Supplementary Materials

Table S1. The 66 nonnative pest (insect and pathogen) species across the conterminous United States used in this study. The list includes species that are known to cause significant ecological and economical damage to native forest tree species.

Scientific_Name	Common_name	Group	Notes
Acantholyda erythrocephala	Pine False Webworm	Foliage-Feeders	
Adelges abietis	Eastern Spruce Gall Adelgid	Sap-Feeders	
Adelges piceae	Balsam Woolly Adelgid	Sap-Feeders	
Adelges tsugae	Hemlock Woolly Adelgid	Sap-Feeders	
Agrilus planipennis	Emerald Ash Borer	Phloem- or Wood-Borers	
Agrilus prionurus	Soapberry Borer	Phloem- or Wood-Borers	
Anoplophora glabripennis	Asian Longhorned Beetle	Phloem- or Wood-Borers	
Callidellum rufipenne	Japanese Cedar Longhorn Beetle	Phloem- or Wood-Borers	
Carulaspis juniperi	Juniper Scale	Sap-Feeders	
Cephalcia lariciphila	European Web-spinning Larch Sawfly	Foliage-Feeders	
Ceratocystis fagacearum	Oak Wilt	Pathogens	pathogen
Coleophora laricella	Larch Casebearer	Foliage-Feeders	
Contarinia baeri	European Pine Needle Midge	Foliage-Feeders	Christmas tree pest, generalist
Cronartium ribicola	White Pine Blister Rust	Pathogens	pathogen
Cryphonectria parasitica	Chestnut Blight	Pathogens	pathogen
Cryptoccocus fagisuga	Beech Scale	Sap-Feeders	causal agent of beech bark disease
Cryptodiaporthe populea	Dothichiza Canker of Poplar	Pathogens	pathogen
Cryptorhynchus lapathi	Poplar-And-Willow Borer	Phloem- or Wood-Borers	
Cyrtepistomus castaneus	Asiatic Oak Weevil	Foliage-Feeders	
Diprion similis	Introduced Pine Sawfly	Foliage-Feeders	
Discula destructiva	Dogwood Anthracnose	Pathogens	pathogen
Elatobium abietinum	Spruce Aphid	Sap-Feeders	
Enarmonia formosana	Cherry Bark Tortrix	Foliage-Feeders	
Epinotia nanana	European Spruce Needleminer	Foliage-Feeders	
Eulecanium cerasorum	Calico Scale	Sap-Feeders	ornamental hosts; generalist

Euproctis chrysorrhoea	Browntail Moth	Foliage-Feeders	
Fenusa pumila	Birch Leafminer	Foliage-Feeders	syn. w. *F. pusilla*
Fiorinia externa	Elongate Hemlock Scale	Sap-Feeders	
Gremmeniella abietina	Scleroderris Canker	Pathogens	pathogen
Homadaula anisocentra	Mimosa Webworm	Foliage-Feeders	
Hylurgus ligniperda	Redhaired Pine Bark Beetle	Phloem- or Wood-Borers	
Kaliofenusa ulmi	Elm Leafminer	Foliage-Feeders	
Lachnellula willkommii	European Larch Canker	Pathogens	pathogen
Lepidosaphes ulmi	Oystershell Scale	Sap-Feeders	ornamental hosts; generalist
Leucoma salicis	Satin Moth	Foliage-Feeders	poplar and willow hosts
Lymantria dispar	Gypsy Moth	Foliage-Feeders	
Maconellicoccus hirsutus	Pink Hibiscus Mealybug	Sap-Feeders	ornamental hosts; generalist
Matsucoccus matsumurae	Red Pine Scale	Sap-Feeders	syn. w. *M. resinosae*
Melampsora larici-populina	Eurasian Poplar Leaf Rust	Pathogens	pathogen
Neodiprion sertifer	European Pine Sawfly	Foliage-Feeders	
Nuculaspis tsugae	Circular Hemlock Scale	Sap-Feeders	
Operophtera brumata	Winter Moth	Foliage-Feeders	
Ophiostoma novo-ulmi	Dutch Elm Disease	Pathogens	pathogen
Orchestes alni	European Elm Flea Weevil	Foliage-Feeders	elm hosts, prefers exotics
Orthotomicus erosus	Mediterranean Pine Engraver	Phloem- or Wood-Borers	
Otiorhynchus sulcatus	Black Vine Weevil	Foliage-Feeders	ornamental hosts; generalist
Phytophthora cinnamomi	Littleleaf Disease / Phytophthora Root Rot	Pathogens	pathogen
Phytophthora lateralis	Port-Orford-Cedar Root Disease	Pathogens	pathogen
Phytophthora ramorum	Sudden Oak Death	Pathogens	pathogen
Plagiodera versicolora	Imported Willow Leaf Beetle	Foliage-Feeders	
Popillia japonica	Japanese Bbeetle	Foliage-Feeders	ornamental hosts; generalist
Pristiphora erichsonii	Larch Sawfly	Foliage-Feeders	
Pristiphora geniculata	Mountain-Ash Sawfly	Foliage-Feeders	
Profenusa thomsoni	Ambermarked Birch Leafminer	Foliage-Feeders	
Raffaelea lauricola	Laurel Wilt	Pathogens	
Rhyacionia buoliana	European Pine Shoot Moth	Foliage-Feeders	

Scolytus multistriatus	Smaller European Elm Bark Beetle	Phloem- or Wood-Borers	
Scolytus schevyrewi	Banded Elm Bark Beetle	Phloem- or Wood-Borers	
Sirex noctilio	Sirex Woodwasp	Phloem- or Wood-Borers	
Sirococcus clavigignenti-juglandace	Butternut Canker	Pathogens	pathogen
Taeniothrips inconsequens	Pear Thrips	Sap-Feeders	
Thrips calcaratus	Introduced Basswood Thrips	Sap-Feeders	
Tomicus piniperda	Pine Shoot Beetle	Phloem- or Wood-Borers	
Trichiocampus viminalis	Poplar Sawfly	Foliage-Feeders	
Venturia saliciperda	Willow Scab	Pathogens	pathogen
Xanthogaleruca luteola	elm leaf beetle	Foliage-Feeders	elm hosts, prefers exotics

Table S2. Aggregation of 16 land cover classes to the five classes used in this study.

Land cover class	**Class description [16,17]**	**Aggregated class**
Open water	Areas of open water, generally with less than 25% cover of vegetation or soil.	Other
Perennial ice/snow	Areas characterized by a perennial cover of ice and/or snow, generally greater than 25% of total cover.	Other
Developed, open space	Areas with a mixture of some constructed materials, but mostly vegetation in the form of lawn grasses. Impervious surfaces account for less than 20% of total cover. These areas most commonly include large-lot single-family housing units, parks, golf courses, and vegetation planted in developed settings for recreation, erosion control, or aesthetic purposes.	Developed
Developed, low intensity	Areas with a mixture of constructed materials and vegetation. Impervious surfaces account for 20% to 49% percent of total cover. These areas most commonly include single-family housing units.	Developed
Developed, medium intensity	Areas with a mixture of constructed materials and vegetation. Impervious surfaces account for 50% to 79% of the total cover. These areas most commonly include single-family housing units.	Developed
Developed, high intensity	Highly developed areas where people reside or work in high numbers. Examples include apartment complexes, row houses, and commercial/industrial. Impervious surfaces account for 80% to 100% of the total cover.	Developed
Barren land (rock/sand/clay)	Areas of bedrock, desert pavement, scarps, talus, slides, volcanic material, glacial debris, sand dunes, strip mines, gravel pits, and other accumulations of earthen material. Generally, vegetation accounts for less than 15% of total cover.	Other
Deciduous forest	Areas dominated by trees generally greater than five meters tall, and greater than 20% of total vegetation cover. More than 75% of the tree species shed foliage simultaneously in response to seasonal change.	Forest
Evergreen forest	Areas dominated by trees generally greater than five meters tall, and greater than 20% of total vegetation cover. More than 75% of the tree species maintain their leaves all year. Canopy is never without green foliage.	Forest
Mixed forest	Areas dominated by trees generally greater than five meters tall, and greater than 20% of total vegetation cover. Neither deciduous nor evergreen species are greater than 75% of total tree cover.	Forest
Shrub/scrub	Areas dominated by shrubs; less than five meters tall with shrub canopy typically greater than 20% of total vegetation. This class includes true shrubs, young trees in an early successional stage, or trees stunted from environmental conditions.	Grass-shrub
Grassland/herbaceous	Areas dominated by gramanoid or herbaceous vegetation, generally greater than 80% of total vegetation. These areas are not subject to intensive management such as tilling, but can be utilized for grazing.	Grass-shrub
Pasture/hay	Areas of grasses, legumes, or grass-legume mixtures planted for livestock grazing or the production of seed or hay crops, typically on a perennial cycle. Pasture/hay vegetation accounts for greater than 20% of total vegetation.	Agricultural
Cultivated crops	Areas used for the production of annual crops, such as corn, soybeans, vegetables, tobacco, and cotton, and also perennial	Agricultural

	woody crops such as orchards and vineyards. Crop vegetation accounts for greater than 20% of total vegetation. This class also includes all land being actively tilled.	
Woody wetlands	Areas where forest or shrubland vegetation account for greater than 20% of vegetative cover, and where the soil or substrate is periodically saturated with or covered with water.	Forest
Emergent herbaceous wetlands	Areas where perennial herbaceous vegetation accounts for greater than 80% of vegetative cover, and where the soil or substrate is periodically saturated with or covered with water.	Other

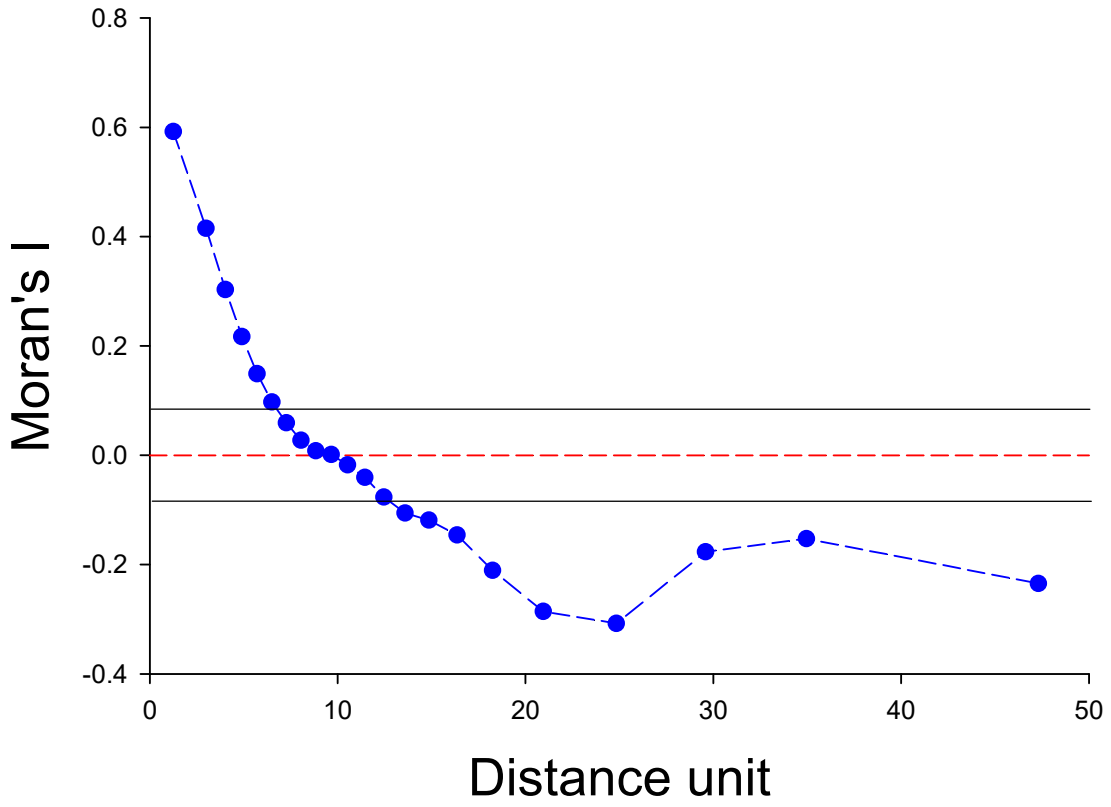

Figure S1. Spatial autocorrelation analyses showed that the forest pest richness was spatially autocorrelated across the conterminous United States. The data points above the upper or below the lower horizontal lines indicate significant spatial autocorrelations based on randomization (i.e., $p < 0.05$), using the Monte Carlo randomized data (distances; 200 replicates).