

Region SCR County Dane Report Date 1/6/05 Classification CLWCA

Water Body: Schlappach Creek

Discharger: 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) IBI = 1.96 (excellent) - 25 (good)
- Chemical Data (temp, D.O., etc.) temp = 0-20°C
- Physical Data (flow, depth, etc.)
- Habitat Description
- Site Description/Map
- Other:

Historical Reports in file:

1/6/05 - J. Amrhein

Additional Comments/How to improve report:

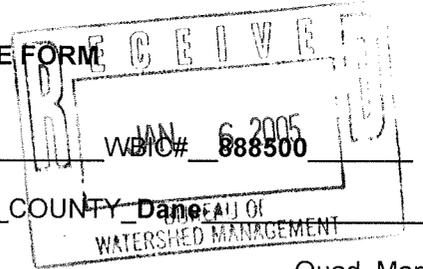
- ERW currently

- water temps indicate CW

- b/c of existing fish assemblage, favorable CWIBI score & cold water temp, fish mgt believes this stream could be successful; mgt for trout

FISH AND AQUATIC LIFE DESIGNATED USE FORM

(Attach supporting data sheets)



WATERBODY NAME Schlapbach Creek
 REGION South Central BASIN Sugar-Pecatonica COUNTY Dane Quad. Map
 Segment Shown on Cross Plains

Reference Site(s) N/A
 Attach class. form for ref. site/cond.

SEGMENT DESCRIPTION for Segment _1_ of _1_ (headwater = segment 1)

From: Headwaters downstream <u>_5_</u> mi.,	43° 00' 44.15" 89° 43' 13.8"	SW/NW T6N R7E S7
To: Confluence with the Sugar River	43° 01' 57.57" 89° 39' 28.31"	SW/SW T7N R7E S34

Attach site map and photos showing stream segment and discharge point

DESIGNATED USE INFORMATION:

New Classification , Standards Review _____, Ref. Site _____, Date field work conducted/completed _____

Current FAL Designated use Default Full Fish and Aquatic Life

Existing FAL Use Based on current data Coldwater Communities - A, Date April, 2004

Recommended Attainable Designated use Coldwater Communities - A

Seasonal Designated use(s)/Dates Year Round

Other Applicable Uses: ORW _____, ERW x, GL _____, GLS _____, Drinking Water Supply _____, Recreation _____, Wild Life _____

Submitted By: <i>James J. Amherst</i>	Date: <i>4/5/2004</i>
Reviewed By: <i>Greg Seayle</i>	Date: <i>1/5/05</i>
Approved Basin Leader: <i>John Davis</i>	Date: <i>4-6-04</i>
WQS Sect. Chief, or Designee:	Date:

DISCHARGER INFORMATION:

Municipality/Company N/A There is currently no discharger to this stream, Permit # _____

Outfall Location _____

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 (List and briefly discuss key elements for the decision)

Send final report to:

Facility N/A Date: _____

Basin Wastewater Eng. N/A Date: _____

Limits Calculator: N/A Date: _____

Watershed Expert Greg Seader Date: 12/22/04

Fish and Habitat Expert Scott Stewart Date: 12/22/04

Bureau of Endangered Resources when these species are present N/A Date _____

Other interested parties (list) N/A Date: _____

LITERATURE REVIEW

1. WDNR, 2000. Proposed Dane County Lakes and Watershed Cold Classification (Devereaux memo to Sue Jones, 10/9/2000).
2. Fago, Donald. 1982. Distribution and Relative Abundance of Fishes in Wisconsin. 1. Greater Rock River Basin. Wisconsin Dept. of Natural Resources Tech. Bulletin No. 136. Madison, WI. 120 pages.
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. WDNR, 2004. Waterbody Use Classification Guidance.

Summarize and interpret the literature available and how it relates to and supports the classification and the recommended designated use:

The above cited literature supports the designation by providing definition and guidance as to the physical, biological, and chemical structure of coldwater streams. See narrative.

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FIELD ASSESSMENT DATA AND OBSERVATIONS

Assessment dates: Various to _____

PHYSICAL/CHEMICAL DATA

SEGMENT LENGTH _____, DEPTH, AVG. _____ MAX. _____ AVG. WIDTH _____

SEGMENT GRADIENT _____, VELOCITY _____

SUBSTRATE MATERIAL %silt _____ %sand _____ %gravel _____
 %rubble _____ %organic _____ %other _____

NATURAL FLOW _____ cfs, (MEASURED _____, ESTIMATED _____).

Flow was high _____, normal _____, low _____, very low _____

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

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

 Design flow _____

TEMPERATURE See narrative, Instantaneous _____ or 24 hr. max. average _____, Date(s) _____

DISSOLVED OXYGEN:

Instantaneous _____ mg/L, Time of day _____, Date _____

Continuous: Minimum _____ mg/L, Range _____ mg/L to _____ mg/L

Dates / time measured: _____ to _____, total = _____ hrs.

CHEMICAL DATA COLLECTED:

Continuous temperature monitoring was conducted from **December, 2001** to **June, 2003**. Summer maximum temperatures were below 25°C and mean daily stream temperatures during the summer period (June – September) were below 22°C.

BREIF INTERPRETATION/COMMENTS:

BIOLOGICAL DATA

FISH: Sampling date Various - See Narrative, Attach species list and IBI forms if applicable

Survey Location(s) Various - see narrative

Distance sampled _____ Sampling Gear _____

No. of species _____, Total fish _____,

No. of species not listed as tol. to low DO _____, Total fish _____, % not listed _____

Endangered or other special category species _____

Warm B species _____, Total no. _____

MACROINVERTEBRATES: Sampling date 11/01/2000, HBI **1.96 (Excellent)**

Survey location(s) Sletto Road

Sampling Procedure Kick net

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

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

Will provide if needed. EPT = 48%

% individuals with HBI value 5 or less _____

OTHER BIOLOGICAL DATA/OBSERVATIONS:

INTERPRETATIONS BASED ON EXISTING FISH AND AQUATIC LIFE COMMUNITY: See narrative.

HABITAT

Procedure N/A

Habitat rating _____, attach habitat rating forms

Significant problems affecting use attainment:

low flow _____ sedimentation x bank erosion x ditching _____ fish cover _____ depth _____

Other _____

Observations About Habitat Quality:

Stream flows through agricultural land near the headwaters and lowland/wetland near the mouth. Past land use has resulted in heavy siltation over the lower 1/3 of the stream. Flow is augmented by several large springs, particularly in Section 8 of Springdale Township. Bottom substrate varies from the upper half of the stream where it is mostly gravel with some silt to mostly silt in the lower portion.

WATERSHED DATA AND OBSERVATIONS

AREA

Approximate size 5 sq. miles

Land use: % crop land 60, % pasture 0.8, % forest 12,
% grass land 11, % urban 3, % wetland 5,

No. feedlots/barn yards near stream 0

Other NPS Urban Development in headwaters

Is this watershed currently or proposed to receive NPS management under a State, Federal or local organization? Yes _____, no x. List dates and explain:

Discuss NPS impacts and controllability, and NPS relationship to fish and aquatic life existing and attainable uses. Include factors such as bank erosion, land cover/use near stream, gully erosion, barn yards, etc. (attach additional sheets if required):

Stream is impacted by past agricultural practices which led to heavy siltation, particularly in the lower 1/3 of the stream segment. Several riparian landowners have expressed interest in protecting the stream corridor near the headwaters. The lower 2 miles of stream flows through a wetland complex. The department and county are considering applying for a Targeted Runoff Management grant to stabilize the slopes and improve stream habitat.

THIS PAGE MUST BE COMPLETED WHEN THE RECOMMENDED DESIGNATED USE IS TOLERANT FISH AND AQUATIC LIFE OR VERY TOLERANT AQUATIC LIFE.

RECOMMENDED DESIGNATED USE _____

Tolerant and Very Tolerant Designated uses

Tolerant Fish and Aquatic Life and Very Tolerant Aquatic Life designated uses are not defined as full fish and aquatic life uses. In most cases an TFAL or VTAL use is the best that can be attained by these resources due to natural habitat or water quality limitations. A designated use recommendation into one of these sub-categories must be based on one or more of the following factors (s. 283.15(4), Stats.). Check all that apply to this designated use and provide a brief description of the situation:

- a. Naturally occurring pollutant concentrations prevent the attainment of a full fish and aquatic life community.**

- b. Natural, ephemeral, intermittent or low flow conditions or water levels prevent the attainment of a full fish and aquatic life community, unless these conditions may be compensated for by the discharge of sufficient volume of effluent discharges without violating water conservation requirements.**

- c. Human caused conditions or sources of pollution prevent the attainment of a full fish and aquatic life community and cannot be remedied or would cause more environmental damage to correct than to leave in place.**

- d. Dams, diversions or other types of hydrologic modifications preclude the attainment of a full fish and aquatic life community, and it is not feasible to restore the water body to its original condition or to operate such modification in a way that would result in the attainment of a full fish and aquatic life community.**

- e. Physical conditions related to the natural features of the water body, such as the lack of proper substrate, cover, flow, depth, pools, riffles, and the like, unrelated to water quality, preclude attainment of a full fish and aquatic life community.**

DESCRIPTION:

Stream Reclassification

Schlapbach Creek

Sugar-Pecatonica Basin
Upper Sugar River Watershed (SP15)
WBIC # 888500

Submitted by James F. Amrhein
Wisconsin Department of Natural Resources
South Central Region Headquarters
April, 2004

INTRODUCTION

Schlapbach Creek is a 5 mile long stream that is currently designated as an Exceptional Resource Water and is a default Diverse Fish and Aquatic Life (Full Fish and Aquatic Life) Stream. It originates in Mount Horeb and flows northeast until it joins the Sugar River (Figure 1). It drains about 5 square miles of land and its flows are augmented by several springs, particularly in Section 8 of the Springdale township. The stream is intermittent within the village limits and flows through a storm sewer at Perimeter Street. The bottom substrate in the upper half of the stream is generally gravel with some silt. The lower half of the stream is more silted, the result of years of heavy agricultural impacts. The lower mile of stream flows through wetlands until the confluence with the Sugar River. Little historic information is available on this stream. Fago (1982) sampled the stream in 1974 and 1979. He found the stream dominated by mottled sculpin, but also found other species such as white sucker and creek chub. One specimen of redbreast dace, a state species of special concern, was found in 1974.

STUDY AREA AND AVAILABLE DATA

Because this stream is relatively short, sampling is generally conducted from 1 of the 4 road crossings. Sletto Road is the crossing most often chosen to represent the upper portion of the stream, and Klevenville-Riley Road represents the lower portion. There is little documentation of studies conducted between 1979 and 1997. In 1986 and 1987 a macroinvertebrate sample was taken (Table 1) and the stream was sampled more frequently starting in 1997 (DNR unpublished data). Sampling of fish and macroinvertebrates was conducted in 1997 and 2000. Sampling of fish was also conducted in 2002 and 2003 (Table 2). Temperature was recorded on an hourly basis at Sletto Road starting in December, 2001.

Table 1: Macroinvertebrate Samples – Schlapbach Creek

Year	Site	HBI Score	Species Richness	Genera Richness	% EPT
1986	Sletto Road	4.922 (Good)	18	17	7
1987	Sletto Road	4.337 (V. good)	20	18	34
1997	Sletto Road	3.978 (V. Good)	20	18	23
1997	Klevenville-Riley Road	4.4 (V. Good)	20	19	15
2000	Sletto Road	1.966 (Excellent)	16	16	48

Table 2: Fish Samples from Schlapbach Creek, 1997 – 2003

Species	1997 Sletto Rd	1997 Klevenville/ Riley Road	2000 Sletto Rd.	2000 Klevenville/ Riley Rd	2002 Sletto Road	2003 Sletto Road	2003 Klevenville/ Riley Rd
Brown Trout				1	3	2	2
Mottled Sculpin	299	80	117	99	281	312	101
White Sucker		18		11			1
Creek Chub	7	13	1	13			3
Brook Stickleback				2	2		
Central Mudminnow				2			
Black Bullhead		1					
CW IBI*	50 (Fair)	20 (Poor)	50 (Fair)	30 (Fair)	50 (Fair)	50 (Fair)	50 (Fair)

*Coldwater Index of Biotic Integrity (Lyons, et. al., 1996)

DISCUSSION

The data that is available for Schlapbach Creek shows good water quality. Mottled sculpin, an intolerant coolwater species, dominate the fish assemblage. Even though the stream is not stocked, brown trout are occasionally found in the stream. With the exception of one sampling in 1997, the coldwater index of biotic integrity (IBI) scores have been 30-50. Water temperature data suggests that the daily mean temperature does not exceed 22°C (Figure 2) as the maximum temperature was 20.1°C during the summer period (June 1st to September 30th). The fish manager feels this stream could successfully be managed for brook trout (Welke, 2003).

RECOMMENDATIONS AND CONCLUSIONS

Based on the data collected in 1997-2003, and using the draft, "Guidelines for Designating Fish and Aquatic Life Uses for Wisconsin Surface Waters" (WDNR, 2003), Schlapbach Creek meets the definition of a "Coldwater-A" community as defined below:

Coldwater –a (CW-A-CW): Coldwater ecosystems that may not contain salmonids or may not be currently classified as trout water. These ecosystems have the potential to support salmonid spawning or embryonic development, and contain or have the potential to contain other stenothermal coldwater indicator species. A fish community containing approximately 40% or more individual coldwater indicator species and having a cold water IBI score of 30 (Lyons, et. al., 1996) or greater indicates that a Coldwater-A use exists, even in the absence of salmonid species. When any coldwater indicator species is present, along with habitat and water quality, suitable for salmonid spawning or young-of-the-year rearing, the CW-A use designation may be justified based on potential.

Therefore, **Schlapbach Creek should be classified as a Coldwater - A stream.**

REFERENCES

- Fago, Donald. 1982. Distribution and Relative Abundance of Fishes in Wisconsin. 1. Greater Rock River Basin. Wisconsin Department of Natural Resources Technical bulletin No. 136. Madison, WI. 120 pages.
- Lyons, John, Lizhu Wang and Timothy Simonsen. 1996. Development and Validation of an Index of Biotic Integrity for Coldwater Streams in Wisconsin. North American Journal of Fisheries Management. 16:241-256.
- WDNR. 2003. Guidelines for Designating Fish and Aquatic Life Uses for Wisconsin Surface Waters. Wisconsin Department of Natural Resources. August, 2003 DRAFT.
- Welke, Kurt. 2003. Wisconsin Department of Natural Resources. Personal communication.

Figure 1: Schlapbach Creek

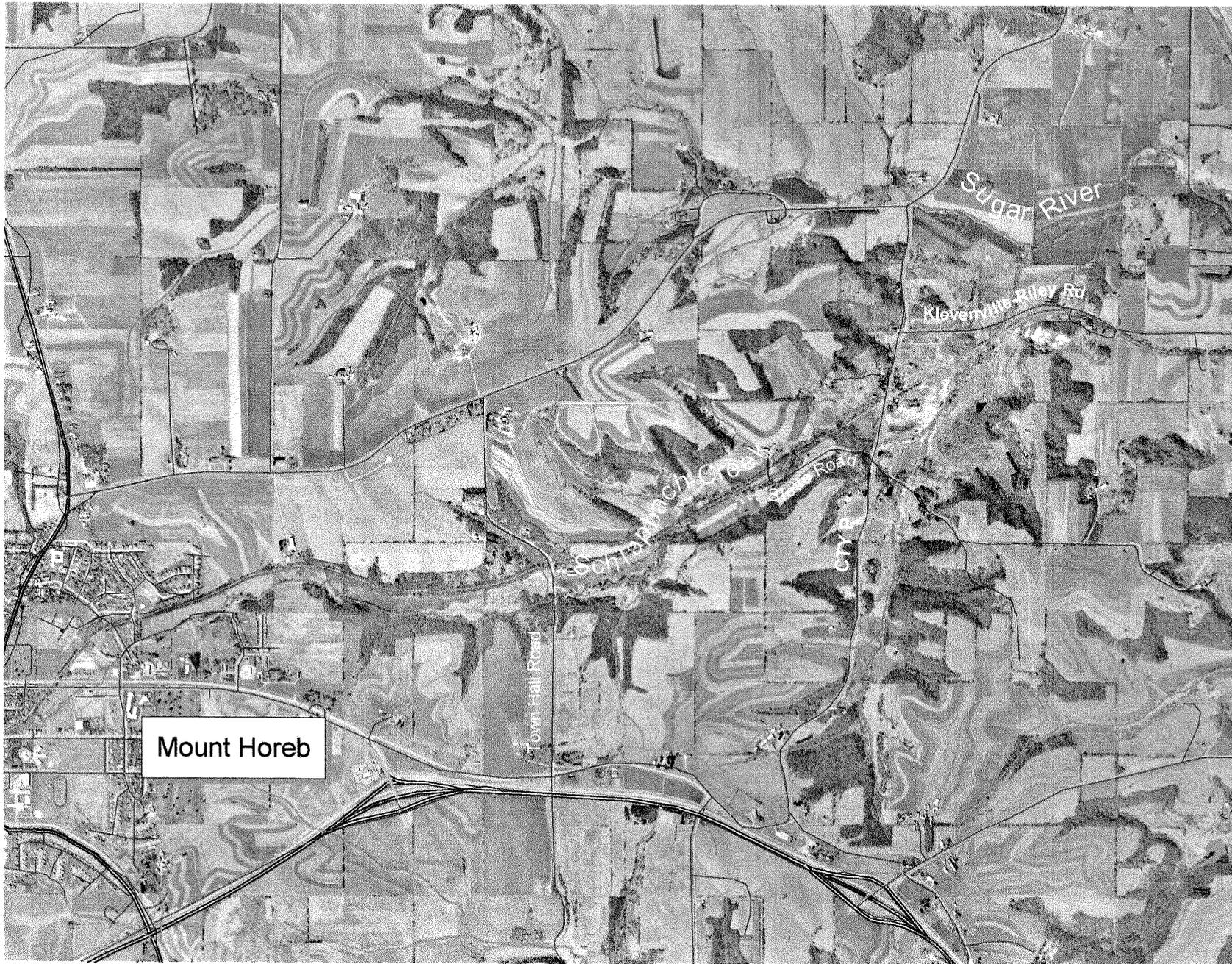


Figure 2: Hourly Water Temperature Readings, December 2001 - June 2003

Schlapbach Creek - Hourly Temperature Readings

