Ecological site F126XY006OH
Well Drained Floodplain

Last updated: 9/27/2024
Accessed: 09/24/2026

General information

Provisional. A provisional ecological site description has undergone quality control and quality assurance review. It contains a working state and transition model and enough information to identify the ecological site.

MLRA notes

Major Land Resource Area (MLRA): 126X–Central Allegheny Plateau

This site contains well drained soils on alluvial land deposited during the Quaternary period. This ecosite is found in alluvial plain, and river valleys within hills, mountains, plateau, in MLRA 126

Classification relationships

USDA-NRCS (USDA 2006): Land Resource Region (LRR): N—East and Central Farming and Forest Region Major Land Resource Area (MLRA): 126—Central Allegheny Plateau USDA-FS (Cleland et al. 2007) Province: 221 - Eastern Broadleaf Province Section: 221E - Southern Unglaciated Allegheny Plateau Subsection: 221Ea - Pittsburgh Low Plateau 221Eb - Teays Plateau 221Ec - Ohio Valley Lowland 221Ed - East Hocking Plateau This site crosswalks to Landfire biophysical setting (BpS) Central Interior and Appalachian Floodplain Systems. NatureServe (2007) describes this as an aggregated system including the following standard ecological systems (for MLRA 127): • Central Appalachian River Floodplain (CES202.608) Component Associations (all not applicable to MLRA 127) Association Unique ID Association Name CEGL002014 Fraxinus pennsylvanica - Ulmus spp. - Celtis occidentalis Forest CEGL002086 Betula nigra - Platanus occidentalis Forest CEGL002191 Cephalanthus occidentalis / Carex spp. - Lemna spp. Southern Shrubland CEGL002586 Acer saccharinum - Fraxinus pennsylvanica - Ulmus americana Forest CEGL003896 Platanus occidentalis - Betula nigra - Salix (caroliniana, nigra) Woodland CEGL004073 Platanus occidentalis - Acer negundo - Juglans nigra / Asimina triloba / Mertensia virginica Forest CEGL004103 Carex torta Herbaceous Vegetation CEGL004286 Justicia americana Herbaceous Vegetation CEGL005014 Fagus grandifolia - Quercus spp. - Acer rubrum - Juglans nigra Forest CEGL005033 Acer negundo Ruderal Floodplain Forest CEGL005082 Alnus serrulata Swamp Shrubland CEGL005449 Calamagrostis canadensis North-Central Wet Meadow CEGL006001 Acer saccharinum - Ulmus americana / Onoclea sensibilis Forest CEGL006036 Platanus occidentalis - Fraxinus pennsylvanica Forest CEGL006042 Acer saccharinum - Ulmus americana / Physocarpus opulifolius Forest CEGL006069 Cephalanthus occidentalis - Decodon verticillatus Shrubland CEGL006114 Acer saccharum - Fraxinus spp. - Tilia americana / Matteuccia struthiopteris - Ageratina altissima Forest CEGL006147 Acer saccharinum - (Populus deltoides) / Matteuccia struthiopteris - Laportea canadensis Forest CEGL006176 Acer saccharinum / Onoclea sensibilis - Boehmeria cylindrica Forest CEGL006184 Betula nigra - Platanus occidentalis / Impatiens capensis Forest CEGL006185 Quercus palustris - Acer rubrum / Carex grayi - Geum canadense Forest CEGL006217 Acer saccharinum - Acer negundo / Ageratina altissima - Laportea canadensis - (Elymus virginicus) Forest CEGL006218 Quercus bicolor - Fraxinus pennsylvanica - (Platanus occidentalis) / Chasmanthium latifolium - Dichanthelium clandestinum - Zizia aurea Woodland CEGL006244 Peltandra virginica - Polygonum amphibium var. emersum - Carex stricta - Impatiens capensis Herbaceous Vegetation CEGL006251 Alnus serrulata - Physocarpus opulifolius Shrubland CEGL006255 Liriodendron tulipifera - Platanus occidentalis - Betula lenta / Lindera benzoin / Circaea lutetiana ssp. canadensis Forest CEGL006283 Andropogon gerardii - Panicum virgatum - Baptisia australis Herbaceous Vegetation CEGL006305 Salix sericea Shrubland CEGL006314 Liriodendron tulipifera - Fraxinus spp. / Lindera benzoin - Viburnum prunifolium / Podophyllum peltatum Forest CEGL006386 Quercus bicolor - Acer rubrum / Carpinus caroliniana Forest CEGL006405 Tilia americana - Acer saccharum - Acer nigrum / Laportea canadensis Forest CEGL006445 Carya cordiformis - Prunus serotina / Ageratina altissima Forest CEGL006447 Carex trichocarpa Herbaceous Vegetation CEGL006459 Acer saccharum - Fraxinus americana / Carpinus caroliniana / Podophyllum peltatum Forest CEGL006463 Salix nigra - Betula nigra / Schoenoplectus pungens Wooded Herbaceous Vegetation CEGL006466 Platanus occidentalis / Aesculus flava Forest CEGL006473 Acer saccharum - Liriodendron tulipifera / Galium concinnum - Carex laxiculmis Forest CEGL006476 Platanus occidentalis - Acer saccharinum - Betula nigra - Fraxinus pennsylvanica / Boehmeria cylindrica - Carex emoryi Woodland CEGL006478 Fraxinus americana / Andropogon gerardii - Sorghastrum nutans - Schizachyrium scoparium - Pycnanthemum tenuifolium Herbaceous Vegetation CEGL006480 Verbesina alternifolia - Elymus riparius - Solidago gigantea - (Teucrium canadense) Herbaceous Vegetation CEGL006481 Eupatorium serotinum - Polygonum (lapathifolium, punctatum, pensylvanicum) Herbaceous Vegetation CEGL006483 Eragrostis hypnoides - Ludwigia palustris - Lindernia dubia - Cyperus squarrosus Herbaceous Vegetation CEGL006484 Carpinus caroliniana - Ilex decidua Shrubland CEGL006491 (Hypericum prolificum, Leucothoe racemosa) / Schizachyrium scoparium - Solidago simplex var. racemosa - Ionactis linariifolius Sparse Vegetation CEGL006495 Quercus rubra - Quercus shumardii / Cercis canadensis Temporarily Flooded Forest CEGL006497 Quercus palustris -

Quercus bicolor / Carex tribuloides - Carex radiata - (Carex squarrosa) Forest CEGL006518 Prunus pumila / Andropogon gerardii - Sorghastrum nutans Herbaceous Vegetation CEGL006536 Carex torta - Apocynum cannabinum - Cyperus spp. Herbaceous Vegetation CEGL006546 Alnus incana - Viburnum recognitum / Calamagrostis canadensis Shrubland CEGL006548 Acer (rubrum, saccharinum) - Fraxinus pennsylvanica - Ulmus americana / Boehmeria cylindrica Forest CEGL006575 Fraxinus pennsylvanica - (Juglans nigra, Platanus occidentalis) Forest CEGL006595 Spiraea alba Shrubland CEGL007696 Peltandra virginica - Saururus cernuus - Boehmeria cylindrica / Climacium americanum Herbaceous Vegetation CEGL007879 Juglans nigra / Verbesina alternifolia Ruderal Forest CEGL008405 Liriodendron tulipifera - Pinus strobus - (Tsuga canadensis) / Carpinus caroliniana / Amphicarpaea bracteata Forest CEGL008449 Pinus virginiana - Juniperus virginiana var. virginiana - Quercus stellata / Amelanchier stolonifera / Danthonia spicata / Leucobryum glaucum Woodland • North-Central Interior Floodplain (CES202.694) Component Associations (all not applicable to MLRA 127) Association Unique ID Association Name CEGL002018 Populus deltoides - Salix nigra - Acer saccharinum Forest CEGL002026 Schoenoplectus tabernaemontani - Typha spp. - (Sparganium spp., Juncus spp.) Herbaceous Vegetation CEGL002086 Betula nigra - Platanus occidentalis Forest CEGL002087 Carya illinoinensis - Celtis laevigata Forest CEGL002099 Quercus michauxii - Quercus shumardii - Liquidambar styraciflua / Arundinaria gigantea Forest CEGL002101 Quercus palustris - (Quercus stellata) - Quercus pagoda / Isoetes spp. Forest CEGL002102 Quercus phellos - (Quercus lyrata) / Carex spp. - Leersia spp. Forest CEGL002103 Salix nigra Forest CEGL002191 Cephalanthus occidentalis / Carex spp. - Lemna spp. Southern Shrubland CEGL002314 River Mudflats Sparse Vegetation CEGL002386 Nuphar advena - Nymphaea odorata Herbaceous Vegetation CEGL002410 Fraxinus pennsylvanica - Celtis spp. - Quercus spp. - Platanus occidentalis Bottomland Forest CEGL002417 Quercus stellata - Quercus marilandica - Quercus falcata / Schizachyrium scoparium Sand Woodland CEGL002420 Taxodium distichum / Lemna minor Forest CEGL002427 Fraxinus pennsylvanica - Ulmus americana - Celtis laevigata / Ilex decidua Forest CEGL002430 Polygonum spp. - Mixed Forbs Herbaceous Vegetation CEGL002431 Acer saccharinum - Celtis laevigata - Carya illinoinensis Forest CEGL002586 Acer saccharinum - Fraxinus pennsylvanica - Ulmus americana Forest CEGL003725 Platanus occidentalis - Betula nigra / Cornus amomum / (Andropogon gerardii, Chasmanthium latifolium) Woodland CEGL003836 Arundinaria gigantea ssp. gigantea Shrubland CEGL003895 Alnus serrulata - Xanthorhiza simplicissima Shrubland CEGL003910 (Diospyros virginiana, Platanus occidentalis) / Eupatorium serotinum - Diodia virginiana Ruderal Herbaceous Vegetation CEGL004049 River Valley Impoundment Mudflat Sparse Vegetation CEGL004103 Carex torta Herbaceous Vegetation CEGL004286 Justicia americana Herbaceous Vegetation CEGL004420 Acer rubrum var. trilobum - Fraxinus pennsylvanica / Carex crinita - Peltandra virginica Forest CEGL004544 Quercus macrocarpa - Quercus shumardii - Carya cordiformis / Chasmanthium latifolium Forest CEGL004618 Fraxinus pennsylvanica - Ulmus crassifolia - Celtis laevigata Forest CEGL004691 Platanus occidentalis - Liriodendron tulipifera - Betula (alleghaniensis, lenta) / Alnus serrulata - Leucothoe fontanesiana Forest CEGL004979 Quercus nigra - Quercus (alba, phellos) Forest CEGL005014 Fagus grandifolia - Quercus spp. - Acer rubrum - Juglans nigra Forest CEGL005033 Acer negundo Ruderal Floodplain Forest CEGL005035 Acer saccharum - Carya cordiformis / Asimina triloba Floodplain Forest CEGL005057 Quercus stellata / (Danthonia spicata, Croton willdenowii) Woodland CEGL005451 Lemna spp. Eastern North American Aquatic Vegetation CEGL006458 Platanus occidentalis - Fraxinus pennsylvanica / Carpinus caroliniana / Verbesina alternifolia Forest CEGL006462 Quercus (rubra, velutina, alba) / Carpinus caroliniana - (Halesia tetraptera) / Maianthemum racemosum Forest CEGL006466 Platanus occidentalis / Aesculus flava Forest CEGL006480 Verbesina alternifolia - Elymus riparius - Solidago gigantea - (Teucrium canadense) Herbaceous Vegetation CEGL006620 Tsuga canadensis - Quercus rubra - (Platanus occidentalis, Betula nigra) / Rhododendron maximum / Anemone quinquefolia Forest CEGL007064 Salix caroliniana Temporarily Flooded Ozark Shrubland CEGL007334 Platanus occidentalis - Acer saccharinum - Juglans nigra - Ulmus rubra Forest CEGL007339 Platanus occidentalis - Fraxinus pennsylvanica - Quercus imbricaria Forest CEGL007399 Quercus palustris - (Fraxinus nigra) / Lindera benzoin / Carex bromoides Forest CEGL007410 Salix nigra Large River Floodplain Forest CEGL007702 Liquidambar styraciflua - Quercus michauxii - Carya laciniosa / Fagus grandifolia - (Aesculus flava) Forest CEGL007810 Acer saccharinum - Betula nigra / Cephalanthus occidentalis Forest CEGL007879 Juglans nigra / Verbesina alternifolia Ruderal Forest CEGL007880 Liquidambar styraciflua - Liriodendron tulipifera - (Platanus occidentalis) / Carpinus caroliniana - Halesia tetraptera / Amphicarpaea bracteata Forest CEGL007999 Platanus occidentalis - Betula nigra - Celtis laevigata - Fraxinus pennsylvanica / Arundinaria gigantea Temporarily Flooded Forest CEGL008404 Osmunda regalis var. spectabilis Seepage Scour Herbaceous Vegetation CEGL008495 Hypericum densiflorum - Alnus serrulata / Tripsacum dactyloides Shrubland CEGL008562 Salix interior Temporarily Flooded Shrubland

Ecological site concept

From NatureServe (2007): This system encompasses floodplains of medium to large rivers in Atlantic drainages from southern New England to Virginia. This system can include a complex of wetland and upland vegetation on deep alluvial deposits and scoured vegetation on depositional bars and on bedrock where rivers cut through resistant geology. This complex includes floodplain forests in which Acer saccharinum, Populus deltoides, and Platanus occidentalis are characteristic, as well as herbaceous sloughs, shrub wetlands, riverside prairies and woodlands. Microtopography and soil texture determine how long the various habitats are inundated. Depositional and erosional features may both be present depending on the particular floodplain. From Landfire http://www.landfire.gov/index.php: This systems group encompasses large-river floodplains over much of the eastern US (NatureServe 2007), but differs from the Coastal Plain model in several ways. First it is floristically different in that it lacks cypress and tupelo except in its lowest elevation where it transitions to the Coastal Plain. Permanent standing water is lacking except in the areas closest to sea level where oxbow lakes may exist. Hydroperiods are shorter and fluvial features such as river terraces, oxbows, alluvial flats, point bars, streamside levees and other fine-scale alluvial floodplain features are abundant. NatureServe (2007) notes some will include herbaceous sloughs and shrub wetlands, particularly in abandoned channels The substrate is primarily alluvium. The generally fertile soils are usually sandy to loamy but include local clayey and gravelly areas (NatureServe 2007). Synonyms for this BpS and its variations include eastern riverfront forest, bottomland hardwood forest, and alluvial forest. Fire and beaver activity create a mosaic whose elements include canebrake, beaver ponds, and grass-sedge meadows in abandoned beaver clearings, as well as the swamps and bottomland hardwood forests that make up more than 95% of the cover that exists today. Standard Ecological Systems noted by NatureServe (2007) that make up this aggregated system include: • Central Appalachian River Floodplain (CES202.608) • North-Central Interior Floodplain (CES202.694) • South-Central Interior

Associated sites

F126XY005OH	**Wet Floodplain** Poorly Drained Floodplain

Table 1. Dominant plant species

Tree	(1) *Platanus occidentalis* (2) *Acer rubrum*
Shrub	(1) *Ostrya virginiana* (2) *Carpinus caroliniana*
Herbaceous	(1) *Sorghastrum nutans* (2) *Toxicodendron radicans*

Physiographic features

This site contains well drained drained soils on alluvial land deposited during the Quaternary period. This ecosite is found in alluvial plain, and river valleys within hills, mountains, plateau, in MLRA 126

Table 2. Representative physiographic features

Landforms	(1) Flood plain
Runoff class	Very low to medium
Flooding frequency	Very rare to frequent
Ponding frequency	Rare to frequent
Elevation	60 − 520 m
Slope	0 %
Water table depth	0 − 150 cm

Climatic features

The regional climate of the unglaciated Central Allegheny Plateau is predominately a humid continental climate grading at the extreme southwestern corner a to humid temperate climate with hot summers and cool winters (Beck et al., 2018; Bailey, 2014). However, the local climate is highly influenced by the dissected terrain, where climatic variations may be greater at the local scale, e.g., cooler temperatures and shorter growing season at higher elevations and more northerly latitudes. High-intensity, convective thunderstorms are common in summer. Winter precipitation is mostly snow.

Climate change is occurring, and the resiliency of any ecological site will depend upon the direct and indirect effects upon component

species and shifting atmospheric and soil conditions.

Table 3 Representative climatic features

Frost-free period (characteristic range)	140-170 days
Freeze-free period (characteristic range)	170-200 days
Precipitation total (characteristic range)	1,020-1,090 mm
Frost-free period (actual range)	130-170 days
Freeze-free period (actual range)	160-200 days
Precipitation total (actual range)	990-1,140 mm
Frost-free period (average)	150 days
Freeze-free period (average)	180 days
Precipitation total (average)	1,070 mm

- (1) WHEELING [USC00469482], Wheeling, WV
- (2) SENECAVILLE LAKE [USC00337559], Senecaville, OH
- (3) CALDWELL 3 SE [USC00331175], Caldwell, OH
- (4) HANNIBAL L&D [USC00333500], New Martinsville, OH
- (5) WAYNESBURG 1 E [USC00369367], Waynesburg, PA
- (6) WEST UNION 2 [USC00469458], West Union, WV
- (7) PARKERSBURG [USW00013867], Parkersburg, WV
- (8) WINFIELD LOCKS [USC00469683], Red House, WV
- (9) PEA RIDGE PSD [USC00466912], Huntington, WV
- (10) HUNTINGTON SEWAGE PLT [USC00464397], Kenova, WV
- (11) LOYALHANNA LAKE [USC00365212], New Alexandria, PA
- (12) PITTSBURGH INTL AP [USW00094823], Coraopolis, PA

Influencing water features

Floodplain ecological sites are located along low-gradient river systems of varying size from small to large. River flooding is variable, ranging from rare to frequent and coincide with seasonal food events in the spring and early summer. On these high floodplains, ponding is none to rare and may only occur temporarily.

Wetland description

In the National Wetland Classification System (Cowardin et al., 1979), the Floodplain ecological site may be considered in the Palustrine system, with a vegetated class, such as emergent, scrub-shrub, or forested, and modified by a non-tidal water regime ranging from temporarily flooded to seasonally flooded.

Soil features

The ecological site contains alluvial, well drained soils.

Table 4. Representative soil features

Parent material	(1) Alluvium
Surface texture	(1) Silt loam (2) Sandy loam
Drainage class	Moderately well drained to well drained
Permeability class	Very slow to moderate
Depth to restrictive layer	100 – 180 cm
Surface fragment cover <=3"	Not specified
Surface fragment cover >3"	Not specified
Available water capacity (Depth not specified)	10.16 – 22.86 cm
Soil reaction (1:1 water) (Depth not specified)	3.6 – 7.5
Subsurface fragment volume <=3" (Depth not specified)	0 – 90 %
Subsurface fragment volume >3" (Depth not specified)	0 – 60 %

Ecological dynamics

Ecological Dynamics: Information contained in this section was adapted from several sources. The information presented is representative of very complex vegetation communities. Key indicator plants, animals and ecological processes are described to help inform land management decisions. Plant communities will differ across the MLRA because of the naturally occurring variability in weather, soils, and aspect. The reference plant community is not necessarily the management goal. The species lists are representative and are not botanical descriptions of all species occurring, or potentially occurring, on this site. They are not intended to cover every situation or the full range of conditions, species, and responses for the site.
State Correlation: This site will be correlated in: OH,PA,WV

From Landfire http://www.landfire.gov/index.php:
Most of the system is forest vegetation. The canopy is usually dominated by a mix of characteristic alluvial and bottomland species (depending on the region) such as sycamore (Platanus occidentalis), river birch (Betula nigra), box elder (Acer negundo), eastern

cottonwood (Populus deltoides), sugarberry (Celtis laevigata), green ash (Fraxinus pennsylvanica), sweetgum (Liquidambar styraciflua), and red maple (Acer rubrum). NatureServe (2007) also notes characteristic trees include silver maple (Acer saccharinum), willows, especially black willow (Salix nigra) in the wettest areas, American elm (Ulmus Americana), swamp chestnut oak (Quercus michauxii), cherrybark oak (Quercus pagoda), and (at least in the Midwest) Bur oak (Quercus macrocarpa) in more well-drained areas. The particular mix of tree species will vary across the geographic range of this systems group, with some trees absent over parts of the range. Successional areas are often dominated by sweetgum (Liquidambar styraciflua), or tulip tree (Liriodendron tulipifera).

The driest and most fire sheltered sites support species such as pignut hickory (Carya glabra), shagbark hickory (Carya ovata), beech (Fagus grandifolia), and other fire sensitive species.
Subcanopy species included American holly (Ilex opaca), deciduous holly (Ilex decidua and Ilex ambigua), red mulberry (Morus rubra), ironwood (Carpinus caroliniana) and hop hornbeam (Ostrya virginiana). Shrubs such as spicebush (Lindera benzoin), beautyberry (Callicarpa americana), yellowroot (Xanthorhiza simplicissima), common buttonbush (Cephalanthus occidentalis), roughleaf dogwood (Cornus drummondii), and pawpaw (Asimina triloba); sedges (Carex spp.); and grasses including eastern bottlebrush grass (Elymus hystrix), Canada wildrye (Elymus Canadensis), and Indian woodoats (Chasmanthium latifolium), and false nettle (Boehmeria cylindrica) may be present.

Because of the particular mix and diversity of tree species will vary across the geographic range of this systems group, the list of BpS dominant and indicator species is only a rudimentary list.

State and transition model

Figure 7. State and Transition

Figure 8. Legend

Additional community tables

Table 5. Community 1.1 plant community composition

Group	Common Name	Symbol	Scientific Name	Annual Production ()	Foliar Cover (%)

Table 6. Community 2.1 plant community composition

Group	Common Name	Symbol	Scientific Name	Annual Production ()	Foliar Cover (%)

Table 7. Community 3.1 plant community composition

Group	Common Name	Symbol	Scientific Name	Annual Production ()	Foliar Cover (%)

Inventory data references

Site Development and Testing Plan Future work is needed, as described in a future project plan, to validate the information presented in this provisional ecological site description. Future work includes field sampling, data collection and analysis by qualified vegetation ecologists and soil scientists. As warranted, annual reviews of the project plan can be conducted by the Ecological Site Technical Team. A final field review, peer review, quality control, and quality assurance reviews of the ESD are necessary to approve a final document.

Other references

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Contributors

Jason Teets

Approval

Greg Schmidt, 9/27/2024

Rangeland health reference sheet

Interpreting Indicators of Rangeland Health is a qualitative assessment protocol used to determine ecosystem condition based on benchmark characteristics described in the Reference Sheet. A suite of 17 (or more) indicators are typically considered in an assessment. The ecological site(s) representative of an assessment location must be known prior to applying the protocol and must be verified based on soils and climate. Current plant community cannot be used to identify the ecological site.

Author(s)/participant(s)	
Contact for lead author	

Date	09/24/2026
Approved by	
Approval date	
Composition (Indicators 10 and 12) based on	Annual Production

Indicators

1. **Number and extent of rills:**

   _____

2. **Presence of water flow patterns:**

   _____

3. **Number and height of erosional pedestals or terracettes:**

   _____

4. **Bare ground from Ecological Site Description or other studies (rock, litter, lichen, moss, plant canopy are not bare ground):**

   _____

5. **Number of gullies and erosion associated with gullies:**

   _____

6. **Extent of wind scoured, blowouts and/or depositional areas:**

   _____

7. **Amount of litter movement (describe size and distance expected to travel):**

   _____

8. **Soil surface (top few mm) resistance to erosion (stability values are averages - most sites will show a range of values):**

   _____

9. **Soil surface structure and SOM content (include type of structure and A-horizon color and thickness):**

   _____

10. **Effect of community phase composition (relative proportion of different functional groups) and spatial distribution on infiltration and runoff:**

    _____

11. **Presence and thickness of compaction layer (usually none; describe soil profile features which may be mistaken for compaction on this site):**

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12. **Functional/Structural Groups (list in order of descending dominance by above-ground annual-production or live foliar cover using symbols: >>, >, = to indicate much greater than, greater than, and equal to):**

    Dominant:

    Sub-dominant:

    Other:

    Additional:

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13. **Amount of plant mortality and decadence (include which functional groups are expected to show mortality or decadence):**

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14. **Average percent litter cover (%) and depth (in):**

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15. **Expected annual annual-production (this is TOTAL above-ground annual-production, not just forage annual-production):**

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16. **Potential invasive (including noxious) species (native and non-native). List species which BOTH characterize degraded states and have the potential to become a dominant or co-dominant species on the ecological site if their future establishment and growth is not actively controlled by management interventions. Species that become dominant for only one to several years (e.g., short-term response to drought or wildfire) are not invasive plants. Note that unlike other indicators, we are describing what is NOT expected in the reference state for the ecological site:**

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17. **Perennial plant reproductive capability:**
