SYNOPTIC WATERSHED SURVEY
Conesus Lake Watershed
May 26, 2000

Purpose of the Survey: Assess the Status of the Streams Macroinvertebrates and Evaluate the Condition of Major Tributaries

Methods:

1. Rapid field assessment of organic pollution using family-level **Hilsenhoff Field Biotic Index (FBI).**

2. Assessment protocols to evaluate the condition of aquatic ecosystems associated with streams using the National Resource Conservation Service Stream **Visual Assessment Protocol (VAS).**

3. Instream water quality measurements with YSI meter (dissolved oxygen, percent saturation, conductivity, pH and temperature).

Tributary Sampling

1. Inlet
2. North MacMillan
3. South MacMillan
4. Hanna's Creek
5. No Name
6. South Gully
7. South Gully
8. Wilkens Creek
9. Sandpoint Gully
10. Densmore Creek
11. Long Point
12. Southwest Creek

Results

Use of the Data/Next Steps

Hilsenhoff Field Biotic Index (FBI).

Rapid field assessment of organic pollution using family-level **Hilsenhoff Field Biotic Index (FBI).**

Procedure:

1. Using aquatic nets samples are collected from riffle areas. (Kick samples).
2. Sample at least 100 arthropods.
3. The number of arthorpods in each family is recorded.
4. The FBI is calculated by multiplying the number in each family by the tolerance value for that family, summing the products and dividing by the total arthropods in the sample (100).

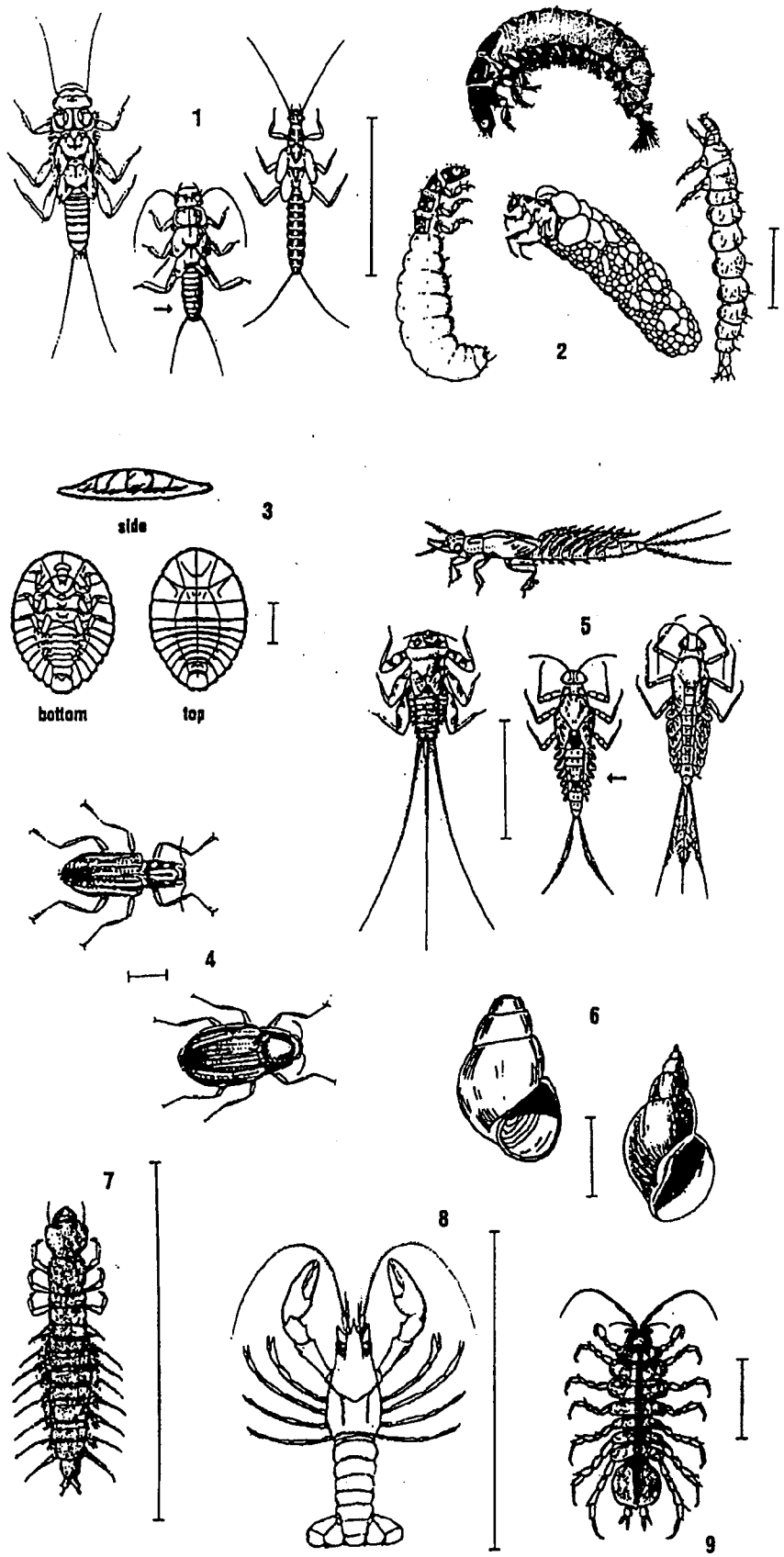
    - **Intolerants** (pollution sensitive organisms) [Stonefly, Order Plecoptera]
      Tolerance values range 1 to 3
    - **Somewhat tolerant** [Damslefly, Suborder Zygoptera]
      Tolerance value range 3 to 6
    - **Tolerant** (pollution tolerant organisms) [Aquatic worms, Class Oligochaeta)
      Tolerance value range 6 to 10

Low values indicate high water quality and low organic pollution
High FBI values indicate poor water quality.

Family Biotic Index	Water Quality	Degree of Organic Pollution
00-3.75	Excellent	Organic pollution unlikely
3.76-4.25	Very Good	Possible slight organic pollution
4.26-5.00	Good	Some organic pollution probable
5.01-5.75	Fair	Fairly substantial pollution likely
5.76-6.50	Fair poor	Substantial pollution likely
6.51-7.25	Poor	Very substantial pollution likely
7.26-10.00	Very poor	Severe organic pollution likely

Use of the FBI is advantageous for evaluating the general status of organic pollution in streams within the watershed for the purpose of deciding which streams or which watershed should be studied further.

Stream Invertebrates



Bar line indicate relative size

Group One Taxa

Pollution sensitive organisms found in good quality water.

1 **Stonefly Order Plecoptera.** 1/2" to 1 1/2", 6 legs with hooked tips, antennae, 2 hair-line tails. Smooth (no gills) on lower half of body (see arrow).

2 **Caddisfly: Order Trichoptera.** Up to 1", 6 hooked legs on upper third of body, 2 hooks at back end. May be in a stick, rock, or leaf case with its head sticking out. May have fluffy gill tufts on underside.

3 **Water Penny: Order Coleoptera.** 1/4", flat saucer-shaped body with a raised bump on one side and 6 tiny legs and fluffy gills on the other side. Immature beetle.

4 **Riffle Beetle: Order Coleoptera.** 1/4", oval body covered with tiny hairs, 6 legs, antennae. Walks slowly underwater. Does not swim on surface.

5 **Mayfly: Order Ephemeroptera.** 1/4" to 1", brown, moving, plate-like or feathery gills on the sides of lower body (see arrow), 6 large hooked legs, antennae, 2 or 3 long hair-like tails. Tails may be webbed together.

6 **Gilled Snail: Class Gastropoda.** Shell opening covered by thin plate called operculum. When opening is facing you, shell usually opens on right.

7 **Dobsonfly (Hellgrammite): Family Corydalidae.** 3/4" to 4", dark-colored, 6 legs, large pinching jaws, eight pairs feelers on lower half of body with paired cotton-like gill tufts along underside, short antennae, 2 tails, and 2 pairs of hooks at back end.

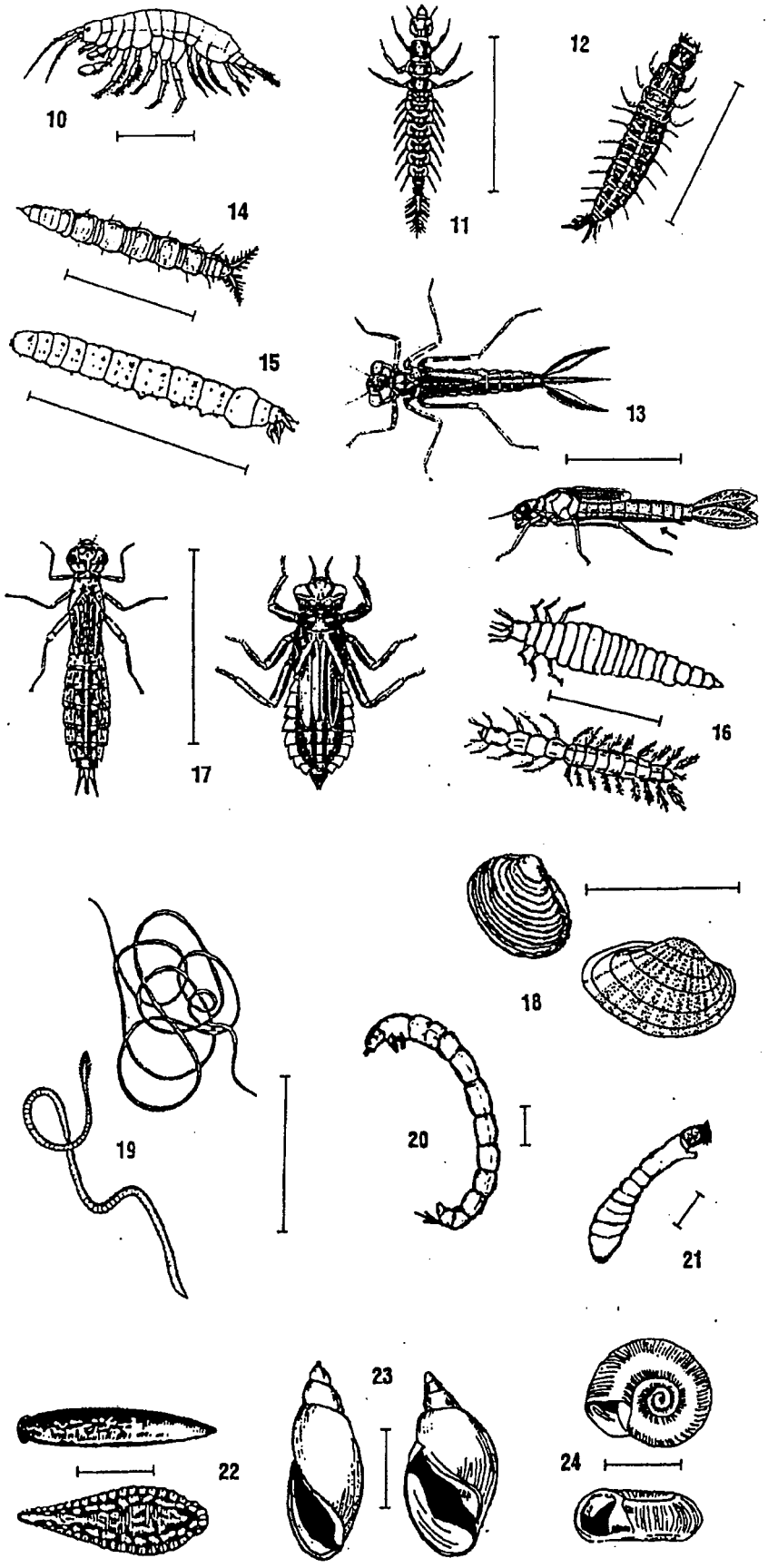
Group Two Taxa

Somewhat pollution tolerant organisms can be in good or fair quality water.

8 **Crayfish: Order Decapoda.** Up to 6", 2 large claws, 8 legs, resembles small lobster.

9 **Sowbug: Order Isopoda.** 1/4" to 3/4", gray oblong body wider than it is high, more than 6 legs, long antennae.

Source: Izaak Walton League of America, 707 Conservation Lane, Gaithersburg, MD 20878-2983. (800) BUG-IWLA



Bar line indicate relative size

Group Two Taxa

Somewhat pollution tolerant organisms can be in good or fair quality water.

10 **Scud: Order Amphipoda.** 1/4", white to gray, body higher than it is wide, swims sideways, more than 6 legs, resembles small shrimp.

11 **Alderfly Larva: Family Sialedae.** 1" long. Looks like small Hellgramite but has long, thin, branched tail at back end (no hooks). No gill tufts underneath.

12 **Fishfly Larva: Family Cordalidae.** Up to 1 1/2" long. Looks like small hellgramite but often a lighter reddish-tan color, or with yellowish streaks. No gill tufts underneath.

13 **Damselfly: Suborder Zygoptera.** 1/2" to 1", large eyes, 6 thin hooked legs, 3 broad oar-shaped tails, positioned like a tripod. Smooth (no gills) on sides of lower half of body. (See arrow.)

14 **Watersnipe Fly Larva: Family Athericidae (Atherix).** 1/4" to 1", pale to green, tapered body, many caterpillar-like legs, conical head, feathery "horns" at back end.

15 **Crane Fly: Suborder Nematocera.** 1/3" to 2", milky, green, or light brown, plump caterpillar-like segmented body, 4 finger-like lobes at back end.

16 **Beetle Larva: Order Coleoptera.** 1/4" to 1", light-colored, 6 legs on upper half of body, feelers, antennae.

17 **Dragon Fly: Suborder Anisoptera.** 1/2" to 2", large eyes, 6 hooked legs. Wide oval to round abdomen.

18 **Clam: Class Bivalvia.**

Group Three Taxa

Pollution tolerant organisms can be in any quality of water.

19 **Aquatic Worm: Class Oligochaeta.** 1/4" to 2", can be very tiny, thin worm-like body.

20 **Midge Fly Larva: Suborder Nematocera.** Up to 1/4", dark head, worm-like segmented body, 2 tiny legs on each side.

21 **Blackfly Larva: Family Simulidae.** Up to 1/4", one end of body wider. Black head, suction pad on other end.

22 **Leech: Order Hirudinea.** 1/4" to 2", brown, slimy body, ends with suction pads.

23 **Pouch Snail and Pond Snails: Class Gastropoda.** No operculum. Breath air. When opening is facing you, shell usually open to left.

24 **Other Snails: Class Gastropoda.** No operculum.Breath air. Snail shell coils in one plane.

Stream Visual Assessment Protocol
Visual Assessment Score (VAS)

Natural Resource Conservation Service

Assessment protocol provides a basic level of stream health evaluation based primarily on physical conditions within the assessment area. The protocol calculates a Visual Assessment Score **(VAS)** based on the following.

Assessment protocol consists of two sections:

1. Reach identification
2. Assessment (up to 15 assessment elements)
   - Channel condition.
   - Hydrologic alteration.
   - Riparian zone.
   - Bank stability.
   - Water appearance
   - Nutrient enrichment
   - Barriers to fish movement
   - Instream fish cover
   - Pools
   - Invertebrate habitat
   - Canopy cover
   - Manure presence
   - Salinity
   - Riffle embeddedness
   - Macroinvertebrates observed

Overall assessment score is determined by adding the values for each element and dividing by the number of elements assessed.

High values indicate good to excellent stream condition
Low VAS values indicate poor stream condition.

Visual Assessment Score	Stream Condition
> 9.0	Excellent
8.9-7.5	Good
7.4-6.1	Fair
<6.0	Poor

Use of the Visual Assessment provides a numerical assessment of the environmental condition of the stream reach evaluated. This value can be used as a general statement about the "state of the environment" of the stream (over time) or as an indicator of trends in condition.
It could be used of deciding which streams or which watershed require more detailed stream analysis.

Stream Visual Assessment Protocol

Owners name _____ Evaluator's name _____ Date 5/17/00

Stream name HAMMAS CREEK Waterbody ID number 7

Reach location JUST WEST OF PEBBLE BEACH RD CROSSING

Ecoregion _____ Drainage area _____ Gradient _____

Applicable reference site _____

Land use within drainage (%): row crop _____ hayland _____ grazing/pasture _____ forest _____ residential _____

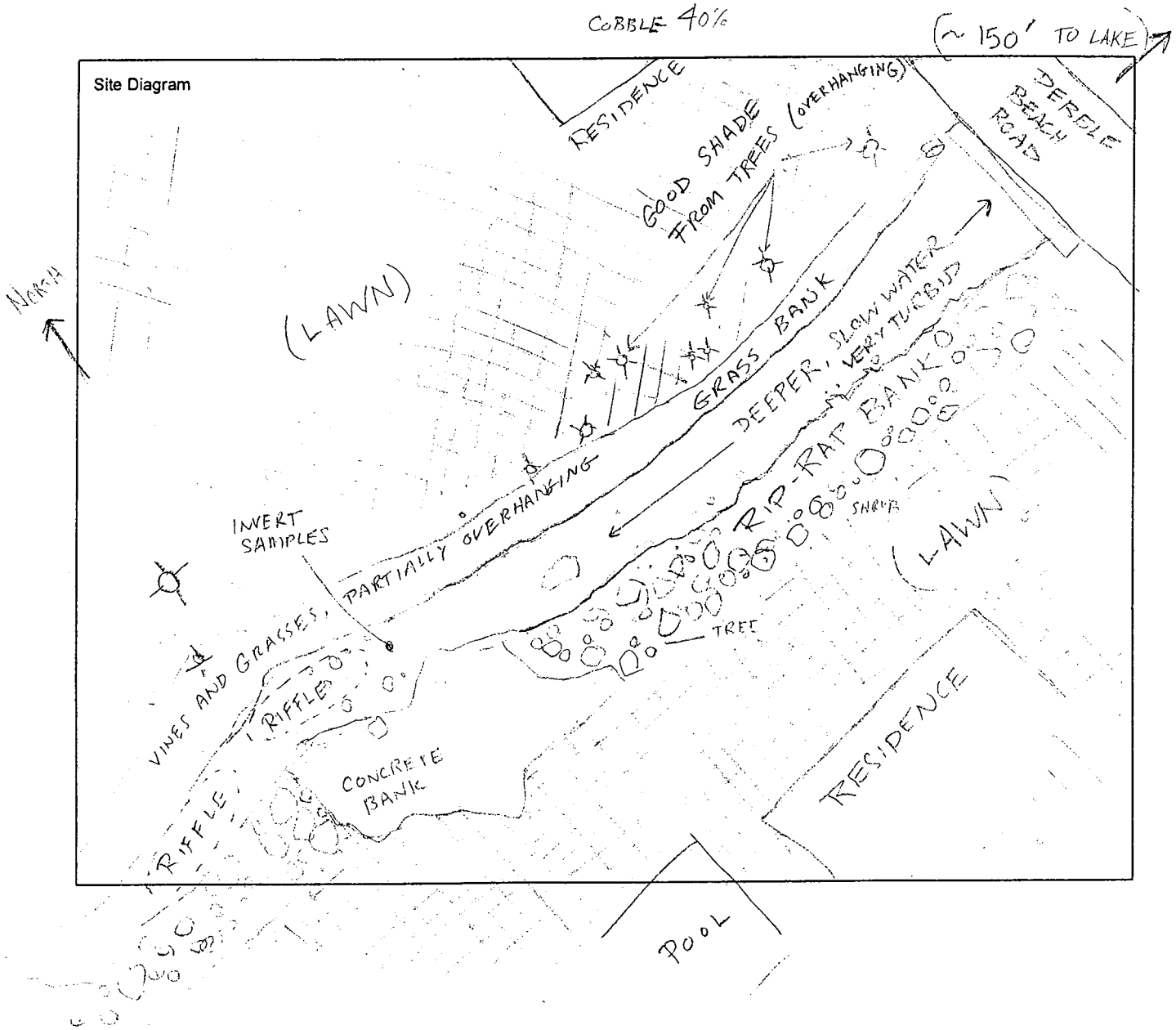
confined animal feeding operations _____ Cons. Reserve _____ industrial _____ Other: _____

Weather conditions-today Sunny Past 2-5 days 2" RAIN 3 days ago.

Active channel width 5 FEET Dominant substrate: boulder 10% gravel 10% sand _____ silt _____ mud _____

COBBLE 40%

Site Diagram



Assessment Scores

Channel condition	2	Pools	2
Hydrologic alteration	3	Invertebrate habitat	6
Riparian zone	3		
Bank stability	7		
Water appearance	7		
Nutrient enrichment	5		
Barriers to fish movement	10		
Instream fish cover	5		

Score only if applicable

Canopy cover	3	
Manure presence	NA	
Salinity	5	(0.4‰)
Riffle embeddedness	8	
Ma croinvertebrates Observed (optional)	8	

Overall score (Total divided by number scored)	5.3	<6.0	**Poor**
		6.1-7.4	**Fair**
		7.5-8.9	**Good**
		>9.0	**Excellent**

Suspected causes of observed problems RIP-RAP EMBANKMENT AND CONCRETE-LINED BANK REDUCE SUITABLE HABITAT. LAWNS ON EITHER SIDE ALSO ENCROACH ON RIPARIAN CORRIDOR, REDUCING SHADE AND HABITAT. SIGNIFICANT UPSTREAM IMPACTS RESULT FROM D.O.T. STATION, ROADS, AND DEVELOPMENT.

Recommendations REPLACE RIP-RAP WITH MORE VARIED- AND VEGETATED EMBANKMENT. RECOMMEND SET-BACK OF LAWNS AND RESIDENTIAL ACTIVITY. FROM STREAM. INVESTIGATE UPSTREAM NUTRIENT INPUTS FROM SOURCES MENTIONED ABOVE.

Observed Problems and Recommended Solutions Regarding Tributaries of Conesus Lake
May 16-17, 2000

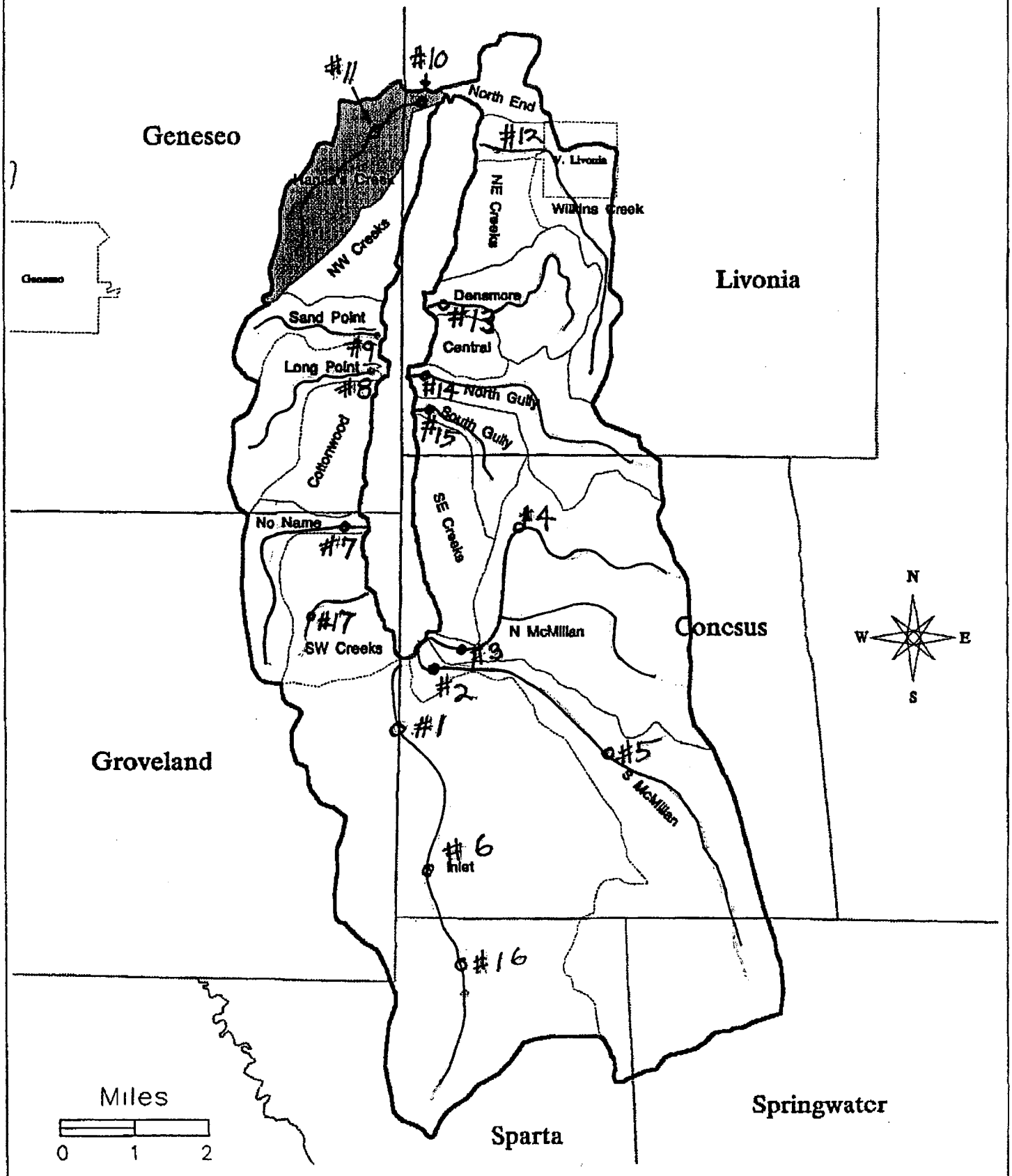
Tributary	Location	Problems observed	Recommended solutions
Inlet	Downstream (Station 1)	• Hydrologic alterations (pipe and dike control water flow from wetland) • Possibility of nutrient enrichment from upstream septic systems	• Hydrology controlled by NYDEC for habitat reasons; no change recommended • Assess upstream septic systems
	Mid-stream (Station 6)	• Some bank erosion • Agricultural activity nearby, separated from stream by riparian buffer • Some invasive plants present (Japanese knotweed)	• Bank stabilization recommended • Maintenance or enlargement of agricultural setback • Remove or reduce invasive species
	Upstream (Station 16)	• Severe bank erosion on both sides • Lawn encroaches on riparian corridor • Sediment loading apparent in stream	• Bank stabilization recommended • Set back lawn from stream edge • Investigate upstream causes for suspended solids in stream
South McMillan	Downstream (Station 2)	• Rip-rap on east bank • Possible enrichment from nearby septic systems and upstream agriculture • Lawns continue to stream's edge • Foam visible on water surface	• Replace rip-rap with more natural stabilization methods (i.e. native vegetation) • Investigate septic tanks and agricultural runoff upstream • Restore native vegetation buffer in riparian zone • Test for detergents
	Upstream (Station 5)	• Some bank erosion and small bank failure near bridge • Some disturbances to site, including gravel pile on roadside and wooden box on bank	• Bank stabilization recommended, especially near bridge • Removal or further setback of gravel pile recommended

North McMillan	Downstream (Station 3)	• Some encroachment of lawn on south side • Salt storage and agricultural activity upstream of site • Bank erosion upstream of site	• Set back lawn and restore riparian vegetation buffer • Investigate salt and nutrient inputs upstream • Bank stabilization recommended
	Upstream (Station 4)	• Lawn close to north bank • Fish passage obstacle just downstream of bridge (log-pile dam)	• Set back lawn and restore riparian vegetation buffer • Remove dam
No Name Creek	Downstream (Station 7)	• Incised streambed • Concrete streambanks near bridge	• Bank and streambed restoration (including removal of concrete) recommended to stabilize banks and to provide better in-stream habitat
Long Point Creek	Downstream (Station 8)	• Bank erosion and concrete lining near culvert • Sediment deposition • tolerant invertebrate population suggests nutrient loading upstream	• Bank stabilization and removal or reduction of concrete substrate near bridge recommended • Investigate causes of suspended solids loading • Investigate nutrient inputs upstream of site.
Sandpoint Gully	Downstream (Station 9)	• Incised streambed and bank erosion, partially due to undersized box culvert and channelized section under bridge	• Bank stabilization recommended • Replacement of culvert and restoration of streambed to natural substrate recommended
Hanna's Creek	Downstream (Station 10)	• Rip-rap on south bank • Lawns continue to streambank • Nutrient enrichment from upstream	• Replace rip-rap with more natural stabilization methods • Restore riparian buffer • Investigate upstream nutrient loading
	Upstream (Station 11)	• Extensive macrophyte growth in stream possibly due to agricultural impacts upstream • Traces of oil and discoloration in water (possibly tannic acid from wetland upstream and oil from the nearby road)	• Investigate upstream impacts by agriculture, roads, and wetland

Wilkin's Creek	Downstream (Station12)	• Some bank erosion • Lawn close to north bank • Possible nutrient loading from upstream development (Lavonia)	• Bank stabilization recommended • Set back lawn from stream edge and restore buffer • Assess upstream nutrient impacts from Lavonia
Densmore Creek	Downstream (Station 13)	• Severe erosion on north bank • Rip-rap stabilization on south • Lawns/grass encroach on riparian corridor on both sides	• Bank stabilization recommended on north side • Replace rip rap with more natural stabilization methods (i.e. native vegetation) • Set back lawns and restore riparian buffer
North Gully	Downstream (Station 14)	• Severe erosion on both banks • Lawns encroach on north side • Sediment loading apparent	• Bank stabilization and revegetation • Setback of lawn from streambank • Investigate upstream causes of sediment loading
South Gully	Downstream (Station 15)	• Erosion on north bank • Lawn encroaches on north side • Some sediment loading	• Bank stabilization • Setback of lawn from north bank • Investigate upstream causes of sediment loading
Southwest creek	Upstream (Station 17)	• Extensive macrophyte growth in stream probably due to nutrient loading from livestock just upstream • Sediment loading from same source • Lack of riparian vegetation	• Setback of cattle from stream recommended • Restore natural riparian vegetation along reach and in livestock-impacted area upstream

Conesus Lake Watershed

and Sub-Watersheds



MAPFILE: CLAKE

Map prepared by: Livingston County Planning Department March 1991

PLOTTED: 05/27/94

Tributary characterization for Conesus Lake, 16-17 May, 2000
Family-level biotic index (FBI) (Sorted in descending order)

Stream	#	Location	Site #	FBI	Rating	Taxa	EPT	%EPT
Inlet	1	dstream	1	7.14	Poor	7	2	29
Southwest Creek	12	upstream	17	6.49	Fairly Poor	3	0	0
Inlet	1	middle	6	6.1	Fairly Poor	13	8	62
Long Point	5	dstream	8	4.88	Good	6	3	50
Wilkin's Creek	8	dstream	12	4.71	Good	5	2	40
Hanna's Creek	7	dstream	10	4.64	Good	5	2	40
No Name	4	dstream	7	4.55	Good	8	6	75
Hanna's Creek	7	upstream	11	3.33	Excellent	5	3	60
Densmore Creek	9	dstream	13	3.11	Excellent	9	6	67
North Gully	10	dstream	14	2.7	Excellent	7	7	100
South Gully	11	dstream	15	2.5	Excellent	10	8	80
Inlet	1	upstream	16	2.48	Excellent	9	8	89
S. McMillan	2	upstream	5	2.46	Excellent	12	10	83
Sandpoint Gully	6	dstream	9	2.2	Excellent	3	3	100
N. McMillan	3	dstream	3	2.13	Excellent	11	10	91
N. McMillan	3	upstream	4	1.91	Excellent	12	8	67
S. McMillan	2	dstream	2	1.59	Excellent	8	6	75

KEY: #= stream number; **site #**= chronological by sample; **FBI**= Filed Biotic Index;
%EPT= % of sample in Ephemeroptera, Plecoptera, Tricoptera (sensitive organisms);
VAS= Visual assessment; **Dchg**= Discharge; **TP**= Total Phosphorus; **TSS**= Total suspended solids; **TKN**= Total Kjeldahl Nitrogen

Tributary Characterization for Conesus Lake, May 16-17, 2000
Visual Assessment Scores

Stream	#	Location	Site #	CC	HA	RZ	BS	WA	NE	BTF	IFC	Pls	IH	Can	MP	Sal	RE	Invert	subtotal	SCORE	RATING
Southwest Creek	12	upstream	17	7	7	9	5	2	2	9	5	1	6	3	3	5	1	1	66	4.4	poor
Long Point	5	dstream	8	3	7	8	4	6	7	6	3	3	10	5	NA	5	3	4	74	5.3	poor
Hanna's Creek	7	dstream	10	2	3	3	7	7	5	10	5	2	6	3	NA	5	8	8	74	5.3	poor
No Name	4	dstream	7	3	3	8	3	7	7	8	5	1	7	7	NA	5	5	6	75	5.4	poor
S. McMillan	2	dstream	2	3	3	3	3	7	7	10	3	1	7	3	NA	5	9	15	79	5.6	poor
Densmore Creek	9	dstream	13	2	6	2	7	7	3	10	3	1	7	3	NA	5	8	15	79	5.6	poor
Sandpoint Gulley	6	dstream	9	4	3	5	1	7	7	5	8	3	10	7	NA	5	3	15	83	5.9	poor
Wilkin's Creek	8	dstream	12	9	8	3	7	9	7	8	4	2	10	4	NA	5	3	6	85	6.1	fair
Inlet	1	dstream	1	8	2	9	9	7	4	6	10	7	8	9	NA	5	5	2	91	6.5	fair
South Gulley	11	dstream	15	8	7	4	2	7	9	9	5	2	10	10	NA	5	4	15	97	6.9	fair
North Gulley	10	dstream	14	7	7	3	4	5	8	10	8	3	10	10	NA	5	7	15	102	7.3	fair
Inlet	1	upstream	16	7	5	5	3	7	10	10	8	7	10	7	NA	5	5	15	104	7.4	fair
N. McMillan	3	upstream	4	7	5	9	7	7	7	4	5	3	10	10	NA	5	10	15	104	7.4	fair
S. McMillan	2	upstream	5	7	9	10	7	8	6	9	3	3	8	10	NA	5	5	15	105	7.5	good
N. McMillan	3	dstream	3	8	7	5	4	7	9	10	5	1	10	10	NA	5	9	15	105	7.5	good
Hanna's Creek	7	upstream	11	8	9	10	8	7	4	10	8	1	10	9	5	5	8	15	117	7.8	good
Inlet	1	middle	6	9	9	9	7	8	8	10	8	3	9	10	NA	5	9	6	110	7.9	good

KEY: **#**= stream number; **site #**= chronological by sample; **CC**= channel condition; **HA**= Hydrologic alteration; **RZ**= Riparian zone; **BS**= Bank stability; **WA**= water appearance; **NE**=Nutrient enrichment; **BTF**= Barrier to fish movement; **IFC**= Instream fish cover; **Pls**= Pools; **IH**= Invertebrate habitat; **Can**= Canopy cover; **MP**= Manure presence (**NA**= presence or absence of manure unknown); **Sal**= Salinity; **RE**= Riffle embeddedness; **Invert**= Macroinvertebrate presence; **SCORE**= Total VAS score

Tributary characterization for Conesus Lake, May 16-17, 2000

Field Biotic Index, Visual Assessment, and Water Quality Indicators

																Unit Loads (g/ha/d)*						Estimated Annual Loads (kg/yr)				
Stream	#	Location	Site #	FBI	Rating	Taxa	EPT	%EPT	VAS	Rating	DO	% Sat.	Cond	pH	Temp	Ha	Dchg (m^3/d)	TP (KgP/d)	TKN (kgN/d)	NO3 (kgN/d)	TSS (kg/d)	Dchg ($10^3 m^3$/yr)	TP	TKN	NO3	TSS
Inlet	1	dstream	1	7.14	Poor	7	2	29	6.2	fair	5.81	59	264.7	7.3	15.9	4475.0	22751	0.13	3.66	4.50	62	8304.1	204.4	5971.4	7351.1	101835.0
Inlet	1	middle	6	6.1	Fairly Poor	13	8	62	7.9	good	9.93	92.7	347.3	8.3	14.7	4475.0	22751	0.13	3.66	4.50	62	8304.1	204.4	5971.4	7351.1	101835.0
Inlet	1	upstream	16	2.48	Excellent	9	8	89	7.4	fair	9.23	95.2	372.1	8.3	17.4	4475.0	22751	0.13	3.66	4.50	62	8304.1	204.4	5971.4	7351.1	101835.0
South McMillan	2	dstream	2	1.59	Excellent	8	6	75	5.6	poor	9.97	94.2	147.3	7.9	12.6	2687.5	36389	0.48	4.16	3.99	312	13282.0	470.9	4084.4	3916.5	306235.0
South McMillan	2	upstream	5	2.46	Excellent	12	10	83	7.5	good	9.87	92.6	143	7.8	15	2687.5	36389	0.48	4.16	3.99	312	13282.0	470.9	4084.4	3916.5	306235.0
North McMillan	3	dstream	3	2.13	Excellent	11	10	91	7.5	good	10.55	96.6	321.4	8.4	12.6	2045.0	45297	0.43	5.64	9.52	277	16533.4	322.5	4208.5	7106.6	206590.0
North McMillan	3	upstream	4	1.91	Excellent	12	8	67	7.3	fair	10.13	97.7	216.3	7.8	13	2045.0	45297	0.43	5.64	9.52	277	16533.4	322.5	4208.5	7106.6	206590.0
No Name	4	dstream	7	4.55	Good	8	6	75	5.4	poor	10.48	97.7	466	8.3	12.4	415.0	2892	0.52	4.16	29.52	88	1055.6	78.8	630.1	4471.3	13329.8
Long Point	5	dstream	8	4.88	Good	6	3	50	5.4	poor	10.04	96.2	524	8.5	12.9	622.5	5761	0.49	4.90	38.32	41	2102.8	111.3	1113.3	8706.8	9315.7
Sandpoint Gulley	6	dstream	9	2.2	Excellent	3	3	100	5.9	poor	9.00	86.2	205.1	8.3	12.6	325.0	922	0.10	1.30	4.18	14	336.5	11.9	154.2	496.4	1660.8
Hanna's Creek	7	dstream	10	4.64	Good	5	2	40	5.3	poor	9.70	91.7	576	8.3	12.7	717.5	14365	1.16	10.15	15.07	122	5243.2	303.0	2657.2	3945.7	31950.3
Hanna's Creek	7	upstream	11	3.33	Excellent	5	3	60	7.8	good	9.30	90.5	529	8.3	15.1	717.5	14365	1.16	10.15	15.07	122	5243.2	303.0	2657.2	3945.7	31950.3
Wilkin's Creek	8	dstream	12	4.71	Good	5	2	40	6.1	fair	11.10	97.2	715	8.9	14	690.0	5836	0.36	3.78	4.88	146	2130.1	91.3	952.7	1229.0	36865.0
Densmore Creek	9	dstream	13	3.11	Excellent	9	6	67	5.6	poor	10.90	99.3	622	8.5	14.5	647.5	5374	0.23	2.72	4.87	53	1961.5	54.8	642.4	1151.0	12410.0
North Gulley	10	dstream	14	2.7	Excellent	7	7	100	7.4	fair	9.73	97.4	463	8.5	15.2	735.0	7768	0.79	3.69	8.75	205	2835.3	211.7	989.2	2347.0	55115.0
South Gulley	11	dstream	15	2.5	Excellent	10	8	80	6.9	fair	8.70	84.5	491	8.3	15.1	345.0	3817	0.39	3.29	13.20	137	1393.2	49.1	414.3	1662.2	17251.7
Southwest Creek	12	upstream	17	6.49	Fairly Poor	3	0	0	4.4	poor	7.57	81.5	627	8	17.8											
														TOTALS:		28105.0	151172	5.08	47.44	136.80	1458	55177.78	1909.5	21817.5	42383.3	792558.3

KEY: **#**= stream number; **site #**= chronological by sample; **FBI**= Filed Biotic Index; **%EPT**= **%** of sample in Ephemeroptera, Plecoptera, Tricoptera (sensitive organisms);

VAS= Visual assessment; **Dchg**= Stream discharge; **DO**= dissolved oxygen; **%Sat**= Percent oxygen saturation; **Cond**= conductivity; **Ha**= Area of watershed in hectares; **TP**= Total Phosphorus;

TSS= Total suspended solids; **TKN**= Total Kjeldahl Nitrogen

* Data from "Chemical analysis and nutrient loading of streams entering Conesus Lake, NY." Joseph C. Makarewicz, Theodore W. Lewis, Ronald Dilcher, Michael Letson, and Norma Puckett, pp.54-55, 1991.

Tributary characterization for Conesus Lake, May 16-17, 2000

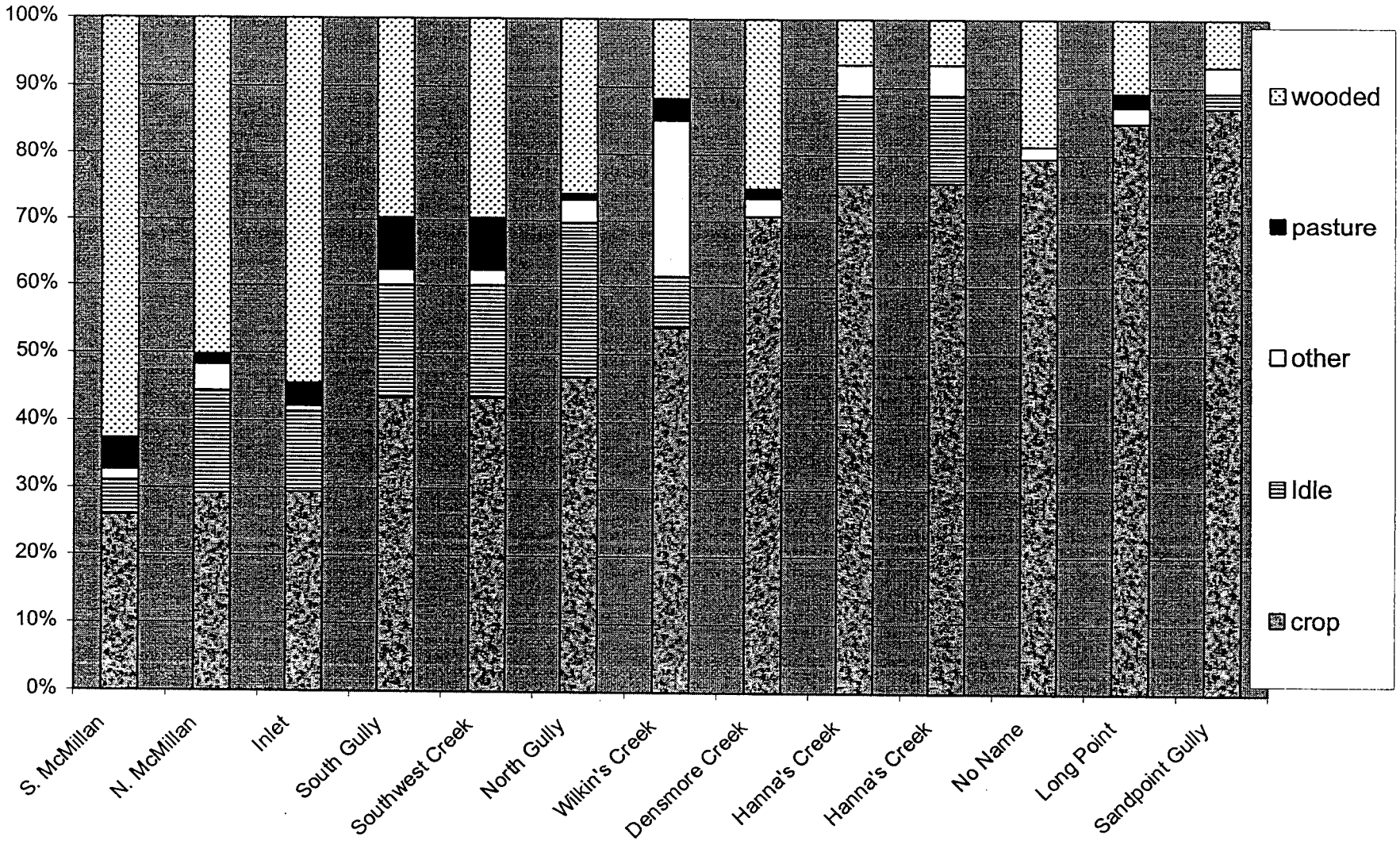
Land Use in Watersheds

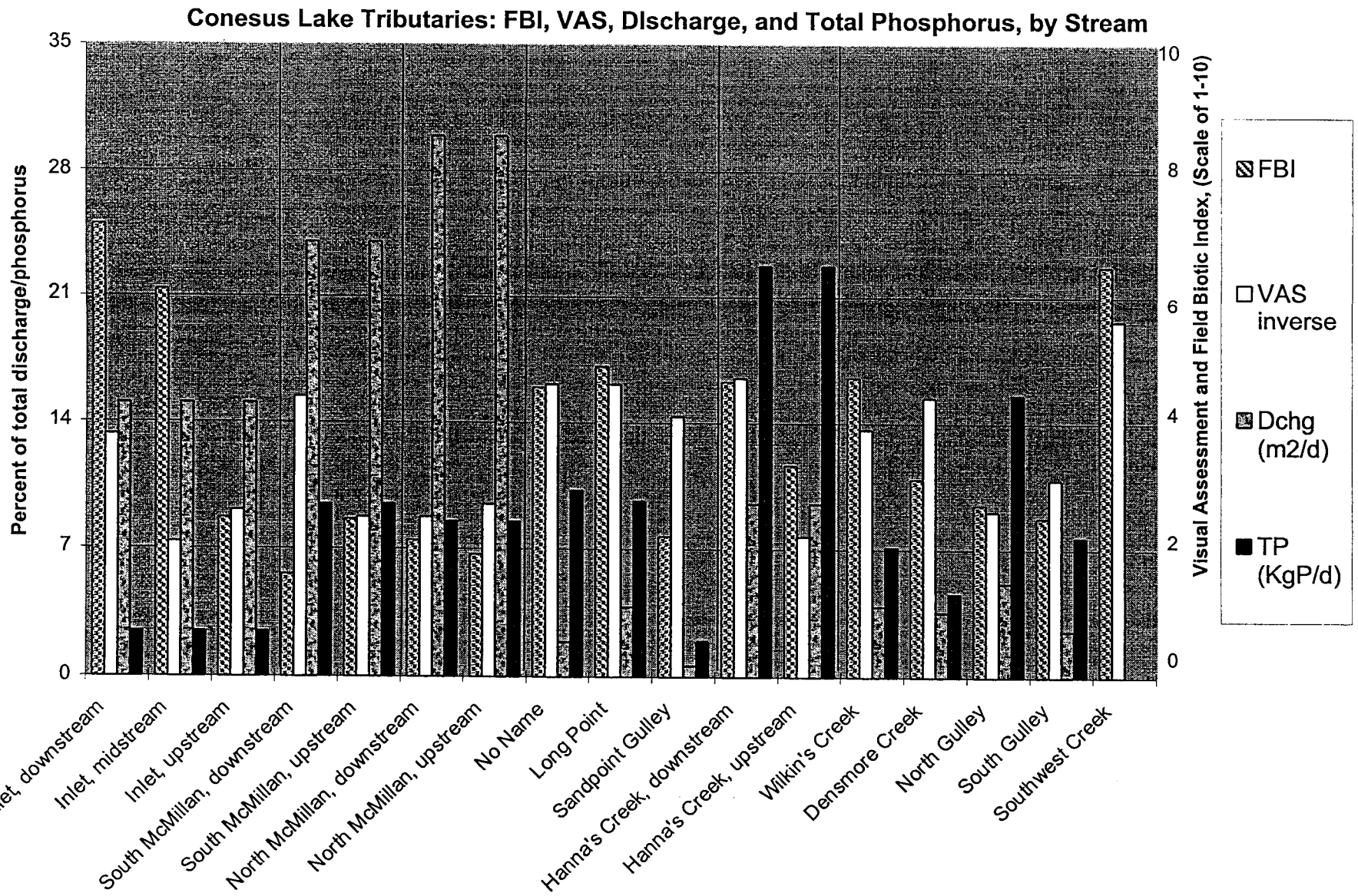
								Land Use by Percent*					
Stream	**#**	**Location**	**Site #**	**FBI**	**Rating**	**VAS**	**Rating**	**crop**	**Idle**	**other**	**pasture**	**wooded**	**Total Ha**
Inlet	1	dstream	1	7.14	Poor	6.2	fair	29.4	12.0	0.8	3.4	54.4	4475
Inlet	1	middle	6	6.1	Fairly Poor	7.9	good	29.4	12.0	0.8	3.4	54.4	4475
Inlet	1	upstream	16	2.48	Excellent	7.4	fair	29.4	12.0	0.8	3.4	54.4	4475
S. McMillan	2	dstream	2	1.59	Excellent	5.6	poor	25.9	5.2	1.6	4.7	62.7	2687.5
S. McMillan	2	upstream	5	2.46	Excellent	7.5	good	25.9	5.2	1.6	4.7	62.7	2687.5
N. McMillan	3	dstream	3	2.13	Excellent	7.5	good	29.2	15.2	3.9	1.5	50.2	2045
N. McMillan	3	upstream	4	1.91	Excellent	7.3	fair	29.2	15.2	3.9	1.5	50.2	2045
No Name	4	dstream	7	4.55	Good	5.4	poor	79.5	0.0	1.8	0.0	18.7	415
Long Point	5	dstream	8	4.88	Good	5.4	poor	84.7	0.0	2.4	2.0	10.8	622.5
Sandpoint Gully	6	dstream	9	2.2	Excellent	5.9	poor	86.9	2.3	3.8	0.0	6.9	325
Hanna's Creek	7	dstream	10	4.64	Good	5.3	poor	75.6	13.2	4.5	0.0	6.6	717.5
Hanna's Creek	7	upstream	11	3.33	Excellent	7.8	good	75.6	13.2	4.5	0.0	6.6	717.5
Wilkin's Creek	8	dstream	12	4.71	Good	6.1	fair	54.0	7.6	23.6	3.3	11.6	690
Densmore Creek	9	dstream	13	3.11	Excellent	5.6	poor	70.7	0.0	2.7	1.5	25.1	647.5
North Gully	10	dstream	14	2.7	Excellent	7.4	fair	46.6	23.1	3.4	1.0	25.9	735
South Gully	11	dstream	15	2.5	Excellent	6.9	fair	43.5	16.7	2.2	8.0	29.7	345
Southwest Creek	12	upstream	17	6.49	Fairly Poor	4.4	poor	43.5	16.7	2.2	8.0	29.7	345

KEY: **#**= stream number; **site #**= chronological by sample; **FBI**= Field Biological Index; **VAS**= Visual assessment;

* "Chemical analysis and nutrient loading of streams entering Conesus Lake, NY." Joseph C. Makarewicz, Theodore W. Lewis, Ronald DIlcher, Michael Letson, and Norma Puckett, p. 63, 1991.

Land Use


100%
90%
80%
70%
60%
50%
40%
30%
20%
10%
0%
wooded
pasture
other
Idle
crop
S. McMillan
N. McMillan
Inlet
South Gully
Southwest Creek
North Gully
Wilkin's Creek
Densmore Creek
Hanna's Creek
Hanna's Creek
No Name
Long Point
Sandpoint Gully


Conesus Lake Tributaries: FBI, VAS, Discharge, and Total Phosphorus, by Stream
Percent of total discharge/phosphorus
35
28
21
14
7
0
Visual Assessment and Field Biotic Index, (Scale of 1-10)
10
8
6
4
2
0
FBI
VAS inverse
Dchg (m2/d)
TP (KgP/d)
Inlet, downstream
Inlet, midstream
Inlet, upstream
South McMillan, downstream
South McMillan, upstream
North McMillan, downstream
North McMillan, upstream
No Name
Long Point
Sandpoint Gulley
Hanna's Creek, downstream
Hanna's Creek, upstream
Wilkin's Creek
Densmore Creek
North Gulley
South Gulley
Southwest Creek