Pennsylvania Governor's Invasive Species Council's

Invasive Non-Fungal Plant and Animal Pathogens of Concern to Pennsylvania

Pathogens that are fungi can be found on the Fungi of Concern list.

Tier Descriptions:

Tier 1 | Early Detection/Prevention: Species in this category are absent from target regions and should receive the highest level of early detection survey efforts. Natural resource professionals should conduct delineation surveys for Tier 1 species and assign species detected to the appropriate tier.

Tier 2 | Eradication: Species in this category occur in small, localized populations and should receive the highest level of early detection response efforts. High impact species with low enough abundance and suitable treatment method(s) should make eradication feasible in a given area.

Tier 3 | Containment: Species in this category are spreading and increasing in number, and should receive targeted and strategic management to slow their spread as they are likely too widespread to eradicate. Surrounding regions could be left at risk if Tier 3 species are left unattended.

Tier 4 | Local Control: Species in this category are established throughout the state or target region and cannot be feasibly eradicated. Land managers should instead focus efforts on localized management over time to contain, exclude, or suppress to protect high-priority resources like rare native species or recreational assets. Managers are advised to be strategic when deciding if/when to control Tier 4 species.

Tier 5 | Monitor: Species in this category need more research, mapping, and monitoring to understand their invasiveness. This includes naturalized species and cultivated-only species that are known to be invasive in other regions, but are not yet invasive here. Invasiveness may change with environmental or genetic changes. Land managers should monitor populations on a regular basis to see if they are starting to become invasive. If invasive infestations are detected, species should be assigned to an appropriate tier.

Common Name	Scientific Name	Tier	Threats	Taxon	Regulatory Status
Australian grapevine yellows	*Candidatus Phytoplasma australienses*	1	Plant pathogen	Bacteria	
Apple proliferation	*Candidatus Phytoplasma mali*	1	Plant pathogen	Bacteria	
European stone fruit yellows	*Candidatus Phytoplasma prunorum*	1	Plant pathogen	Bacteria	
Stolbur Phytoplasma	*Candidatus Phytoplasma solani*	1	Plant pathogen	Bacteria	
Bacterial wilt	*Ralstonia solanacearum*	1	Plant pathogen	Bacteria	Federal
Whirling disease	*Myxobolus cerebralis*	4	Animal pathogen	Cnidarian	
Ceratomyxosis	*Ceratonova shasta*	1	Animal pathogen	Cnidarian	State
Proliferative kidney disease	*Tetracapsula brysalmonae*	2	Animal pathogen	Cnidarian	
Gill lice	*Salmincola* species	4	Animal pathogen	Copepod	State
Eel swim bladder nematode	*Anguillicola crassus*	4	Animal pathogen	Nematode	
Pale cyst nematode	*Globodera pallida*	1	Plant pathogen	Nematode	Federal
Golden nematode	*Globodera rostochiensis*	1	Plant pathogen	Nematode	Federal

Beach leaf disease	*Litylenchus crenatae*	4	Plant pathogen	Nematode	
British root-knot nematode	*Meloidogyne artiellia*	1	Plant pathogen	Nematode	
Alder root and collar rot	*Phytophthora alni*	1	Plant pathogen	Oomycete	Federal
Phytophthora blight	*Phytophthora kernoviae*	1	Plant pathogen	Oomycete	
Sudden Oak Death	*Phytophthora ramorum*	1	Plant pathogen	Oomycete	Federal and State
Koi herpesvirus	*Cyprinid herpesvirus 3*	2	Animal pathogen	Virus	State
VHS disease	*Piscine novirhabdovirus*	2	Animal pathogen	Virus	State
Largemouth bass virus	*Ranavirus* species	4	Animal pathogen	Virus	State
Infectious hematopoietic necrosis virus	*Salmonid novirhabdovirus*	1	Animal pathogen	Virus	State
Infectious salmon anemia virus	*Salmon isavirus*	1	Animal pathogen	Virus	State
Spring viremia of carp virus	*Carp sprivivirus*	1	Animal pathogen	Virus	State
Plum Pox	*Potyvirus Plum pox virus*	1	Plant pathogen	Virus	Federal and State
Little Cherry Virus	*Velarivirus* species	3	Plant pathogen	Virus	