Turning Impaired Legacies into Assets

Darina Castillo, PhD

U.S. Department of Energy
Office of Legacy Management

U.S. DEPARTMENT *of* ENERGY

Office of Legacy Management

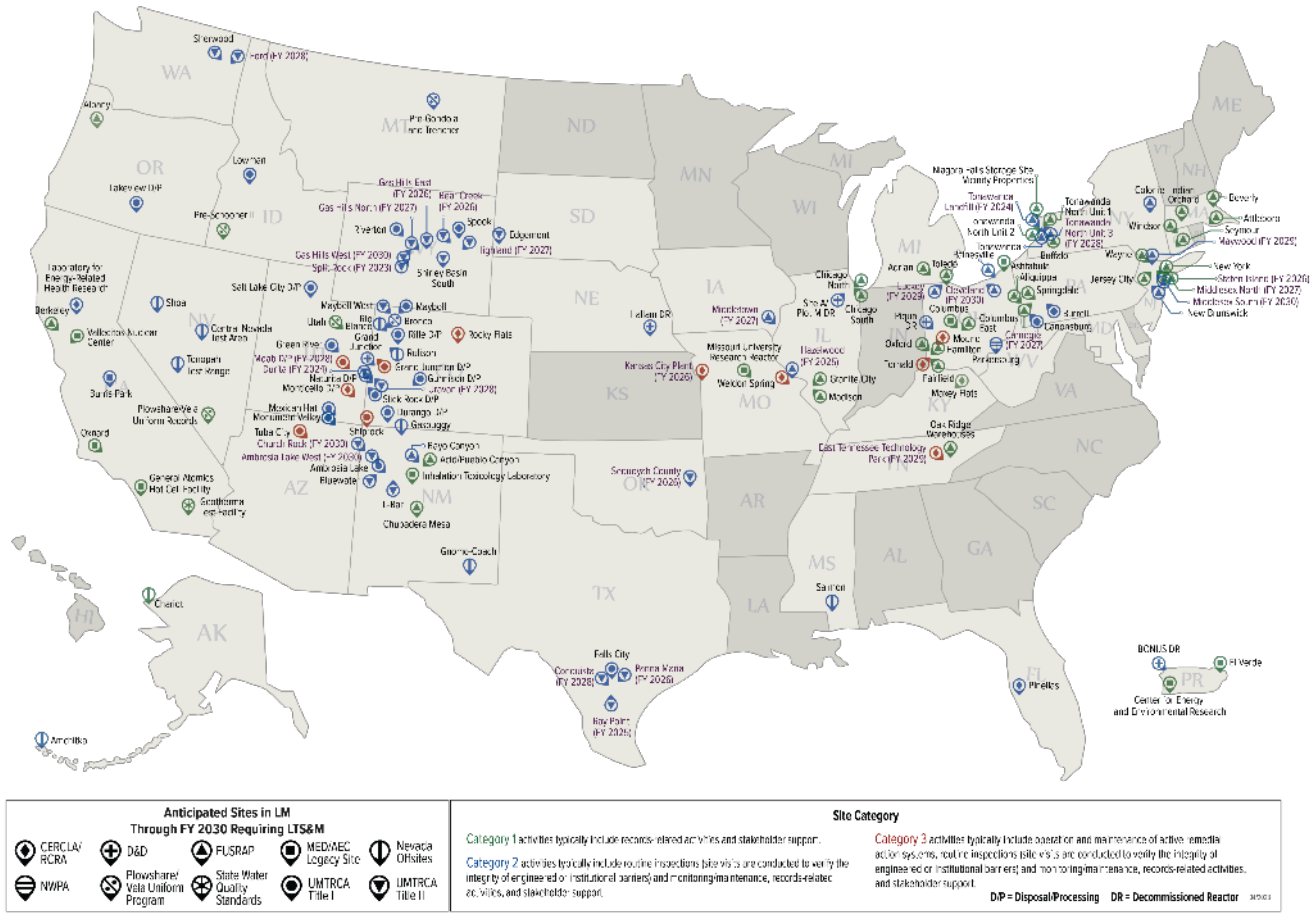
Overview

- Who is the Office of Legacy Management?
- Mission Execution and Approach
- What is Beneficial Reuse?
- Types of Reuse
- Beneficial Reuse Process
- Challenges
- Collaboration

Office of Legacy Management

Since 2003, the U.S. Department of Energy (DOE) Office of Legacy Management (LM) has been conducting long-term surveillance and maintenance at sites where nuclear waste has been disposed, where residual contamination remains, and where passive or active treatment of groundwater contaminated by radionuclides or other contaminants of concern is being conducted.

Mission: Fulfill the Department of Energy's post-closure responsibilities and ensure the future protection of human health and the environment.



By The Numbers

103 Sites Owned or Managed by LM

29 states + Puerto Rico

Over 64,000 Acres

2,125 monitoring wells

46 Engineered Containment Structures

Information from the 12/2024 Site Overview Report

Beneficial Reuse

- Productive use of an LM-managed site that no longer has a DOE mission after remediation
- Two main elements for reuse are:
- Protectiveness: Activities are compatible with long-term maintenance and ensure protection of human health and the environment
- Environmental soundness: Activities retain good stewardship of natural resources
- Supports LM Strategic Goal 4 to optimize use of land and assets

National Recognition

NOTABLE AWARDS FOR

BENEFICIAL REUSE

2023 Secretary of Energy Achievement Award
LM Beneficial Reuse Team

2023 U.S. Environmental Protection Agency Phoenix Award
Las Colonias Park

Federal Facility Excellence in Site Reuse Awards

2024 - Tuba City Disposal Site
2023 - Middlesex South Site
2021 - Rocky Flats Site
2021 - Las Colonias Park
2020 - Weldon Spring Site
2019 - Fernald Preserve Site

Keys to Success in Mission Execution

- Long-term stewardship
- Technical Expertise
- Fiscal Responsibility
- Partnerships and Cooperative Agreements
- Stakeholder and Community Member Engagement
- Timely, Transparent Communication

Challenges to Balance

- Regulatory compliance
- Technical compatibility
- Community Trust/Need/Interest
- Long-term viability
- Reuse must not compromise stewardship

Unique Approaches

Beneficial Reuse planning is unique based on the type of site:

- Urban vs Rural
- Site History
- Regulatory driver
- Stakeholders

Types of Reuse

Renewable Energy

When possible, LM employs solar, wind, biomass, geothermal, and other forms of renewable energy into the revitalization of legacy sites.

Disposal

Permanent transfer or relinquishment of land and assets to a third party. Reduces overall cost of LM land holdings – a fiscally responsible option for taxpayers.

Agriculture

Reuse can accommodate the needs of agricultural communities, such as open land that can be utilized for livestock grazing or hay cultivation.

Commercial and Industrial

Redeveloping sites may serve as an economic driver by generating commercial and industrial activities that stimulate and revitalize local economies.

Types of Reuse

Conservation

Conservation reuse strives to create, restore, protect, or enhance the natural habitat.

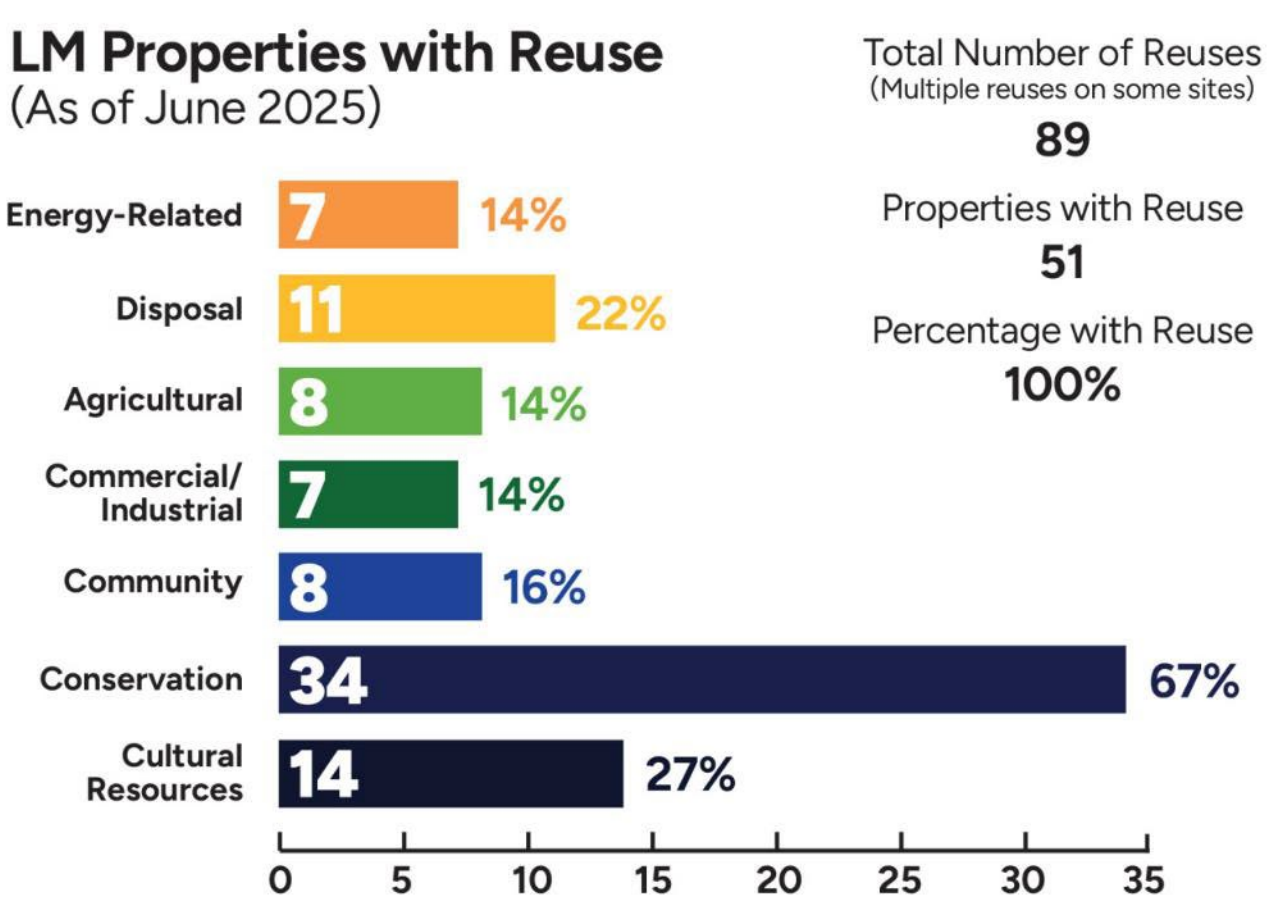
Cultural Resources

Providing cultural resources, such as educational and interpretive services, can better explain the historical context of the site and the effectiveness of the cleanup process.

Community

Legacy sites can serve the needs of communities that directly surround them, including open space for recreational activities or on-site resources for educational purposes.

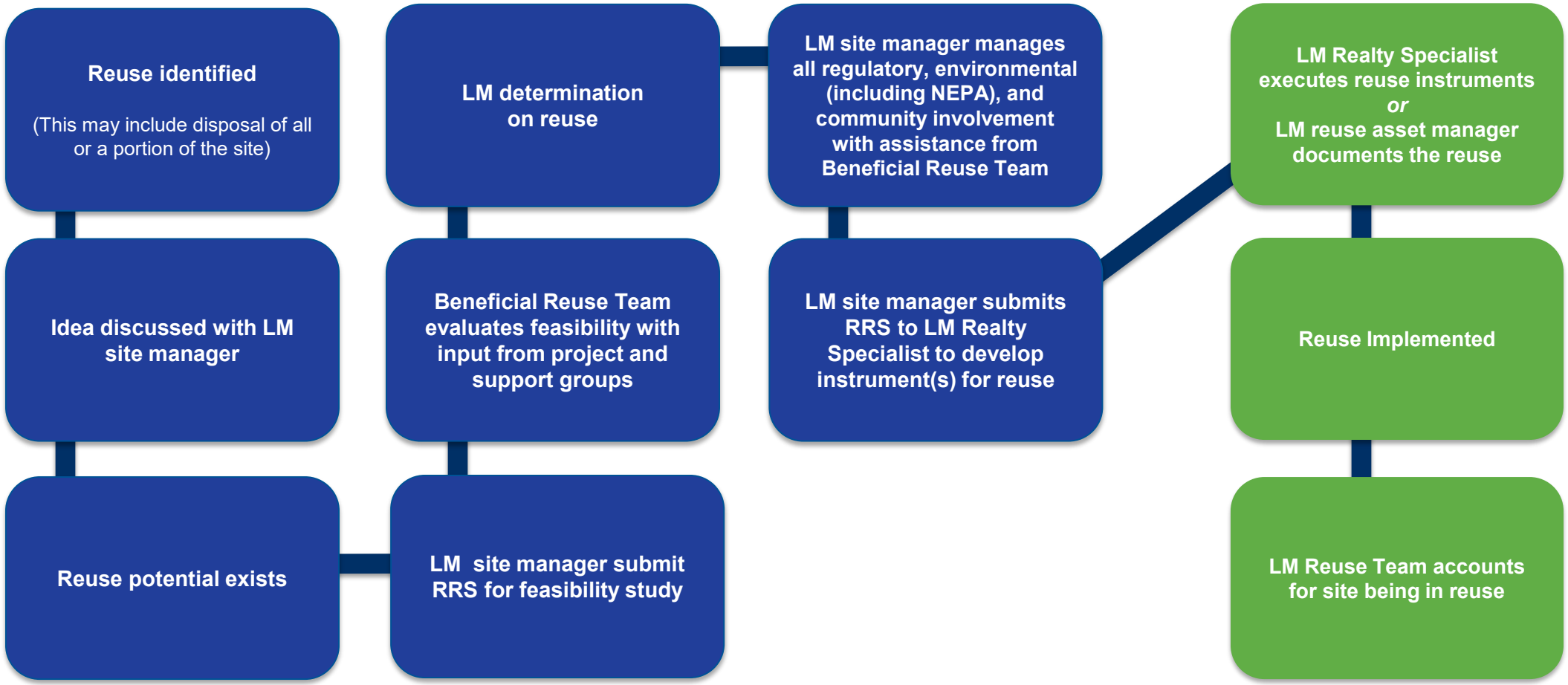
LM Properties with Reuse



Total Number of Reuses
(Multiple reuses on some sites)
89

Properties with Reuse
51

Percentage with Reuse
100%



LM Beneficial Reuse Process

Abbreviation: RRS = Request for Realty Services

Collaboration

Partnerships improve communication, create a better understanding of different perspectives, and provide better beneficial reuse solutions.

- Intergovernmental collaboration
- Educational institutions
- National organizations
- Regulators
- Public engagement

Key Focus & Goals

- Support the transfer or sale of unneeded DOE real property.
- Promote reuse opportunities at LM sites while maintaining protectiveness of human health and the environment.
- Remain transparent through regular communication with LM stakeholders about DOE activities.
- Assess and implement one or more types of reuse on sites as they transition to LM. The earlier in the process we begin looking at reuse, the better.
- Increase the number of LM sites in reuse and increase the types of beneficial reuses on LM sites. If a site is deemed ineligible for reuse upon transition, we will reevaluate periodically.

Thank You!

Darina Castillo, PhD

LM-25 Environment, Safety, Health and Quality Assurance Team Lead

US Department of Energy Office of Legacy Management

darina.castillo@lm.doe.gov

720-450-2936

https://www.energy.gov/lm/beneficial-reuse

U.S. DEPARTMENT of ENERGY

Office of Legacy Management

Goals of LM

GOAL **1**

Protect human health and the environment.

GOAL **2**

Preserve, protect, and share records and information.

GOAL **3**

Safeguard former contractor workers' retirement benefits.

GOAL **4**

Sustainably manage and optimize the use of land and assets.

GOAL **5**

Sustain management excellence.

GOAL **6**

Engage the public, governments, and interested parties.