

Watchbird

Early Detection of Pest Invasions

Predict agricultural threats before they devastate crops by understanding what birds know

The Problem

Organizations lack unified, predictive pest monitoring across member farms. Pest invasions spread undetected.



Fragmented Monitoring

No unified view of pest threats across member farms. Each farm operates independently with no coordinated early warning system.



Delayed Coordination

Can't coordinate rapid response across the region. By the time pest invasions are detected, they've already spread to multiple farms.



Lack of Strategic Data

No data-driven recommendations for member farms. Organizations can't provide predictive guidance or targeted intervention strategies.



Reactive Management

No predictive capability. Organizations respond after damage occurs, not before. Missing the critical intervention window.

The Solution

Watchbird: Organization-Managed Unified Pest Intelligence Platform



Unified Monitoring

Single platform monitoring all member farms simultaneously.
Organization sees real-time pest threats across entire region.



Regional Intelligence

Detect pest patterns and invasion hotspots across the region.
Understand pest movement and predict spread to neighboring farms.



Strategic Recommendations

Organization provides data-driven recommendations to member farms. Guide targeted intervention strategies based on pest intelligence.



Coordinated Response

Orchestrate rapid, coordinated pest management across member farms. Prevent regional spread through unified action.

Organization Command Center

Centralized platform for organizational managers to monitor all member farms, identify pest hotspots, and provide strategic recommendations.



Regional Pest Map

Real-time visualization of pest invasions across all member farms. Identify hotspots and predict spread patterns.



Member Farm Status

Monitor health and pest risk for each member farm. Quickly identify which farms need immediate attention and support.



Recommendation Engine

Generate data-driven recommendations for each farm. Provide targeted intervention strategies based on pest intelligence.



Organization Dashboard

Insert command center dashboard screenshot here

Device & Model Management



Device Management

Organization owns and deploys GPS tracking devices across member farms. Central control of all monitoring infrastructure.



Model Training

Train region-specific pest detection models using data from all member farms. Improve accuracy over time with collective data.



Continuous Monitoring

Organization monitors all devices and pest detection in real-time. Maintain system health and detection accuracy across network.



Data Governance

Organization controls all pest intelligence data. Secure, centralized data management with member farm privacy protections.



Management Interface

Insert device and model management interface screenshot here

Organizational-Scale Technology

Isolation Forest Algorithm



Multi-Farm Aggregation

Combine data from all member farms for powerful, region-wide pest detection



Scalable Infrastructure

Handle thousands of devices across multiple regions simultaneously



Regional Intelligence

Detect pest patterns and predict spread across entire organization



Coordinated Response

Enable rapid, unified pest management across all member farms

Organizational Capabilities



Network Monitoring

Real-time visibility across all member farms and devices in one platform



Regional Analysis

Identify pest hotspots and movement patterns across entire region



Strategic Guidance

Provide data-driven recommendations to member farms for pest management



Coordinated Action

Orchestrate unified pest response across member farm network



Performance Analytics

Track effectiveness of pest management strategies across organization

Organization-Managed System

From member farm devices to organizational recommendations: A complete workflow for coordinated pest management



FRONTEND

- Streamlit Dashboard
- Folium Maps

BACKEND & ML

- Python Pipeline
- Isolation Forest

DATA LAYER

- Supabase Cloud
- PostgreSQL

Transform Agricultural Pest Management

Watchbird enables organizations to coordinate unified pest detection and management across all member farms. Early detection. Coordinated response. Reduced losses.



Organizational Pilot

Deploy Watchbird with your organization to validate unified pest detection and coordination across member farms.



Infrastructure Integration

Integrate with your existing GPS devices, data systems, and organizational workflows seamlessly.



Network Expansion

Scale to multiple regions and organizations. Build a coordinated pest management network.

Ready to lead agricultural innovation? [Let's partner.](#)

[Your Email]

GitHub Repository

Live Demo