

Bub, Laura A

From: Cahow, James M
Sent: Wednesday, May 21, 2003 2:43 PM
To: Bub, Laura A
Cc: Prusak, Peter J; Jaeger, William C
Subject: RE: Clayton Branch (S. Branch of Beaver Brook)

Hi Laura, it was my understanding that any reclassification of surface waters using the new guidance would wait until Phase II. I think the stream should be listed as Clayton Branch (a tributary to the South Branch of Beaver Brook); but, since it is reverting to FAL and won't need to be listed the point is mute. If you have any more questions respond to this e-mail or give me a call at the Barron DNR office (715/537-5046). Pete or Bill if you have a different understanding please respond to Laura's comments below. Thanks talk with you all later.

-----Original Message-----

From: Bub, Laura A
Sent: Wednesday, May 21, 2003 9:54 AM
To: Cahow, James M
Subject: Clayton Branch (S. Branch of Beaver Brook)

Hi Jim,

I'm looking at the S. Branch of Beaver Brook, unnamed trib (V. of Clayton WWTP). I have a couple of questions. The revised reports that you sent in mid/late March indicate that you have done recent fieldwork on two segments of the stream, and have determined that they should be classified as follows (I just want to confirm that I have my story straight):

Segment 1 (headwaters): This site is currently codified as LAL, and is proposed to be reclassified to LFF during current NR 104 revisions. Your report states that it should be classified as FFAL. Should this classification change take place in Phase 1 or Phase 2 revisions?

Segment 2 : this segment is not currently listed in NR 104, therefore it defaults to FAL. The report that you submitted indicates that this should remain the case.

So, basically, both segments would (eventually?) be dropped from the list, and default to a FAL classification?

Also, this stream segment(s) is currently listed as " Beaver Brook, S. Branch, trib to." I notice that you refer to the waterbody name as "Clayton Branch"--should I change the waterbody name currently in NR 104, and if so, how should it read?

Does this all make sense to you? If it doesn't let me know, and I can try to clarify. If you have answer these questions, I'd appreciate it!

Thanks-
Laura

Laura Bub

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Clayton Branch (Headwaters Segment) ← Segment 1 of 2
7.0 REPORTING DESIGNATED USES Rec'd 3-22-03

Surface water designated uses that will be codified, or will be used to develop effluent limits require formal reports approved by Basin Leaders and the Water Quality Standards Section Chief. The Fish and Aquatic Life Designated use Form should be used to report the results of classification studies, designated use recommendations, and approved designated uses. Additional narrative and data can be added to supplement the form as needed. Please provide as much information as you can on the form. However, the first page including approvals, discharger data on the second page, and fish community data on page 5 are required for all use classifications. **In addition, if the recommended designated use is Tolerant Fish and Aquatic Life or Very Tolerant Aquatic Life, page 7 must be completed.** Surface water designated uses can be controversial and may be contested. Therefore, more information and data is always preferred. The form is available on the intranet at _____.

FISH AND AQUATIC LIFE DESIGNATED USE FORM

(Attach supporting data sheets)

WATERBODY NAME Clayton Branch trib to S. Branch of Beaver Brook WBIC# _____

REGION Northern BASIN St Croix COUNTY Polk

Segment Shown on Clayton Quad. Map _____

Reference Site(s) None currently selected, Attach class. form for ref. site/cond.

SEGMENT DESCRIPTION for Segment 1 of 2 (headwater = segment 1)

From: Hwy 63	lat/long	tn, rng, 1/4, 1/4, section
downstream <u>1 Mile</u>		
To: a half mile upstream of 105 th Ave crossing or the center of the SW 1/4 of the SE 1/4, Section 11, T33N - R15W as was described in Sept 30 th 1976 evaluation conducted by Terry Moe & David Teske classification write up by A. A. Oemcke on July 12 th , 1978.	lat/long	tn, rng, 1/4, 1/4, section

See attached site map and photos showing stream segment (these are not currently available on this electronic form and will be added latter with the hard copies going to central office). Point of Discharge or outfall pipe was not located during 2002 survey.

DESIGNATED USE INFORMATION:

New Classification DFAL, Standards Review _____, Ref. Site _____, Date field work conducted/completed 11/10/2002

Current FAL Designated use Limited Forage Fishery, Date 7/12/1978 (attach)

Existing FAL Use Based on current data DFAL (2.3.3 - Macroinvertebrate Community Waters), Date 11/10/2002

Recommended Attainable Designated use DFAL (2.3.3 - Macroinvertebrate Community Waters)

Seasonal Designated use(s)/Dates Dependent upon water year (2002 was a high water year and resulted in continuous flows up to Hwy 63 throughout the summer capable of supporting a diverse macroinvertebrate community stucture with approximately 30% having a HBI value of 5 or less.

Other Applicable Uses: ORW _____, ERW _____, Recreation _____, Wild Life _____...

Submitted By: Jim Cahow

Date: 12/3/2002

Reviewed By: Pete Prusack	Date:
Approved Basin Leader: Kathy Bartilson	Date:
WQS Sect. Chief, or Designee:	Date:

Water Body Name Clayton Branch, WBIC# _____, Date _____

DISCHARGER INFORMATION:

Municipality/Company Clayton WWTP, Permit # _____

Outfall Location Over 1,000 yards of pipe carry the effluent to a point in the NE 1/4 NW 1/4, Sec 13, T33N - R15W approximately 275 yards west of Hwy 63.

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)
Current agricultural impacts limit the biological potential of the stream in the headwaters section immediately downstream of Hwy 63. An overflowing manure pit from the Tom Nonemacher farm had caused significant impacts to the biological community at the time of this assessment (fall 2002). The existing biological community is not attaining its full biological potential because of these impacts. If proper manure management practices were implemented more sensitive or intolerant species would make up a greater portion of the overall macroinvertebrate community structure.

2002 was an above average water year. During lower precipitation years the headwaters (within 1 mile of Hwy 63) may be more intermittent in character and limit the ability of this segment to support a diverse aquatic macroinvertebrate community. Fish were not sampled in this segment; but, without additional agriculturally related BMP's it is doubtful that it could support anything but a tolerant forage fishery dominated by sticklebacks and mudminnows. The amount of sediments and nutrients deposited in the stream channel from historic runoff pollution will continue to limit habitat quality. These lower gradient stretches do not flush out regularly. It may take decades or longer to flush the sediments and nutrients out of the stream channel and to allow for the break down of organic matter.

Of those macroinvertebrates present within the sample that had assigned tolerance values, 30% had assigned tolerance values of 5 or lower (see section 2.3.3 in the July 2002 Guidelines for Designating Fish and Aquatic Life Uses). Macroinvertebrate communities with greater than 25% with an assigned tolerance value of 5 or less should receive the DFAL classification based on subsection 2.3.3.

Point of discharge was not located at the time of this classification. A return trip when the WWTP is discharging from their treatment lagoons should be considered to help determine the exact point of discharge. This may help to separate out potential agriculturally related impacts from those related to the point of discharge (talk with Pete about this!).

Limits Calculator: _____ Date: _____

Watershed Expert _____ Date: _____

Fish and Habitat Expert _____ Date: _____

Bureau of Endangered Resources when these species are present _____ Date _____
Send final report to:

Facility Village of Clayton WWTP Date: _____

Basin Wastewater Eng. Pete Prusack Date: _____

Other interested parties (list) _____ Date: _____

Water Body Name Clayton Branch, WIBC# _____, Date _____

LITERATURE REVIEW

1. Cite here and attach previous classification reports and designated uses.
Sept 30th 1976 evaluation conducted by Terry Moe & David Teske classification write up by A. A. Oemcke on July 12th, 1978.
2. Cite here and attach all previous studies and data associated with the water body that are applicable to use classification.

Sept 30th 1976 evaluation conducted by Terry Moe & David Teske classification write up by A. A. Oemcke on July 12th, 1978.

3. If applicable, cite here and attach a copy of the page from *Wisconsin Trout Streams*, and any other publication listing the stream as trout water.
4. Cite here and attach any other literature applicable to the fish and aquatic life designated use.

July 2002 Draft of the "Guidelines for Designating Fish and Aquatic Life Uses"

Hilsenhoff, W.L. 1987. An improved biotic index of organic stream pollution. *The Great Lakes Entomol.* 20:31-39

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

July 2002 Draft of the "Guidelines for Designating Fish and Aquatic Life Uses" identifies 3 types of streams that should receive the protection classification of Diverse Fish and Aquatic Life (DFAL) communities. These include DFAL Game Fish Community Waters (sect 2.3.1), Non-game fish community waters (sect 2.3.2), and Macroinvertebrate community waters (sect 2.3.3).

This stream segment falls within the criteria laid out in the DFAL section under sub-section 2.3.3 for Macroinvertebrate community waters.

Water Body Name Clayton Branch, WIBC# _____, Date _____

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FIELD ASSESSMENT DATA AND OBSERVATIONS

Assessment dates: 10/25/2002 to 11/10/2002

PHYSICAL/CHEMICAL DATA

SEGMENT LENGTH 1600 Yards, DEPTH, AVG. 0.3 ft MAX. 2 ft AVG. WIDTH 5 ft

SEGMENT GRADIENT _____, VELOCITY <0.5 ft/sec

SUBSTRATE MATERIAL %silt 40 %sand 15 %gravel 5
 %rubble _____ %organic 40 %other _____

NATURAL FLOW _____ cfs, (MEASURED _____, ESTIMATED 0.2 cfs).

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

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

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

Design flow _____

TEMPERATURE _____, 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:

BREIF INTERPRETATION/COMMENTS:

Water Body Name Clayton Branch, WIBC# _____, Date _____

BIOLOGICAL DATA

FISH: were not collected as a part of this segments survey. See part 2 of 2

MACROINVERTEBRATES: Sampling date 11/10/2002, HBI/FBI _____

Survey location(s) approximately 400 yards West (Downstream) of Hwy 63 crossing

Sampling Procedure Kick net sampling

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

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

The organisms with assigned tolerance values included: 22 *Hyaella azteca*; a tolerant amphipod with a tolerance rating of 8 on a scale from 1 to 10 with 10 being extremely tolerant of pollution, 10 *Limnephilidae* caddis flies belonging to the genus *Anabolia*, and 3 *Phryganeidae* caddis flies belonging to the genus *Ptilostomis* both have assigned tolerance values of 5. A unique dipteran *Chaoborus* also occurred within the sampled reach and 8 individuals with an assigned tolerance of 8 were collected. Further taxonomic resolution within the sample can be gained by mounting the 23 aquatic midges collected on microscope slides allowing for species identification and enumeration and further determination of assigned species tolerance values.

None HBI organisms included 4 damselflies of the *Ischnura/Anomalagrion* complex, *Hygrotus* a Dytiscid predaceous diving beetle, *Sigara* a water boatman, 35 *Daphnia magna*, and a variety of leaches, snails, clams, and oligochaetes.

% individuals with HBI value 5 or less 30%

OTHER BIOLOGICAL DATA/OBSERVATIONS:

Organic enrichment stemming from the overflow of Tom Nonemacher's manure pit makes it difficult to assess if there are any impacts from the existing WWTP discharge. Agricultural runoff from adjacent crop fields could be reduced by increasing buffer widths and expanding unmowed grass waterways. Changing agricultural service and access roads and ditches could significantly reduce the amount of sediments and nutrients being delivered in runoff. Changing drainage patterns through barnyards, loafing areas and intensively grazed pastures could reduce NPS impacts and result in improved biological potential.

The biological potential of this segment is likely to vary greatly from year to year depending on amount of precipitation and the intensity in which it is delivered. Low water years or drought years will impact the ability of this segment to sustain or maintain aquatic communities.

INTERPRETATIONS BASED ON EXISTING FISH AND AQUATIC LIFE COMMUNITY:

Based on aquatic macroinvertebrate community structure as laid out in section 2.3 DFAL subsection 2.3.3 this segment should receive the protective classification of DFAL. See additional discussions and attached taxonomic bench sheets.

This also makes it difficult to determine the true/FBI biotic potential for stream segment

Water Body Name Clayton Branch, WIBC# _____, Date _____

HABITAT

Procedure _____

Habitat rating _____, attach habitat rating forms

Significant problems affecting use attainment:

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

Other Manure management practices or the lack there of.

Observations About Habitat Quality:

Habitat quality is impaired by excess or controllable agriculturally related runoff including manure pit overflows. Habitat quality may very greatly depending upon water year. Higher precipitation years, as in 2002, may support a diverse and healthy aquatic macroinvertebrate community structure up to Hwy 63. During drought or low flow years the channel may dry up leaving intermittent pools to the center of the SW $\frac{1}{4}$ of the SE $\frac{1}{4}$, Section 11, T33N - R15W.

WATERSHED DATA AND OBSERVATIONS

AREA

Approximate size 300 acres above point of discharge

Land use: % crop land 50, % pasture 10, % forest 10,

% grass land 15, % urban 5, % wetland 10,

No. feedlots/barn yards near stream 1

Other NPS Manure pits, Barnyards, Ag fields, and field service or access roads

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):

Manure management is a problem for many smaller farms that are trying to carry to many head of cattle for the limited acreages available for spreading manure and the limited holding capacity of their smaller pits. This gives them little residual capacity to deal with extended wet weather that periodically hampers their ability to haul or spread the manure. Location and proximity of the barn yard and loafing areas with poorly laid out service or access roads increases the likelihood that NPS impacts will continue to limit the biological potential of the headwaters. Service or access roads to back fields provide areas of concentrated flow which enhance delivery of runoff.

Water Body Name Clayton Branch, WIBC# _____, Date _____

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

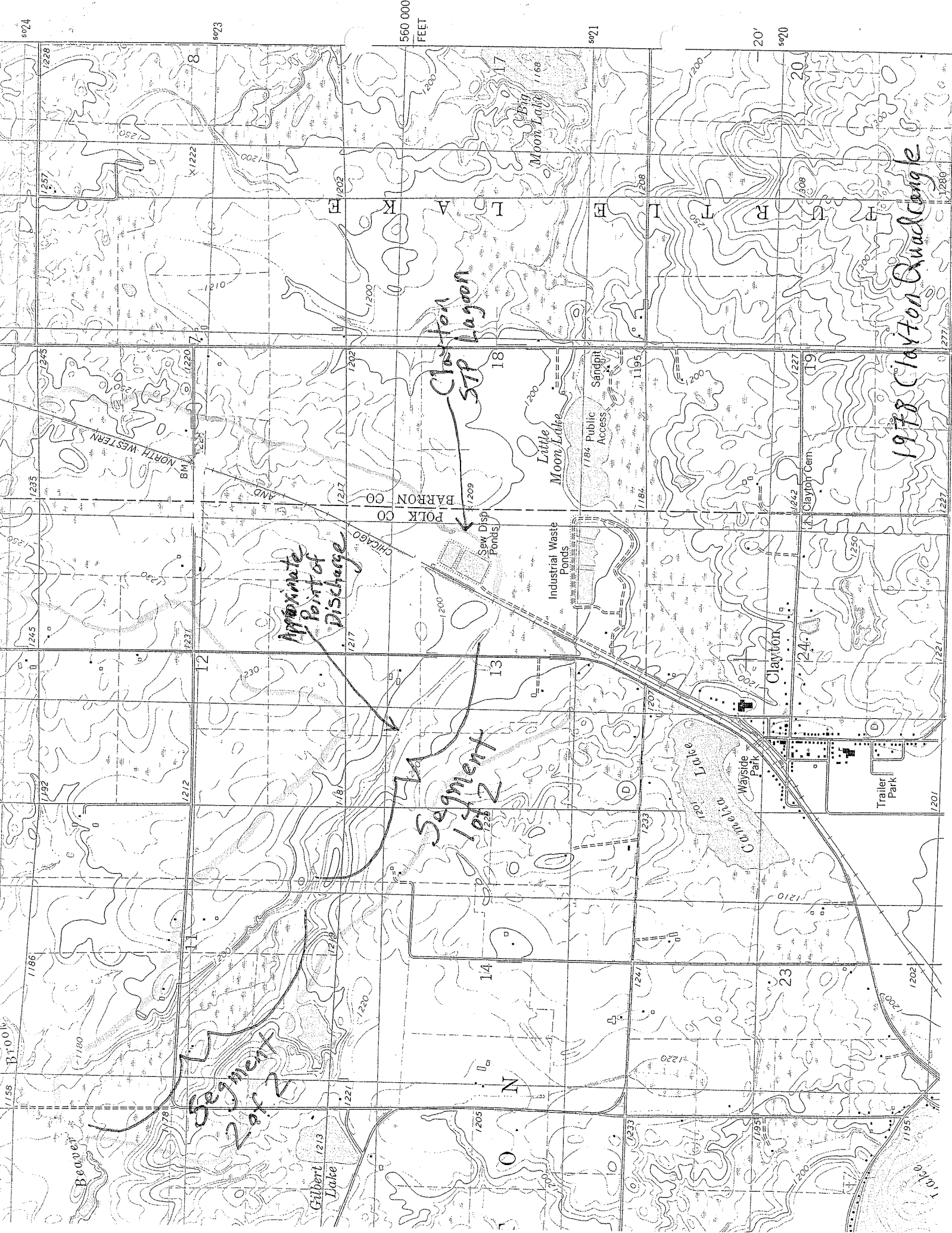
RECOMMENDED DESIGNATED USE _____

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 VTALuse 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:



Approximate
Point of
Discharge

Clayton
SFP Lagoon

Segment
1 of 2

Segment
2 of 2

1978 Clayton Quadrangle

Clayton Branch 2002.0 - - Downstream of Hwy 60 ~ 400 meters → HBI Sample

Taxa	Tolerance Value	Organism Count				
		Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
Coenagrionidae - Ischnura / Anomalagrion Complex	NA	4				
Limnephilidae → Anabolia	5.0	10				
Phryganeidae → Ptilostomis	5.0	3				
Dytiscidae - Hygrotus	NA	1				
Corixidae - Sigara	NA	1				
Diptera - Chironomidae	NA	23				
Chaoboridae - Chaoborus	8.0	8				
Gammaridae - Hylella azteca	8.0	22				
Daphnia Magna		35				
Annelidae - leaches 5 small - 1 larger -						
Snail - Helisoma		1				
Sphaeriidae → fingernail Clams		2				
Oligochaeta → Tubifex worms		47				
Total = 157 organisms						

There is a total of 43 individuals with assigned HBI tolerance values
30% of those have an assigned tolerance value of 5 or less

See section 2.3 in the July 2002 Draft of "Guidelines For Designating Fish and
Aquatic Life Uses For Wisconsin Surface Waters" #3 types of Diverse Fish
and Aquatic Life Communities (DFAL)
and see subsection 2.3.3

7.0 REPORTING DESIGNATED USES

Surface water designated uses that will be codified, or will be used to develop effluent limits require formal reports approved by Basin Leaders and the Water Quality Standards Section Chief. The Fish and Aquatic Life Designated use Form should be used to report the results of classification studies, designated use recommendations, and approved designated uses. Additional narrative and data can be added to supplement the form as needed. Please provide as much information as you can on the form. However, the first page including approvals, discharger data on the second page, and fish community data on page 5 are required for all use classifications. **In addition, if the recommended designated use is Tolerant Fish and Aquatic Life or Very Tolerant Aquatic Life, page 7 must be completed.** Surface water designated uses can be controversial and may be contested. Therefore, more information and data is always preferred. The form is available on the intranet at _____.

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

WATERBODY NAME Clayton Branch WBIC# _____

REGION Northern BASIN St Croix COUNTY Polk

Segment Shown on Clayton Quad. Map

Reference Site(s) None selected, Attach class. form for ref. site/cond.

SEGMENT DESCRIPTION for Segment 2 of 2 (headwater = segment 1)

From: the center of the SW ¼ SE ¼, Sec 11, T33N- R15W or from approximately ½ mile upstream of 105 th Avenue downstream <u>1</u> mi.	lat/long N45°21'37" W92°11'34"	tn, rng, ¼, ¼, section
To: confluence with South Branch Beaver Brook	lat/long	tn, rng, ¼, ¼, section

See attached site map and photos showing stream segment. **Point of discharge was not located at the time of this survey, a return trip during the time of discharge from the WWTP lagoons would help locate the outfall and help to separate out agriculturally related impacts. Talk with Pete about this!**

DESIGNATED USE INFORMATION:

New Classification _____, Standards Review _____, Ref. Site _____,

Date field work conducted/completed 10/16/2002

Current FAL Designated use Full Fish and Aquatic Life, Date 9/30/1976 (attach)

Existing FAL Use Based on current data DFAL – Non-game fish community waters, Date 10/16/2002

Recommended Attainable Designated use DFAL – Non-game fish community waters

Seasonal Designated use(s)/Dates Variability in biological potential can be more limited by water year than season – although spring flows are expected to be greater most years and provide at least limited inundation even during most low flow or drought years.

Other Applicable Uses: ORW _____, ERW _____, Recreation _____, Wild Life _____

Submitted By: Jim Cahow	Date: 11/7/2002
Reviewed By: Pete Prusack	Date:
Approved Basin Leader: Kathy Bartilson	Date:
WQS Sect. Chief, or Designee:	Date:

Water Body Name Clayton Branch, WBIC# _____, Date 10/16/2002

DISCHARGER INFORMATION:

Municipality/Company Clayton WWTP, Permit # _____

Outfall Location Over 1,000 yards of pipe carry the effluent to a point in the NE ¼ NW ¼, Sec 13, T33N – R15W approximately 275 yards west of Hwy 63.

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)

Fishery community consisted of at least six forage species. A standard length of stream could not be sampled (100 meters); because, fine sediments dominate the stream bed and made wading difficult to impossible above and below the sampled point at 105th Ave. Approximately 20 meters of stream was sampled immediately below 105th Avenue. Fish species and counts are as follows: Brook Stickleback; 39 individuals, Fathead minnow; 3 individuals, Northern Redbelly Dace; 2 individuals, Brassy Minnow; 2 individuals, Pearl Dace; 1 individual, Finescale Dace; 1 individual. A crude extrapolation would seem to indicate that with 6 species and 48 fish sampled in 20 meters, if a full 100 meters had been sampled there would have been more species encountered and a minimum population of 50 fish per 100 meters sampled would have been easily documented in accordance with subsection 2.3.2. The July 2002 Draft "Guidelines for designating fish and aquatic life uses for Wisconsin surface waters – Data collection and interpretation procedures" under subsection 2.3.2 would support the classification of DFAL under the Non-game fish community waters subcategory.

Invertebrate community was not sampled in detail; but, based on several dip net samples, was dominated by Gammarus Pseudolimnaeus which has an assigned HBI tolerance value of 4. According to the July 2002 Use Designation Guidance under section 2.3.3 "Macroinvertebrate Community Waters" it would support at least a Diverse Fish and Aquatic Life use classification.

Limits Calculator: _____ Date: _____

Watershed Expert _____ Date: _____

Fish and Habitat Expert _____ Date: _____

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

Send final report to:

Facility _____ Date: _____

Basin Wastewater Eng. Pete Prusack _____ Date: _____

Other interested parties (list) _____ Date: _____

Water Body Name Clayton Branch, WIBC# _____, Date 10/16/2002

LITERATURE REVIEW

1. Cite here and attach previous classification reports and designated uses.
Terry Moe & David Teske's September 30th, 1976 survey summarized by A. A. Oehmcke July 12th, 1978 memo (see attachments).
2. Cite here and attach all previous studies and data associated with the water body that are applicable to use classification.
Terry Moe & David Teske's September 30th, 1976 survey summarized by A. A. Oehmcke July 12th, 1978 memo (see attachments).
3. If applicable, cite here and attach a copy of the page from *Wisconsin Trout Streams*, and any other publication listing the stream as trout water.
4. Cite here and attach any other literature applicable to the fish and aquatic life designated use.
July 2002 Draft "Guidelines for designating fish and aquatic life uses for Wisconsin surface waters – Data collection and interpretation procedures".

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

"Guidelines for designating fish and aquatic life uses for Wisconsin surface waters – Data collection and interpretation procedures" clearly support the designation of this stream segment as DFAL under both the Non-game fish community waters subsection 2.3.2 and the Macroinvertebrate community waters subsection 2.3.3 based on sampled community structure.

Water Body Name Clayton Branch, WIBC# _____, Date 10/16/2002

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FIELD ASSESSMENT DATA AND OBSERVATIONS

Assessment dates: 10/16/2002 to 11/8/2002

PHYSICAL/CHEMICAL DATA

SEGMENT LENGTH 20 Meters, DEPTH, AVG. 18" MAX. 40" AVG. WIDTH 6'

SEGMENT GRADIENT _____, VELOCITY 0.5 ft/sec _____

SUBSTRATE MATERIAL %silt 50% %sand 10% %gravel _____

 %rubble _____ %organic 40% %other _____

NATURAL FLOW _____ cfs, (MEASURED 2.08 cubic ft/sec – suspect meter problems).

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

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

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

 Design flow _____

TEMPERATURE _____, 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:

BREIF INTERPRETATION/COMMENTS:

Point of discharge was not located at the time of this classification. A return trip when the WWTP is discharging from their treatment lagoons should be considered to help determine the exact point of discharge. This may help to separate out potential agriculturally related impacts from those related to the point of discharge (talk with Pete about this!).

Water Body Name Clayton Branch, WIBC# _____, Date 10/16/2002

BIOLOGICAL DATA

FISH: Sampling date 10/16/2002, Attach species list and IBI forms if applicable

Survey Location(s) Downstream of 105th Avenue approximately 0-20 meters

Distance sampled 20 meters Sampling Gear Back Pack Shocker and large frame kick net

No. of species 6, Total fish 48

No. of species not listed as tol. to low DO 4, Total fish 48, % not listed 12.5%

Endangered or other special category species _____

Warm B species _____, Total no. _____

MACROINVERTEBRATES: Sampling date 10/16/2002, HBI/FBI no formal sample was collected, only field observations; but, with the community structure dominated by Gammarus the HBI would have been between 4.0 and 5.0.

Survey location(s) Downstream of 105 th Avenue

Sampling Procedure Multi-habitat Kick net sampling

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

Gammarus psuedolimnaeus made up approximately 70% of the invertebrates sampled. Its assigned tolerance value is 4.0.

Anabolia sp. Made up approximately 10% and has an assigned tolerance value of 5.0

Ischnura/Anomalagrion species complex made up approximately 10%

Sigara spp. Made up approximately 10%

Ptilostomis sp. was identified as present, but not numerous.

Caecitodea intermedius (formerly Assellus) was identified as present, but not numerous.

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

% individuals with HBI value 5 or less no formal sample was collected, only field observations - approximately 70%

OTHER BIOLOGICAL DATA/OBSERVATIONS:

INTERPRETATIONS BASED ON EXISTING FISH AND AQUATIC LIFE COMMUNITY:

During 2002, a higher than normal water year, sustained flows made it possible to support a stream classification of Diverse Fish and Aquatic Life (DFAL) based on either the Non-game fish community waters subsection 2.3.2 or the Macroinvertebrate waters subsection 2.3.3.

Point of discharge was not located at the time of this classification. A return trip when the WWTP is discharging from their treatment lagoons should be considered to help determine the exact point of discharge. This may help to separate out potential agriculturally related impacts from those related to the point of discharge (talk with Pete about this!).

Water Body Name Clayton Branch, WIBC# _____, Date 10/16/2002

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HABITAT

Procedure _____

Habitat rating _____, attach habitat rating forms

Significant problems affecting use attainment:

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

Other Manure Management Practices upstream of 105th Ave overflowing manure pit, barnyard runoff or runoff from loafing areas with service roads providing areas of concentrated flow for direct delivery to the stream.

Observations About Habitat Quality:

Sedimentation limits the availability of coarse rock rubble and gravel spawning substrates and fills in and eliminates pool habitat.

WATERSHED DATA AND OBSERVATIONS

AREA

Approximate size 500 acres / sq. miles

Land use: % crop land 30, % pasture 15, % forest 20,

% grass land 10, % urban 5, % wetland 20,

No. feedlots/barn yards near stream 1

Other NPS overflow from manure pit, barnyards and associated loafing areas, service roads and ditches, row crops, and pastures.

Is this watershed currently or proposed to receive NPS management under a State, Federal or local organization? Yes _____, no _____. 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):

Existing macroinvertebrate and forage fish community structure merits DFAL classification; but, has the potential to improve if overflows from the Tom Nonemacher manure pit are remedied. Overland flow through barnyard and loafing areas and the adjacent service roads continue to provide sediments and nutrients which limit the biological potential. Difficulty in confirming the exact location of the point of discharge for the Clayton WWTP outfall pipe makes it difficult to separate out or identify any impacts which may be associated with the WWTP discharge.

Water Body Name Clayton Branch, WIBC# _____, Date 10/16/2002

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**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: Clayton Branch

DATE 10/16/2002

STATION LENGTH 20 meters $\rightarrow$ deep silt deposits prevent further sampling

STATION LOCATION *downstream of 105th Avenue*

SPECIES	TALLY	FINAL COUNT	AGGREGATE WEIGHT
BROOK Stickleback		39	
Fathead Minnows		3	
Northern Redbelly Dace		2	
BRASSY Minnow		2	
Pearl Dace		1	
Fine Scale Dace		1	
Crew Present	Jim Cahow, Craig Roessler, Bill Jaeger, Pam Stuebe, Jim Klosiewski		

Date: July 12, 1978

File Ref: 3200

To: Central Office - Madison

DNR

From: A. A. Oehmcke

JUL 13 1978

Subject: Revised Surface Water Classification - Clayton, Polk County
And Revision Of NR 104

The Village of Clayton discharges wastewater from a two cell stabilization lagoon to Clayton Branch, a tributary to South Branch Beaver Brook. The lagoon is operated on a continuous flow basis. Over 1,000 yards of pipe carry the effluent to a point in the NE $\frac{1}{4}$ NW $\frac{1}{4}$, Section 13, T33N - R15W approximately 275 yards west of State Highway "63". The discharge occurs on property owned by J. C. Jackson.

Clayton Branch above the point of discharge is an agricultural ditch apparently dug to drain the wetlands south of the sewage lagoon and it is probably noncontinuous. During inspections on June 8 and 27, 1978, flow in this segment consisted largely of dairy process runoff from a spray irrigation system set up in the wetland area by Stella Cheese Company. On June 8, the in-stream BOD-5 was 225mg/l and dissolved oxygen was zero. This spraying by Stella Cheese was discontinued in mid-June.

The segment of Clayton Branch from the point of discharge into the SW $\frac{1}{4}$ SE $\frac{1}{4}$, Section 11, T33N - R15W, a length of approximately 1,600 yards, is shown on the USGS quadrangle (1952) as noncontinuous. It has a defined streambed and would probably support aquatic life during times of flow if dairy process waste is excluded from the stream. This segment is bordered by agricultural land and is used for cattle watering.

The remainder of Clayton Branch is shown as continuous on the USGS quadrangle. It is probably perpetually wet even in times of zero flow. The segment in the NE $\frac{1}{4}$ SW $\frac{1}{4}$, Section 11 is bordered by wetland and would support aquatic life in the absence of dairy process waste.

The segment of Clayton Branch in the NW $\frac{1}{4}$ of Section 11, north of the east-west town road, would support a balanced aquatic community in the absence of dairy process wastes as does the South Branch Beaver Brook.

RECOMMENDATION

Clayton Branch, receiving effluent from the Village of Clayton stabilization lagoon, is noncontinuous (NR 104.02(1)(e)) from its headwaters into the SW $\frac{1}{4}$ SE $\frac{1}{4}$ Section 11, T33N - R15W and continuous (NR 104.02(1)(f)) from this point to its confluence with South Branch Beaver Brook.

Clayton Branch, in Section 13 and the southern one-half of Section 11, T33N - R15W, shall be classified as surface water not supporting a balanced aquatic community (NR 104.02(3)(a)). *Limited forage fish*

In the NW $\frac{1}{4}$ Section 11, Clayton Branch shall be classified for fish and aquatic life as shall South Branch Beaver Brook.

These recommendations shall supersede all previous classifications.

RECOMMENDED NR 104 REVISIONS

NR 104.09 Table 7 Number 6, 7, 8, 11, 16, 18, 20, 21, and 28 shall be deleted and included in NR 104.10 Table 8.

For Clayton, Table 8 shall read:

Surface water (facility affected) Clayton Branch (Clayton)

Reach description From Clayton STP discharge to center of SW $\frac{1}{4}$ SE $\frac{1}{4}$ Section 11, T33N - R15W

Hydrologic Classification Non-Continuous
Applicable Criteria I
Effluent Limitations A

Reach Description From center of SW $\frac{1}{4}$ SE $\frac{1}{4}$, Section 11, T33N - R15W to east-west town road in Section 11.

Hydrologic Classification Continuous
Application Criteria I
Effluent Limitations NA

TRS:mm

cc: → Steve Skavroneck
Municipal Wastewater Section
John Paddock
Richard Cornelius
Terry Moe

Attachment



FISH & AQUATIC LIFE

INTERMEDIATE

DISCHARGE POINT

CLAYTON STP LAGOON

CLAYTON LAKE

R15W R14W

V. A. N. C. E.

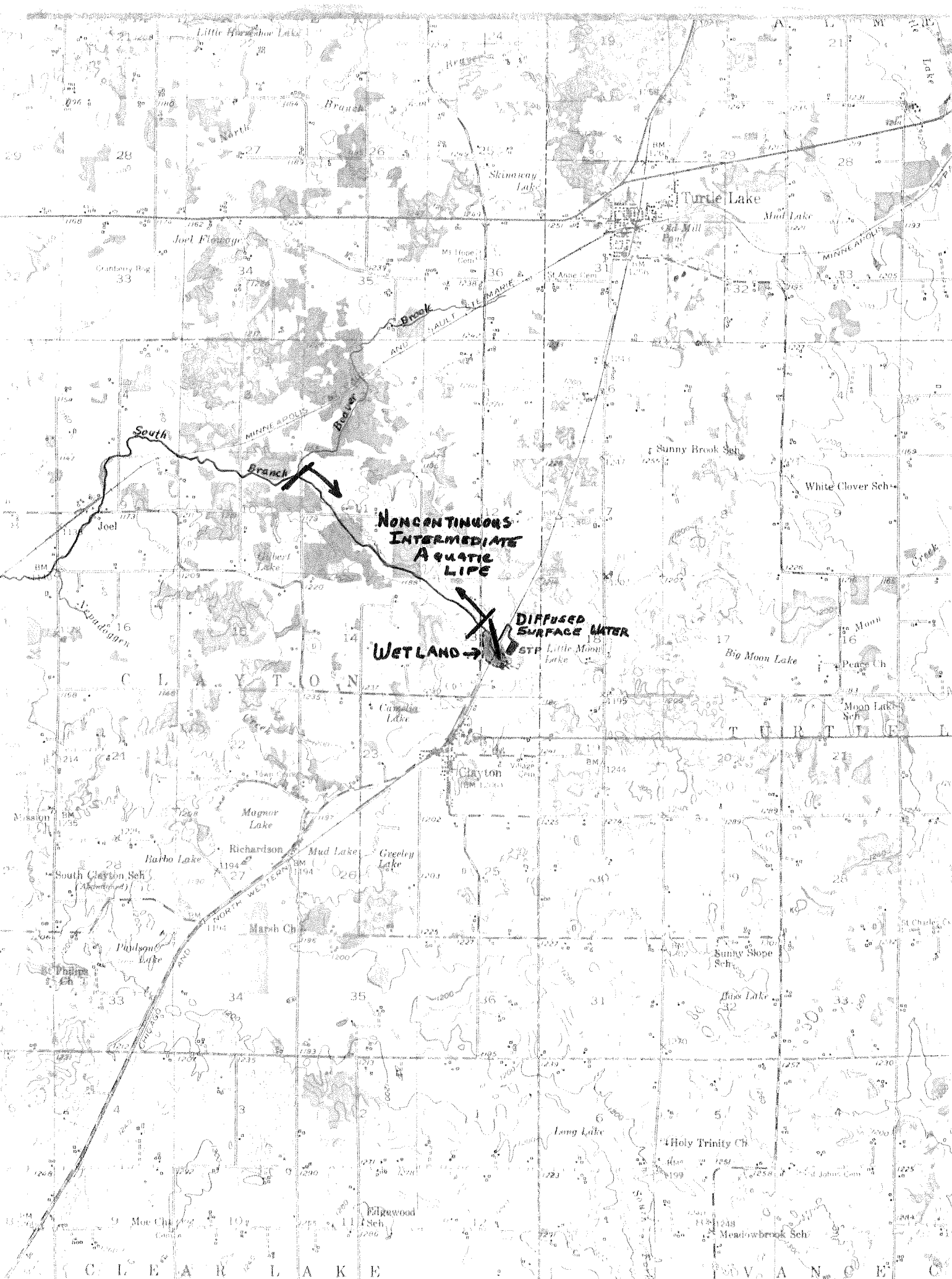
RECOMMENDATIONS:

Discharge receiving area for the Clayton WWSP shall be classified diffused surface water downstream about 1,000 feet to the wetland. The wetland shall be classified wetland and downstream flow to the west shall be classified noncontinuous intermediate aquatic life into section 11.

EVALUATION DATE: September 30, 1976

PERSONNEL:

Terry A. Moe - Water Pollution Biologist - WCD
David J. Teske - Environmental Engineer - WCD



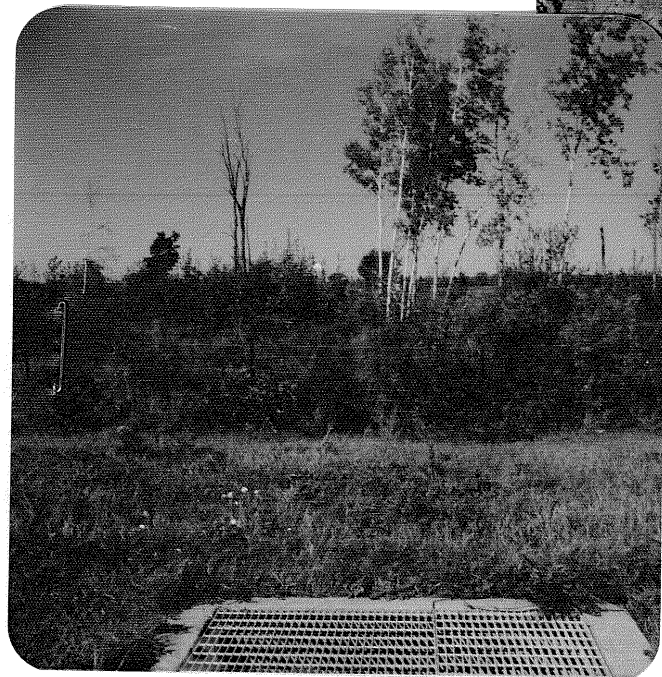
CLAYTON, POLK COUNTY

WASTEWATER RECEIVING STREAM CLASSIFICATION

Receiving stream - Drainage area tributary to South Branch Beaver Brook.

Discharge from the Clayton WWSP drains west about 100 feet to the east side of a railroad right-of-way. From that point flow is north 200 feet then west under the tracks to a field ditch along the west side of the tracks. Flow in the field ditch joins a small cattail wetland approximately 500 feet to the south. The wetland drains west through farm fields and is a headwater tributary of South Branch Beaver Brook. The preceding description from stabilization pond to wetland is approximate as all drainage systems were dry and tracing flow patterns was difficult.

Land in the drainage area is covered with natural vegetation surrounded by forage crop agricultural use.



From lagoon discharge control facing railroad to west



Discharge route - 200' north along east side of tracks



Drainage route tributary to South Branch Beaver Brook, looking west, south of lagoons