State of Wisconsin
Department of Natural Resources
dnr.wi.gov

Fish and Aquatic Life Use Designation Summary

Form 3200-121 (12/04)

(Attach supporting data sheets)

Use Designation Information – Required

Water Body Name	WBIC #	Date
Unnamed Creek 11-7	0	04/21/2005

Region: ☐ NER ☐ NOR ☐ SCR ☐ SER ☑ WCR

Basin: Central Wisconsin

County: Wood

Quad Map Where Segment is Shown: Hewitt

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

Segment Description for Segment 1 of 2 (headwater = segment 1)

From:
The Confluence with Unnamed Creek 27-16 upstream 0.6 miles

upstream 0 ☐ mi., ☐ km., ☐ ft., ☐ M.

Latitude:	DEG	MIN	SEC	
	44	39	50.0000	N

Longitude:	DEG	MIN	SEC	Datum Used
	090	00	15.0000	W

Township	Range	☑ E ☐ W	Section	¼-Section	¼, ¼-Section
25 N	04		11	SE	SE

To:
potential outfall location of Wiskerchen Cheese Inc..

Latitude:	DEG	MIN	SEC	
	44	39	29.0000	N

Longitude:	DEG	MIN	SEC	Datum Used
	090	00	38.0000	W

Township	Range	☑ E ☐ W	Section	¼-Section	¼, ¼-Section
25 N	04		10	SE	SE

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

Date Fieldwork Conducted/Completed: 08/04/2004

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): Effective Date: (mm/dd/yyyy)

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

Water Body Name	WBIC #	Date
Unnamed Creek 11-7	0	04/21/2005

Use Designation Information (continued)

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

Existing DFAL found between Maple and North Road. Potential classification upstream with discharge and normal precipitation year is DFAL.

Discharger Information – Required

Municipality/Company	WPDES Permit Number	Date Permit Issue	Permit Renewal
Wiskerchen Cheese INc.			

Outfall Location

No surface outfall - this was proposed discharge - previous ridge and furrow

Contact Person	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

none - new proposal

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

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

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

Water Body Name	WBIC #	Date
Unnamed Creek 11-7	0	04/21/2005

Field Assessment Data and Observations – Use Attachment C, if necessary

Assessment Date (mm/dd/yyyy): 08/04/2004 Additional Assessment Date(s):

Stream Segment Physical/Chemical Data:

Length	100	☐ feet	☑ meters	☐ miles
Avg. Width	4	☑ feet	☐ meters	
Max. Width		☐ feet	☐ meters	
Avg. Depth	.3	☑ feet	☐ meters	
Max. Depth		☐ feet	☐ meters	

Gradient 33 Velocity

Substrate Material:

Silt ____% Organic ____%
Rubble ____% Gravel ____%
Sand ____% Other ____%

Stream Flow .04 cfs ☑ Measured ☐ Estimated
At time of assessment, flow was: ☐ High ☐ Low ☑ Very Low
7Q2 Flow ____ cfs
7Q10 Flow ____ cfs

Stream Temperature 18.9 °C ☑ Instantaneous ☐ 24-Hr. Maximum ☐ 24-hr. Avg.
Dissolved Oxygen (Instantaneous) 7.59 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:
Daily Average ____ cfs ☐ Measured ☐ Estimated
Design Flow ____ cfs (Convert MGD to cfs by multiplying by 1.55)

Chemical Data Collected: (STORET # ____)

☐ Ammonia	☐ Pesticides	☐ Other:
☐ Atrazine	☐ Phosphorus	☐ Other:
☐ Bacteria	☐ Metals	☐ Other:

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: observations

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 channel naturally meandering with pools, riffles and runs. Very minimal flow due to drought conditions. See attached report for more details.

Water Body Name	WBIC #	Date
Unnamed Creek 11-7	0	04/21/2005

Biological Data – Fish data is required

Fish:

Sampling Date (mm/dd/yyyy) 08/04/2004

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

Survey Location(s) upstream North Road

Distance Sampled 100 ☐ feet ☑ meters ☐ miles

Sampling Gear: ☑ Backpack Shocker ☐ Other – Describe: _____

Number of Species Collected 6 Total Number of Fish Collected 57

Number of Intolerant Species 0 % 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

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

Existing use DFAL

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 _____

Water Body Name	WBIC #	Date
Unnamed Creek 11-7	0	04/21/2005

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	Date Prepared
	Mark Hazuga	04/21/2005

Water Body Name	WBIC #	Date
Unnamed Creek 11-7	0	04/21/2005

Author and Peer Review

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

Submitted By	Date
Mark Hazuga	04/21/2005
Peer Reviewed By	**Date**
Paul La Liberte	04/06/2005

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
Paul La Liberte		
Printed Name of Regional Water Leader (or designee)	Regional Water Leader (or designee) Signature	Date
Dan Baumann		
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 Pete Pfefferkorn

Basin Planner _____

Effluent Limits Calculator Pat Oldenburg

Endangered Resources _____
(when T&E Species Present)

Other Interested Parties:

_____

_____

_____

CORRESPONDENCE/MEMORANDUM

State of Wisconsin

DATE: November 4, 2004 FILE REF: [Click **here** and type file ref.]

TO: Pat Oldenburg – Eau Claire
Paul Laliberte – Eau Claire
Pete Pfefferkorn – Wisconsin Rapids
Laura Bub – Madison
Wiskerchen File

FROM: Mark Hazuga - Wausau

SUBJECT: Wiskerchen Cheese Stream Classification

Wiskerchen Cheese Inc. receives approximately 250,000 pounds of milk per day, 5 days a week and processes it into blue, Gorganzola and feta cheese. Process wastewater from the factory operations is discharged to a ridge and furrow (R&F) system onsite for treatment. A mixture of sanitary waste and brine is stored in a holding tank onsite and then landspread by a private hauler.

The facility has proposed to treat their wastewater with a sequencing batch reactor system with discharge to surface water. The proposed outfall location is to Unnamed Creek 11-7. Unnamed Creek 11-7 joins Unnamed Creek 27-16 ~ ½ mile downstream of the proposed discharge location. Unnamed Creek 11-7 is a tributary to the Little Eau Pleine River in the Little Eau Pleine Watershed (UW14).

Unnamed Creeks 11-7 and 27-16 are not listed as variance waters in NR 104; therefore receive the default classification of Full Fish and Aquatic Life.

Stream Classification Surveys in 2004

Surveys were completed at two sites on Unnamed Creek 11-7 at bridge crossings of CTH H and North Road and one site on Unnamed Creek 27-16 at CTH Y on August 4th, 2004 using baseline monitoring protocols (Figure 1).

Unnamed Creek 11-7

Unnamed Creek 11-7 is a one mile warm water tributary to Unnamed Creek 27-16. The stream is identified as intermittent on the USGS 7.5 minute QUAD map.

Site 1

An electro-fishing survey was planned for Unnamed Creek 11-7 at CTH H, however the stream had no streamflow at this location. Water was only observed in small pools near the culvert and dry elsewhere. This site was located upstream of Wiskerchen's proposed discharge location. The stream channel was small with an average width of approximately three feet and water depth


Creek 11-7 at CTH H

(when present) would likely be a couple of inches. The channel was overgrown with reed canary grass and substrate consisted mostly of sand with some silt. This site was located 0.2 miles downstream from the headwater reaches according to the USGS 7.5 minute QUAD map. The intermittent nature at this location is likely due to the small watershed upstream from the site and the lack of groundwater input. These observations were also completed during an extended drought period that has reduced streamflow in the area for the past two summers. However, this stream reach would likely be intermittent in normal to dry years due to the small watershed area upstream.

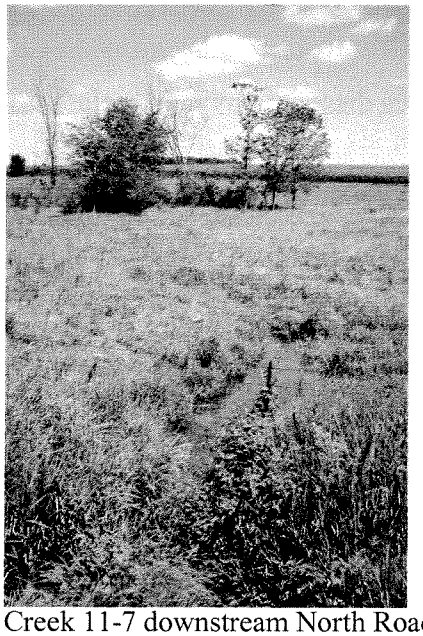
Site Two

A 100 meter electro-fishing survey was completed on Unnamed Creek 11-7 upstream of North Road. This site was located within ½ mile downstream of the proposed discharge. Fishery survey results found 57 total individuals represented by 6 species. The percent of fish tolerant to low dissolved oxygen was 61%. The dominant fish species collected include creek chub, central mudminnow, brook stickleback and green sunfish. One common shiner and white sucker were also captured during the survey. The creek chubs and white sucker found during the survey were all adults and no young of year fish were found (Appendix 1).


Creek 11-7 upstream North Road

The stream channel was naturally meandering with small riffles, runs and shallow pools. Average width and depth of the channel was four feet and four inches, respectively. Substrate consisted of rubble and gravel with some sand and silt partially embedding coarse material. Floating leaf aquatic vegetation was growing in 40% of channel and terrestrial vegetation was growing over portions of the channel. Forage fish cover consisted of some woody debris, overhanging vegetation and aquatic vegetation. Stream gradient was 33 feet per mile. Streamflow flow was minimal and measured 0.04 cfs. Early afternoon instantaneous dissolved oxygen and temperature readings were 7.59 mg/L and 18.9 degrees Celsius, respectively.

Riparian landuse within the site is woodland and shrub that provided abundant shading over the stream. Downstream from North Road the stream flowed approximately 30 meters through a large pasture and


Creek 11-7 downstream North Road

joined another unnamed stream to form Unnamed Creek 27-16. Filamentous algae was observed in the stream downstream of North Road and duckweed covered the bridge pool upstream at Maple Road.

Unnamed Creek 27-16

Unnamed Creek 27-16 is a five mile warm water tributary to the Little Eau Pleine River. According to the USGS 7.5 minute QUAD map, the entire length of Unnamed Creek 27-16 is identified as a perennial stream.

Site Three

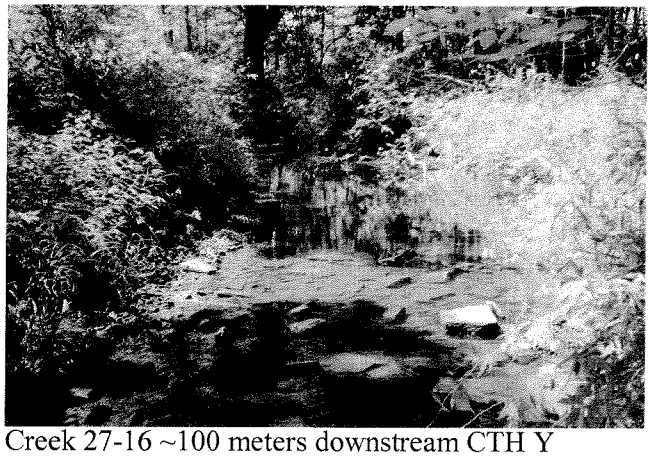
An electro-fishing survey was completed on Unnamed Creek 27-16 downstream from CTH Y. This site was located approximately 0.6 miles downstream from the confluence with Unnamed Creek 11-7. The survey station started approximately 120 meters downstream from the bridge and continued upstream 100 meters to the bridge pool. The bridge pool was avoided because it represented an atypical habitat feature of the stream. The pool was large and completely covered with floating duckweed.


Creek 27-16 – Bridge Pool downstream CTH Y

Fishery survey results found a total of 167 individuals represented by 9 species. The percent of fish tolerant to low dissolved oxygen 8%. The dominant fish species collected include creek chub, blacknose dace, white sucker and central mudminnow. The survey also found two young of the year northern pike and burbot. Numerous young of year creek chub, white sucker and blacknose dace were found within this sample (Appendix 2).

The stream channel was naturally meandering with a diverse habitat of riffles, runs and pools. Substrate consisted mostly of cobble, gravel and boulder. Some sand and silt was observed in pools but embeddedness was not a significant problem. Average channel width and depth in pools was 12 feet and 9 inches, respectively. Average channel width and depth in riffles was 3 feet and 1 inch, respectively. Streamflow was minimal and measured 0.08 cfs. Stream gradient calculated for the site was 25 feet per mile. Young of year Gamefish and forage fish cover consisted of boulders, undercut streambanks and woody debris. Early afternoon instantaneous

dissolved oxygen and temperature readings were 3.90 mg/L and 21.1 degrees Celsius, respectively.


Creek 27-16 ~100 meters downstream CTH Y

A continuous dissolved oxygen meter was deployed for six days in a large pool approximately 100 meters downstream from CTH Y. The meter could not be deployed in a riffle or run due to shallow channel depth. Readings were collected at 30 minute intervals. Maximum and minimum dissolved oxygen concentrations were 7.46 and 2.53, respectively. Dissolved oxygen levels spent 18% of the time below the State's water quality standard of 5 mg/L (Appendix 3). Low dissolved oxygen concentrations were likely a result of low flow conditions and accumulation of duck weed in the large bridge pool, upstream from the deployment site. The large mat of duckweed likely prevents adequate oxygen exchange with the atmosphere and may reduce photosynthetic activity below the water surface. Minimal streamflow and the lack of surface turbulence also limit natural aeration of the stream. Continuous pH data collected at the site indicate that pH values averaged 6.98.

Discussion

Unnamed Creeks 11-7 and 27-16 are not listed as variance streams in NR 104; therefore receive the default classification of Full Fish and Aquatic Life or Diverse Fish and Aquatic Life (DFAL).

Unnamed Creek 27-16

Based on surveys completed in August 2004, the default classification of Diverse Fish and Aquatic Life (DFAL) is appropriate for Unnamed Creek 27-16. The classification would apply to the entire length of stream from the confluence of Unnamed Creek 11-7 in T25N R4E Sec 11 SW NW downstream to the mouth. According to the Use Designation document, a DFAL stream is one that has the potential to contain gamefish or has a forage fishery represented by several species and fewer than 75% of the individuals are tolerant of low dissolved oxygen. The fish community at CTH Y (near the headwaters) consisted of nine species and 8% of the individuals were tolerant of low dissolved oxygen. Two young of year northern pike and burbot were also collected at the site. The presence of young of year northern pike indicates adults will migrate upstream from Lake Dubay and/or the Little Eau Pleine River during the spring spawning period. The stream also appears to function as a nursery area for young of the year pike. Similarly, burbot will also migrate up this stream to complete their spawning run in the winter months due to the presence of young of the year. The DFAL classification is appropriate for Unnamed Creek 27-16 and is supported by the presence of northern pike and a low percentage of low dissolved oxygen tolerant fish.

Unnamed Creek 11-7

Unnamed Creek 11-7 is a small tributary stream to Unnamed Creek 27-16. On the day these surveys were completed the stream at CTH H (headwaters) had no flow and was dry except small pools near the road culvert. In the lower reach, minimal flow was measured and forage fish were present at North Road.

The intermittent nature of the stream near CTH H is likely due to the small watershed upstream from the site and the lack of groundwater input. These observations were completed during an extended drought period that has reduced streamflow in the area for the past two summers. Based on observations during these surveys, groundwater inputs increased moving downstream resulting in minimal streamflow and aquatic life in the lower reaches.

The fishery found at North Road consisted of six species and 61% of the individuals were tolerant of low dissolved oxygen conditions. Based on the Use Designation document, this community represents a Diverse Fish and Aquatic Life stream. The lower reach of Unnamed Creek 11-7 probably more often than not supports this fishery since these surveys were completed following a two year drought period and the stream maintained minimal flow and aquatic life in this reach. The augmentation of streamflow that would result from the proposed discharge, if of suitable quality, would help maintain flow and provide habitat for aquatic life.

Similar flow and habitat was observed where the stream crosses Maple Road approximately 0.1 miles upstream of North Road. The stream was not observed between Maple Road upstream to CTH H. Within this 0.5 mile reach, the stream receives some groundwater input to establish flow and provide habitat for aquatic life downstream at Maple Road.

Based on surveys completed in 2004, the existing use of Unnamed Creek 11-7 transitions from a Very Tolerant Aquatic Life (VTAL) fishery at CTH H (dry channel) to a DFAL fishery at Maple Road. The potential aquatic use of this reach will depend on several variables including rate of discharge from the facility, annual precipitation and groundwater input. The proposed design flow from the facility is small (10,000 gallons per day) and may not be enough to support a fishery during a dry year when natural streamflow is significantly reduced or absent. However, during a normal to wet year, there may be enough water in the stream to provide habitat for fish. The fishery use of this reach will likely be influenced by seasonal and annual precipitation and groundwater inputs. Since effluent limits will be based on the downstream DFAL classification, a specific classification is not needed for this reach.

Recommended Stream Classifications

Unnamed Creek 27-16

Unnamed Creek 27-16 should receive the Diverse Fish and Aquatic Life classification for its entire length and not be added to NR104.

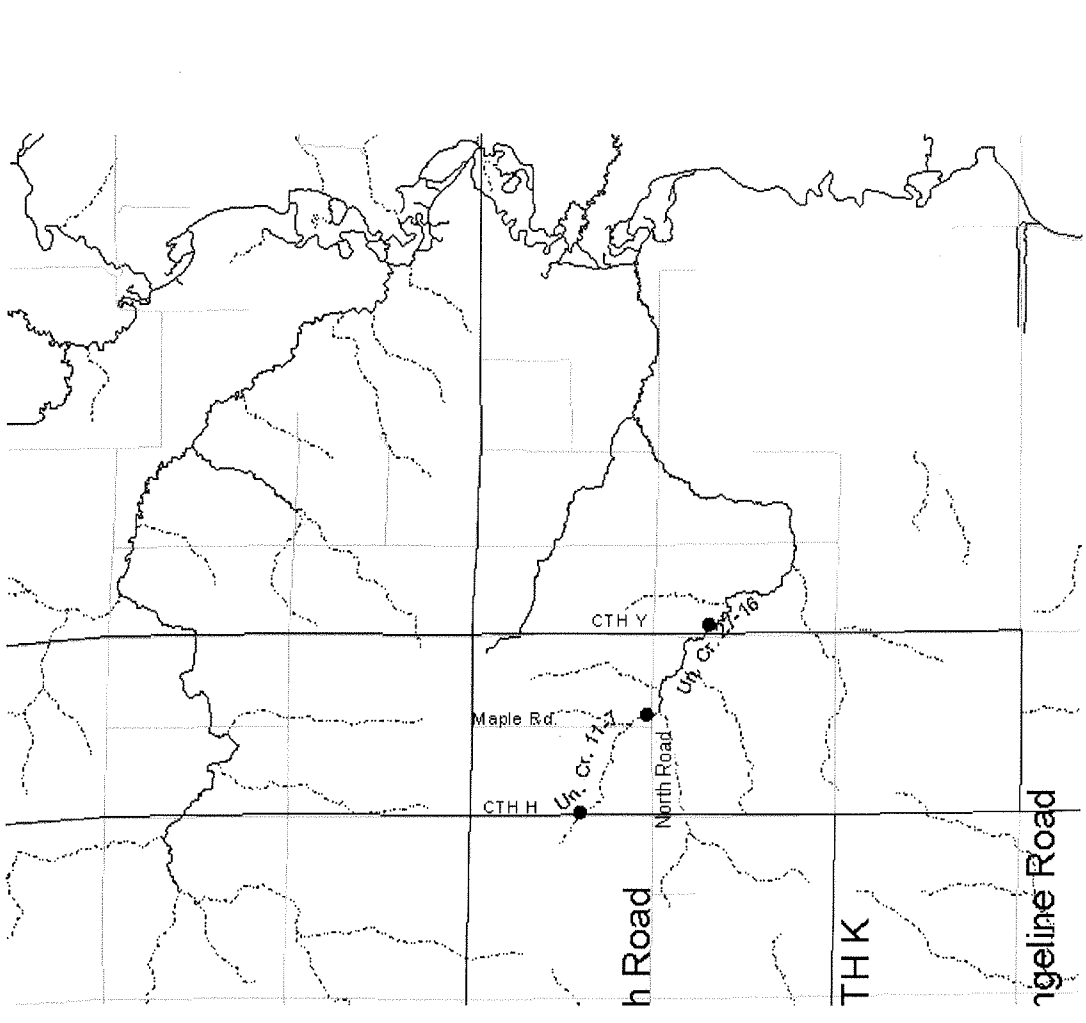
Unnamed Creek 11-7

Unnamed Creek 11-7 should not be added to NR104 at this time. The lower reaches currently support a DFAL community. The upstream reaches support an existing use of VTAL during drought periods but it is unknown what the potential use would be during a normal to wet year with a small discharge. Since effluent limits are based on the downstream classification, a specific classification is not needed for this reach of Unnamed Creek 11-7. The downstream DFAL classification will be protective of the stream upstream from Maple Road.

Bibliography

WDNR. 2004. Guidelines for Designating Fish and Aquatic Life Uses for Wisconsin Surface Water. Publ.- WT-807-04

Figure 1. Monitoring Sites for Wiskerchen Cheese Classification Survey



- Monitoring locations
- County highways
- Local roads

Streams

- IT
- PN

Appendix 1. Fish Survey Results for Unnamed Creek 11-7 - Wiskerchin Cheese Stream Classification

IBI Calculator for Central and Southern WI (Lyons 1992) and Use Designation Gu (REV. 1/27/2004)

Sample Date	08/04/2004
SITE	Unnamed Creek 11-7 (trib to 27-16) upstream of North Road
PERSONNEL	Hazuga, Laliberte

MATRIX	VALUE	SCORE
total # of fish	57	n/a
total # of native spp.	6	5
total # of darter spp.	0	0
total # of sucker spp.	1	10
total # of sunfish spp. < 8km from	0	0
total # of sunfish spp. >8km from l	1	2
total # of intolerant spp.	0	2
total # of tolerant fish	43	0
total # of omnivores	1	10
total # of insectivores	36	10
total # of top carnivores	0	0
total # of simple lithophils	2	0
	subtotal	39
Correction Factors		29
total # of DELT fish	0	29
Total after correction factors		29
	IBI SCORE =	**29**

Equipment Type =	Back Pack
Stream width (m) =	1.5
Ln stream width (m) =	0.41
Distance shocked (m	100
Is your sample site greater than 8 km from a lake?	

% of tolerant spp.	75
% of omnivorous spp.	2
% of insevtivores	63
% of carnivores	0
% of simple lithophilous	4
Correction Factors	
# of nontolerant fish per 300m	42
% DELT	0

Biotic Integrity Rating **POOR**

Notes

** STREAM WIDTH BELOW IBI MODEL CALIBRATION (<2.5m or 8.2 ft.)

# of fish	Fish species
20	**Creek Chub**
19	**Central Mudminnow**
13	**Brook Stickleback**
3	**Green Sunfish**
1	**Common Shiner**
1	**White Sucker**

Stream Class Guidance (8/2003) Tolerance Summary Data	
Total # of game-fish species with more than 2 individuals per 1	0
Total # of DO tolerant fish	35
Total # of DO tolerant fish per 100 meter stream length	35
% forage fish belonging to spp. that are tolerant to low DO	61
Total # of fish tolerant to disturbed habitat	21
Total # of fish tolerant to disturbed habitat per 100m. stream le	21
% of fish species that are tolerant to disturbed habitats	37
% of DO fish AND tolerant to disturbed habitat fish spp.	98
Total # of DO tolerant species =	3
Total # of Disturbed habitat species =	2
Total # of fish species collected =	6
Total # of fish collected =	57
Steam length shocked (m) =	100
Macroinvertebrates collected (mm/dd/yyyy)	
Overall sample HBI score and rating	
Toal # of macroinvcrtebrates with HBI tolerance values <=5.00 =	
Toal # of macroinvcrtebrates with HBI tolerance values >5.00 =	
% of macroinvertebrates with HBI Tol. Values >5.00 =	#DIV/0!

Fish and Aquatic Life Minimum Expectations Evaluation	
% forage fish belonging to spp. that are tolerant to low DO	**DFAL**
% of macroinvertebrates with HBI Tol. Values >5.00 =	

Stenothermal Coolwater Fish Species	
Total # of coolwater fish species	0
Total # of coolwater fish	0
% of coolwater fish =	0

Stenothermal Coldwater Fish Species	
Total # of coldwater fish species	0
Total # of coldwater fish	0
% of coldwater fish =	0

Appendix 2. Fish Survey Results for Unnamed Creek 27-16 - Wiskerchin Cheese Classification

IBI Calculator for Central and Southern WI (Lyons 1992) and Use Designation Guideli (REV. 1/27/2004)

Sample Date	08/04/2004
SITE	Unnamed Creek 27-16 downstream CTH Y
PERSONNEL	Hazuga, LaLiberte

MATRIX	VALUE	SCORE
total # of fish	167	n/a
total # of native spp.	9	5
total # of darter spp.	0	0
total # of sucker spp.	1	2
total # of sunfish spp. < 8km from lake	0	0
total # of sunfish spp. >8km from lake	0	0
total # of intolerant spp.	0	0
total # of tolerant fish	158	0
total # of omnivores	39	5
total # of insectivores	15	0
total # of top carnivores	4	0
total # of simple lithophils	81	5
	subtotal	17
Correction Factors		
total # of DELT fish	0	7
Total after correction factors =		7
IBI SCORE =		**7**

Equipment Type =	Back Pack
Stream width (m) =	2.5
Ln stream width (m) =	0.92
Distance shocked (m	100
Is your sample site greater than 8 km from a l	y

% of tolerant spp.	95
% of omnivorous spp.	23
% of insevtivores	9
% of carnivores	2
% of simple lithophilous	49
Correction Factors	
# of nontolerant fish per 300m	27
% DELT	0

Biotic Integrity Rating

VERY POOR

# of fish	**Fish species**
68	**Creek Chub**
41	**Blacknose Dace**
38	**White Sucker**
10	**Central Mudminnow**
3	**Pearl Dace**
2	**Brook Stickleback**
2	**Burbot**
2	**Northern Pike**
1	**Fathead Minnow**

Stream Class Guidance (8/2003) Tolerance Summary Data	
Total # of game-fish species with more than 2 i	1
Total # of DO tolerant fish	13
Total # of DO tolerant fish per 100 meter strear	13
% forage fish belonging to spp. that are toleran	8 %
Total # of fish tolerant to disturbed habitat	147
Total # of fish tolerant to disturbed habitat per 1	147
% of fish species that are tolerant to disturbed l	89 %
% of DO fish AND tolerant to disturbed habitat	97 %
Total # of DO tolerant species =	3
Total # of Disturbed habitat species =	3
Total # of fish species collected =	9
Total # of fish collected =	167
Steam length shocked (m) =	100
Macroinvertebrates collected (mm/dd/yyyy)	
Overall sample HBI score and rating	
Toal # of macroinvcrtebrates with HBI tolerance values <=5.00 =	
Toal # of macroinvcrtebrates with HBI tolerance values >5.00 =	
% of macroinvertebrates with HBI Tol. Values >	#DIV/0! %

Fish and Aquatic Life Minimum Expectations Evaluation	
% forage fish belonging to spp. that are toleran	**DFAL**
% of macroinvertebrates with HBI Tol. Values >	

Stenothermal Coolwater Fish Species	
Total # of coolwater fish species	2
Total # of coolwater fish	5
% of coolwater fish =	3 %

Stenothermal Coldwater Fish Species	
Total # of coldwater fish species	0
Total # of coldwater fish	0
% of coldwater fish =	0 %

Appendix 3. Summary of Continuous Dissolved Oxygen Monitoring on Unnamed Creek 27-16

Location: Unnamed Creek 27-16 approximately 100 meters downstream of CTH Y
Deployed in a bridge pool due to lack of depth in runs and riffles

Deployment Period: 8/5-8/11, 2004

Takedown	08/11/2004				
	Temp	**DO**	**Degee Fouling**	**Degree sensor drift**	**Total Drift**
Before Cleaning	12.84	6.73	-0.12		
After Cleaning	12.86	6.85			
Precal Reading Cup	12.65	9.79		-0.41	
Cal Value		10.2			0.53
PostCal Reading Cup	Laptop battery went dead				

Stream Readings

		Accuracy Rating	Good-Fair
DO	6.66		
Temp	12.8		
Date	08/11/2004		
Time	9:45		
pH	7.23		

DO Summary Based on Corrected DO

Max	7.46
Min	2.53
Average	5.58
Min Average Daily DO	4.68
% below 5 mg/L	17.5
% below 3 mg/L	3

pH Summary

Max	7.2
Min	6.89
Average	6.98