The State of Wisconsin's Lead Service Line Inventory

Wisconsin's LCRI Readiness Gap

A statewide analysis of 598 community water systems benchmarked against peer Great Lakes states ahead of the November 2027 compliance deadline.

A review of April 2026 Wisconsin DNR LCRR inventory classification data, with implications for LCRI compliance pacing, DWSRF funding strategy, and the 2026–2027 inventory acceleration period.

KEY TAKEAWAYS

#2
Wisconsin ranks second-best in Great Lakes inventory completion

$130M–$400M
Estimated annual statewide replacement spend beginning in 2027

55%
Of statewide unknowns are concentrated in just 25 utilities

102 Utilities
Still carry more than 50% unknown service lines

333,000
Estimated effective statewide replacement universe under LCRI

BENCHMARKED AGAINST

Michigan · Minnesota · Ohio · Illinois · Indiana

Executive summary

The Wisconsin lead-service-line story is not one story. Beneath the statewide averages reported lies a bimodal distribution that averages obscure. More than half of Wisconsin's 598 community water systems have completed inventory and for those with lead service lines have moved into a multi-year replacement and funding phase. A smaller cohort of roughly 100 utilities still has more than half of its service lines unclassified. **These two populations face entirely different problems and require entirely different interventions.** *Treating Wisconsin as a single LCRI compliance problem is the strategic mistake of 2026.*

Three findings that should drive Wisconsin's strategy

1. Wisconsin trails only Michigan on inventory completion in the Great Lakes region. Wisconsin's 14.5% unknown rate (per the EPA Service Line Inventory Dashboard) is second-lowest among the six largest Great Lakes states. Michigan leads with 12.1% — but Michigan has operated under a state lead-and-copper rule since 2018, six years ahead of federal LCRR. Among states without that regulatory head start, Wisconsin is in front, but has a long tail.

2. Most of the remaining uncertainty sits in a small number of utilities. Ten utilities hold 41% of Wisconsin's unknown service lines; twenty-five hold 55%. Targeting these systems with verification capacity through Q2 2027 retires most of the statewide compliance risk.

3. The binding constraint at small utilities is capacity, not motivation. Utilities under 2,000 connections average 23% unknowns — more than double the rate of large systems. They face the same November 2027 deadline with a fraction of the staff, engineering, and grant-writing capacity. Asymmetric support is the only realistic path.

The compliance math, plainly

Treating unknowns as lead under federal LCRI rule, Wisconsin's effective replacement universe is approximately 333,000 service lines. Beginning November 2027, a 10% annual replacement pace implies roughly 33,000 replacements per year, a statewide cost of $130 million to $400 million annually at current AWWA replacement-cost range estimates. Whether utilities recover that cost through DWSRF principal forgiveness or pay it through rates depends on application quality at the census-tract level. Application quality increasingly determines how much of that cost is absorbed through principal forgiveness versus local rates.

333,000

Wisconsin service lines requiring replacement under LCRI — lead, galvanized requiring replacement, and unknown combined — as of the most recent annual reporting cycle.

What this report does

First, it characterizes Wisconsin's current position against regional peers; the comparison the existing reporting does not provide. Second, it segments Wisconsin's 598 utilities into populations with distinguishably different needs. Third, it translates those segments into specific actions for utility managers, state regulators, and funding intermediaries through the November 2027 deadline.

Quick-reference utility action framework

• 0–10% unknowns: Shift focus toward replacement planning, DWSRF strategy, and multi-cycle capital pacing.

• 10–50% unknowns: Treat remaining verification work as the gating item for accurate funding and replacement planning.

• >50% unknowns: Prioritize immediate verification-capacity assessment and early procurement of technology and contractor support.

• Small and rural systems: Explore new technology options, shared-service, regional TA, and operational support models to reduce fixed compliance burden.

The analytical foundation is the Wisconsin DNR's LCRR Site Classifications dataset. Peer-state figures come from the Minnesota Department of Health, Illinois EPA, and Michigan EGLE. Methodology and data caveats appear at the end.

1. Wisconsin's lead exposure is moderate. Its remaining uncertainty is larger than it looks.

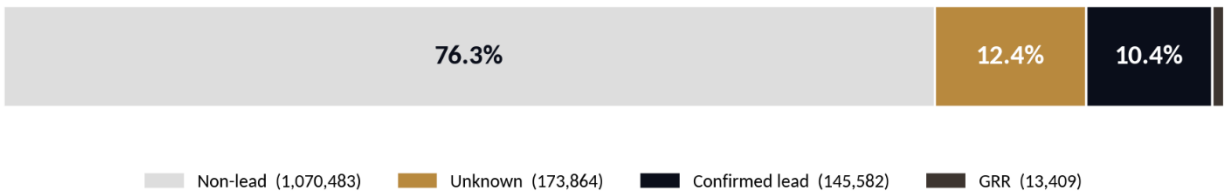

Figure 1. Wisconsin service line classification, 1,403,338 total lines across 598 community water systems. Source: WI DNR 2026 PBCU LSLI Site Classifications.

Wisconsin's 598 community water systems collectively serve approximately 1.4 million service connections. Three-quarters of those lines are confirmed non-lead, the often overlooked good news in the dataset. Wisconsin's drinking water infrastructure is not a statewide lead problem so much as a concentrated one. The remaining 23.7% lead, GRR, and unknown combined represent the state's full

compliance exposure under the federal Lead and Copper Rule Improvements (LCRI). Because unknowns are treated as lead for replacement planning under federal rule, the effective replacement universe is approximately 333,000 service lines. Classification status breaks down as 76.3% non-lead (1,070,483 lines), 12.4% unknown (173,864 lines), 10.4% confirmed lead (145,582 lines), and 1.0% GRR (13,409 lines).

How Wisconsin compares to its regional peers

Until November 2024, no apples-to-apples comparison of state inventory positions existed; states reported on different schedules using different definitions. The EPA Service Line Inventory Dashboard, launched after the federal LCRR baseline submissions, makes the comparison possible for the first time. The picture it produces is favorable to Wisconsin.

Among the six largest Great Lakes states, Wisconsin holds the second-lowest unknown rate. Only Michigan reports lower and Michigan operated under a state lead-and-copper rule for six years (since 2018) before federal LCRR requirements took effect. Among states without a comparable regulatory head start, Wisconsin is in front. Minnesota, despite a near-perfect inventory submission rate, carries an 18.7% unknown rate. Ohio and Illinois, both with longer-running state programs than Wisconsin's, sit at 24% and above. Indiana, holds the highest unknown rate in the region at 33.8%.

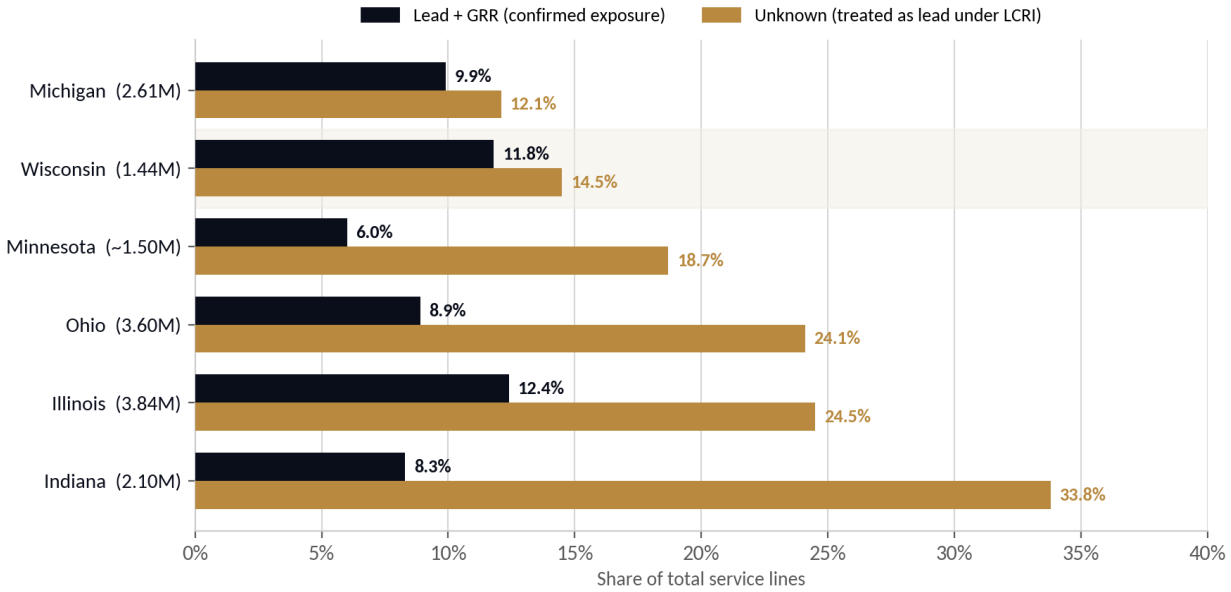

Figure 2. Great Lakes peer-state benchmark. Share of total service lines reported as Lead+GRR or Unknown to the EPA Service Line Inventory Dashboard, October 2024 federal LCRR baseline submission. Wisconsin sits second-best on inventory completion, trailing only Michigan, which has operated under a state lead-and-copper rule since 2018.

The implication

Wisconsin enters the 2026–2027 acceleration window from a stronger position than peer-state reporting implies. That position is not a reason for complacency. It is a reason for precision. The remaining work is concentrated in identifiable utilities, in identifiable regions, and in identifiable size classes. The next sections describe that geography.2. Half of Wisconsin is past inventory. The other half is running out of time.

The most consequential feature of Wisconsin's current position is not the statewide average. It is the distribution beneath it. Five distinct populations exist within the 598 reporting utilities, and each generates a different demand on the state's water sector through November 2027.

- **312 utilities (52%)** report zero unknowns. These systems have completed inventory.
- **77 utilities (13%)** fall between 1–10% unknown — effectively complete.
- **107 utilities (18%)** are partially classified, between 10% and 50% unknown.
- **79 utilities (13%)** carry significant unknowns, between 50% and 90%.
- **23 utilities (4%)** have effectively not started, with 90% or more of service lines unclassified.

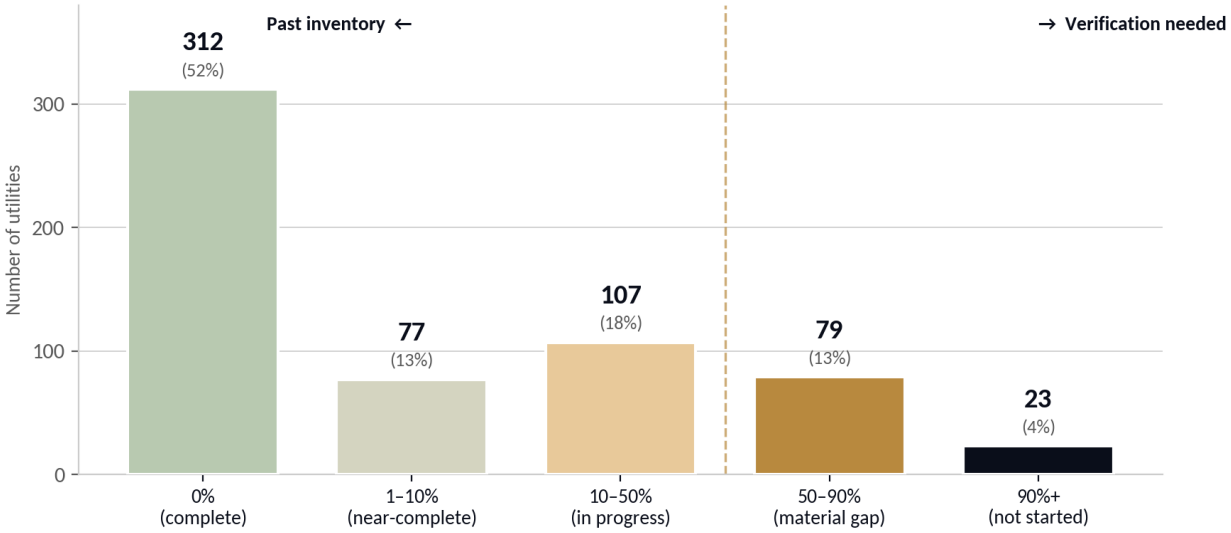

Figure 3. Distribution of Wisconsin community water systems by share of unknown service lines. The dividing line at 50% unknown separates utilities ready for replacement-phase work from those still requiring verification capacity.

Two populations, two strategies

Utilities that have finished inventory no longer need inventory services. Their next decisions concern replacement prioritization, multi-year capital planning, and DWSRF principal-forgiveness capture across multiple application cycles. They will benefit from funding intelligence and replacement-pace tracking, not verification capacity.

The 102 utilities with more than 50% unknowns face the opposite problem. They cannot accurately scope a replacement plan, secure principal forgiveness, or design a construction sequence while half the inventory remains unclassified. For these utilities, verification is not a line item on the replacement budget. It is the precondition for sizing the budget at all. Of the 19 months remaining before November 2027, perhaps 9 to 12 are realistic verification windows after accounting for procurement lead times. The work that does not begin in calendar year 2026 is unlikely be completed in time.

In our verification work with mid-sized Wisconsin utilities, the pattern we see consistently is that classification accelerates dramatically once a utility moves to simple and effective homeowner-participation methods. The throughput differential is roughly an order of magnitude. The constraint is rarely technical; it is operational — mobilizing notification, scheduling, photo verification, and quality control as a single workflow rather than four separate ones.

CASE STUDY · **Verona Water Utility — a verification benchmark**

The City of Verona, a 4,500-connection utility in Dane County, illustrates what verification looks like when it is operationalized rather than improvised. Working with Service ID, Verona deployed a homeowner-participation methodology combining mailed notification, an online photo-submission portal, and a structured review workflow.

The utility achieved a homeowner participation rate 10–25 times the industry norm reported in EPA Lead Service Line Inventory Guidance literature. The rapid response avoided more than $125,000 in costs that would otherwise have been incurred through field potholing and contractor mobilization for verification requirements. The verification campaign ran in under 30 days.

Why this matters for the 102 utilities with >50% unknowns: the operational difference between 30-90 day campaigns and 18-month efforts is not technology. It is sequencing. Verification, notification, scheduling, and quality control belong in a single coordinated workflow. The utilities that approach LSL verification as a sequence of disconnected projects will run out of calendar before they run out of unknowns.

3. Ten utilities hold 41% of Wisconsin's remaining uncertainty

Unknown service lines are not evenly distributed across Wisconsin. The top 10 utilities by unknown count account for 70,926 unknown lines or 41% of the statewide total. The top 25 hold 55%. The top 50 hold 68%. Statewide compliance risk, in other words, is concentrated in a manageable number of utilities.

Three patterns in the top of the list

Milwaukee is a scale story, not a classification gap. Milwaukee Waterworks reports 26,341 unknowns, 15% of the state total, against an unknown rate of just 16%. The system's contribution to the statewide

tally reflects the size of its distribution network, not weakness in classification practice. Milwaukee's next decisions are about replacement sequencing and DWSRF capture, and verification methodology that reaches the hardest to reach communities.

Beloit is mid-transition. Beloit reports 10,078 unknowns on 15,174 total lines, a 66% unknown rate that places it among the most exposed mid-sized systems in the state. The system is in the middle of a substantial inventory effort to be able to meet the 2027 deadlines and begin full scale planning for replacements.

Five medium-sized cities are tractable but underserved. Howard, South Milwaukee, Menomonie, Rhinelander, and Merrill each report unknown rates between 49% and 58% on systems of 3,500 to 7,000 lines. These cities represent material but tractable compliance gaps if verification resources arrive in 2026. They are also the population most likely to be missed by both vendor focus on Tier-1 metro accounts and state technical assistance.

The implication

Wisconsin's statewide inventory problem is a manageable problem, but only if effort concentrates where the unknowns are. Diffuse, evenly-distributed support across utilities is the wrong allocation. Targeted support to the 25 utilities holding more than half of the unknowns is the right allocation. The state's 2026 technical-assistance posture should reflect this concentration explicitly.

4. The geography of remaining work splits cleanly along DNR region lines

Inventory status varies sharply across Wisconsin's five regions, and the variation is not random. It tracks the age of urban housing stock and the staff capacity of the region's utilities.

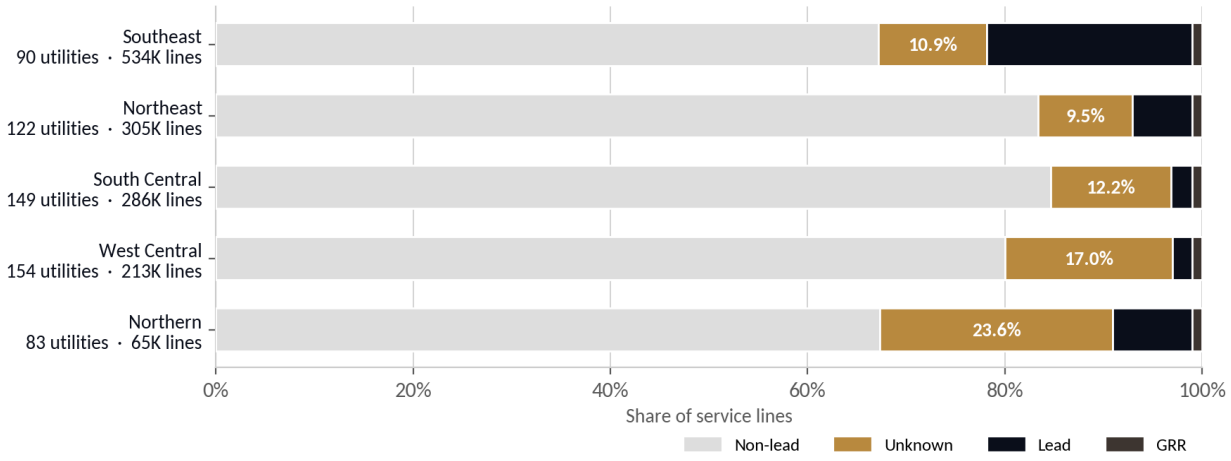

Figure 5. Wisconsin service line classification by region. The Southeast region holds most of the state's confirmed lead, while the Northern region carries the highest unknown rate on its smallest base.

Region	Utilities	Total lines	Confirmed lead	Unknown	% Unknown
Southeast	90	533,813	111,363	58,358	10.9%
Northeast	122	305,393	18,520	29,124	9.5%
South Central	149	286,399	6,168	34,921	12.2%
West Central	154	212,684	4,279	36,132	17.0%
Northern	83	65,049	5,252	15,329	23.6%

Figure 6. Inventory status by Wisconsin PSC region, 2024 reporting cycle.

Reading the map

Three patterns matter. The Southeast region holds 76% of Wisconsin's confirmed lead service lines, driven by older infrastructure in the Milwaukee metropolitan area; the work in Southeast is largely classification-completion and replacement-pending. The Northeast has the lowest unknown rate at 9.5%, suggesting classification is largely finished. The Northern region carries the state's highest unknown rate at 23.6%, on its smallest total volume, a profile that reflects rural utility staff capacity rather than infrastructure scale.

The pattern is the one we would expect. Older urban systems have high confirmed-lead counts and lower unknown rates because the classification work was prioritized because of system makeup. Rural and northern systems have high unknown rates on smaller totals because staff capacity and resources are thinner. What this means operationally is that statewide TA strategy should not be uniform. The Southeast needs last mile inventory, verification and replacement financing intelligence. The Northern region needs verification capacity. The Northeast and South Central need targeted help on the long-tail systems within their otherwise advanced cohorts.

5. Small utilities aren't underperforming. They're under-resourced.

Unknown rates correlate inversely with utility size, and the correlation is not subtle. Utilities with fewer than 500 service lines average 19% unknowns. Utilities with 500 to 2,000 lines average 23%. Utilities with 10,000 to 50,000 lines average 9%. Utilities above 50,000 lines average 8%. The smallest systems carry roughly three times the unknown burden of the largest ones.

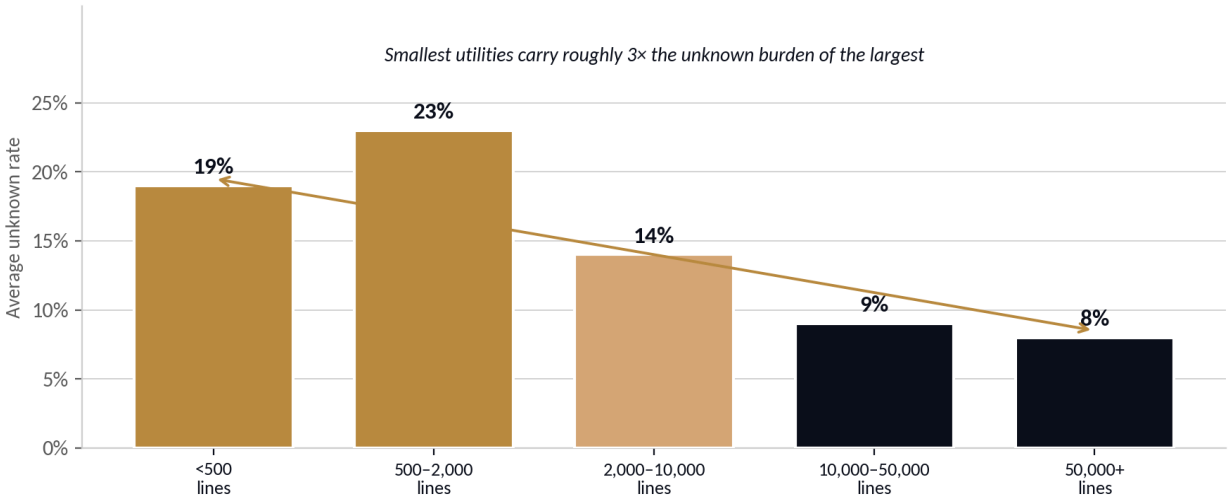

Figure 7. Average unknown rate by utility size cohort. Utilities under 2,000 service connections carry roughly three times the unknown burden of utilities above 50,000.

This is a capacity gap, not a performance gap

Small utilities do not have lower compliance obligations under LCRI. They face the same November 2027 deadline as Milwaukee, with a fraction of the staff capacity, engineering resources, legal overhead, and grant-writing infrastructure required to meet it. The utilities least likely to meet the deadline are not the utilities making the least effort. Practitioners working in the small-system segment know this; the data confirms what they see in the field.

From a resource-allocation standpoint, any meaningful statewide acceleration in inventory and replacement pace will require asymmetric support. Large systems have organizational machinery to execute and need relatively modest assistance. Small and mid-sized systems do not have that machinery, and need substantial technical, financial, and verification support, along with shared services that distribute fixed costs.

3×

The unknown-rate multiple at Wisconsin utilities under 500 connections versus those above 50,000. Small utilities are not failing the rule; the rule under-supports the utilities most at risk of missing it.

6. $130M–$400M per year starting November 2027 and application quality decides who pays it

Under the federal Lead and Copper Rule Improvements (LCRI), beginning November 1, 2027, community water systems are required to replace at least 10% of their remaining lead and GRR service lines annually, with unknowns treated as lead for planning purposes. Applying that rule to Wisconsin's current statewide position produces a significant implied pace.

- **Total replacement universe:** approximately 333,000 lines (lead + GRR + unknown).
- **Required annual replacement pace beginning November 2027:** approximately 33,000 lines per year statewide.
- **Estimated annual statewide cost at $4,000–$12,000 per replacement:** $130 million to $400 million per year.

DWSRF capacity is finite. Application quality is the differentiator.

The federal and state Drinking Water State Revolving Fund (DWSRF) provides the primary funding vehicle for LCRI compliance, with up to 100% principal forgiveness available for qualifying disadvantaged communities. But DWSRF capacity is finite, principal forgiveness is competitively allocated, and application quality varies significantly across utilities. Three structural risks define the funding environment through the 2027 deadline.

Structural risk to small utilities

Small and mid-sized utilities without dedicated grant staff face structural disadvantage in the principal-forgiveness process. They compete for the same forgiveness pool as larger utilities with professional application teams. In our work supporting funding applications, the gap between a competently scored application and a weakly scored one is rarely substantive; it is procedural, and it routinely costs disadvantaged utilities six- and seven-figure forgiveness awards. Principal forgiveness disproportionately flows to utilities that apply well, not necessarily to utilities with the greatest need.

Unknowns as a silent cost driver

The 173,864 unknowns category is the silent driver of statewide cost projections. If those unknowns resolve at historical rates, some will be lead and most will not, but until they are verified, every unclassified line must be treated as lead for planning and funding purposes. Each unresolved unknown inflates the compliance budget until it is verified. This is why verification quality determines funding accuracy: a utility that enters the application process with 50% of its inventory unknown is forced to either over-fund (treating all unknowns as lead) or under-fund (and absorb the surprise when verification reveals unexpected lead).

Field capacity bottleneck

Wisconsin has a limited number of engineering firms, contractors, and technical providers equipped to conduct inventory verification and replacement work at scale. Utilities that begin verification late in 2026 or in 2027 will compete for scarce field capacity in the months immediately before the deadline. Practitioners watching the contractor market expect cost premiums of 15–30% for utilities that enter procurement in 2027 versus those contracting through Q3 2026, with corresponding reductions in provider selectivity.

> **$130M–$400M**
>
> Estimated annual statewide replacement cost beginning November 2027, based on AWWA per-line cost ranges and the LCRI 10% annual pace requirement.

2026 is the practical verification window for most Wisconsin utilities. Utilities delaying procurement or verification into 2027 will increasingly compete for limited engineering, contractor, and funding-administration capacity.

Q2–Q4 2026: Inventory verification and homeowner engagement
Q1–Q3 2027: Funding applications, contractor procurement, replacement sequencing
November 2027: Mandatory LCRI replacement pacing begins

The 2026–2027 Compression Window

7. What to do in 2026

The 18 months between April 2026 and November 2027 will largely determine whether Wisconsin enters LCRI compliance on schedule or on exception. Three conditions are likely to be true. Inventory verification is the rate-limiting step; no funding plan can be scoped accurately while half of the inventory is unclassified. Funding application quality will increasingly differentiate outcomes; two neighboring utilities with comparable underlying need can face very different cost burdens depending on tract-level scoring against disadvantaged-community criteria. And the post-inventory cohort of 312 utilities will become the next strategic focus, generating a different demand profile than the verification population. The actions that follow are organized by audience.

For utility managers

- **If your utility has more than 50% unknowns:** begin a verification-pace assessment in Q2 2026. Confirm the verification window is realistic before committing to a replacement plan. Procure field capacity early; contractor availability tightens through 2027.
- **If your utility is in the 10–50% range:** treat the remaining unknowns as the gating item for your DWSRF intended use plan submission. Verification quality directly determines funding accuracy.
- **If your utility is fully classified:** shift focus to multi-cycle DWSRF application strategy. Tract-level scoring on MHI, poverty rate, unemployment, and SSI participation is decisive. Build a scoring inventory across your service area before the next ITA cycle.

For state regulators and PSC staff

- **Concentrate technical assistance on the 25 utilities holding 55% of unknowns** rather than diffusing TA. Targeted support is the only allocation consistent with the 19-month timeline.
- **Differentiate small-system support from large-system support.** Small utilities need shared-services and operational infrastructure; large utilities need access to last mile resources, replacement-sequencing and capital-planning support. A single TA program will under-serve both.
- **Publish utility-level scorecards on inventory completion and replacement pace** to support transparency, customer-notification compliance, and external benchmarking. Wisconsin trails Minnesota and Michigan on public-facing dashboards; this is correctable in 2026.

For DWSRF program managers and funding intermediaries

- **Weight principal-forgiveness scoring toward utilities with verified inventories** to avoid over-allocating to systems that have not yet sized their replacement need. Verification quality is the precondition for funding accuracy.
- **Make tract-level disadvantaged-community scoring visible to applicants.** Most utilities with strong disadvantage profiles are not capturing the principal forgiveness their tract-level scoring would justify with better analysis.
- **Plan for the multi-cycle population.** Utilities will draw on DWSRF and other funding sources across multiple ITA cycles through 2034. Cycle-over-cycle support tools like reapplication checklists, scoring update notifications, project-staging guidance will compound in value.

Methodology and data

This analysis draws on two complementary data sources. State-level Wisconsin analysis (Sections 2 through 7) uses the Wisconsin DNR LCRR reporting as of April 2026, specifically the PBCU LSLI Site Classifications dataset, which reports confirmed lead, GRR, unknown, and non-lead service line counts for every Wisconsin community water system. Cross-state peer benchmarking (Section 1) uses the EPA Service Line Inventory Dashboard (SDWIS), which aggregates the October 2024 federal LCRR baseline submissions from every state.

The two datasets produce slightly different Wisconsin totals: DNR reports 145,582 confirmed lead and 173,864 unknown across 598 community water systems; the federal SDWIS dashboard reports 169,000 lead+GRR and 208,000 unknown for Wisconsin. The delta is consistent with system-coverage differences — the SDWIS submission includes non-transient non-community (NTNC) systems excluded from the DNR community water system cohort. DNR numbers are the right reference for state-level operational planning; SDWIS numbers are the right reference for cross-state comparison because they apply the same reporting framework to every state.

Twelve utilities with zero reported total service lines were excluded from the DNR dataset as likely data errors or recently dissolved systems; the remaining 598 utilities comprise the working state-level dataset. All percentages and rates are computed from DNR reported values without adjustment. Classification categories follow federal LCRI definitions: lead, galvanized requiring replacement (GRR), unknown, and non-lead.

Cost assumptions are drawn from AWWA survey data and Wisconsin DNR DWSRF project records; ranges are used in place of point estimates throughout to reflect genuine cost variance by geography, system age, and replacement method. LCRI compliance requirements reflect the federal rule as finalized in October 2024 and effective November 1, 2027.

Peer-state figures in Figure 2 reproduce EPA SDWIS dashboard values as compiled by Unleaded Kids (December 2025) and verified against state-level reporting from the Minnesota Department of Health (November 2024), Illinois EPA Lead Service Line Replacement Advisory Board, and Michigan EGLE Annual Service Line Replacement Reports. Direct cross-state comparison remains approximate at the operational level because reporting frameworks differ across jurisdictions, particularly in the treatment of predictive-modeling outputs (permitted in Michigan, not in Wisconsin).

This analysis covers community (CWS) water systems only. Other transient (OTM) and non-transient non-community (NTNCWS) water systems have separate LCRI obligations and are not the focus of this report.

About Service ID Research

Service ID is a Wisconsin-based decision intelligence platform for municipal water utilities navigating the LCRI compliance era. The platform combines photo-verified service line inventory with census-tract-level DWSRF funding optimization to help utilities answer three questions: what do we have, what should we fix first, and how do we pay for it.

Service ID's regulatory foundations trace to nearly a decade of Wisconsin Public Service Commission and Department of Natural Resources water policy work, including statewide liaison responsibility for 578 utilities. Current customers and pilots include Kenosha Water Utility and the City of Verona, and active engagements across Wisconsin's Tier-1 mid-sized systems. Service ID was a runner-up in the 2025 Water Council Global Tech Challenge and second place in the 2025 Wisconsin Governor's Business Plan Competition (Tech Category).

For a utility-specific review of inventory status, funding optimization opportunity, or LCRI compliance pace:

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