Federal Species Matrix

Updated 12/21/16

Sources of Impacts	Within Project	American Burying Beetle	Black-footed Ferret	Blowout Penstemon	Colorado Butterfly Plant	Eskimo Curlew	Gray Wolf	Interior Least Tern	Northern Long-Eared Bat	Pallid Sturgeon	Piping Plover	*rufa* Red Knot	Salt Creek Tiger Beetle
Asphalt Patching		NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Bank Stabilization		MA	MA	NLAA CC[1]	NLAA CC[1]	MA	NE	MA	NE	MA	MA	NLAA	MA
Barge Staging		NE	NE	NE	NE	NE	NE	NLAA CC[3]	NE	NLAA CC[1]	NLAA CC[3]	NLAA	NE
Bridge Deck Repair		NE	MA	NLAA CC [2 or 1]	NLAA CC [2 or 1]	MA	NE	NLAA CC[1, 2]	NE or NLAA CC [1 or 2]	NLAA CC[4]	NLAA CC[1, 2]	NLAA	NLAA CC[1]
Bridge Deck Replacement		NLAA CC[3]	MA	NLAA CC [2 or 1]	NLAA CC [2 or 1]	NE	NE	NLAA CC[1, 2, 3]	NLAA CC [1 or 2]	NLAA CC[4]	NLAA CC[1, 2, 3]	NLAA	MA
Bridge Painting		NE	NE	NLAA CC [2 or 1]	NLAA CC [2 or 1]	NE	NE	NLAA CC[1, 2]	NE	NLAA CC[4]	NLAA CC[1, 2]	NLAA	NLAA CC[1]
Bridge Rail Repair/Replacement		NLAA CC[3]	NE	NLAA CC [2 or 1]	NLAA CC [2 or 1]	NE	NE	NLAA CC[1, 2]	NE	NLAA CC[4]	NLAA CC[1, 2]	NE	NLAA CC[1]
Bridge Substructure New, Replacement, or Repair - Ephemeral		NLAA CC[2]	MA	NLAA CC[1]	NLAA CC[1]	NE	NE	NLAA CC[1, 2]	NLAA CC [1 or 2]	NE	NLAA CC[1, 2]	NLAA	MA
Bridge Substructure New, Replacement, or Repair - Intermittent		NLAA CC[2]	MA	NLAA CC[1]	NLAA CC[1]	MA	NE	NLAA CC[1, 2]	NLAA CC [1 or 2]	MA	NLAA CC[1, 2]	NLAA	MA
Bridge Substructure New, Replacement, or Repair - Perennial		NLAA CC[2]	MA	NLAA CC[1]	NLAA CC[1]	MA	NE	NLAA CC[1, 2]	NLAA CC [1 or 2]	MA	NLAA CC[1, 2]	NLAA	MA
Bridge Superstructure New, Replacement, or Repair - Ephemeral		NLAA CC [3]	MA	NLAA CC [2 or 1]	NLAA CC [2 or 1]	NE	NE	NLAA CC[1, 2]	NLAA CC [1 or 2]	NLAA CC[4]	NLAA CC[1, 2]	NLAA	MA
Bridge Superstructure New, Replacement, or Repair - Intermittent		NLAA CC [3]	MA	NLAA CC [2 or 1]	NLAA CC [2 or 1]	NE	NE	NLAA CC[1, 2]	NLAA CC [1 or 2]	NLAA CC[4]	NLAA CC[1, 2]	NLAA	MA
Bridge Superstructure New, Replacement, or Repair - Perennial		NLAA CC [3]	MA	NLAA CC [2 or 1]	NLAA CC [2 or 1]	NE	NE	NLAA CC[1, 2]	NLAA CC [1 or 2]	NLAA CC[4]	NLAA CC[1, 2]	NLAA	MA
Channel Grade Stabilization Structures		MA	MA	NE	NLAA CC[1]	MA	NE	NLAA CC[1, 2]	NE	MA	NLAA CC[1, 2]	NLAA	MA
Channelization, Ephemeral		MA	MA	NLAA CC[1]	NLAA CC[1]	NE	NE	NLAA CC[1, 2]	NE	NE	NLAA CC[1, 2]	NLAA	MA
Channelization, Intermittent		MA	MA	NLAA CC[1]	NLAA CC[1]	MA	NE	NLAA CC[1, 2]	NE	MA	NLAA CC[1, 2]	NLAA	MA
Channelization, Perennial		MA	MA	NLAA CC[1]	NLAA CC[1]	MA	NE	NLAA CC[1, 2]	NE	MA	NLAA CC[1, 2]	NLAA	MA
Clearing and Grubbing - Non-woody Vegetation		NLAA CC[2]	MA	NLAA CC[1]	NLAA CC[1]	MA	NE	NLAA CC[1, 2]	NE	NLAA CC [7]	NLAA CC[1, 2]	NLAA	MA
Clearing and Grubbing - Trees & Shrubs		NLAA CC[2]	MA	NLAA CC[1]	NLAA CC[1]	MA	NE	NLAA CC[1, 2]	NLAA CC [1 or 2] or MA	NLAA CC [7]	NLAA CC[1, 2]	NLAA	MA
Cofferdams		NE	NE	NE	NLAA CC[1]	MA	NE	NLAA CC[1, 2]	NE	NLAA CC[1]	NLAA CC[1, 2]	NLAA	MA
Concrete Pavement Repair		NE	NE	NE	NE	MA	NE	NLAA CC[1, 2]	NE	NE	NLAA CC[1, 2]	NLAA	NE
Crack Sealing and Joint Sealing		NE	NE	NE	NE	MA	NE	NE	NE	NE	NE	NLAA	NE
Culvert New, Replacement, Extension, Repair - Ephemeral		NLAA CC[2]	MA	NLAA CC[1]	NLAA CC[1]	NE	NE	NLAA CC[1, 2]	NE	NE	NLAA CC[1, 2]	NLAA	MA
Culvert New, Replacement, Extension, Repair - Intermittent		NLAA CC[2]	MA	NLAA CC[1]	NLAA CC[1]	MA	NE	NLAA CC[1, 2]	NE	MA	NLAA CC[1, 2]	NLAA	MA
Culvert New, Replacement, Extension, Repair - Perennial		NLAA CC[2]	MA	NLAA CC[1]	NLAA CC[1]	MA	NE	NLAA CC[1, 2]	NE	MA	NLAA CC[1, 2]	NLAA	MA
Curb & Flume		NLAA CC[2]	MA	NLAA CC[1]	NLAA CC[1]	NE	NE	NE	NE	NE	NE	NLAA	MA
Curb & Gutter		NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NLAA	MA
Detention Basin		MA	MA	NLAA CC[1]	NLAA CC[1]	MA	NE	MA	NE	NLAA CC[2]	MA	NLAA	MA
De-watering		NE	NE	NE	NLAA CC[1]	MA	NE	NLAA CC[1, 2]	NE	NLAA CC[5]	NLAA CC[1, 2]	NLAA	MA
Drilled Shafts		NE	MA	NE	NE	MA	NE	NLAA CC[1, 2]	NE	NLAA CC[3,5]	NLAA CC[1, 2]	NLAA	MA
Earth Shoulder Construction		NLAA CC[2]	MA	NLAA CC[1]	NLAA CC[1]	NE	NE	NE	NE	NE	NE	NLAA	MA
Erosion Control - Barriers		NLAA CC[2]	NE	NE	NE	NE	NE	NLAA CC[1, 2]	NE	NE	NLAA CC[1, 2]	NLAA	MA
Erosion Control - Erosion Checks		NE	NE	NE	NE	NE	NE	NLAA CC[1, 2]	NE	NE	NLAA CC[1, 2]	NLAA	MA
Erosion Control - Inlet/Outlet Protection		NLAA CC[2]	NE	NE	NE	NE	NE	NLAA CC[1, 2]	NE	NE	NLAA CC[1, 2]	NLAA	MA
Erosion Control - Mulching		NE	NE	NE	NLAA CC[1]	MA	NE	NLAA CC[1, 2, 4]	NE	NE	NLAA CC[1, 2, 4]	NLAA	MA
Erosion Control - Rolled Erosion Control		NE	NE	NE	NE	NE	NE	NLAA CC[1, 2]	NE	NE	NLAA CC[1, 2]	NLAA	MA
Erosion Control - Slope Interuption		NE	NE	NE	NE	NE	NE	NLAA CC[1, 2]	NE	NE	NLAA CC[1, 2]	NLAA	MA
Erosion Control - Traps and Basins		NLAA CC[2]	NE	NE	NE	NE	NE	NLAA CC[1, 2]	NE	NE	NLAA CC[1, 2]	NLAA	MA
Erosion Control - Vegetation		NE	MA	NLAA CC[1]	NLAA CC[1]	MA	NE	NLAA CC[1, 2, 4]	NE	NE	NLAA CC[1, 2, 4]	NLAA	MA
Fencing		NLAA CC[2]	MA	NLAA CC[1]	NLAA CC[1]	MA	NE	NLAA CC[1, 2]	NE	NE	NLAA CC[1, 2]	NLAA	MA
Grading Within the Hinge Point		NLAA CC[2]	MA	NLAA CC [1]	NLAA CC[1]	NE	NE	NE	NE	NE	NE	NLAA	MA
Grading Outside the Hinge Point		*MA or NLAA CC[2]	MA	NLAA CC[1]	NLAA CC[1]	MA	NE	NLAA CC[1, 2]	NE	NLAA CC[7] or MA	NLAA CC[1, 2]	NLAA	MA
Guardrail Repair, Replacement, or Installation with Soil Disturbance		NLAA CC[2]	MA	NLAA CC[1]	NLAA CC[1]	MA	NE	NLAA CC[1, 2]	NE	NE	NLAA CC[1, 2]	NLAA	MA

Federal Species Matrix

Sources of Impacts	Within Project	American Burying Beetle	Black-footed Ferret	Blowout Penstemon	Colorado Butterfly Plant	Eskimo Curlew	Gray Wolf	Interior Least Tern	Northern Long-Eared Bat	Pallid Sturgeon	Piping Plover	*rufa* Red Knot	Salt Creek Tiger Beetle
Guardrail Repair, Replacement, or Installation without Soil Disturbance		NE	NE	NE	NE	MA	NE	NLAA CC[1, 2]	NE	NE	NLAA CC[1, 2]	NLAA	NE
Habitat Fragmentation, Modification of Connectivity		MA	MA	MA	MA	MA	MA	MA	MA	MA	MA	MA	MA
Landscaping		NLAA CC[2]	MA	NLAA CC [1]	NLAA CC [1]	MA	NE	NLAA CC[1, 2, 4]	NE	NE	NLAA CC[1, 2, 4]	NLAA	MA
Lighting, Traffic and Pedestrian Signals, Dynamic Message Signs w/ soil disturbance		NLAA CC [2,4]	MA	NLAA CC[1]	NLAA CC[1]	MA	NE	NLAA CC[1, 2]	NE	NE	NLAA CC[1, 2]	NLAA	MA
Lighting, Traffic and Pedestrian Signals, Dynamic Message Signs w/out soil disturbance		NLAA CC [4]	MA	NE	NE	MA	NE	NLAA CC[1, 2]	NE	NE	NLAA CC[1, 2]	NLAA	MA
Microsurfacing		NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Milling and/or In-place Recycling		NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Nighttime work with Lights		NLAA CC[4]	MA	NE	NE	MA	NE	NLAA CC[5]	NE	NE	NLAA CC[5]	NLAA	MA
Noise Walls (Not in water/wetlands)		NLAA CC[2]	MA	NE	NLAA CC[1]	MA	NE	NLAA CC[1, 2]	NE	NE	NLAA CC[1, 2]	NLAA	MA
Overpass		NLAA CC[2]	MA	NLAA CC[1]	NLAA CC[1]	MA	NE	NLAA CC[1, 2]	NE	NE	NLAA CC[1, 2]	NLAA	MA
Pavement Removal		NE	NE	NE	NE	MA	NE	NLAA CC[1, 2]	NE	NE	NLAA CC[1, 2]	NLAA	NE
Paving		NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Piers		NLAA CC[2]	MA	NE	NLAA CC[1]	MA	NE	NLAA CC[1, 2]	NE	NLAA CC[1,7]	NLAA CC[1, 2]	NLAA	MA
Pile Driving - Impact		NLAA CC[2]	MA	NLAA CC [1 or 2]	NLAA CC [1 or 2]	MA	NE	NLAA CC[1, 2]	NE	NLAA CC[1]	NLAA CC[1, 2]	NLAA	MA
Pile Driving - Vibratory		NLAA CC[2]	MA	NLAA CC [1 or 2]	NLAA CC [1 or 2]	MA	NE	NLAA CC[1, 2]	NE	NLAA CC[1]	NLAA CC[1, 2]	NLAA	MA
Pile/Pier Encasement		NLAA CC[2]	MA	NE	NLAA CC[1]	MA	NE	NLAA CC[1, 2]	NE	NLAA CC[1,5]	NLAA CC[1, 2]	NLAA	MA
Pipe Jacking & Casing		NLAA CC[2]	MA	NLAA CC[1]	NLAA CC[1]	NE	NE	NLAA CC[1, 2]	NE	NLAA CC[1]	NLAA CC[1, 2]	NLAA	MA
Pre-watering		NLAA CC[2]	NE	NE	NLAA CC[1]	MA	NE	NLAA CC[1, 2]	NE	MA	NLAA CC[1, 2]	NLAA	MA
Removal of Structures and Obstructions		NLAA CC[2]	MA	NLAA CC[1]	NLAA CC[1]	MA	NE	NLAA CC[1, 2]	NLAA CC [1 or 2]	NLAA CC[6, 7]	NLAA CC[1, 2]	NLAA	MA
Replacing a Bridge with a Culvert		NLAA CC[2]	MA	NLAA CC[1]	NLAA CC[1]	MA	NE	NLAA CC[1, 2]	NLAA CC [1 or 2]	NE	NLAA CC[1, 2]	NLAA	MA
Resurfacing-Fog/Slurry Seal, Armor Coat/Chip Seal		NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Retaining Walls (NOT IN Water/Wetlands)		NLAA CC[2]	MA	NLAA CC[1]	NLAA CC[1]	MA	NE	NLAA CC[1, 2]	NE	NE	NLAA CC[1, 2]	NLAA	MA
Rock or Gravel Surfacing		NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Shoo-fly		NLAA CC[2]	MA	NLAA CC[1]	NLAA CC[1]	MA	NE	NLAA CC[1, 2]	NE	NLAA CC[6]	NLAA CC[1, 2]	NLAA	MA
Sidewalks and Bikeways		NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NLAA	MA
Signs with Soil Disturbance		NLAA CC[2]	MA	NLAA CC[1]	NLAA CC[1]	MA	NE	NLAA CC[1, 2]	NE	NE	NLAA CC[1, 2]	NLAA	MA
Signs without Soil Disturbance		NE	NE	NE	NE	MA	NE	NE	NE	NE	NE	NLAA	NE
Stream Channel Impact, Ephemeral		NLAA CC[2]	MA	NLAA CC[1]	NLAA CC[1]	NE	NE	NLAA CC[1, 2]	NE	NE	NLAA CC[1, 2]	NLAA	MA
Stream Channel Impact, Intermittent		NLAA CC[2]	MA	NLAA CC[1]	NLAA CC[1]	MA	NE	NLAA CC[1, 2]	NE	MA	NLAA CC[1, 2]	NLAA	MA
Stream Channel Impact, Perennial		NLAA CC[2]	MA	NLAA CC[1]	NLAA CC[1]	MA	NE	NLAA CC[1, 2]	NE	MA	NLAA CC[1, 2]	NLAA	MA
Temporary Crossing, Causeway, Work Platform		NLAA CC[2]	MA	NLAA CC[1]	NLAA CC[1]	MA	NE	NLAA CC[1, 2]	NE	NLAA CC [1,5,6]	NLAA CC[1, 2]	NLAA	MA
Trenched Widening		NLAA CC[2]	MA	NLAA CC[1]	NLAA CC[1]	NE	NE	NE	NE	NE	NE	NLAA	MA
Underground Utility Conduit Installation		NLAA CC[2]	MA	NLAA CC[1]	NLAA CC[1]	MA	NE	NLAA CC[1, 2]	NE	NE	NLAA CC[1, 2]	NLAA	MA
Wetland Mitigation		MA	MA	NLAA CC[1]	MA	MA	NE	MA	NE	MA	MA	NLAA	MA

Federal Species Matrix

Sources of Impacts	Within Project	Salt Creek Tiger Beetle (Critical Habitat)	Scaleshell Mussel	Topeka Shiner	Topeka Shiner (Critical Habitat)	Ute Ladies'-tresses	Western Prairie-fringed Orchid	Whooping Crane	Whooping Crane (Critical Habitat)
Asphalt Patching		NE	NE	NE	NE	NE	NE	NLAA CC [1 or 2]	NE
Bank Stabilization		MA	MA	MA	MA	NLAA CC[1]	NLAA CC[1]	MA	MA
Barge Staging		NE	NLAA CC[1,3]	NE	NE	NE	NE	MA	MA
Bridge Deck Repair		NLAA CC[1]	NLAA CC[4]	NLAA CC[2]	NLAA CC[2]	NLAA CC [3] or [1]	NLAA CC [2] or [1]	NLAA CC [1 or 2]	NLAA CC [2]
Bridge Deck Replacement		MA	NLAA CC[4]	MA	MA	NLAA CC [3] or [1]	NLAA CC [2] or [1]	NLAA CC [1 or 2]	NLAA CC [2]
Bridge Painting		NLAA CC[1]	NLAA CC[4]	NLAA CC[2]	NLAA CC[2]	NLAA CC [3] or [1]	NLAA CC [2] or [1]	NLAA CC [1 or 2]	NLAA CC [2]
Bridge Rail Repair/Replacement		NLAA CC[1]	NLAA CC[4]	NLAA CC[2]	NLAA CC[2]	NLAA CC [3] or [1]	NLAA CC [2] or [1]	NLAA CC [1 or 2]	NLAA CC [2]
Bridge Substructure New, Replacement, or Repair - Ephemeral		MA	NLAA CC[2,4]	MA	MA	NLAA CC[1]	NLAA CC[1]	NLAA CC [1 or 2]	MA
Bridge Substructure New, Replacement, or Repair - Intermittent		MA	MA	MA	MA	NLAA CC[1]	NLAA CC[1]	NLAA CC [1 or 2]	MA
Bridge Substructure New, Replacement, or Repair - Perennial		MA	MA	MA	MA	NLAA CC[1]	NLAA CC[1]	MA	MA
Bridge Superstructure New, Replacement, or Repair - Ephemeral		MA	NLAA CC[2,4]	NLAA CC[2]	NLAA CC[2]	NLAA CC [3] or [1]	NLAA CC [2] or [1]	NLAA CC [1 or 2]	MA
Bridge Superstructure New, Replacement, or Repair - Intermittent		MA	NLAA CC[2,4]	NLAA CC[2]	NLAA CC[2]	NLAA CC [3] or [1]	NLAA CC [2] or [1]	NLAA CC [1 or 2]	MA
Bridge Superstructure New, Replacement, or Repair - Perennial		MA	MA	NLAA CC[2]	NLAA CC[2]	NLAA CC [3] or [1]	NLAA CC [2] or [1]	NLAA CC [1 or 2]	MA
Channel Grade Stabilization Structures		MA	MA	MA	MA	NLAA CC[1]	NLAA CC[1]	NLAA CC [1 or 2]	MA
Channelization, Ephemeral		MA	NLAA CC[2]	MA	MA	NLAA CC[1]	NLAA CC[1]	NLAA CC [1 or 2]	MA
Channelization, Intermittent		MA	MA	MA	MA	NLAA CC[1]	NLAA CC[1]	NLAA CC [1 or 2]	MA
Channelization, Perennial		MA	MA	MA	MA	NLAA CC[1]	NLAA CC[1]	NLAA CC [1 or 2]	MA
Clearing and Grubbing - Non-woody Vegetation		MA	NE	MA	MA	NLAA CC[1]	NLAA CC[1]	NLAA CC [1 or 2]	MA
Clearing and Grubbing - Trees & Shrubs		MA	NE	MA	MA	NLAA CC[1]	NLAA CC[1]	NLAA CC [1 or 2]	MA
Cofferdams		MA	NLAA CC[1, 3, 5]	MA	MA	NLAA CC[1]	NLAA CC[1]	NLAA CC [1 or 2]	MA
Concrete Pavement Repair		NE	NE	NE	NE	NE	NE	NLAA CC [1 or 2]	NLAA CC [1]
Crack Sealing and Joint Sealing		NE	NE	NE	NE	NE	NE	NLAA CC [1 or 2]	NE
Culvert New, Replacement, Extension, Repair - Ephemeral		MA	NLAA CC[2]	MA	MA	NLAA CC[1]	NLAA CC[1]	NLAA CC [1 or 2]	MA
Culvert New, Replacement, Extension, Repair - Intermittent		MA	MA	MA	MA	NLAA CC[1]	NLAA CC[1]	NLAA CC [1 or 2]	MA
Culvert New, Replacement, Extension, Repair - Perennial		MA	MA	MA	MA	NLAA CC[1]	NLAA CC[1]	NLAA CC [1 or 2]	MA
Curb & Flume		MA	NE	NE	NE	NLAA CC[1]	NLAA CC[1]	NLAA CC [1 or 2]	NE
Curb & Gutter		MA	NE	NE	NE	NE	NE	NE	NE
Detention Basin		MA	NLAA CC[2]	NLAA CC[1]	NLAA CC[1]	NLAA CC[1]	NLAA CC[1]	MA	MA
De-watering		MA	NLAA CC[1, 5]	MA	MA	NLAA CC[1]	NLAA CC[1]	NLAA CC [1 or 2]	MA
Drilled Shafts		MA	NLAA CC[1, 5]	MA	MA	NE	NE	NLAA CC [1 or 2]	MA
Earth Shoulder Construction		MA	NE	NE	NE	NLAA CC [2]	NLAA CC[1]	NLAA CC [1 or 2]	NE
Erosion Control - Barriers		MA	NE	NE	NE	NE	NE	NLAA CC [1 or 2]	NE
Erosion Control - Erosion Checks		MA	NE	NE	NE	NE	NE	NLAA CC [1 or 2]	NE
Erosion Control - Inlet/Outlet Protection		MA	NE	NE	NE	NE	NE	NLAA CC [1 or 2]	NE
Erosion Control - Mulching		MA	NE	NE	NE	NLAA CC[1]	NLAA CC[1]	NLAA CC [(1 or 2) plus 3]	NLAA CC [3]
Erosion Control - Rolled Erosion Control		MA	NE	NE	NE	NE	NE	NLAA CC [1 or 2]	NE
Erosion Control - Slope Interuption		MA	NE	NE	NE	NE	NE	NLAA CC [1 or 2]	NE
Erosion Control - Traps and Basins		MA	NE	NE	NE	NE	NE	NLAA CC [1 or 2]	NE
Erosion Control - Vegetation		MA	NE	NLAA-CC[3]	NLAA-CC[3]	NLAA CC[1]	NLAA CC[1]	NLAA CC [(1 or 2) plus 3]	NLAA CC [1 plus 3]
Fencing		MA	NE	NE	NE	NLAA CC[1]	NLAA CC[1]	NLAA CC [1 or 2]	NLAA CC [1 plus 3]
Grading Within the Hinge Point		MA	NE	NE	NE	NLAA CC[1]	NLAA CC[1]	NLAA CC [1 or 2]	NE
Grading Outside the Hinge Point		MA	NLAA CC[1]	MA	MA	NLAA CC[1]	NLAA CC[1]	NLAA CC [1 or 2]	MA
Guardrail Repair, Replacement, or Installation with Soil Disturbance		MA	NE	NE	NE	NLAA CC [2]	NLAA CC[1]	NLAA CC [1 or 2]	NE

Federal Species Matrix

Sources of Impacts	Within Project	Salt Creek Tiger Beetle (Critical Habitat)	Scaleshell Mussel	Topeka Shiner	Topeka Shiner (Critical Habitat)	Ute Ladies'-tresses	Western Prairie-fringed Orchid	Whooping Crane	Whooping Crane (Critical Habitat)
Guardrail Repair, Replacement, or Installation without Soil Disturbance		NE	NE	NE	NE	NE	NE	NLAA CC [1 or 2]	NE
Habitat Fragmentation, Modification of Connectivity		MA	MA	MA	MA	MA	MA	MA	MA
Landscaping		MA	NE	NE	NE	NLAA CC [1]	NLAA CC [1]	NLAA CC [(1 or 2) plus 3]	NLAA CC [1 plus 3]
Lighting, Traffic and Pedestrian Signals, Dynamic Message Signs w/ soil disturbance		MA	NE	NE	NE	NLAA CC [2]	NLAA CC [1]	NLAA CC [1 or 2]	MA
Lighting, Traffic and Pedestrian Signals, Dynamic Message Signs w/out soil disturbance		MA	NE	NE	NE	NE	NE	NLAA CC [1 or 2]	MA
Microsurfacing		NE	NE	NE	NE	NE	NE	NLAA CC [1 or 2]	NE
Milling and/or In-place Recycling		NE	NE	NE	NE	NE	NE	NLAA CC [1 or 2]	NE
Nighttime work with Lights		MA	NE	NE	NE	NE	NE	MA	MA
Noise Walls (Not in water/wetlands)		MA	NE	NE	NE	NLAA CC[1]	NLAA CC[1]	NLAA CC [1 or 2]	MA
Overpass		MA	NE	NE	NE	NLAA CC[1]	NLAA CC[1]	NLAA CC [1 or 2]	MA
Pavement Removal		NE	NE	NE	NE	NE	NE	NLAA CC [1 or 2]	NE
Paving		NE	NE	NE	NE	NE	NE	NLAA CC [1 or 2]	NE
Piers		MA	NLAA CC[1,2,3,5]	MA	MA	NLAA CC[1]	NLAA CC[1]	NLAA CC [1 or 2]	MA
Pile Driving - Impact		MA	NLAA CC[1,3]	MA	MA	NLAA CC [1 or 3]	NLAA CC [1 or 2]	NLAA CC [1 or 2]	MA
Pile Driving - Vibratory		MA	NLAA CC[1,3]	MA	MA	NLAA CC [1 or 3]	NLAA CC [1 or 2]	NLAA CC [1 or 2]	MA
Pile/Pier Encasement		MA	NLAA CC[1,2,3,5]	MA	MA	NLAA CC[1]	NLAA CC[1]	NLAA CC [1 or 2]	NE
Pipe Jacking & Casing		MA	NE	MA	MA	NLAA CC[1]	NLAA CC[1]	NLAA CC [1 or 2]	MA
Pre-watering		MA	MA	MA	MA	NLAA CC[1]	NLAA CC[1]	NLAA CC [1 or 2]	NLAA CC [1]
Removal of Structures and Obstructions		MA	NLAA CC[1,2,3]	MA	MA	NLAA CC[1]	NLAA CC[1]	NLAA CC [1 or 2]	NLAA CC [1 plus 3]
Replacing a Bridge with a Culvert		MA	MA	MA	MA	NLAA CC[1]	NLAA CC[1]	NLAA CC [1 or 2]	MA
Resurfacing-Fog/Slurry Seal, Armor Coat/Chip Seal		NE	NE	NE	NE	NE	NE	NLAA CC [1 or 2]	NE
Retaining Walls (NOT IN Water/Wetlands)		MA	NE	NE	NE	NLAA CC[1]	NLAA CC[1]	NLAA CC [1 or 2]	MA
Rock or Gravel Surfacing		NE	NE	NE	NE	NE	NE	NE	NE
Shoo-fly		MA	MA	MA	MA	NLAA CC[1]	NLAA CC[1]	NLAA CC [1 or 2]	NLAA CC [1 plus 3]
Sidewalks and Bikeways		MA	NE	NE	NE	NE	NE	NLAA CC [1 or 2]	NE
Signs with Soil Disturbance		MA	NE	NE	NE	NLAA CC[2]	NLAA CC [1]	NLAA CC [1 or 2]	NE
Signs without Soil Disturbance		NE	NE	NE	NE	NE	NE	NLAA CC [1 or 2]	NE
Stream Channel Impact, Ephemeral		MA	NLAA CC[2]	MA	MA	NLAA CC[1]	NLAA CC[1]	NLAA CC [1 or 2]	MA
Stream Channel Impact, Intermittent		MA	MA	MA	MA	NLAA CC[1]	NLAA CC[1]	NLAA CC [1 or 2]	MA
Stream Channel Impact, Perennial		MA	MA	MA	MA	NLAA CC[1]	NLAA CC[1]	NLAA CC [1 or 2]	MA
Temporary Crossing, Causeway, Work Platform		MA	NLAA CC[1, 2, 3, 5]	MA	MA	NLAA CC[1]	NLAA CC[1]	NLAA CC [1 or 2]	MA
Trenched Widening		MA	NE	NE	NE	NE	NLAA CC[1]	NLAA CC [1 or 2]	NE
Underground Utility Conduit Installation		MA	NE	NE	NE	NLAA CC[1]	NLAA CC[1]	NLAA CC [1 or 2]	NLAA CC [1 plus 3]
Wetland Mitigation		MA	NLAA CC[1]	MA	MA	NLAA CC[1]	NLAA CC[1]	MA	MA

State Species Matrix

Sources of Impacts	Within Project	American Ginseng	Blacknose Shiner	Finescale Dace	Lake Sturgeon	Massasauga	Mountain Plover	Northern Redbelly Dace	River Otter	Saltwort	Small White Lady's Slipper	Southern Flying Squirrel	Sturgeon Chub	Swift Fox
Asphalt Patching		NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Bank Stabilization		NLAA CC[1]	MA	MA	MA	NLAA CC[1]	NLAA CC[1]	MA	MA	MA	NLAA CC[1]	NE	MA	NLAA CC [1]
Barge Staging		NE	NE	NE	NLAA CC[1]	NE	NE	NE	NLAA CC [1]	NE	NE	NE	NLAA CC[1]	NE
Bridge Deck Repair		NLAA CC [2 or 1]	NLAA CC[2]	NLAA CC[2]	NLAA CC[4]	NLAA CC [4 or 1]	NLAA CC[1]	NLAA CC[2]	NLAA CC [3 or 2]	NLAA CC[1]	NLAA CC [2] or [1]	NE	NLAA CC[4]	NE
Bridge Deck Replacement		NLAA CC [2 or 1]	NLAA CC[2]	NLAA CC[2]	NLAA CC[4]	NLAA CC [4 or 1]	NLAA CC[1]	NLAA CC[2]	NLAA CC [3 or 2]	NLAA CC[1]	NLAA CC [2] or [1]	NLAA CC [1]	NLAA CC[4]	NE
Bridge Painting		NLAA CC [2 or 1]	NLAA CC[2]	NLAA CC[2]	NLAA CC[4]	NLAA CC [4 or 1]	NLAA CC[1]	NLAA CC[2]	NLAA CC [3 or 2]	NLAA CC[1]	NLAA CC [2] or [1]	NE	NLAA CC[4]	NE
Bridge Rail Repair/Replacement		NLAA CC [2 or 1]	NLAA CC[2]	NLAA CC[2]	NLAA CC[4]	NLAA CC [4 or 1]	NLAA CC[1]	NLAA CC[2]	NLAA CC [3 or 2]	NLAA CC[1]	NLAA CC [2] or [1]	NE	NLAA CC[4]	NE
Bridge Substructure New, Replacement, or Repair - Ephemeral		NLAA CC[1]	NLAA CC[3]	NLAA CC[3]	NE	NLAA CC[1]	NLAA CC[1]	NLAA CC[3]	NLAA CC [1]	MA	NLAA CC[1]	NLAA CC [1]	NE	NLAA CC [1]
Bridge Substructure New, Replacement, or Repair - Intermittent		NLAA CC[1]	NLAA CC[3]	NLAA CC[3]	MA	NLAA CC[1]	NLAA CC[1]	NLAA CC[3]	NLAA CC [1]	MA	NLAA CC[1]	NLAA CC [1]	MA	NLAA CC [1]
Bridge Substructure New, Replacement, or Repair - Perennial		NLAA CC[1]	MA	MA	MA	NLAA CC[1]	NLAA CC[1]	MA	NLAA CC [1]	MA	NLAA CC[1]	NLAA CC [1]	MA	NLAA CC [1]
Bridge Superstructure New, Replacement, or Repair - Ephemeral		NLAA CC [2 or 1]	NLAA CC[2]	NLAA CC[2]	NLAA CC[4]	NLAA CC [4 or 1]	NLAA CC[1]	NLAA CC[2]	NLAA CC [3 or 2]	NLAA CC[1]	NLAA CC [2] or [1]	NLAA CC [1]	NLAA CC[4]	NLAA CC [1]
Bridge Superstructure New, Replacement, or Repair - Intermittent		NLAA CC [2 or 1]	NLAA CC[2]	NLAA CC[2]	NLAA CC[4]	NLAA CC [4 or 1]	NLAA CC[1]	NLAA CC[2]	NLAA CC [3 or 2]	NLAA CC[1]	NLAA CC [2] or [1]	NLAA CC [1]	NLAA CC[4]	NLAA CC [1]
Bridge Superstructure New, Replacement, or Repair - Perennial		NLAA CC [2 or 1]	NLAA CC[2]	NLAA CC[2]	NLAA CC[4]	NLAA CC [4 or 1]	NLAA CC[1]	NLAA CC[2]	NLAA CC [3 or 2]	NLAA CC[1]	NLAA CC [2] or [1]	NLAA CC [1]	NLAA CC[4]	NLAA CC [1]
Channel Grade Stabilization Structures		NLAA CC[1]	MA	MA	MA	NLAA CC[1]	NLAA CC[1]	MA	NLAA CC [1]	MA	NLAA CC[1]	NE	MA	NLAA CC [1]
Channelization, Ephemeral		NLAA CC[1]	MA	MA	NE	NLAA CC[1]	NLAA CC[1]	MA	MA	MA	NLAA CC[1]	NE	NE	NLAA CC [1]
Channelization, Intermittent		NLAA CC[1]	MA	MA	MA	NLAA CC[1]	NLAA CC[1]	MA	MA	MA	NLAA CC[1]	NE	MA	NLAA CC [1]
Channelization, Perennial		NLAA CC[1]	MA	MA	MA	NLAA CC[1]	NLAA CC[1]	MA	MA	MA	NLAA CC[1]	NE	MA	NLAA CC [1]
Clearing and Grubbing - Non-woody Vegetation		NLAA CC[1]	NLAA CC[5] or MA	NLAA CC[5] or MA	NLAA CC [7]	NLAA CC[1]	NLAA CC[1]	NLAA CC[5] or MA	NLAA CC [1]	MA	NLAA CC[1]	NE	NLAA CC [7]	NLAA CC [1]
Clearing and Grubbing - Trees & Shrubs		NLAA CC[1]	NLAA CC[5] or MA	NLAA CC[5] or MA	NLAA CC [7]	NLAA CC[1]	NLAA CC[1]	NLAA CC[5] or MA	NLAA CC [1]	MA	NLAA CC[1]	MA	NLAA CC [7]	NLAA CC [1]
Cofferdams		NLAA CC[1]	NLAA CC[3]	NLAA CC[3]	NLAA CC[1]	NLAA CC[1]	NLAA CC[1]	NLAA CC[3]	NLAA CC [1]	MA	NLAA CC[1]	NE	NLAA CC[1]	NE
Concrete Pavement Repair		NE	NE	NE	NE	NE	NLAA CC[1]	NE	NE	NE	NE	NLAA CC [1]	NE	NE
Crack Sealing and Joint Sealing		NE	NE	NE	NE	NE	NLAA CC[1]	NE	NE	NE	NE	NE	NE	NE
Culvert New, Replacement, Extension, Repair - Ephemeral		NLAA CC[1]	MA	MA	NE	NLAA CC[1]	NLAA CC[1]	MA	NLAA CC [1]	MA	NLAA CC[1]	NLAA CC [1]	NE	NLAA CC [1]
Culvert New, Replacement, Extension, Repair - Intermittent		NLAA CC[1]	MA	MA	MA	NLAA CC[1]	NLAA CC[1]	MA	NLAA CC [1]	MA	NLAA CC[1]	NLAA CC [1]	MA	NLAA CC [1]
Culvert New, Replacement, Extension, Repair - Perennial		NLAA CC[1]	MA	MA	MA	NLAA CC[1]	NLAA CC[1]	MA	NLAA CC [1]	MA	NLAA CC[1]	NLAA CC [1]	MA	NLAA CC [1]
Curb & Flume		NLAA CC[1]	NE	NE	NE	NLAA CC[1]	NLAA CC[1]	NE	NLAA CC [1]	MA	NLAA CC[1]	NE	NE	NLAA CC [1]
Curb & Gutter		NE	NE	NE	NE	NE	NE	NE	NE	MA	NE	NE	NE	NE
Detention Basin		NLAA CC[1]	NLAA CC[1]	NLAA CC[1]	NLAA CC[2]	NLAA CC[1]	NLAA CC[1]	NLAA CC[1]	NLAA CC [1]	MA	NLAA CC[1]	NE	NLAA CC[2]	NLAA CC [1]
De-watering		NE	MA	MA	NLAA CC[5]	NLAA CC[1]	NLAA CC[1]	MA	NLAA CC [1]	MA	NLAA CC[1]	NE	NLAA CC[5]	NE
Drilled Shafts		NLAA CC[1]	MA	MA	NLAA CC [3,5]	NLAA CC[1]	NLAA CC[1]	MA	NLAA CC [1]	MA	NE	NLAA CC [1]	NLAA CC [3,5]	NLAA CC [1]
Earth Shoulder Construction		NLAA CC[1]	NE	NE	NE	NLAA CC[1]	NLAA CC[1]	NE	NLAA CC [2]	MA	NLAA CC[1]	NLAA CC [1]	NE	NLAA CC [1]
Erosion Control - Barriers		NE	NE	NE	NE	NLAA CC [2,3]	NLAA CC[1]	NE	NE	MA	NE	NE	NE	NE
Erosion Control - Erosion Checks		NE	NE	NE	NE	NLAA CC [2,3]	NLAA CC[1]	NE	NE	MA	NE	NE	NE	NE
Erosion Control - Inlet/Outlet Protection		NE	NE	NE	NE	NLAA CC [2,3]	NLAA CC[1]	NE	NE	MA	NE	NE	NE	NE
Erosion Control - Mulching		NE	NE	NE	NE	NLAA CC[1]	NLAA CC[1]	NE	NE	MA	NLAA CC[1]	NE	NE	NE
Erosion Control - Rolled Erosion Control		NE	NE	NE	NE	NLAA CC [2,3]	NLAA CC[1]	NE	NE	MA	NE	NE	NE	NE
Erosion Control - Slope Interuption		NE	NE	NE	NE	NLAA CC [2,3]	NLAA CC[1]	NE	NE	MA	NE	NE	NE	NE
Erosion Control - Traps and Basins		NE	NE	NE	NE	NLAA CC [2,3]	NLAA CC[1]	NE	NE	MA	NE	NE	NE	NE
Erosion Control - Vegetation		NE	NLAA CC[4]	NLAA CC[4]	NE	NLAA CC[1,2,3]	NLAA CC[1]	NLAA CC[4]	NE	MA	NLAA CC[1]	NE	NE	NE
Fencing		NLAA CC[1]	NE	NE	NE	NLAA CC[1]	NLAA CC[1]	NE	NLAA CC [1]	MA	NLAA CC[1]	NLAA CC [1]	NE	MA
Grading Within the Hinge Point		NLAA CC[1]	NE	NE	NE	NLAA CC[1]	NLAA CC[3]	NE	NE	MA	NLAA CC[1]	NE	NE	NLAA CC [1]
Grading Outside the Hinge Point		NLAA CC[1]	NLAA CC[5] or MA	NLAA CC[5] or MA	NLAA CC[7] or MA	NLAA CC[1]	MA	NLAA CC[5] or MA	NLAA CC [1]	MA	NLAA CC[1]	MA	NLAA CC[7] or MA	NLAA CC [1]

State Species Matrix

Updated 12/21/16

Sources of Impacts	Within Project	American Ginseng	Blacknose Shiner	Finescale Dace	Lake Sturgeon	Massasauga	Mountain Plover	Northern Redbelly Dace	River Otter	Saltwort	Small White Lady's Slipper	Southern Flying Squirrel	Sturgeon Chub	Swift Fox
Guardrail Repair, Replacement, or Installation with Soil Disturbance		NLAA CC[1]	NE	NE	NE	NLAA CC[1]	NLAA CC[1]	NE	NLAA CC [2]	MA	NLAA CC[1]	NE	NE	NLAA CC [1]
Guardrail Repair, Replacement, or Installation without Soil Disturbance		NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Habitat Fragmentation, Modification of Connectivity		MA	MA	MA	MA	MA	MA	MA	MA	MA	MA	MA	MA	MA
Landscaping		NLAA CC[1]	NLAA CC[4]	NLAA CC[4]	NE	NLAA CC[1]	NLAA CC[1]	NLAA CC[4]	NLAA CC [1]	MA	NLAA CC [1]	NLAA CC [2]	NE	NLAA CC [1]
Lighting, Traffic and Pedestrian Signals, Dynamic Message Signs w/ soil disturbance		NLAA CC[1]	NE	NE	NE	NLAA CC[1]	NLAA CC[1,2]	NE	NLAA CC [2]	MA	NLAA CC [1]	NLAA CC [1,3]	NE	NLAA CC [1]
Lighting, Traffic and Pedestrian Signals, Dynamic Message Signs w/out soil disturbance		NE	NE	NE	NE	NE	NLAA CC[1,2]	NE	NE	NE	NE	NLAA CC [1,3]	NE	NE
Microsurfacing		NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Milling and/or In-place Recycling		NE	NE	NE	NE	NE	NLAA CC[3]	NE	NE	NE	NE	NE	NE	NE
Nighttime work with Lights		NE	NE	NE	NE	NE	NLAA CC[2]	NE	NE	NE	NE	NLAA CC [3]	NE	NLAA CC [1]
Noise Walls (Not in water/wetlands)		NLAA CC[1]	NE	NE	NE	NLAA CC[1]	NLAA CC[1]	NE	NLAA CC [1]	MA	NLAA CC[1]	NLAA CC [1]	NE	NLAA CC [1]
Overpass		NLAA CC[1]	NE	NE	NE	NLAA CC[1]	NLAA CC[1]	NE	NLAA CC [1]	MA	NLAA CC[1]	MA	NE	NLAA CC [1]
Pavement Removal		NE	NE	NE	NE	NE	NLAA CC[1]	NE	NE	NE	NE	NLAA CC [1]	NE	NE
Paving		NE	NE	NE	NE	NE	NLAA CC[1]	NE	NE	NE	NE	NLAA CC [1]	NE	NE
Piers		NLAA CC[1]	NLAA CC[5] or MA	NLAA CC[5] or MA	NLAA CC [1,7]	NLAA CC[1]	NLAA CC[1]	NLAA CC[5] or MA	NLAA CC [1]	MA	NLAA CC[1]	NLAA CC [1]	NLAA CC [1,7]	NLAA CC [1]
Pile Driving - Impact		NLAA CC [1 or 2]	MA	MA	NLAA CC[1]	NLAA CC [4 or 1]	NLAA CC[1]	MA	NLAA CC [1]	MA	NLAA CC [1 or 2]	NLAA CC [1]	NLAA CC[1]	NLAA CC [1]
Pile Driving - Vibratory		NLAA CC [1 or 2]	MA	MA	NLAA CC[1]	NLAA CC [4 or 1]	NLAA CC[1]	MA	NLAA CC [1]	MA	NLAA CC [1 or 2]	NLAA CC [1]	NLAA CC[1]	NLAA CC [1]
Pile/Pier Encasement		NLAA CC[1]	NLAA CC[3]	NLAA CC[3]	NLAA CC[1,5]	NLAA CC[1]	NLAA CC[1]	NLAA CC[3]	NLAA CC [1]	MA	NLAA CC[1]	NE	NLAA CC[1,5]	NLAA CC [1]
Pipe Jacking & Casing		NLAA CC[1]	NLAA CC[3]	NLAA CC[3]	NLAA CC[1]	NLAA CC[1]	NLAA CC[1]	NLAA CC[3]	NLAA CC [1]	MA	NLAA CC[1]	NLAA CC [1]	NLAA CC[1]	NLAA CC [1]
Pre-watering		NLAA CC[1]	MA	MA	MA	NLAA CC[1]	NLAA CC[1]	MA	NLAA CC [1]	MA	NLAA CC[1]	NE	MA	NLAA CC [1]
Removal of Structures and Obstructions		NLAA CC[1]	NLAA CC[5] or MA	NLAA CC[5] or MA	NLAA CC[6,7]	NLAA CC[1]	NLAA CC[1]	NLAA CC[5] or MA	NLAA CC [1]	MA	NLAA CC[1]	NE	NLAA CC [6,7]	NLAA CC [1]
Replacing a Bridge with a Culvert		NLAA CC[1]	MA	MA	NE	NLAA CC[1]	NLAA CC[1]	MA	NLAA CC [1]	MA	NLAA CC[1]	NLAA CC [1]	NE	NLAA CC [1]
Resurfacing-Fog/Slurry Seal, Armor Coat/Chip Seal		NE	NE	NE	NE	NE	NLAA CC[3]	NE	NE	NE	NE	NE	NE	NE
Retaining Walls (NOT IN Water/Wetlands)		NLAA CC[1]	NE	NE	NE	NLAA CC[1]	NLAA CC[1]	NE	NLAA CC [1]	MA	NLAA CC[1]	NE	NE	NLAA CC [1]
Rock or Gravel Surfacing		NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Shoo-fly		NLAA CC[1]	MA	MA	NLAA CC[6]	NLAA CC[1]	NLAA CC[1]	MA	NLAA CC [1]	MA	NLAA CC[1]	NE	NLAA CC[6]	NLAA CC [1]
Sidewalks and Bikeways		NE	NE	NE	NE	NLAA CC[1]	NLAA CC[1]	NE	NE	MA	NE	NLAA CC [1]	NE	NE
Signs with Soil Disturbance		NLAA CC[1]	NE	NE	NE	NLAA CC[1]	NLAA CC[1]	NE	NLAA CC [2]	MA	NLAA CC [1]	NE	NE	NLAA CC [2]
Signs without Soil Disturbance		NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE	NE
Stream Channel Impact, Ephemeral		NLAA CC[1]	MA	MA	NE	NLAA CC[1]	NLAA CC[1]	MA	MA	MA	NLAA CC[1]	NE	NE	NLAA CC [1]
Stream Channel Impact, Intermittent		NLAA CC[1]	MA	MA	MA	NLAA CC[1]	NLAA CC[1]	MA	MA	MA	NLAA CC[1]	NE	MA	NLAA CC [1]
Stream Channel Impact, Perennial		NLAA CC[1]	MA	MA	MA	NLAA CC[1]	NLAA CC[1]	MA	MA	MA	NLAA CC[1]	NE	MA	NLAA CC [1]
Temporary Crossing, Causeway, Work Platform		NLAA CC[1]	MA	MA	NLAA CC [1,5,6]	NLAA CC[1]	NLAA CC[1]	MA	NLAA CC [1]	MA	NLAA CC[1]	NE	NLAA CC [1,5,6]	NLAA CC [1]
Trenched Widening		NLAA CC[1]	NE	NE	NE	NLAA CC[1]	NLAA CC[1]	NE	NE	MA	NLAA CC[1]	NE	NE	NE
Underground Utility Conduit Installation		NLAA CC[1]	NE	NE	NE	NLAA CC[1]	NLAA CC[1]	NE	NLAA CC [1]	MA	NLAA CC[1]	NE	NE	NLAA CC [1]
Wetland Mitigation		NE	MA	MA	MA	NLAA CC[1]	NLAA CC[1]	MA	NLAA CC [1]	MA	NLAA CC[1]	NE	MA	NLAA CC [1]