



FISHERIES WARMWATER STREAM RECONNAISSANCE REPORT

REGION 5	AREA Lake City	STREAM NAME Harkcom Creek	TRIBUTARY NO. M-34-56-16	LENGTH 9.2 mi.
COUNTY Dodge, Olmsted		WATERSHED NAME, NO. Zumbro River - 35	SOURCE (T.R.S) T108N R16W S32	MOUTH (T.R.S) 108N 16W S7

DATE(S) OF ASSESSMENT: 5/30, 6/25, 6/26 and 11/19/01
ASSESSMENT PURPOSE: Reconnaissance to assess non-game/minnow species presence-absence and to assess current stream conditions.

SIMILAR REACH	STATION	STREAM MILE	LENGTH	AVE. WIDTH (ft)*	ACRES
I	Various	0.0-5.7	Various	10.9	----
II	Various	5.7-9.2	Various	9.6	----

*From Initial Survey

SUMMARY:

STREAM MILE 9.2-7.4 The stream meanders through a corridor that is heavily vegetated with reed canary grass, willow, sedge sp., angelica and other wetland obligate and facultative plants that buffer the stream nicely from surrounding agricultural land. Good cover for wildlife is also provided, and a snapping turtle was seen at mile 7.7. Mile 7.6-7.5 contains a relatively large wetland (previously grazed) which the stream meanders directly through. The stream channel is narrow (2.5-6.0 ft.) and is full of rubble and boulder, with lesser amounts of sand and gravel. Several tile lines were contributing slow but steady flow that averaged around 55°F. There appeared to be a large spring up-welling from the perched LAB at mile 8.0 (tile?). There were many small hummocks, and vegetation in and around the area was dogwood, willow, and sedge (sp). A quick check during the winter may confirm the presence of a spring.

STREAM MILE 7.4-6.0: At mile 7.4 (immediately downstream from road crossing), the stream has been channelized, eliminating 4-5 meanders, shortening the stream by about 100 feet. Downstream from this point the stream generally becomes wider than above, but narrows and becomes deeper from mile 7.2-6.8, and is 3 feet or more in several places. The immediate bank/shoreline is well protected by overhanging grass and sedge. Flood flows appear to simply roll over the vegetated banks, causing little or no erosion. The channel bottom as above, is dominated by rubble and boulder, but gives way to higher amounts of sand, gravel and woody debris as you near mile 6.0. Land adjacent to the riparian zone is row crops.

SUMMARY(Cont'd):

STREAM MILE 6.0-3.7: Evidence of extreme discharge fluctuations were noted along this stretch of stream. Indications of flood flows reaching 7 or more feet above normal elevation. Banks remain well protected by vegetation and erosion is light. Tributaries entering the RDB at miles 5.7, 4.8, and 4.2 were contributing good flow at the time of survey (recent rains had passed through, however). An active beaver dam was reported at mile 4.8 (3 foot head and a fish barrier). Substrates were a mixture of sand, gravel, rubble, boulder and silt. Instream woody debris was common. Overall, this stretch had a pool/riffle ratio of approximately 60:40, with an average channel width of about 10 feet, and depths ranging from 1-5 feet (average 2.0).

STREAM MILE 3.7-2.1: Instream habitat is degraded compared to above. The channel is tightly meandered and substrates were comprised of pebble and rubble in the riffles, with soft sand and silt dominating the runs and pools. Pools were shallow (<3 ft) and provided little fish cover. Erosion was moderate to severe, occurring commonly throughout the stretch. Stream banks were unstable and comprised of black organic soil or clay. Despite common instream woody debris, overall fish cover was poor. The riparian zone was 80-90% shaded, with occasional areas of row crops to the bank.

STREAM MILE 2.1-MOUTH: Land immediately adjacent to the stream is active pasture mixed with grazed woodlands. Erosion is common and severe throughout. Riffles contained trichoptera, diptera, and ephemeroptera. Substrates were approximately 85% sand and 15% silt with some areas of fractured limestone. At mile 2.0, the stream widens at a sandstone bluff and there were many large blowdowns in the stream. Major riparian trees were basswood, maple, elm, oak and some cottonwood. A high water mark was noted 6 feet above normal stream elevation. Wildlife included deer, racoon, great blue heron, frogs and turkeys. Turtle diggings were seen at mile .6. Four-wheeler and horse trails were noted crossing and running parallel to the stream from mile .8 to the mouth.

FISH SAMPLING SUMMARY (Completed after the fish kill).

Gear	1 Backpack	1 Backpack	1 Backpack	1 Backpack		1 Backpack
Date	11/19/01	11/19/01	11/19/01	11/19/01	Above kill →	11/19/01
Location (Mile)	2.2	3.6	4.5	5.4	←Below kill	7.5
Effort	600 ft.	600 ft.	500 ft.	300 ft.		600 ft.
Blacknose dace		5	1	3		Common
Common shiner						
Bigmouth shiner		1		3		Present
So. Redbelly dace						Occasional
Fathead minnow						Present
Central stoneroller						Present
Redside dace						
Longnose dace						
Creek chub	1					Common
White sucker						
Johnny darter						Occasional
Fantail darter						Common

SUMMARY

From the source, downstream to mile 4.0, the "main stream" and tributary corridors are generally well buffered from surrounding row crops by what appears to be type 1 and 2 wetlands and/or retired pasture. Most areas are dominated by reed canary grass, willow and other ground cover shrubbery that offer relatively good wildlife habitat. Stream bank erosion is light and instream sedimentation is not a problem. Tile lines, and perhaps springs contribute coldwater flow to Harkcom Creek that is especially evident in the upper 4 miles of the stream (55-60 °F @ various road crossings in late May, early June).

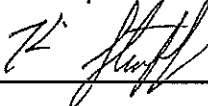
From stream mile 4.0 to the mouth, the immediate watershed turns more to active pasture, and the riparian zone becomes degraded with increasing severity as it nears the mouth. As a result, bank erosion increases in frequency and severity, as does instream sedimentation.

On 23 August 2001, a fish kill occurred at mile 6.0 and extended downstream 10 miles into the Middle Fork Zumbro. A survey was completed the following day and an estimated 6,550 fish were killed, all non-game and minnow species. Electrofishing in November found a dramatic difference between stations below the source of the kill (mile 6.0) and a station above the source with regard to fish abundance and diversity. A total of only 17 minnows (BND, CRC and BMS) were collected from stations BP1-BP4 all below mile 6.0. At mile 7.5 however, hundreds of minnows from eight different species were collected. A species list is provided in Table 1.

Table 1. Estimated numbers of fish killed in Harkcom Creek by species, August 2001.

Species	Estimated Number killed
Tadpole madtom	70
White sucker	1866
Northern hogsucker	105
Creek chub	1238
Blacknose dace	753
Central stoneroller	561
Fathead minnow	6
Common shiner	915
Bigmouth shiner	143
Sand shiner	229
Bluntnose minnow	202
No. Redbelly dace	13
Green sunfish	56
Fantail darter	36
Johnny darter	43
Logperch	209

Credits and Signatures:

Field Crew: Al Schmidt, John Hoxmeier		
Report Completed by:		
Name Al Schmidt	Title Fisheries Specialist	Date
APPROVED BY:		
Area Supervisor's Signature  3-15-02	Regional Fisheries Manager's Signature	Date

Harkcom Creek

M-34-56-16

Date: May 1, 2002

Map For: Stream Reconnaissance

Prepared By: Al Schmidt

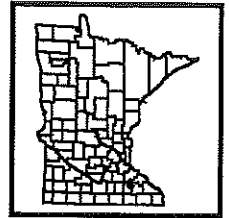
Fisheries Office: Lake City

Mouth TRS: 108-16-7

Source TRS: 108-16-32

Counties: Dodge, Olmsted

Reach Code			
	1		3A
	1A		3B
	1B		4
	1C		5
	2		6
	2A		7
	2B		8
	3		



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0 0.5 1 1.5 Miles

2001 backpack electrofishing stations.

