The Future of Raw Material

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Hilton Lake Buena Vista, Orlando

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PREMIUM LANDSCAPE PRODUCTS

The Future of Raw Material

Why this topic matters now:

- Slowdown in land development may reduce raw feedstock
- Consideration of C&D material
- Industry & Regulatory Implications

Questions:

- Will decline in development reduce brush supply?
- Will C&D material be needed to fill the gap?
- What are the regulatory implications?

AWR Background

Austin Wood Recycling – [branded as Texas Native]

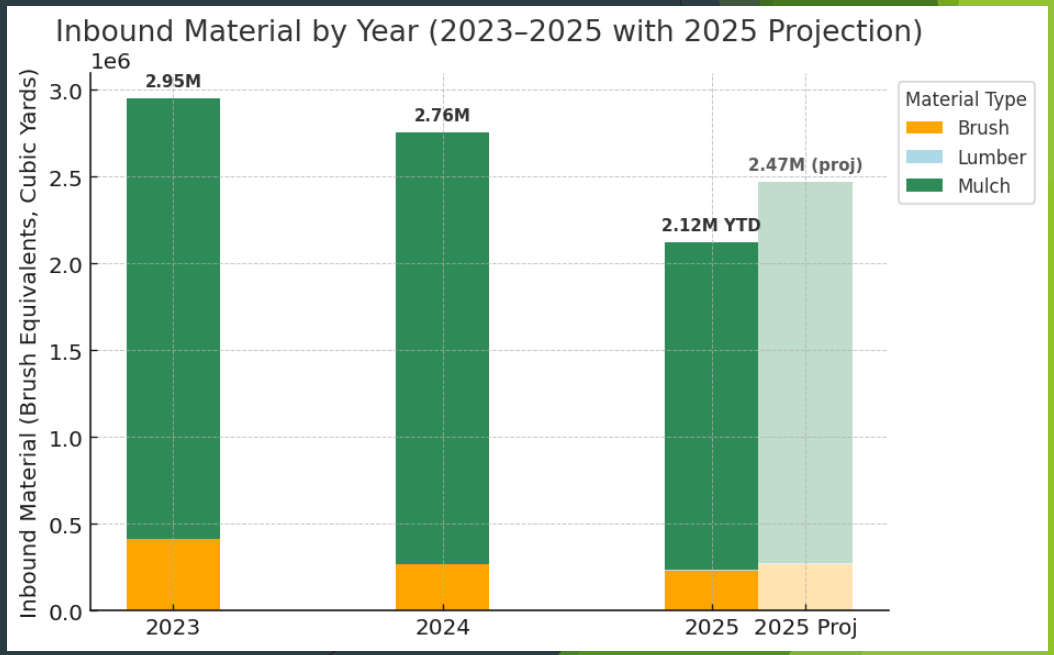
- Founded in 1987 with over 38 years of continuous operations
- Primary feedstock: green waste from clearing, grinding, & brush tipping
- Operations in multiple regions (Austin, DFW, Houston markets)
- Vertically integrated: field grinding, brush collection, processing, composting, and product distribution (bulk & bagged)
- Producer of premium mulch, compost, and soil blends for residential, commercial, and municipal customers
- Key partnerships with municipalities, contractors, and state agencies
- Sustainability focus: landfill diversion, carbon reduction, and soil health improvement
- Innovation track record: early adoption of coloring, bagging, and automation in recycling

Primary Grind Production

Usage by Product Stream (Breakdown)

- Over 7.8 million cubic yards of material processed since 2023.
- First grind mulch dominates inbound flow (~72%), large percentage illustrates heavy presence in field grinding
- Brush/Tree/Stump material makes up ~28% of intake but is trending downward, showing vulnerability in traditional feedstock streams.
- Lumber is <1% — operationally important due to contamination/sorting, but negligible in total share.
- The material mix highlights both AWR's recycling impact and the need for diversification as brush supply declines.

Shifting material shares underscore the need for MSC and regulators to address declining brush supply and expand standards for alternative feedstocks.

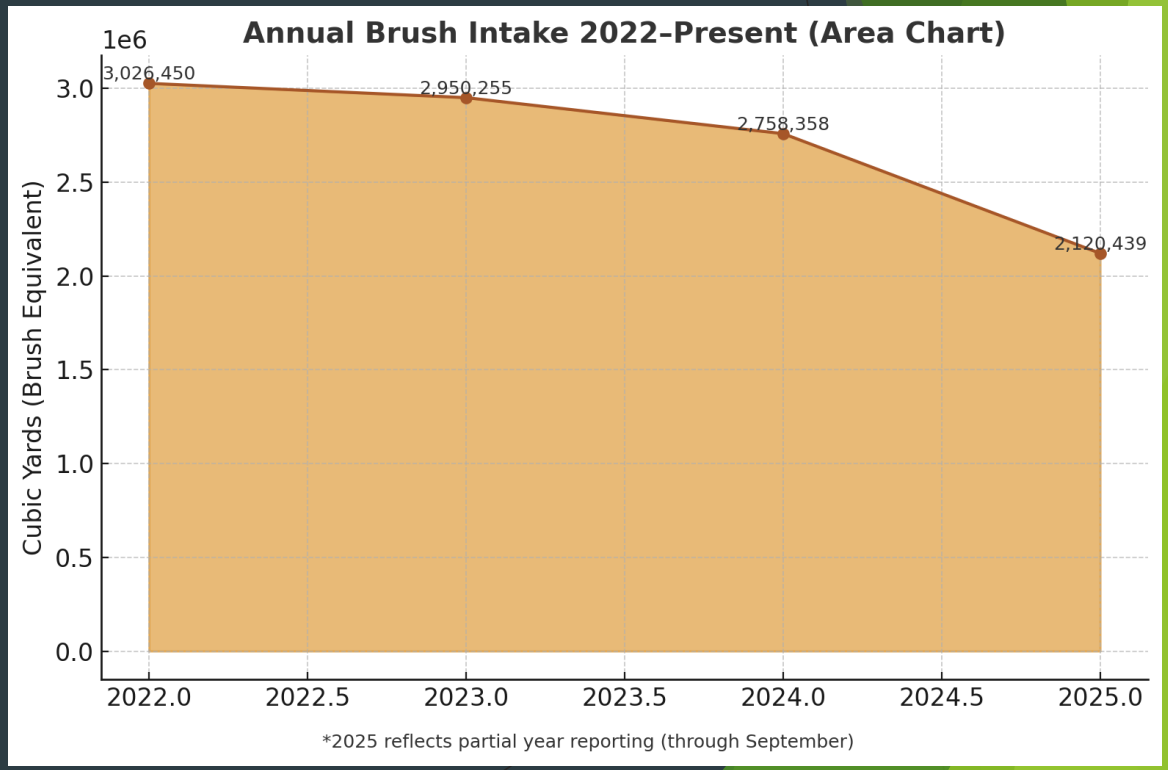


Brush Intake Trends

Annual brush intake volumes (last 4 years)

In DFW and Austin regions

- Intake has declined ~30% since 2022 (3.03M CY → 2.12M CY, YTD 2025).
  - Over 10.8M CY processed since 2022, reinforcing AWR's role as a large-scale recycler.
  - Seasonal fluctuations (storms, droughts) still influence totals, but the trend is downward.
  - Declining intake underscores long-term feedstock pressure as land development slows.
- Even at reduced levels, intake volumes still represent a massive landfill diversion and sustain AWR's core product streams.



Regional & Statewide Trends in Texas Development

Growth & Sustainability Concerns

- Texas Triangle (DFW, Houston, Austin, San Antonio) = **fastest-growing mega-region** in the U.S.
- Population Growth Projected to add **10+ million residents by 2045** (Texas Demographic Center).
- Rapid expansion strains land, water, and infrastructure sustainability.

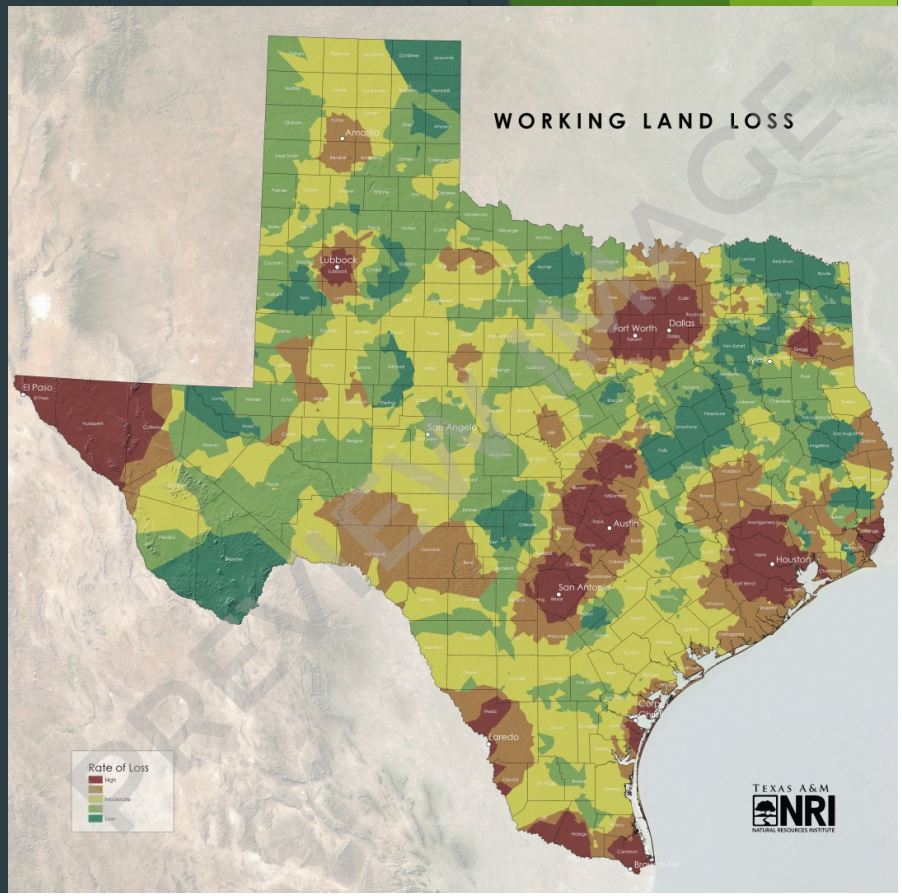
Shift Toward Compact Development

- Land Trends data shows **95% of development occurs at metro peripheries** (low-density sprawl).
- Policy push: compact, mixed-use, infill growth to preserve land and infrastructure capacity.
- Impact: fewer large-scale land clearing projects → reduced raw material streams.

Texas Land Trends (Working Lands Loss)

3.7M acres of working lands lost since 1997.

- 1.8M acres lost in just 2017–2022.
- Consolidation trend: fewer, larger landowners
  → different land clearing dynamics.
- Conversion mainly to urban/suburban use
  → reduces feedstock supply from
  brush/forests.
- Risk: reduced large-scale land clearing
  → pressure on mulch/soil feedstock.



Texas Growth & Land-Use Patterns

- From 2001–2016, ~95% of new development in the Texas Triangle occurred in metro peripheries, not city centers.
- Growth dominated by low-density sprawl: suburbs, big-box retail, parking lots, highways.
- Texas spends less per household on infrastructure initially but consumes more land per capita.

Questions for Discussion:

- *How has AWR's brush intake trended with suburban expansion vs. infill growth?*
- *Are there signs sprawl is slowing (permits, subdivision starts)?*
- *What is AWR's exposure to periphery vs. core development?*

Impacts of Sprawl on Lands & Ecosystems

- Loss of farmland: ~3.7 million acres of working land converted in 25 years.
- Ecosystem service loss: reduced flood control, carbon storage, biodiversity.
- Example: San Antonio River Basin rangelands declined ~65% in 15 years; urban land grew ~29%.

Question for Discussion:

What are the brush supply losses tied to land conversion?

- Permanent loss of vegetation – cleared once, no (or very reduced) future brush supply.
- Fewer large clearing jobs – compact development = smaller lots, less brush.
- Fragmentation – smaller parcels reduce efficiency of collection.
- Shift in material – from raw brush → C&D debris.
- Industry impact – greater reliance on urban forestry, storm debris, municipal contracts.

Development Patterns & Raw Material Supply

- Sprawl land-clearing has historically supplied large volumes of brush.
- If sprawl slows, feedstock losses will appear first at the periphery.
- Fragmentation of densely treed acreage increases sourcing costs and reduces efficiency.
- Loss of farmland also reduces buffer zones and secondary wood waste streams.

Concerns For Consideration and Discussion:

- *Costs to procure raw feedstocks - Historical vs. Current and Future*
- *Quality differences between peripheral brush vs. urban tree waste?*
- *Net effects of quality & costs on current business model*
  - *We must adapt*

C&D Material: What Is It?

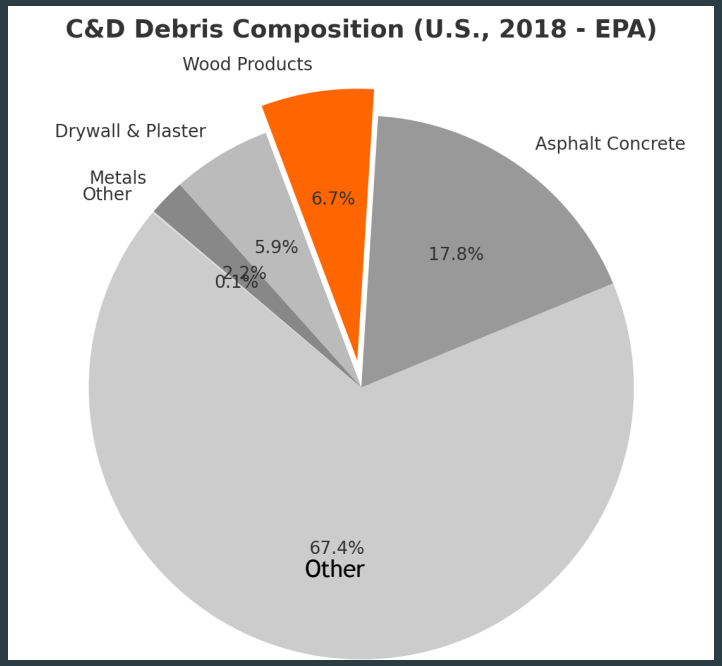
Definition & Types:

- Clean wood: dimensional lumber, pallets, untreated construction scraps.
- Mixed debris: drywall, plastics, insulation, roofing.
- Problematic waste: treated lumber, painted wood, adhesives, asbestos, durable plastics, PVC, textiles.

Current AWR Inbound Sources (if any):

- Pallets & dimensional lumber (Austin market).
- Smaller residential/commercial demolition projects.

EPA Construction & Demolition Debris



- U.S. generated 600M+ tons of C&D debris (2018) →
  - 2x municipal solid waste volume.
- 75%+ of C&D is recycled/reused, but significant disposal remains.
- Major constituents: concrete, asphalt, metals, drywall, wood.
- Untreated wood = easily recyclable, fits mulch/soil streams.
- Benefits: landfill diversion, job creation, economic activity.

C&D Material: Opportunities

- **Diversification:** alternative inbound streams as brush declines.
- **Volume Potential:** large C&D projects generate consistent material.
- **Sustainability Story:** landfill diversion aligns with TCEQ & MSC goals.
- **Value-Added Products:**
  - Clean C&D wood → mulch, compost blends, biomass fuel.
  - Dimensional lumber → biosolid carbon source, biomass fuel, and sellable mulch.

External Drivers:

- Growing construction activity in Texas metros.
- Recycling mandates & landfill tipping fee pressures.

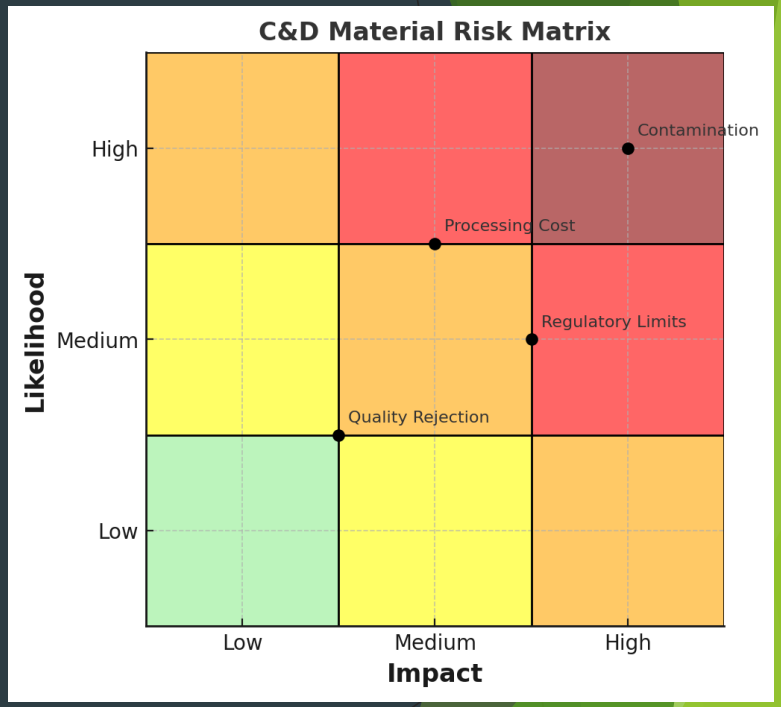
C&D Material: Risks

Risks & Challenges

- Contamination: treated lumber, lead paint, glues → safety & regulatory red flags.
- Processing Costs: metal removal, grinder damage, higher labor.
- Product Quality Risks: customer rejection if mulch contains contaminants.

Regulatory Hurdles:

- TCEQ limits on treated C&D in soil/mulch.
- Need for clear standards (MSC advocacy role).



Path Forward with C&D

Data Needs:

- % of inbound pallets/dimensional lumber today.
- Cost per ton vs. brush intake.

- **Pilot Projects:** controlled trials blending C&D wood into existing mulch streams.
- **Partnerships:** collaborate with pallet recyclers, retailers, demo contractors.
- **MSC Role:** steering industry guidelines on safe C&D use.

Proactive Industry Steps

- Collect and share better data
- Pilot projects with C&D streams
- Engage regulators early
- Encourage manufacturers to diversify into composting and specialized soil blends using municipal green waste.

MSC's Role

Concerns for mulch & soil industry:

- Product purity standards
- Contamination thresholds
- Worker and consumer safety
- Sustainability initiatives may drive eco-friendly sourcing

How MSC can support industry:

- Guidance on best practices
- Advocacy with regulators
- Facilitation of industry data sharing
- Support adoption of TCEQ recycled materials initiatives to reduce pressure on brush-derived feedstock

Key Takeaways

- Brush supply stability not guaranteed
- C&D offers opportunity and risk
- Industry must engage regulators proactively

Panel Discussion Questions

- How do we balance availability with quality?
- What role should regulators play?
- How can MSC support adaptation?

References

- Texas Farm Bureau. (2019). Texas Land Trends tracks a changing state. https://texasfarmbureau.org/texas-land-trends-tracks-changing-state/
- Texas Commission on Environmental Quality (TCEQ). (2021). Recycling Market Development Plan. https://www.tceq.texas.gov/downloads/p2/recycling/recyclable-materials/2021-recycling-market-development-plan.pdf
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Thank you for your time!

Let’s continue the dialogue.

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