

The following list represents the results of my review of published research and literature. I'm sharing it with the intention of encouraging others to consider using these species when planting near **autobody shops, railyards, railroad tracks, roadways, parking lots, driveways**, and other impervious surfaces where stormwater runoff may contain petroleum products and hydrocarbons, or for use in larger-scale phytoremediation projects. Note that these species are only suitable for soils with mild to moderate levels of petroleum contamination, and that not all of the species listed here are ideal for home gardens and landscaping projects where a clean, manicured aesthetic is desired. Please cross-reference the species contained on this list with [Lissa's List of Well Behaved Natives](#) before planting them in a location where a "well behaved" plant species is more desirable.

NATIVE TREES FOR PETROLEUM DEGRADATION				
Common Name	Scientific Name	Contaminant Targeted*	Sunlight Requirements	Soil Moisture Requirements
Common Hackberry	<i>Celtis occidentalis</i>	BTEX, TPH, PAH	Full sun to part shade	Medium to wet
Eastern Redbud	<i>Cercis canadensis</i>	PAH	Full sun to part shade	Medium
Green Ash	<i>Fraxinus pennsylvanica</i>	PAH	Full sun	Medium
Honey Locust	<i>Gleditsia triacanthos</i>	BTEX	Full sun	Medium
Eastern Red Cedar	<i>Juniperus virginiana</i>	BTEX	Full sun	Dry to medium
Red Mulberry	<i>Morus rubra</i>	PAH	Full sun to part shade	Medium
Shortleaf pine	<i>Pinus echinata</i>	MTBE, TBA	Full sun	Dry to medium
Eastern cottonwood	<i>Populus deltoides</i>	Aniline, Phenol, m-Xylene, PAH, BTEX, MTBE, DRO, TPH	Full sun	Medium to wet
Bur Oak	<i>Quercus macrocarpa</i>	BTEX	Full sun	Dry to medium
Willow Oak	<i>Quercus phellos</i>	Dioxin	Full sun	Medium to wet
Black Locust	<i>Robinia pseudoacacia</i>	PAH, MOH	Full sun	Dry to medium

Coastal plain willow	<i>Salix caroliniana</i>	DRO, TPH, BTEX, PAH	Full sun to part shade	Medium to wet
Heart-leaved willow	<i>Salix eriocephala</i>	DRO, TPH, BTEX, PAH	Full sun to part shade	Medium to wet
Prairie willow	<i>Salix humilis</i>	DRO, TPH, BTEX, PAH	Full sun to part shade	Medium
Sandbar willow	<i>Salix interior</i>	DRO, TPH, BTEX, PAH	Full sun to part shade	Medium to wet
Black willow	<i>Salix nigra</i>	DRO, TPH, BTEX, PAH	Full sun to part shade	Medium to wet

NATIVES RUSHES FOR PETROLEUM DEGRADATION

Common Name	Scientific Name	Contaminant Targeted*	Sunlight Requirements	Soil Moisture Requirements
Common Rush	<i>Juncus effusus</i>	PAH	Full sun	Wet
Green bulrush	<i>Scirpus atrovirens</i>	PAH, Phenol, BOD, COD, Oil and gasoline, TSS	Full sun to part shade	Medium to wet
Woolgrass	<i>Scirpus cyperinus</i>	Phenol, BOD, COD, Oil and gasoline, TSS	Full sun to part shade	Wet
Georgia bulrush	<i>Scirpus georgianus</i>	Phenol, BOD, COD, Oil and gasoline, Phenol, TSS	Full sun to part shade	Medium to wet
Nodding bulrush	<i>Scirpus pendulus</i>	Phenol, BOD, COD, Oil and gasoline, TSS	Full sun to part shade	Medium to wet

NATIVE SEDGES FOR PETROLEUM DEGRADATION

Common Name	Scientific Name	Contaminant Targeted*	Sunlight Requirements	Soil Moisture Requirements
Ovalhead Sedge	<i>Carex cephalophora</i>	PAH	Full sun to part shade	Medium
Upright Sedge	<i>Carex stricta</i>	TPH	Full sun to part shade	Medium to wet

NATIVE GRASSES PETROLEUM DEGRADATION				
Common Name	Scientific Name	Contaminant Targeted*	Sunlight Requirements	Soil Moisture Requirements
Big Bluestem	<i>Andropogon gerardii</i>	PAH	Full sun	Dry to medium
Side Oats Grass	<i>Bouteloua curtipendula</i>	TPH, PAH	Full sun	Dry to medium
Blue Grama	<i>Bouteloua gracilis</i>	PAH	Full sun	Dry to medium
Canada Wild Rye	<i>Elymus canadensis</i>	TPH, PAH	Full sun	Dry to medium
Bottlebrush Grass	<i>Elymus hystrix</i>	PAH	Full sun to part shade	Dry to medium
Switchgrass	<i>Panicum virgatum</i>	Anthracene, PAH (total priority), Pyrene, TPH,	Full sun to part shade	Medium to wet
Little bluestem	<i>Schizachyrium scoparium</i>	PAH	Full sun	Dry to medium
Indiangrass	<i>Sorghastrum nutans</i>	TPH, PAH	Full sun	Dry to medium
Prairie Cordgrass	<i>Spartina pectinata</i>	PAH	Full sun to part shade	Medium to wet
Eastern Gamagrass	<i>Tripsacum dactyloides</i>	TPH, PAH	Full sun to part shade	Medium
Southern Cattail	<i>Typha domingensis</i>	DRO, Oil and gasoline, Phenol, TSS, BOD, COD	Full sun	Wet
Broadleaf Cattail	<i>Typha latifolia</i>	DRO, Oil and gasoline, Phenol, TSS, BOD, COD	Full sun to part shade	Wet

NATIVE FORBS FOR PETROLEUM DEGRADATION

Common Name	Scientific Name	Contaminant Targeted*	Sunlight Requirements	Soil Moisture Requirements
Common Sunflower	<i>Helianthus annuus</i>	PAH	Full sun	Dry to medium
Arrowhead	<i>Sagittaria latifolia</i>	TPH	Full sun	Wet
Coffee Weed	<i>Senna obtusifolia</i>	PAH	Full sun	Medium
Tall goldenrod	<i>Solidago altissima</i>	TPH, PAH	Full sun	Dry to medium
Forest goldenrod	<i>Solidago arguta</i>	TPH, PAH	Part shade	Dry to medium
Blue-stemmed goldenrod	<i>Solidago caesia</i>	TPH, PAH	Full sun to part shade	Dry to medium
Zigzag goldenrod	<i>Solidago flexicaulis</i>	TPH, PAH	Full sun to part shade	Medium
Giant goldenrod	<i>Solidago gigantea</i>	TPH, PAH	Full sun to part shade	Medium to wet
Hairy goldenrod	<i>Solidago hispida</i>	TPH, PAH	Full sun	Dry to medium
Missouri goldenrod	<i>Solidago missouriensis</i>	TPH, PAH	Full sun	Dry to medium
Gray goldenrod	<i>Solidago nemoralis</i>	TPH, PAH	Full sun	Dry to medium
Sweet goldenrod	<i>Solidago odora</i>	TPH, PAH	Full sun to part shade	Dry to medium
Downy ragged goldenrod	<i>Solidago petiolaris</i>	TPH, PAH	Partial sun	Dry to medium
Western rough goldenrod	<i>Solidago radula</i>	TPH, PAH	Full sun to part shade	Dry
Stiff goldenrod	<i>Solidago rigida</i>	TPH, PAH	Full sun	Medium
Rought goldenrod	<i>Solidago rugosa</i>	TPH, PAH	Full sun	Medium to wet
Showy goldenrod	<i>Solidago speciosa</i>	TPH, PAH	Full sun	Dry to medium
Elm-leaved goldenrod	<i>Solidago ulmifolia</i>	TPH, PAH	Full sun to part shade	Medium

***ACRONYMS**

BOD – biological oxygen demand

BTEX – benzene, toluene, ethylbenzene and xylene

COD – chemical oxygen demand

DRO – diesel range organics

MOH – mineral oil hydrocarbons

MTBE – methyl tert-butyl ether

PAH – polycyclic aromatic hydrocarbon

TBA – tery-butyl alcohol

TPH – total petroleum hydrocarbon

TSS – total suspended solids