

(Attach supporting data sheets)

Use Designation Information – Required

Water Body Name	WBIC #	Date
South Fork Main Creek	2218000	02/14/2005
Region:	Basin	County
☐ NER ☒ NOR ☐ SCR ☐ SER ☐ WCR	Upper Chippewa	Rusk

Quad Map Where Segment is Shown

Hawkins

Reference Site(s) (Attach use designation form for reference site/cond.)

Segment Description for Segment 1 of 1 (headwater = segment 1)

From:	Latitude:	DEG	MIN	SEC	
the CTH M crossing		45	29	43.1000	N
	Longitude:	DEG	MIN	SEC	Datum Used
		090	43	10.7000	W NAD 83
	Township	Range	☐ E ☒ W	Section	1/4-Section
upstream <u>9025</u> ☐ mi., ☐ km., ☒ ft., ☐ M.	35 N	03		23	SE NW
To:	Latitude:	DEG	MIN	SEC	
the Hawkins wastewater lagoon outfall		45	30	41.2000	N
	Longitude:	DEG	MIN	SEC	Datum Used
		090	42	29.8000	W NAD 83
	Township	Range	☐ E ☒ W	Section	1/4-Section
	35 N	03		14	SE NW

Attach site map and photos (prefer digital) showing stream segment and discharge point.

Date Fieldwork Conducted/Completed

05/10/2004

Use Designation Status:

- ☐ New Use Designation (First Field Assessment)
☒ Standards Review (Updating Previous Field Assessment)
☐ Reference Site

Current Codified Fish and Aquatic Life Use Designation:

- ☐ Coldwater Community
☐ Warmwater Sport Fish Community
☐ Warmwater Forage Fish Community
☒ Tolerant Fish and Aquatic Life Community (LFF)
☐ Very Tolerant Aquatic Life Community (LAL)

☐ Default
☐ Field Assessment –
Date (mm/dd/yyyy): _____

Existing FAL Use Based on Current Data:

- ☒ Coldwater Community
☐ Warmwater Sport Fish Community
☐ Warmwater Forage Fish Community
☐ Tolerant Fish and Aquatic Life Community (LFF)
☐ Very Tolerant Aquatic Life Community (LAL)

Recommended Attainable Use Designation:

- ☒ Coldwater A (Coldwater)
☐ Coldwater B (Coldwater)
☐ Diverse Fish and Aquatic Life
☐ Tolerant Fish and Aquatic Life (LFF)
☐ Very Tolerant Aquatic Life (LAL)

Recommended Seasonal Use Designation(s):

- ☐ Coldwater A (Coldwater)
☐ Coldwater B (Coldwater)
☐ Diverse Fish and Aquatic Life
☐ Tolerant Fish and Aquatic Life (LFF)
☐ Very Tolerant Aquatic Life (LAL)

Effective Date: (mm/dd/yyyy)

_____ to _____
_____ to _____
_____ to _____
_____ to _____

Other Applicable Uses (as recognized by existing administrative rule):

- ☐ Outstanding Resource Water
☐ Exceptional Resource Water
☐ Great Lakes System
☐ Public Drinking Water Supply
☐ Recreational Use
☐ Wildlife

Community Types:

- ☐ Class I Trout
☐ Class II Trout
☐ Class III Trout
☒ Coldwater A
☐ Coldwater B
☐ Game Fish
☐ Non-Game Fish
☐ Macroinvertebrates
☐ Endangered/Threatened Species
☐ Intolerant Species
☐ Coolwater
☐ Tolerant Fish
☐ Tolerant Macroinvertebrates

Fish and Aquatic Life Use Designation Summary

Form 3200-121 (12/04)

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Water Body Name	WBIC #	Date
South Fork Main Creek	2218000	02/14/2005

Use Designation Information (continued)

Basis for Use Designation Decision (List and briefly discuss key elements for the decision) – Use Attachment A, if necessary

Significant numbers of brook trout were present in both August, 2003 and May, 2004. More than one age group above the age of 1 year was present.

Discharger Information – Required

Municipality/Company	WPDES Permit Number	Date Permit Issue	Permit Renewal
Hawkins	0024201	07/15/2002	09/30/2007

Outfall Location

N45 30 41.2, W90 42 29.8

Contact Person

Carl Hartman

Contact Date(s)

Did a Representative Observe Field Assessment?

☐ Yes

☒ No

Representative

Telephone Number (include area code)

Comments about facility representative's observations, etc.

Literature Review – Use Attachment B, if necessary

1. Previous classification reports and use designations – cite here and attach

NR104.10, table 8, no. 7 (January 200) designates this segment as tolerant fish and aquatic life (LFF). Undated classification report recommended this segment be designated as tolerant fish and aquatic life (LFF). No biological data was collected. Mention is made of flow being reduced to standing pools on 10/12/1967.

2. All previous studies and data associated with the water body that are applicable to use designation – cite here and attach

09/30/1975 Waste Assimilation Study report documented a flow of 1.3 cfs on 07/23/1975. 10/17/1996 standards review field notes state the stream should be upgraded to WW sport fish due to reports of northerns, bluegills and occasional trout being caught. 09/09/1976 flow msmt. = 0.06cfs. 07/26/1976 flow est. = 1.0cfs. 08/11/1980 flow msmt. = 2.3cfs. 08/26/1980 flow msmt = 2.8 cfs. 03/11/1980 memo mentions creek is "a candidate for reclassification to fish and aquatic life standards." 10/07/1975 fish assessment found (see 5. below)

3. Is stream listed as trout water in Wisconsin Trout Streams?

☐ Yes

☒ No

If yes, cite here and attach a copy

4. Any other literature applicable to the fish and aquatic life use designation – cite here and attach

For question 3. above, this segment of the stream is not listed as trout water, but a downstream segment of the stream is listed as trout water (beginning in the middle of Sec. 28, T35N, R03W).

5. Summarize and interpret the literature available and how it relates to and supports the recommended use designation

(from 2. above) 16 species and 71 individuals in 300 ft. segment below outfall. 6 game fish were found. A 1300 ft. segment upstream from CTH M assessed on the same date found 15 species and 112 individuals. 6 game fish were found. 11/18/1985 flow msmt. = 5.7 cfs.

Fish and Aquatic Life Use Designation Summary

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Water Body Name South Fork Main Creek	WBIC # 2218000	Date 02/14/2005
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Field Assessment Data and Observations – Use Attachment C, if necessary

Assessment Date (mm/dd/yyyy) 05/11/2004	Additional Assessment Date(s): 08/19/2003	
Stream Segment Physical/Chemical Data:		Substrate Material:
Length <u>698</u> ☐ feet ☒ meters ☐ miles		Silt <u>20</u> % Organic <u> </u> %
Avg. Width <u>12</u> ☒ feet ☐ meters		Rubble <u>30</u> % Gravel <u>30</u> %
Max. Width <u> </u> ☐ feet ☐ meters		Sand <u>20</u> % Other <u> </u> %
Avg. Depth <u>2</u> ☒ feet ☐ meters		Stream Flow <u>29</u> cfs ☐ Measured ☒ Estimated
Max. Depth <u> </u> ☐ feet ☐ meters		At time of assessment, flow was: ☒ High ☐ Low ☐ Very Low
Gradient <u> </u> Velocity <u> </u>		7Q2 Flow <u>0.38</u> cfs
		7Q10 Flow <u>0.13</u> cfs

Stream Temperature 16.1 °C ☒ Instantaneous ☐ 24-Hr. Maximum ☐ 24-hr. Avg.

Dissolved Oxygen (Instantaneous) mg/L Time of Day : ☐ am ☐ pm

Minimum Dissolved Oxygen Recorded mg/L Time of Day : ☐ am ☐ pm

Maximum Dissolved Oxygen Recorded mg/L Time of Day : ☐ am ☐ pm

Method of Analysis: ☐ Meter ☐ Modified Winkler Method

Effluent Flow:	Chemical Data Collected: (STORET # <u> </u>)
Daily Average <u> </u> cfs ☐ Measured ☐ Estimated	☐ Ammonia ☐ Pesticides ☐ Other: <u> </u>
Design Flow <u>0.18</u> cfs (Convert MGD to cfs by multiplying by 1.55)	☐ Atrazine ☐ Phosphorus ☐ Other: <u> </u>
	☐ Bacteria ☐ Metals ☐ Other: <u> </u>

Brief Interpretation/Comments:

Habitat – Use Attachment D, if necessary

Procedure: ☐ Guidelines For Evaluating Fish Habitat in Wisconsin Streams (Simonson, Lyons and Kanehl, 1994)

☐ Development and Evaluation of a Habitat Rating System For Low Gradient Wisconsin Streams

☐ Other – Describe:

Habitat Rating – Attach Habitat Rating Forms: ☐ Excellent ☐ Good ☐ Fair ☐ Poor

Significant Problems Affecting Use Attainment:

☐ Low-flow ☐ Sedimentation ☐ Bank Erosion ☐ Ditching ☐ Fish Cover ☐ Depth

☐ Other – Describe:

Observations About Habitat Quality:

Stream has fair pool/riffle/run structure. Upper end of segment has been modified through extensive rock addition and channel narrowing done by a local conservation group.

Fish and Aquatic Life Use Designation Summary

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Water Body Name South Fork Main Creek	WBIC # 2218000	Date 02/14/2005
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Biological Data – Fish data is required

Fish:

Sampling Date (mm/dd/yyyy) 05/11/2004

Species List and IBI Forms: ☒ Attached to Report ☐ Not Applicable

Survey Location(s) _____

Distance Sampled 698 ☐ feet ☒ meters ☐ miles

Sampling Gear: ☐ Backpack Shocker ☒ Other – Describe: stream shocker

Number of Species Collected _____ Total Number of Fish Collected _____

Number of Intolerant Species _____ % Intolerant Species _____

Endangered or Other Special Category Species Collected:

Species _____ No. of Individuals Collected _____

Species _____ No. of Individuals Collected _____

Species _____ No. of Individuals Collected _____

IBI Score _____ Rating _____

Macroinvertebrates:

Sampling Date (mm/dd/yyyy) _____ ☐ HBI ☐ FBI

Survey Location(s) _____

Sampling Procedure _____

☐ Less than 100 organisms were found – List Dominant Genera, etc.:

Genus _____ Number Found _____ HBI Score _____

Genus _____ Number Found _____ HBI Score _____

Genus _____ Number Found _____ HBI Score _____

☐ More than 100 organisms found – Attach taxonomy bench sheet or other analyses

Other Biological Data/Observations – Use Attachment E, if necessary

See attachment for 2003-4 fish data. A significant brook trout population was present at that time.

Interpretations Based on Existing Fish and Aquatic Life Community – Use Attachment F, if necessary

Significant numbers of brook trout were present in both August, 2003 and May, 2004. More than one age group above the age of 1 year was present. Coldwater A is the recommended classification

WATERSHED DATA AND OBSERVATIONS – Optional (Please answer to the best of your ability. Estimates are acceptable.)

Approximate Area _____ ☐ Acres ☐ Square Miles

Land Use: Crop Land _____ % Pasture _____ % Forest _____ %

Grass Land _____ % Urban _____ % Wetland _____ %

Number of Feedlots/Barn Yards Near Stream _____

Other Nonpoint Sources _____

Fish and Aquatic Life Use Designation Summary

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Water Body Name	WBIC #	Date
South Fork Main Creek	2218000	02/14/2005

WATERSHED DATA AND OBSERVATIONS (continued) – Use Attachment G, if necessary

Is this watershed currently or proposed to receive nonpoint source management under a State, Federal or local organization?



No



Yes

List Date(s) (mm/dd/yyyy) _____

Explain _____

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

VTAL/TFAL Justification – Required – Use Attachment H, if necessary

Note: This section must be completed when the use designation is tolerant fish and aquatic life (formerly LFF) or very tolerant aquatic life (formerly LAL)

Recommended Attainable Use Designation:



TFAL



VTAL

Tolerant Fish and Aquatic Life and Very Tolerant Aquatic Life use designations (LFF & LAL) are not defined as full fish and aquatic life uses. However, these uses are in most cases the best use that can be attained by these resources due to 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 (sec. 283.15, Stats.). Check all that apply to this use designation 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:

Prepared By

Preparer Signature

Printed Name

Craig Roesler

Date Prepared

02/14/2005

Fish and Aquatic Life Use Designation Summary

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Water Body Name	WBIC #	Date
South Fork Main Creek	2218000	02/14/2005

Author and Peer Review

The author should submit a peer-reviewed report to Watershed Program Coordinator for review and approval.

Submitted By	Date
Peer Reviewed By	Date

Approval Signatures

Review, approval, and signature by the Watershed Program Coordinator (Expert), Regional Water Leader (or designee) as well as the Water Quality Standards Section Chief (or designee) is required.

Printed Name of Watershed Program Coordinator (Expert)	Watershed Program Coordinator (Expert) Signature	Date
Printed Name of Regional Water Leader (or designee)	Regional Water Leader (or designee) Signature	Date
Printed Name of Water Quality Standards Section Chief (or designee)	Water Quality Standards Section Chief (or designee) Signature	Date

Final Report Distribution List

Once the Use Designation Report has been approved by the Water Quality Standards Section Chief (or designee), the report can be distributed to the appropriate individuals, as listed below. Please indicate below individuals who should be copied on final report distribution. It should be noted that the classification recommendation in the report does not become official until it is approved by the Natural Resources Board and adopted into Wisconsin Administrative Code.

Facility Contact _____

Basin Engineer _____

Basin Planner _____

Effluent Limits Calculator _____

Endangered Resources
(when T&E Species Present) _____

Other Interested Parties:

**2003-2004 MONITORING DATA FOR
SOUTH FORK MAIN CREEK
NEAR THE HAWKINS WASTEWATER LAGOON OUTFALL**

The fish community in a 253 meter segment of South Fork Main Creek immediately below the Hawkins wastewater lagoon outfall was assessed on August 19, 2003 using a stream shocker with 3 anodes. The segment is located between site 3 (N45° 30' 34.8", W90° 42' 26.8") and the outfall (N45° 30' 41.2", W90° 42' 29.8") shown in figure 1. Drought conditions existed at the time, but a significant flow was present. Water temperature was 21.1° C (70°F). The species found and numbers of each are listed below:

<u>Species</u>	<u>Number</u>
common shiner	201
white sucker	71
creek chubs	63
black sided darter	30
stoneroller	28
hornyhead chub	26
rock bass	18
pumpkinseed	5
fathead minnow	5
brook trout	4 (10.5", 10.5", 9.9", 9.4")
blacknose dace	3
smallmouth bass	2
fantail darter	2
brassy minnow	2
mudminnow	1
bluntnose minnow	1
pearl dace	1
longnose dace	1
johnny darter	1
hog sucker	1
short head redhorse	1
black bullhead	1
<u>brook lamprey</u>	<u>present</u>
no. species = 23	total no. fish = 468
	percent of non-game fish not tolerant to low D.O. = 98.4%
	no. game fish /100 meters = 9.9
	no. salmonids = 4

Additional fish community assessment was done on May 11, 2004, again using a stream shocker with 3 anodes. Three segments were assessed (figure 1):

Seg. A - site 3 (N45° 30' 34.8", W90° 42' 26.8") to the outfall (N45° 30' 41.2", W90° 42' 29.8")
segment length = 253 meters

Seg. B - the outfall (N45° 30' 41.2", W90° 42' 29.8") to site 2 (N45° 30' 47.9", W90° 42' 34.2")
segment length = 244 meters

Seg. C - site 2 (N45° 30' 47.9", W90° 42' 34.2") to site 1 (N45° 30' 54.1", W90° 42' 33.0")
segment length = 201 meters

Since the August 2003 assessment showed that a diverse non-game fish community was present (along with trout and game fish), the May 2004 assessment collected primarily only trout and game fish to further document this element of the fish community. Estimated streamflow was 29 cfs. Water temperature was 16.1°C (61.0° F) and the pH was 7.2. Substrate was mostly gravel and rubble with lesser areas of sand and silt. Channel width averaged 12 feet and depth averaged 2 feet. Fish species found and the number of each are listed below:

Segment A

<u>Species</u>	<u>Number</u>
brook trout	2 (4.6", 6.7")
black crappie	1
pumpkinseed	1

Segment B

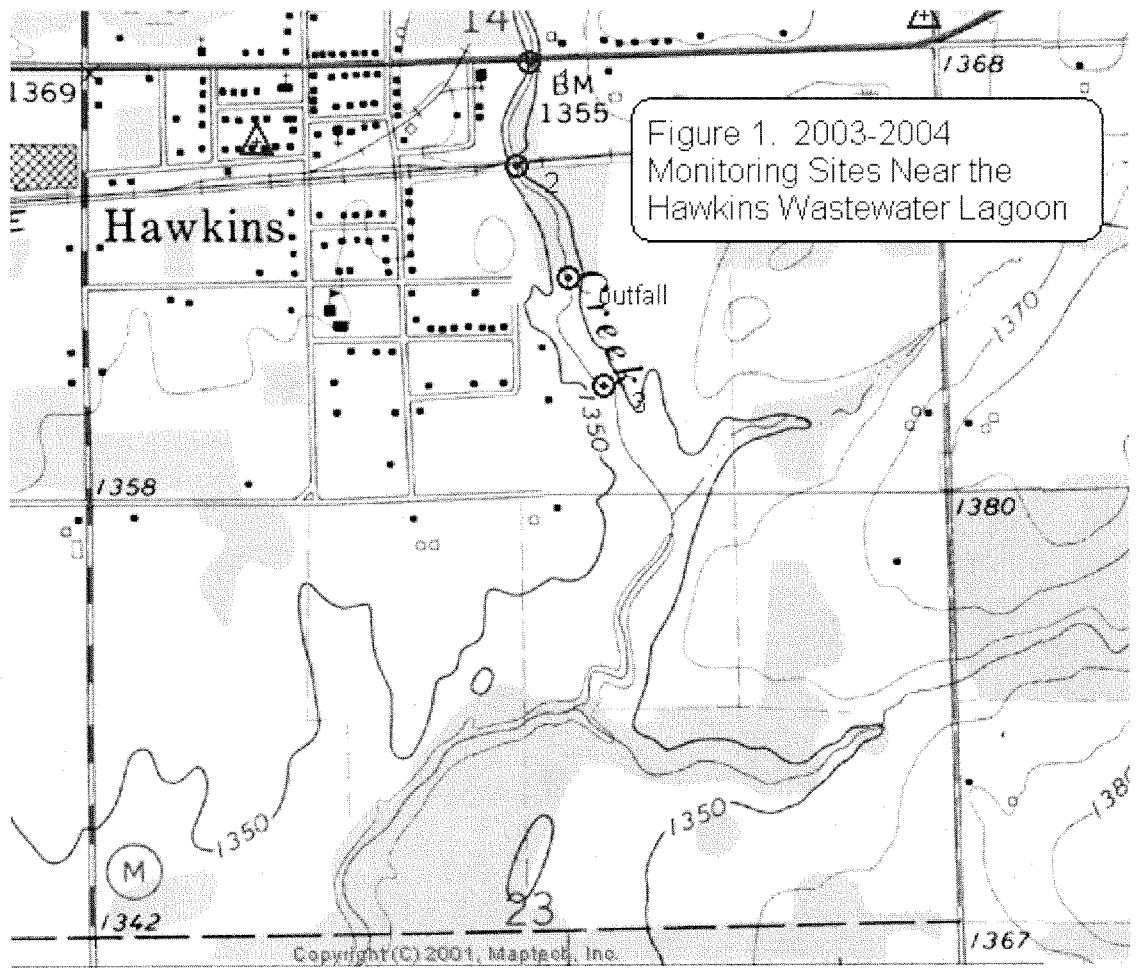
<u>Species</u>	<u>Number</u>
brook trout	6 (10.5", 10.3", 8.9", 8.3", 7.2", 6.6")(2 additional >10" trout seen but missed)
rock bass	2
smallmouth bass	1

Segment C

<u>Species</u>	<u>Number</u>
brook trout	11 (9.0", 7.6", 7.2", 7.2", 6.9", 6.6", 6.4", 6.2", 6.1", 5.9", 5.4")
burbot	3
rock bass	2
black crappie	1

Segment A – C

no. of gamefish/ 100meters = 1.1
no. of salmonids = 19



HAWKINS, RUSK COUNTY

Wastewater Receiving Stream Classification

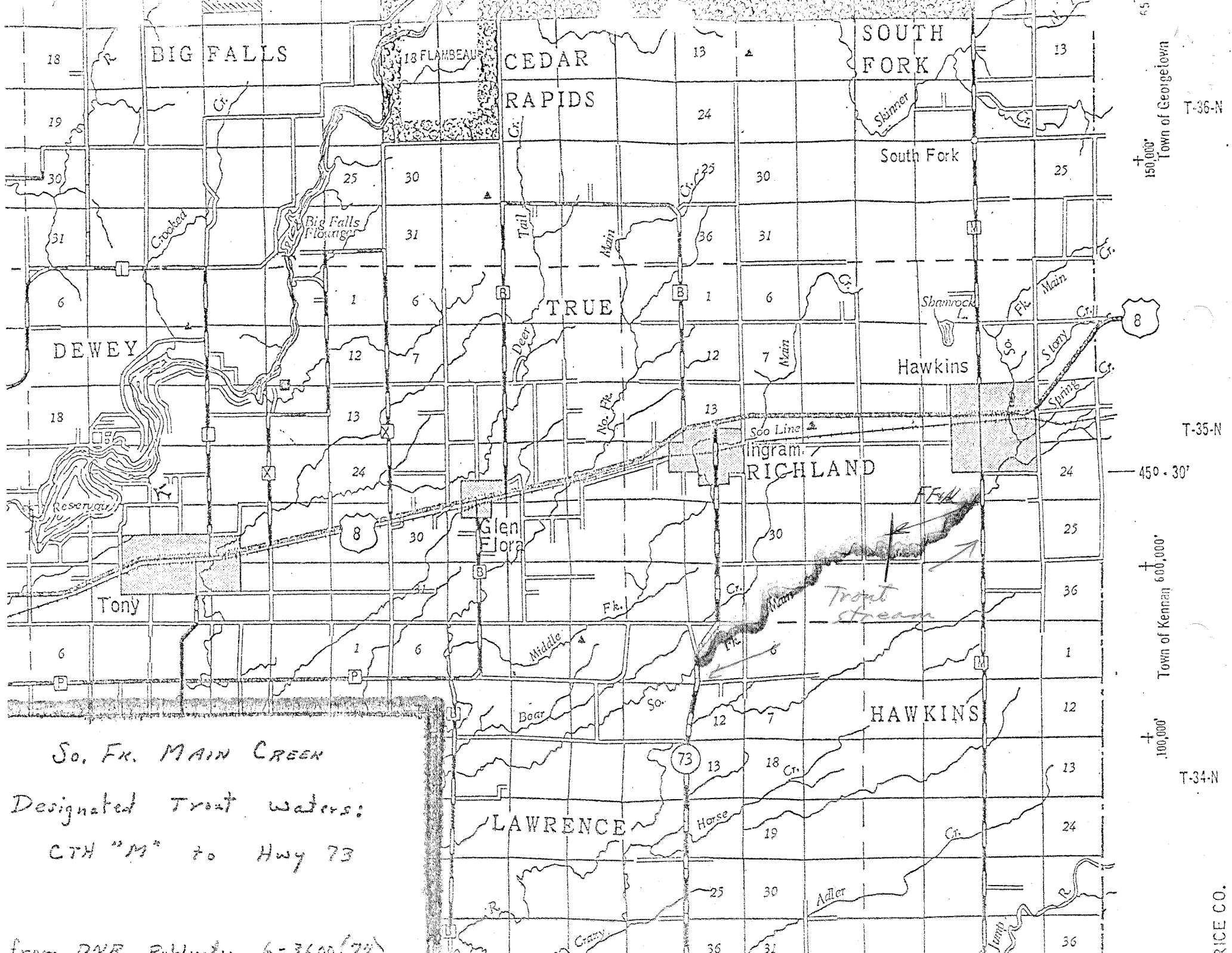
The Village of Hawkins operates a secondary sewage treatment plant for the processing of municipal wastewaters. The STP outfall is located approximately one-fourth mile downstream from U. S. Highway 8 and empties directly into the South Fork, Main Creek. A dam creating the small flowage known as Hawkins Mill Pond, is located a short distance upstream from U.S. Highway 8. At the STP location the South Fork, Main Creek, has been estimated to have a $7Q_{10}$ of 0.05 cfs.

The South Fork Main Creek is considered as a Class I trout stream downstream from Hawkins in the segment between County Trunk Highway "M" and State Highway 73. Several surveys have shown that above Highway "M" the stream water quality is not sufficient to sustain a trout population. Low flow and high water temperatures are considered the major management problems. A 1966 fish management report states that, "during the extreme drought of 1964, permanent flow of this stream began in the NW $\frac{1}{4}$, SE $\frac{1}{4}$, of Section 28, T35N - R3W". Further fish management investigations on October 12, 1967, revealed that the South Fork Main Creek at Highway "M" and at Highway 8, contained pools in the stream channel, but exhibited no flow between pools.

It is the opinion of the investigating team that the South Fork Main Creek between the Hawkins Mill Pond Dam and Highway "M" is capable of supporting only a limited aquatic life population. Without the presence of the Hawkins sewage treatment plant, this segment would still be plagued with low water flow and resultant high water temperatures. Because of these conditions, it is anticipated that low dissolved oxygen concentrations would occur naturally.

Recommendation:

The South Fork Main Creek at the present location of the Hawkins sewage treatment plant shall be classified as a continuous stream with a subcategory classification of "intermediate aquatic life". A "fish and aquatic life" classification shall be imposed from Highway "M" downstream to insure the protection of this high quality aquatic resource.



Spooner

September 30, 1975

3200

TO: T. E. DeWitt

FROM: D. N. Hanson

SUBJECT: Waste Assimilation Study - South Fork of Main Creek in the
Vicinity of Hawkins (Rusk County)

On July 23 and 24th a waste assimilation study was conducted on the South Fork of Main Creek in the vicinity of the Hawkins Sewage Treatment Plant.

Personnel involved in the study were Mike Harden, Nadene Hoene, Ted Smith and the writer.

The South Fork of Main Creek, in the vicinity of Hawkins, flows through a wooded area which gives way to extensively used pastureland further downstream. Flow was generally slow to moderate, but a few riffle areas were also present in this portion of the stream. Bottom substrate was generally composed of rock, gravel, silt, and in some areas muck. A thin layer of sludge was observed to cover the bottom in the area of the sewage treatment plant outfall and mix zone. A moderate amount of emergent aquatic vegetation was present along the streambanks and in a few areas the vegetation extended across the entire channel. Channel dimensions and descriptions of the sampling sites are presented in the attached table.

Sampling points were determined by the maximum dissolved oxygen sag observed in the stream during the sampling period. Dissolved oxygen profiles were measured on the afternoon of July 23rd, and the morning of the 24th. Station mileages were obtained by the use of a map measure and a USGS quadrangle map of the area. Observed dissolved oxygen profiles are presented in the attached table. Station locations are shown on the attached map.

Flow measurements were conducted at stations I and VII. A Marsh-McBurney direct reading current meter was used for the measurements. Using inflow data recorded by the Hawkins sewage treatment plant, effluent volume was estimated to be 40-50 gpm at the time the outfall sample was collected.

~~Results of stream flow measurements were:~~

Station I - 1.30 cfs

Station VII- 1.69 cfs

Flow through times from the outfall pipe to the mix point, sag point, and recovery area were obtained by placing a quantity of fluorescent dye at the outfall and timing its flow downstream. Flow through times were as follows:

Outfall to mix area (Station III) - 10 minutes
Outfall to Station IV - 35 minutes
Outfall to sag point (Station V) - 1 hour, 55 minutes
Outfall to recovery area (Station VII) - 4 hours, 10 minutes
Outfall to recovery area (Station VIII) - 4 hours, 50 minutes

Flow through times were measured on July 23 and samples were collected on July 24th. No measurable precipitation was received during the period between flow measurement and sample collection. Sampling results are presented in the attached table.

D. N. Hanson

DNH:jp

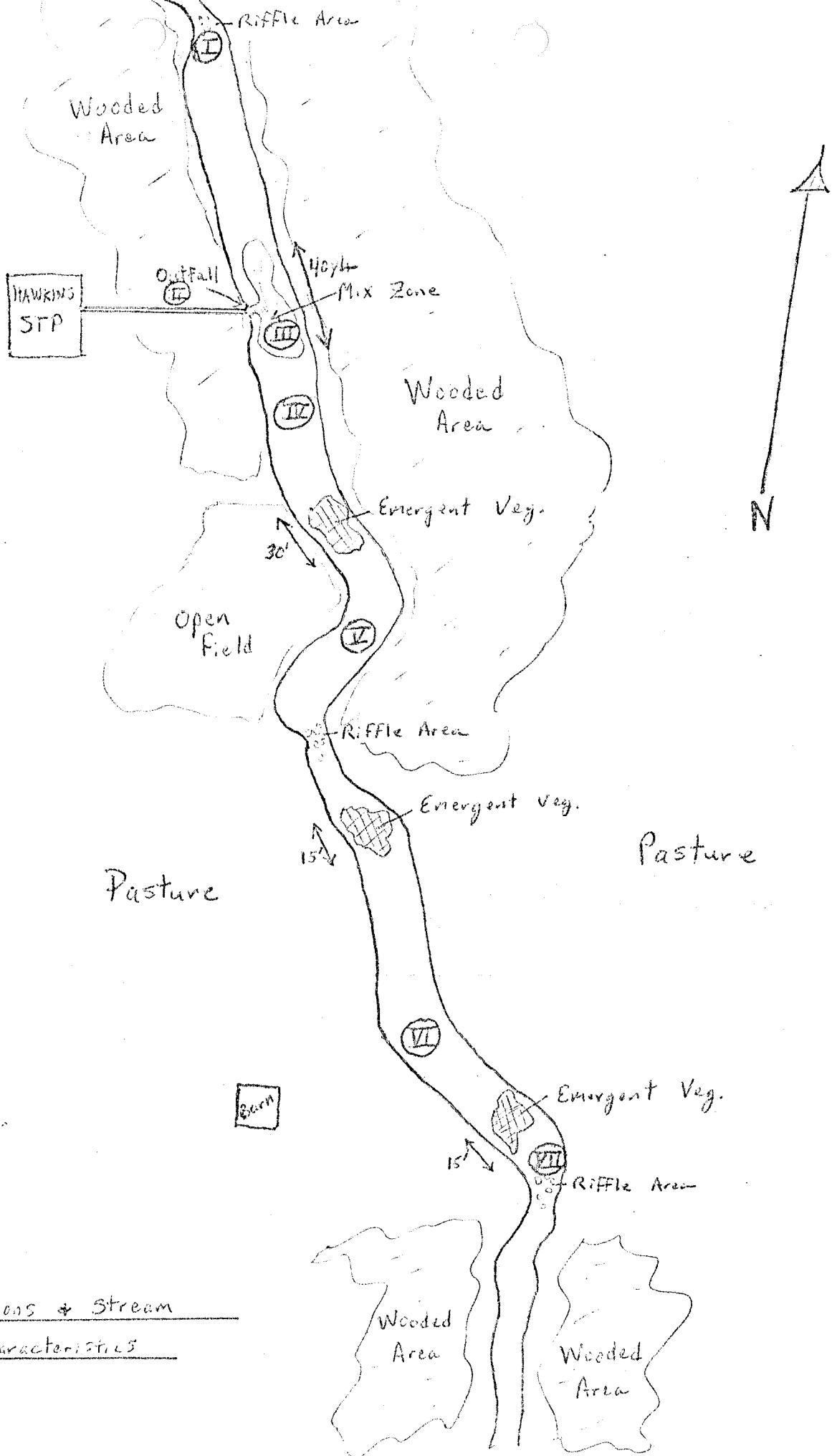
cc. Duane H. Schuettgelz

Attach. Figure 1
Tables 1 and 2
Copies of Lab Reports
Stream Discharge Data Sheets

NOTED:

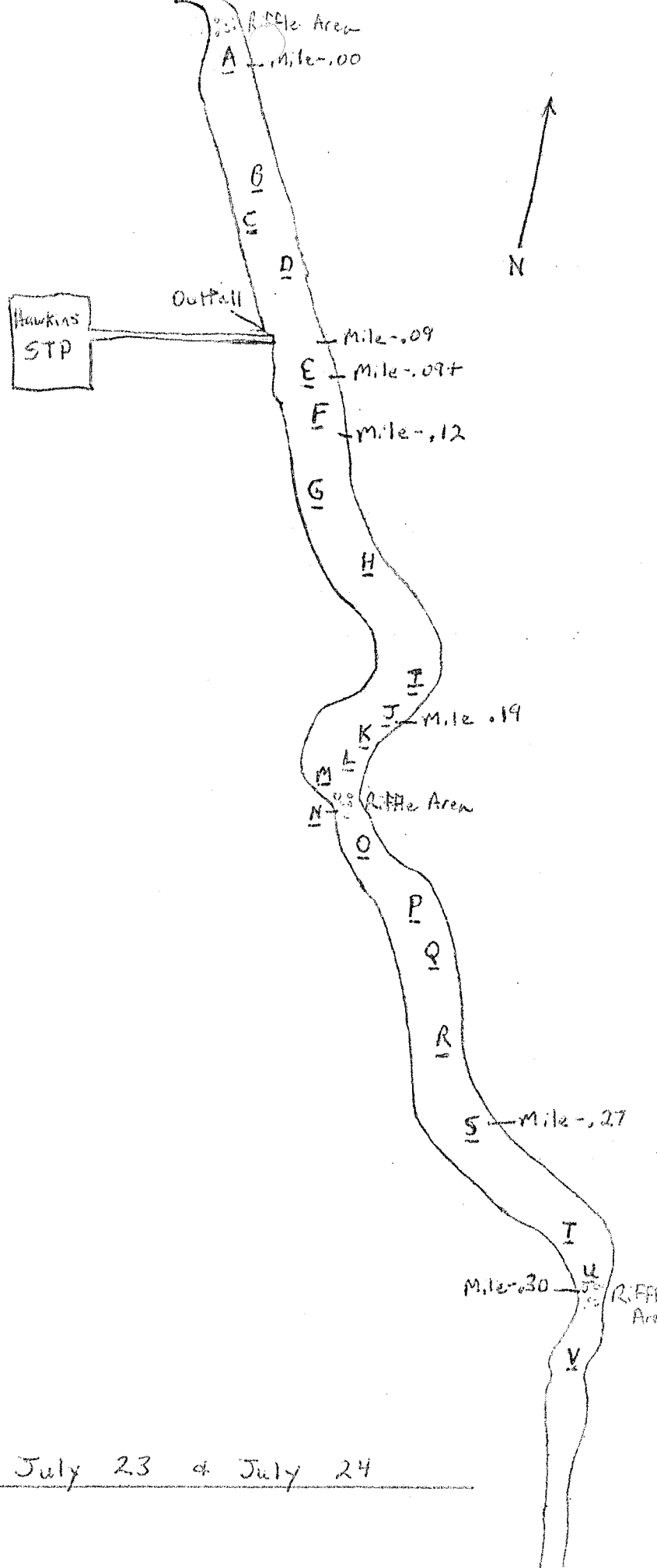
Date

HAWKINS



Sampling Stations & Stream
Bank Characteristics

Station -	P.M. 7/23 D.O.	A.M. 7/24 D.O.
A - I		5.0
B		4.1
C	5.0	
D		3.8
E - III		3.9
F - IV		4.1
G	4.8	
H		4.2
I		3.8
J - IV	4.3	
K		3.7
L		3.6
M	4.6	
N		3.8
O	4.7	
P		4.0
Q	5.5	
R		4.1
S - II		4.2
T	6.3	
U - VII		4.2
V		4.6



D.O. Profiles Observed July 23 & July 24

SAMPLING RESULTS - JULY 24th, 1975

Table - 2

Site Description	Site #	Stream Mileage	BOD ₅	BOD ₅ N-inhib.	BOD ₂₀	Total Org. N.	Ammonia & N.	NO ₃ N & NO ₂ N	NO ₃ N TN	NO ₃ N	NO ₂ N	Susp. Solids
Above Hawkins STP	I	.00	7.4	6.1	-	.85	.13	.05	1.03	-	-	-
Hawkins STP Outfall	II	.09	15	< 7	-	2.8	3.5	-	12.26	5.5	.46	8
Mix. Zone	III	.09+	9.8	7.4	18.75	.69	.16	.09	0.94	-	-	-
Below Mix. Zone	IV	.12	6.5	5.7	-	.69	.15	.12	0.96	-	-	-
Sag Point	V	.19	9.2	6.8	20.5	.85	.39	.49	1.73	-	-	-
Recovery Area	VI	.27	5.7	4.9	-	.87	.32	.54	1.73	-	-	-
Recovery Area	VII	.30	9.8	9.2	-	.85	.30	.53	1.64	-	-	-
Main Creek @ Hwy. M	-	2.0	12.									

Improper samples
too much upstream

SAMPLING RESULTS - JULY 24th, 1975
(Continued)

Station	Time Sampled	Temperature	D.O.	Width	Depth Average	Bottom Type	Flow
Above Hawkins STP-I	9:15	21°	5.4	15'	1'	Rock	Moderate
Hawkins STP Outfall-II	9:32	13.25°	5.8				
Mix Point - III	9:42	20°	4.5	20'	2-3	Rock, gravel silt, thin layer sludge	Slow
Below Mix Point-IV	10:07	20°	4.3	25'	3'	Muck, rock, silt & sand thin layer sludge	Slow
Sag Point - V	11:27	21°	4.3	20'	3'-4'	Rock, sand silt	Slow
Recovery Area - VI	13:45	21.5°	7.2	30'	10"	Rock, sand silt, gravel	Moderate
Recovery Area - VII	14:15	22°	6.8	15'	1'	Rock, gravel	Riffle
Hwy - M	13:31	21	8.7				