MICHIGAN OFFICE OF
FUTURE MOBILITY & ELECTRIFICATION

AAM Statewide Mobility Challenges

Grant Opportunities to Solve State Challenges

Michigan has long been the center of American mobility innovation. Advanced Air Mobility (AAM) is a new mobility frontier, presenting an opportunity for Michigan to demonstrate next-generation industrial leadership. As the global aviation sector grows rapidly, the United States must hasten to commercialize unmanned aircraft systems (UAS) technologies, strengthen critical supply chains, and reduce dependence on foreign manufacturing. Michigan plays a leading role in building a strong and secure domestic drone sector by leveraging our manufacturing core, engineering expertise and statewide infrastructure to build, test, commercialize, and scale AAM technologies.

Michigan State Police

Michigan Department of Natural Resources

Michigan Department of Transportation

Michigan Department of Environment, Great Lakes, and Energy

Michigan Department Agriculture and Rural Development

AAM Statewide Mobility Challenge Background

On July 17, 2025, Michigan established the Michigan AAM Initiative as a whole-of-government strategy to scale Michigan's AAM capabilities, ensure safe and efficient integration of these technologies across public and private sectors, and position our workforce, manufacturers, and infrastructure as national assets in the deployment of AAM technologies. This Initiative will support the Unleashing American Drone Dominance Executive Federal Orders from June of 2025.

Solving Real-World Problems

Michigan is launching a series of challenge-based pilot programs to advance the integration of drones for solving real-world government agency problems.

Goal 1

Leverage AAM technologies to solve agency problems more efficiently and innovatively

Goal 2

Drive Public-Sector Use and Commercial Market Growth in Michigan

Goal 3

Activate Production Capacity

Goal 4

Build Public Understanding of AAM Technologies

Application Review

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DNR AAM Challenge

Long-term Departmental Goals

1. Replacing non-NDAA-compliant drones with Blue-compliant VTOL, multi-rotor, and fixed-wing systems.

2. Expanding aerial capabilities for wildfire response, forest health monitoring, and large-scale mapping.

3. Aligning with Michigan's Advanced Air Mobility (AAM) strategy to scale drone technologies across public agencies, improve safety, and reduce risk to personnel.

DNR AAM Challenge

Short-term Challenge Objectives

1. Identify NDAA UAS/ fixed-wing and multi-rotor systems with software compatible for multiple use cases (Regeneration surveys, canopy cover, density, etc.)

2. Real-world testing of expanded aerial capabilities for wildfire response, forest health monitoring, and large-scale mapping (magnetometer, LiDar, etc.) across departmental use cases.

This challenge project will help enable safer, faster, and higher-quality data collection while reducing labor costs and improving operational efficiency.

DNR AAM Challenge

Use Cases

Use Case #1: Wildlife & Wildfire Management

Use Case #2: Forest Health & Timber Assessments

Use Case #3: Post-Disaster Mapping & Terrain Analysis

DNR AAM Challenge

Use Case #1: Wildlife & Wildfire Management

Wildlife Monitoring

- **Examples of previous uses for drones and payloads:**
    - **Moose Monitoring:** Align with radio collar tracking program for enhanced data.
        - Marquette Area
    - **Muskrat Monitoring:** Compare to baseline dataset from Muskrat Survey
    - **Bear Den Detection:** Complete thermal monitoring for bear den identification
        - Roscommon Area
    - **Elk Habitat Monitoring**: Improve current operations (infrared and motion-detecting trail cameras, conducting aerial surveys, and monitoring vegetation changes)
        - Pigeon River Country State Forest, Vanderbilt

DNR AAM Challenge

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Prescribed Burns

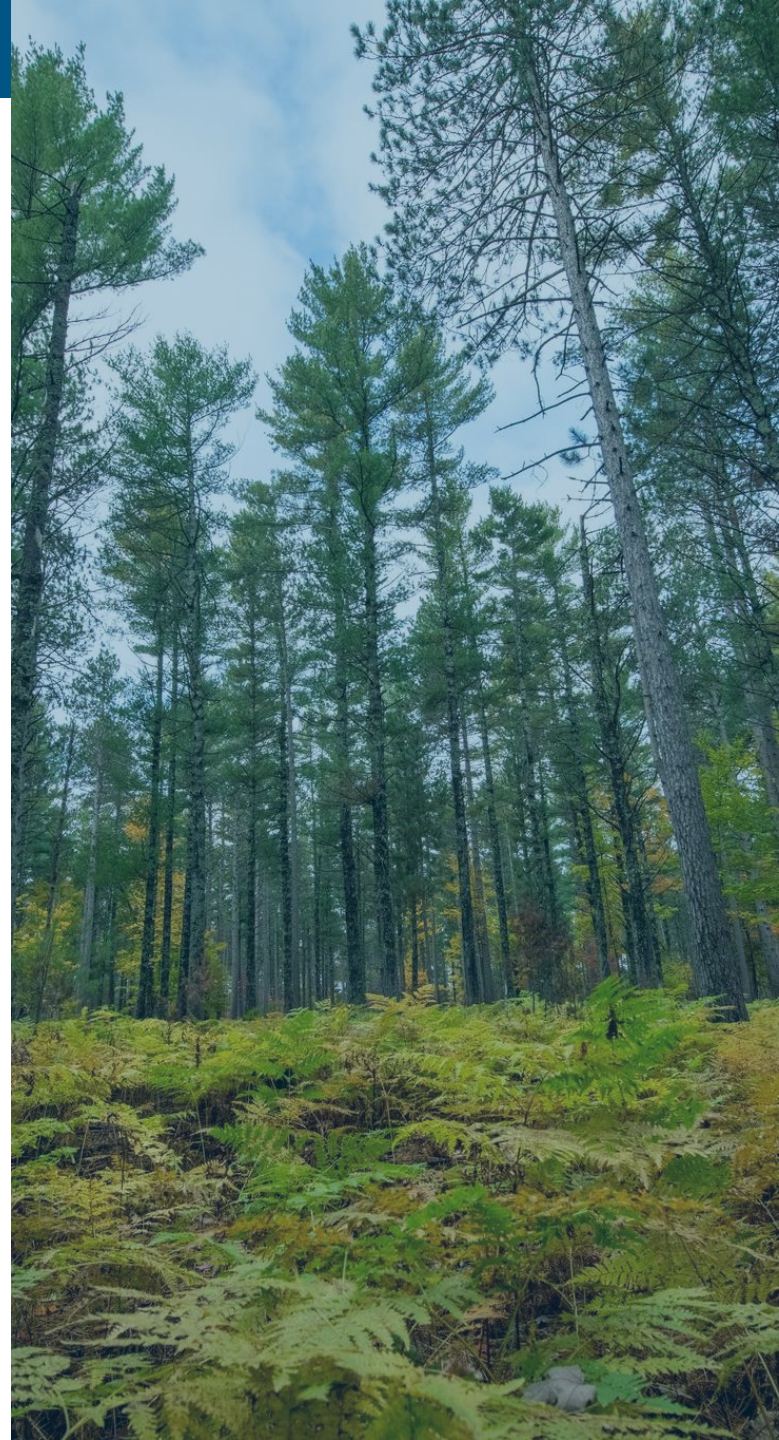
- Help control invasive species, improve wildlife habitat and help Michigan's forests and grasslands grow.
- Remove natural materials that could provide fuels for bigger wildfires.
- Usually conducted in spring or fall.
- Foresters, wildlife biologists and other natural resources professionals evaluate the area and write a plan to help them achieve their goals.

DNR AAM Challenge

Use Case #2: Forest Health & Timber Assessments

Forest Health Surveying and Monitoring

- **Kirtland Warbler Habitat**
  - Crawford/ Oscoda County
- **Hardwood Forest Survey**
  - Gaylord
- **Regeneration Surveys and Forester Training**
  - Area TBD within footprint
- **Forest Health Management**
  - Area TBD, within footprint



DNR AAM Challenge

Use Case #3: Post-Disaster Mapping & Terrain Analysis

- **2025 Ice Storm Damage Assessment**
  - Fuel Loading Identification
  - Road Clearing Data Collection
  - Hardwood Forest Area: Natural Recovery Monitoring
    - Atlanta

DNR AAM Challenge

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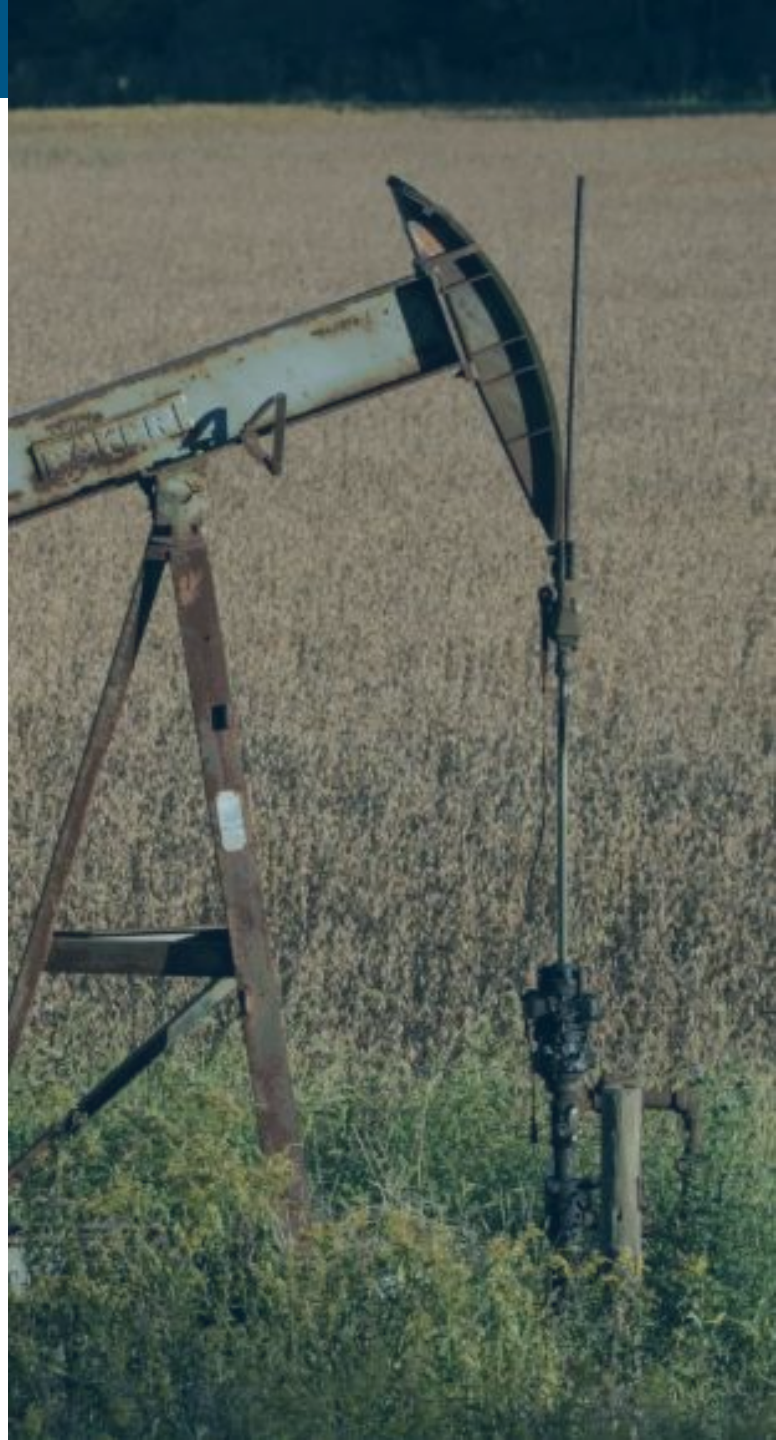
- **Above- and Below-Ground Utility Detection**
  - Orphan oil and gas development zones in Crawford, Roscommon, and Kalkaska Counties
  - Magnetometer and DPR sensors for locating orphaned or abandoned pipelines; H_2S sniffer for gas detection



DNR AAM Challenge

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- **Archaeological Survey and Terrain Analysis**
  - State-owned mineral sites (within project footprint)
  - Conduct archaeological assessments alongside earthwork planning and perform cut-and-fill measurements to evaluate terrain modification needs

DNR AAM Challenge

DNR Partnership: Roles and Benefits

Roles & Responsibilities

- **Selected partner** will complete flights and data collection for use cases requiring LiDAR; H2S; magnetometer; DPR sensors
- **DNR** will complete flights and data collection with partner equipment for: Baseline programs (Atlanta Forest Recovery Monitoring / Kirtland Warbler Habitat); Regeneration Surveys (following forester training); Fuel loading surveys; and wildfire response and management

Partnership Benefits

DNR Benefits: Increased capacity, advancement in technology, improved efficiencies, compliance with Blue/NDAA standards.

Partner Benefits: Direct collaboration with DNR, regular feedback and engagement, in-person and virtual opportunities, connections to Michigan's innovation ecosystem, support for long-term growth in the state, technology tracking across all four seasons.

DNR AAM Challenge

Technology Requirements

Aircraft Types: Multi-rotor and VTOL/fixed-wing systems (Blue-compliant).

Payloads: Thermal, LiDAR, multispectral, RGB, magnetometer.

Integration: GIS platforms and DNR workflows.

Performance Benchmarks: Coverage, data quality, operational safety, and efficiency

DNR AAM Challenge

Challenge Elements and Deliverables

- 18-Month Michigan-based UAS Partnership
- 12 Month Dataset (surveys, images, etc.)
- Pilot and Forester Training Program
- Cost and Efficiency Analysis

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DNR AAM Challenge

Timeline

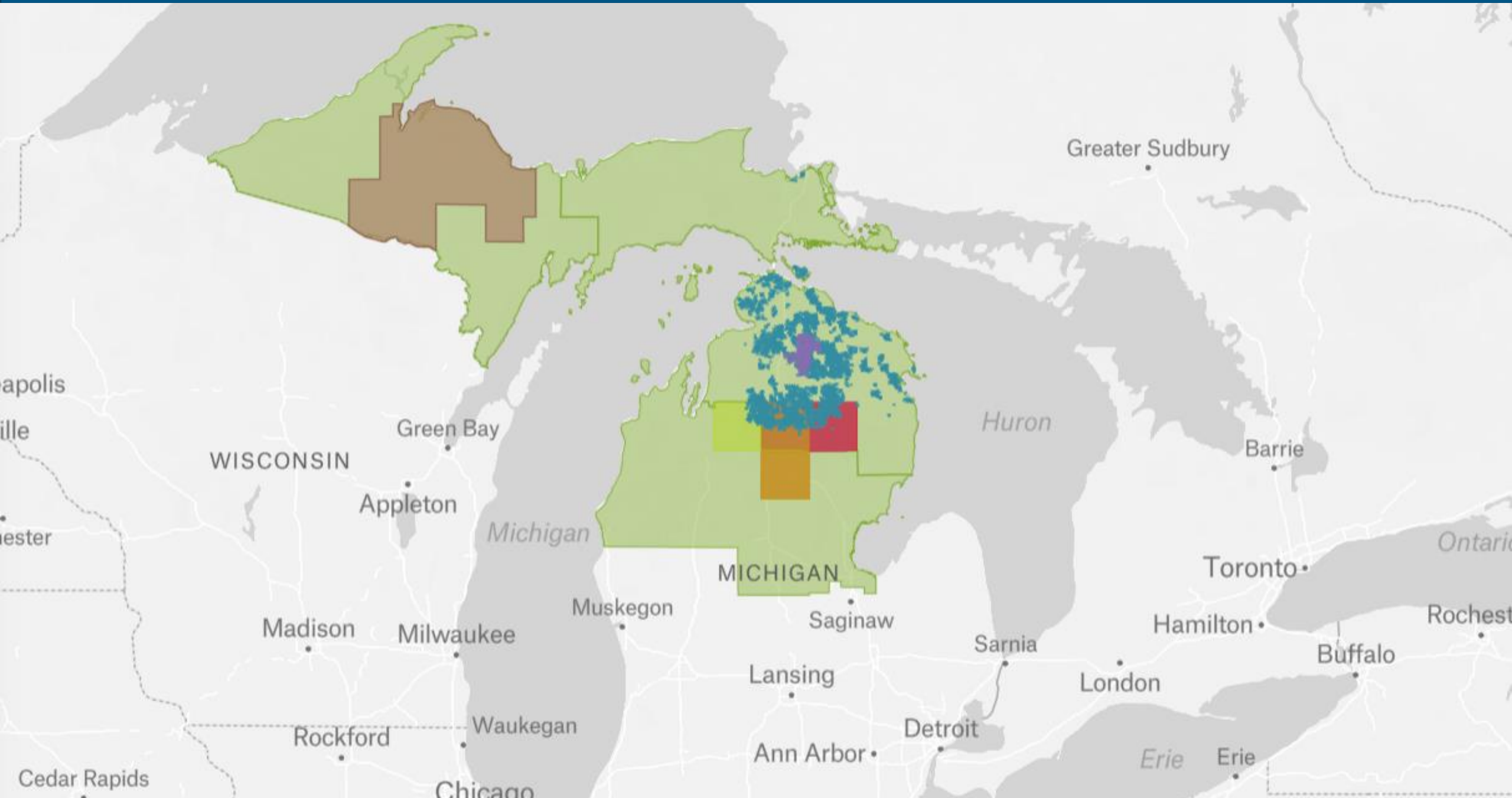
Phase 1 (Months 1–12): Development and integration; flight operations; baseline data collection.

Phase 2 (Months 13–18): Service delivery, advanced data collection, and reporting.

Option to Extend: Additional 6–12 months for expanded testing.

**Due to the seasonal nature of the DNR's work, a 12-Month data-collection calendar is being finalized to reflect which use cases will be tested. This will be provided in November 2025.*

DNR AAM Challenge: Locations



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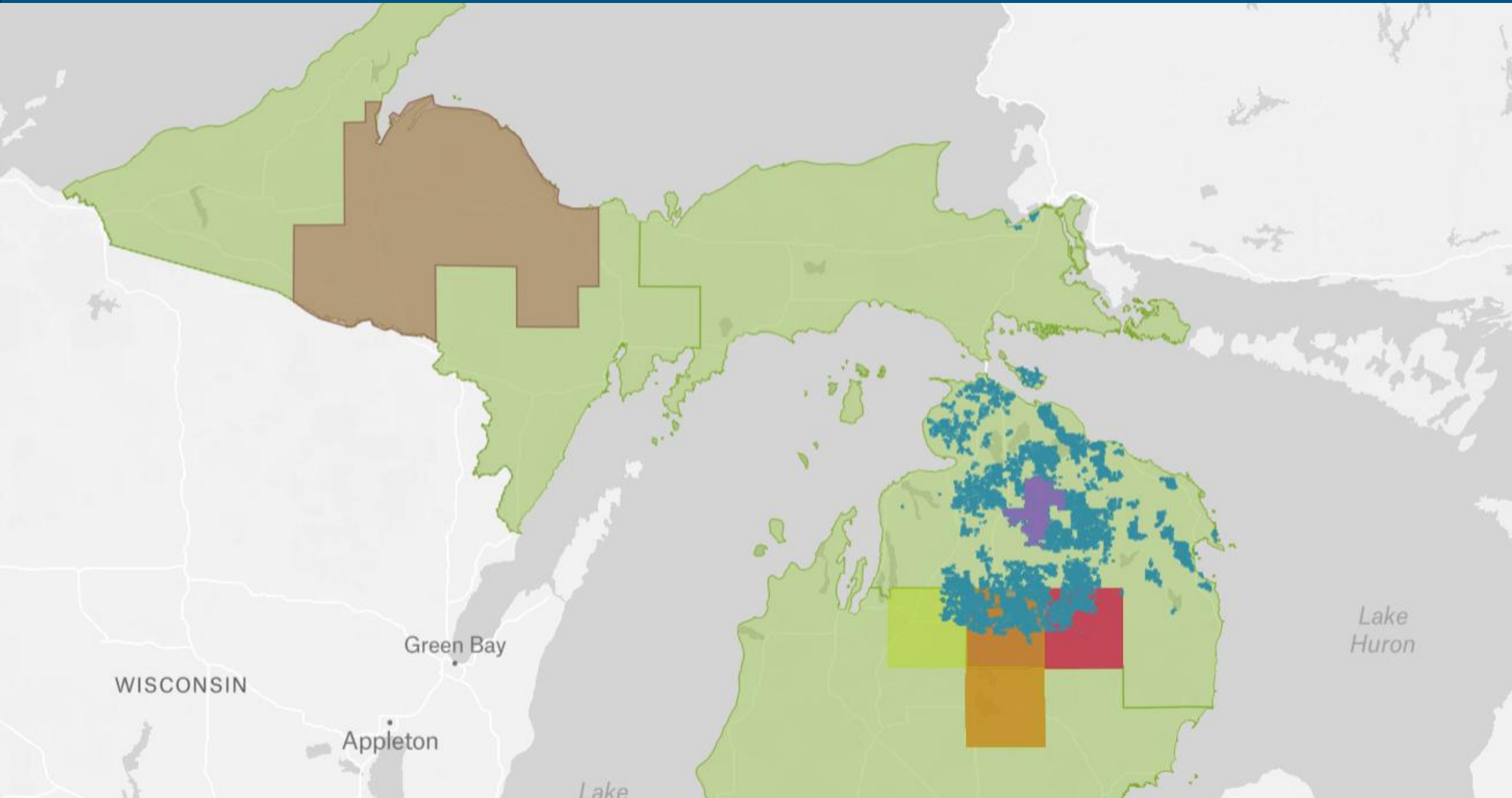

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Thank you!