Region WCR **County** Chippewa **Date** 2·28·78 **Classification** LAL → wetland

Water Body: Chippewa R → trib

Discharger: Lafayette Township

If classified as Limited Forage Fish (LFF) or Limited Aquatic Life (LAL), check any of the following Use Attainability Analysis factors that apply:

_____ Naturally occurring pollutant concentrations prevent the attainment of use

_____ Natural, ephemeral, intermittent or low flow conditions or water levels prevent the attainment of the use, unless these conditions may be compensated for by the discharge of sufficient volume of effluent discharges without violating State water conservation requirements to enable uses to be met

_____ Human caused conditions or sources of pollution prevent the attainment of the use and cannot be remedied or would cause more environmental damage to correct than to leave in place

_____ Dams, diversions or other types of hydrologic modifications preclude the attainment of the use, and it is not feasible to restore the water body to its original condition or operate such modification in a way that would result in the attainment of the use

? Physical conditions related to the natural features of the water body, such as the lack of a proper substrate, cover, flow, depth, pools, riffles, and the like, unrelated to water quality, preclude attainment of aquatic life protection uses

low stream flow

_____ Controls more stringent than those required by sections 301(b) and 306 of the Act would result in substantial and widespread economic and social impact

Supporting Evidence included

_____ Biological Data (fish/invert)
_____ Chemical Data (temp, D.O., etc.)
_____ Physical Data (flow, depth, etc.)
_____ Habitat Description
✓ Site Description/Map
_____ Other:

Comments:

default LAL for wetlands

LOWER CHIPPEWA RIVER
PRELIMINARY BASIN ASSESSMENT
INCLUDING PORTIONS OF
SEGMENT III UPPER WISCONSIN, UPPER CHIPPEWA, BARABOO LEMONWEIR

June, 1982

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As Part of the West Central District
Basin Assessment Survey Program
For the Period July 1, 1981 - July 30, 1983

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LOWER CHIPPEWA RIVER PRELIMINARY BASIN ASSESSMENT

Introduction

Past investigations of water quality in the Lower Chippewa River Drainage Basin were reported in November 1953, April 1964, and June 1971. These investigations evaluated the water quality impact of all point source discharges within the basin and whether or not a water quality problem was associated with them. The reports described waste sources and some water quality components related to them.

The most recent evaluation of water quality in the basin was completed in 1974. The data gathered was traditional point source related with added sampling at select quality/quantity stations designated to characterize water quality resulting from a composite of watershed impacts. This data was the corner stone of the Lower Chippewa River Areawide Water Quality Management Plan completed in February, 1979. It was used in the Water Quality Appendix, the Basin Report, and as the basis for recommendations in the Management Plan.

The Lower Chippewa River Basin was scheduled for evaluation again beginning July 1, 1981. Since the 1974 investigation, three changes have impacted the basin evaluation process:

1. A new basin survey concept is in place, under which water quality investigations are conducted only where problems are believed to exist within both the Lower Chippewa River Basin and the remainder of the West Central District.

2. In 1977, Department District boundaries were realigned resulting in the loss of Polk and Barron Counties to the Northwest District. Therefore, this preliminary assessment addresses only the portion of the Lower Chippewa River Basin in the West Central District excluding Barron County.

3. A change in the preliminary basin assessment schedule from a five-year cycle to a six-year cycle was initiated during March of 1981. One element of the change was to make the Lower Chippewa a two-year rather than one-year assessment period. This assessment report covers the period July 1, 1981 to June 30, 1983, plus an extra quarter to include a complete federal fiscal year.

The purpose of a Preliminary Basin Assessment is two-fold. One is to provide a statement of water quality condition for the scheduled basin(s) and the other is to generate a plan for conducting all West Central District water quality assessment activities with available District resources.

Water Quality Condition Statement - The recently completed Lower Chippewa River Basin Water Quality Management Report/Plan, being one of the first group to be prepared, was quite thorough and descriptive. Its content is therefore adopted by reference for this preliminary assessment. Where appropriate, updates or additions to sections or appendices of the Basin Plan document will be prepared in this assessment.

District Water Quality Assessment Plan - During the time this report is being prepared, inhouse evaluation for meeting probable state and federal budget cut backs is taking place. Given unsettled conditions, this part of the report will be based upon funding levels anticipated through June 30, 1983.

Other new dimensions of the preliminary assessment will be sections covering a small part of Segment III of the Upper Wisconsin River Drainage Basin in Jackson and Clark Counties, a small part of the Upper Chippewa River Drainage Basin in Chippewa County, and a preliminary basin assessment for the Baraboo-Lemonweir River Drainage Basin. In essence, this report covers two complete years of basin assessment activities encompassing portions of four drainage basins in the West Central District. Since this assessment is being completed in the middle of the two-year period, an update of West Central District activities in FY82 is included. Work planning projections are made for FY83 and the first quarter of FY84.

Lower Chippewa River Preliminary Basin Assessment Survey Format:

I. Lower Chippewa River Basin Point Source Evaluation
II. Lower Chippewa River Basin Non-Point Source Evaluation
III. Lower Chippewa River Basin Significant Water Quality Areas
IV. Additional Water Quality Assessment Needs
V. Resources Available for Water Quality Assessment
VI. Work Status Update for 'FY82
VII. Summary of Assessment Needs and Studies to be Conducted in 'FY83
VIII. Federal Fiscal Year Fourth Quarter Supplement

I. Lower Chippewa River Basin Point Source Evaluation

Point source evaluations prepared for the Black, Bad Axe, and La Crosse River Preliminary Basin Assessment Reports included all point sources and presented reasons why study was or was not required for the point sources. This was the most time consuming process of the entire preliminary assessment and examples of reasons used for not requiring study were: large dilution ratios, meeting effluent limits, no existing treatment facilities, industrial discharge to municipal treatment facility, or non-contact cooling water discharged to surface or groundwater. Due to the detailed content of the Basin Plan point source appendix and to save preparation time, this section will only identify point source assessment needs where a water quality conflict potentially or actually exists or where past study has eliminated the need for study during the current survey years.

Table I lists nineteen Lower Chippewa River Basin municipal point sources matching the described assessment criteria. A summary of the assessment needs for 1981-83 includes five pre-operational point source impact (pre-op PSI) studies, eight post-operational point source impact studies (post-op PSI), one biological compliance investigation, and one stream gauging to determine acceptable loading rates for wastewater pond drawdown. Where no study is required (three sites), it is the result of recommendations in completed pre-op studies. Two studies with

TABLE I
LOWER CHIPPEWA POINT SOURCE ASSESSMENT SITES

Facility	Type of* Treatment Old:New	Flow* (MGD)	Receiving Stream	Receiving Stream Classification	Q7,10 (CFS)	Dilution Ratio @ Q7,10	Attain Operational Level	Assessment Work* Completed - Date	1981-83 Assessment Needs - Date
Altoona	P:None	0.28 DO	Eau Claire River	Continuous Fish and Aquatic Life	42	-	July, 1983	Pre-op PSI-1979	None
Augusta	TF:RBC	0.34 DN	Bridge Creek	Continuous Fish and Aquatic Life, Class II Trout	2.6	5:1	Summer, 80	Pre-op PSI-1978/79 WLA-1974, Phosphorous Study 79/81	Post-op PSI - Su 81-Sp 82 WLA - Summer 1981
Baldwin	TF:OD	0.22 DO 0.38 DN	Baldwin Trib to Rush River	Non-continuous Intermediate Aquatic Life	0.0	-	July, 1983	Prelim. WLA-1974 Stream Class-1975/76, Biotic Index Sample - 1979	Pre-op PSI - Su 82-Sp 83 WLA - Su82 St. Class Su82-Sp83
Bloomer	TF/AS:AL/MS	0.85 DN	Duncan Creek	Continuous Fish and Aquatic Life	7.2	5.5:1	July, 1983	WLA-1979	Pre-op PSI - Wi 82
Boyd	TF:	0.08 DO	Boyd trib to Hay Creek	Non-continuous Marginal Surface Water	0.0	-	July, 1983	Stream Class.-1975 Modified WLA-1977 P Ban-79/80, WLA-80	Pre-op PSI - Su82 - Sp83 St. Class - Su82 - Sp83
Cornell	P:RBC	0.25 DO	Clark Creek	Fish & Aquatic Life Probable		-	Start Sp 1982	Prelim. WLA-1975 Stream Class. Insp. 1976	Pre-op PSI - Fa 81-Sp 82
Eau Claire	P:RBC	16.3 DN	Chippewa River	Continuous Fish and Aquatic Life	-	-	Jan. 1981	Prelim. WLA-1975 Pre-op PSI-1979	Post-op PSI-1981-82-83
Elk Mound	AS/PP:AS/PP	0.06 D	Trib to Muddy Creek	Continuous Intermed-Aquatic Life	-	-	Fall, 1981	Stream Class.-1975-1976, Modified WLA-1977, Pre-op + Background PSI-1981	Post-op date unknown
Ellsworth	TF:RBC	0.66 DN	Headwater of Isabelle Creek	Non-continuous Marginal Surface Water	0.0	-	Spring, 81	WLA-1974, Stream Class-1975, Pre-op PSI-1978-79	Post-op PSI - Wi 82-Fa 82 WLA - Su82

Elmwood	TF:RBC	0.17 DN	Eau Galle River	Continuous Fish and Aquatic Life, Class III Trout	11.0	64:1	July, 1983	Pre-op PSI-1979	None
Fairchild	SP:SP/SC	0.06 DN	Trib to School-house Creek	Intermediate Aquatic Life	0.0	-	July, 1983	Stream Class-1976 Modified WLA-1977 Fill and Draw-1978	Biological Compliance Invest
Fall Creek	TF:AL or TF	0.11 DN	Fall Creek	Continuous Fish and Aquatic Life	0.68	4:1	Start,1982 July, 1983	WLA-1974, WLA-1978	Pre-op PSI Fa81-Su82
Glenwood City	SP:AL/WL	0.16 DN	Tiffany Creek Drainage	Wetland	-	-	Fall, 1982	Stream Class - 1981	Gauging for Pond Draw-down, Sp-Fa82
Plum City	IT:AS/PP	0.06 DN	Plum Creek	Continuous Fish and Aquatic Life	2.0	21:1	Jan. 1981	WLA-1976, Pre-op PSI-May 1980	None
Ridgeland	IT:SP/HP	0.05 DO 0.05 DN	So. Fk. Lower Pine Creek Lower Pine Creek	Cont. F. & AL-Class II Trout Cont. F & AL-Class III Trout	0.18 -	2.3:1 -	Fall, 1978	Stream Class Insp. 1975, WLA-1976, Pre-op PSI & Pre-op Background-1978	Post-op PSI Both Sites Wi82 - Fa82
Stanley	AS:AL/SC	0.56 DN	Wolf River	Continuous Fish and Aquatic Life	0.68	08:1	July, 1983	WLA-1975, Fish Kill Inv. -1975, WLA-1980	Pre-op PSI - Su82-Sp83
Thorp	AL:	0.54 DN	McGrogan Creek	Non-continuous Intermediate Aquatic Life	0.0	-	July, 1983	Prelim. WLA-1974, Stream Class-1975 Pre-op PSI-1978/79	Post-op PSI - tripped, study delayed WLA - Su82
Wilson	None:AL/HP	0.015DN	Headwater of Wilson Creek	Non-continuous Intermediate Aquatic Life-Class I Trout Downstream	0.0	-	Nov., 1980 1st Dschge Sp 83	Stream Class Insp. - 1978, Pre-op Background 1979-80	Pre-op Report-Wi 82, Post-op PSI-Sp, Fa, 83 if operational
Woodville	SP:AL/SC	0.07DN	Carr Creek	Non-cont. Marginal	0.0	-	Fall, 82	Pre-op PSI-79/80	Post-op PSI-Sp, Fa, 83

*Key

Treatment Type - P=Primary, TF=Tricking Filter, AS=Activated Sludge, AL=Aerated Lagoon, MS=Micro Screen, RBC=Rotating Biological Contactor PP=Polishing Pond, SP=Stabilization Pond, SC=Seepage Cell, WL=Wetland, HP=Holding Pond, IT=Imhoff Tank, OD=Oxidation Ditch

Flow - D=Design, N=New, O=Old

Assessment Work - Pre-op=Pre Operational, Post-op=Post Operational, PSI=Point Source Impact, WLA=Waste Load Assimilation Prelim=Preliminary, Stream Class.=Stream Classification, Insp.=Inspection

completed field work remain to be reported (Wilson pre-op background and Woodville pre-op PSI). The approximate time requirement for the listed work is as follows:

5 Pre-op PSIs	=	1000	Hours
8 Post-op PSIs	=	1600	Hours
1 Biological Compliance Investigation	=	40	Hours
1 Stream Gauging	=	24	Hours
2 Study Reports	=	160	Hours
Total	=	2824	Hours (1.6 person years)

Waste Load Assimilation (WLA) studies and small stream classifications shown under Table I 81-83 Assessment Needs will be deferred to later sections of this report.

If sufficient time is not available to complete work outlined by this preliminary assessment, 640 hours (.35 person year) of the work identified above can be deferred by postponing two pre-op PSI's (Baldwin and Boyd), one post-op PSI (Thorp), and one biological compliance investigation (Fairchild). These communities are listed on Table I as having July, 1983 completion dates. In fact, for enforcement purposes, they are "tripped" communities which makes July, 1983 an unrealistic completion date and allows more time for study at these sites.

All 69 of the industries listed on the Lower Chippewa River Drainage Basin industrial permit issuance tracking printout were reviewed with appropriate environmental engineers to determine wastewater volume and character, wastewater treatment and disposal, and potential for impact evaluation. Sixteen sites were identified for potential study. The study could range from a brief biological compliance inspection to an extensive point source impact study. A list of the potential sites follows, accompanied by abbreviated descriptive comments.

AMPI, Boyceville - Cooling water, barometric condensor. Should be checked for presence of slime growths indicating process water spillage. (.5 person day)

Beatrice Foods Company, Sanna Division, Menomonie - Discharge No. 03. Conditions similar to previous listing. (.5 person day)

Bloomer Sand and Gravel - Historical problem with suspended and settleable solids loss from settling ponds. Apparently clean in recent past. Confirm by inspection. (.5 person day)

Bush Brothers and Company, Inc., Town of Bridge Creek (Augusta) - Chlorinated cooling water and sterilized stream. PSI study. (2 person days)

Dairymaid Coop Creamery, Augusta - New aerated lagoon/seepage cell system complete July, 1981. Post-op compliance study beginning in fall of 1982. (3 person days)

Edsedell Cheese Factory, Cadott - New ridge and furrow system complete summer of 1981. Post-op compliance study 1982 or 1983, one season. (1 person day)

Ellsworth Coop Creamery - Pre-treatment discharging to the Ellsworth Municipal WWTP in spring of 1981. Included in Ellsworth post-op PSI.

Falls Dairy Company, Colfax - History of process water spills to cooling water. Slime check at cooling water outfall to Red Cedar River below mouth of Eighteen Mile Creek. (.5 person day)

Foremost Blue Moon Cheese, Thorp - Salt whey disposal pond, ground and surface water contamination. Biological and water sampling investigation July, 1981. (4 person days)

Knapp Creamery Company, Inc. - Possible thermal input from cooling water discharge. (.5 person day)

Mid-America Dairymen, Inc., Bloomer - Possible process water spills to cooling water. Slime check at cooling water outfall to Duncan Creek. (.5 person day)

North Hendren Coop Dairy, Willard - Three seepage cells, third full and overflowing. Biological evaluation. (3 person days)

Pope and Talbot, Inc., and Uniroyal, Inc., Eau Claire - Incorporate into possible biological water quality evaluation of Chippewa and Eau Claire Rivers through urban Eau Claire. Coordinate with Eau Claire post-op PSI beginning in summer of 1981. (20 person days)

Stanley Storm Sewer - Storm sewer to Wolf River above railroad crossing has historical oil problem possibly from urban sources. Evaluate impact and identify source. (3 person days)

Summit Cheese Factory, Cady Township, St. Croix County - Wastewater discharge to dry run headwater of Cady Creek. 1984 compliance schedule. Biological evaluation for possible input to speed up compliance schedule if necessary. (2 person days)

Wild Cherry Cheese Factory, Inc., Thorp - Aerated holding ponds with annual fall discharge to north fork, Eau Claire River. Compliance evaluation for pond BOD, pH, NH_3-N and volume. Stream validation of stage/flow relationship. Evaluation of permit limitations for appropriateness. Possible biological compliance sampling. (4 person days)

The approximate total time for evaluation of the Lower Chippewa River Basin industrial point sources is 45 person days (.2 year). The priority of these evaluations falls below WLA and municipal PSI studies and will be some of the first basin survey activities left undone.

II. Lower Chippewa River Basin Non-Point Source Evaluation

The Lower Chippewa River Basin Plan Non-Point Source Appendix (1977) does a more than adequate job of identifying non-point source pollution/water quality relationships within the basin. Since that time a few noteworthy events have taken place.

Passage of the Wisconsin Fund Non-Point Source Pollution Abatement Legislation has resulted in:

1. Biotic index evaluation of the Rush River, Lower Hay River, Eau Galle River, North Fork Eau Claire/Wolf River, and Fisher River/McCann Creek watersheds during 1979 and 1980 to develop water quality factors for potential or selected priority watersheds.

2. Selection, plan development, bacteriological and chemical evaluation, and implementation activities in the Lower Hay River priority watershed.

3. Problem identification and aggressive attempts at being selected as a priority watershed by representatives of the Lower Eau Claire River Watershed.

4. Selection and implementation plan completion of local priority projects in the Elk Creek (Chippewa County) and Five Mile Creek (Eau Claire County) watersheds, Plum Creek, Little Plum Creek, Bear Creek, and Eau Galle River watersheds (Pepin County). Each received funding for one or a few practices under the program.

Inland Lake Renewal projects within the basin that have or will contribute to non-point source pollution abatement practices are in the watersheds above Lake Altoona (stream bank stabilization), Elk Creek Lake (stream bank stabilization), Fall Creek Pond (stream bank stabilization) and Half Moon Lake (storm sewer diversion).

Water quality evaluation specific to non-point source pollution should be conducted to document water quality change related to Wisconsin Fund Priority Watershed work and it should be started now.

A 'FY83 objective for the non-point source section is to develop a strategy for non-point source pollution evaluation. The West Central District has planned to spend 16 hours in 'FY82 and 40 hours in "FY83 on this objective. In addition, 2 weeks (80 hours) are planned in 'FY83 for biotic index resampling at a total of 17 sites in the Hay River and Elk Creek (Trempealeau River Basin) priority watersheds.

III. Lower Chippewa River Basin Significant Water Quality Areas

The only addition to the Lower Chippewa River Basin Water Quality Appendix (1977) in terms of evaluation of significant water quality areas was work, started in 1977, on Pine and Townline Lakes under the Inland Lake Renewal Benchmark Lake Program. Upon completion of the March, 1982 sampling, this activity was discontinued due to elimination of funding.

IV. Additional Water Quality Assessment Needs

West Central District Water Quality Assessment needs, in addition to Lower Chippewa River Basin assessment survey intensive studies, are as follows:

Upper Wisconsin River Basin (Section III) - PBA* (FY81) and studies (FY82)

Upper Chippewa River Basin - PBA (FY82) and studies (FY83)

Baraboo-Lemonweir River Basin - PBA (FY82) and studies (FY83)

Buffalo-Trempealeau River Basin - PBA (FY83)

Fixed station (FY82-83) and benchmark lakes (FY82) monitoring

Detergent phosphorous ban study (FY82)

Miscellaneous special investigations (FY82-83)

Wasteload assimilation field studies (FY82-83)

Small stream classification studies (FY83)

Water quality attainability analysis (FY82-83)

Backlogged reports (FY82)

Studies in other basins (FY82-83)

*PBA = Preliminary Basin Assessment

Upper Wisconsin River Basin (Section III) A preliminary assessment for this basin scheduled for spring of 1981 has been incorporated into this report. Past investigations of water quality in this basin were reported in Pollution Investigation Surveys of the Upper Wisconsin River in 1964 and 1970. Further information is available in the Water Quality Management Basin Plan for the Wisconsin River dated July 1975 and in the USGS in Low-Flow Characteristics of Streams in the Upper Wisconsin River Basin dated July 1980. These sources of traditional point source monitoring information were used in the preparation of the Upper Wisconsin River Basin Areawide Water Quality Management Plan (latest revision March, 1979).

The Upper Wisconsin River Basin (Segment III) was scheduled for evaluation beginning July 1, 1981. The evaluation is incorporated in this report and will address three topics; point sources, non-point sources, and significant water quality areas in the portion of the basin contained in the West Central District.

1. Upper Wisconsin River Basin Point Source Evaluation

The only two point sources are the Chili Sanitary District and the Chili Milk Pool Coop. The Sanitary District operates a stabilization lagoon (flow .17 MGD) with a spring and fall discharge to a wetland tributary to the Yellow River. Two miles downstream, the receiving stream is classified as noncontinuous - marginal (1976 stream classification). Cascade aeration of the effluent has been proposed with a March 31, 1983 completion date to correct a DO problem. This site is a candidate for stream reclassification by the new (1982) system.

The Chili Milk Pool Coop presently discharges (6100 GPD) sanitary, process and cooling water to a crudely constructed absorption ditch with overflows occasionally to a ditch tributary to the Yellow River. Plans are being prepared for a lagoon system, but the compliance date of June 30, 1982 may not be met. The receiving stream should be included in any classification work done for the Chili Sanitary District discharge.

2. Upper Wisconsin River Basin Non-Point Source Evaluation

The Upper Wisconsin River Basin Non-Point Source Pollution Management Plan (1979) identifies the water quality problems in the basin attributed to non-point sources. Of particular concern in the West Central District portion of the basin is the severe impact of livestock in the upper Yellow River sub-basin. No evaluation is planned for this area.

3. Upper Wisconsin River Basin Significant Water Quality Areas

The Water Quality Appendix of the Upper Wisconsin River Basin Areawide Water Quality Management Plan describes situations existing in the Yellow River sub-basin. However, because such a small amount of the sub-basin is in the West Central District, no specific information is available for that area.

Upper Chippewa River Basin A preliminary assessment for this basin scheduled for spring, 1982 has been incorporated into this report. The most recent investigation of water quality in this basin was reported in the Upper Chippewa River Basin Water Quality Management Plan.

The Upper Chippewa River Basin is scheduled for evaluation beginning July 1, 1982. This is the first evaluation since the Basin Survey Program was changed (as previously mentioned). Since the area of this basin in the West Central District is extremely small and contains no point sources, this assessment will address only non-point sources and significant water quality areas.

1. Upper Chippewa River Basin Non-Point Source Evaluation

The Upper Chippewa River Basin Plan, Non-Point Source Appendix identifies most of the water quality problems in the basin attributed to non-point sources. The only additional

information is the development of a unique lake protection plan for Long Lake in Chippewa County. An Inland Lake Renewal District is developing this plan with the help of West Central District staff with funding from the Basin Program for non-point source pollution abatement. The goal is to prevent degradation of this high quality lake.

2. Upper Chippewa River Basin Significant Water Quality Areas

The area of the Upper Chippewa River Basin in the West Central District is very small. Therefore, little information about this area is contained in the Water Quality Appendix of the Basin Plan. A significant portion of this area is undeveloped public land (Ice Age Reserve and County) and many lakes are present. Water quality data is available for many of these lakes. In addition to those listed in the Basin Report, sampling has been done at Dark, Hennaman, Knickerbocker, Round and South Shattuck Lakes. Also, Pine and Townline Lakes have been studied under the Benchmark Lake Program. An ambient water quality monitoring station is located at the Holcombe Dam.

In the Basin Plan it was indicated that the Holcombe Flowage experiences extreme fluctuations in water level due to the operation of the dam by Northern States Power (NSP). Since the plan was completed, DNR Fish Management has entered a cooperative agreement with NSP to integrate fishery management in this flowage with the operation of the dam.

Baraboo-Lemonweir River Basin A preliminary assessment for this basin (scheduled for spring of 1982) has been incorporated into this report.

Past investigations of water quality in this basin were reported in the Baraboo and Lemonweir Rivers Pollution Investigation Survey dated January 1973 and Wisconsin Small Stream Studies - the Lower Wisconsin River Basin dated December 1978. The latter studied only the Lemonweir River near Tomah. The 1973 study evaluated the water quality impact of all point source discharges within the basin. The function of this type of traditional point source monitoring investigation was previously explained. The data was used in the preparation of the Lower Wisconsin River Water Quality Management Plan, completed in 1979, which includes the Baraboo-Lemonweir sub-basin.

The Baraboo-Lemonweir Basin is scheduled for evaluation beginning July 1, 1982. This is the first evaluation since the procedure for basin evaluations changed (as previously mentioned). This preliminary assessment will address three topics; point sources, non-point sources and significant water quality areas in the portion of the basin contained in the West Central District.

1. Baraboo-Lemonweir River Basin Point Source Evaluation

Four of the five municipal point sources in the West Central District Baraboo-Lemonweir River Basin meet the assessment

criteria explained in the point source section of the Lower Chippewa River Basin Assessment (p. 2); Oakdale, Tomah, Kendall and Hillsboro.

Oakdale Sanitary District operates stabilization ponds with a permit to discharge to Allen Creek (classified marginal). The ponds never sealed resulting in discharge of untreated waste to groundwater. However, reconstruction will eventually give rise to a discharge. To date, a stream classification (1976) and a pre-op study (1980) have been completed. Allen Creek is a variance stream and is a candidate for reclassification as well as a post-op study at some time in the future. It may be desirable to check the adequacy of the pre-op study before the ponds are repaired. This can be delayed until upgrading is planned.

Tomah is a candidate for a post-op study in 1983. However, the study will begin in the summer of 1982 so that field work can be done in conjunction with a model verification WLA and a point/non-point source integration study already scheduled for Tomah by the Central Office in FY82. The Tomah WWTP has recently undergone extensive modification and expansion of its activated sludge process. A design flow of 1.03 MGD discharges to the Lemonweir River (continuous fish and aquatic life classification - $Q_7, 10 = 3.2$ CFS) for a dilution ratio @ $Q_7, 10$ of 3.1:1. Work already completed at the site includes WLA studies in 1976 and 1977 and a pre-op in 1980. The time needed is 400 hours or .23 person year for the combination of the three studies.

Another situation worthy of note is the Kendall WWTP. A problem may exist despite the large dilution ratio (15.7:1 at design flow of .07 MGD and $Q_7, 10$ of 1.7 CFS) and treatment meeting effluent limits. A significant eutrophication situation is suspected to exist below the WWTP. This may be causing diurnal dissolved oxygen problems. A point source evaluation including 200 hours or .11 person year commitment would be necessary to investigate this possibility.

At Hillsboro, the community is scheduled to complete construction of a package activated sludge treatment plant in the fall of 1983. The present plant is hydraulically and organically overloaded. The effluent discharges into the south branch of the Baraboo River with a dilution ratio of 7.8:1 (@ $Q_{7,10}$ of 3.1 CFS and operational WWTP Q of .25 MGD). The average BOD_5 of the effluent is about two times the effluent limit. A pre-operative study at this site would require 200 hours or .11 person year. Warner Creek Cheese will probably be included in this study.

After reviewing information on the five active industrial dischargers in the Baraboo-Lemonwier Basin, three sites were identified as potential study sites:

Clifton Farmers Coop Creamery Milk Transfer Station - Ridge and furrow receiving 2800 GPD non-contact cooling water, 100 GPD sanitary waste and 300 GPD wash water. Record of past accidential discharge to ditch tributary to the Little Lemonweir River. Recommend compliance check. (.5 person day)

Warner Creek Cheese, Hillsboro - Sanitary wastes discharged to municipal WWTP. Non-contact cooling water discharge to Baraboo River was found to contain high BOD_5 and coliforms during compliance check in August of 1979. History of illegal whey disposal. Recommend compliance check scheduled with Hillsboro PSI study. (.5 person day)

Union Camp Corp., Tomah - Plastics manufacturing plant with 3 cooling water discharges to Lemonweir River and small reclamation plant discharging cooling water to Council Creek. The latter is known to contain dimethyl pthalate (insect repellent with fish and aquatic life chronic toxicity level of 1.32 mg/l) 1-2 days per month. An effluent grab sample by the industry indicated no problem but question of sediment toxicity remains. Recommend compliance check including sediment analysis for dimethyl pthalate. (.5 person day)

The approximate total time for evaluating Baraboo-Lemonwier River Basin point sources is 812 hours or .46 person year.

2. Baraboo-Lemonweir Non-Point Source Evaluation

The Lower Wisconsin River Basin Plan Non-Point Source Appendix (1979) identifies most of the water quality problems in the basin attributed to non-point sources. Since that time the following noteworthy events have taken place.

a. A report was completed by the West Central District on the impacts of the agricultural activities of the Huebner Bros. on Beaver and Hay Creeks in the southeast corner of Jackson County.

b. An Inland Lake Renewal project at Lake Tomah will include some non-point source abatement practices in the watershed above the lake. Partial funding for manure storage facilities, barnyard runoff control and shoreline protection was awarded under the Local Priority Watershed Non-Point Source Program.

No intensive studies or other work related to non-point sources is anticipated in the Baraboo-Lemonweir River Basin at this time.

3. Baraboo-Lemonweir River Basin Significant Water Quality Areas

The Lower Wisconsin River Basin Report Water Quality Appendix describes the situation in the Baraboo-Lemonweir River Basin. It is important to note that the Lemonweir River has its headwaters in one of the more undeveloped parts of the state containing many of its wetlands. A portion of these wetlands in the West Central District portion of the basin have been subjected to dredging and draining for agricultural use, primarily cranberry production. Current legislation may have some effect on these practices. The removal of the acreage limit on cranberry operations may initially increase dredging and draining while pending wetland legislation may decrease these activities. These practices have been known to alter the water quality in the area, but the significance of these alterations is unknown.

Buffalo-Trempealeau River Basin This basin is identified by the Water Quality Operations Handbook for completion of a preliminary basin assessment on April 30, 1983. The approximate time required for this is 160 hours.

Fixed Station and Benchmark Lakes Monitoring The routine activities associated with these tasks are accomplished by limited term employees hired for and funded by those specific programs. Following conversion of LTE funds to a permanent position (January 10, 1982), ambient monitoring will be conducted by permanent staff beginning July 1, 1982. The total FY82 & 83 work plan time commitment is 360 hours LTE and 460 hours FTE. Benchmark Lakes monitoring was terminated in March, 1982.

Detergent Phosphorous Ban Study Field sample collection for this study was completed in the fourth quarter of FY81. However,

permanent staff time was required to prepare a report on the lake study component during the first quarter of FY82. This required approximately 10 person days.

Miscellaneous Special Investigations These investigations represent time commitment which cannot be predicted but must be planned. Two investigations or studies per year or four for the two-year Lower Chippewa River Basin study period is a historically indicated logical number. The only appropriate work plan and time code to use for this activity is 60 hours per person per year put into the "department cooperation" time code. This amounts to 60 times 2.5 person years or 150 hours for FY82 and 60 times 3 person years or 180 hours for FY83. This totals 330 hours (.18 person year) for the water quality evaluation staff during the two-year study period. It should be noted that this special investigation/department cooperation time will actually show up in whichever program time code(s) is/are appropriate rather than the water quality program sublevel code (20) under which it is planned.

Waste Load Assimilation Studies The list of waste load assimilation studies conducted during the first quarter of FY82 included Owen (preliminary and primary), Augusta and Tomah (primary model verification studies). Stream stage permitted, their completion and occupied about 45 person days. West Central District work at Augusta and Tomah was coordinated with post-op PSI work also scheduled for those sites as well as a 208 funded point/non-point source integration project at Tomah.

The sites for waste load assimilation work for the first quarter of FY83 are Ellsworth and either Thorp or Baldwin. The West Central District has completed pre-operative point source impact studies at Ellsworth and Thorp. A post-operative study is underway at Ellsworth and a pre-op PSI will begin at Baldwin in the first quarter of FY83. A post-op is not scheduled for Thorp because they are not meeting their permit compliance schedule (tripped). Stream classifications using the new (1981) procedure will be done on all three sites even though only two will be chosen for WLA study. The purpose for matching stream classification with WLA studies is to develop water quality based effluent limits for variance type streams as part of Wisconsin's commitment to review and revise its water quality standards. Total time required in FY83 for two WLA studies is 400 hours.

Small Stream Classification Three small stream classification evaluations have been scheduled for FY83. A report of a classification conducted at Stanley, Chippewa County should also be completed but is of low priority because the potential discharge sites are not realistic alternatives to solve the problem. Central Office strategy for updating classifications conducted under the old system is to complete all updates in 5 years starting in FY83: Thus reclassifying all 20 existing West Central District variance sites will require 4 per year. Only 3 are planned for FY83, because the West Central District has agreed to take part in a water quality attainability analysis which includes a stream classification and allows the District to reduce its effort in reclassification and WLAs as well.

In the Lower Chippewa River Basin, 9 municipalities have discharge site variance categories identified under the old classification system. Considering that seasonal classifications are a possibility under the new system, the adequacy of existing information is uncertain. The following table is a summary of existing information needs and availability.

Municipality	Seasonal Classification Candidate	Available Information Adequacy	Information Needed
Baldwin	Yes	Poor	Re-evaluate - coordinate with pre-op PSI
Boyd	Yes	Fair	Re-evaluate - coordinate with pre-op PSI
Elk Mound	Yes	Good	Fill gaps in fishery data (3 seasons)
Ellsworth	Yes	Good	Re-evaluate - coordinate with post-op PSI
Fairchild	No	Fair	Review and modify to new system
New Auburn	No	Good	Review and modify to new system
Thorp	Yes	Good	Re-evaluate
Wilson	Yes	Good	Review and fill gaps in fishery data
Woodville	Yes	Fair	Review and fill gaps in fishery data

In the Upper Wisconsin River Basin, the only variance site is Chili, Clark County. The site has a poor amount of available information and is a candidate for seasonal classification. A re-evaluation would be necessary.

In the Baraboo-Lemonweir River Basin, the only variance site is Oakdale, Monroe County. This site also has a poor amount of information available and is a possible candidate for seasonal classification. A re-evaluation would be needed.

No classification variance sites exist in the portion of the Upper Chippewa River Basin in Chippewa County. Although several sites exist in basins not included in this assessment, none are being considered for classification at this time due to the number of candidates within the basins being assessed.

The above information was used to select the following locations for classification updates: Ellsworth, Boyd, and either Thorp or Baldwin. The field work at Ellsworth and Boyd will be coordinated with PSI studies already scheduled for those sites. This will also be possible at Baldwin, but not at Thorp, as no PSI work is scheduled there in FY83. The Boyd reclassification will compliment a WLA study conducted in 1980, while WLAs are scheduled at Ellsworth and Thorp or Baldwin as previously explained in the waste load section of this assessment.

Using 32 hours per classification as a time factor, 96 hours (.05 person year) must be scheduled for this activity. 32 hours is somewhat arbitrary, but recognizes that the new system is more detailed and includes seasonal evaluations and 2-person crews for collection of fish data. The 32-hour figure may in fact be low.

Water Quality Attainability Analysis As previously mentioned, this project includes a stream classification and a waste load assimilation study. In FY82, 16 hours of time is alloted for study design and site selection. The study is assumed to be a 700-hour level of effort with 300 hours (.16 person year) being committed by District water quality evaluation staff in FY83. The remaining time is scheduled for District planning (300 hours) and wastewater (100 hours) staff. Neither the study design nor study site are known at this time.

Backlogged Reports An important assessment need critical to the basin survey program is reporting on completed intensive studies. At the beginning of FY81 (July 1, 1980) fifteen reports were outstanding. Due to the lack of adequate staffing in the District, six of the fifteen studies were unreported as of July 1, 1981. They were Eau Claire, Grassland, Wilson, Woodville, Owen and Loyal which, except for Owen, required about 600 hours or .33 person year in FY82 to complete. An accurate FY82 accomplishment summary follows in Section VI.

Studies in Other Basins Studies planned in basins other than the 4 basins previously discussed are all pre-operational PSIs where construction is in progress or imminent. Studies continued from FY81 starts were Greenwood, River Falls, and Cochrane. Information on these sites was included in the La Crosse - Bad Axe River Preliminary Basin Assessment (1981). The remaining sampling was summer 1981 at Cochrane, summer, fall and winter 1981-82 at River Falls and summer, fall, and winter 1981-82 at Greenwood. New starts for FY82 include Westby, Holmen, New Richmond and Alma Center. All are potentially water quality limited sites. With the completion of these studies, all of the pre-operative point source impact studies should be done in the West Central District. Table II contains information on the situation at the four pre-op starts for FY82.

The time needed for these studies including field work, identification and reporting is 1270 hours.

V. Resources Available for Water Quality Assessment

The West Central District has 2.5 FTE per year and .27 LTE per year in FY82 plus assistance time from other permanent staff to accomplish all water quality evaluation sub-tasks. In FY83, no LTE time is available but 3 FTE will be available. The FY82 and FY83 West Central District Water Quality work plan goal level allocations for evaluation activities are on the following table. The units are person hours with LTE in parenthesis. The FY82 figures do not include the additional .5 FTE which became available for FY82 in January 1982.

TABLE II
PRE-OPERATIVE POINT SOURCE ASSESSMENT SITES

Facility	Type of* Treatment Old:New	Flow* (MGD)	Receiving Stream	Receiving Stream Classification	Q7,10 (CFS)	Dilution Ratio @ Q7,10	Attain Operational Level	Assessment Work* Completed - Date	1981-83 Assessment Needs - Date
Westby	TF:OD	.15A	Intermittant trib. to Bad Axe River	Non-continuous Marginal	0	-	1983	Stream Class. 1975	Pre-op Wi82 - Fa82
Holmen	TF:AS	.242A	Halfway Creek	Continuous Fish and Aquatic Life	2.3	9.5:1	June 1983	WLA-1973, 1977, 1980	Pre-op Wi82 - Fa82
New Richmond	TF:AS	.475A	Willow River	Continuous Fish and Aquatic Life	11.0	23:1	July 1983	--	Pre-op Su82 - Sp83
Alma Center	TF:TF/SC	.066DO	So. Fork Halls Creek	Continuous Fish and Aquatic Life	.80	12:1	1983	Fill & Draw 1979	Pre-op Su82 - Sp83

*Key: Treatment Type - P=Primary, TF=Trickling Filter, AS=Activated Sludge, AL=Aerated Lagoon, MS=Micro Screen, RBC=Rotating Biological Contactor PP=Polishing Pond, SP=Stabilization Pond, SC=Seepage Cell, WL=Wetland, HP=Holding Pond, IT=Imhoff Tank, OD=Oxidation Ditch

Flow - D=Design, N=New, O=Old, A=Actual

Assessment Work - Pre-op=Pre Operational, Post-op=Post Operational, PSI=Point Source Impact, WLA=Waste Load Assimilation Prelim=Preliminary, Stream Class.=Stream Classification, Insp.=Inspection

15. Organics sampling of sediment near the discharge of Union Camp in Tomah. (Planned activity for FY83, but due to permit re-issuance timing, done early.)

VII. Summary of Assessment Needs and Work to be Conducted in FY83

It is the intent of this section to present all of the water quality evaluation needs in the West Central District for FY83. The amount of work which will be done to fulfill these needs is also indicated. For information on work in FY82 the reader is referred to the section entitled Work Status Update for FY82. To find the time allowed for each FY83 project and the quarters when the work will be done, see Tables III and IV.

Lower Chippewa River Basin Assessment Needs

Point Source Impact Studies - All sites requring study in the basin will be sampled as indicated on Table III. The table also shows that all current and proposed studies in the basin will be completed in FY83 except for macroinvertebrate identification and report preparation at Fall Creek, Stanley, Wilson and Woodville. Of the 16 industrial point sources identified as needing evaluation (Table V), 2 have already been incorporated into municipal PSIs (Bush Brothers - Augusta and Ellsworth Coop creamery) and the remaining 14 sites will not be investigated in FY83 due to lack of available time.

Non-Point Source Evaluation - As indicated on Table IV, the West Central District will develop strategy and do biotic index resampling for progress evaluation in the Elk Creek and Hay River priority watersheds.

Significant Water Quality Areas - With conclusion of Benchmark Lake Program, no work is scheduled.

Upper Wisconsin River (Section III) and Upper Chippewa River Basin Assessment Needs

Due to the small area and few point sources in the West Central District portion of these basins, no evaluations are planned for FY83.

Baraboo-Lemonweir River Basin Assessment Needs

Point Source Impact Studies - As indicated on Table III, all three study sites will be sampled, however only the Tomah report will be completed in FY83. Only Warner Creek Cheese is scheduled for evaluation in FY83 in conjunction with the Hillsboro pre-op PSI.

Non-Point Source Evaluation - No work planned.

Significant Water Quality Areas - No work planned.

	FY82		FY83
NPS strategy and monitoring	16		120
Preliminary assessment	120		160
Basin assessment (PSI)	1765		2619
Monitoring	50	(360)	410
Phosphorous ban	30		--
Benchmark lakes	12	(194)	--
Effluent limit setting			
Stream classification	50		96
Attainability analysis	--		*700
Waste load assimilation	360		400
Other	30		--
Misc. special investigations	150		180
	2583	554	4685

*300 hours from Water Quality Evaluation, 100 hours from Wastewater and 300 hours from Planning.

At 1,820 hours/year, these person hours equate to 2.35 person years of work in FY83 with the remaining .65 person years going to inland lake renewal, aquatic nuisance control, information and education, professional development, and general administration work activities.

Equipment available should be adequate to support the conduct of all study work initiated. However, any future limits on travel expense money may impact the planned work for FY83.

VI. Work Status Update for FY82

Because this basin assessment is encompassing two years of West Central District Water Quality Section operations and because the assessment is being submitted at the end of the first year, an update on accomplishments in FY82 using the previously mentioned resources is included. Routine activities proceeded as planned in the areas of aquatic nuisance control, ambient monitoring and inland lake renewal. The phosphorous ban report was completed and benchmark lake sampling concluded. Also, the WLA studies at Tomah, Augusta and Owen were completed.

Field sampling was completed on the Elk Mound, Cornell, Bloomer, Cochrane, River Falls and Greenwood pre-ops. At River Falls it was decided, after summer sampling, to stop further study due to the lack of an existing water quality limited situation. Sampling was conducted at Cornell which included only spring and fall sampling. The Bloomer study was concluded after one winter sampling, due to the lack of a water quality limited situation and a planned Operation and Maintenance effort at the facility. All sampling at Tomah and Augusta post-ops was completed.

Pre-operative studies began in the winter of 1982 and will continue for 4 full seasons at Westby, Fall Creek and Holmen. Post-

operative studies at Ellsworth and Ridgeland are also following the same time frame. The post-op at Eau Claire began with sampling in fall of 1981. The stream gauging for pond drawdown was completed at Glenwood City.

Intensive study reports were finalized for the studies at Eau Claire (pre-op), Grassland, Loyal, Wilson and Woodville. Completed field work awaiting write-up includes Owen, River Falls, Greenwood, Tomah, Elk Mound, Cochrane, Augusta and Cornell. A number of these studies still require identification of macroinvertebrates.

Additional (unplanned) work which came up during the year included:

1. Stream classifications and reports and Glenwood City, New Auburn and Wilson.

2. Report on Lake Pepin fecal contamination study.

3. Report on Beaver Creek water quality related to wetland dredging and cropping.

4. Report on small watershed non-point source pollutant runoff.

5. Post 83 strategy discussion group participation.

6. Stream classification guidelines development assistance.

7. Lowes Creek/Eau Claire storm sewer water quality impact evaluation.

8. Muddy Creek Waterfowl Production Area Impact Study - progress monitoring and data interpretation.

9. Salt whey pond water pollution complaint investigation and report at Foremost Blue Moon Cheese in Thorp.

10. Whey disposal pollution investigation and report at Wild Cherry Cheese in Thorp.

11. Whey disposal pollution investigation at Northland Foods in Owen. This investigation has been expanded to a full point source impact study to further define the problem.

12. Miscellaneous effluent limit setting work at Roberts, Fall Creek, Baldwin, Summit Cheese, Owen, Lynn Dairy, Clark County Health Care Center, Northern Engraving, Dorchester, Chili Milk Pool Coop., Rock Falls, Fabri-tec/Baldwin, Unity, Turtle Lake, Loyal, Greenwood Milk Producers, Woodville, Alma Center and AMPI-Blair.

13. Compile biotic index methods chronology.

14. Develop macroinvertebrate taxon reporting and computer storage method.

Additional Water Quality Basin Assessment Needs

Preliminary basin assessment for the Buffalo-Trempealeau River Basin.

Point source impact sampling at pre-op sites and report preparation as indicated on Table III under "other basins". Report priority is placed on post-op and field work complete sites.

Non-Basin Assessment Needs

Waste Load Assimilation Field Studies - Two complete studies at Ellsworth and either Thorp or Baldwin.

Small Stream Classification - Three classifications at Ellsworth, Boyd and either Thorp or Baldwin.

Attainability Analysis - One study including a waste load assimilation and a stream classification.

Fixed Station Chemical Monitoring - The West Central District has four state and six federal stations to be sampled monthly.

Miscellaneous Special Investigations - Unplannable, however, two such studies will probably develop in FY83.

VIII. Federal Fiscal Year Fourth Quarter Supplement

This supplement provides a basin assessment work plan for the fourth quarter of the federal FY83. The following work will probably be conducted during the quarter July, August and September, 1983:

Waste Load Assimilation Study - Four studies at sites yet to be determined.

Small Stream Classification - Four classifications to be started in this quarter - sites not yet determined.

Basin Assessment Intensive Studies - Post-operative study at Cochrane in Buffalo-Trempealeau River Basin is possible. Continue work on incomplete studies started in state FY83; Fall Creek, Stanley, Wilson, Woodville, Hillsboro, Kendall, Westby, Holmen, Alma Center and New Richmond.

Ambient Monitoring - Will be accomplished.

Attainability Analysis - It is possible that another attainability study will be started in this quarter.

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TABLE III

Time Needed to Complete WCD Intensive Point Source Impact Studies and Time Allocated in F

Study Site	Type	Starting Time	Sampling	Macroinvert. ID	Reporting	Total Time Needed	Tim	
Lower Chippewa Basin								
Elk Mound	Pre-op	FWC	---	---	80	80	8C	
Cornell	Pre-op	FWC	---	80	80	160	160	
Augusta	Post-op	FWC	---	80	80	160	160	
Fall Creek	Pre-op	Wi82	20	80	80	180	20	
Ellsworth	Post-op	Wi82	20	80	80	180	180	
Ridgeland	Post-op	Wi82	20	80	80	180	180	
Bloomer	Investigate	FWC	---	---	8	8	8	
Eau Claire	Post-op	Fa82	70	160	80	310	310	
Baldwin	Pre-op	Su82	40	80	80	200	200	
Boyd	Pre-op	Su82	40	80	80	200	200	-
Stanley	Pre-op	Su82	40	80	80	200	40	16
Wilson	Post-op	Su82	40	80	80	200	40	160
Woodville	Post-op	Su82	40	80	80	200	40	160
Baraboo-Lemonwier Basin								
Tomah	Post-op	FWC	---	80	80	160	160	---
Hillsboro	Pre-op	Su82	40	80	80	200	40	160
Kendall	Investigate	Su82	40	80	80	200	40	160
Other Basins *								
River Falls	Pre-op	FWC	---	---	80	80	80	---
Greenwood	Pre-op	FWC	---	---	80	80	80	---
Cochrane	Pre-op	FWC	---	---	80	80	80	---
Owen	Pre-op	FWC	---	80	80	160	160	---
Northland Foods	Permitting	Wi82	20	80	80	180	180	---
Westby	Pre-op	Wi82	20	80	80	180	81	99
Holmen	Pre-op	Wi82	20	80	80	180	20	160
Alma Center	Pre-op	Su82	40	80	80	200	40	160
New Richmond	Pre-op	Su82	40	80	80	200	40	160
Totals			550	1680	1925	4158	2619	1539

FWC - Field Work Completed

*The Upper Chippewa and Lower Wisconsin Basins have no scheduled point source studies in the West Central District.

TABLE IV

Time Needed, by Quarter, to Accomplish Preliminary Basin Assessment Goals

	Time Needed To Complete	1st QTR	2nd QTR	3rd QTR	4th QTR	Any QTR	Total for FY83	Carried Over to FY84
fication	1680	-	-	-	-	941	941	739
	1928	-	-	-	-	1128	1128	800
ield Sampling								
	70	30	20	-	20	--	70	--
	120	60	60	-	-	--	120	--
	360	90	90	90	90	--	360	--
	400	400	-	-	-	--	400	--
	700	216	16	16	184	268	700	--
	96	18	18	18	42	--	96	--
	120		40		40	40	120	--
	410	102	103	102	103	--	410	--
	-	-	-	-	-	--	--	--
ient	160	-	-	80	80	--	160	--
	166	74	30	6	56	--	166	--
Totals***	6210	990	377	312	615	2377	4671	1539
**	-	1168	1168	1168	1168	--	4671	--

inely done by West Central District Water Resource Management staff.

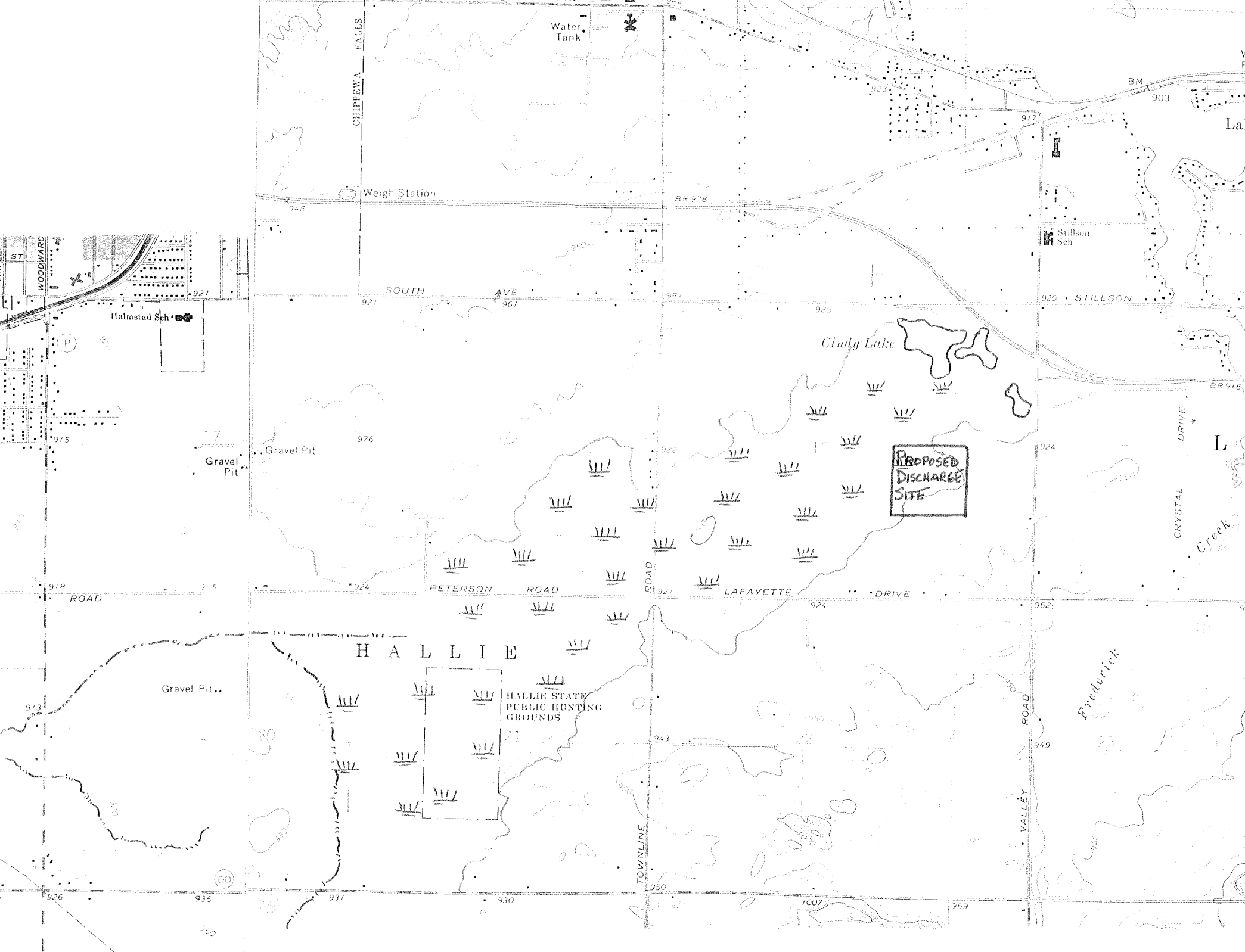
hours from Planning and 100 hours from Wastewater. Does not include 297 hours per quarter for unscheduled activities.

stigations time (180 hours) is not included.

TABLE V

Summary of Industrial Dischargers in Need of Evaluation

Lower Chippewa River Basin	Study Time Needed (Hrs)	Time Allowed
AMPI, Boyceville	4	0
Beatrice Foods, Menomonie	4	0
Bloomer Sand and Gravel	4	0
Bush Brothers, Augusta	16	Incorporated into Augusta PSI study
Dairymaid, Augusta	24	0
Edsedell Cheese, Cadott	8	0
Ellsworth Coop Creamery	8	Incorporated into Ellsworth PSI study
Falls Dairy, Cadott	4	0
Foremost Cheese, Thorp	32	0
Knapp Creamery	4	0
Mid America Dairy, Bloomer	4	0
N. Hendren Cheese, Willard	24	0
Pope & Talbot, Eau Claire	160	0
Stanley storm sewer	24	0
Summit Cheese, St. Croix Co.	16	0
Wild Cherry Cheese, Thorp	32	0
Baraboo-Lemonweir River Basin		
Clifton Coop Creamery	4	0
Union Camp, Tomah	4	4 in spring 82
Warner Creek Cheese, Hillsboro	4	0


Water Tank
CHIPPEWA FALLS
Weigh Station
BR 78
BM 903
Stillson Sch
SOUTH AVE
STILLSON
Halmstad Sch
Cindy Lake
BR 916
Gravel Pit
Gravel Pit
PROPOSED DISCHARGE SITE
CRYSTAL DRIVE
Creek
PETERSON ROAD
LAFAYETTE DRIVE
ROAD
HALLIE
Gravel Pit
HALLIE STATE PUBLIC HUNTING GROUNDS
TOWNLINE ROAD
VALLEY ROAD
Frederick

LAFAYETTE TOWNSHIP (CHIPPEWA FALLS), CHIPPEWA COUNTY

Wastewater Receiving Stream Classification

Receiving stream - Drainage area tributary to the Chippewa River.

Location - NE½, SE¼, S15, T28N, R8W.

The investigation and classification was performed to determine effluent limits for a proposed wastewater treatment facility for the LaFayette Township, a new expanding portion of the Chippewa Falls sewer service area. Request for the classification was made by Short-Elliot-Hendrickson, Inc., in the early stages of facility planning.

Inspection of the proposed discharge site showed the area to be wetlands type 2 - inland fresh meadows, type 3 - inland shallow fresh marshes, and type 6 - shrub swamps (U.S. Fish and Wildlife Service Circular 39, 1971), dominated by types 2 and 6.

The 1934, Chippewa Falls, 15-minute quadrangle topographic map shows channelized, intermittent stream flow through the drainage area to Wisconsin State Highway 53. However, on a more recent 1972, Chippewa Falls, 7.5-minute quadrangle topographic map, the channelization is no longer detectable. Presently, open channel flow is non-existent for the upper one mile of drainage area where it initiates in the NW¼ of Section 21.

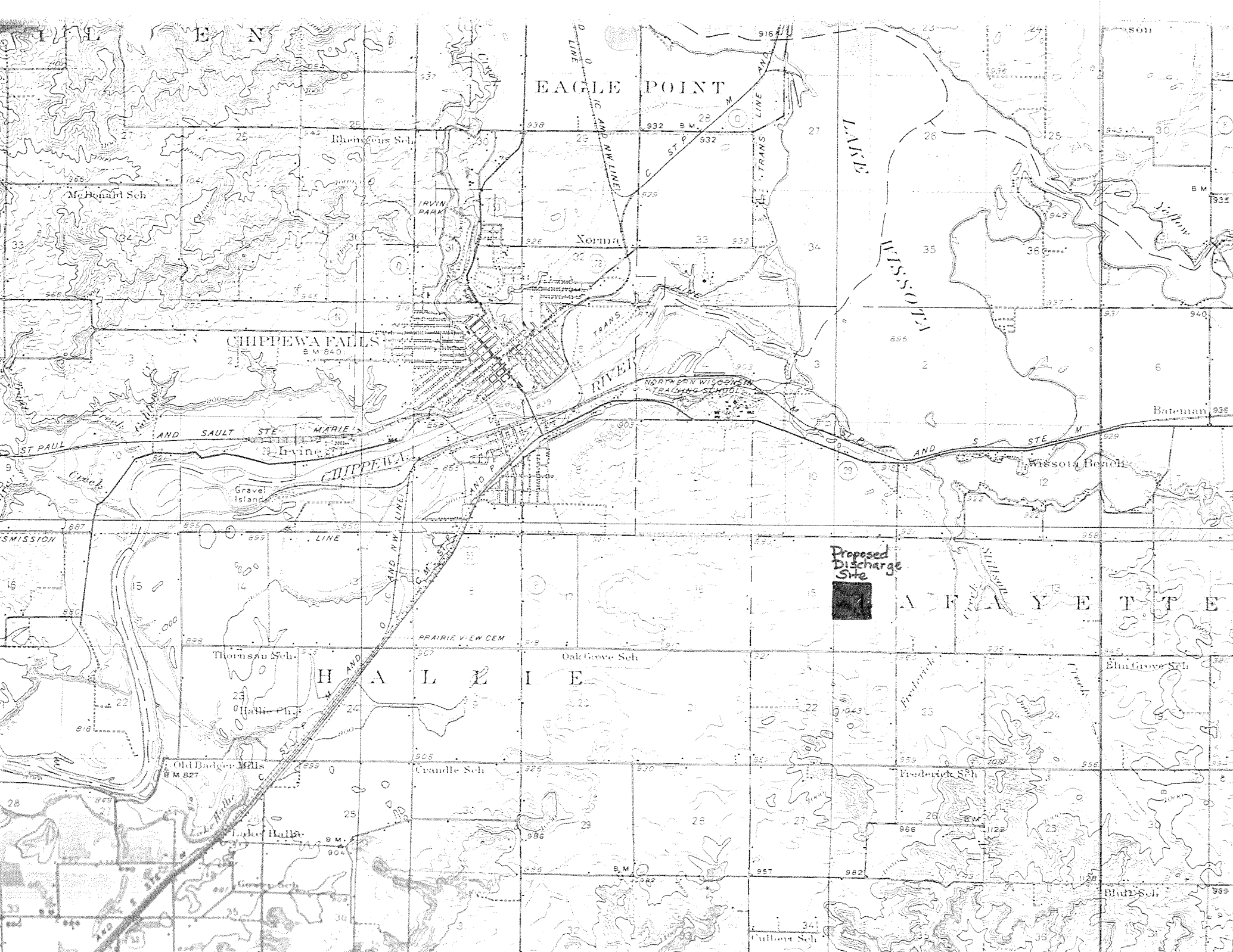
RECOMMENDATIONS:

The discharge area shall be classified as wetland.

EVALUATION DATE: February 28, 1978.

PERSONNEL:

Terry A. Moe - Water Pollution Biologist - WCD
Leonard N. Burr - Environmental Engineer


EAGLE POINT
CHIPPEWA FALLS
B M 840
Rhinegans Sch
McDonald Sch
IRVIN PARK
Norma
TRANS. LINE
LAKE WISSOTA
NORTHERN WISCONSIN TRACTING SCHOOL
Batemans
Wissota Beach
Irvine
Gravel Island
CHIPPEWA RIVER
ST PAUL AND SAULT STE MARIE
ST P AND S STE M
C AND NW LINE
Proposed Discharge Site
PRAIRIE VIEW CEM
Thornsau Sch
Oak Grove Sch
Elm Grove Sch
Hallie Ch
Old Badger Mills
B M 827
Crandle Sch
Frederick Sch
Lake Hallie
B M
Bluff Sch
Cullens Sch