

Foreign Investment in the United States: Assessing Multi-Scale Geospatial Risk

Laura Wieland, GISP-E, University of Southern California

BLUF

- Foreign-owned agricultural land in the United States increased 25% between 2011 and 2021. Ownership patterns are geographically clustered, though distribution varies by administrative scale (state, county and parcel boundary).
- The China-backed Fufeng Group proposal near Grand Forks Air Force Base demonstrated limitations in existing Foreign Direct Investment (FDI) review criteria and highlighted the need for more comprehensive geospatial scrutiny of FDI near Critical Infrastructure (CI).
- State legislation, county-level ownership reporting and parcel-level proximity analyses each provide vital information that cannot be adequately captured at a single administrative scale.
- The Confidence-Based Ownership Assessment with Targeted Geometric Risk Analysis (CBO-TGRA) framework integrates state, county and parcel-level datasets to identify and prioritize parcels near CI for further review.

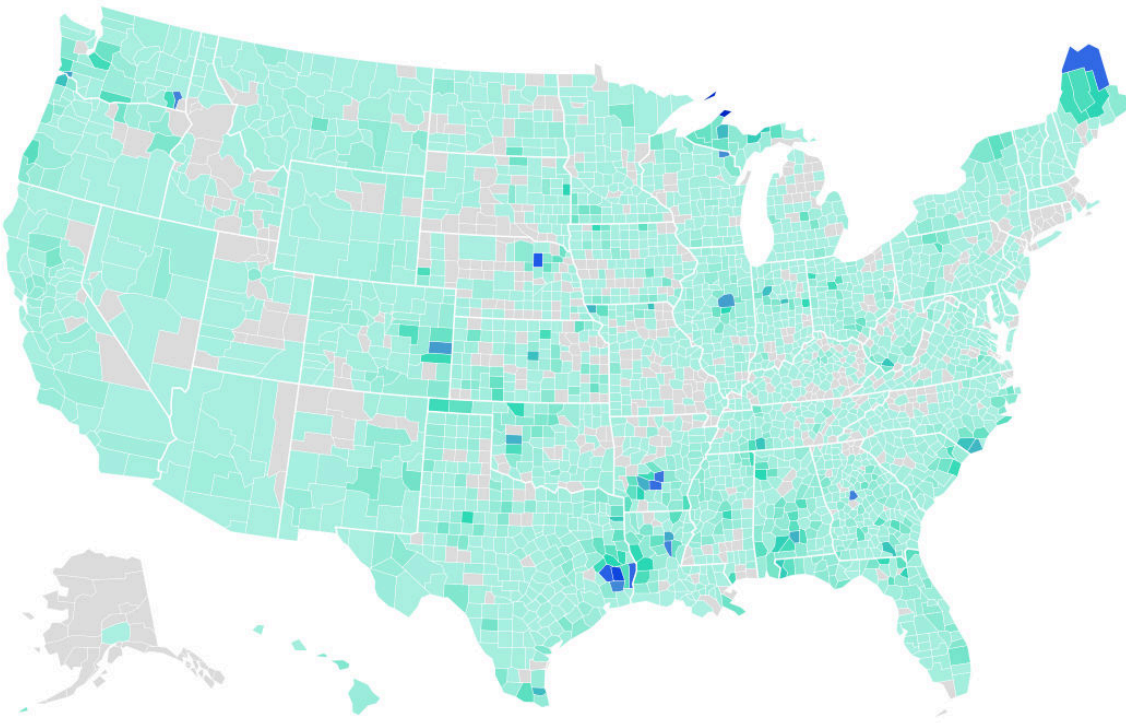
Top-Level Analysis

Patterns of Agricultural FDI Vary by Administrative Scale

Between 2011 and 2021, FDI in U.S. agriculture grew from approximately 16 to 20 million acres (O'Dell and Caughey, 2024). Ownership is uneven and varies by administrative scale. Maine and Texas reported the largest percentage of foreign-owned land (proportion of land with at least partial foreign ownership to total land area).

County-level analysis revealed localized concentrations not apparent at the state level. In Keweenaw County, Michigan, for example, more than 75% of land is at least partially foreign owned, despite Michigan not ranking among states with the highest percentage of foreign-owned land. Many counties did not report foreign land ownership, creating analytical gaps (Figure 1).

Figure 1: Foreign-owned land in the U.S. by county. (Source: O'Dell and Caughey, 2024). Blue counties have high FDI, green have low and gray did not report.

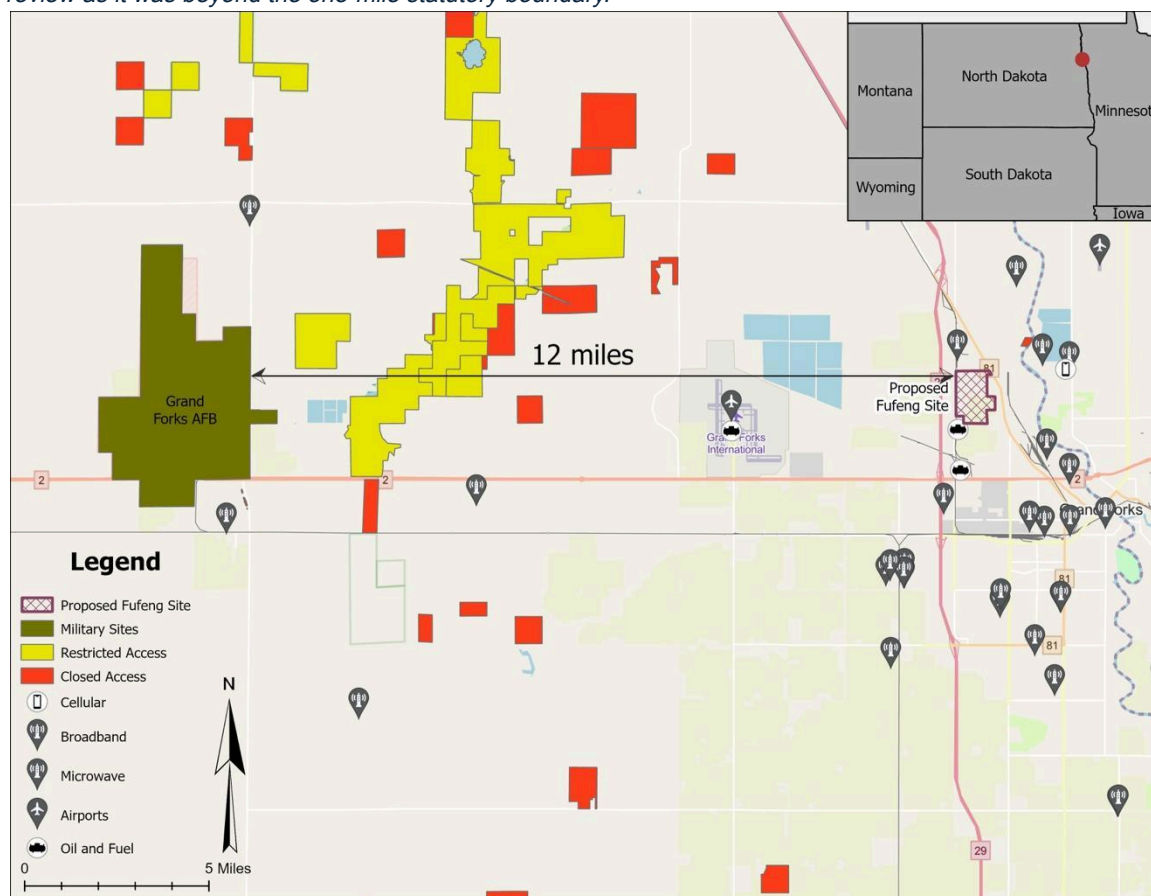


The Fufeng Effect

At the parcel level, the Committee on Foreign Investment in the U.S. (CFIUS) reviews real estate transactions near Military Installations, Ranges and Training Areas (MIRTA). Part 1 and Part 2 MIRTA sites are protected by statutory boundaries of one mile and 100 miles, respectively (Department of Treasury, 2024).

The 2022 China-backed Fufeng Group proposal to build a 370-acre corn milling facility approximately 12 miles from Grand Forks Air Force Base (Figure 2) highlighted limitations in the existing geographic proximity-based review criteria (Trade Practitioner, 2023). Because the base was a Part 1 site, CFIUS had not been required to review the proposal. After national security concerns were raised, however, Grand Forks AFB and other sites were recategorized as Part 2 sites.

Figure 2: The proposed corn milling operation by the China-backed Fufeng Group failed to trigger a CFIUS review as it was beyond the one-mile statutory boundary.



Risk Assessment with the CBO-TGRA Framework

No single dataset currently provides sufficient visibility into FDI near CI. State legislation, county ownership reporting and parcel-level proximity analysis each identify different yet vital aspects of potential risk. Integrating these complementary analyses provides a more complete basis for identifying and prioritizing parcels that warrant additional review.

The CBO-TGRA framework was developed through a 5-year Cooperative Research and Development Agreement between the National Geospatial-Intelligence Agency and the University of Southern California Spatial Sciences Institute. The framework establishes a repeatable workflow that progressively narrows the search from nationwide ownership patterns to individual parcels warranting additional review. Stage 0 established the spatial screening methodology, and future work will focus on ownership attribution and risk assessment (Table 1).

Table 1: Stage 0 of the three-stage CBO-TGRA framework has been completed for the Washington, D.C. County as a proof-of concept. Future work will continue the stages and expand to nationwide coverage.

Stage 0 Spatial Screening	Stage 1 Ownership	Stage 2 Geometric Risk	Terminal Fusion
- Define the search universe (AOI, CI Sectors) - Screen by what an adversary could reach (statutory, shadow buffers)	- Resolve entities under possible concealment - Link evidence in knowledge graph - Estimate probability of foreign beneficial ownership	Quantify physical exploitation potential (observation, mobility, UAV feasibility, change detection)	- Fuse into a decision-theoretic priority index - Preserve uncertainty as DS ignorance mass - Detect coordinated acquisition patterns - Assign action tiers

Secondary Analysis

State Legislative Restrictions on FDI

During 2023, 33 states introduced bills banning Chinese FDI (O'Dell and Caughey, 2024). A weighted legislative restrictiveness index was created to compare FDI restrictions at the state level, using an additive scoring system. Washington, California and Maine had the fewest FDI restrictions while Florida had the most.

Prioritizing Framework Rollout using a County-Level Dashboard

County-level agricultural FDI reporting can be fragmented, inconsistent and outdated. Agriculture Foreign Investment Disclosure Act (AFIDA) reports, maintained by the USDA, are paper-based, published annually and not routinely verified.

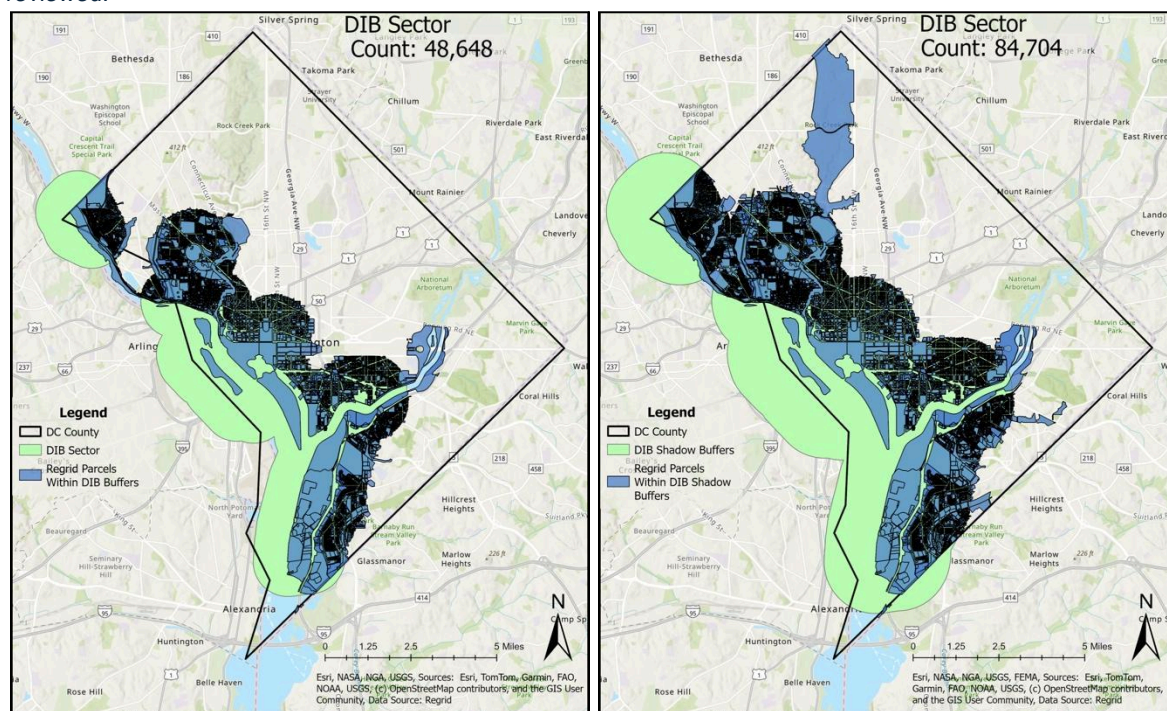
An AFIDA Pipeline Dashboard was developed to prioritize counties for further analysis based upon FDI. During this research, the USDA released its own interactive Dashboard, reflecting the need for more accessible FDI reporting.

CI Boundary Size Matters at the Parcel Level

Premium Regrid data from Washington, DC County was used as a proof-of-concept (POC) study area. Expanding the statutory Part 1 CI boundaries by 50% increased the number of parcels flagged for review by 75%, demonstrating that relatively small changes in proximity thresholds can substantially increase investigative workload in this county. Near sensitive

Defense Industrial Base facilities, for example, statutory one-mile buffers identified 48,648 parcels for review, and 1.5 mile “shadow” buffers increased that number to 84,704 (Figure 3).

Figure 3: Increasing the statutory one-mile boundary (left) to a 1.5 mile “shadow” boundary (right) greatly increased the number of parcels near Defense Industrial base sites in Washington, D.C. County to be reviewed.



Data Sources and Products

Open-source datasets were analyzed using the TCPED framework and Agile project management methodology. Analytical products developed in ArcGIS Pro, ArcGIS Online and Microsoft Excel included a state legislative restrictiveness index, county-prioritization Dashboard, parcel-level screening models and integrated geodatabase. Standard operating procedures were documented to ensure workflow repeatability.

Impacts to National Security

No unified, national framework currently integrates state legislation, county FDI reporting and parcel-level proximity analyses into a common risk assessment framework. This research demonstrates that integrating data from multiple administrative scales provides a more complete basis for identifying and prioritizing parcels near CI than any single scale alone, supporting more consistent, risk-informed regulatory enforcement.

Confidence Level: Moderate

Confidence is high in the repeatability of the analytical methodology and the quality of authoritative CI datasets. Overall confidence is moderate, as analysis has been performed for

selected POC study areas at each administrative scale and not nationwide. Confidence is also affected by fragmented or paywall-restricted parcel ownership records, inconsistent reporting standards across jurisdictions, limited ownership transparency and the inclusion of only four CI sectors during Stage 0.

Bias due to Data Availability and Client Priorities

This assessment integrates FDI trends, state legislative analysis, county AFIDA reporting and parcel-level POC testing. Results demonstrate the analytical framework rather than a completed nationwide parcel-ownership risk analysis. Scaling this framework nationwide remains a challenge, as parcel record availability varies among counties and are often behind a paywall.

Though the Cybersecurity and Infrastructure Security Agency (CISA, 2025) identifies 16 critical infrastructure sectors, this assessment focused on four CI sectors prioritized by the client: Communications, Defense Industrial Base, Information Technology and Transportation. Findings should not be interpreted as representing all CI sites and sectors equally.

References

Publications

Cybersecurity and Infrastructure Security Agency (CISA). 2025. "Critical Infrastructure Sectors." Accessed September 29, 2025.
<https://www.cisa.gov/topics/critical-infrastructure-security-and-resilience/critical-infrastructure-sectors>.

O'Dell, Hope and A.J. Caughey. 2024. "How much US Land Do China and Other Countries Really Own?" Chicago Council on Global Affairs. March 29, 2024.
<https://globalaffairs.org/commentary/blogs/china-foreign-land-ownership-explainer>.

Trade Practitioner. 2023. "CFIUS Determines it Lacks Jurisdiction to Review Chinese Land Acquisition," June 26, 2023.
<https://www.tradepractitioner.com/2023/06/cfius-determines-it-lacks-jurisdiction-to-review-chinese-land-acquisition/>.

U.S. Department of the Treasury. 2024. "Final Rule: Definition of Military Installation and the List of Military Installations in the Regulations Pertaining to Certain Transactions by Foreign Persons Involving Real Estate in the United States." Federal Register 89 (216): 88128-88136. November 7, 2024.
<https://home.treasury.gov/system/files/206/2024-25773.pdf>.

Data Sources

- ArcGIS Living Atlas
- ArcGIS Online
- BillTrack50

- Congress.gov
- Inter-university Consortium for Political and Social Research
 - Bureau of Transportation Statistics
 - Defense Installations Spatial Data Infrastructure
 - Federal Aviation Administration
 - Federal Communications Commission
 - Homeland Infrastructure Foundation-Level Data
 - U.S. Army Corps of Engineers
- Investigate Midwest
- LegiScan
- MITRE ATT&CK
- MultiState
- National Agricultural Law Center
- Regrid Premium parcel data
- Subtelforum.com
- U.S. Department of Agriculture – County-level Agriculture Foreign Investment Disclosure Act reports