

MINERAL POINT BRANCH TWA WQM PLAN 2017

MINERAL POINT AND SUDAN BRANCHES (SP09)



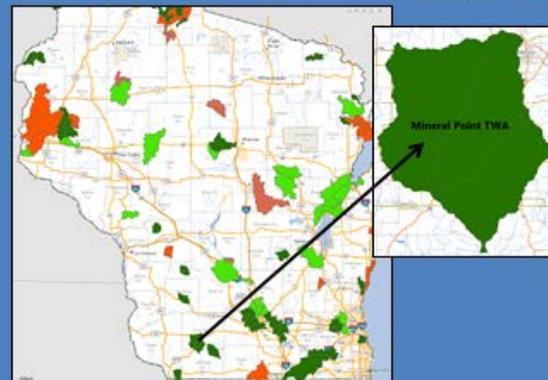
**Jim Amrhein, Southern
District WQ Biologist**



The Department owns a 360-acre parcel of land on Mineral Point Branch known as the "Davis Property". This property shows how managed grazing is compatible with wildlife management and stream health.

MINERAL POINT BRANCH TWA WQM PLAN 2017

Mineral Point and Sudan Branches (SP09)
HUCs: 070900030101, 070900030102, 070900030103
Monitored in 2015

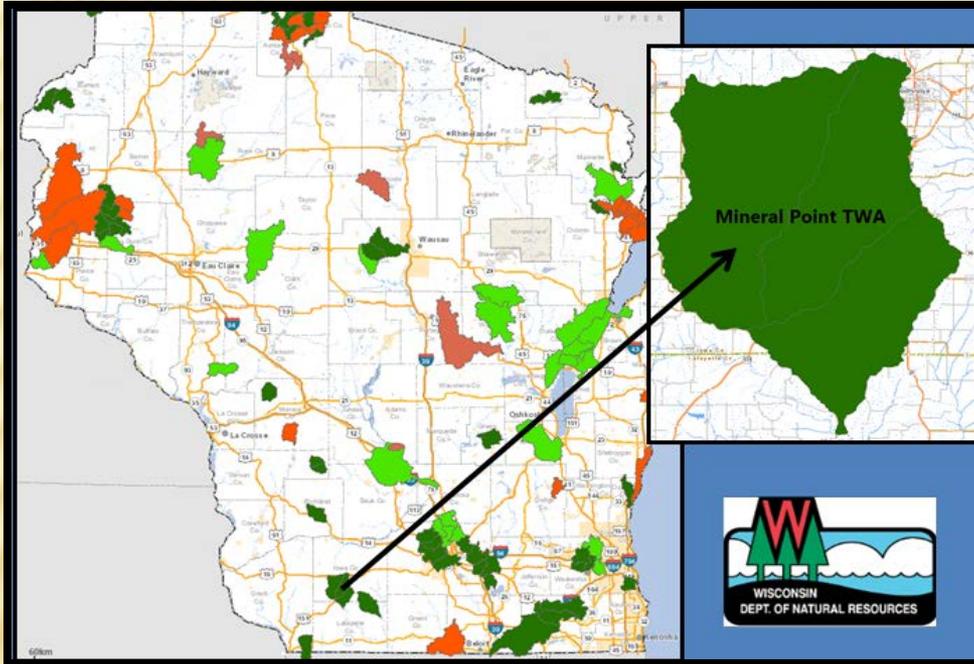


*A Watershed Report
created by the Bureau of
Water Quality in support
of the Clean Water Act.*



EGAD # 3200-2017-04
Water Quality Bureau,
Wisconsin DNR

MINERAL POINT TWA PROJECT LOCATION

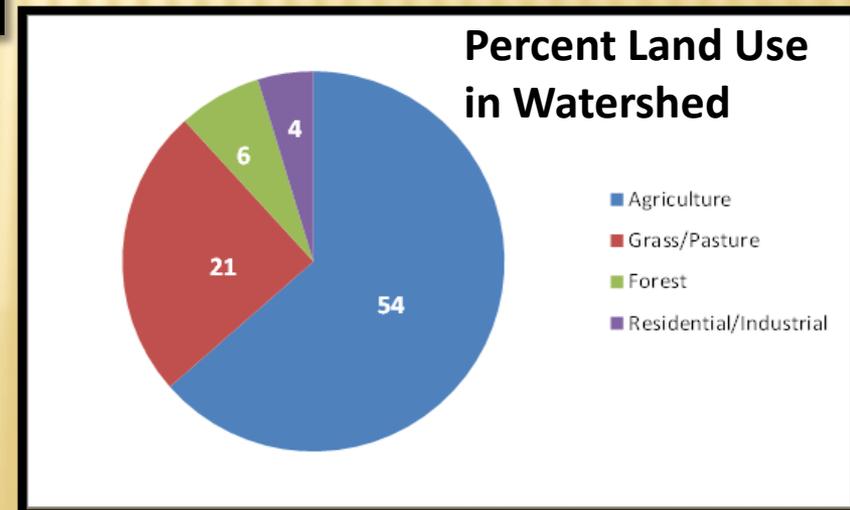


The Mineral Point Targeted Watershed Study was located in the ***Mineral Point and Sudan Branches Watershed*** in south-western Iowa County and dips into extreme northern Lafayette County

Mineral Point Branch and Sudan Branch are the two main streams that drain this area.

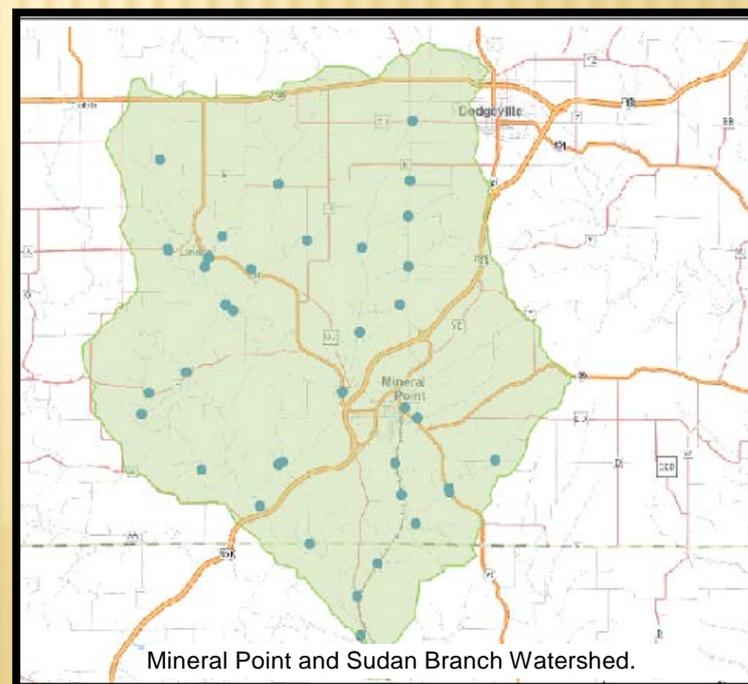
This watershed is dominated by **agriculture, grassland, and pasture**. This watershed contains row crops on hilltops and lesser sloped hillsides. Woodlands dot the steeper hillsides while many of the streams of this watershed flow through pastured meadows.

Wastewater from Linden and Mineral Point are discharged to surface water in the watershed.

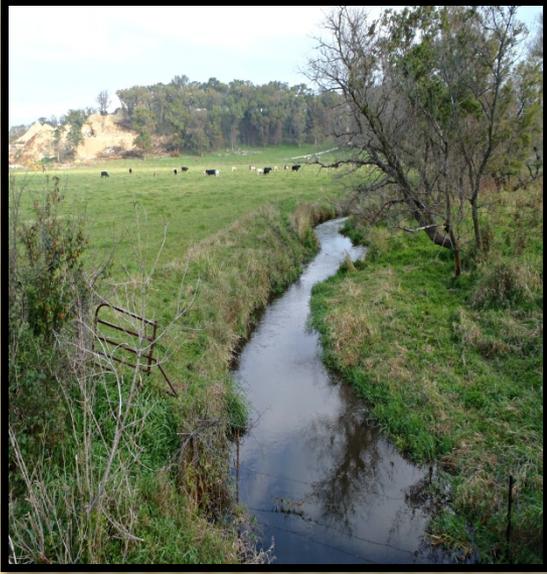


PURPOSE OF PROJECT

- ✘ Monitor contemporary status of Mineral Point Branch watershed.
- ✘ Collect: Fish, habitat, macroinvertebrate, and water chemistry data in streams.
- ✘ To determine if streams are attainable Water Quality Standards.
- ✘ Assess the overall health of the watershed.



STUDY RESULTS – FISHERIES & HABITAT

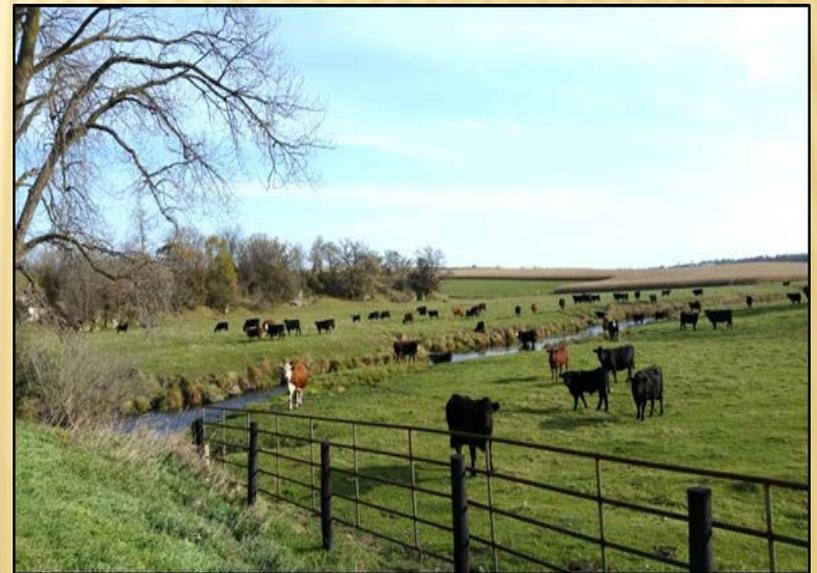


- Fair amount of diversity of nongame species .
- Coldwater species limited to certain streams.
- Qualitative habitat surveys were “fair” to “good” at all sites.
- Riparian buffer scores varied with 40% of sites having no buffer, primarily due to pasturing in the corridor.
- Fish habitat was “good” at most sites and included riffle/run complexes, some wood and overhanging vegetation, and deep water in the corners and thalweg on the larger systems.

- Of the game **species**, smallmouth bass were the most widely distributed, found in Laxey Creek, Mineral Point Branch, and Sudan Branch.
- Laxey Creek serves as a nursery stream for smallmouth, while Mineral Point and Sudan Branches hold good numbers of multi-year class fish.
- Stream biologic health by fish IBI values but generally shows good to excellent quality. As indicated earlier, most fisheries show the natural community to be cool-warm transitional.

MACROINVERTEBRATES & HABITAT

- Macroinvertebrates were collected at 28 sites in the watershed. The vast majority of MIBI scores and rankings were “poor” to “fair”, with several tributaries in the “good” ranking.
- HBI scores/rankings were in the “good” category indicating slight to some organic loading.
- The macroinvertebrate community, as seen in Table 8, tends to reflect the land use and to some extent the overall habitat score.
- The vast majority of scores (25 of 28) are in the “fair” to “poor” range.
- In the driftless region, localized stressors were of greater importance to explain the IBI than in other parts of the state.
- Livestock grazing measured disturbance intensity and indicated its proximity to the stream. A majority of stream sites had poor to fair buffer scores due to the prevalence of pasturing in stream valleys throughout the watershed.



MANAGEMENT PRIORITIES

- ✘ Streams of the Mineral Point and Sudan Branches watershed are in **good condition from a fisheries standpoint**.
- ✘ The main stems of Sudan Branch and especially Mineral Point Branch contain a **variety of species** and can provide a reasonable angling opportunity.

Goals:

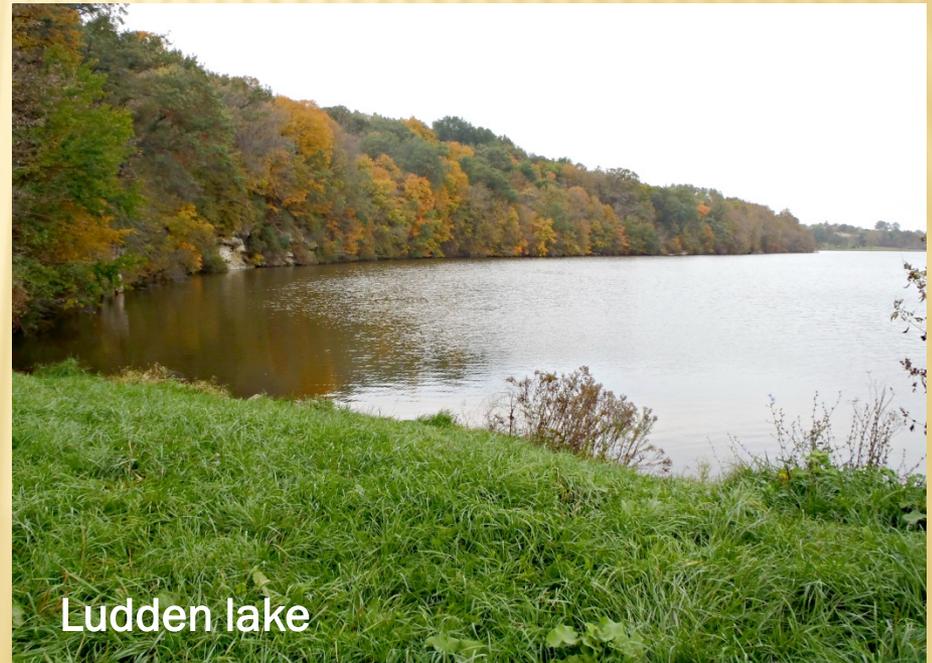
- ✘ There are impacts from nonpoint source pollution as evidenced by MIBIs and the habitat scores.
- ✘ Bank erosion has exacerbated the widening of streams and led to a depressed width-to-depth ratio score and rating.
- ✘ Managed grazing (appropriate numbers of livestock for the acreage), rotational grazing, and stream crossings should be employed in the riparian corridors to help maintain sod cover and help mitigate bank erosion and trampling.
- ✘ Goal is to reduce the rate of stream widening. In areas row cropped, buffers, cover crops, no-till farming and implementation of nutrient management plans would help reduce bank erosion and runoff of sediment and nutrients to the systems.

RECOMMENDATIONS

- ✘ Determine reason for lack of trout returns in the upper Sudan Branch and in Rock Branch and to determine if it is practical to continue stocking efforts on these two streams
- ✘ Consider the lower half of Laxey Creek as a managed smallmouth bass water (nursery stream) as it may be hospitable for some production of bass.
- ✘ Work with Southwest Grasslands and Stream Conservation Area and Southwest Grasslands Bird Conservation Area. Identify areas which would overlap as a priority for these programs, such as the upper Mineral Point watershed.
- ✘ Ludden Lake should be added to the state's 303(d) list of impaired waters because levels of total phosphorus and chlorophyll a exceed criteria and thresholds for shallow lowland lakes (2018 Listing) .
- ✘ Decrease soil and nutrient loss upstream of Ludden Lake to improve water clarity, enhance macrophyte growth, and maintain the depth of the lake system which has been decreased over time due to sediment loads from upstream.
- ✘ Update the classifications of Brewery Creek, Furnace Branch, Laxey Creek to reflect the biota using a contemporary classification system.

RECOMMENDATIONS

- **Total phosphorus** exceeds the state criteria of 0.075 mg/l and thus Mineral Point Branch will remain on the state's 303(d) list of impaired waters. Nonpoint source best management practices would also help reduce phosphorus delivery to the stream.
- **Fisheries management** has several recommendations for Mineral Point Branch: no stocking of fish, maintaining the current size regulations, develop projects which would provide more habitat for smallmouth bass, especially the creation of deep pools and runs to hold adults year round. Below Ludden Lake specifically, fisheries management recommends looking at efforts to secure streambank easements.
- There are a number of perched culverts on the tributaries that feed the upper Mineral Point Branch along Survey Road. The department should look for opportunities to work with the county and townships to properly replace these culverts.



Ludden lake

FOR MORE INFORMATION

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- × WQM Plan Website