



# SALT STORAGE NEEDS REPORT

2021-2022

Wisconsin Department of Transportation  
Division of Transportation System Development  
Bureau of Highway Maintenance  
Winter Operations Unit

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# 1 Introduction

## ABOUT THIS REPORT

The Wisconsin Department of Transportation (WisDOT) is responsible for the winter maintenance of state and federal highways, and collaborates with 72 county highway departments to do so. Timely application of salt and liquid brines, along with appropriate application rates, are vital to efforts to keep highways free of snow and ice. Every county stores salt for use on state and federal highways, and WisDOT finances that salt and its storage to ensure adequate supply.

The purpose of this report is to document salt storage capacities in sheds that have been funded by WisDOT so that investment in new facilities can be prioritized to areas of greatest need.



Walworth County, Site ID 2-64-202-1

## EXECUTIVE SUMMARY OF FINDINGS

Ensuring each county has adequate storage capacity for state salt needs each winter is a priority for WisDOT. Based on WisDOT data over the past five years, the state uses an average of 451,693 tons of salt annually. The state's target capacity is 125 percent of average annual usage, which equals 564,616 tons. Ideally, each county, region and the state as a whole will have state-funded capacity to store 125 percent of the five-year average annual usage. Only the Northwest Region did not have the capacity to meet this 125 percent target.



Florence County, Site ID 4-19-6-2

As outlined in the following pages, over half of Wisconsin counties have adequate salt storage capacity.

Of Wisconsin's 72 counties, 63% meet the target capacity. The counties furthest from meeting target capacities, based on total tonnage, include Barron, Outagamie, Dunn, Monroe, Washburn, and Milwaukee Counties. Together these six counties exceed the 8,877 ton statewide gap between functional capacity and target capacity, or 46 percent of the total new storage capacity needed (38,565 tons) to bring every county up to the target capacity.

The need for investment in salt storage is also increased by the need for repair or replacement of existing facilities. Based on shed condition evaluations in 2022 (described in Chapter 4), 11.1% of the State's functional capacity (89,380 tons) is in sheds that are considered to be in poor condition. Poor condition represents a shed with need of a major improvement or which will require replacement within the next five years.

# 2

# Statewide Salt Storage

## WHY SALT STORAGE MATTERS

Salt use varies from year to year. For example, the 2020-2021 winter season was mild and county crews applied 324,265 tons of salt to Wisconsin's state and federal highways. This was 52% less than the peak year of 2013-2014, when 669,807 tons were used. The cost of salt, more than \$25 million in 2020-2021, is directly affected by the storage capacity in each county.

Each county manages the salt during the winter season, typically purchased through a state bid arranged by WisDOT. Counties and municipalities can participate in the state bid to benefit in the combined buying power of Wisconsin governmental agencies. The current bid structure separates the salt bid into three categories: early-fill, seasonal-fill and vendor reserve.

Early-fill salt must begin after the salt contract award date with all orders in by August 31st and delivered by December 1st, unless otherwise agreed. With early-fill salt, the vendor has the flexibility to deliver the salt between the award date of the salt bid and December 1st.

Seasonal salt is delivered during the winter season and is needed in counties which lack sufficient storage for an average winter. Seasonal salt must be delivered within 10 business days of the order being placed. The amount and cost of the early-fill and seasonal-fill salt, including material and delivery, is set by the salt bid contract. Per the terms of the salt contract, the tonnage of salt identified as seasonal-fill must be purchased and stored. In the event of a milder than normal winter and all the seasonal salt was not ordered and cannot be stored in a shed, the vendor(s) will store the salt for a monthly storage fee. This fee can be as high as \$10 per month per ton of salt stored.

Vendor reserve salt is salt that the vendor is required to have on hand for purchase during winters that are worse than average. Unlike seasonal-salt, purchase of vendor reserve salt is not guaranteed or required. The vendor reserve quantity can equal up to 20% of the total of early-fill and seasonal-fill salt quantities.

The unit cost is generally the same for early, seasonal and vendor reserve salt. The early-fill salt provides the greatest flexibility with delivering salt to the respective sheds; however, the availability of trucks may make delivery more difficult and costly. These conditions could increase the cost of early, seasonal and vendor reserve salt on future bids and likely precludes some potential vendors from bidding on the state salt contract.

The state could increase its material availability by purchasing more salt as early-fill. Having more salt available as early-fill, the potential of running out decreases due to delivery conflicts. To purchase more salt as early fill, the state needs more storage capacity. Even with additional capacity, some seasonal salt would still be necessary. However, additional storage capacity could reduce the need to pay the vendor to store unused seasonal-salt.



Jefferson County, Site ID 1-28-512-1

## METHODOLOGY - SETTING THE TARGET CAPACITY

To calculate each county and region’s target capacity, the average annual salt use for each county for the past five winters is calculated. The average annual salt use is then multiplied by 125 percent to establish the target capacity. The 2020-2021, 5-year average annual salt use is 451,693 tons and the target capacity is 564,616 tons. To put this in context, the greatest single-season use of salt in the last decade was 669,807 tons of salt used during the 2013-2014 winter season. This is 148 percent of the 2020-2021 five-year average. The 125 percent target capacity is intended to eliminate the need for seasonal and vendor reserve salt in most counties during most years.

All storage capacities referenced herein describe state financed functional and target capacities. Functional capacity is the amount of salt a facility can store based on factors such as loading equipment and practices, and is generally less than the full design capacity. The "state financed" descriptor indicates that this report evaluates only sheds and storage that is state-funded and committed for salt used on state and federal highways. State financed facilities are those facilities where WisDOT has funded a percentage of the cost to construct, relocate or remodel a salt storage facility.

## STATEWIDE FINDINGS

Statewide, storage facilities supported by WisDOT are equipped to effectively hold 645,442 tons. Based on the 125 percent target capacity, the state’s total storage capacity should be 564,616 tons, indicating that the state's functional capacity exceeds its target capacity by 80,826 tons. However, this state-wide surplus does not reflect individual counties that failed to meet their 125 percent target.

**Table 2.1. Regional and Statewide Capacity Needs**

The aggregate storage needed to meet the target capacity in every county is 38,565 tons.

Region	Current State Financed Functional Capacity	Target Capacity (125% of average use)	Capacity Needed to Meet Target*
Southwest	194,554	146,077	Target Met
Southeast	138,880	112,372	Target Met
Northwest	121,409	130,286	8,877
Northeast	82,472	82,044	Target Met
North Central	108,127	93,837	Target Met
State Total	645,442	564,616	Target Met

The gap between current and target capacity is greatest in the Northwest region. All other regions met their target capacity. 55 percent of the counties in the Northeast Region did not meet the target capacity for each individual county.

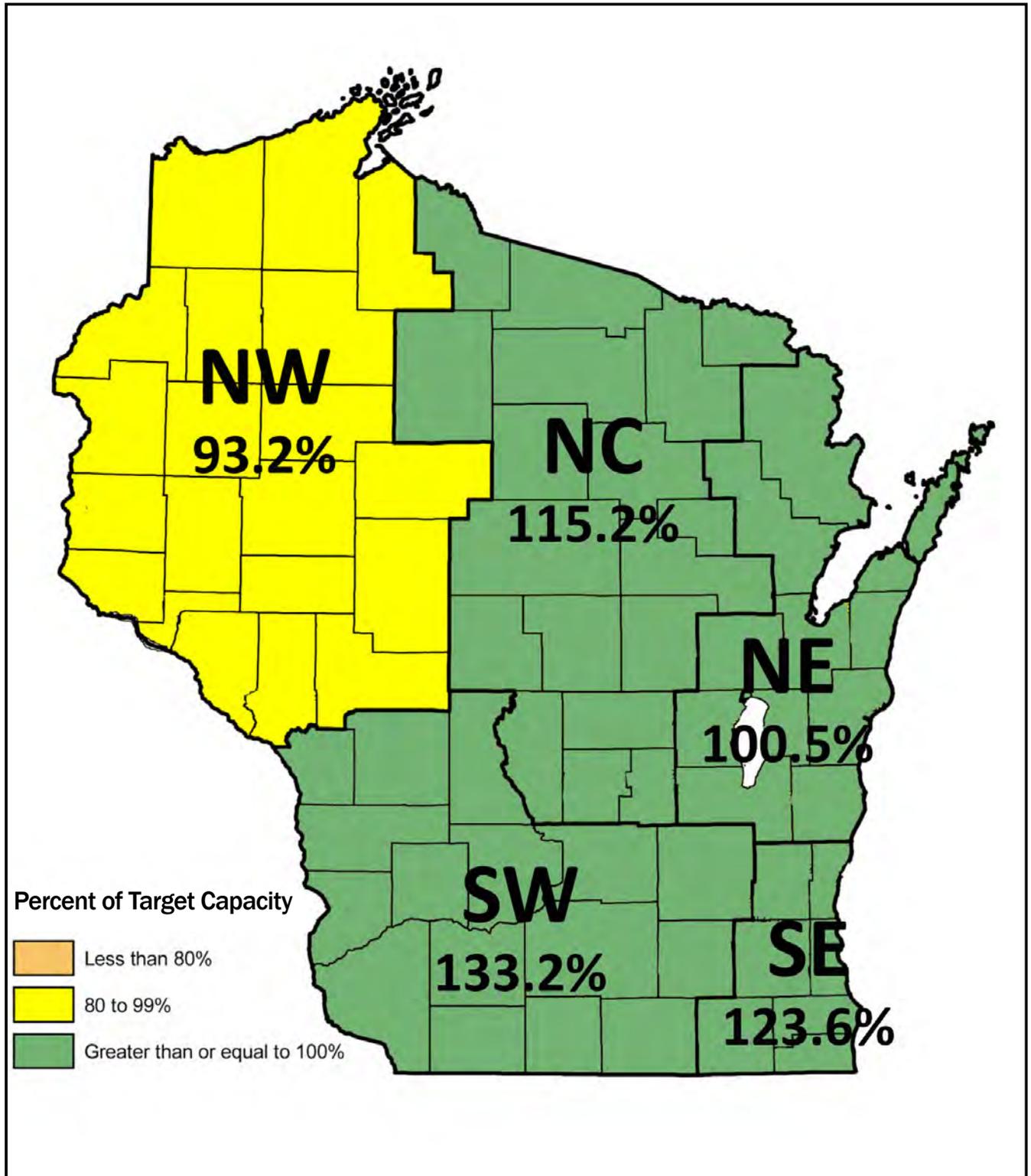
A region's ability to meet target capacity is a function of the average annual salt use for each county for the past five winters. In 2022, target capacities for the regions increased between 6 and 32 percent from 2018. Target capacities are variable and can create challenges when planning for subsequent winters.

\*In this table, Capacity Needed to Meet Target is the difference between current and target capacity within each region. These region and state totals include storage capacities that exceed the target in some counties, and therefore under represent the capacity needed to bring all individual counties up to the target storage capacity.

The percent of actual storage capacity relative to target capacity for WisDOT regions and individual counties is provided in Figures 2.1 and 2.2. These figures show where WisDOT has adequate salt storage capacity and where additional storage capacity is required.



Figure 2.2. 2022 State Financed Functional Capacity as Percentage of Target Capacity (By Region)



## COUNTY FINDINGS - NORTH CENTRAL REGION

The North Central region is currently able to store 108,127 tons of salt. The region must increase its storage capacity by 6,101 tons to meet its 125 percent target capacity in every county.

61% of counties met their target storage capacity, with 7 counties having adequate space to store more than 130 percent of their target capacity. Seven of the 18 counties in the region are unable to store their target capacity of salt.

WisDOT financed a new shed in Wood county in FY22 in the City of Marshfield. This shed added 2,500 tons of state funded capacity. Three sheds at that location will be discontinued:

- Wood County, 4-71-55-2 (600 tons, NOT RATED)
- Wood County, 4-71-55-3 (725 tons, POOR)
- Wood County, 4-71-55-4 (675 tons, DECLINING)

Note: WisDOT is planning to construct one new shed in Shawano County in FY22 in the Town of Angelica. This shed will add 2,000 tons of state funded capacity, and is not included in the table below.

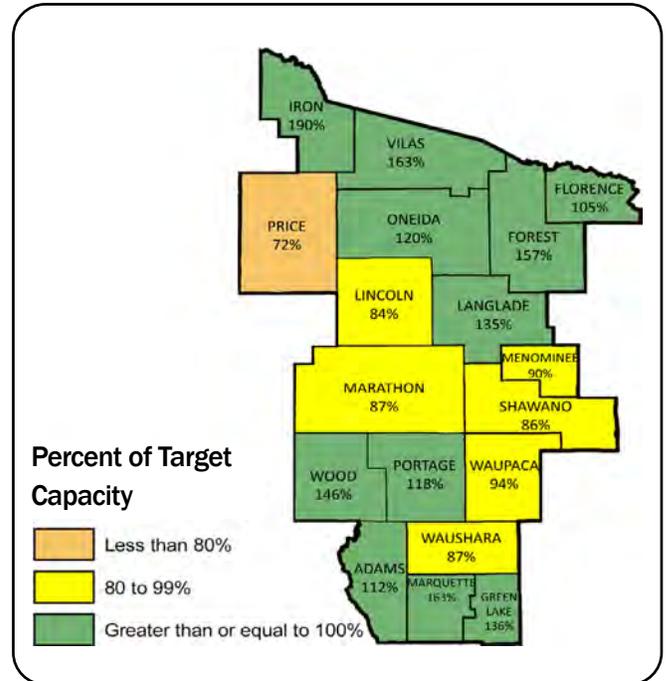


Table 2.2. North Central Region Capacity Needs

County	Current State Financed Functional Capacity (Tons)	Target Capacity (125% of average use) (Tons)	Capacity Needed to Meet Target* (Tons)
Marathon	10,393	11,958	1,565
Price	3,560	4,943	1,383
Shawano	6,670	7,798	1,128
Lincoln	4,748	5,657	909
Waupaca	8,650	9,163	513
Waushara	2,750	3,165	415
Menominee	1,750	1,938	188
Adams	3,625	3,246	Target Met
Florence	3,200	3,053	Target Met
Forest	8,970	5,719	Target Met
Green Lake	1,850	1,365	Target Met
Iron	9,250	4,868	Target Met
Langlade	4,339	3,221	Target Met
Marquette	4,500	2,759	Target Met
Oneida	8,176	6,794	Target Met
Portage	7,870	6,671	Target Met
Vilas	9,350	5,727	Target Met
Wood	8,476	5,791	Target Met
NC Total	108,127	93,837	6,101

\* The Capacity Needed to Meet Target is the aggregate shortfall for all counties that do not currently meet the target storage capacity. This number is less than the difference between the regional total current capacity and the regional total target capacity because some counties exceed the target storage capacity.

## COUNTY FINDINGS - NORTHEAST REGION

The Northeast region is currently able to store 82,472 tons of salt. The region must increase its storage capacity by 8,516 tons to meet its 125 percent target capacity in every county.

Six of the 11 counties in the region are unable to store their target capacity of salt.

*Note: WisDOT is planning on constructing one salt shed in Calumet County in FY23. This shed will add 2,000 tons of state-funded storage capacity, and is not included in the table below.*

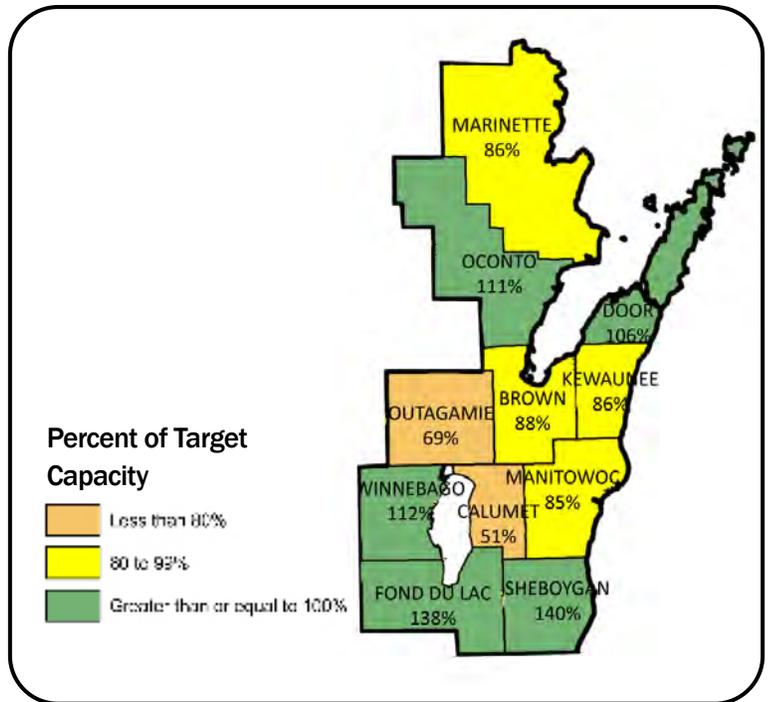


Table 2.3. Northeast Region Capacity Needs

County	Current State Financed Functional Capacity (Tons)	Target Capacity (125% of average use) (Tons)	Capacity Needed to Meet Target* (Tons)
Outagamie	6,700	9,763	3,063
Brown	14,854	16,954	2,100
Manitowoc	6,200	7,259	1,059
Calumet	1,100	2,153	1,053
Marinette	6,500	7,530	1,030
Kewaunee	1,250	1,461	211
Door	3,603	3,396	Target Met
Fond Du Lac	12,887	9,357	Target Met
Oconto	6,640	6,003	Target Met
Sheboygan	11,758	8,380	Target Met
Winnebago	10,980	9,788	Target Met
NE Total	82,472	82,044	8,516

\* The Capacity Needed to Meet Target is the aggregate shortfall for all counties that do not currently meet the target storage capacity. This number is greater than the difference between the regional total current capacity and the regional total target capacity because some counties exceed the target storage capacity.

## COUNTY FINDINGS - NORTHWEST REGION

The Northwest region is currently able to store 121,409 tons of salt. The region must increase its storage capacity by 18,134 tons to meet its 125 percent target capacity in every county.

Ashland, Pepin, and Taylor counties have adequate space to store more than 130 percent of their target capacity, while 11 of the 20 counties in the region are unable to store their target capacity of salt.

Note: WisDOT is planning on constructing two salt sheds in the NW region in FY22. These sheds are not included in the table below. The location of the new sheds and their state financed estimated functional capacities are as follows:

- Eau Galle, Dunn County (1,000 tons)
- Neillsville, Clark County (1,200 tons)

WisDOT is planning on abandoning the following shed within the next three years:

- Clark County, 5-10-1-1 (1,000 tons, POOR)

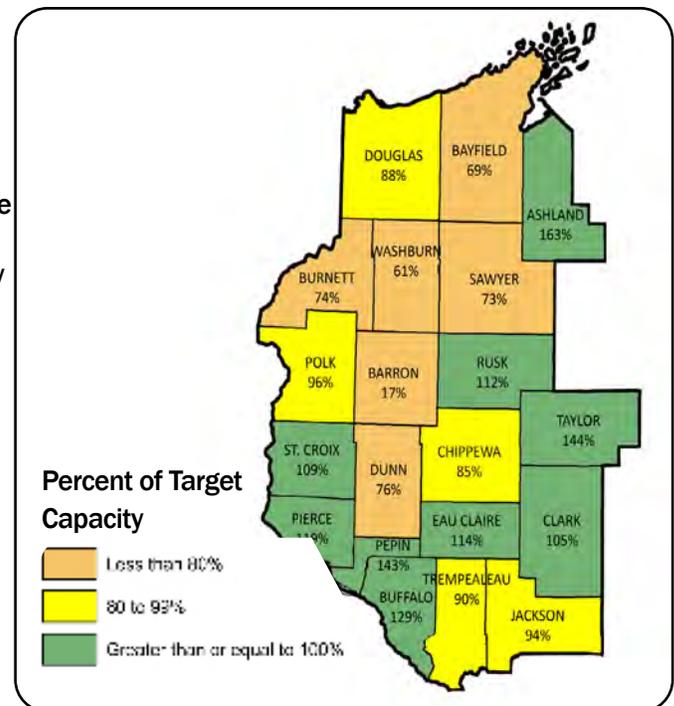


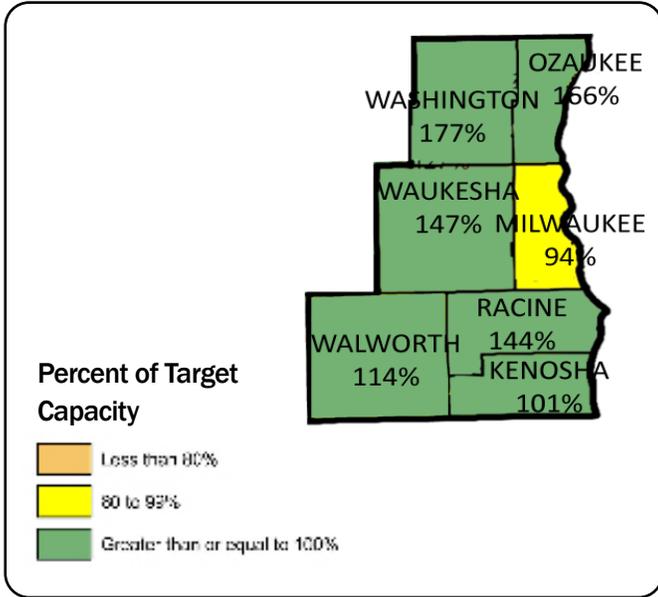
Table 2.4 Northwest Region Capacity Needs

County	Current State Financed Functional Capacity (Tons)	Target Capacity (125% of average use) (Tons)	Capacity Needed to Meet Target* (Tons)
Barron	960	5,525	4,565
Dunn	8,675	11,345	2,670
Washburn	3,980	6,543	2,563
Bayfield	4,300	6,249	1,949
Chippewa	9,500	11,184	1,684
Sawyer	3,500	4,771	1,271
Douglas	7,684	8,724	1,040
Burnett	2,300	3,112	812
Trempealeau	6,180	6,838	658
Jackson	9,117	9,713	596
Polk	7,250	7,576	326
Ashland	6,049	3,720	Target Met
Buffalo	3,850	2,984	Target Met
Clark	6,400	6,096	Target Met
Eau Claire	11,200	9,858	Target Met
Pepin	1,200	841	Target Met
Pierce	6,375	5,364	Target Met
Rusk	3,000	2,669	Target Met
Saint Croix	14,989	13,767	Target Met
Taylor	4,900	3,407	Target Met
NW Total	121,409	130,286	18,134

\* The Capacity Needed to Meet Target is the aggregate shortfall for all counties that do not currently meet the target storage capacity. This number is greater than the difference between the regional total current capacity and the regional total target capacity because some counties exceed the target storage capacity.

## COUNTY FINDINGS - SOUTHEAST REGION

The Southeast region has a state financed functional capacity of 138,880 tons. The region must increase its storage capacity by 2,278 tons to meet its 125 percent target capacity in every county.



Milwaukee County has the largest current functional capacity in both the region and the state (36,200 tons), but it is at 94 percent of its target capacity (38,478 tons).

The remaining six counties in the region all exceed their target capacity, with Ozaukee, Racine, Washington, and Waukesha meeting over 130% of their target capacity.

*Note: WisDOT is not planning on constructing any new sheds in the Southeast region in FY23.*

Table 2.5. Southeast Region Capacity Needs

County	Current State Financed Functional Capacity (Tons)	Target Capacity (125% of average use) (Tons)	Capacity Needed to Meet Target* (Tons)
Milwaukee	36,200	38,478	2,278
Kenosha	11,075	10,983	Target Met
Ozaukee	7,925	4,770	Target Met
Racine	18,000	12,487	Target Met
Walworth	15,730	13,836	Target Met
Washington	18,075	10,201	Target Met
Waukesha	31,875	21,617	Target Met
Total SE	138,880	112,372	2,278

\* The Capacity Needed to Meet Target is the aggregate shortfall for all counties that do not currently meet the target storage capacity. This number is less than the difference between the regional total current capacity and the regional total target capacity because some counties exceed the target storage capacity.

## COUNTY FINDINGS - SOUTHWEST REGION

The Southwest region is currently able to store 194,554 tons of salt. The region must increase its storage capacity by 3,535 tons to meet its target capacity in every county.

Only two of the 16 counties in the region are unable to store their target capacity of salt.

Note: WisDOT is planning on constructing five new salt sheds in the Southwest region over the next three years. These sheds are not included in the following table. The location of the new sheds and their state financed estimated functional capacities are as follows:

- La Crosse County (3,000 tons)
- Dodge County (1,000 tons)
- Monroe County (5,000 tons)
- Rock County (2,500 tons)
- Sauk County (2,000 tons)

WisDOT is planning on abandoning the following sheds within the next three years:

- Columbia County, 1-11-5-2 (900 tons, POOR)
- Dane County, 1-13-266-1 (1,850 tons, NOT RATED)

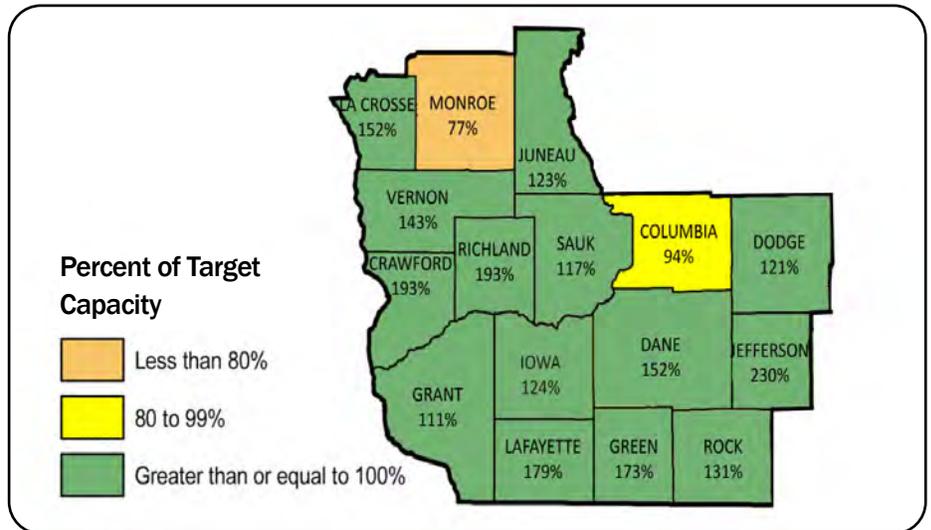


Table 2.6. Southwest Region Capacity Needs

County	Current State Financed Functional Capacity (Tons)	Target Capacity (125% of average use) (Tons)	Capacity Needed to Meet Target* (Tons)
Monroe	8,805	11,399	2,594
Columbia	15,408	16,349	941
Crawford	6,550	3,575	Target Met
Dane	52,900	34,801	Target Met
Dodge	13,800	11,412	Target Met
Grant	9,270	8,354	Target Met
Green	4,700	2,711	Target Met
Iowa	6,200	4,985	Target Met
Jefferson	12,812	5,559	Target Met
Juneau	10,800	8,766	Target Met
La Crosse	10,038	6,595	Target Met
Lafayette	4,300	2,408	Target Met
Richland	4,884	2,532	Target Met
Rock	14,000	10,661	Target Met
Sauk	12,137	10,393	Target Met
Vernon	7,950	5,578	Target Met
SW Total	194,554	146,077	3,535

\* The Capacity Needed to Meet Target is the aggregate shortfall for all counties that do not currently meet the target storage capacity. This number is less than the difference between the regional total current capacity and the regional total target capacity because some counties exceed the target storage capacity.

# 3

# Shed Condition Inspections

Inspections assessing the physical condition of state financed salt sheds were completed by a consultant hired by WisDOT in 2022. The purpose of these inspections is to evaluate the condition of state financed sheds. The results of these inspections are used to help create a capital improvement plan (CIP) for state financed salt sheds. The CIP could be used to identify maintenance actions to extend the service-life of existing sheds or identify where investments in new state financed salt sheds are most needed.

## METHODOLOGY - COMPONENT RATING

The inspection of each shed evaluated the following components:

- Apron and pad,
- Ceiling and roof,
- Walls, and
- Doors

Each component was rated as "excellent", "good", "okay", "poor" or "bad". If a component was rated as "excellent" it received one (1) point, "good" received two (2) points, "okay" received three (3) points, "poor" received four (4) points and "bad" was given five (5) points. Photos were taken of any components rated as "poor" or "bad".

## METHODOLOGY - WEIGHTING

To summarize the inspection of each shed into a system that would facilitate direct comparisons between all state financed sheds, each component was assigned a factor that correlated to the goals of the inspections:

- Structural integrity of the shed, and
- Protecting salt from rain, sleet and snow

The higher the factor, the greater the importance to achieving the primary goals of the shed. Apron and pad were assigned a factor of one (1), ceiling and roof was assigned a factor of ten (10), walls were assigned a factor of seven (7) and doors were assigned a factor of five (5). For example, if the ceiling and roof condition is rated as "poor" (four points), with a factor of ten, the roof and ceiling component would receive a weighted score of 40.

## METHODOLOGY - OVERALL SHED RATING

The weighted scores of the shed components were summed giving each shed a single, total score. The total scores of all state financed sheds were ranked using an ordinal scale. The mean shed condition rating was 48.65. The highest (or worst condition) score was 96 and the lowest (or best condition) was 23. The scores were categorized using the standard deviation of the overall shed scores (which was 12.85). The categories and the scores that make up each are defined below:

- Poor (61-115)
- Declining (48-60)
- Adequate (35-47)
- Excellent (23-34)

The rating scale is a starting point to help identify sheds in the poorest conditions. There are several components that should be considered when deciding which sheds to replace or repair, such as whether the county has met its target capacity, age of sheds and the capacity of any nearby sheds. The following page includes examples of each of the four components and what a component in "poor" or "bad" condition looks like.



Cracked walls (Poor - 28 total points)



Severe cracking over entire apron (Bad - 5 total points)



Ceiling trusses are damaged and not repaired (Poor - 40 total points)



No door present (Bad - 25 total points)



Weathered shingles-curling/missing (Poor - 40 total points)

## STATEWIDE FINDINGS

The following table summarizes the condition of the sheds and the total functional and state financed storage associated with each condition category.

**Table 3.1. Statewide Shed Condition Summary**

Shed Rating	Total Functional Capacity (Tons)	% of Total	State Financed Functional Capacity (Tons)	% of Total
POOR	89,380	11.1%	74,664	11.6%
DECLINING	93,838	11.6%	77,232	12.0%
ADEQUATE	316,951	39.3%	258,649	40.1%
EXCELLENT	217,075	26.9%	144,319	22.4%
NOT RATED	89,905	11.1%	90,578	14.0%
TOTAL	807,149	100.0%	645,442	100.0%

## COUNTY FINDINGS - NORTH CENTRAL REGION

The North Central region is currently able to store 108,127 tons of salt (119.1 percent of target capacity) in 63 state financed sheds. Of these 63 sheds, thirteen (26,240 tons of state financed functional capacity) are in poor condition.

Table 3.2. North Central Region Shed Condition Summary

Shed Rating	Total Functional Capacity (Tons)	% of Total	State Financed Functional Capacity (Tons)	% of Total
POOR	29,625	22.9%	26,240	24.3%
DECLINING	18,225	14.1%	13,928	12.9%
ADEQUATE	51,860	40.0%	40,670	37.6%
EXCELLENT	20,175	15.6%	17,544	16.2%
NOT RATED	9,700	7.5%	9,145	8.5%
<b>TOTAL</b>	<b>129,585</b>	<b>100.0%</b>	<b>108,127</b>	<b>100.0%</b>

Table 3.3. North Central Region Salt Shed Conditions

County	Site ID	Total Functional Capacity (Tons)	State Financed Functional Capacity (Tons)	Apron & Pad Score	Ceiling & Roof Score	Wall Score	Door Score	Total Score	Rating
Forest	4-21-9-3	450	450	2	40	28	10	80	POOR
Vilas	4-63-20-2	600	600	3	30	21	25	79	POOR
Marquette	4-39-138-5	2,200	2,200	3	50	14	10	77	POOR
Oneida	4-43-1-5	7,650	5,126	3	50	14	10	77	POOR
Vilas	4-63-20-1	1,100	1,100	3	20	21	25	69	POOR
Oneida	4-43-2-1	600	600	2	30	21	15	68	POOR
Wood	4-71-55-3	725	725	4	20	28	15	67	POOR
Forest	4-21-155-1	7,650	7,650	2	40	14	10	66	POOR
Langlade	4-34-13-1	4,100	3,239	2	40	14	10	66	POOR
Lincoln	4-35-14-2	950	950	3	20	28	15	66	POOR
Menominee	4-73-85-1	1,750	1,750	2	40	14	10	66	POOR
Oneida	4-43-1-2	950	950	2	30	14	20	66	POOR
Oneida	4-43-2-2	900	900	2	30	21	10	63	POOR
Waushara	4-69-57-1	550	550	2	20	21	15	58	DECLINING
Adams	4-01-7-1	550	550	3	30	14	10	57	DECLINING
Waushara	4-69-57-8	400	400	3	30	14	10	57	DECLINING
Marquette	4-39-138-1	2,000	1,300	2	30	14	10	56	DECLINING
Lincoln	4-35-15-4	850	850	3	20	21	10	54	DECLINING
Lincoln	4-35-14-4	4,400	2,948	2	20	21	10	53	DECLINING
Oneida	4-43-126-1	600	600	4	20	14	15	53	DECLINING
Portage	4-49-3-4	5,500	3,355	2	20	21	10	53	DECLINING
Marquette	4-39-42-3	1,000	1,000	3	10	14	25	52	DECLINING
Wood	4-71-55-4	675	675	3	20	14	15	52	DECLINING
Florence	4-19-106-2	200	200	2	20	14	15	51	DECLINING
Langlade	4-34-12-1	200	200	2	20	14	15	51	DECLINING

County	Site ID	Total Functional Capacity (Tons)	State Financed Functional Capacity (Tons)	Apron & Pad Score	Ceiling & Roof Score	Wall Score	Door Score	Total Score	Rating
Langlade	4-34-12-2	900	900	2	20	14	15	51	DECLINING
Waushara	4-69-57-9	400	400	2	30	7	10	49	DECLINING
Green Lake	4-24-5-5	400	400	3	20	14	10	47	ADEQUATE
Price	4-50-17-1	700	700	3	20	14	10	47	ADEQUATE
Shawano	4-58-97-2	440	440	3	20	14	10	47	ADEQUATE
Vilas	4-63-21-5	7,650	7,650	3	20	14	10	47	ADEQUATE
Waupaca	4-68-112-1	1,350	1,350	3	20	14	10	47	ADEQUATE
Waushara	4-59-57-2	400	400	3	20	14	10	47	ADEQUATE
Forest	4-21-110-1	870	870	2	20	14	10	46	ADEQUATE
Iron	4-26-23-2	1,600	1,600	2	20	14	10	46	ADEQUATE
Iron	4-26-24-3	7,650	7,650	2	20	14	10	46	ADEQUATE
Price	4-50-101-1	5,200	2,860	2	20	14	10	46	ADEQUATE
Waupaca	4-68-20-3	900	900	2	20	14	10	46	ADEQUATE
Waushara	4-69-56-5	400	400	2	20	14	10	46	ADEQUATE
Wood	4-71-54-1	1,450	812	2	20	14	10	46	ADEQUATE
Wood	4-71-51-3	2,300	1,219	2	20	14	10	46	ADEQUATE
Wood	4-71-51-4	1,700	1,700	2	20	14	10	46	ADEQUATE
Adams	4-01-200-1	3,000	1,500	2	20	14	5	41	ADEQUATE
Shawano	4-58-326-5	3,500	2,730	2	20	14	5	41	ADEQUATE
Green Lake	4-24-7-4	650	650	3	20	7	10	40	ADEQUATE
Marathon	4-37-17-1	800	704	1	20	14	5	40	ADEQUATE
Marathon	4-37-9-1	6,000	2,820	1	20	14	5	40	ADEQUATE
Green Lake	4-24-7-3	400	400	3	10	14	10	37	ADEQUATE
Portage	4-49-3-3	3,900	3,315	2	10	14	10	36	ADEQUATE
Waushara	4-69-59-2	600	600	2	10	14	10	36	ADEQUATE
Adams	4-01-217-1	1,575	1,575	2	20	7	5	34	EXCELLENT
Portage	4-49-0-1	1,200	1,200	2	20	7	5	34	EXCELLENT
Waupaca	4-68-18-1	1,000	1,000	2	20	7	5	34	EXCELLENT
Florence	4-19-6-2	3,000	3,000	2	10	7	10	29	EXCELLENT
Green Lake	4-24-5-7	400	400	3	10	7	5	25	EXCELLENT
Marathon	4-37-184-1	2,700	2,214	2	10	7	5	24	EXCELLENT
Marathon	4-37-183-1	3,300	2,310	2	10	7	5	24	EXCELLENT
Marathon	4-37-8-2	3,500	2,345	2	10	7	5	24	EXCELLENT
Shawano	4-58-99-4	3,500	3,500	2	10	7	5	24	EXCELLENT
Waupaca	4-68-400-4	5,400	5,400	not rated	not rated	not rated	not rated	not rated	NOT RATED
Wood	4-71-55-2	600	234	not rated	not rated	not rated	not rated	not rated	NOT RATED
Wood	4-71-51-1	1,200	636	not rated	not rated	not rated	not rated	not rated	NOT RATED
Wood	4-71-55-9	2,500	2,475	not rated	not rated	not rated	not rated	not rated	NOT RATED
NC Averages	--	--	--	2.4	22.0	14.4	10.7	49.4	ADEQUATE
NC Totals	--	129,585 tons	108,127 tons	--	--	--	--	--	ADEQUATE

## COUNTY FINDINGS - NORTHEAST REGION

The Northeast region is able to store 82,472 tons of salt (97.4 percent of target capacity), in 44 salt sheds. Of these 44 sheds, only one (2,000 tons of state financed functional capacity) are in poor condition.

**Table 3.4. Northeast Region Shed Condition Summary**

Shed Rating	Total Functional Capacity (Tons)	% of Total	State Financed Functional Capacity (Tons)	% of Total
POOR	4,000	4.0%	2,000	2.4%
DECLINING	3,440	3.5%	3,440	4.2%
ADEQUATE	67,093	67.5%	56,254	68.2%
EXCELLENT	0	0.0%	0	0.0%
NOT RATED	24,930	25.1%	20,778	25.2%
<b>TOTAL</b>	<b>99,463</b>	<b>100.0%</b>	<b>82,472</b>	<b>100.0%</b>

**Table 3.5. Northeast Region Salt Shed Conditions**

County	Site ID	Total Functional Capacity (Tons)	State Financed Functional Capacity (Tons)	Apron & Pad Score	Ceiling & Roof Score	Wall Score	Door Score	Total Score	Rating
Fond du Lac	3-20-202-1	4,000	2,000	2	40	14	10	66	POOR
Oconto	3-42-305-1	240	240	2	20	14	15	51	DECLINING
Oconto	3-42-53-4	3200	3,200	2	20	14	15	51	DECLINING
Brown	3-05-87-1	1,050	434	2	20	14	10	46	ADEQUATE
Brown	3-05-88-4	1,244	1,244	2	20	14	10	46	ADEQUATE
Brown	3-05-91-3	1,376	1,376	2	20	14	10	46	ADEQUATE
Brown	3-05-86-4	2,800	2,800	2	20	14	10	46	ADEQUATE
Brown	3-05-391-1	3,000	3,000	2	20	14	10	46	ADEQUATE
Brown	3-05-86-7	6,000	6,000	2	20	14	10	46	ADEQUATE
Calumet	3-08-74-5	1,100	1,100	2	20	14	10	46	ADEQUATE
Door	3-15-355-1	1,000	1,000	2	20	14	10	46	ADEQUATE
Door	3-15-360-1	1,000	1,000	2	20	14	10	46	ADEQUATE
Door	3-15-370-1	1,603	1,603	2	20	14	10	46	ADEQUATE
Fond du Lac	3-20-536-1	3,900	1,287	2	20	14	10	46	ADEQUATE
Fond du Lac	3-20-204-3	1,600	1,600	2	20	14	10	46	ADEQUATE
Kewaunee	3-31-256-1	240	250	2	20	14	10	46	ADEQUATE
Kewaunee	3-31-16-8	1,000	1,000	2	20	14	10	46	ADEQUATE
Manitowoc	3-36-23-1	1,500	750	2	20	14	10	46	ADEQUATE
Manitowoc	3-36-360-1	750	750	2	20	14	10	46	ADEQUATE
Marinette	3-38-111-3	1,500	1,500	2	20	14	10	46	ADEQUATE
Marinette	3-38-110-5	2,500	2,500	2	20	14	10	46	ADEQUATE
Marinette	3-38-115-5	2,500	2,500	2	20	14	10	46	ADEQUATE

County	Site ID	Total Functional Capacity (Tons)	State Financed Functional Capacity (Tons)	Apron & Pad Score	Ceiling & Roof Score	Wall Score	Door Score	Total Score	Rating
Oconto	3-42-52-1	3,200	3,200	2	20	14	10	46	ADEQUATE
Outagamie	3-44-2-1	450	450	2	20	14	10	46	ADEQUATE
Outagamie	3-44-7-1	600	500	2	20	14	10	46	ADEQUATE
Outagamie	3-44-9-1	1,500	750	2	20	14	10	46	ADEQUATE
Outagamie	3-44-7-4	3,000	3,000	2	20	14	10	46	ADEQUATE
Sheboygan	3-59-315-8	1,000	1,000	2	20	14	10	46	ADEQUATE
Sheboygan	3-59-58-6	1,180	1,180	2	20	14	10	46	ADEQUATE
Sheboygan	3-59-315-1	1,500	1,500	2	20	14	10	46	ADEQUATE
Winnebago	3-70-352-1	3,000	2,500	2	20	14	10	46	ADEQUATE
Winnebago	3-70-393-1	3,000	2,500	2	20	14	10	46	ADEQUATE
Winnebago	3-70-342-2	6,000	3,480	2	20	14	10	46	ADEQUATE
Winnebago	3-70-539-1	3,000	2,500	2	20	7	10	39	ADEQUATE
Outagamie	3-44-242-1	4,000	2,000	2	10	14	10	36	ADEQUATE
Fond du Lac	3-20-540-2	8,000	8,000	not rated	not rated	not rated	not rated	not rated	NOT RATED
Manitowoc	3-36-22-5	1,200	1,200	not rated	not rated	not rated	not rated	not rated	NOT RATED
Manitowoc	3-36-24-4	1,200	1,200	not rated	not rated	not rated	not rated	not rated	NOT RATED
Manitowoc	3-36-348-1	4,600	2,300	not rated	not rated	not rated	not rated	not rated	NOT RATED
Sheboygan	3-59-315-5	1,000	150	not rated	not rated	not rated	not rated	not rated	NOT RATED
Sheboygan	3-59-59-1	750	248	not rated	not rated	not rated	not rated	not rated	NOT RATED
Sheboygan	3-59-59-5	1,180	1,180	not rated	not rated	not rated	not rated	not rated	NOT RATED
Sheboygan	3-59-58-3	2,000	1,500	not rated	not rated	not rated	not rated	not rated	NOT RATED
Sheboygan	3-59-537-1	5,000	5,000	not rated	not rated	not rated	not rated	not rated	NOT RATED
NE Averages	--	--	--	2.0	20.3	13.8	10.3	46.4	ADEQUATE
NE Totals	--	99,463 tons	82,472 tons	--	--	--	--	--	ADEQUATE

## COUNTY FINDINGS - NORTHWEST REGION

The Northwest region's current state financed functional capacity of 121,409 tons (98 percent of target capacity) is stored in 81 sheds. Of these 81 sheds, nine (4,760 tons of state financed functional capacity) are in poor condition.

**Table 3.6. Northwest Region Shed Condition Summary**

Shed Rating	Total Functional Capacity (Tons)	% of Total	State Financed Functional Capacity (Tons)	% of Total
POOR	5,080	3.1%	4,760	3.9%
DECLINING	22,860	13.9%	19,184	15.8%
ADEQUATE	81,038	49.2%	61,940	51.0%
EXCELLENT	22,000	13.4%	11,670	9.6%
NOT RATED	33,675	20.5%	23,855	19.6%
<b>TOTAL</b>	<b>164,653</b>	<b>100.0%</b>	<b>121,409</b>	<b>100.0%</b>

**Table 3.7. Northwest Region Salt Shed Conditions**

County	Site ID	Total Functional Capacity (Tons)	State Financed Functional Capacity (Tons)	Apron & Pad Score	Ceiling & Roof Score	Wall Score	Door Score	Total Score	Rating
Clark	5-10-1-1	1,000	1,000	1	40	35	20	96	POOR
Barron	5-03-2-1	480	480	2	40	28	10	80	POOR
Trempealeau	5-61-808-1	1,000	1,000	2	30	21	15	68	POOR
Buffalo	5-06-501-1	1,200	1,200	2	40	14	10	66	POOR
Jackson	5-27-602-1	800	720	2	20	14	25	61	POOR
Trempealeau	5-61-807-1	600	360	5	20	21	15	61	POOR
Jackson	5-27-601-2	5,000	3,700	3	20	21	15	59	DECLINING
Dunn	5-17-2-1	325	325	2	20	21	15	58	DECLINING
Jackson	5-27-602-2	400	240	2	20	21	15	58	DECLINING
Burnett	5-07-25-1	1,100	1,100	3	30	14	10	57	DECLINING
Barron	5-03-10-1	480	480	2	20	14	20	56	DECLINING
Chippewa	5-09-7-4	1,250	1,125	2	30	14	10	56	DECLINING
Trempealeau	5-61-830-2	900	810	2	30	14	10	56	DECLINING
Dunn	5-17-1-2	1,000	1,000	3	20	21	10	54	DECLINING
Saint Croix	5-55-4-1	150	150	3	20	21	10	54	DECLINING
Clark	5-10-3-4	1,000	1,000	2	20	21	10	53	DECLINING
Douglas	5-16-28-1	320	320	2	20	21	10	53	DECLINING
Dunn	5-17-3-1	325	325	2	20	21	10	53	DECLINING
Dunn	5-17-1-1	1,700	850	2	20	21	10	53	DECLINING
Pierce	5-47-1-3	850	850	2	20	21	10	53	DECLINING
Taylor	5-60-3-1	1,800	1,800	2	20	21	10	53	DECLINING
Ashland	5-02-2-1	320	320	2	20	21	10	53	DECLINING

County	Site ID	Total Functional Capacity (Tons)	State Financed Functional Capacity (Tons)	Apron & Pad Score	Ceiling & Roof Score	Wall Score	Door Score	Total Score	Rating
Saint Croix	5-55-21-1	700	469	3	20	14	15	52	DECLINING
Clark	5-10-2-2	5,000	4,400	3	20	21	5	49	DECLINING
Bayfield	5-04-16-1	240	240	4	20	14	10	48	DECLINING
Ashland	5-02-64-1	800	800	3	20	14	10	47	ADEQUATE
Bayfield	5-04-17-1	240	240	3	20	14	10	47	ADEQUATE
Bayfield	5-04-14-1	720	720	3	20	14	10	47	ADEQUATE
Douglas	5-16-31-1	320	320	3	20	14	10	47	ADEQUATE
Dunn	5-17-3-2	175	175	3	20	14	10	47	ADEQUATE
Jackson	5-27-601-3	2,100	441	3	20	14	10	47	ADEQUATE
Saint Croix	5-55-89-1	1,000	1,000	3	20	14	10	47	ADEQUATE
Saint Croix	5-55-22-1	1,500	1,200	3	20	14	10	47	ADEQUATE
Sawyer	5-57-47-1	300	300	3	20	14	10	47	ADEQUATE
Sawyer	5-57-45-5	1,600	1,600	3	20	14	10	47	ADEQUATE
Sawyer	5-57-48-4	1,600	1,600	3	20	14	10	47	ADEQUATE
Taylor	5-60-1-6	3,000	2,100	3	20	14	10	47	ADEQUATE
Trempealeau	5-61-803-1	3,500	3,500	3	20	14	10	47	ADEQUATE
Ashland	5-02-3-1	480	480	2	20	14	10	46	ADEQUATE
Ashland	5-02-63-1	5,520	4,449	2	20	14	10	46	ADEQUATE
Bayfield	5-04-19-1	3,100	3,100	2	20	14	10	46	ADEQUATE
Buffalo	5-06-500-2	500	500	2	20	14	10	46	ADEQUATE
Buffalo	5-06-502-6	2,150	2,150	2	20	14	10	46	ADEQUATE
Chippewa	5-09-5-2	1,250	1,125	2	20	14	10	46	ADEQUATE
Chippewa	5-09-24-1	1,200	1,200	2	20	14	10	46	ADEQUATE
Chippewa	5-09-4-4	5,500	4,950	2	20	14	10	46	ADEQUATE
Douglas	5-16-30-1	320	320	2	20	14	10	46	ADEQUATE
Douglas	5-16-30-4	1,000	1,000	2	20	14	10	46	ADEQUATE
Douglas	5-16-27-4	2,500	2,500	2	20	14	10	46	ADEQUATE
Dunn	5-17-33-2	1,000	1,000	2	20	14	10	46	ADEQUATE
Jackson	5-27-601-1	800	640	2	20	14	10	46	ADEQUATE
Pierce	5-47-4-1	200	200	2	20	14	10	46	ADEQUATE
Pierce	5-47-36-1	500	500	2	20	14	10	46	ADEQUATE
Pierce	5-47-1-4	3,500	3,500	2	20	14	10	46	ADEQUATE
Polk	5-48-21-1	4,100	4,100	2	20	14	10	46	ADEQUATE
Washburn	5-65-97-1	480	480	2	20	14	10	46	ADEQUATE
Burnett	5-07-23-3	923	600	1	20	14	10	45	ADEQUATE
Eau Claire	5-18-69-1	1,200	1,200	1	20	14	10	45	ADEQUATE
Chippewa	5-09-27-1	1,100	1,100	3	20	14	5	42	ADEQUATE
Douglas	5-16-29-1	4,960	3,224	2	20	14	5	41	ADEQUATE
Washburn	5-65-98-1	10,000	3,500	2	20	14	5	41	ADEQUATE

County	Site ID	Total Functional Capacity (Tons)	State Financed Functional Capacity (Tons)	Apron & Pad Score	Ceiling & Roof Score	Wall Score	Door Score	Total Score	Rating
Jackson	5-27-602-6	2,400	2,376	1	20	14	5	40	ADEQUATE
Pepin	5-46-1-1	1,000	200	2	20	7	10	39	ADEQUATE
Saint Croix	5-55-5-7	1,500	1,500	2	10	14	10	36	ADEQUATE
Polk	5-48-41-12	7,000	3,150	1	10	14	10	35	ADEQUATE
Saint Croix	5-55-5-1	1,000	670	2	10	14	5	31	EXCELLENT
Jackson	5-27-903-1	1,000	1,000	2	10	7	10	29	EXCELLENT
Saint Croix	5-55-90-1	20,000	10,000	2	10	7	5	24	EXCELLENT
Rusk	5-54-43-5	3,000	3,000	2	?	14	5	not rated	NOT RATED
Burnett	5-07-907-1	1,000	600	not rated	not rated	not rated	not rated	not rated	NOT RATED
Dunn	5-17-1-5	5,000	5,000	not rated	not rated	not rated	not rated	not rated	NOT RATED
Eau Claire	5-18-TBD	20,000	10,000	not rated	not rated	not rated	not rated	not rated	NOT RATED
Pepin	6-46-0-1	1,500	1,000	not rated	not rated	not rated	not rated	not rated	NOT RATED
Pierce	5-47-7-1	200	200	not rated	not rated	not rated	not rated	not rated	NOT RATED
Pierce	5-47-3-4	1,125	1,125	not rated	not rated	not rated	not rated	not rated	NOT RATED
Taylor	5-60-TBD	1,000	1,000	not rated	not rated	not rated	not rated	not rated	NOT RATED
Trempealeau	5-61-805-1	850	510	not rated	not rated	not rated	not rated	not rated	NOT RATED
NW Averages	--	--	--	2.3	20.7	16.0	10.4	49.2	ADEQUATE
NW Totals	--	164,653 tons	121,409 tons	--	--	--	--	--	

## COUNTY FINDINGS - SOUTHEAST REGION

The Southeast region's current state financed functional capacity of 138,880 tons (134.8 percent of target capacity) is stored in 26 sheds. Of these 26 sheds, five (11,975 tons of state financed functional capacity) are in poor condition.

**Table 3.8 Southeast Region Shed Condition Summary**

Shed Rating	Total Functional Capacity (Tons)	% of Total	State Financed Functional Capacity (Tons)	% of Total
POOR	17,475	9.1%	11,975	8.6%
DECLINING	30,000	15.6%	22,370	16.1%
ADEQUATE	74,000	38.5%	59,600	42.9%
EXCELLENT	70,550	36.7%	31,435	22.6%
NOT RATED	0	0.0%	13,500	9.7%
<b>TOTAL</b>	<b>192,025</b>	<b>100.0%</b>	<b>138,880</b>	<b>100.0%</b>

**Table 3.9. Southeast Region Salt Shed Conditions**

County	Site ID	Total Functional Capacity (Tons)	State Financed Functional Capacity (Tons)	Apron & Pad Score	Ceiling & Roof Score	Wall Score	Door Score	Total Score	Rating
Waukesha	2-67-201-1	4,500	2,700	2	50	14	15	81	POOR
Waukesha	2-67-205-1	3,000	1,500	4	40	14	10	68	POOR
Waukesha	2-67-1-2	2,400	1,200	3	40	14	10	67	POOR
Kenosha	2-30-1-1	5,075	5,075	2	40	14	10	66	POOR
Washington	2-66-101-4	2,500	1,500	3	30	14	15	62	POOR
Walworth	2-64-202-1	3,000	2,250	1	40	7	10	58	DECLINING
Kenosha	2-30-201-1	12,000	6,000	2	30	14	10	56	DECLINING
Racine	2-51-2-4	9,500	9,500	2	30	14	10	56	DECLINING
Walworth	2-64-109-1	4,000	3,120	1	30	14	10	55	DECLINING
Racine	2-51-1-1	1,500	1,500	2	20	21	10	53	DECLINING
Washington	2-66-102-3	11,050	11,050	3	20	14	10	47	ADEQUATE
Waukesha	2-67-4-1	950	475	1	20	21	5	47	ADEQUATE
Milwaukee	2-40-202-1	12,500	10,000	2	20	14	10	46	ADEQUATE
Ozaukee	2-45-201-1	9,500	6,175	2	20	14	10	46	ADEQUATE
Racine	2-51-2-6	4,000	4,000	2	20	14	10	46	ADEQUATE
Waukesha	2-67-201-11	9,500	9,500	3	30	7	5	45	ADEQUATE
Walworth	2-64-203-3	14,000	8,400	2	10	21	10	43	ADEQUATE
Milwaukee	2-40-205-1	12,500	10,000	2	20	7	10	39	ADEQUATE
Walworth	2-64-203-11	14,000	1,960	2	10	7	15	34	EXCELLENT
Waukesha	2-67-2-2	3,000	1,500	2	10	7	15	34	EXCELLENT
Waukesha	2-67-4-2	3,000	1,500	2	20	7	5	34	EXCELLENT
Washington	2-66-103-1	11,050	5,525	2	10	7	10	29	EXCELLENT
Ozaukee	2-45-203-6	3,500	1,750	2	10	7	5	24	EXCELLENT
Racine	2-51-1-11	3,000	3,000	2	10	7	5	24	EXCELLENT
Milwaukee	2-40-206-14	18,000	16,200	1	10	7	5	23	EXCELLENT
Waukesha	2-67-201-10	15,000	13,500	1	10	7	5	23	EXCELLENT
SE Averages	--	--	--	2.1	23.1	12.0	9.4	46.4	
SE Totals	--	192,025 tons	138,880 tons	--	--	--	--	--	ADEQUATE

## COUNTY FINDINGS - SOUTHWEST REGION

The Southwest region's current state financed functional capacity of 194,554 tons (144 percent of target capacity) is stored in 73 sheds. Of these 73 sheds, 17 (29,689 tons of state financed functional capacity) are in poor condition.

**Table 3.10. Southwest Region Shed Condition Summary**

Shed Rating	Total Functional Capacity (Tons)	% of Total	State Financed Functional Capacity (Tons)	% of Total
POOR	33,200	15.0%	29,689	15.3%
DECLINING	19,313	8.7%	18,310	9.4%
ADEQUATE	42,960	19.4%	39,585	20.3%
EXCELLENT	104,350	47.1%	83,670	43.0%
NOT RATED	21,600	9.8%	23,300	12.0%
<b>TOTAL</b>	<b>221,423</b>	<b>100.0%</b>	<b>194,554</b>	<b>100.0%</b>

**Table 3.11. Southwest Region Salt Shed Conditions**

County	Site ID	Total Functional Capacity (Tons)	State Financed Functional Capacity (Tons)	Apron & Pad Score	Ceiling & Roof Score	Wall Score	Door Score	Total Score	Rating
Vernon	1-62-884-2	650	650	4	40	35	15	94	POOR
Vernon	1-62-889-3	4,000	4,000	4	40	35	15	94	POOR
La Crosse	1-32-654-2	650	650	3	40	35	10	88	POOR
Richland	1-52-767-1	200	200	5	40	28	15	88	POOR
Monroe	1-41-701-1	1,500	1,005	2	30	28	20	80	POOR
Vernon	1-62-856-1	250	250	4	30	35	10	79	POOR
Sauk	1-56-292-1	500	500	4	50	14	10	78	POOR
La Crosse	1-32-653-1	6,000	6,000	3	40	21	10	74	POOR
Dane	1-13-1-1	1,100	1,100	3	20	35	15	73	POOR
Monroe	1-41-704-4	400	400	2	30	21	20	73	POOR
Monroe	1-41-725-725	6,000	6,000	3	30	28	10	71	POOR
La Crosse	1-32-651-4	2,000	2,000	3	20	21	25	69	POOR
Dodge	1-14-33-1	1,000	1,000	2	20	35	10	67	POOR
Crawford	1-12-550-2	450	450	4	30	21	10	65	POOR
Richland	1-52-766-2	400	400	2	20	28	15	65	POOR
Columbia	1-11-5-2	1,800	900	2	30	21	10	63	POOR
Crawford	1-12-553-1	300	300	2	30	14	15	61	POOR
Richland	1-52-768-1	6,000	4,284	3	20	28	10	61	POOR
Grant	1-22-197-1	170	170	2	20	21	15	58	DECLINING
Sauk	1-56-118-3	1,940	1,940	4	30	14	10	58	DECLINING
Crawford	1-12-555-4	200	200	2	30	14	10	56	DECLINING
Columbia	1-11-236-2	8,000	8,000	3	20	21	10	54	DECLINING
Dane	1-13-12-2	1,400	1,400	2	20	21	10	53	DECLINING
Lafayette	1-33-174-3	1,800	1,800	2	20	21	10	53	DECLINING

County	Site ID	Total Functional Capacity (Tons)	State Financed Functional Capacity (Tons)	Apron & Pad Score	Ceiling & Roof Score	Wall Score	Door Score	Total Score	Rating
Rock	1-53-68-1	1,170	1,000	2	20	14	15	51	DECLINING
Vernon	1-62-894-2	1,333	500	4	20	21	5	50	DECLINING
Lafayette	1-33-477-1	1,500	1,500	1	30	7	10	48	DECLINING
Sauk	1-56-119-2	1,800	1,800	4	20	14	10	48	DECLINING
Juneau	1-29-85-2	6,000	6,000	3	20	14	10	47	ADEQUATE
La Crosse	1-32-681-1	1,200	1,200	4	10	28	5	47	ADEQUATE
Columbia	1-11-346-1	4,000	4,000	2	20	14	10	46	ADEQUATE
Crawford	1-12-554-1	300	300	2	20	14	10	46	ADEQUATE
Crawford	1-12-556-1	300	300	2	20	14	10	46	ADEQUATE
Green	1-23-49-2	3,000	1,500	2	20	14	10	46	ADEQUATE
Juneau	1-29-204-5	2,400	2,400	2	20	14	10	46	ADEQUATE
Rock	1-53-481-1	1,170	1,000	2	20	14	10	46	ADEQUATE
Sauk	1-56-292-3	1,940	1,397	2	20	14	10	46	ADEQUATE
Jefferson	1-28-513-1	10,000	10,000	3	10	21	10	44	ADEQUATE
Dodge	1-14-523-1	1,900	1,800	2	20	14	5	41	ADEQUATE
La Crosse	1-32-652-2	250	188	3	20	7	10	40	ADEQUATE
Rock	1-53-522-1	3,000	3,000	1	10	14	15	40	ADEQUATE
Crawford	1-12-576-1	2,000	2,000	2	20	7	10	39	ADEQUATE
Rock	1-53-63-3	2,000	2,000	2	10	14	10	36	ADEQUATE
Sauk	1-56-397-1	1,000	500	2	10	14	10	36	ADEQUATE
Vernon	1-62-896-1	2,500	2,000	2	10	14	10	36	ADEQUATE
Dodge	1-14-488-1	8,000	5,600	2	10	7	15	34	EXCELLENT
Dane	1-13-479-1	14,000	12,600	4	10	7	10	31	EXCELLENT
Dane	1-13-501-1	4,500	3,150	3	10	7	10	30	EXCELLENT
Iowa	1-25-74-5	3,250	1,300	1	10	7	10	28	EXCELLENT
Dane	1-13-486-1	10,000	8,000	3	10	7	5	25	EXCELLENT
Jefferson	1-28-512-1	4,000	1,562	3	10	7	5	25	EXCELLENT
Grant	1-22-478-3	2,800	2,800	2	10	7	5	24	EXCELLENT
Columbia	1-11-8-4	3,800	2,508	2	10	7	5	24	EXCELLENT
Dane	1-13-905-1	10,000	10,000	2	10	7	5	24	EXCELLENT
Dodge	1-14-34-1	1,000	1,000	2	10	7	5	24	EXCELLENT
Grant	1-22-500-1	5,000	4,000	2	10	7	5	24	EXCELLENT
Iowa	1-25-73-5	4,000	4,000	2	10	7	5	24	EXCELLENT
Crawford	1-12-552-8	5,000	3,000	1	10	7	5	23	EXCELLENT
Dane	1-13-910-1	5,000	5,000	1	10	7	5	23	EXCELLENT
Dane	1-13-906-2	9,800	9,800	1	10	7	5	23	EXCELLENT
Dodge	1-14-511-1	4,400	4,400	1	10	7	5	23	EXCELLENT
Green	1-23-909-1	4,000	3,200	1	10	7	5	23	EXCELLENT
Iowa	1-25-902-1	900	900	1	10	7	5	23	EXCELLENT
Jefferson	1-28-525-1	2,500	1,250	1	10	7	5	23	EXCELLENT

County	Site ID	Total Functional Capacity (Tons)	State Financed Functional Capacity (Tons)	Apron & Pad Score	Ceiling & Roof Score	Wall Score	Door Score	Total Score	Rating
Dane	1-13-266-1	1,850	1,850	not rated	not rated	not rated	not rated	not rated	NOT RATED
Grant	1-22-387-2	2,300	2,300	not rated	not rated	not rated	not rated	not rated	NOT RATED
Lafayette	1-33-510-1	1,500	1,000	not rated	not rated	not rated	not rated	not rated	NOT RATED
Monroe	1-41-702-5	1,400	1,400	not rated	not rated	not rated	not rated	not rated	NOT RATED
Rock	1-53-66-4	7,000	7,000	not rated	not rated	not rated	not rated	not rated	NOT RATED
Sauk	1-56-120-3	2,000	2,000	not rated	not rated	not rated	not rated	not rated	NOT RATED
Sauk	1-56-120-2	5,000	4,000	not rated	not rated	not rated	not rated	not rated	NOT RATED
Vernon	1-62-857-1	550	550	not rated	not rated	not rated	not rated	not rated	NOT RATED
SW Averages	--	--	--	2.4	19.5	16.0	9.8	47.7	ADEQUATE
SW Totals	--	221,423 tons	194,554 tons	--	--	--	--	--	

# 4

# Conclusions

## STORAGE NEEDS

This report documents a need for more salt storage in the State. Because each county is responsible for maintaining its own supply of salt, it is necessary to consider the storage needs of individual counties. The aggregate shortfall of state financed functional target storage capacity is 38,565 tons. This shortage is offset by the 45 counties that meet or exceed the storage target. Statewide, relative to the target functional capacity, the state is exceeding its goal. The northwest region is furthest from its target capacity (the region currently has only 93.2% of its target capacity of 130,286 tons). When building more storage capacity, it may be advantageous to meet some of that need with a regional approach that allows salt to be distributed among multiple counties as the need arises, especially later into the season.

The salt shed condition report indicates that 11.4% of the State's functional storage capacity is made up of sheds that are in poor condition and need repair or replacement. This translates into an additional 89,380 tons of the State's functional storage capacity requiring repair or replacement. The region with the greatest percentage of its storage capacity in poor condition is the North Central Region (24.3 percent of its state financed functional capacity is in poor condition).

Priority for salt shed construction should be focused in the counties with the greatest percentage gap between current and target storage, counties with sheds in poor condition, and to counties with interstate and priority routes. Counties with less than 70% of targeted storage include Barron, Calmut, Washburn, Outagamie, and Bayfield.

## FINANCIAL NEEDS

A new storage shed, if constructed with a conventional wood frame design, costs about \$75-250 per ton of storage. Larger sheds are more efficient and cost-effective than smaller ones. Assuming the midpoint of this cost range, the 38,565 tons of additional storage needed to meet the target capacity of 125 percent of the average annual use represents a potential cost of about \$6.2 million. The 138,610 tons of storage facilities needing repair or replacement (sheds in poor condition) could cost up to \$22.5 million if simply replaced, but some of those deficiencies can be resolved with less costly repairs.

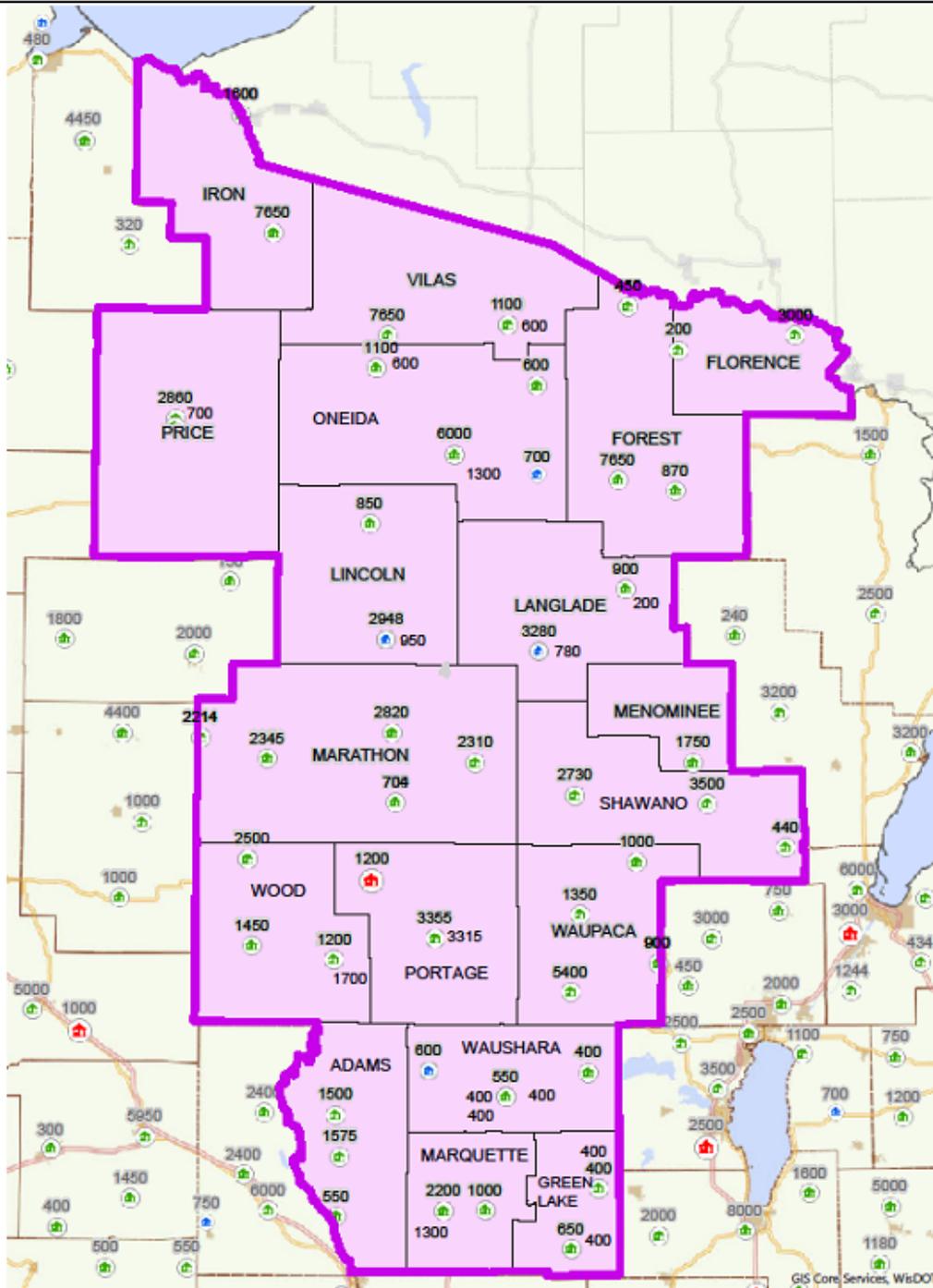


Fond du Lac County, Site ID 3-20-540-2

# Appendix

Maps of salt shed locations, organized by region .....	27
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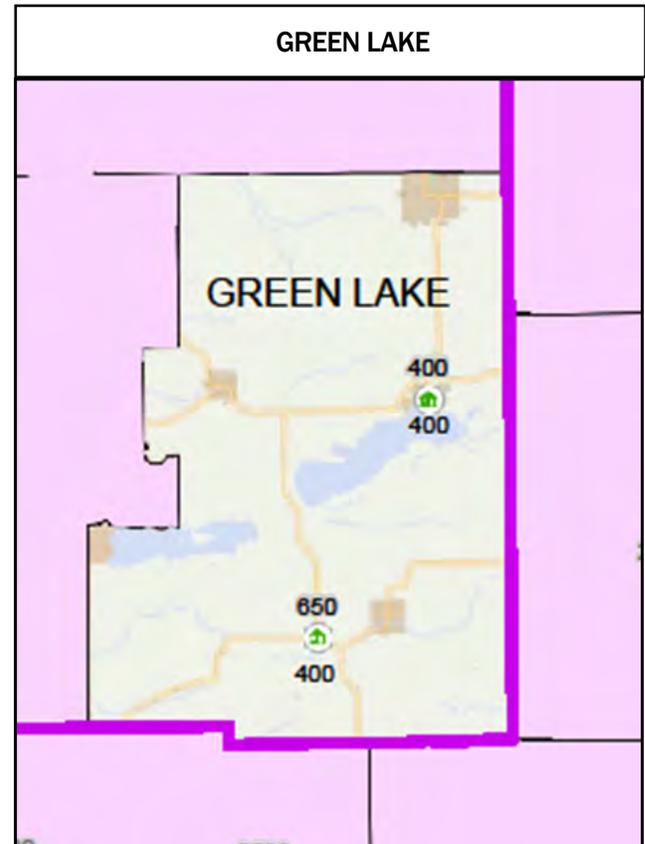
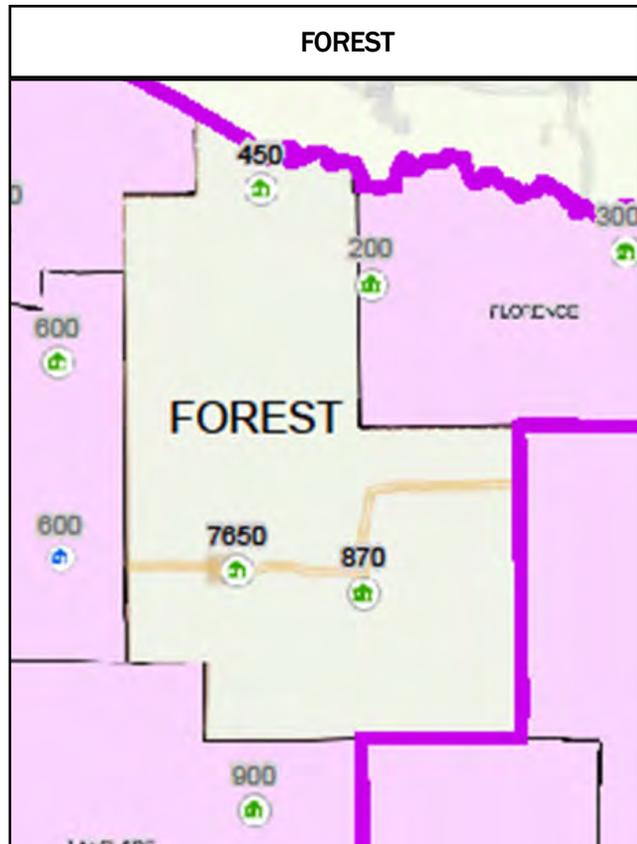
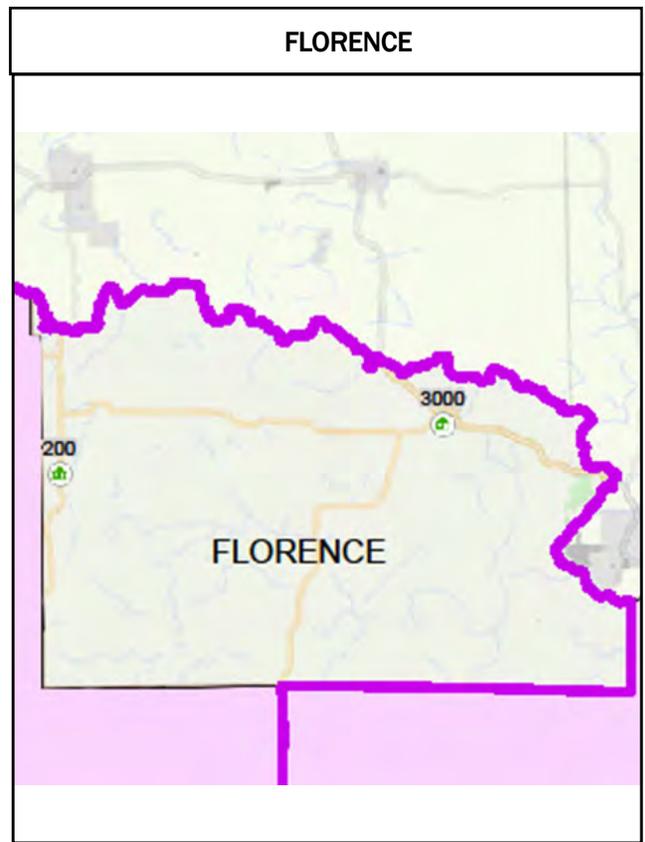
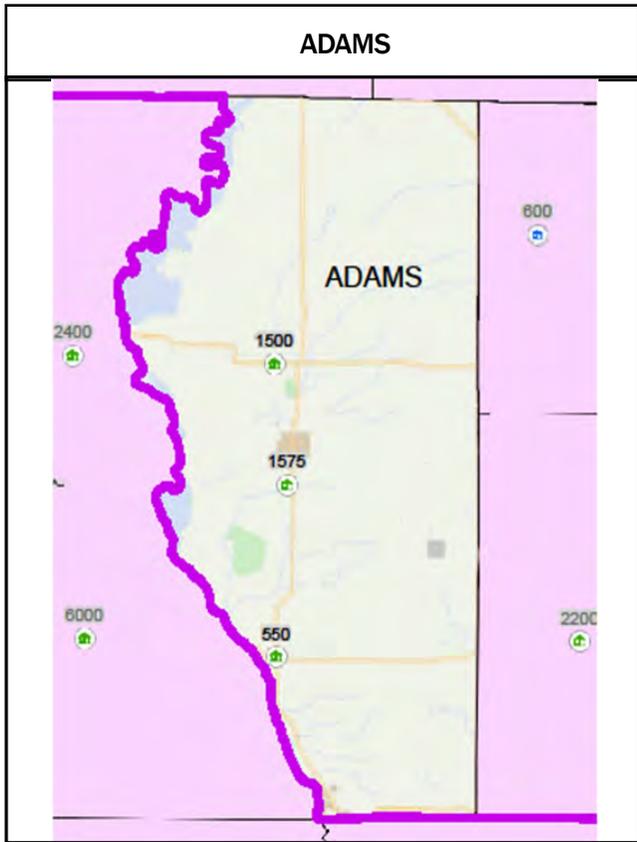
### North Central Region Salt Sheds



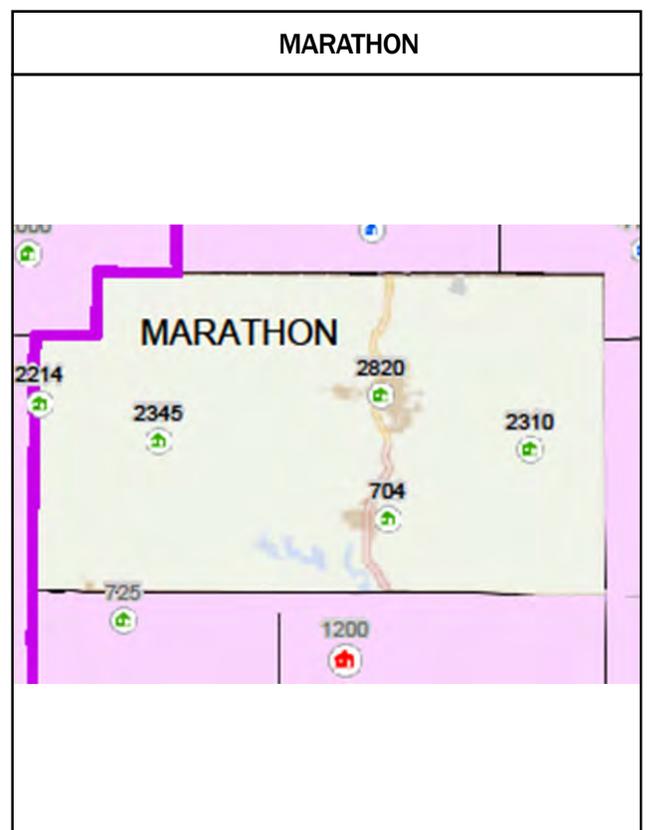
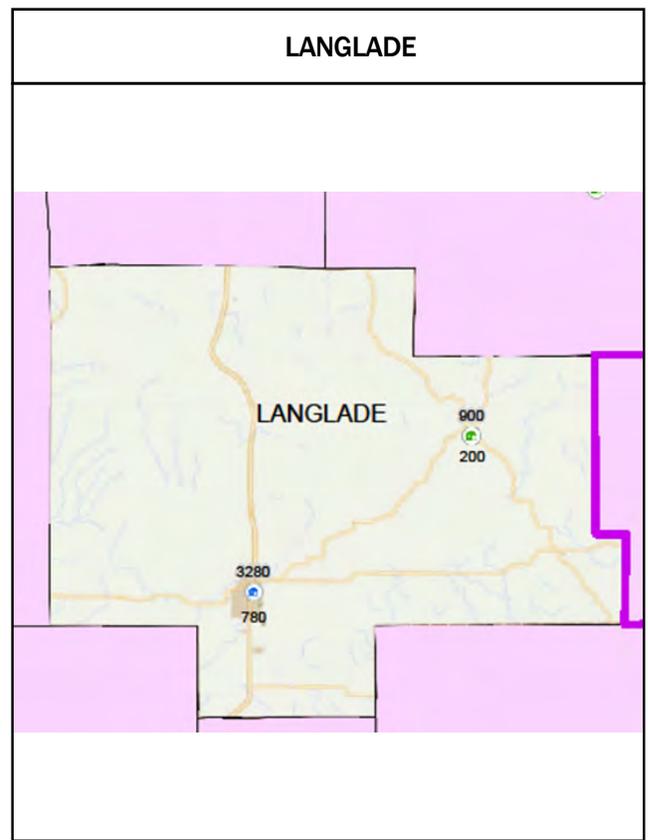
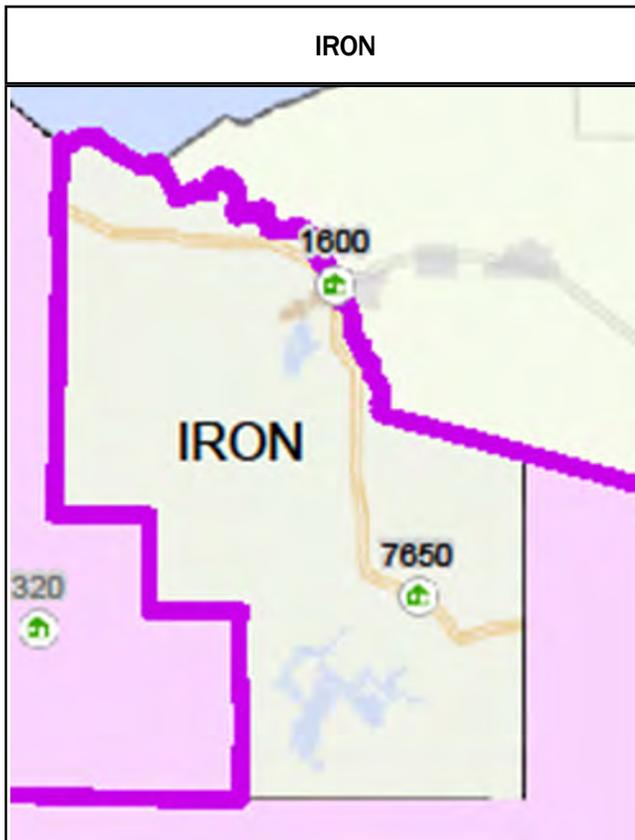
**Financial Owner**

- WisDOT
- County/State Financed
- State Allotted/Not Financed

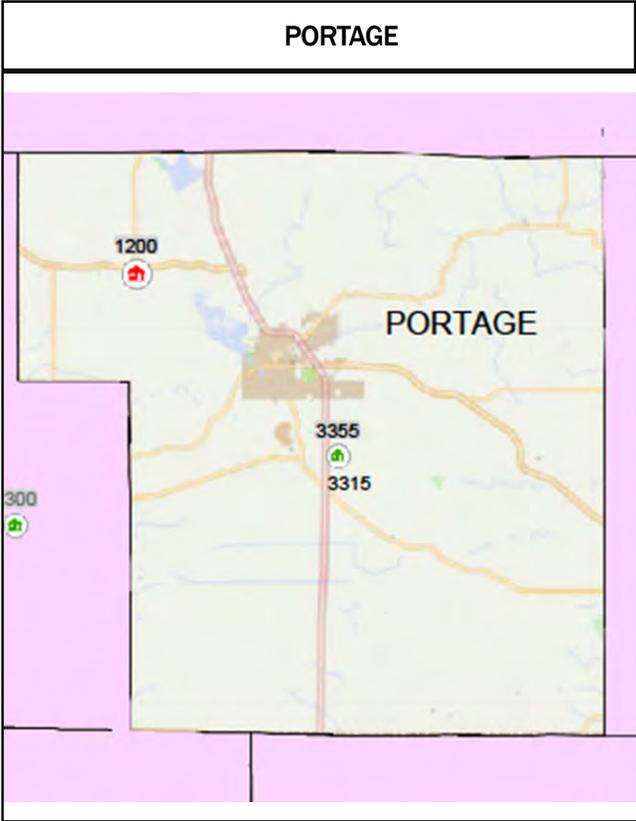
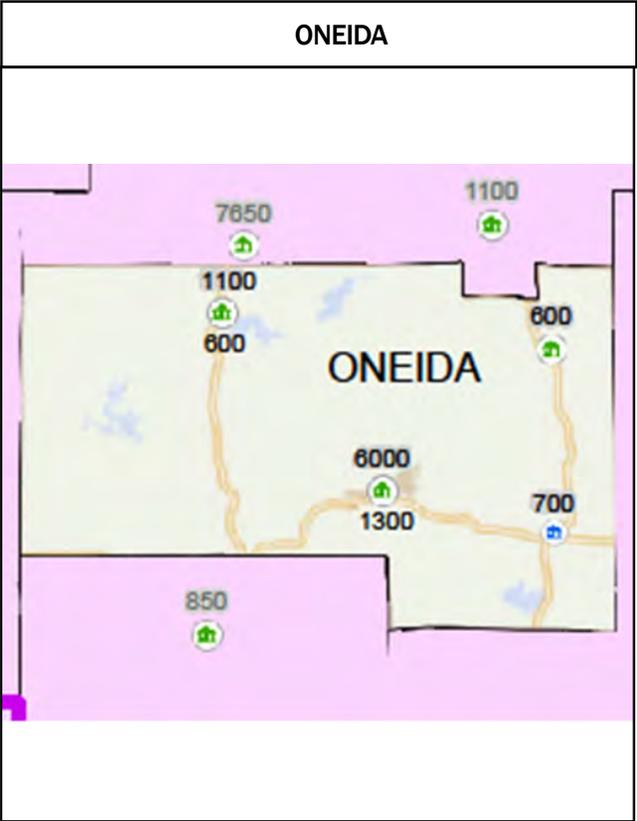
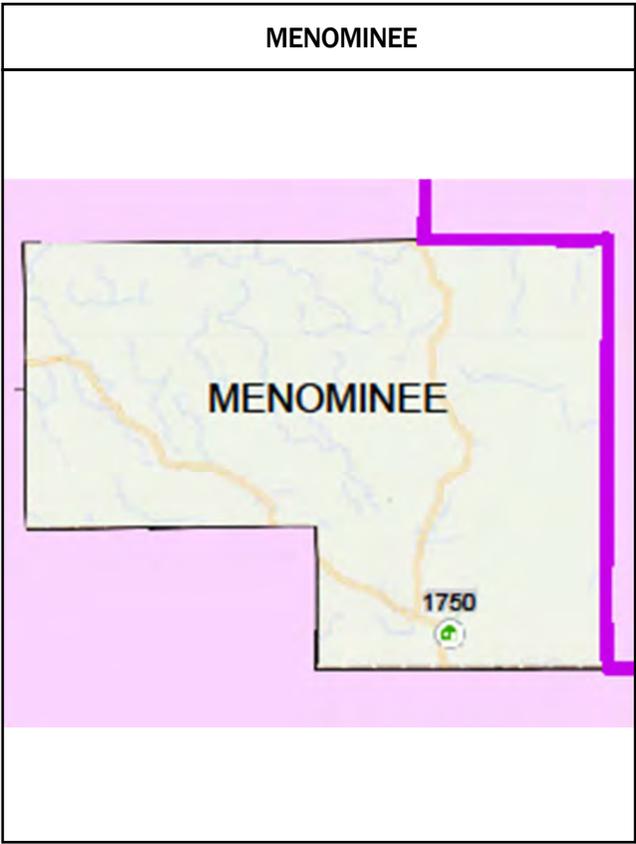
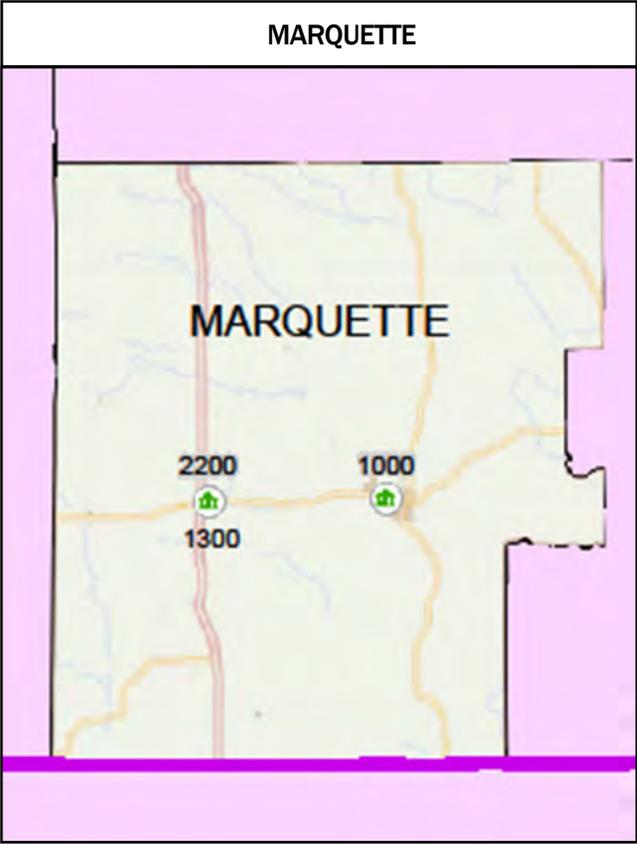
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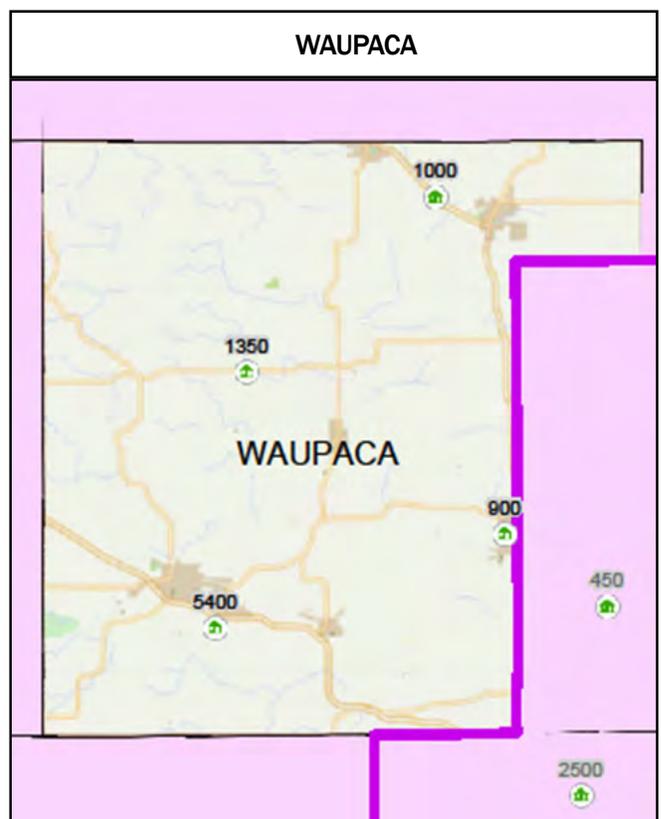
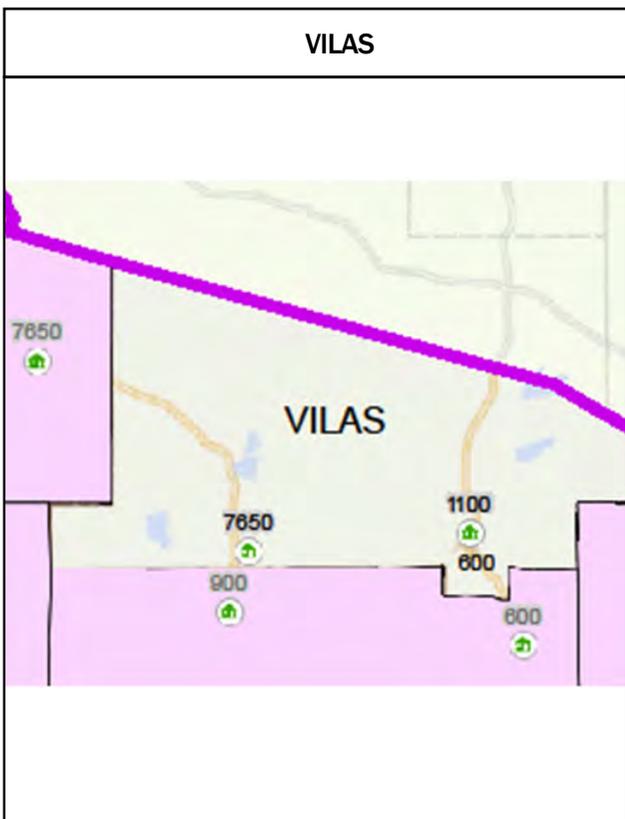
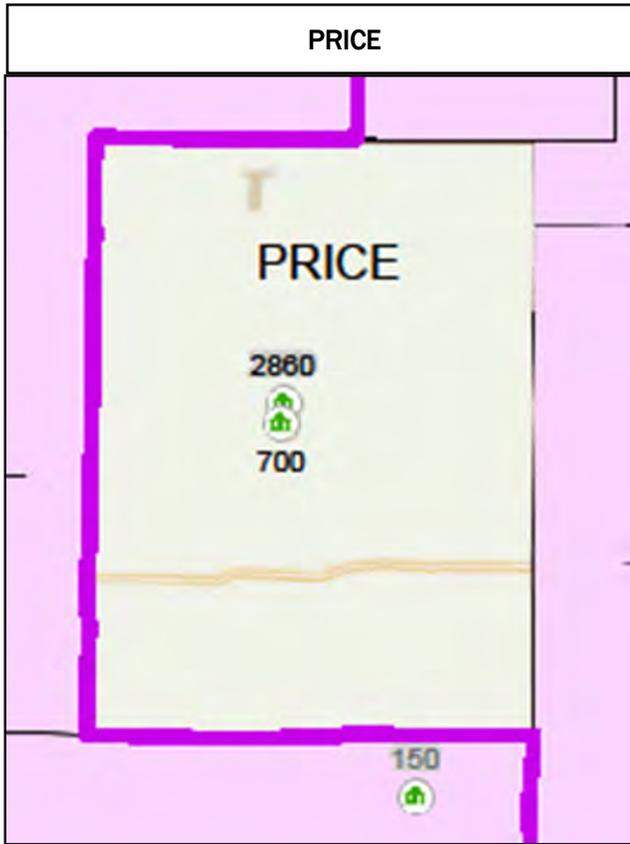
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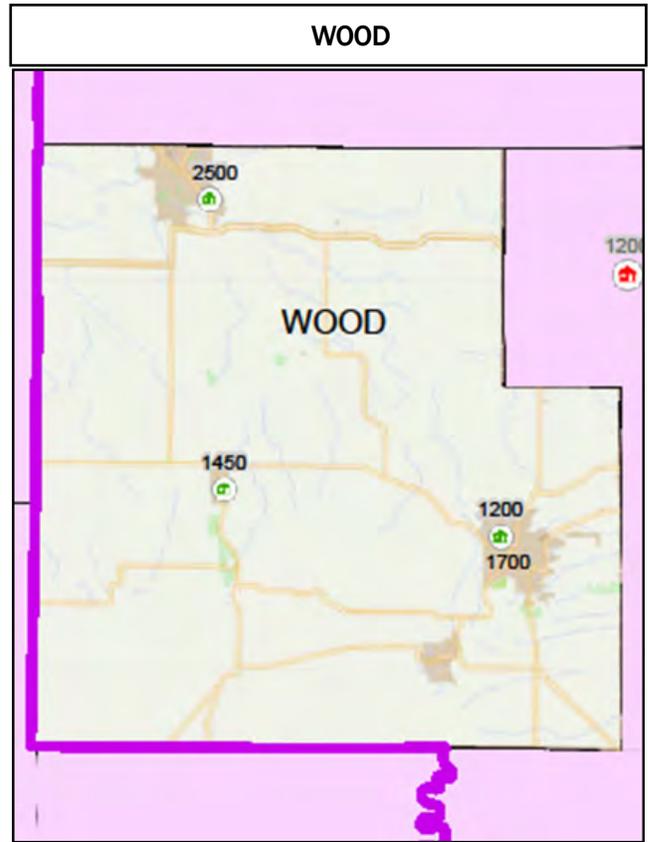
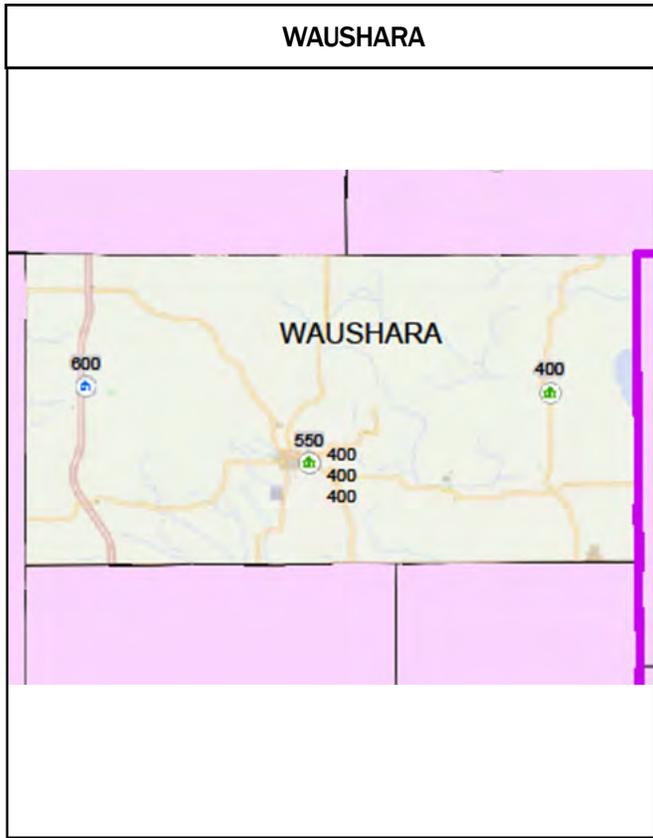
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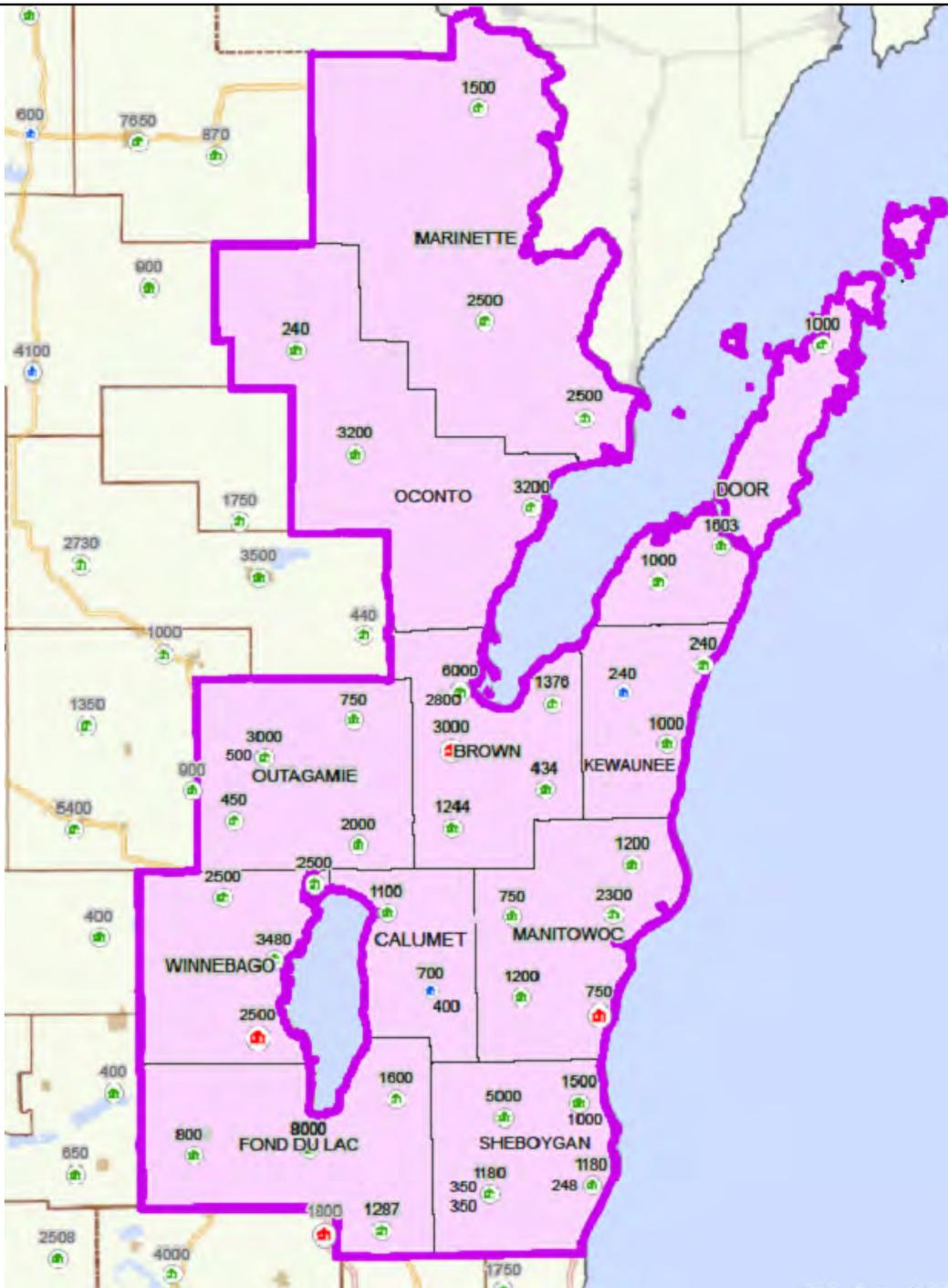


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*Numbered labels indicate the shed capacity allotted to WisDOT, in tons.*

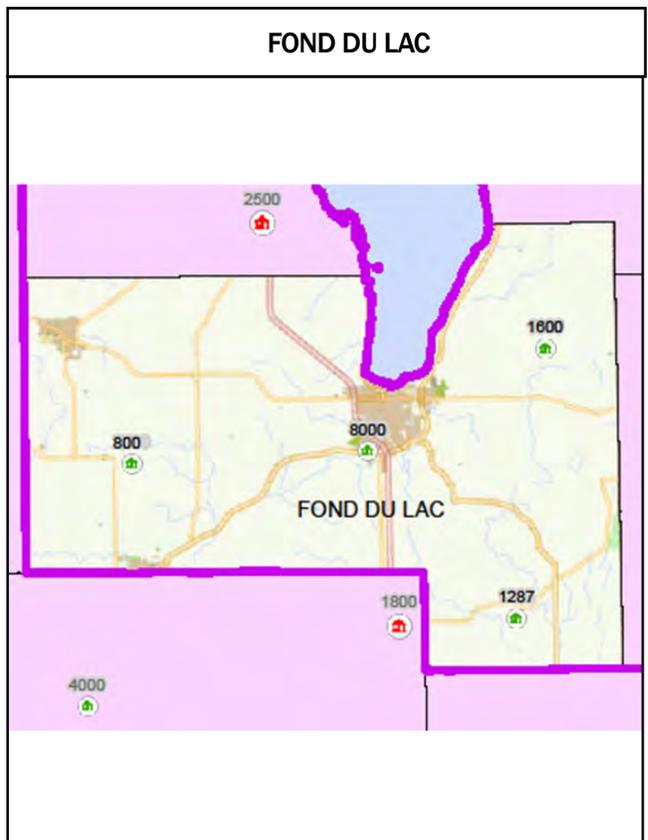
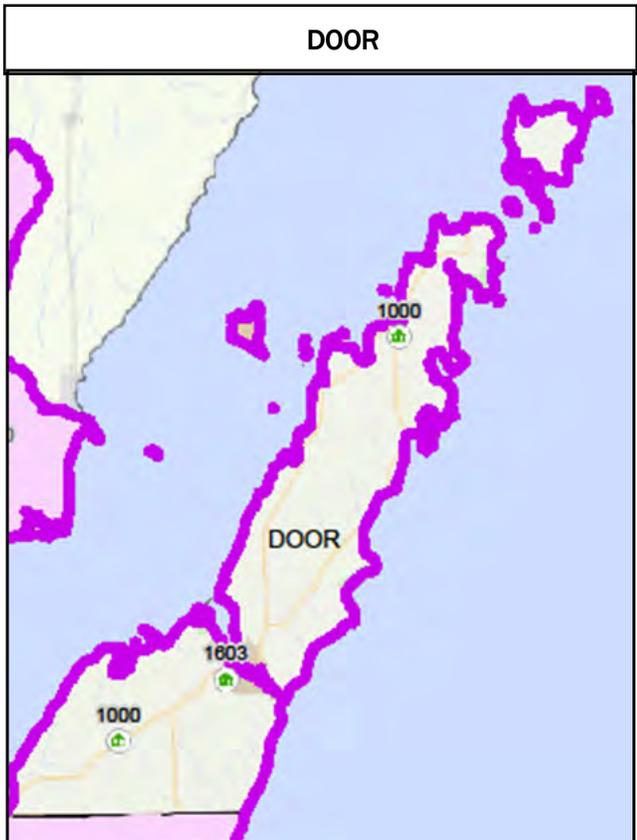
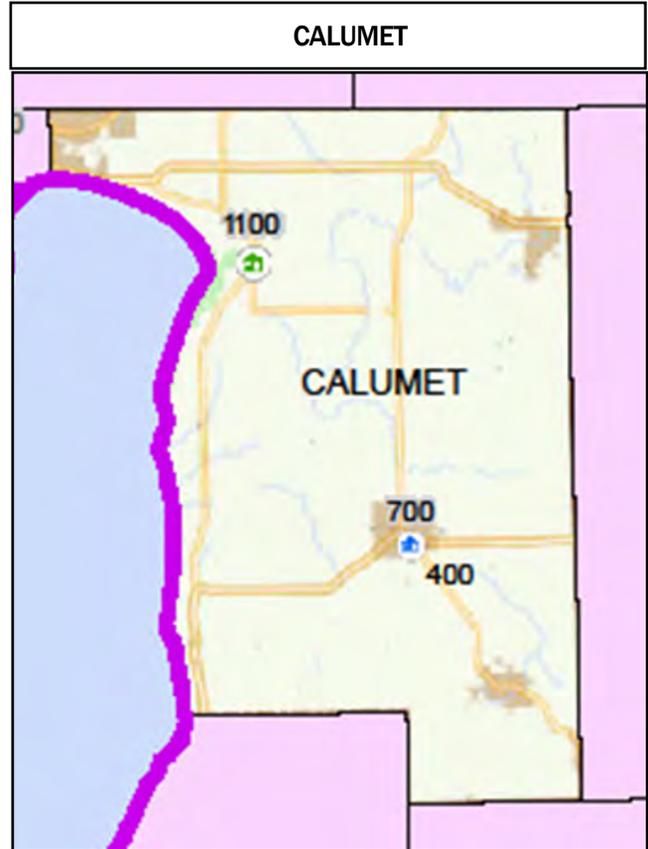
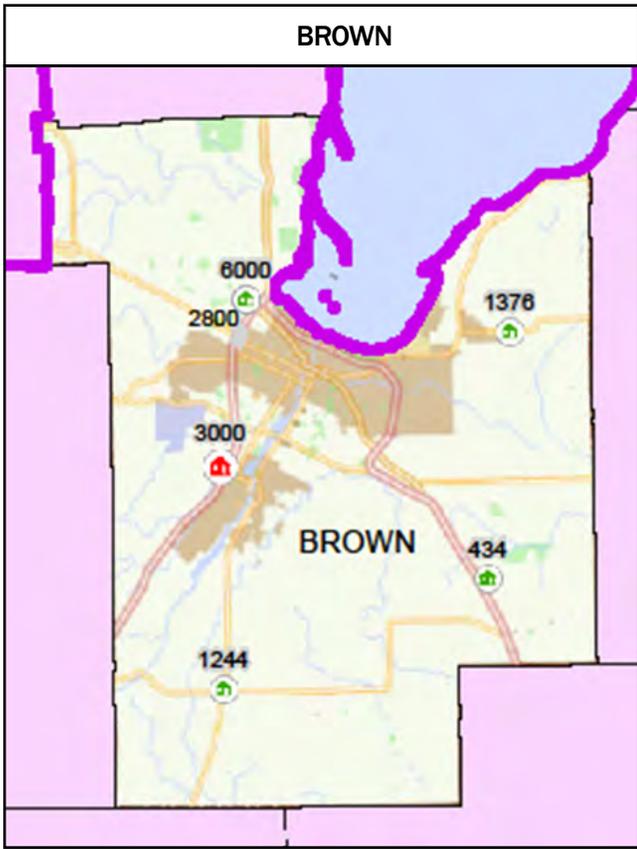
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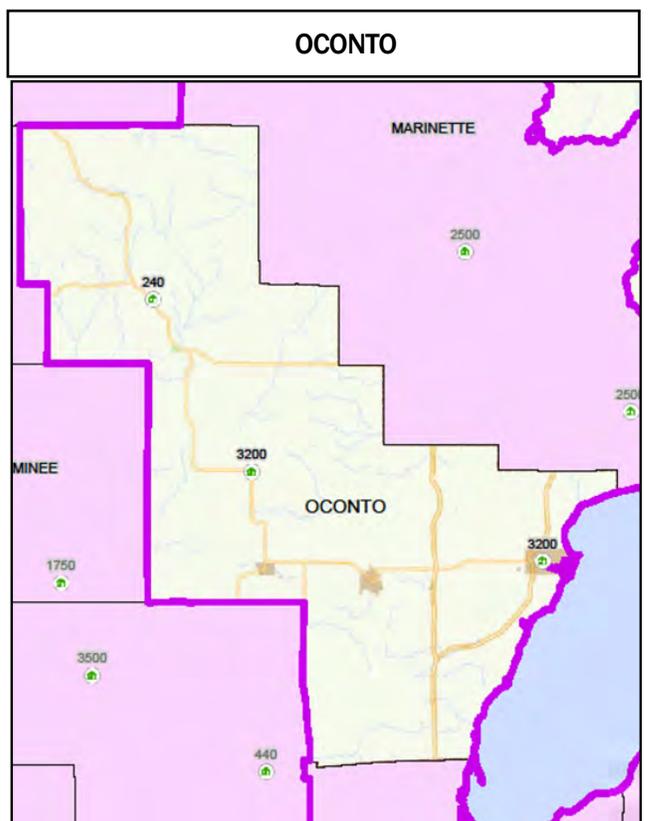
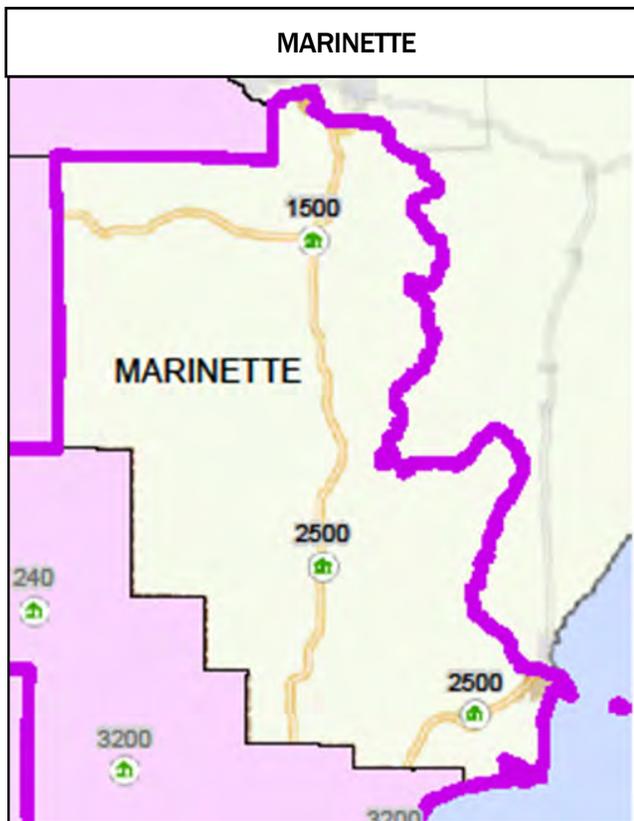
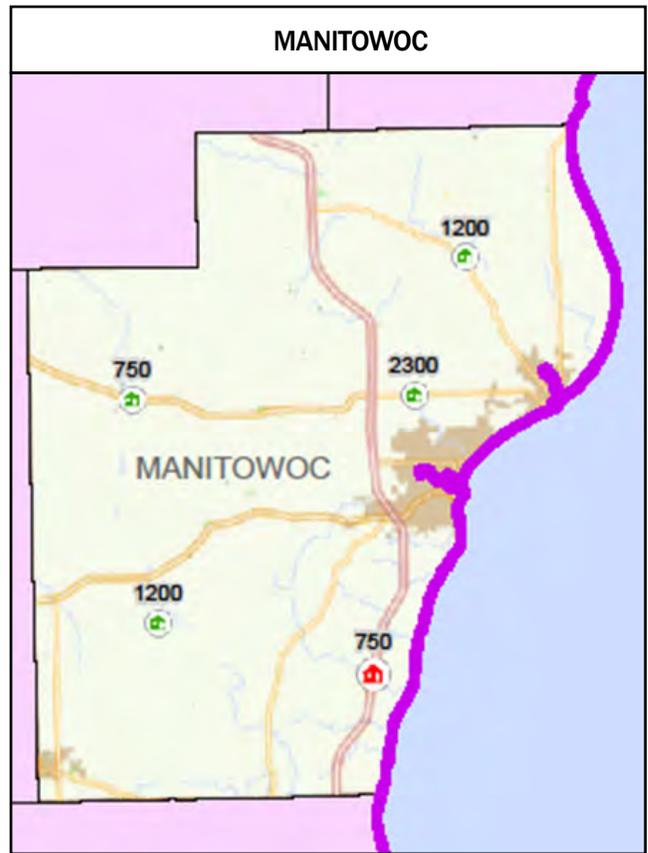
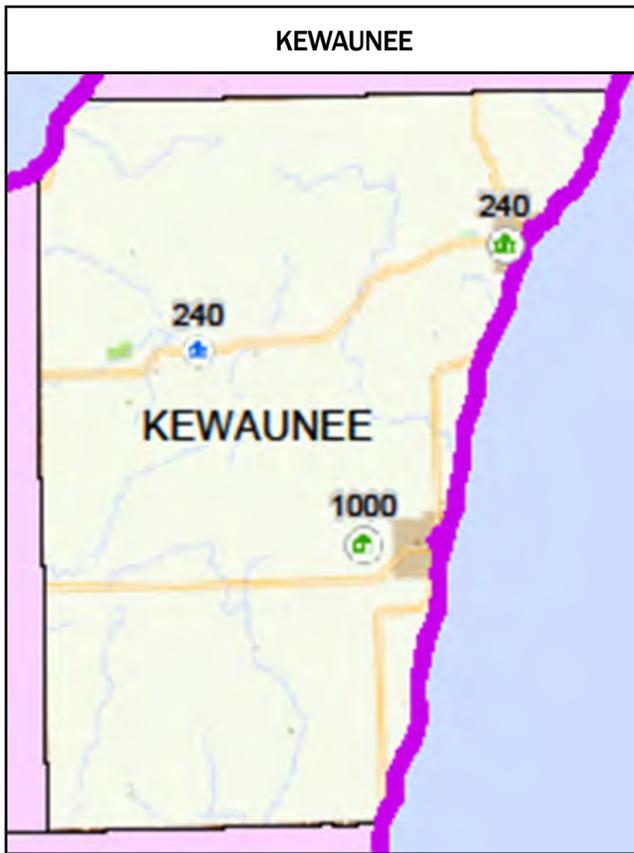
**Financial Owner**

-  WisDOT
-  County/State Financed
-  State Alloted/Not Financed

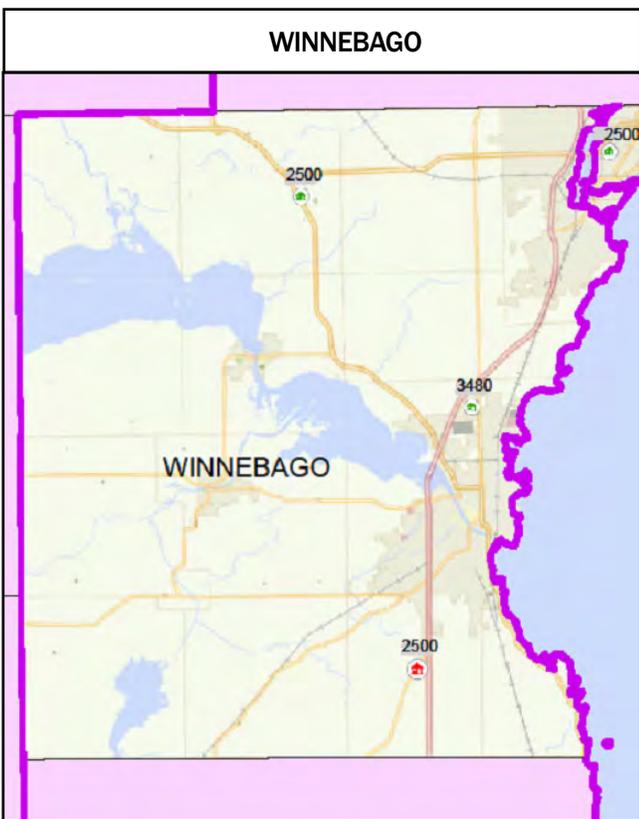
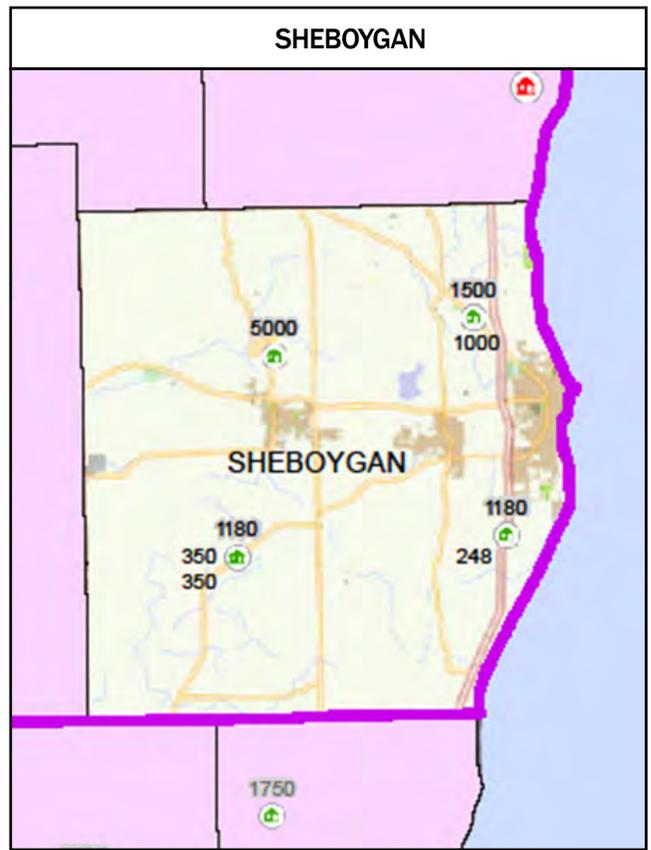
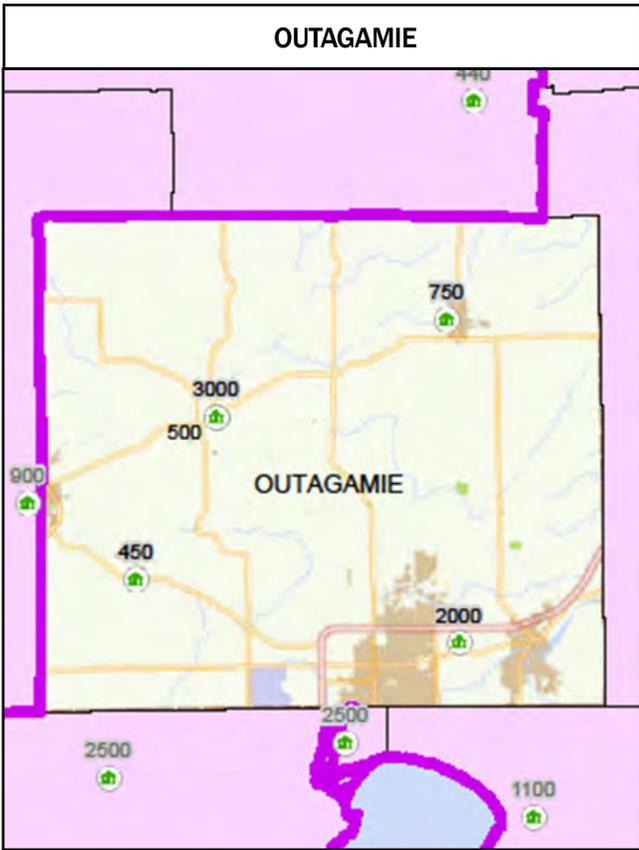
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Numbered labels indicate the shed capacity allotted to WisDOT, in tons.

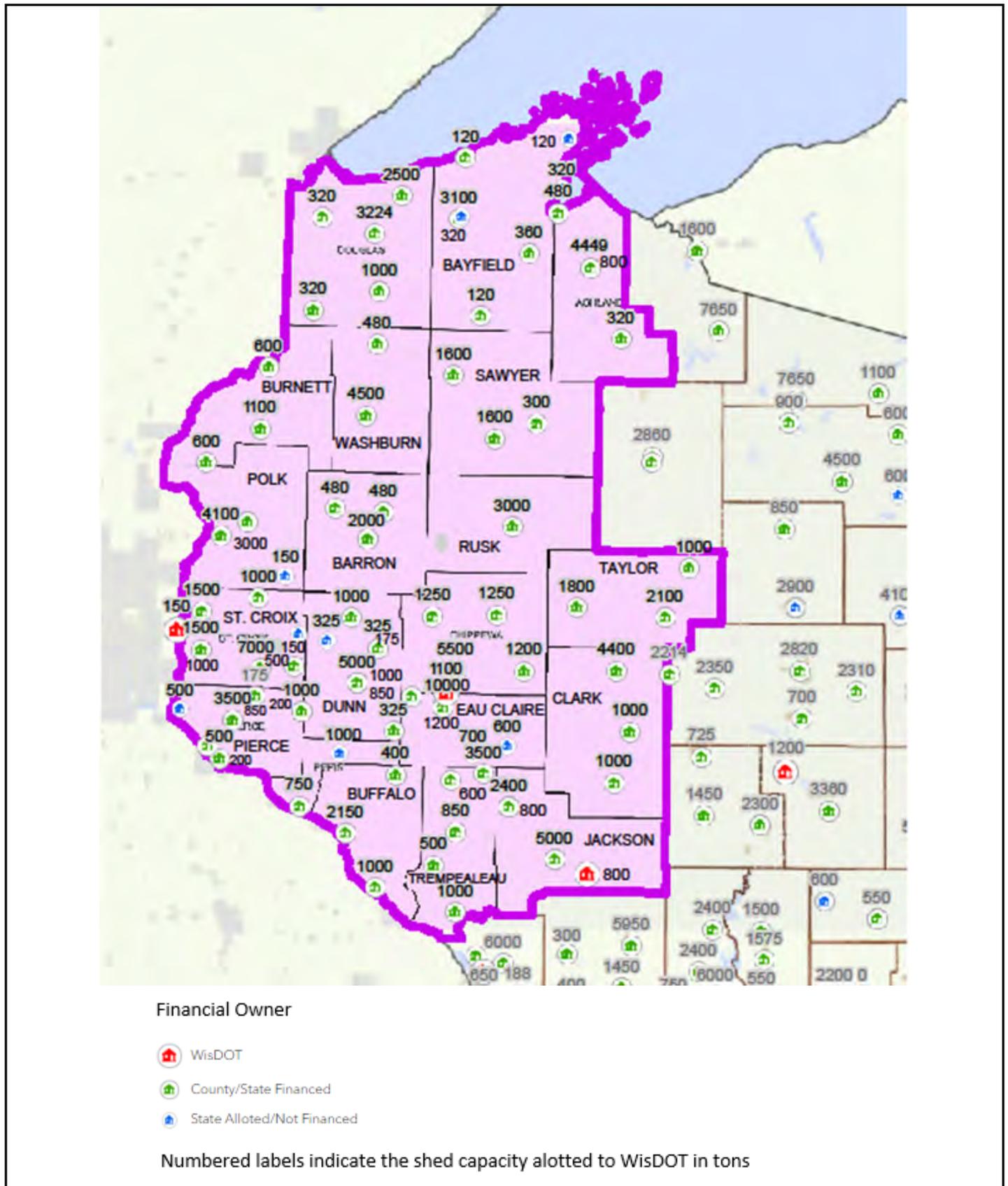


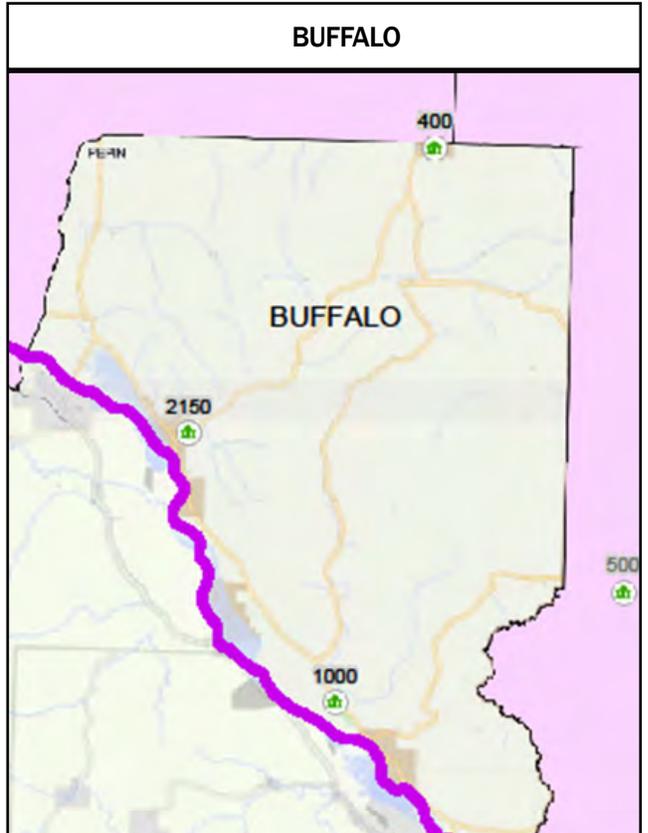
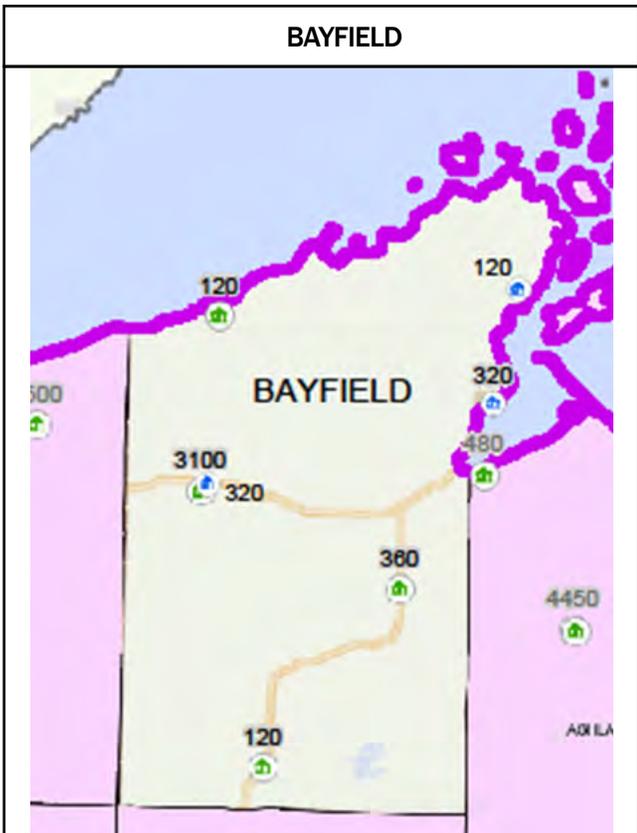
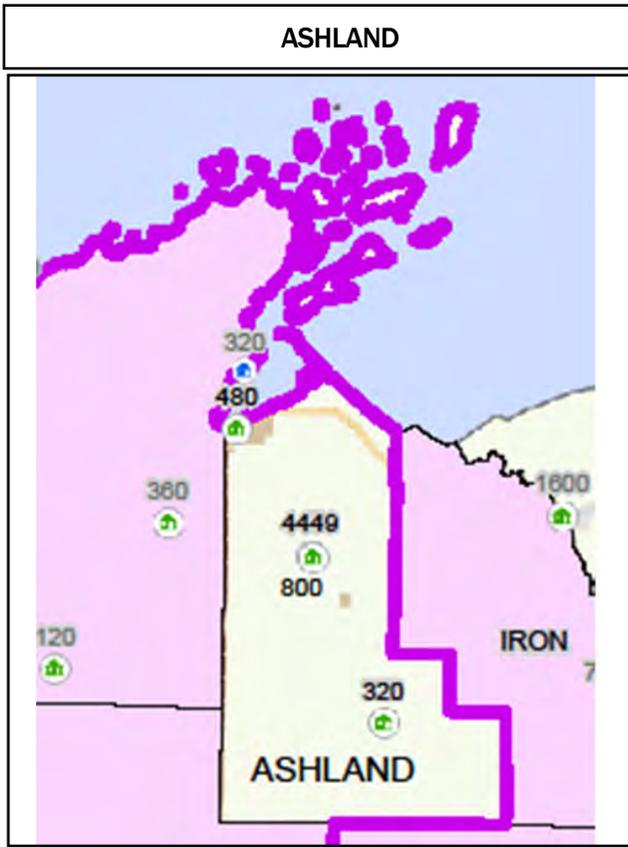
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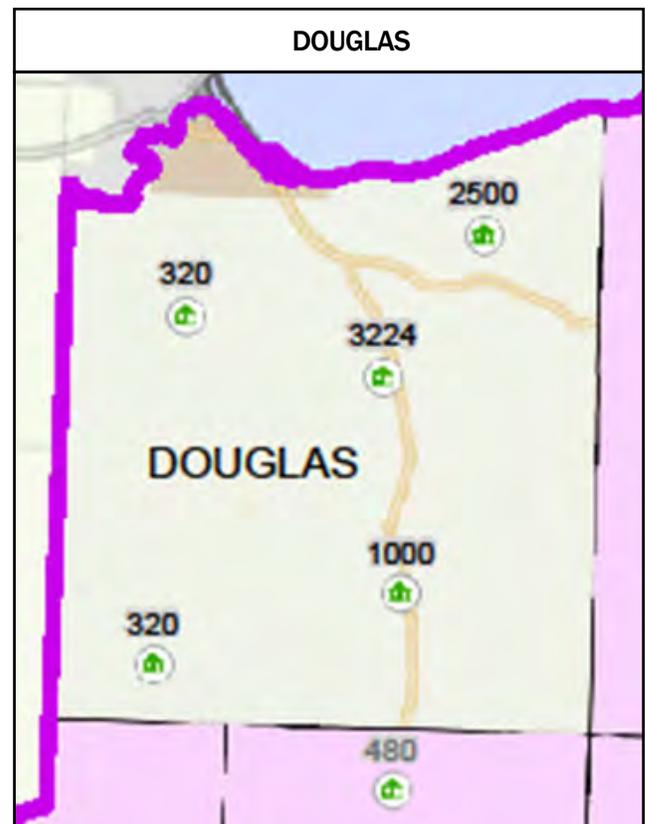
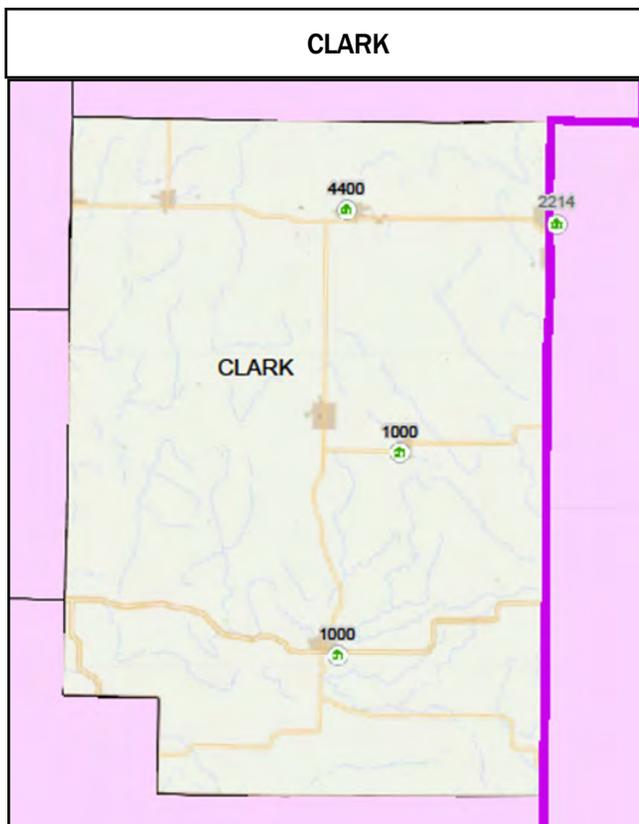
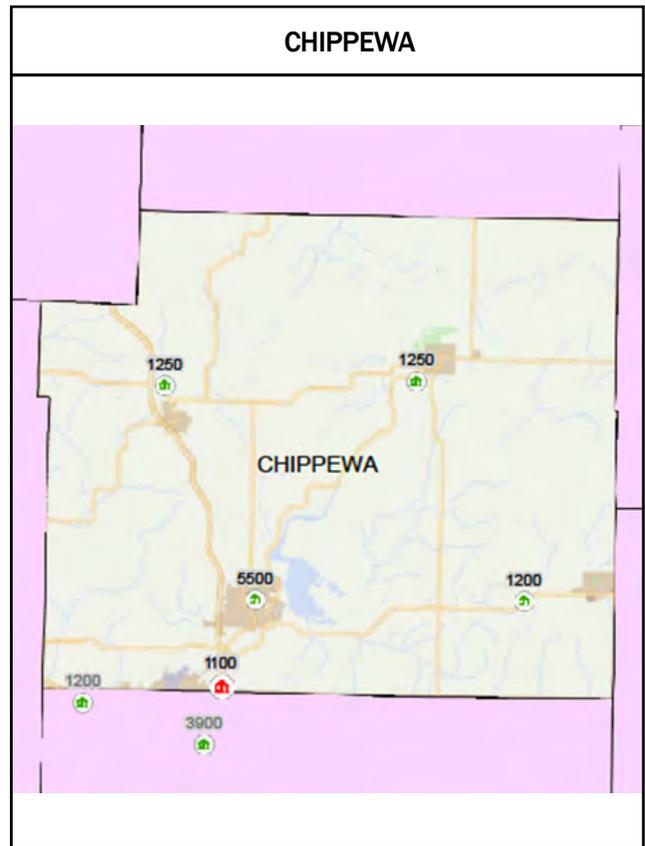
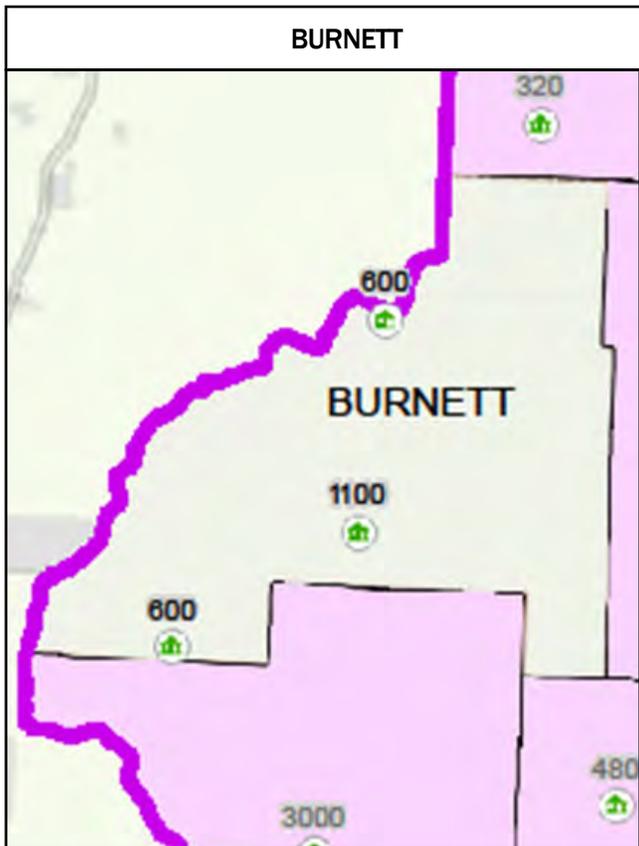
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### Northwest Region Salt Sheds

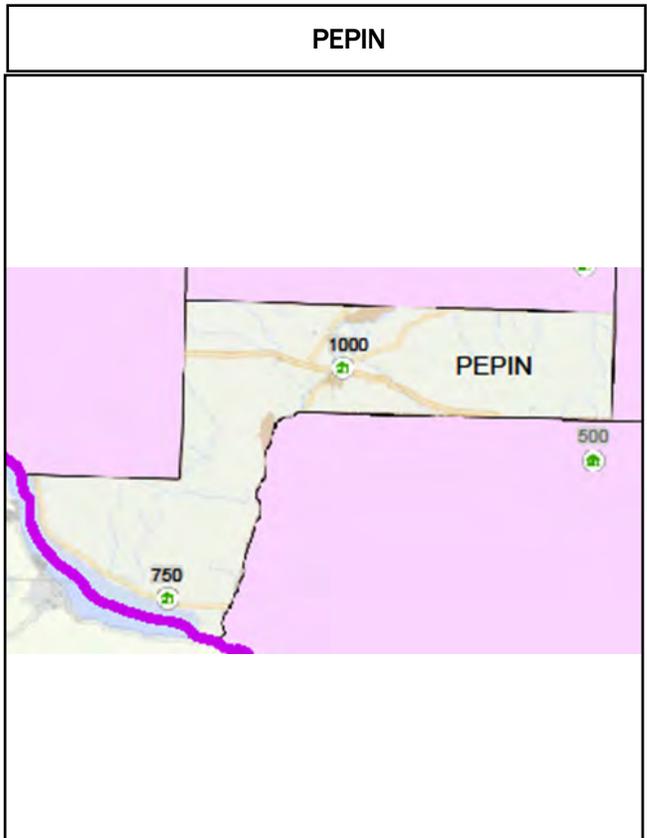
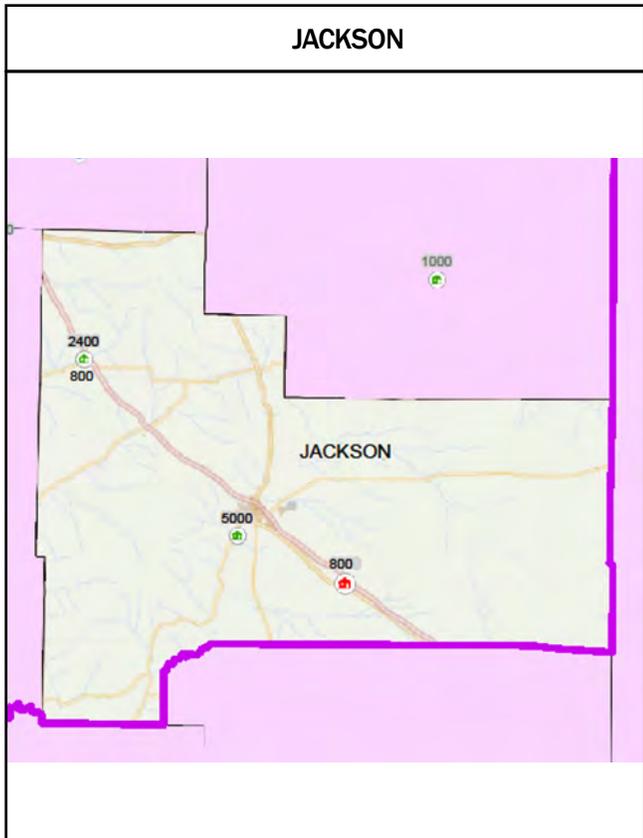
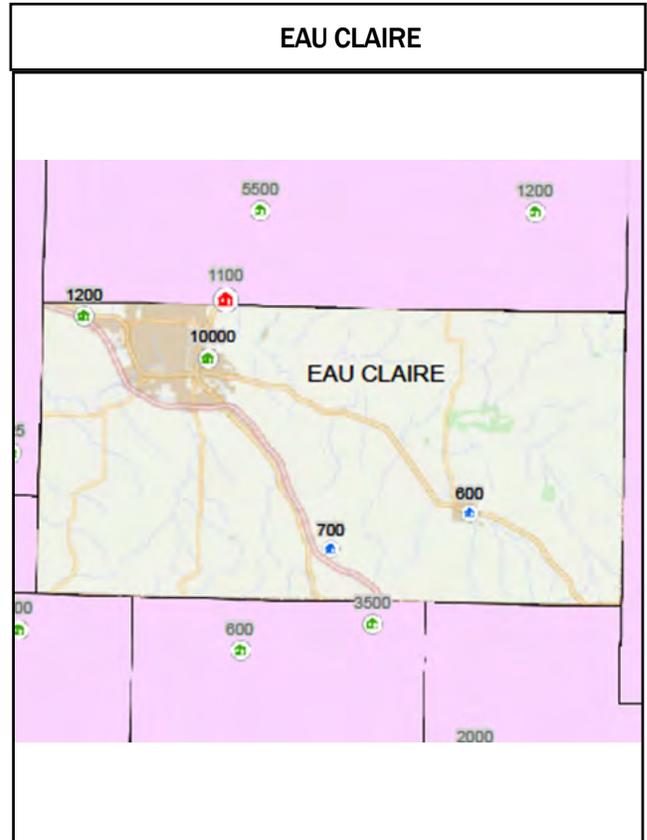
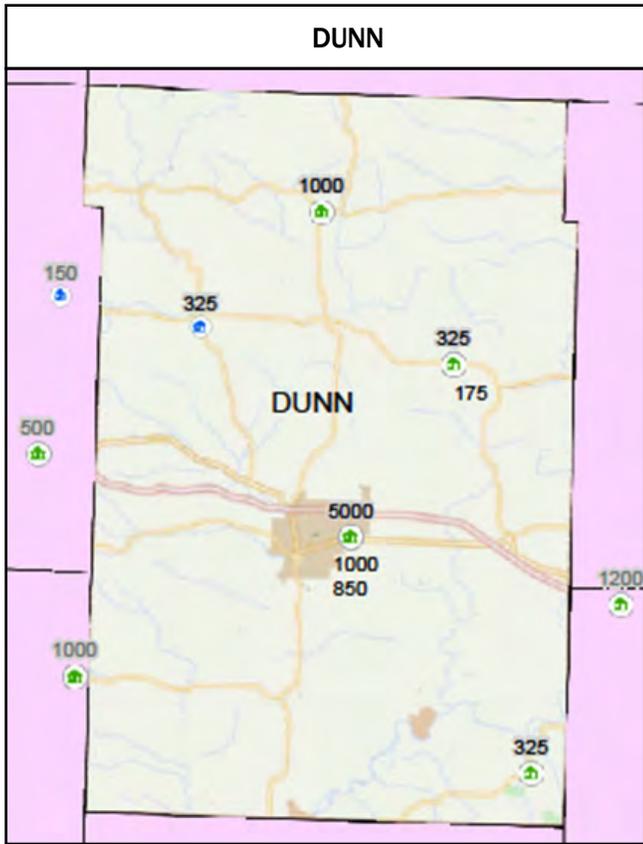




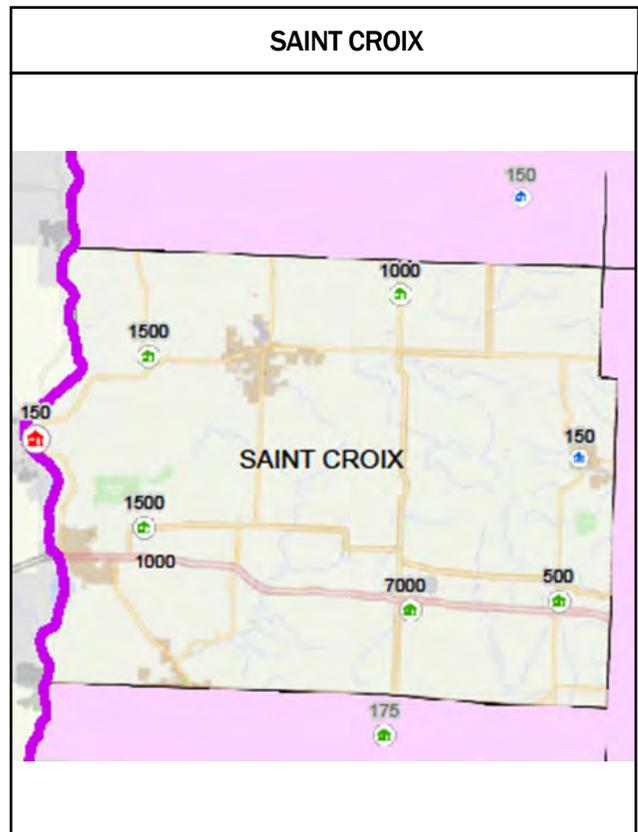
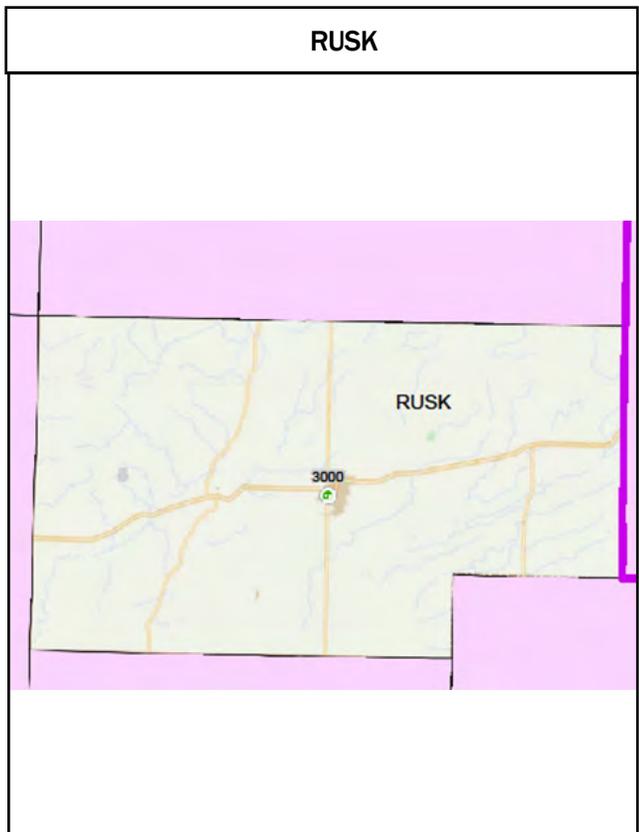
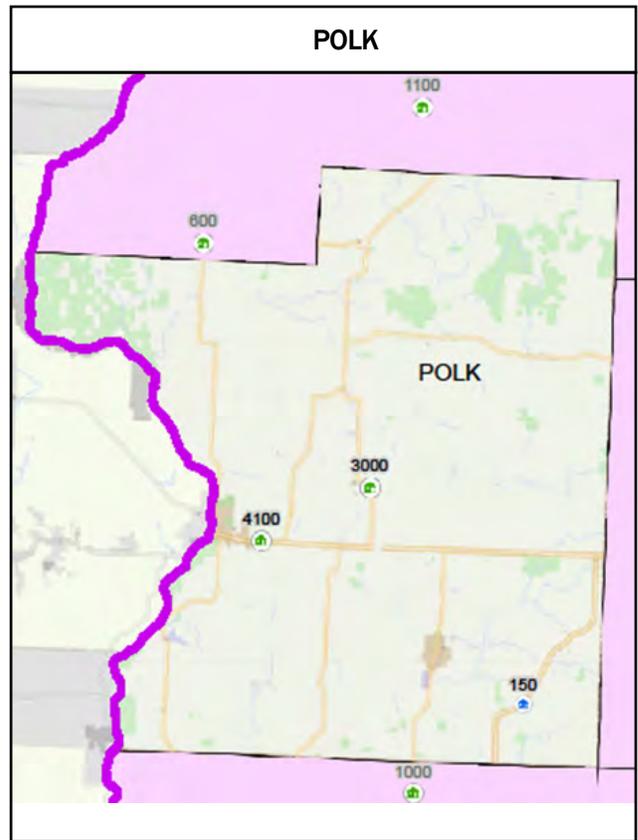
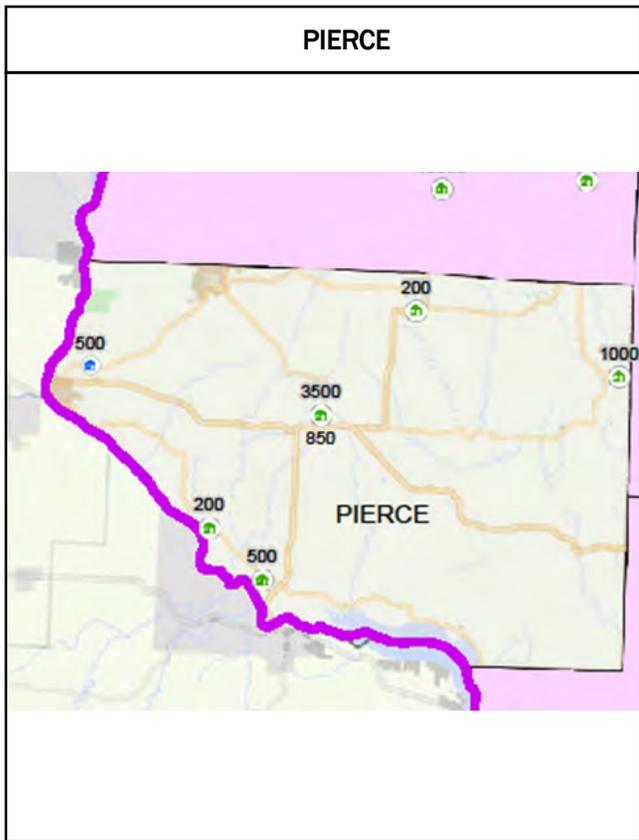
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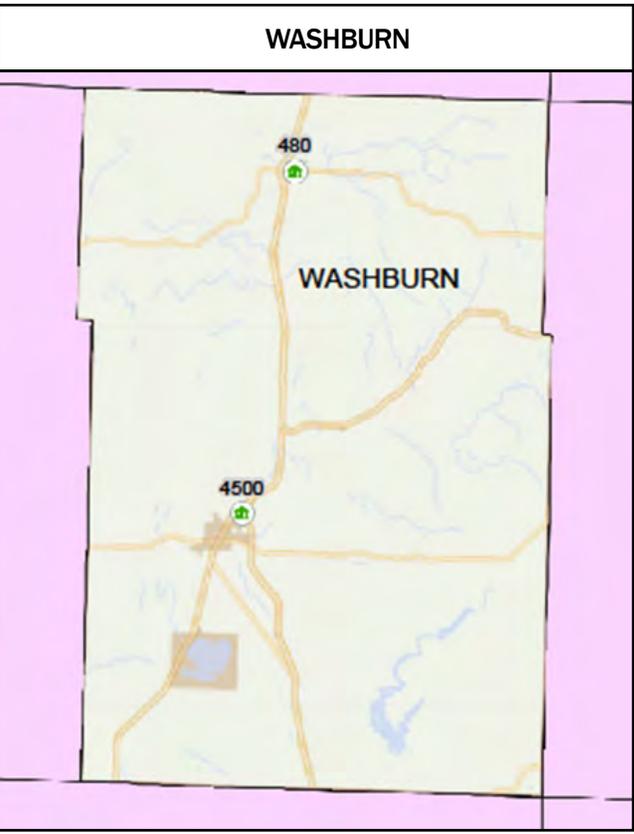
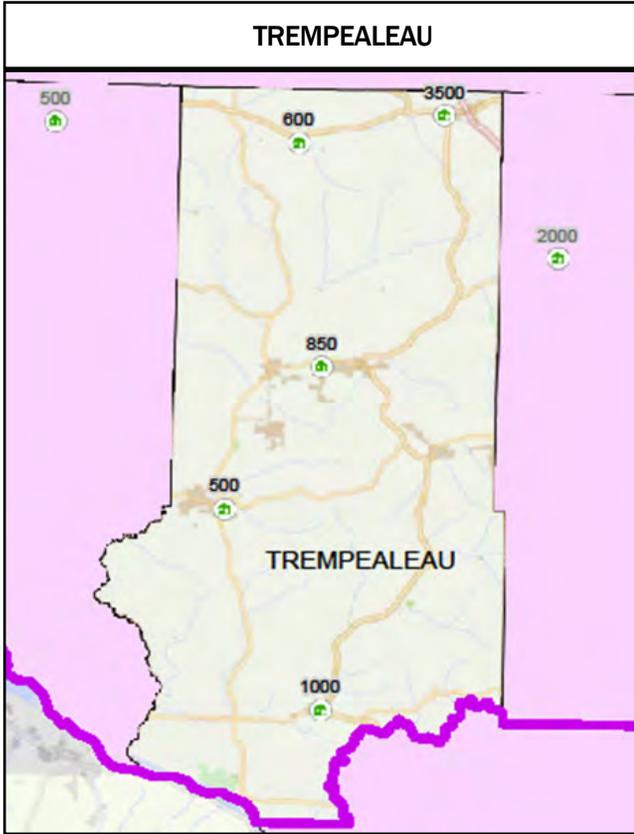
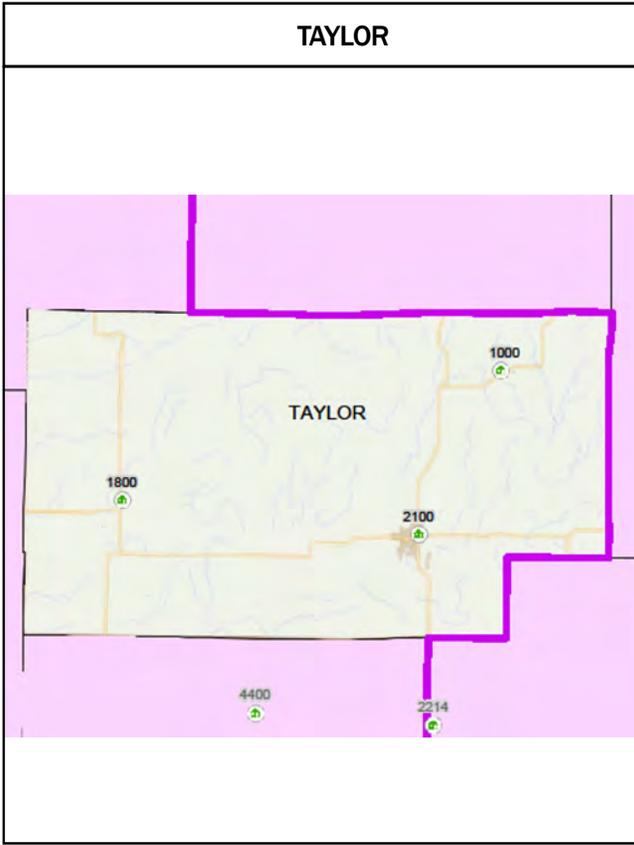
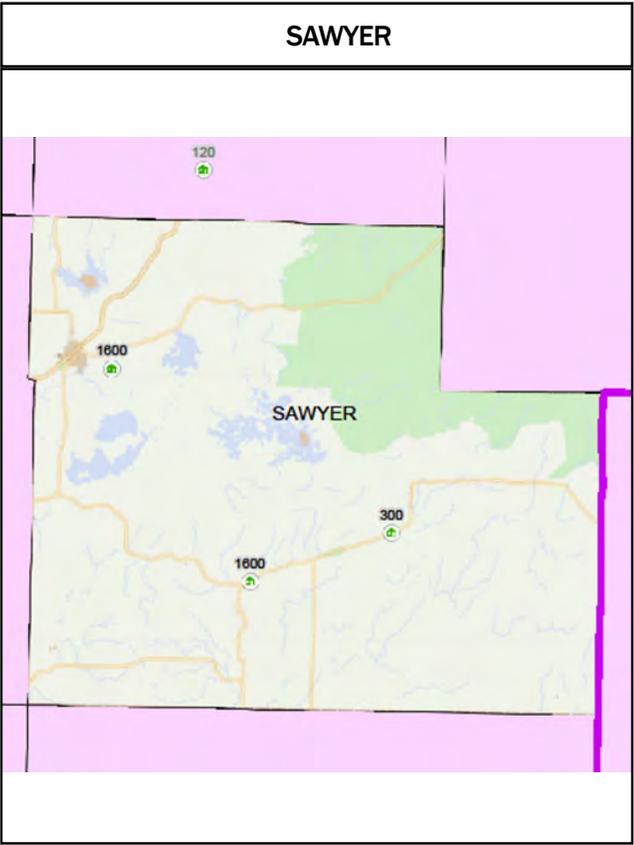
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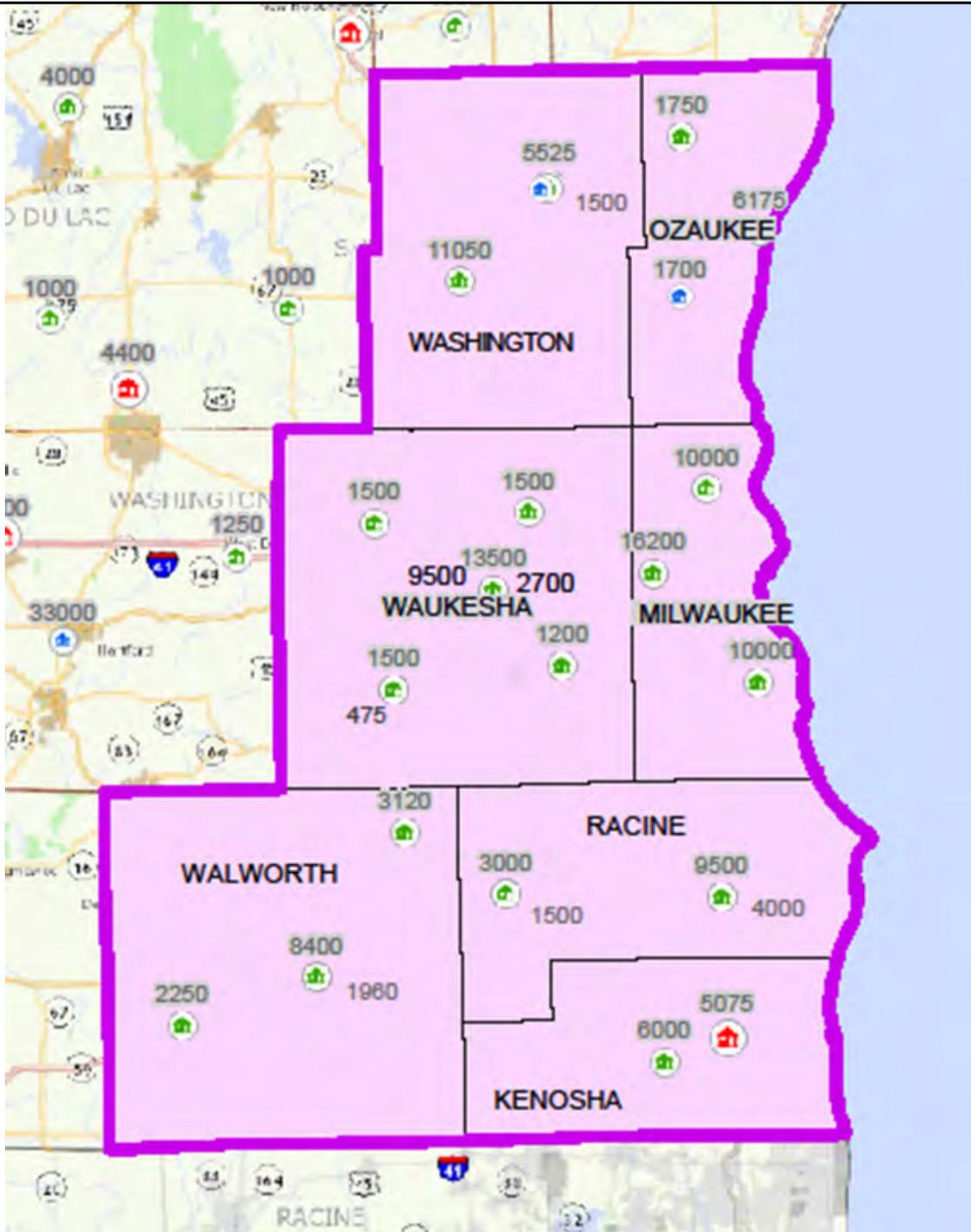


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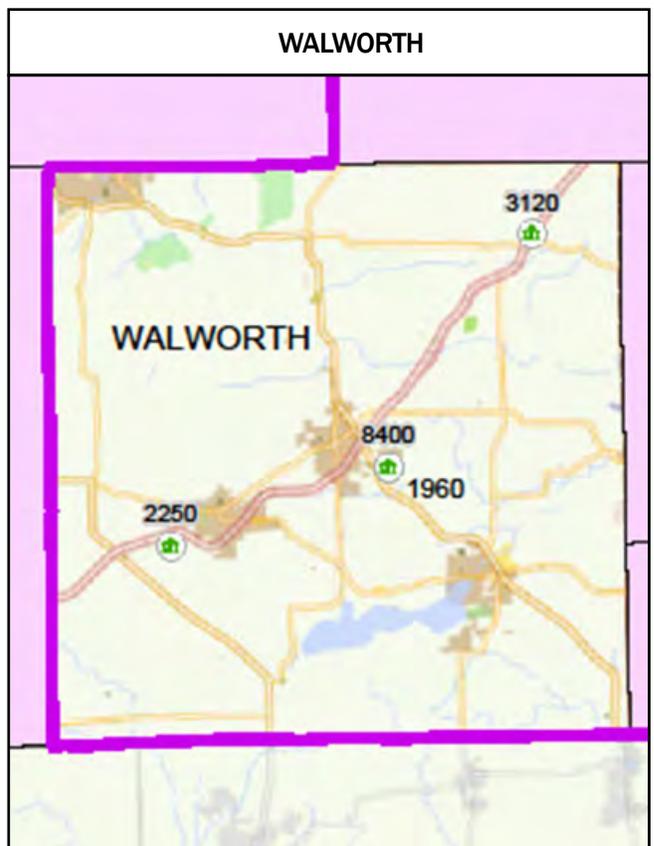
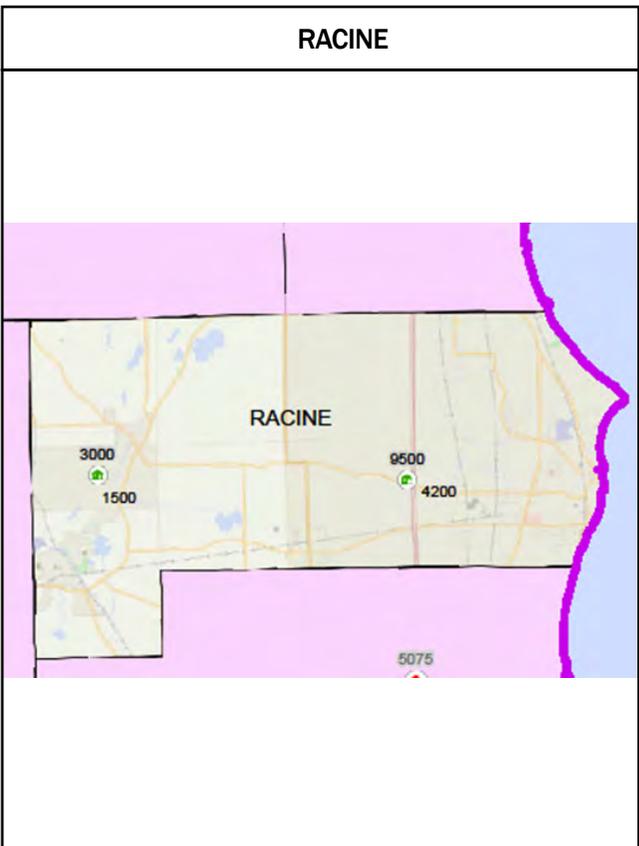
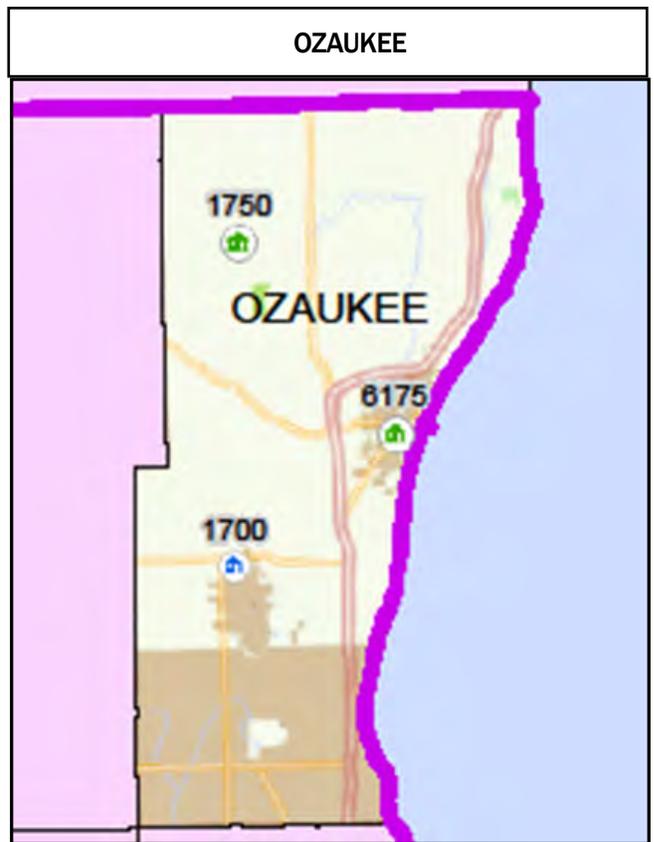
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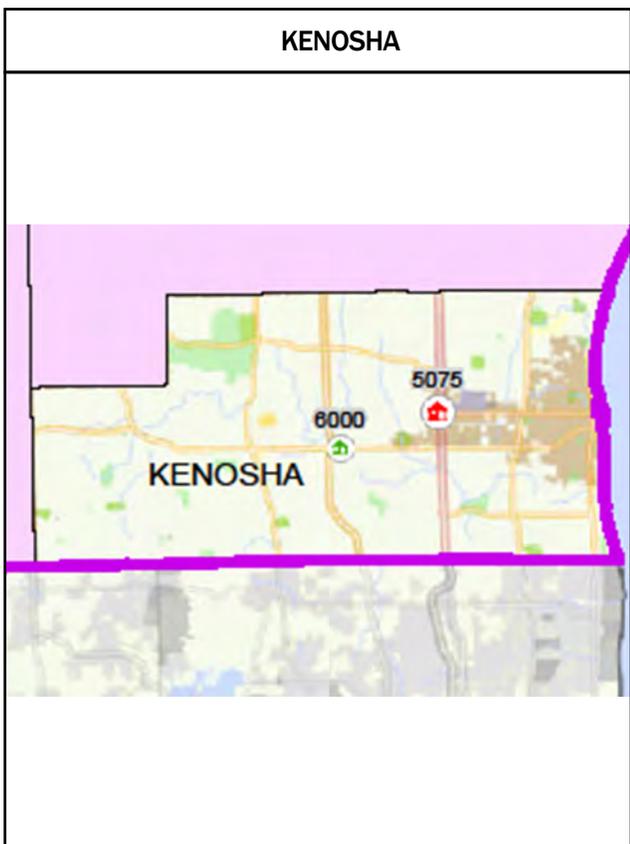
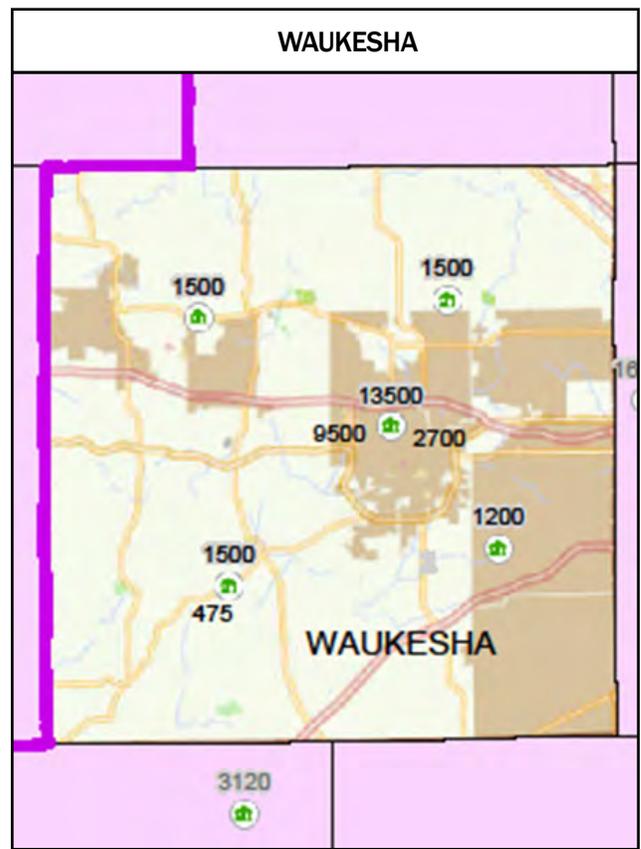
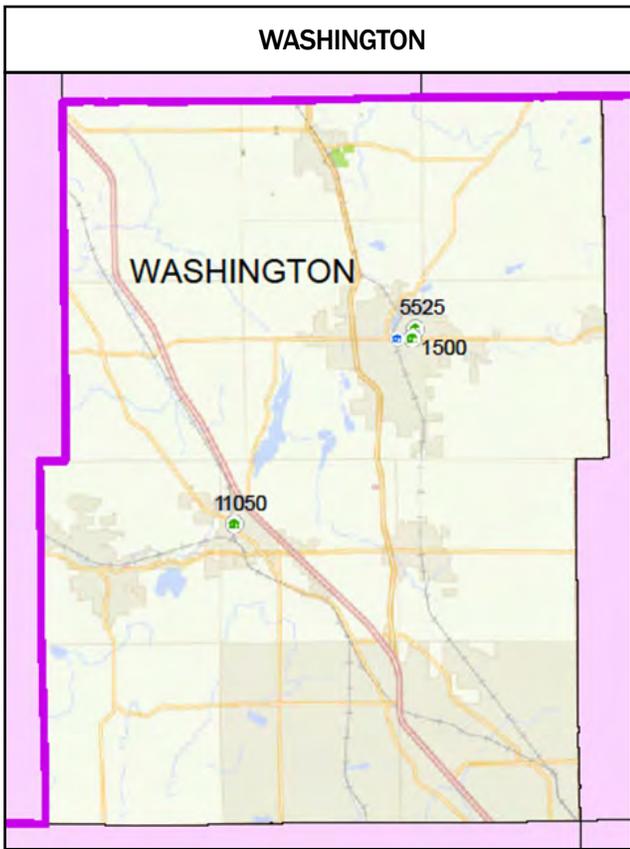
Financial Owner

-  WisDOT
-  County/State Financed
-  State Alloted/Not Financed

Numbered labels indicate the shed capacity allotted to WisDOT in tons

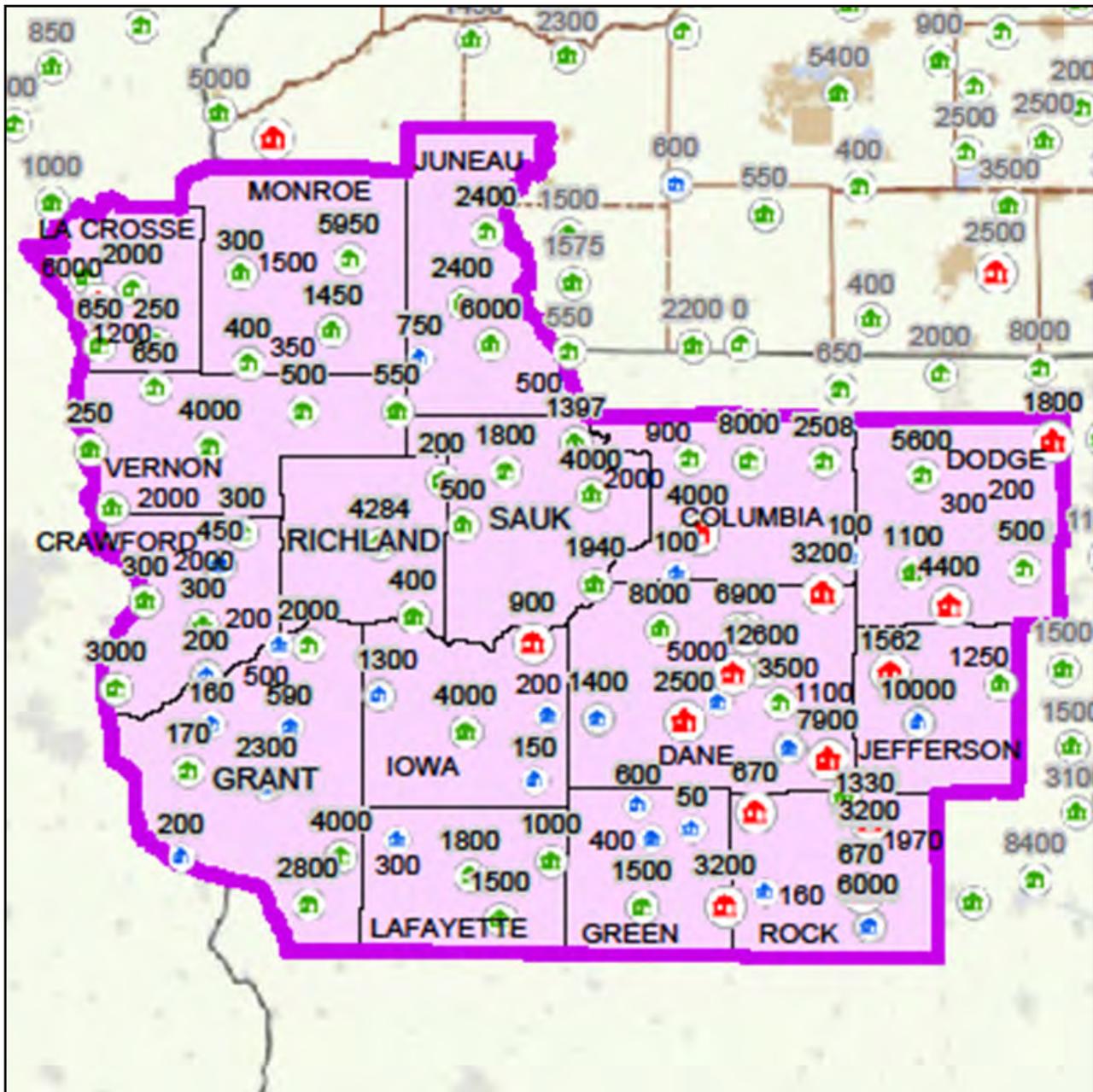


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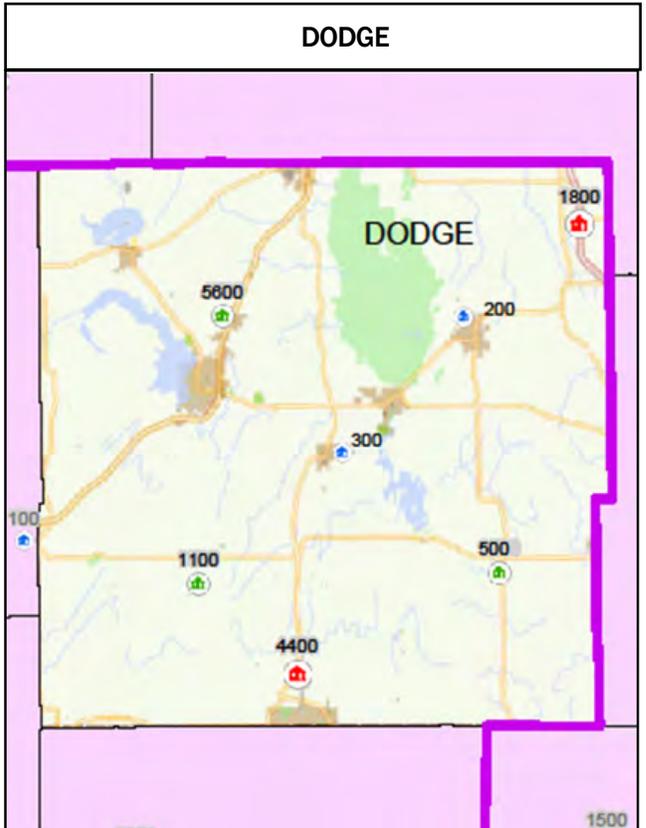
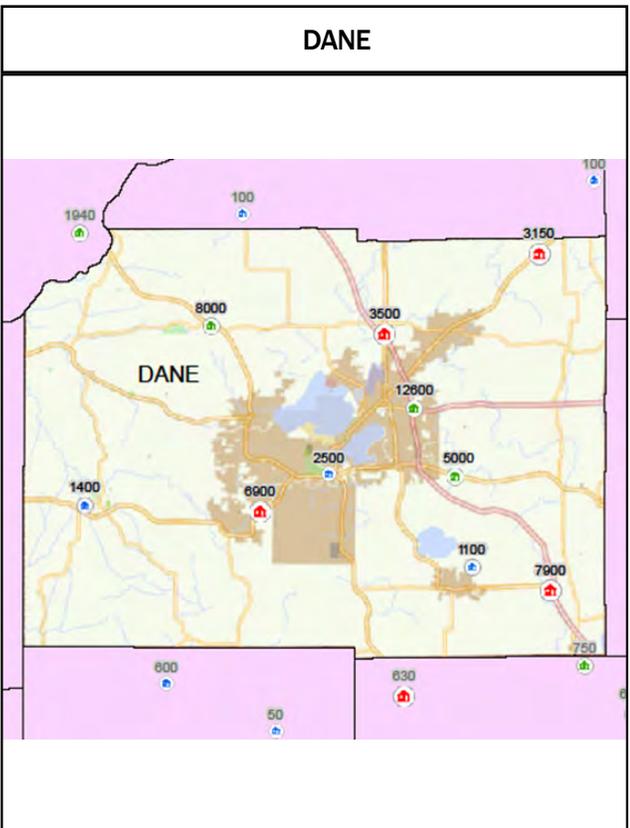
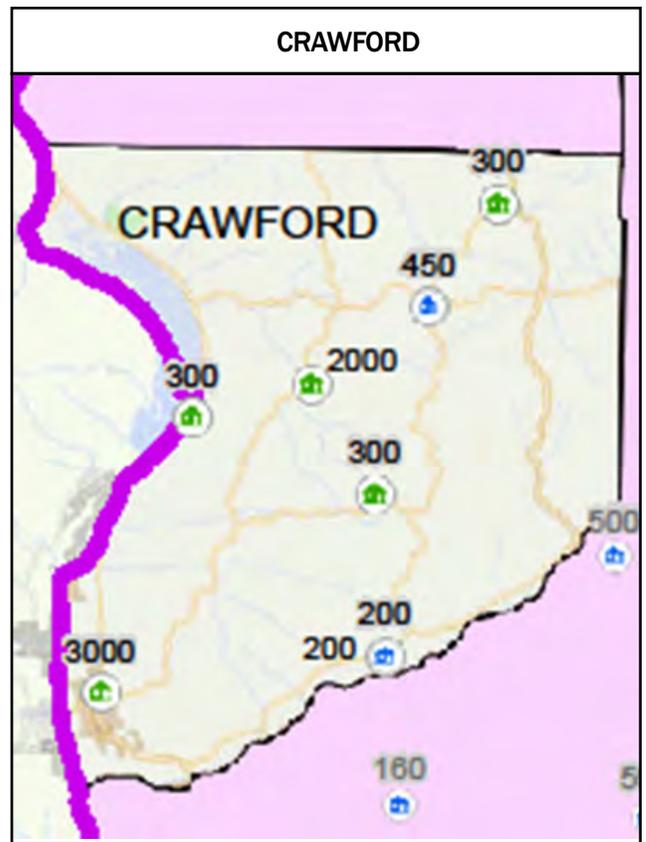
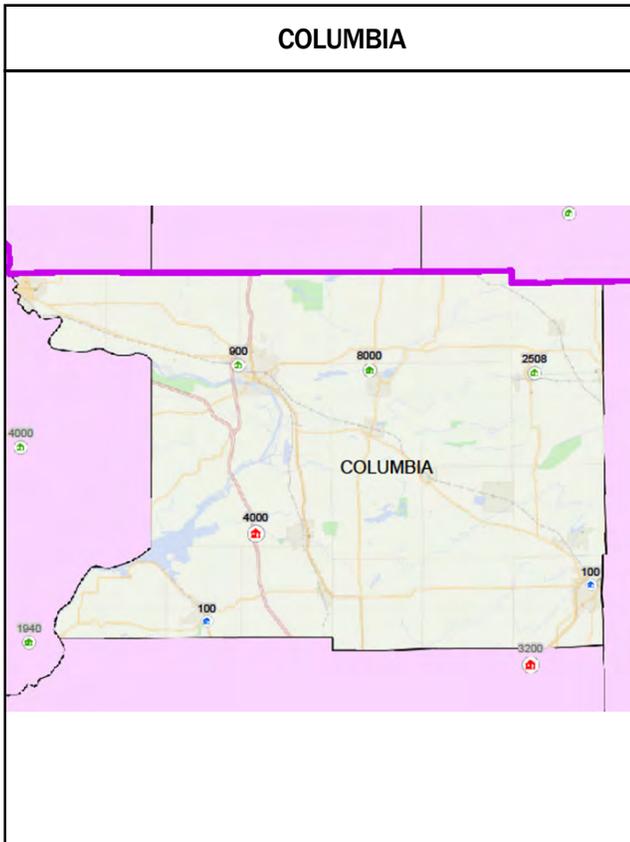
## Southwest Region Salt Sheds



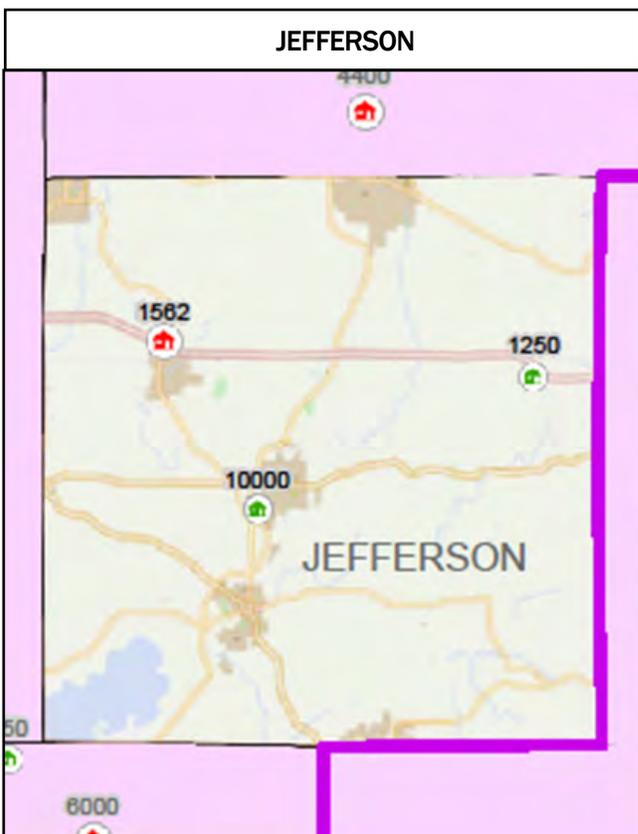
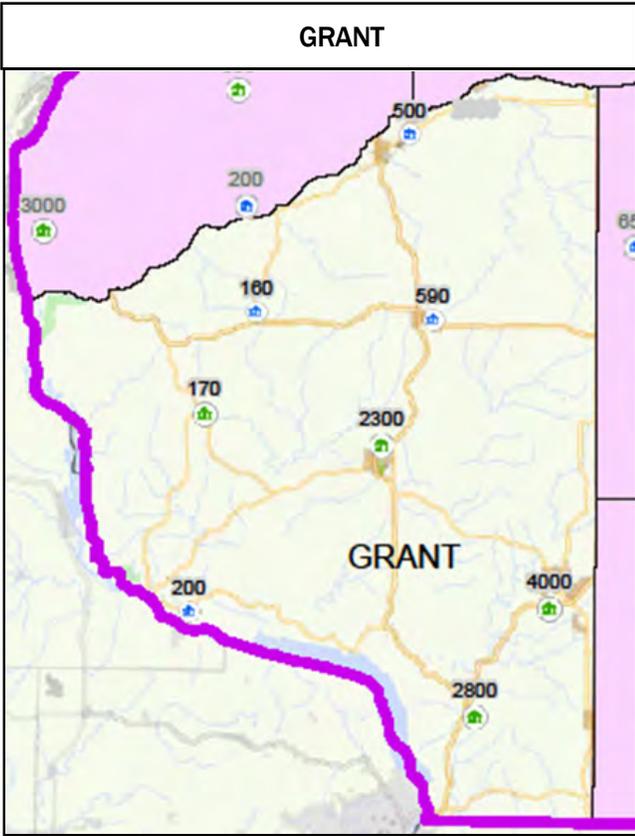
### Financial Owner

-  WisDOT
-  County/State Financed
-  State Allotted/Not Financed

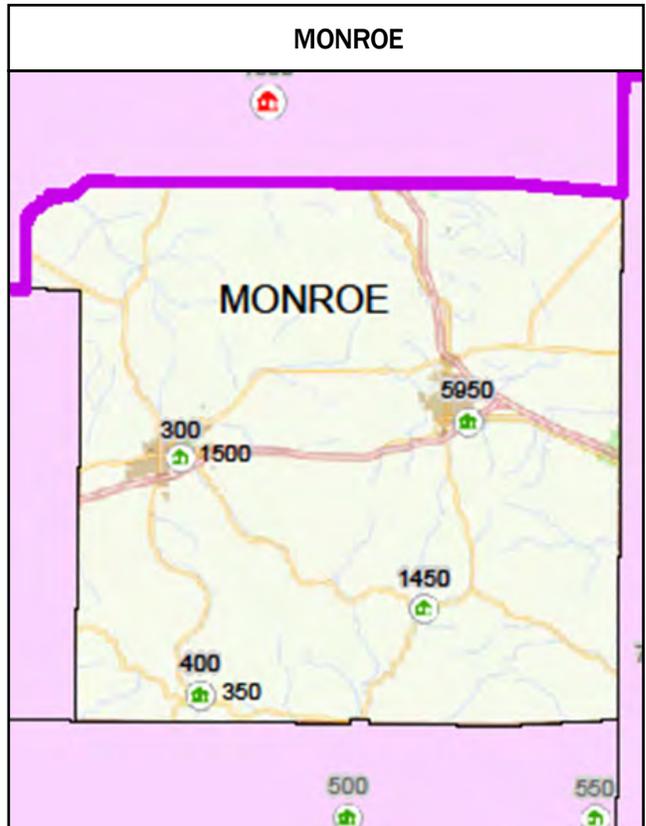
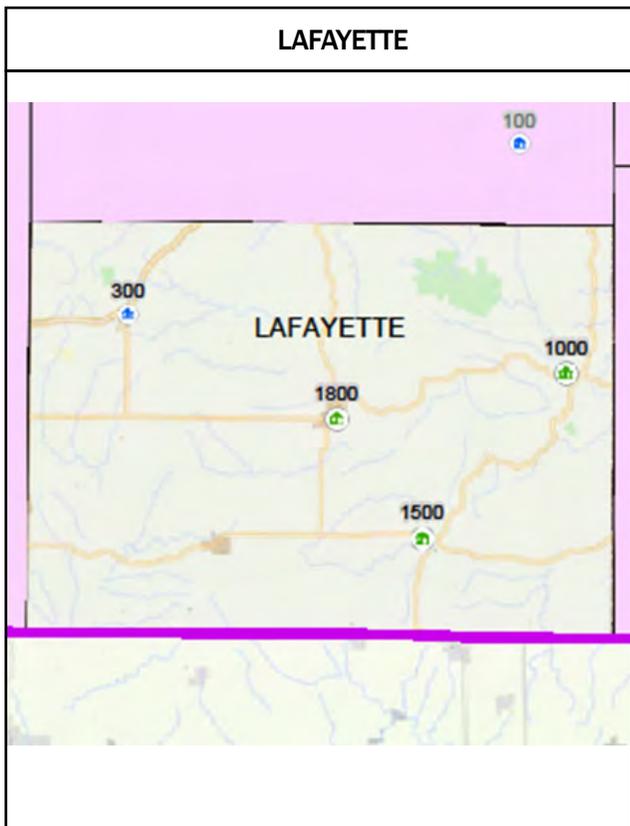
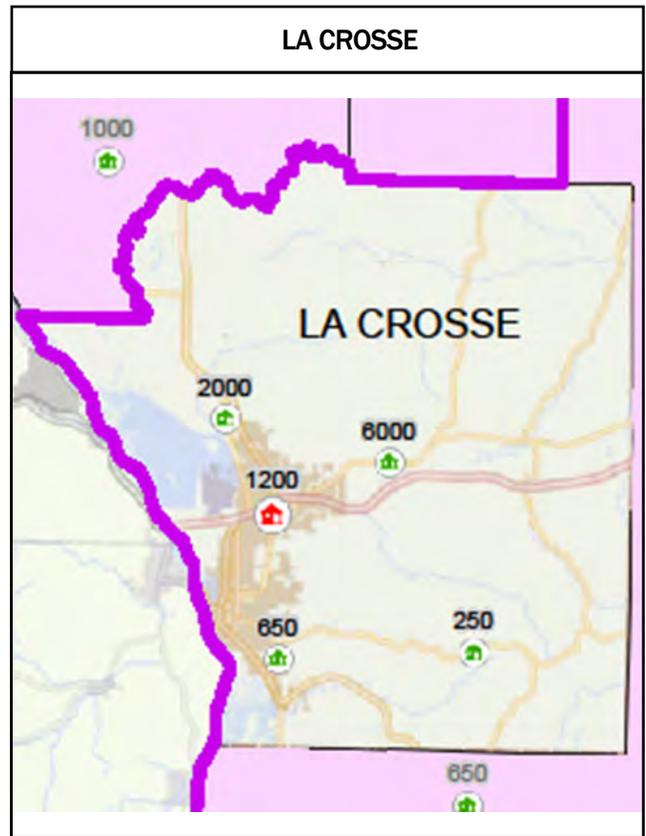
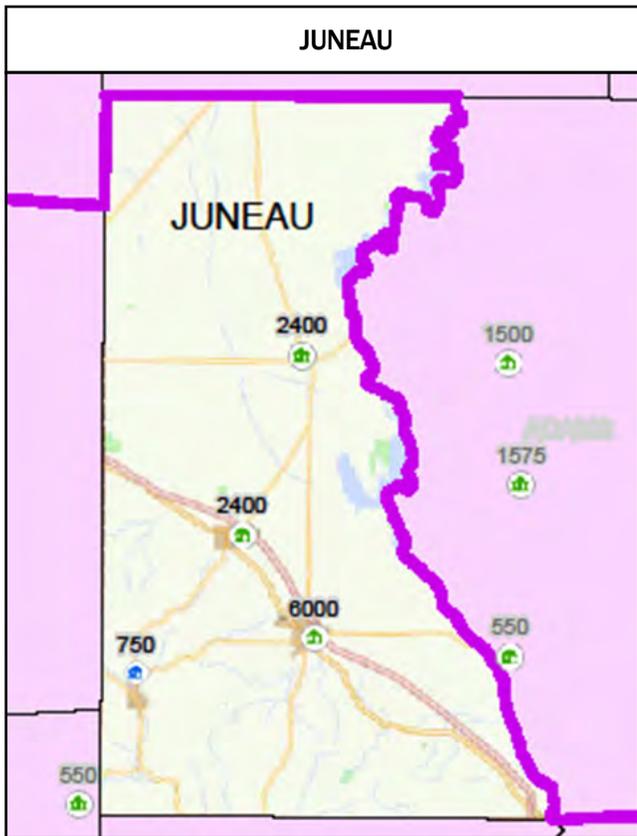
Numbered labels indicate the shed capacity allotted to WisDOT in tons



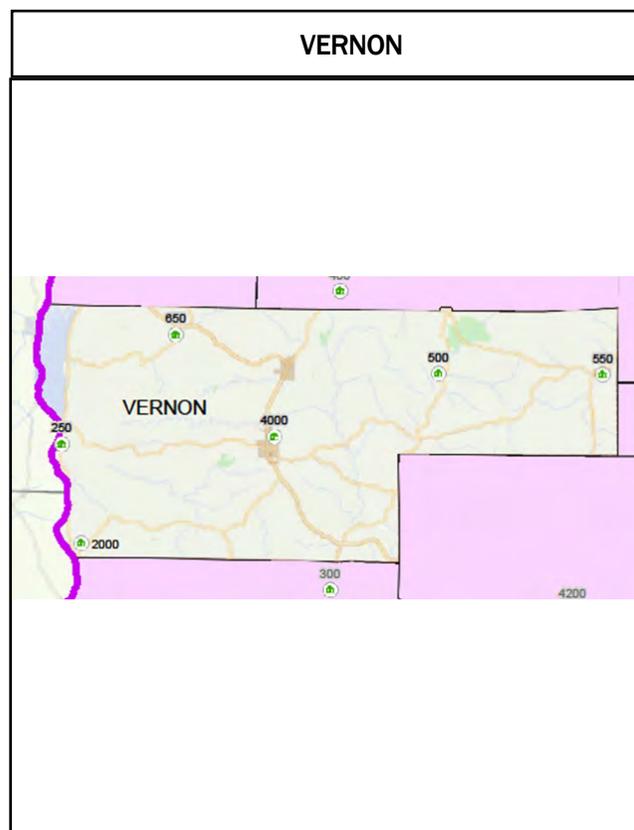
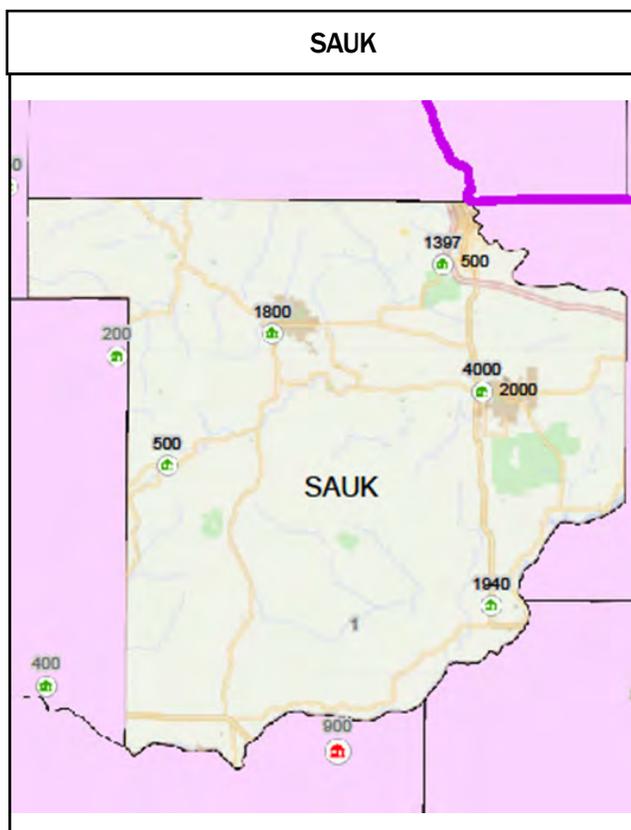
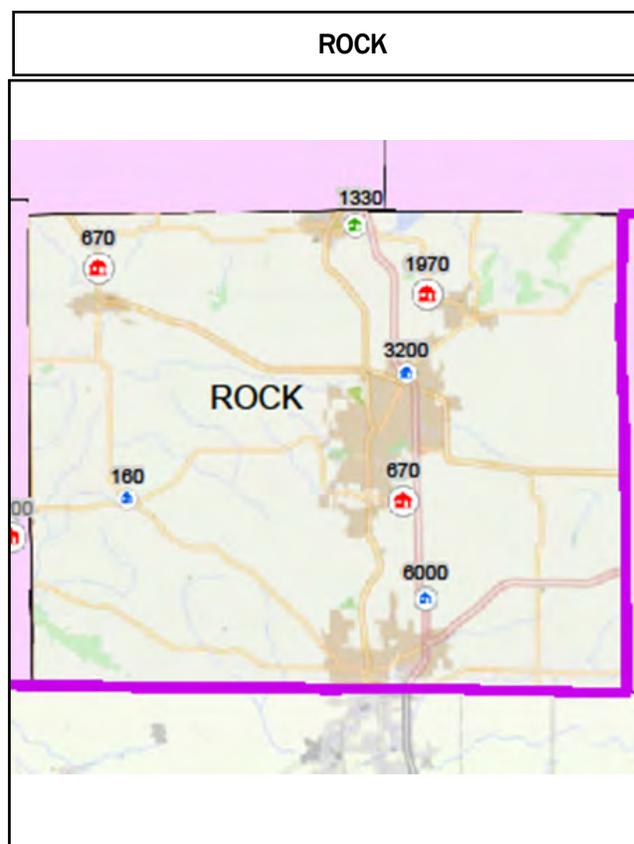
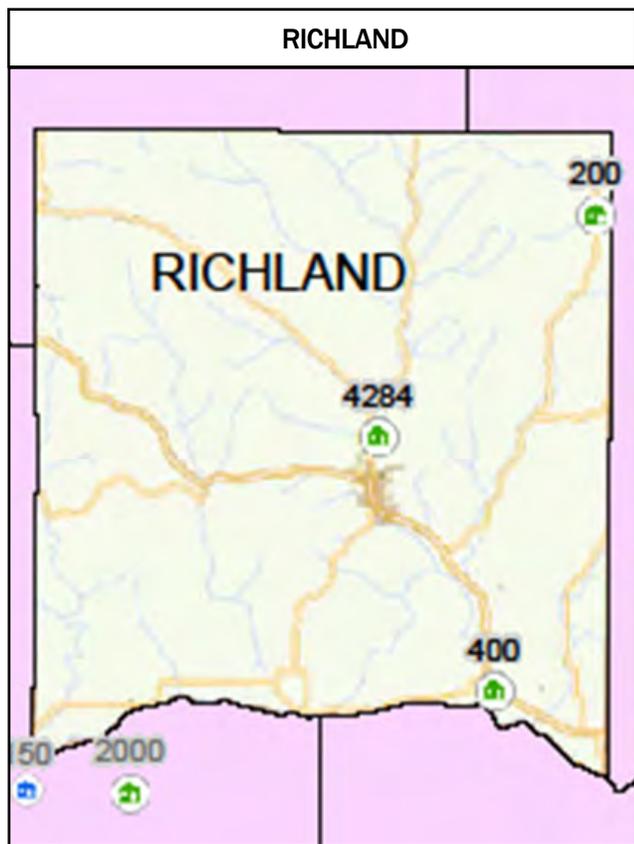
Numbered labels indicate the shed capacity allotted to WisDOT, in tons.



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