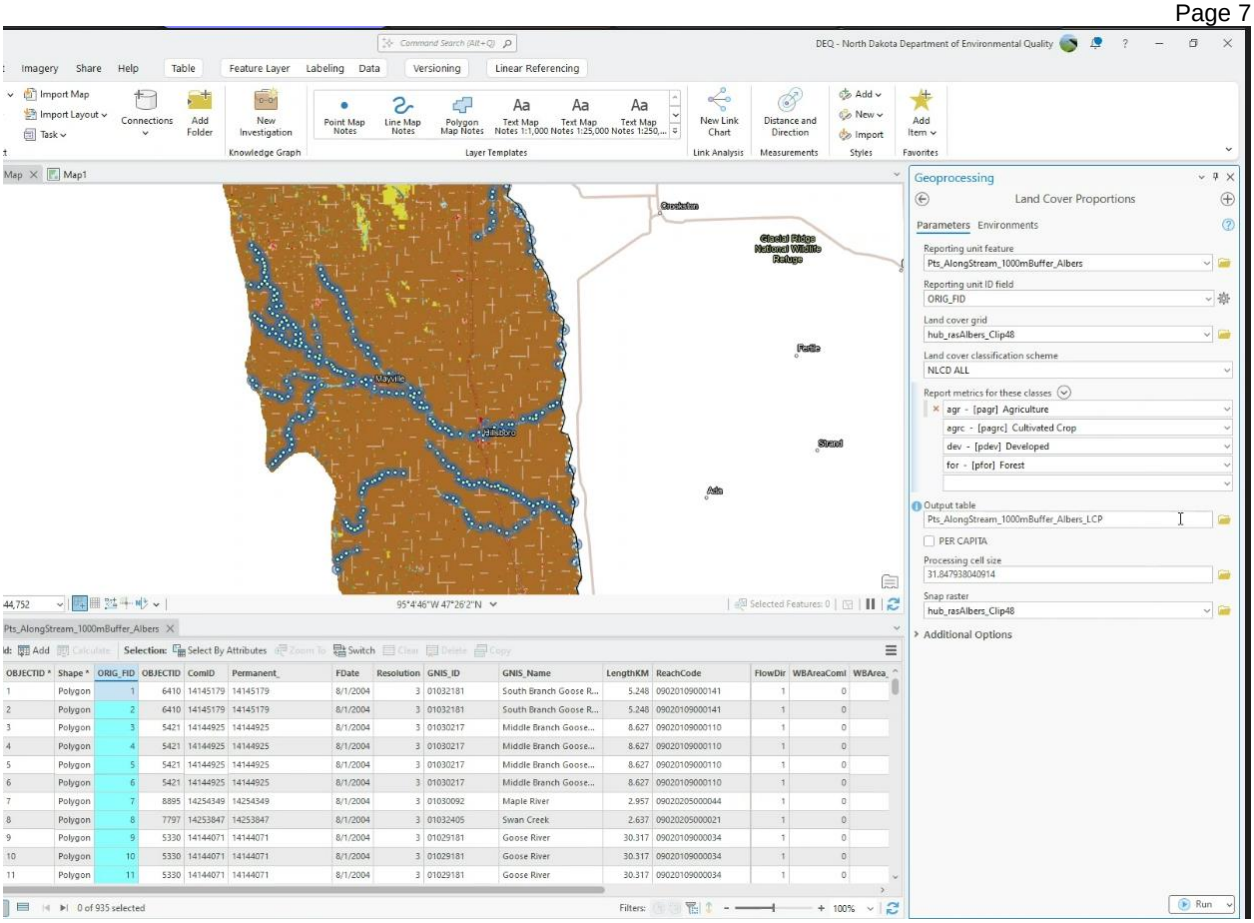


Figure 1. Land Cover Proportions

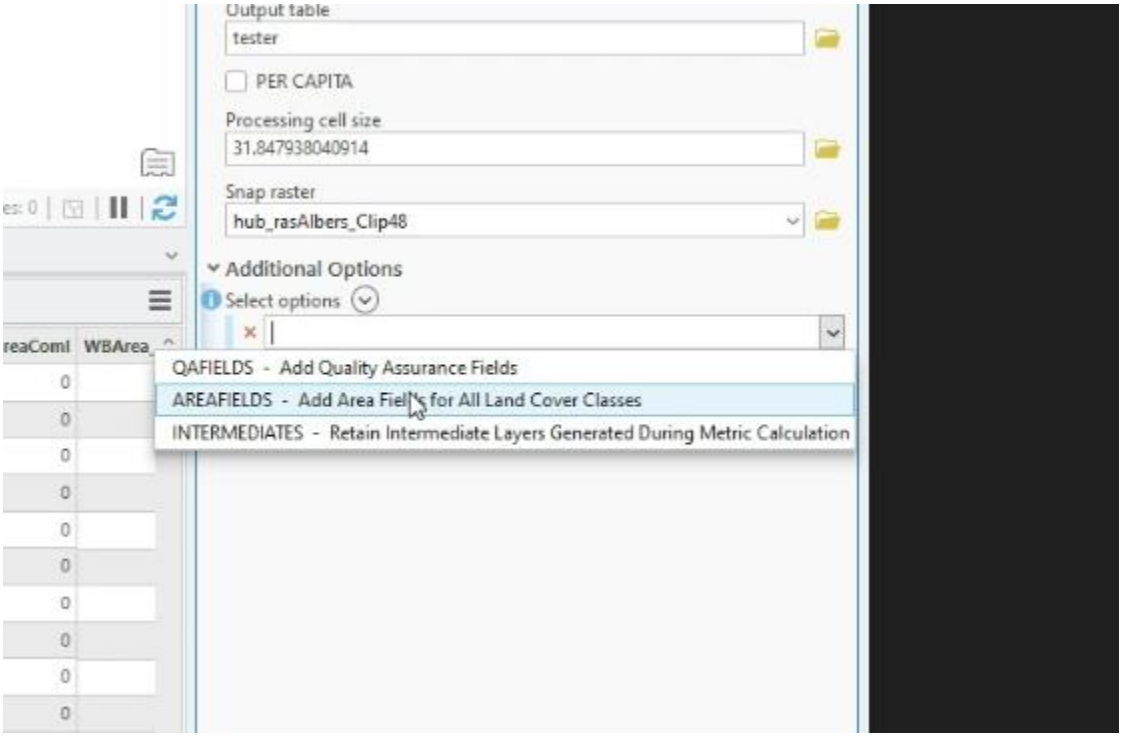
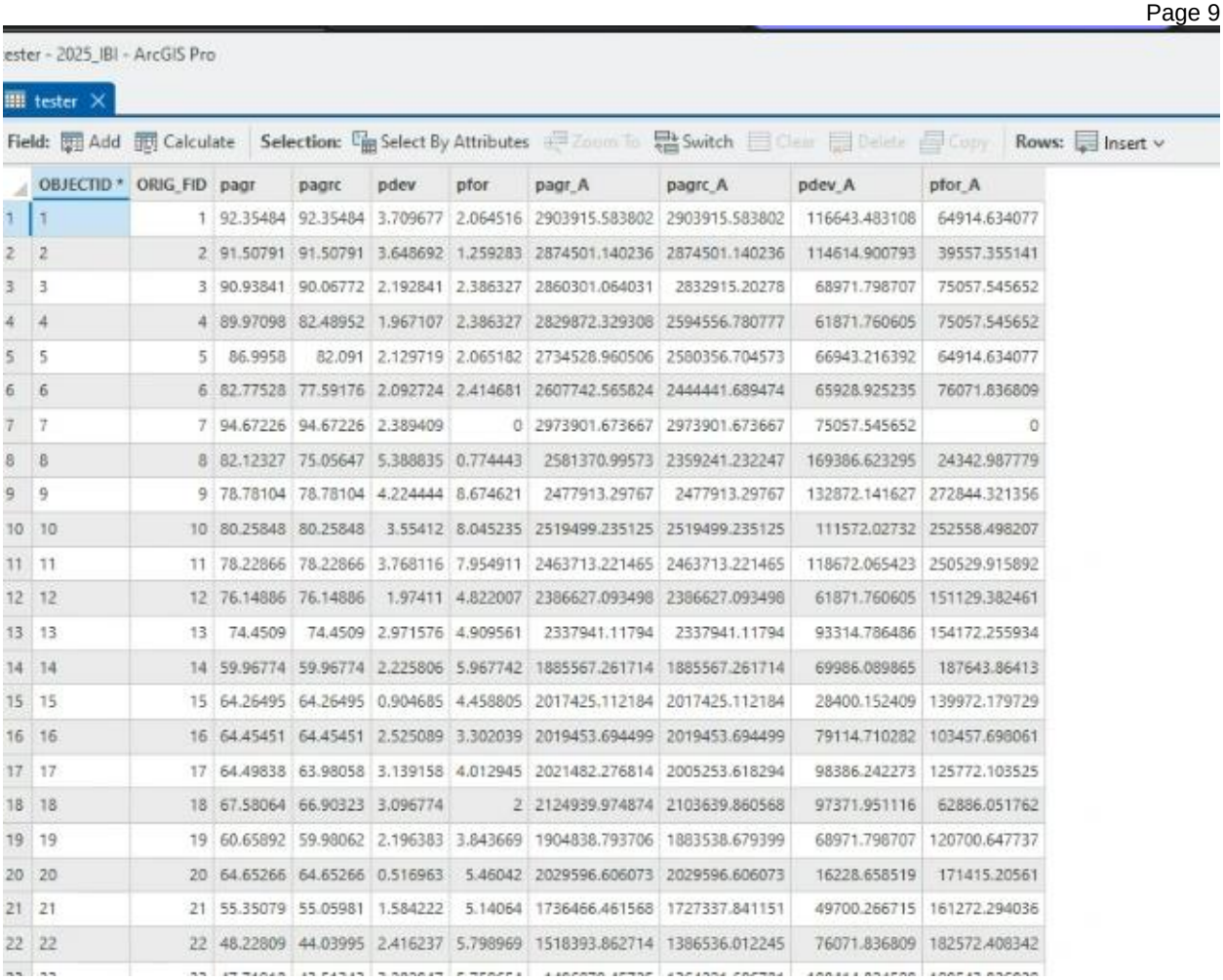


Figure 2. Choose AREAFIELDS for percent area of the selected metrics.



ester - 2025_IBI - ArcGIS Pro

tester

Field: Add Calculate | Selection: Select By Attributes Zoom To Switch Clear Delete Copy | Rows: Insert

	OBJECTID *	ORIG_FID	pagr	pagrc	pdev	pfor	pagr_A	pagrc_A	pdev_A	pfor_A
1	1	1	92.35484	92.35484	3.709677	2.064516	2903915.583802	2903915.583802	116643.483108	64914.634077
2	2	2	91.50791	91.50791	3.648692	1.259283	2874501.140236	2874501.140236	114614.900793	39557.355141
3	3	3	90.93841	90.06772	2.192841	2.386327	2860301.064031	2832915.20278	68971.798707	75057.545652
4	4	4	89.97098	82.48952	1.967107	2.386327	2829872.329308	2594556.780777	61871.760605	75057.545652
5	5	5	86.9958	82.091	2.129719	2.065182	2734528.960506	2580356.704573	66943.216392	64914.634077
6	6	6	82.77528	77.59176	2.092724	2.414681	2607742.565824	2444441.689474	65928.925235	76071.836809
7	7	7	94.67226	94.67226	2.389409	0	2973901.673667	2973901.673667	75057.545652	0
8	8	8	82.12327	75.05647	5.388835	0.774443	2581370.99573	2359241.232247	169386.623295	24342.987779
9	9	9	78.78104	78.78104	4.224444	8.674621	2477913.29767	2477913.29767	132872.141627	272844.321356
10	10	10	80.25848	80.25848	3.55412	8.045235	2519499.235125	2519499.235125	111572.02732	252558.498207
11	11	11	78.22866	78.22866	3.768116	7.954911	2463713.221465	2463713.221465	118672.065423	250529.915892
12	12	12	76.14886	76.14886	1.97411	4.822007	2386627.093498	2386627.093498	61871.760605	151129.382461
13	13	13	74.4509	74.4509	2.971576	4.909561	2337941.11794	2337941.11794	93314.786486	154172.255934
14	14	14	59.96774	59.96774	2.225806	5.967742	1885567.261714	1885567.261714	69986.089865	187643.86413
15	15	15	64.26495	64.26495	0.904685	4.458805	2017425.112184	2017425.112184	28400.152409	139972.179729
16	16	16	64.45451	64.45451	2.525089	3.302039	2019453.694499	2019453.694499	79114.710282	103457.698061
17	17	17	64.49838	63.98058	3.139158	4.012945	2021482.276814	2005253.618294	98386.242273	125772.103525
18	18	18	67.58064	66.90323	3.096774	2	2124939.974874	2103639.860568	97371.951116	62886.051762
19	19	19	60.65892	59.98062	2.196383	3.843669	1904838.793706	1883538.679399	68971.798707	120700.647737
20	20	20	64.65266	64.65266	0.516963	5.46042	2029596.606073	2029596.606073	16228.658519	171415.20561
21	21	21	55.35079	55.05981	1.584222	5.14064	1736466.461568	1727337.841151	49700.266715	161272.294036
22	22	22	48.22809	44.03995	2.416237	5.798969	1518393.862714	1386536.012245	76071.836809	182572.408342

Figure 3. Resulting Table from above steps. p=% (e.g., pagr = percent agriculture).

Join ORIG_FID to original points along line layer to add these values to our points.

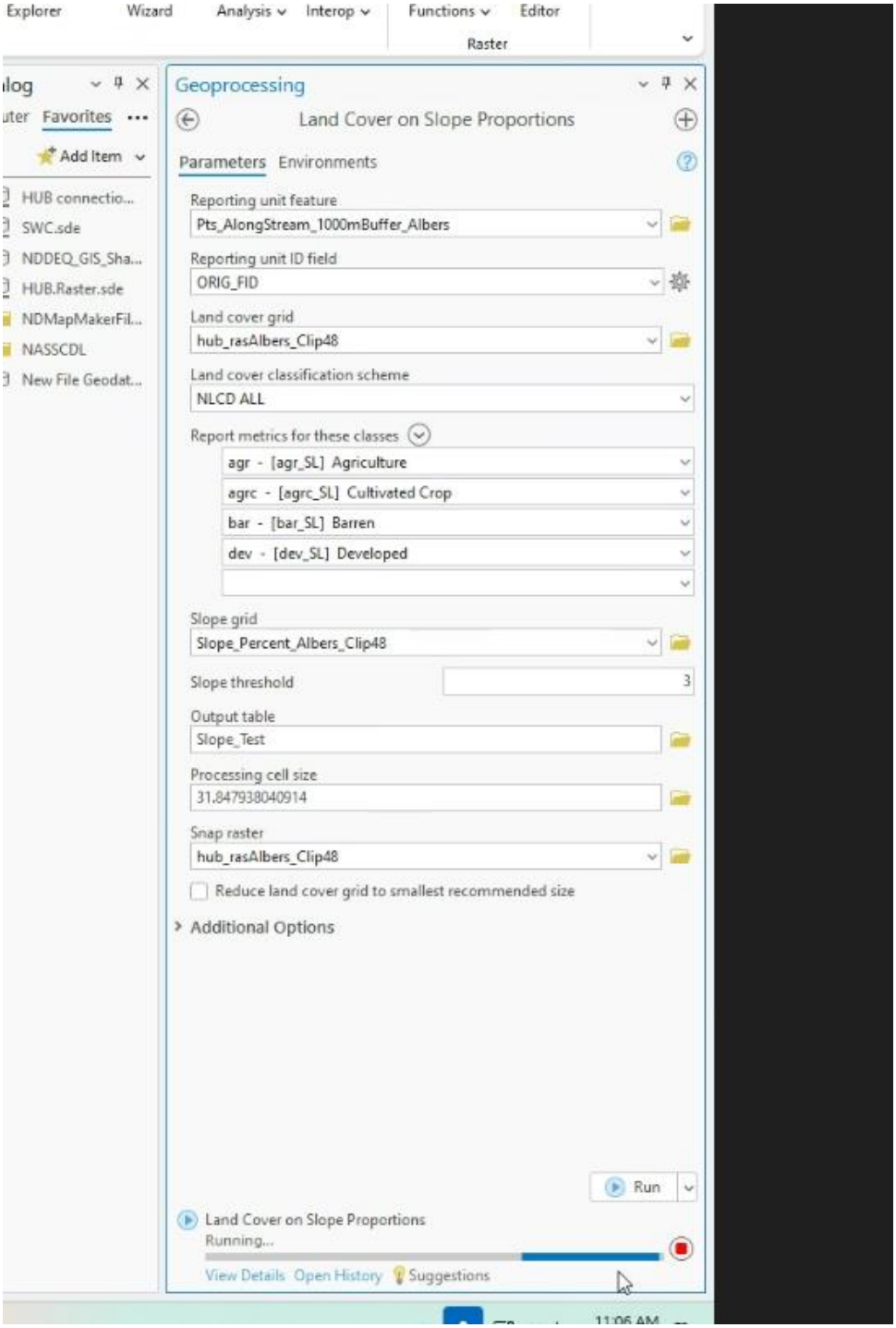


Figure 4. Land Cover Proportions on > 3% Slope.

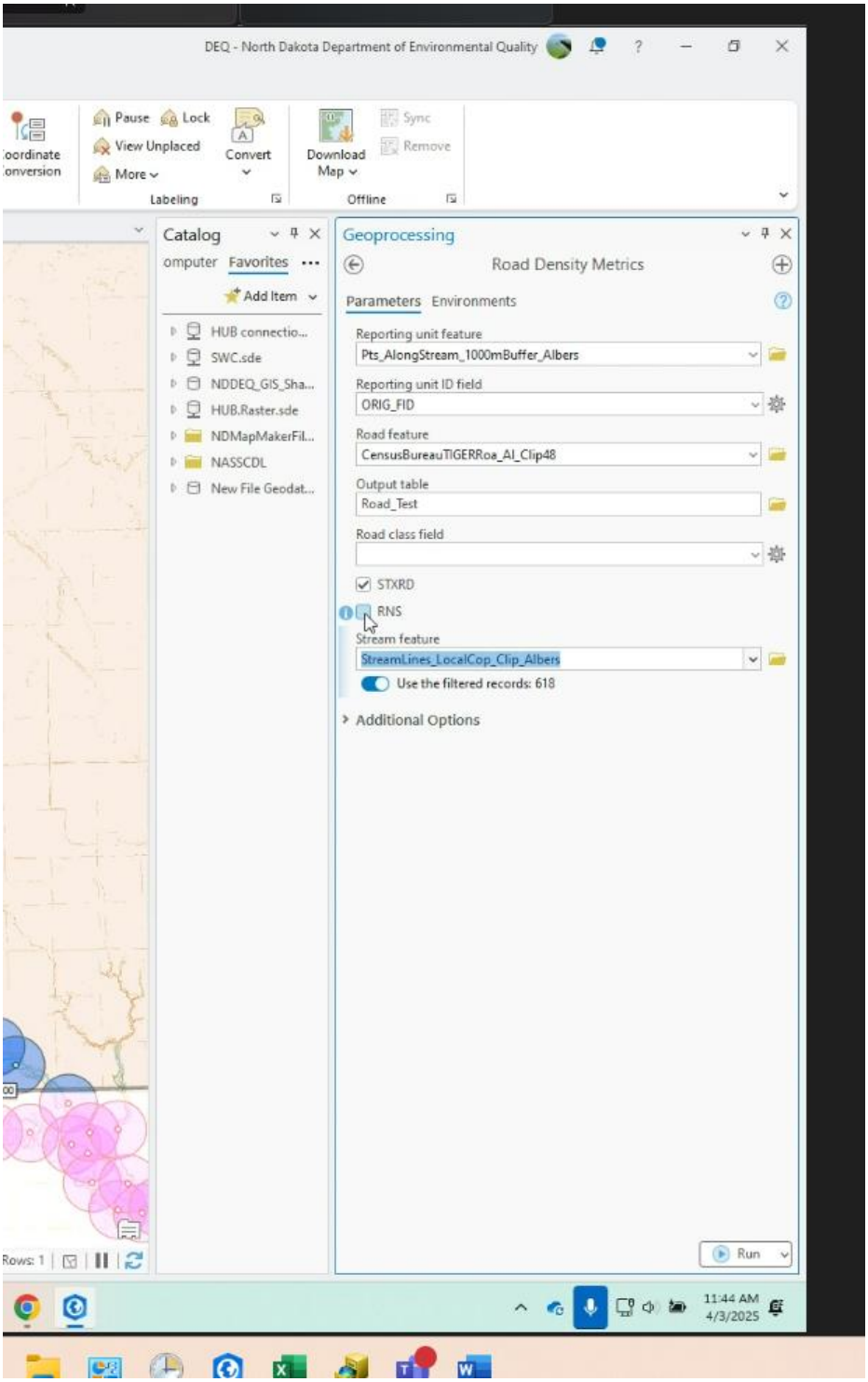
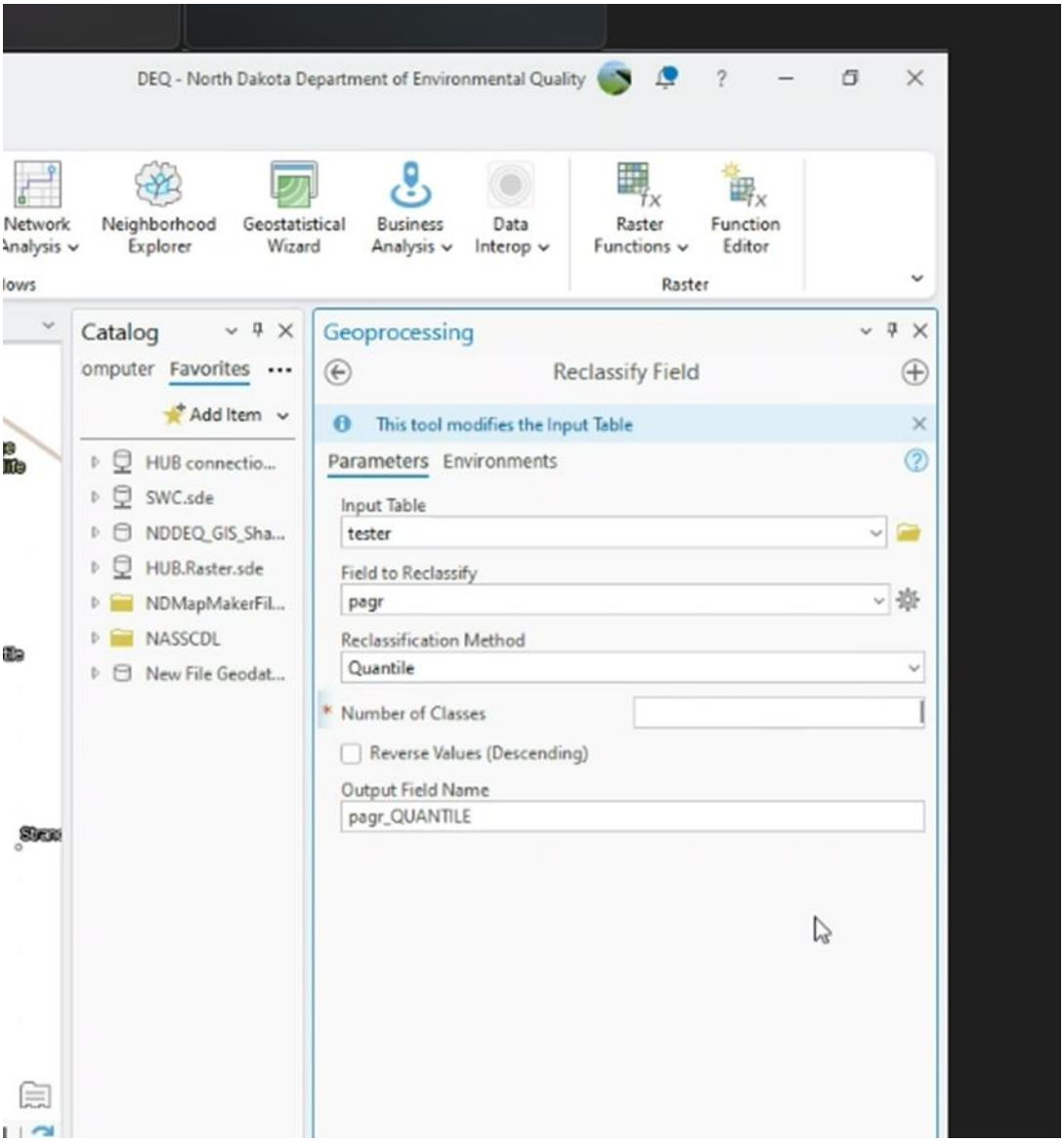


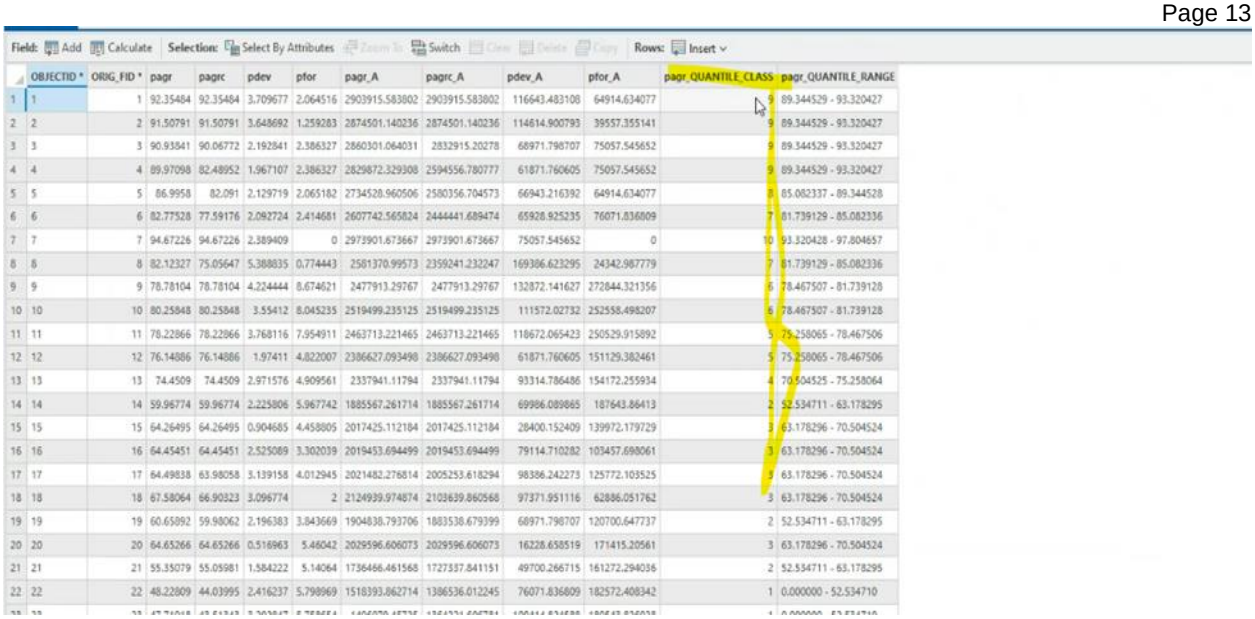
Figure 5. Road Metrics Tool

- Once all the data metrics are pulled into your ArcPro environment, the ATtILA extension calculates an **index score** for each assessment unit (1,000-meter

buffered points) based on quantile rankings. Define the number of quantiles (10) by using the geoprocessing tool “Reclassify Field.”

- Select the Reverse Values (Descending) box for % Forest, % Herbaceous Cover, % Forest in Riparian Zone and % Herbaceous Cover in Riparian Zone.





	OBJECTID *	ORIG_FID *	pagr	pagrc	pdev	pfor	pagr_A	pagrc_A	pdev_A	pfor_A	pagr_QUANTILE_CLASS	pagr_QUANTILE_RANGE
1	1	1	92.35484	92.35484	3.709677	2.064516	2903915.583802	2903915.583802	116643.483108	64914.634077	9	89.344529 - 93.320427
2	2	2	91.50791	91.50791	3.648692	1.259283	2874501.140236	2874501.140236	114614.900793	39557.355141	9	89.344529 - 93.320427
3	3	3	90.93841	90.06772	2.192841	2.386327	2860301.064031	2832915.20278	68971.798707	75057.545652	9	89.344529 - 93.320427
4	4	4	89.97098	82.48952	1.967107	2.386327	2829872.329308	2594556.780777	61871.760605	75057.545652	9	89.344529 - 93.320427
5	5	5	86.9958	82.091	2.129719	2.065182	2734528.960506	2580356.704573	66943.216392	64914.634077	8	85.082337 - 89.344528
6	6	6	82.77528	77.59176	2.092724	2.414681	2607742.565824	2444441.689474	65928.925235	76071.836809	7	81.739129 - 85.082336
7	7	7	94.67226	94.67226	2.389409	0	2973901.673667	2973901.673667	75057.545652	0	10	93.320428 - 97.804657
8	8	8	82.12327	75.05647	5.388835	0.774443	2581370.99573	2359241.232247	169386.623295	24342.987779	7	81.739129 - 85.082336
9	9	9	78.78104	78.78104	4.224444	8.674621	2477913.29767	2477913.29767	132872.141627	272844.321356	6	78.467507 - 81.739128
10	10	10	80.25848	80.25848	3.55412	8.045235	2519499.235125	2519499.235125	111572.02732	252558.498207	6	78.467507 - 81.739128
11	11	11	78.22866	78.22866	3.768116	7.954911	2463713.221465	2463713.221465	118672.065423	250529.915892	5	75.258065 - 78.467506
12	12	12	76.14886	76.14886	1.97411	4.822007	2386627.093498	2386627.093498	61871.760605	151129.382461	5	75.258065 - 78.467506
13	13	13	74.4509	74.4509	2.971576	4.909561	2337941.11794	2337941.11794	93314.786486	154172.255934	4	70.504525 - 75.258064
14	14	14	59.96774	59.96774	2.225806	5.967742	1885567.261714	1885567.261714	69986.089865	187643.86413	2	52.534711 - 63.178295
15	15	15	64.26495	64.26495	0.904685	4.458805	2017425.112184	2017425.112184	28400.152409	139972.179729	3	63.178296 - 70.504524
16	16	16	64.45451	64.45451	2.525089	3.302039	2019453.694499	2019453.694499	79114.710282	103457.698061	3	63.178296 - 70.504524
17	17	17	64.49838	63.98058	3.139158	4.012945	2021482.276814	2005253.618294	98386.242273	125772.103525	3	63.178296 - 70.504524
18	18	18	67.58064	66.90323	3.096774	2	2124939.974874	2103639.860568	97371.951116	62886.051762	3	63.178296 - 70.504524
19	19	19	60.65892	59.98062	2.196383	3.843669	1904838.793706	1883538.679399	68971.798707	120700.647737	2	52.534711 - 63.178295
20	20	20	64.65266	64.65266	0.516963	5.46042	2029596.606073	2029596.606073	16228.658519	171415.20561	3	63.178296 - 70.504524
21	21	21	55.35079	55.05981	1.584222	5.14064	1736466.461568	1727337.841151	49700.266715	161272.294036	2	52.534711 - 63.178295
22	22	22	48.22809	44.03995	2.416237	5.798969	1518393.862714	1386536.012245	76071.836809	182572.408342	1	0.000000 - 52.534710

- Note your sources of slope grid, NHD and other data sets used within your selection study for future reference and standardization of practice.

7. Identify Best Assessment Units

- Select assessment units with the lowest **landscape index scores** for further investigation.
- Stratify the selection of assessment units across **ecoregions or your unique area of interest** based on the proportion of random sites within each ecoregion or AOI.

8. Finalize Site Selection

- After narrowing down your sample site selections using the ATtILA tool, past NDDEQ guidance suggests using **NAIP (National Agriculture Imagery Program) aerial photography** at a scale of 1:5,000 (or BEST IMAGERY AVAILABLE AT THE TIME OF YOUR STUDY) and apply **best professional judgment** to identify the best reference sites and impaired sites within the selected assessment units. It may also be beneficial to use data metrics found in EPA's StreamCat database.

Step 2: Digital Media Screening

9. Use aerial photography, GIS layers and best professional judgement to evaluate land uses within selected assessment units.

Characteristics of Concern

- Animal feeding operations near the waterbody
- Heavily grazed or degraded riparian area
- Debris or trash in the water body riparian area
- Stream banks with large areas of mass wasting
- Areas with significant human alteration (e.g. concrete channels)
- Dam structures creating deep pools

GIS Layers used:

- National Agriculture Imagery Program (NAIP)
- Federal and State Highways, County Roads and Township Roads
- Designated Public Lands and Township, Range, and Sections Grids
- Dam Structures Point Features

Step 3: Landowner Verification and Site Visitation

10. Before a site visit is scheduled, it is advisable to research the identity of the person(s) or group(s) that own land adjacent to or around a potential monitoring location. The inquiry into property ownership may prove more useful than waiting to contact residents during an initial site visit and reduce the time expended to obtain permission to access the site. If the land is determined to be held publicly, an effort should be made to contact all renters (e.g., producers renting North Dakota State Land Department School Sections).

11. Once permission to access a site is obtained, a site visit should be scheduled. When first arriving at a site it is important to observe any property ownership signage or placards declaring “No Trespassing” or that hazardous conditions are present. If permission to access has been granted, proceed to the site coordinates.

12. Upon reaching the site coordinates, begin to verify the Level 2 assessment screening of GIS layers and aerial photography. Characteristics of the site location that should be examined include but are not limited to; land use(s) in and around the stream, stream geomorphology, water depth and obstructions to the flow of water. The site investigator should keep a log of notes pertaining to site characteristics and comment on any features present in aerial photos, county maps, or landowner atlases that could be used during future sampling visits.

A useful tool for examining stream conditions is the Rapid Geomorphic Assessment (RGA) which was developed by the United States Department of Agriculture. The RGA method classifies stream channel stability and the habitat quality of riparian areas and may be used to calculate a general stream and habitat score to classify potential Reference and Disturbed sampling locations. The RGA form and instructions for its completion can be found in Appendix A.

APPENDIX A

Rapid Geomorphic Assessment (RGA) Form Channel Stability and Habitat Ranking Scheme

RAPID GEOMORPHIC ASSESSMENT (RGA) FORM CHANNEL STABILITY & HABITAT RANKING SCHEME

Station Name: _____

Station Description: _____

Date: _____ Time: _____Slope: ___% Pattern: meander/ straight/ braided

Crew: _____ Pictures (circle): u/s, d/s, x-sec, LB, RB

1. Primary bed material

Bedrock	Boulder/Cobble	Gravel	Sand	Silt/Clay
0	1	2	3	4

2. Bed/bank protection

Yes	No	(with)	1 bank	2 banks
0	1		2	3

3. Degree of incision (relative elev. of "normal" low water if floodplain/terrace is 100%)

0-10%	11-25%	26-50%	51-75%	76-100%
4	3	2	1	0

4. Degree of constriction (relative decrease in top-bank width from up to downstream)

0-10%	11-25%	26-50%	51-75%	76-100%
0	1	2	3	4

5. Streambank erosion (dominant process each bank)

	None	Fluvial	Mass Wasting (failures)
Inside or left	0	1	2
Outside or right	0	1	2

6. Streambank instability (percent of each bank failing)

	0-10%	11-25%	26-50%	51-75%	76-100%
Inside or left	0	0.5	1	1.5	2
Outside or right	0	0.5	1	1.5	2

7. Established riparian vegetative cover (woody or stabilizing perennial grasses each bank)

	0-10%	11-25%	26-50%	51-75%	76-100%
Inside or left	2	1.5	1	0.5	0
Outside or right	2	1.5	1	0.5	0

8. Occurrence of bank accretion (percent of each bank with fluvial deposition)

	0-10%	11-25%	26-50%	51-75%	76-100%
Inside or left	2	1.5	1	0.5	0
Outside or right	2	1.5	1	0.5	0

9. Sum of All Values [ ]

Instructions for Completion of a Rapid Geomorphic Assessment Form

Define a representative reach 6-20 channel widths long.

1. Primary bed material

Bedrock	The parent material that underlies all other material. In some cases this becomes exposed at the surface. Bedrock can be identified as large slabs of rock, parts of which may be covered by other surficial material.
Boulder/Cobble	All rocks greater than 64 mm median diameter.
Gravel	All particles with a median diameter between 64.0 — 2.00 mm
Sand	All Particles with a median diameter between 2.00 — 0.063 mm
Silt-Clay	All fine particles with a median diameter of less than 0.063 mm

2. Bed/bank protection

Yes	Mark if the channel bed is artificially protected, such as rip rap or concrete.
No	Mark if the channel bed is not artificially protected and is composed of natural material.
Protection	
1 Bank	Mark if one bank is artificially protected, such as with rip rap or concrete.
2 Banks	Mark if two banks are artificially protected.

3. Degree of incision (Relative elevation of "normal" low water; floodplain/terrace @ 100%)

Calculated by measuring water depth at deepest point across channel, divided by bank height from bank top to bank base (where slope breaks to become channel bed). This ratio is given as a percentage and the appropriate category marked.

4. Degree of constriction (Relative decrease in top-bank width from up to downstream)

Often found where obstructions or artificial protection are present within the channel. Taking the reach length into consideration, channel width at the upstream and downstream parts of the reach is measured and the relative difference calculated.

5. Stream bank erosion (Each bank)

The dominant form of bank erosion is marked separately for each bank, left and right, facing in a downstream direction.

If the reach is a meandering reach, the banks are viewed in terms of 'Inside, Outside' as opposed to 'Left, Right' (appropriate for questions *5-8).* Inside bank, being the inner bank of the meander, if the stream bends to the left as you face downstream, this would be the left bank. Outside bank, being the outer bank, on your right as you face downstream in a stream meandering left.

None No erosion

Fluvial Fluvial processes, such as undercutting of the bank toe, cause erosion.

Mass Wasting Mass movement of large amounts of material from the bank is the method of bank erosion. Mass Wasting is characterized by high, steep banks with shear bank faces. Debris at the bank toe appears to have fallen from higher up in the bank face. Includes, rotational slip failures and block failures.

6. Stream bank instability (Percent of each bank failing)

If the bank exhibits mass wasting, mark percentage of bank with failures over the length of the reach. If more than 50% failures are marked, the dominant process is mass wasting (see question *5).*

7. Established riparian woody-vegetative cover (Each bank)

Riparian woody-vegetative cover represents most permanent vegetation that grows on the stream banks. Distinguished by its woody stem, this includes trees and bushes but does not include grasses. Grasses grow and die annually with the summer and thus do not provide any form of bank protection during winter months whilst permanent vegetation does.

8. Occurrence of bank accretion (Percent of each bank with fluvial deposition)

The percentage of the reach length with fluvial deposition of material (often sand, also includes fines and gravels) is marked.

9. Sum of All Values

Sum all category values for question one through eight. Lower aggregate scores indicate more stable geomorphology and improved habitat. Higher scores indicate unstable geomorphology and decreased habitat.

APPENDIX B

SOP Acknowledgement and Training Form

SOP Acknowledgement and Training Form

This SOP must be read, and this form signed annually. This form must be kept with the latest version of the SOP.

Document Title:	
Document Revision Number:	
Document Revision Date:	

Please sign below in accordance with the following statement:
“I have read and understand the above referenced document. I agree to perform the procedures described in this SOP in accordance with the document until such time that it is superseded by a more recent approved revision.”

Printed Name	Signature	Date

SOP Acknowledgement and Training Form (cont.)

Trainee: Sign below to acknowledge that training on this SOP was received, understood, and all questions/concerns were addressed by the trainer.

Trainer: Sign below to acknowledge that training on this SOP was completed for the individual listed and that training is competent to perform the procedures described within.

Date of Training	Trainee Printed Name	Trainee Signature	Trainer Printed Name	Trainer Signature