

FISH AND AQUATIC LIFE DESIGNATED USE FORM
(Attach supporting data sheets)

WATERBODY NAME GERMAN VALLEY CREEK

WBIC# 0909200

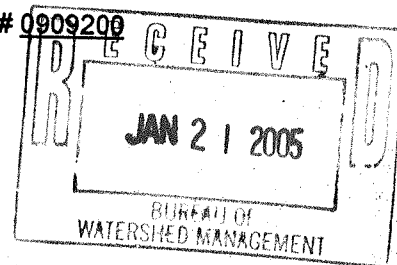
REGION SCR

BASIN SUGAR—PECATONICA

COUNTY DANE

Segment Shown on Entire 6.3 mile reach as shown on Blue Mounds Quad. Map

Reference Site(s) Blue Mounds Branch (Gordon Creek or Big Spring)



SEGMENT DESCRIPTION for Segment 1 of 1 (headwater = segment 1)

From: Headwaters	42 59 45.42 89 46 08.44	6N, 6E, SW¼, NE¼, section 15
downstream <u>6.3 mi.</u>		
To: Confluence with Blue Mounds Branch (Gordon or Big Spring)	42 56 30.62 89 49 49.93	5N, 6E, NE¼, NW¼, section 6

Attach site map and photos showing stream segment

DESIGNATED USE INFORMATION:

New Classification X Standards Review _____, Ref. Site _____, Date field work conducted/completed
Sampling seasons of 2001-2002

Current FAL Designated use: Default FAL

Existing FAL Use Based on current data: SALMONID A CLASS II

Recommended Attainable Designated use SALMONID A CLASS I

Seasonal Designated use(s)/Dates YEAR ROUND

Other Applicable Uses: ORW _____, ERW _____, GL _____, GLS _____, Drinking Water Supply _____,

Recreation _____, Wild Life _____

Submitted By: <u>Daniel W Marshall</u>	Date: <u>2-12-03</u>
Reviewed By: <u>[Signature]</u>	Date: <u>1/18/05</u>
Approved Basin Leader: <u>[Signature]</u>	Date: <u>4-5-04</u>
WQS Sect. Chief, or Designee:	Date:

Water Body Name GERMAN VALLEY CREEK WBIC# 0909200, Date February 12, 2003

DISCHARGER INFORMATION:

Municipality/Company NA, Permit # NA

Outfall Location 7008 S WAL

Contact Person _____, Contact Date(s) _____

Did A Representative Observe Field Work? No _____, Yes _____

Representative Name _____, Date(s) _____

Comments about facility, representative's observations, etc.:

BASIS FOR DESIGNATED USE DECISION

German Valley Creek is an important tributary of Blue Mounds Branch, an ERW and Class II trout stream. Both streams have demonstrated significantly improved water quality and sustainable cold water fisheries. Water quality and fisheries improvements are due to regional increased spring-flow and reduced flood events. Reduce surface runoff and improved water quality are related to the significant grassland landscape. The watershed contains very high CRP and CREP participation rates.

German Valley Creek has sustained several year classes of brown trout, numerous mottled sculpin and modest numbers of American brook lamprey. Based on total trout numbers, numbers of intolerant mottled sculpin and American brook lamprey, German Valley Creek scores in the "fair" range (50-60) using Lyons (1996) cold water IBI. Continuously deployed temperature and water quality data loggers indicate cold water conditions in German Valley Creek.

Send final report to:

Facility NA Date: _____

Basin Wastewater Eng. _____ Date: _____

Limits Calculator: _____ Date: _____

Watershed Expert Greg Searle Date: _____

Fish and Habitat Expert Scot Stewart Date: _____

Bureau of Endangered Resources when these species are present NA Date: _____

Other interested parties (list) TU, BMAP, TNC Date: _____

LITERATURE REVIEW

1. Proposed Dane County Lakes and Watershed cold water classification.
2. Proposed trout stream classification in 2003.
3. Lyons, John and Lizhu Wang. 1996. Development and Validation of an Index of Biotic Integrity for Coldwater Streams in Wisconsin. North American Journal of Fisheries Management 16:241-256.
4. Hilsenhoff, William L. 1987. An Improved Biotic Index of Organic Stream Pollution. The Great Lakes Entomologist.
5. Cold Water Habitat Evaluation Report for biennium 2000-02 in preparation (Marshall)

FIELD ASSESSMENT DATA AND OBSERVATIONS

Assessment dates: April 2000 to October 2002

PHYSICAL/CHEMICAL DATA

SEGMENT LENGTH 4100', DEPTH, AVG. 0.75' MAX. 1.4' AVG. WIDTH 11.5'

SEGMENT GRADIENT 11.5 ft/mile, VELOCITY 0.79 fps

SUBSTRATE MATERIAL %silt 40 %sand 50 %gravel

 %rubble %organic %other Detritus 10
NATURAL FLOW 4.2 cfs, (MEASURED X, ESTIMATED).

Flow was high , normal X, low , very low

Q7,2 flow , Q7,10 flow , estimated or measured

EFFLUENT FLOW: 24 hr. average NA, measured , estimated

 Design flow NA

TEMPERATURE , Summer max. 69.6 F Date(s) June 15 – Sept 15, 2002

DISSOLVED OXYGEN:

Instantaneous mg/L, Time of day , Date

Continuous: YSI 600 XLM Minimum 6.8 mg/L, Range 6.8 mg/L to 9.3 mg/L

Dates / time measured: Aug 7, 01 to Aug 14, 01, total = 8 days.

CHEMICAL DATA COLLECTED: pH range: 7.8 – 8.0, Sp cond.: 620 – 680 uS/cm.

BREIF INTERPRETATION/COMMENTS: Good water quality and cold temperatures are sustained. Sediment deposition from previous land uses is an impairment (303d).

Water Body Name GERMAN VALLEY CREEK WIBC# 0909200, Date February 12, 2003
=====

BIOLOGICAL DATA

FISH: Sampling date Aug., 01 and July, 02 Attach species list and IBI forms if applicable

Survey Location(s) CTH Z upstream to N. Perry Road

Distance sampled 4.100' Sampling Gear towed stream shocker

No. of species 5 - 6, Total fish 454 - 515,

No. of species not listed as tol. to low DO 5 - 6, Total fish 454 - 515, % not listed 100 - 100

Endangered or other special category species _____

Warm B species _____, Total no. 0

MACROINVERTEBRATES: Sampling date November 2001, HBI/FBI 3.6, 3.0, 2.9

Survey location(s) CTH E, Mayflower Road, CTH Z

Sampling Procedure kick net

< 100 organisms found, list dominant genera, numbers and HBI values:

> 100 organisms found, attach taxonomy bench sheet or other analyses:

% individuals with HBI value 5 or less <.01

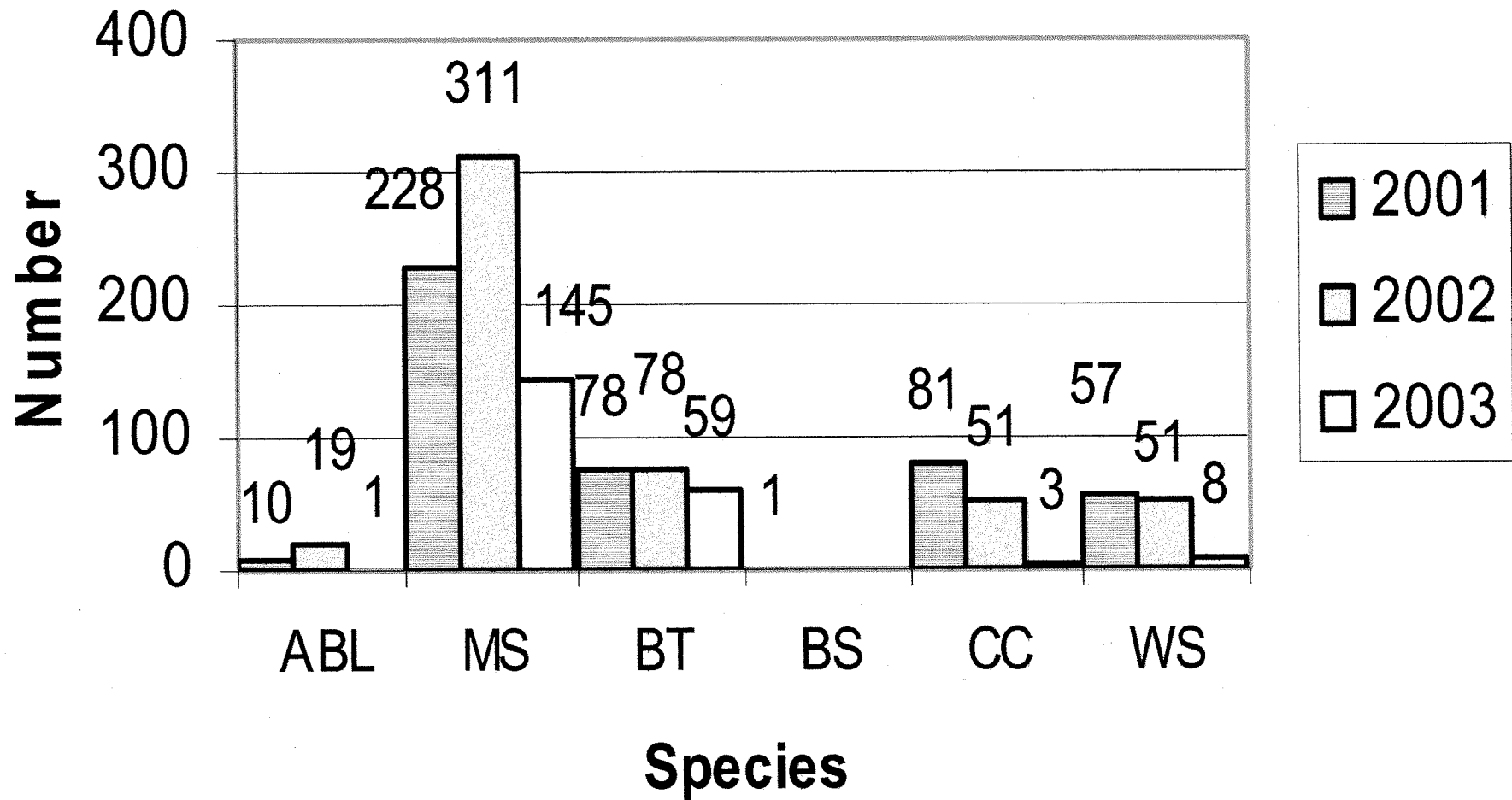
OTHER BIOLOGICAL DATA/OBSERVATIONS: Dense canopy of box elder reduces overall habitat and causes stream side erosion. Habitat and not water quality appears to be limiting full use potential

INTERPRETATIONS BASED ON EXISTING FISH AND AQUATIC LIFE COMMUNITY: Favorable HBI values but limited EPT suggest sediment is more limiting than water quality. Fisheries indicate cold water habitat with high numbers of intolerant species.

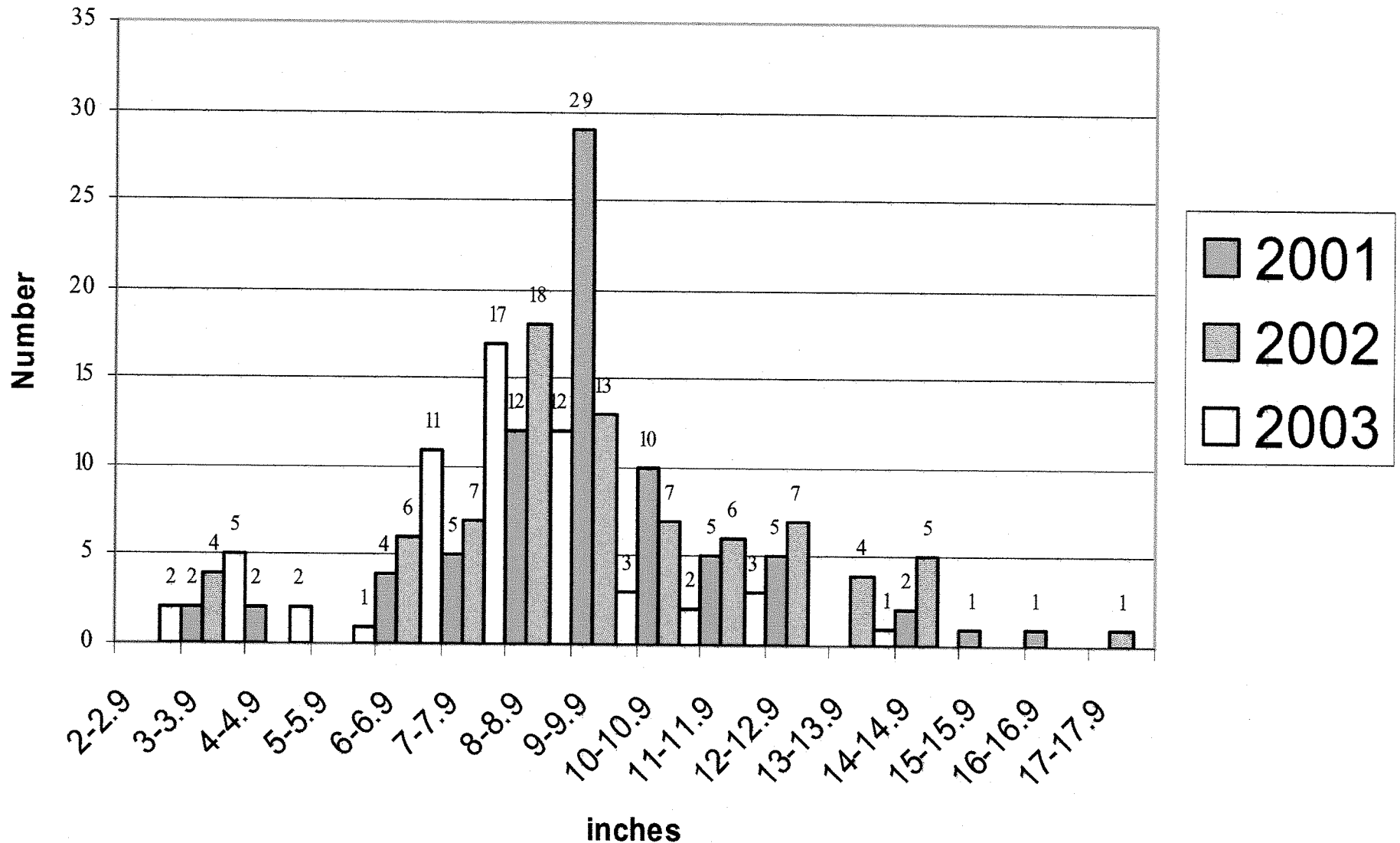
0 - 6.3 miles = Salmonid A



German Valley Creek Fish Community Structure CTH Z to N. Perry Road

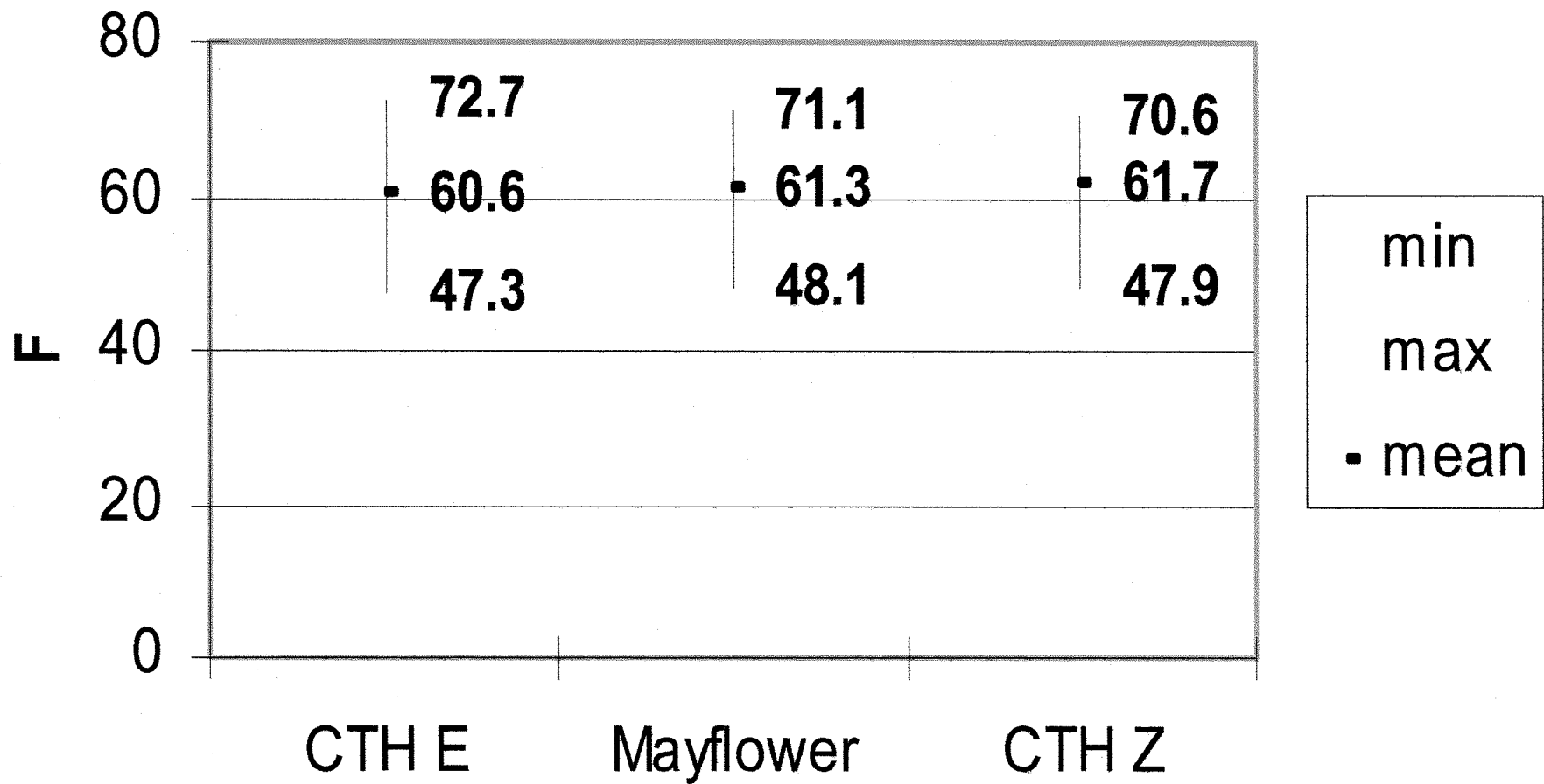


German Valley Creek - Z to N. Perry Road Brown trout length frequency distribution

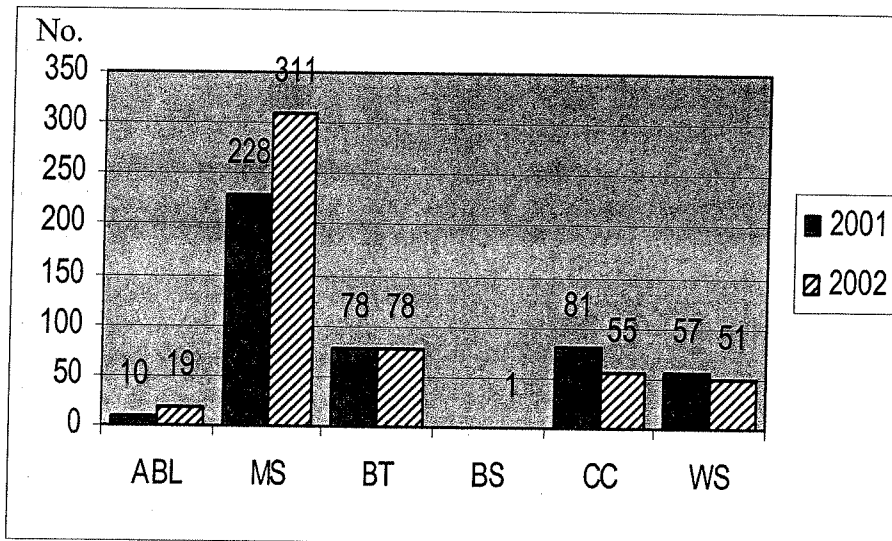


German Valley Creek Hobo Temperature Data

June 1 - August 31, 2003

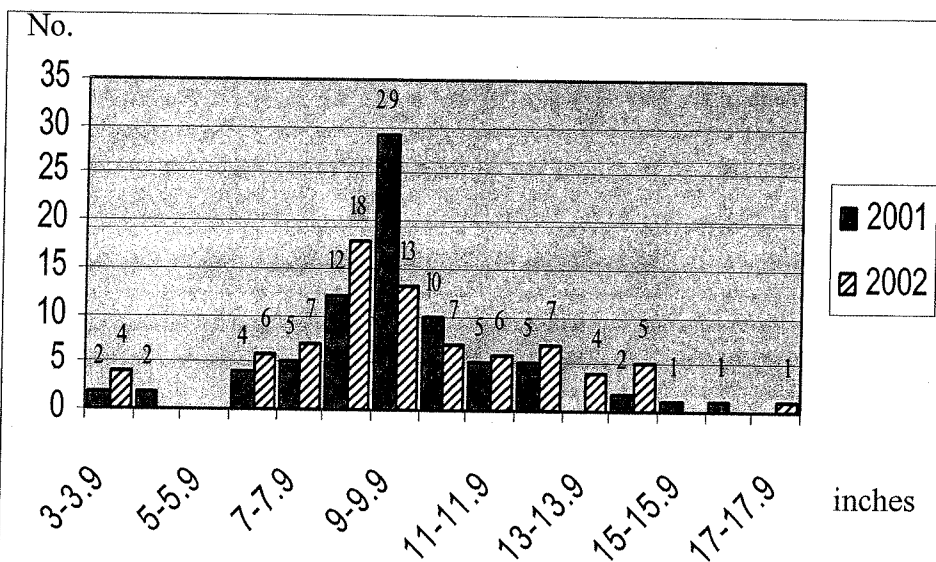


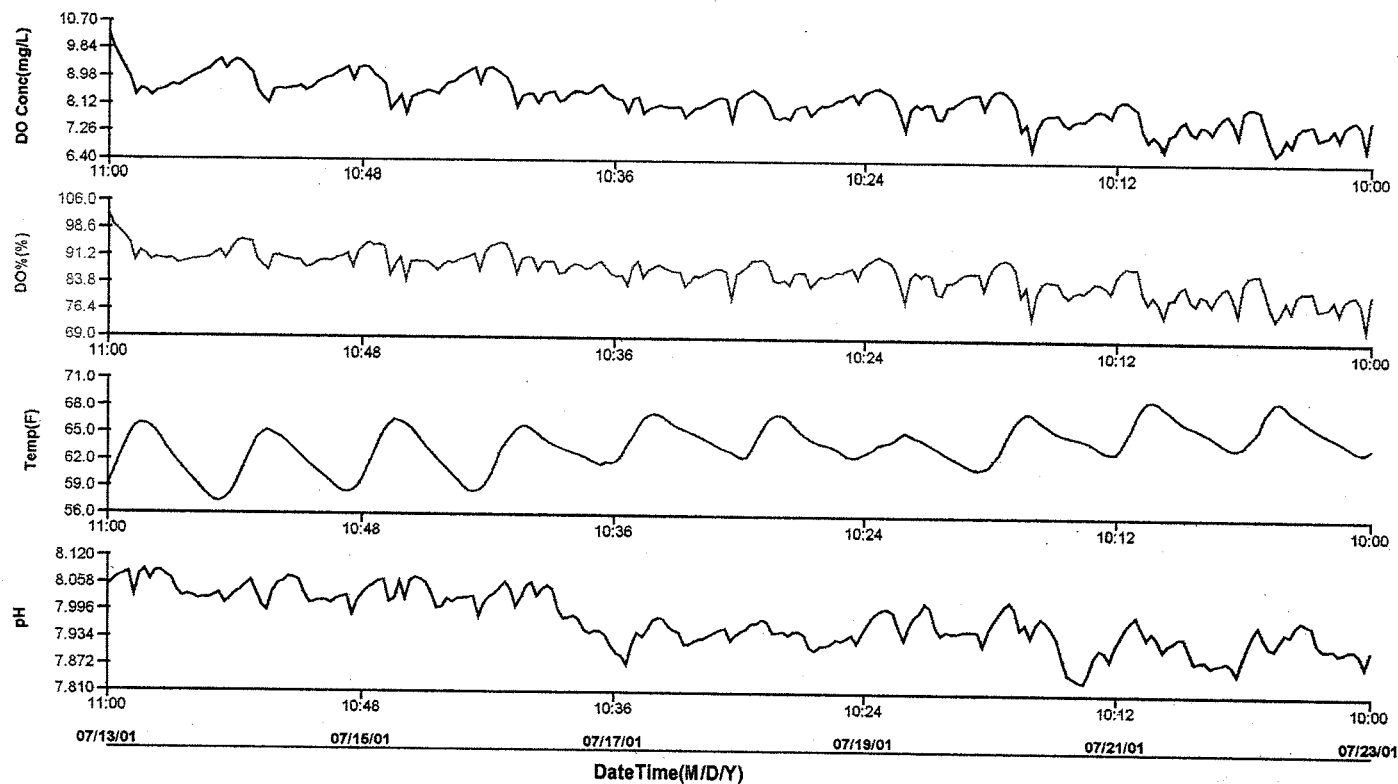
German Valley Creek Fish Community Structure CTH Z to N. Perry Road



ABL=American brook lamprey, MS=mottled sculpin, BT=brown trout, BS=brook stickleback, CC=creekchub, WS=white sucker. IBI scores: 40 (2001), 50 (2002)

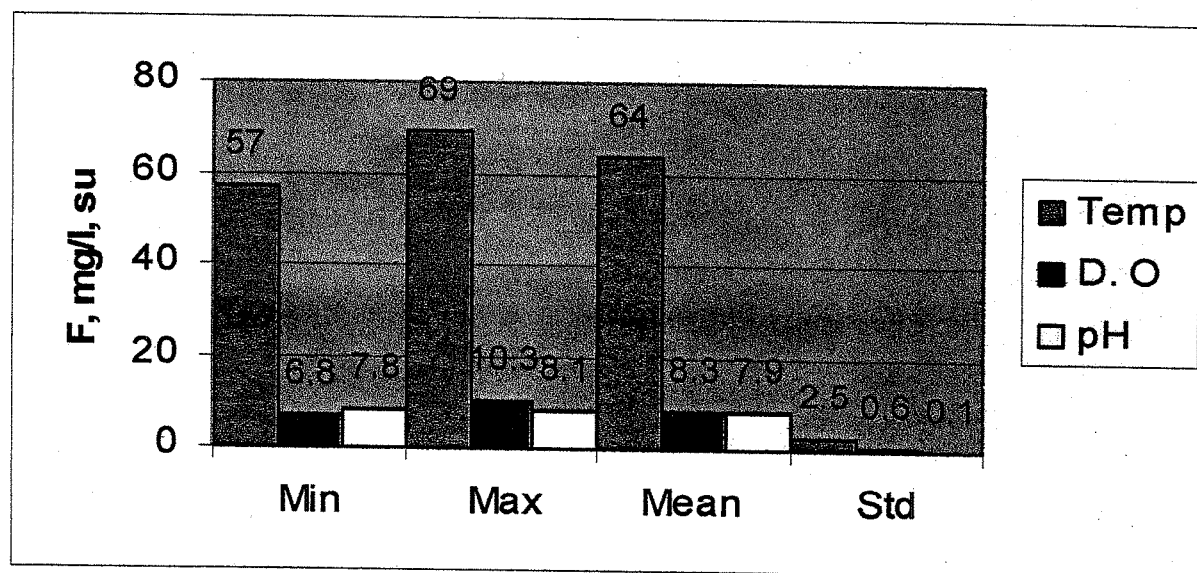
German Valley Creek: Brown trout length frequency CTH Z to N. Perry Road





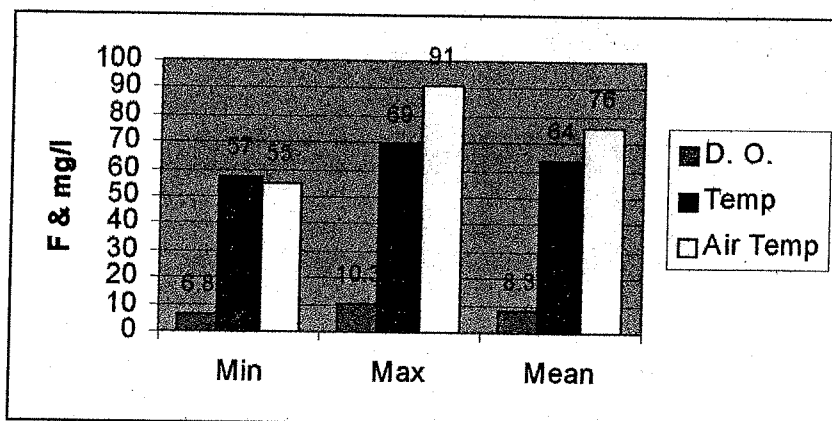
Pulse of German Valley Creek

YSI 600XLM
Water Quality Data
Logger

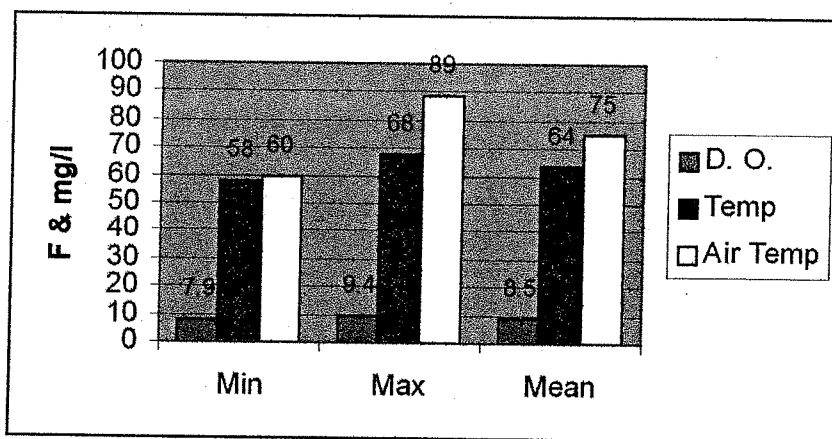


German Valley Creek – YSI 600 XLM data logger results at Mayflower Road

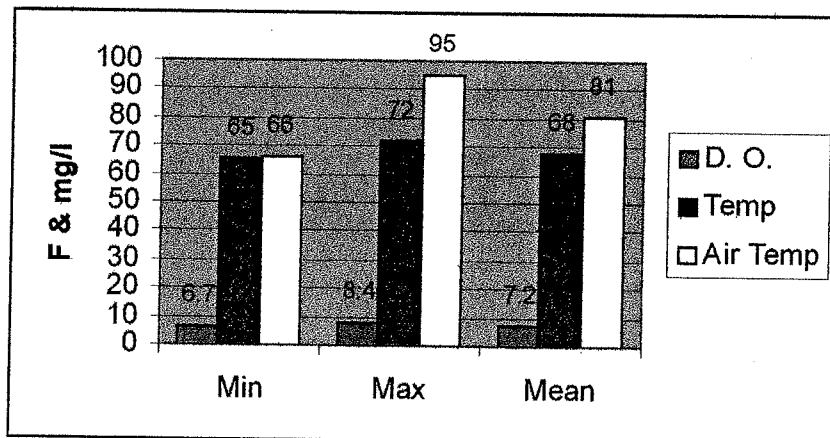
7/13 (11:00) to 7/23/2001 (10:00)



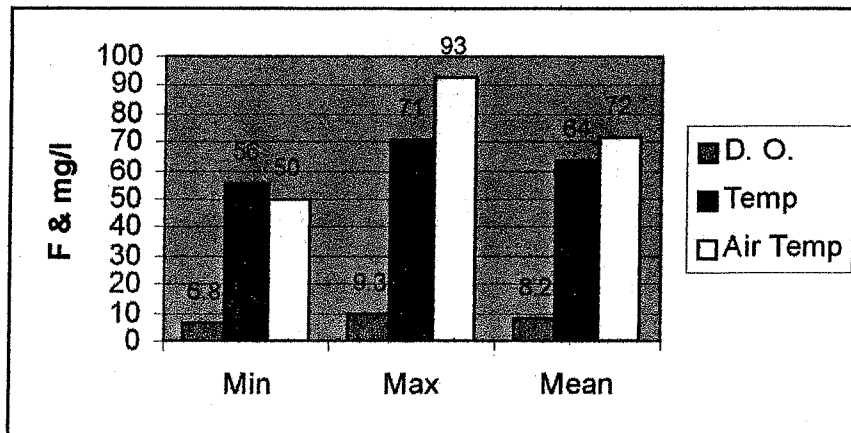
7/23 (13:00) to 7/26/2001 (09:00)



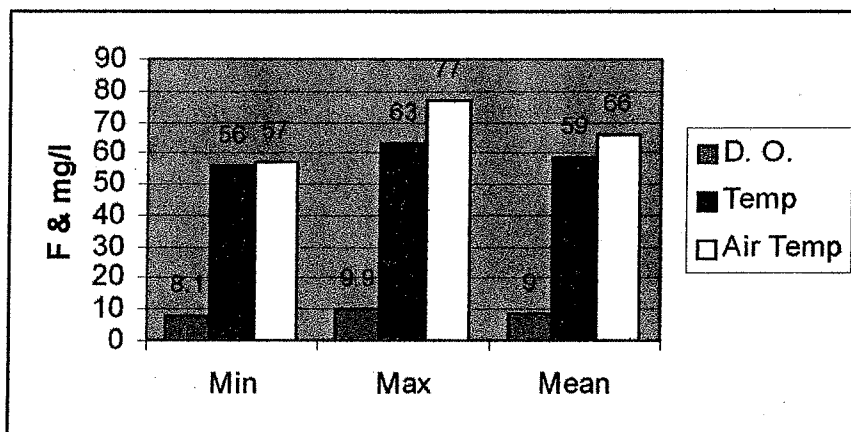
7/30 (10:00) to 7/31/2001 (23:00 - power failure, missed 3.4" rain on Aug. 2)



German Valley Creek – YSI 600XLM data logger results (cont.)
8/7 (08:30) to 8/14/2001 (14:00)

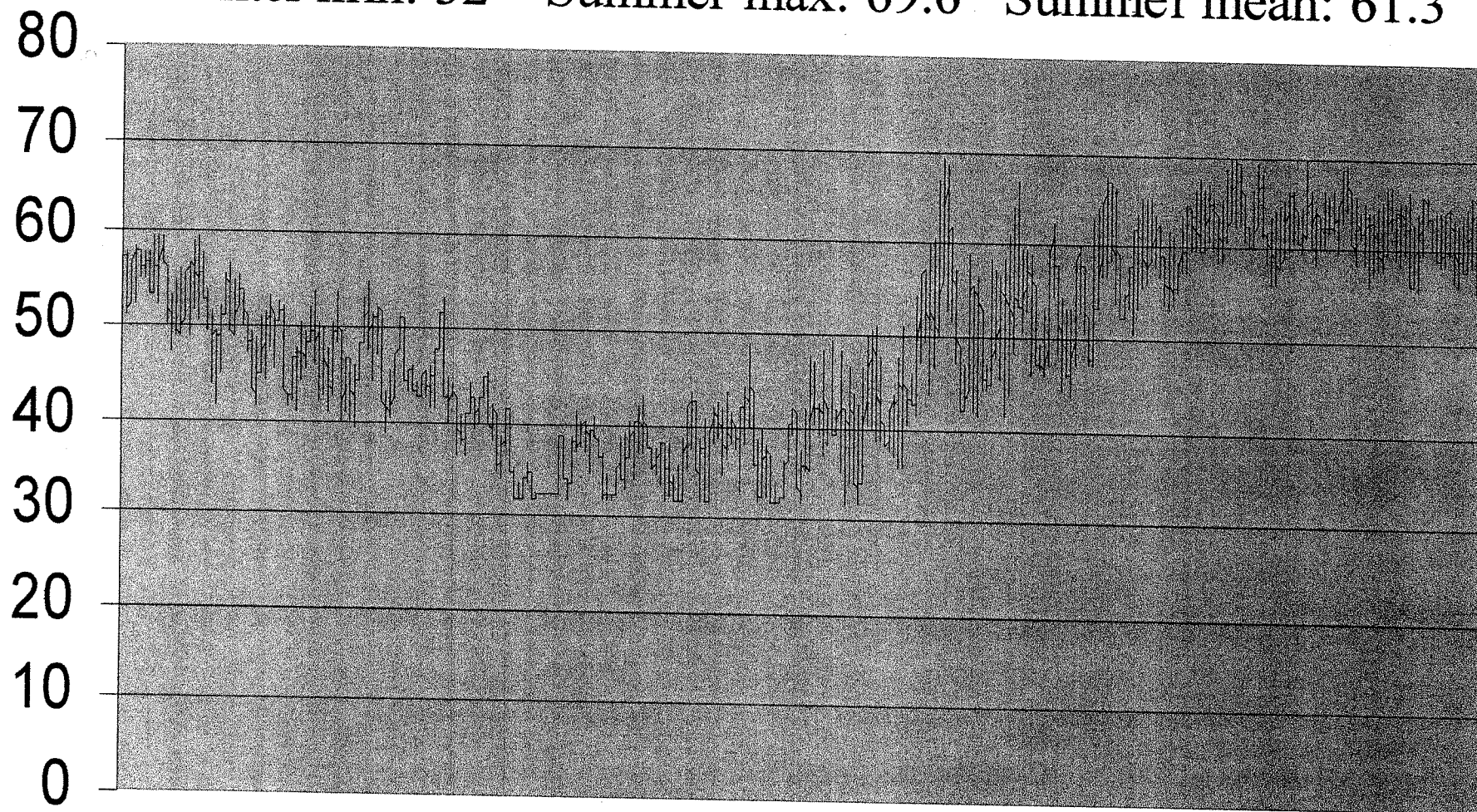


8/15 (08:30) to 8/18/2001 (15:30)



German Valley Creek at Mayflower Rd

Winter min: 32 Summer max: 69.6 Summer mean: 61.3



Sept. 2001

Sept. 2002

*** SOUTH CENTRAL DISTRICT BIOTIC INDEX REPORT ***

Sample: 20011101-13-06 (yyyymmdd-Co-Field#) Reference Site: NO
 Waterbody: GERMAN VALLEY Master Waterbody #: 909200
 Project: COLD WATER HABITAT EVALUATIO Storet Station:
 Collector: FORWARD, ERIC Time Sampling: 3 MIN # Reps: 1
 Sampling Device: 1. D Frame
 Taxonomist: DIMICK, J.
 Sorter: BERGMAN, P. % Sample Sorted: 13

Location-Legal: SE NE S21 T 6N R 6E County: DANE
 Lat/Long: N42deg 58min 52.6sec W 89deg 46min 53.2sec
 Method: GPS-GARMIN ETREX
 Description: UPPER GORDON APPROX. 35M ABOVE CTH
 E- SEE MAP AND GPS

	Width ft	Depth ft	Temp °C	DO mg/l	Measured Vel fps	Est Velocity fps	Habitat
General	6.6	0.8	11.9	11.11		Moderate (0.5-1.5)	1. Riffle
Rep #1	3.641						
Rep #2	0.000						
Rep #3	0.000						
Rep #4	0.000						
Rep #5	0.000						
Aquatic Vegetation 0 % of Total Stream Channel at Sampling Site							

Substrate at Rep Location %:

	Bedrock	Boulders	Rubble	Gravel	Sand	Silt	Clay	Detritus	Muck	Debris/Veg
Rep #1	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rep #2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rep #3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rep #4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rep #5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

Substrate Sampled %: (Same as Above NO)

	Bedrock	Boulders	Rubble	Gravel	Sand	Silt	Clay	Detritus	Muck	Debris/Veg
Rep #1	0.0	0.0	40.0	55.0	5.0	0.0	0.0	0.0	0.0	0.0
Rep #2	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rep #3	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rep #4	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
Rep #5	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0

NP=Not Present

Pollutant Sources:

Water Quality Indicators:	I=Insignificant	Livestock Pasturing	*
Turbidity	S=Significant	Barnyard Runoff	*
Chlorine/Toxic Scour		Cropland Runoff	*
Macrophytes	Factors Affecting Habitat:	Tile Drains	*
Filamentous Algae	Sludge Deposits	Septic Systems	*
Planktonic Algae	Silt and Sediment	Streambank Erosion	*
Slimes	Channel Ditching	Urban Runoff	*
Iron Bacteria	Impoundments	Construction Runoff	*
Perceived Water Quality	Low Flows	Point Source (Spec)	*
at Site:	Wetlands	Other (Specify)	*
Comments:	Comments:	Comments:	

*** SOUTH CENTRAL DISTRICT BIOTIC INDEX REPORT ***

SAMPLE ID# 20011101-13-06

PAGE 1

*** TAXA ***	SPECIES STATUS CODE	TAXA KEY USED	TOL VAL	ORGANISM ID	ORGANISM COUNT REP1 REP2 REP3		
TRICHOPTERA							
BRACHYCENTRIDAE							
BRACHYCENTRUS							
OCCIDENTALIS		*1	1.00	04010104	1	0	0
HYDROPSYCHIDAE							
CHEUMATOPSYCHE							
UNIDENTIFIED		*2	5.00	04040100	1	0	0
DIPLECTRONA							
MODESTA		*2	0.00	04040301	6	0	0
LIMNEPHILIDAE							
HESPEROPHYLAX							
DESIGNATUS		*2	3.00	04080401	33	0	0
MEGALOPTERA							
SIALIDAE							
SIALIS							
UNIDENTIFIED		*2	4.00	05020100	1	0	0
COLEOPTERA							
ELMIDAE							
OPTIOSERVUS							
UNIDENTIFIED		*3	4.00	07020500	23	0	0
FASTIDITUS		*3	4.00	07020501	49	0	0
DIPTERA							
ORTHOCLADIINAE							
BRILLIA							
FLAVIFRONS GROUP		*4	5.00	08300407	3	0	0
CHIRONOMINI							
PARATENDIPES							
UNIDENTIFIED		*5	8.00	08323200	1	0	0
AMPHIPODA							
GAMMARIDAE							
GAMMARUS							
PSEUDOLIMNAEUS		*6	4.00	09010201	27	0	0
GASTROPODA							
PHYSIDAE							
PHYSA							
UNIDENTIFIED		*7		14040200	38	0	0
PELECYPODA							
SPHAERIIDAE							
PISIDIUM							
UNIDENTIFIED		*8		15010300	2	0	0
OLIGOCHAETA							
TUBIFICIDAE		*7		16030000	2	0	0

*** SOUTH CENTRAL DISTRICT BIOTIC INDEX REPORT ***

SAMPLE ID# 20011101-13-06

PAGE 2

***	TAXA	***	SPECIES TAXA	TOL ORGANISM	ORGANISM
			STATUS KEY	VAL ID	COUNT
			CODE USED		REP1 REP2 REP3

*** TOTALS: *** 187

0

*** BIOTIC INDEX: *** 3.641

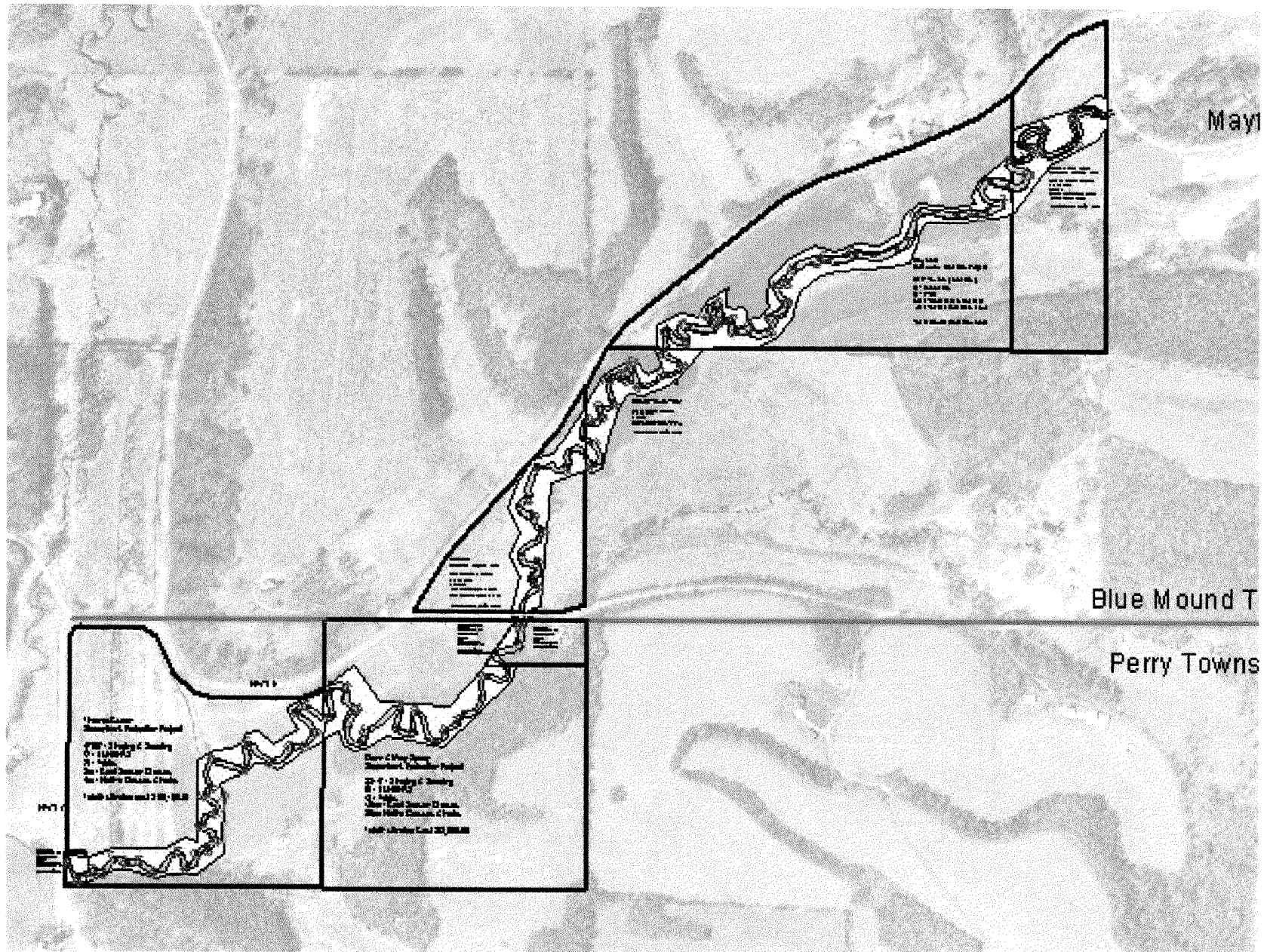
0

Taxonomic Key Code Ref:

- *1 Hilsenhoff 1985b
- *2 Hilsenhoff 1995
- *3 Hils., Schmude 1992
- *4 Narf 1989
- *5 Pinder, Reiss 1983
- *6 Holsinger 1972
- *7 Pennak 1978
- *8 Burch 1972

Species Status Codes:

2004 TRM Project Boundary



Region SCR County Dane Report Date 1/21/05 Classification CWAWater Body: German Valley CreekDischarger: ≠ no discharge

If stream is classified as Limited Forage Fish (LFF) or Limited Aquatic Life (LAL), check any of the following Use Attainability Analysis factors that are identified in the classification report:

- ☐ Naturally occurring pollutant concentrations prevent the attainment of use
- ☐ Natural, ephemeral, intermittent or low flow conditions or water levels prevent the attainment of the use, unless these conditions may be compensated for by the discharge of sufficient volume of effluent discharges without violating State water conservation requirements to enable uses to be met
- ☐ Human caused conditions or sources of pollution prevent the attainment of the use and cannot be remedied or would cause more environmental damage to correct than to leave in place
- ☐ Dams, diversions or other types of hydrologic modifications preclude the attainment of the use, and it is not feasible to restore the water body to its original condition or operate such modification in a way that would result in the attainment of the use
- ☐ Physical conditions related to the natural features of the water body, such as the lack of a proper substrate, cover, flow, depth, pools, riffles, and the like, unrelated to water quality, preclude attainment of aquatic life protection uses
- ☐ Controls more stringent than those required by sections 301(b) and 306 of the Act would result in substantial and widespread economic and social impact

Supporting Evidence in the report (include comments on how complete/thorough data is)

- ☒ Biological Data (fish/invert) _____
- ☒ Chemical Data (temp, D.O., etc.) PO, pH, spec cond
- ☒ Physical Data (flow, depth, etc.) flow, depth
- ☒ Habitat Description _____
- ☒ Site Description/Map _____
- ☐ Other: _____

Historical Reports in file:

1/2005 D Marshall

Additional Comments/How to improve report:

habitat, not wq, limiting full potential

fish data → CWA w/ high # intolerant species

good data to support CWA class