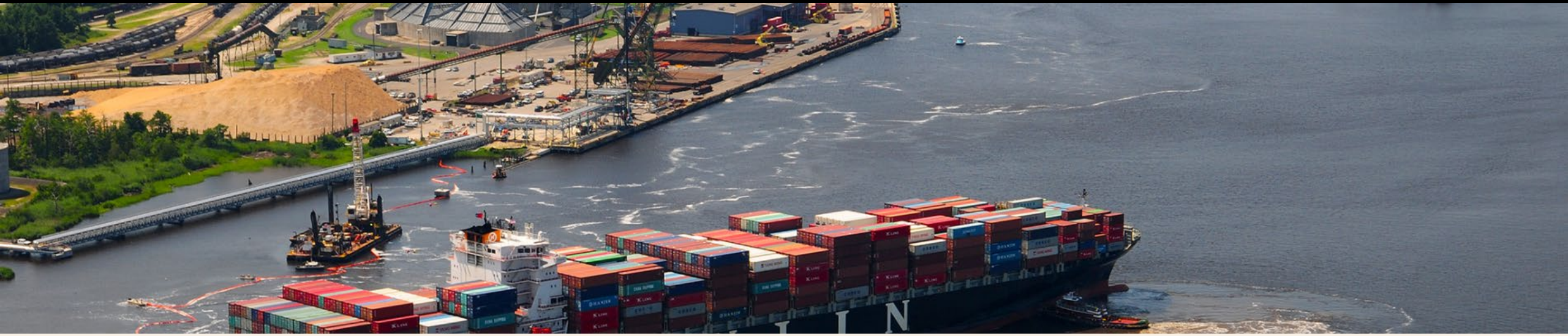


Lymantria dispar asiatica Inland Detection Toolbox

A fact-based, decision support resource to inform inland trapping of Lymantria dispar asiatica.

John Hastings

December 14, 2021

Top importing companies

-- Top 40 + importing companies by TEU over the last 3 years. These locations represent 1,300 + manufacturing and warehousing locations across the U.S.

-- Companies importing from non-host countries have been excluded.

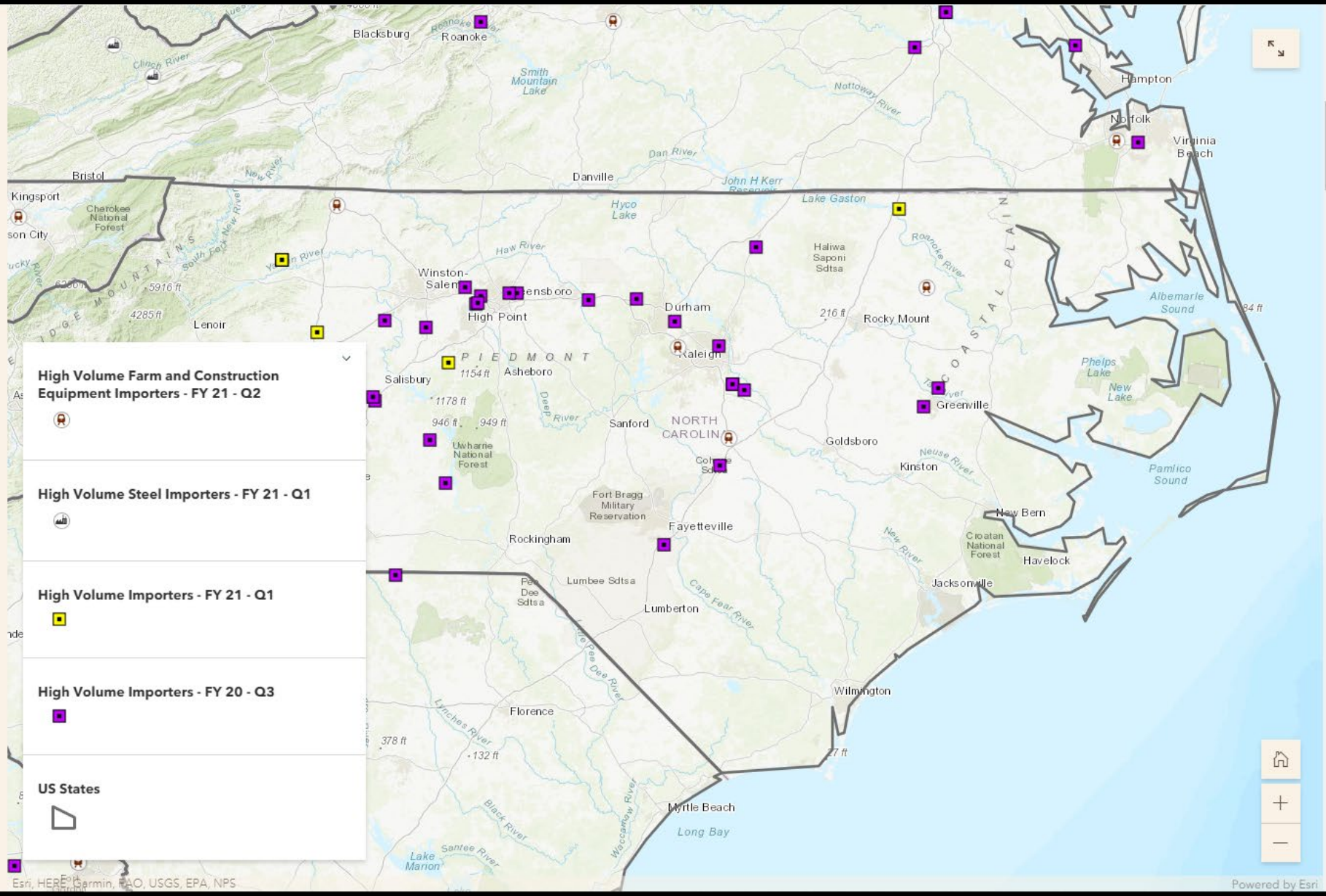
High volume steel importers and steel pipe storage yards

-- Targets cargo known to harbor egg masses and identifies inland destinations.

-- These destinations represents 200 + steel yards for the top 20 importing companies across the U.S.

High volume construction, earth moving, and farming equipment

-- Top importing companies of high volume construction, earth moving, and farming equipment manufacturing, distribution, and retail locations.

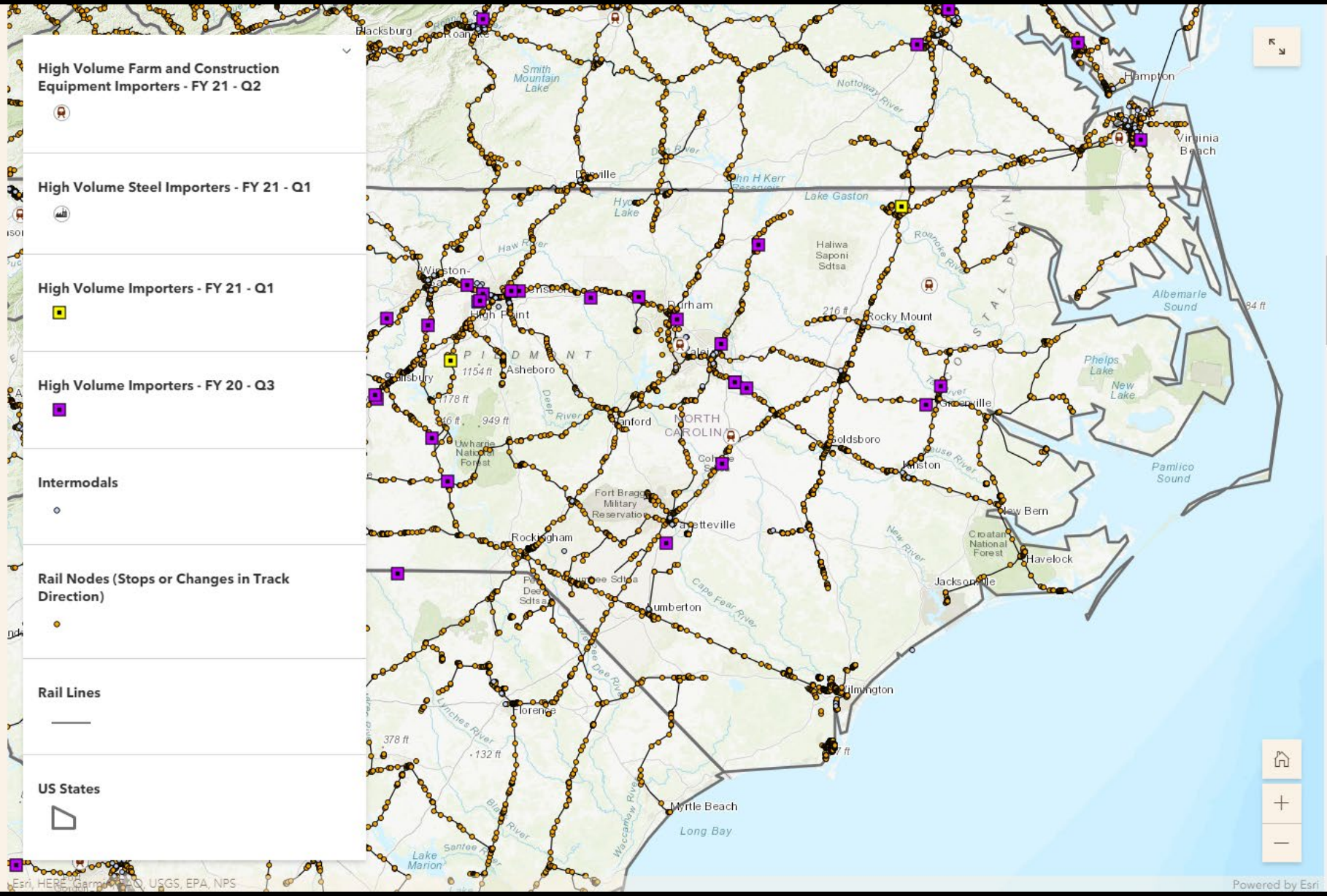


Transportation network

-- Rail lines across the U.S.

-- Rail nodes (any stop, rail line end point, or change in track direction)

-- Intermodal terminals (locations where commodities move between different modes or transport - rail, truck, maritime without being physically handled).

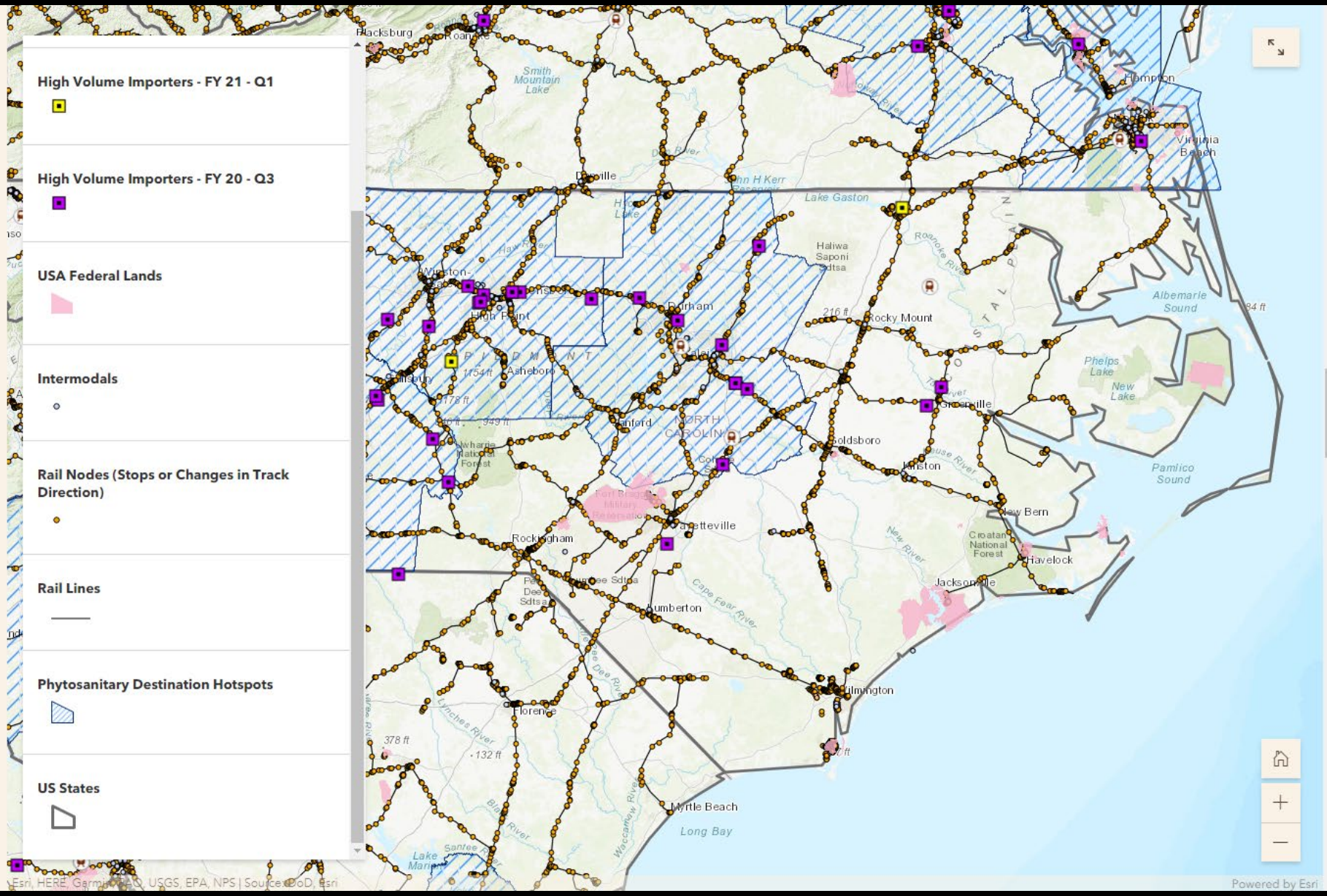


Phytosanitary destination hot spots

-- Destination hot spots receiving 84% of all the maritime imports from eastern Asia (including China, Japan, Korea, and Russia and excluding live animals and mineral fuels) destined for the contiguous United States.***

Department of Defense military installations, ranges, and training areas

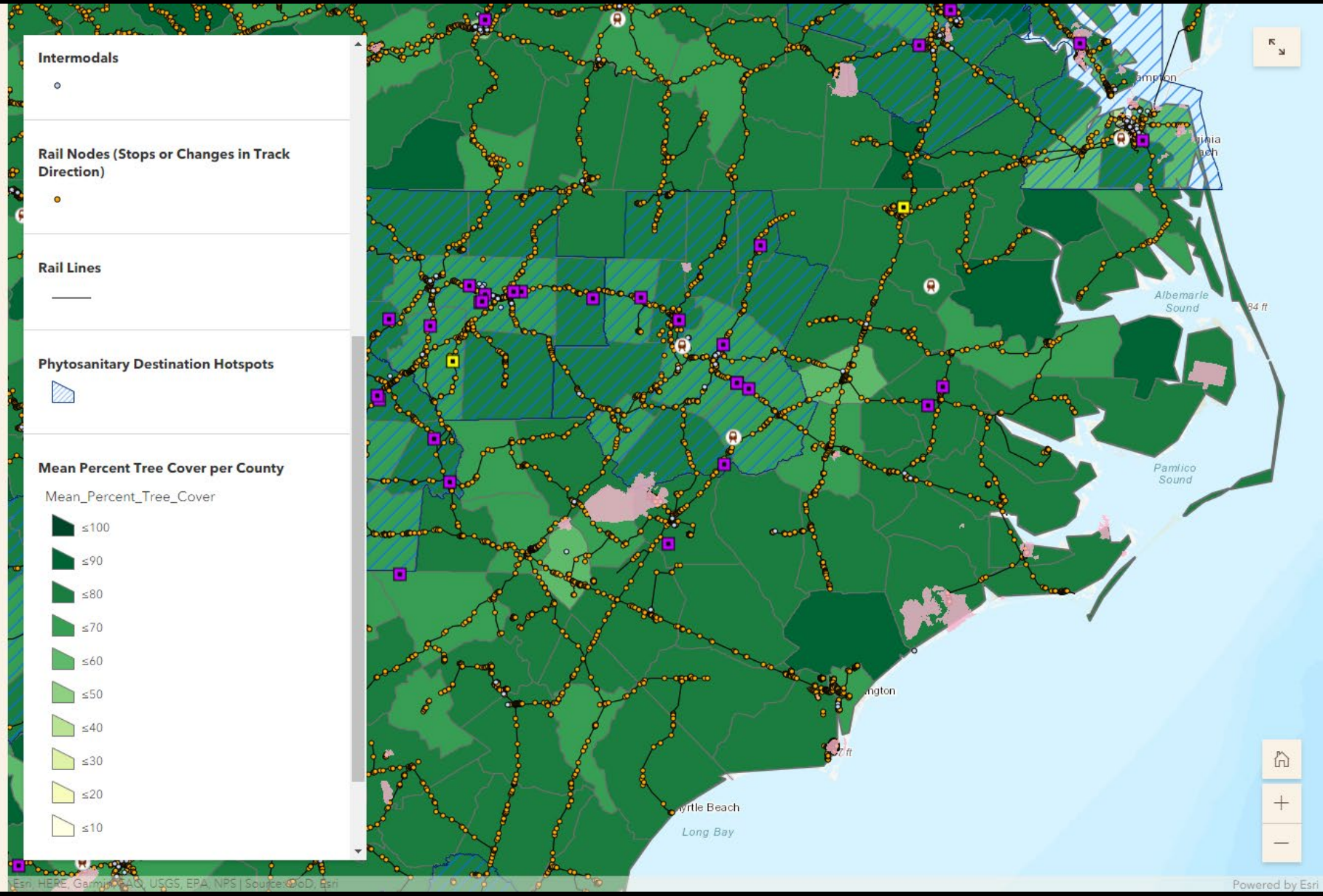
-- Known pest pathway based on interception history and military cargo inspection process.



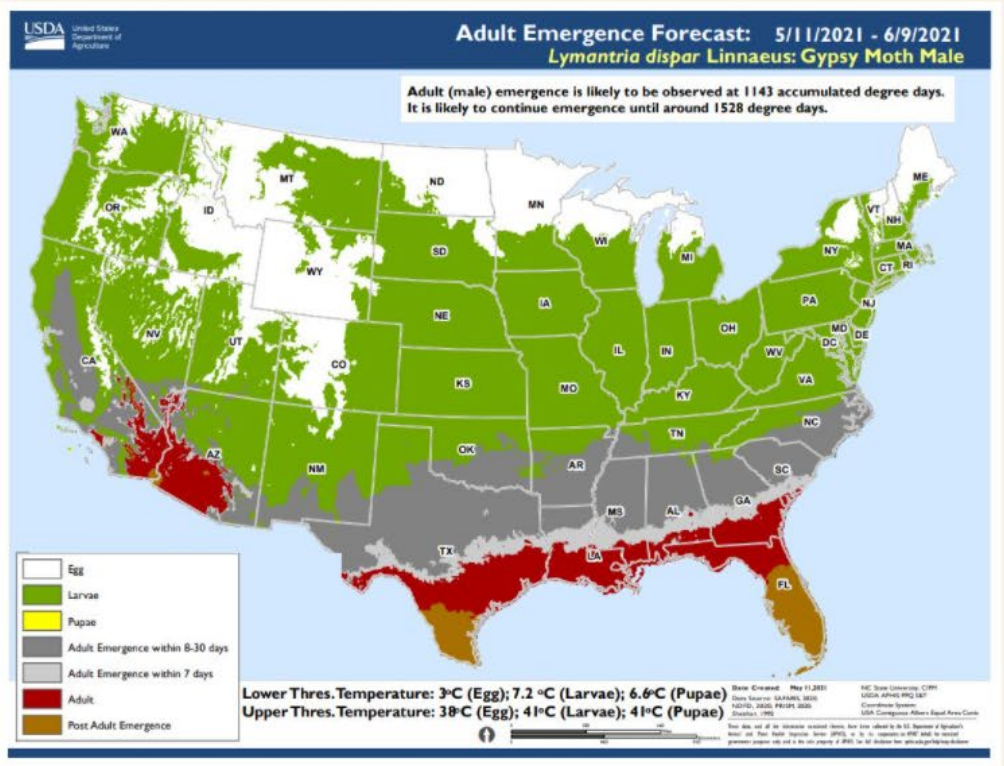
Mean percent tree cover per county

-- Represents potential host density in proximity to high volume businesses.

-- 30-meter resolution data aggregated to county level in congruence with phytosanitary destination hot spots.



Additionally, the Spatial Analytic Framework for Advanced Risk Information Systems (SAFARIS), developed by PPQ - Plant Pest Risk Analysis (PPRA) has created a product called "PestCAST" that produces 30-day forecasts for gypsy moth activity on near real-time weather data. The PestCAST forecast is an interactive web map updated every Tuesday and Thursday. The 30-day gypsy moth forecasts will show when moth flight is expected to occur based on a phenology model. The occurrence of eggs, larvae, and pupae will also be shown. These forecasts can help inform the timing of gypsy moth surveys, trap placement, and treatments. **This resource is currently available at the SAFARIS PestCAST Gypsy Moth Site.**



The end result is map of possible locations for L. dispar asiatica trapping and surveying work beyond the POE. By maintaining simplicity in design and model complexity, states can choose to prioritize locations however they see fit.

The toolbox uses open-source data to qualify businesses at the national level. Doing so allows us to make frequent updates to the list of high volume importers and their associated network of warehouses and manufacturing facilities.

Thank You!