

Appendix A: Illinois-Iowa DKey Deconstruction Table

Common Activity Type	Sub activity/ Task	Taxa/Resource analysis group	Specific taxa/critical habitat	Life History Form or Physical/Biological Feature (PBF)	Potential Stressors (what about the activity might have an negative effect on the species/habitat?)	Exposure (what is the resource affected - individuals, land, water, air?)	Response to stressor (how will individuals respond to exposure to the stressor)	Avoidance, Minimization, Mitigation Measures (Conservation Measures)	Anticipated Effects of Action/Activity (After Applying Conservation Measure, If Any)	Determination (Should be No Effect or Not Likely to Adversely Affect)
All applicable activity types that occur outside the Indiana bat SLA	N/A	Mammals	Indiana Bat	All lifestages and PBFs	None	None	None	The action area does not intersect the Indiana bat SLA	If the action occurs where Indiana bat does not occur or are not reasonably certain to occur, there should be no impact to species.	No effect
All applicable activity types conducted outside of areas of potential habitat or activity types that would not impact potential habitat of listed species.	N/A	Mammals	Indiana Bat	All lifestages and PBFs	None	None	None	•The action area does not contain, or the action will not directly or indirectly affect natural or semi-natural vegetation types; waterbodies; mines, caves, or associated sinkholes, fissures, or other karst features; buildings bridges, or culverts that may provide potential habitat to listed species	No potential habitat is present within the action area or no effects to the species anticipated.	No Effect
All applicable activity types conducted outside of areas of potential habitat or activity types that would not impact potential habitat of the Indiana bat including hibernating, roosting (bridge, tunnel, culvert), and summer habitats.	•Bridge, tunnel, or culvert work •Drilling and blasting •Military training •Herbicide and pesticide application •Nighttime noises •Lighting •Tree cutting/trimming •Prescribed fire	Mammals	Indiana Bat	All lifestages and PBFs	•Habitat loss, degradation, and fragmentation •Disturbance (vibration, noise, heat, smoke, and light) •Exposure to contaminants	•Individuals •Hibernacula •Maternity caves/roosts •Summer roosts •Prey abundance •Water quality •Air quality •Soundscape	None	•The action area does not overlap the primary buffer of a known Indiana bat hibernaculum •The action area is not within the secondary buffer of a known Indiana bat hibernaculum OR the action does not involve mineral extraction, exploration, or include drilling or blasting into bedrock •The action area does not contain or will not impact any known or potential hibernacula, mines, rocky outcroppings, or tunnels that could provide habitat for hibernating and/or summer roosting bats OR A voluntary habitat assessment for potentially suitable hibernacula has been conducted according to USFWS guidance and in coordination with the IL-IA ESFO within the last 5 years and the assessment does not support that the features in the action area could provide suitable habitat for hibernating bats •The action area does not contain or is not located within 1000 feet of suitable Indiana bat summer habitat	No suitable hibernating or summer habitat is present in the action area; effects are anticipated to be discountable.	No Effect
All applicable activity types conducted outside of areas of potential hibernating habitat or activity types that would not impact potential hibernating habitat of the Indiana bat and that may affect potential summer habitat of the Indiana bat	•Bridge, tunnel, or culvert work •Drilling and blasting •Military training •Herbicide and pesticide application •Nighttime noises •Lighting •Tree cutting/trimming •Prescribed fire	Mammals	Indiana Bat	All lifestages and PBFs	•Habitat loss, degradation, and fragmentation •Disturbance (vibration, noise, heat, smoke, and light) •Exposure to contaminants	•Individuals •Maternity roosts •Summer roosts •Prey abundance •Water quality •Air quality •Soundscape	•Alteration to breeding, rearing, feeding, roosting/hibernating behavior; flushing •Loss in health and fitness •Injury or mortality	•The action will not impact a bridge, culvert or tunnel OR the culvert or tunnel did not meet minimum dimensions for bat suitability OR the bridge or culvert OR a voluntary site-specific bridge or culvert assessment has been completed following USFWS guidelines within the last two years AND no evidence of bat use was found OR evidence of bat use was found AND a visual survey or guano analysis indicated absence of Indiana bat •A voluntary presence/absence bat survey has been conducted within the action area according to USFWS guidance and in coordination with the IL-IA ESFO within the last 5 years and the survey did not detect the presence of Indiana bat	Probable absence of species; effects anticipated to be insignificant and/or discountable.	Not Likely to Adversely Affect
All remaining applicable activity types that may affect potential habitat but will be conducted during the inactive season for Indiana bats.	•Drilling and blasting •Military training •Herbicide and pesticide application •Nighttime noises •Lighting •Tree cutting/trimming •Prescribed fire	Mammals	Indiana Bat	All lifestages and PBFs	•Habitat loss, degradation, and fragmentation •Disturbance (vibration, noise, heat, smoke, and light) •Exposure to contaminants	•Individuals •Hibernacula •Maternity roosts •Summer roosts •Prey abundance •Water quality •Air quality •Soundscape	•Alteration to breeding, rearing, feeding, roosting/hibernating behavior; flushing •Loss in health and fitness •Injury or mortality	•The project will not clear or convert >10 acres in total extent of suitable Indiana bat summer habitat •The action will not result in the use of prescribed fire OR prescribed fire will be conducted under conditions that will reduce or eliminate smoke dispersing into a known Indiana bat hibernacula •No project activities will occur during the summer occupancy season for Indiana bats within the known hibernaculum buffer (April 1 - November 15)	Activities will remove a minor amount of habitat (<10 acres) or will be conducted outside the summer active season and fall swarming period and thus remaining activity types are discountable or insignificant	Not Likely to Adversely Affect
All remaining applicable activity types that may affect potential habitat but will be conducted during the inactive season for Indiana bats.	•Drilling and blasting •Military training •Herbicide and pesticide application •Nighttime noises •Lighting •Tree cutting/trimming •Prescribed fire	Mammals	Indiana Bat	All lifestages and PBFs	•Habitat loss, degradation, and fragmentation •Disturbance (vibration, noise, heat, smoke, and light) •Exposure to contaminants	•Individuals •Hibernacula •Maternity roosts •Summer roosts •Prey abundance •Water quality •Air quality •Soundscape	•Alteration to breeding, rearing, feeding, roosting/hibernating behavior; flushing •Loss in health and fitness •Injury or mortality	•The project will not clear or convert >10 acres in total extent of suitable Indiana bat summer habitat •The action area is not within the secondary buffer of a known Indiana bat hibernaculum •No project activities will occur during the summer occupancy season for Indiana bats within in the action area (April 1 - September 30)	Activities will remove a minor amount of habitat (<10 acres) or will be conducted outside the summer active season and fall swarming period and thus remaining activity types are discountable or insignificant	Not Likely to Adversely Affect

All remaining applicable activity types that may affect potential habitat and will be conducted during the active season for Indiana bats.	•Drilling and blasting •Military training •Herbicide and pesticide application •Nighttime noises •Lighting •Tree cutting/trimming •Prescribed fire	Mammals	Indiana Bat	All lifestages and PBFs	•Habitat loss, degradation, and fragmentation •Disturbance (vibration, noise, heat, smoke, and light) •Exposure to contaminants	•Individuals •Hibernacula •Maternity roosts •Summer roosts •Prey abundance •Water quality •Air quality •Soundscape	•Alteration to breeding, rearing, feeding, roosting/hibernating behavior; flushing •Loss in health and fitness •Injury or mortality	•The project will not clear or convert >10 acres in total extent of suitable Indiana bat summer habitat •The action area is not within the secondary buffer of a known Indiana bat hibernaculum OR the action will not result in the use of prescribed fire OR prescribed fire will be conducted under conditions that will reduce or eliminate smoke dispersing into a known Indiana bat hibernacula AND prescribed fire prescription will not include average flame height of >8ft AND prescribed fire will not occur when temperatures are <40°F AND prescribed fire will not occur during the pup season (May 15 - July 31) •The action will not include tree cutting or other means of knocking down or bringing down trees, tree topping or tree trimming OR the action does not include emergency cutting or trimming of hazard trees in order to remove an imminent threat to lives, public health and safety, or improved property AND no trees proposed for cutting or other means of knocking down, bringing down, topping, or trimming are suitable for Indiana bat roosting OR no more than 10 suitable Indiana bat roost trees are proposed to be impacted AND a suitable roost tree emergence survey following USFWS guidelines is able to be conducted and if no bats are observed emerging, fell the tree(s) immediately or as soon as possible after sunrise on the following day •The action will not include drilling or blasting producing noise or vibrations above existing background levels OR no drilling or blasting will occur during the pup season (May 15 - July 31) •The action will not involve military training OR no military training will occur during the pup season (May 15 - July 31)	Activities will be conducted during the summer active season, but avoidance and mitigation measures will be implemented and thus remaining activity types are discountable and/or insignificant	Not Likely to Adversely Affect
All applicable activity types that occur outside Indiana bat Critical Habitat	N/A	Mammals	Indiana Bat Critical Habitat	All lifestages and PBFs	None	None	None	The action area does not intersect Indiana bat critical habitat	No impact to Critical Habitat so no effect	No effect
All applicable activity types conducted outside of areas of potential habitat or activity types that would not impact potential habitat of listed species.	N/A	Mammals	Indiana Bat Critical Habitat	All lifestages and PBFs	None	None	None	•The action area does not contain or the action will not directly or indirectly affect natural or semi-natural vegetation types; waterbodies; mines, caves, or associated sinkholes, fissures, or other karst features; buildings bridges, or culverts that may provide potential habitat to listed species	No impact to habitat of the species and thus no impacts to Critical Habitat and so no effect	No effect
All applicable activity types that are not authorized, permitted, licensed, funded, or being carried out by a Federal agency in whole or in part.	N/A	Mammals	Indiana Bat Critical Habitat	All lifestages and PBFs	None	None	None	N/A		No effect
All applicable activity types conducted outside of the primary and secondary buffer of a known Indiana bat Critical Habitat Location	•Drilling and blasting •Military training •Herbicide and pesticide application •Nighttime noises •Lighting •Tree cutting/trimming •Prescribed fire	Mammals	Indiana Bat Critical Habitat	All lifestages and PBFs	•Habitat loss, degradation, and fragmentation •Disturbance (vibration, noise, heat, smoke, and light) •Exposure to contaminants	•Individuals •Hibernacula •Maternity caves/roosts •Summer roosts •Prey abundance •Water quality •Air quality •Soundscape	•Alteration to breeding, rearing, feeding, roosting/hibernating behavior; flushing •Loss in health and fitness •Injury or mortality	•The action area is not located within the primary buffer of known Indiana bat critical habitat •The action area is not located within the secondary buffer of a known Indiana bat critical habitat location	Critical habitat is present; but effects outside secondary buffer are likely to be insignificant and/or discountable	Not Likely to Adversely Affect
All applicable activity types located within the secondary buffer of a known Indiana bat critical habitat location but will be conducted outside of areas of potential habitat and/or activity types that would not impact potential habitat	•Drilling and blasting •Military training •Herbicide and pesticide application •Nighttime noises •Lighting •Tree cutting/trimming •Prescribed fire	Mammals	Indiana Bat Critical Habitat	All lifestages and PBFs	None	None	None	•The action does not involve mineral extraction, exploration, or include drilling or blasting into bedrock •The action will not impact any known or potential hibernacula, mines, rocky outcroppings, or tunnels that could provide habitat for hibernating and/or summer roosting bats •Suitable Indiana bat summer habitat is not present in the action area or within 1,000ft of the action area based on a voluntary Phase 1 habitat assessment	No impact to Critical Habitat.	No effect
All applicable activity types located within the secondary buffer of a known Indiana bat critical habitat location	N/A	Mammals	Indiana Bat Critical Habitat	All lifestages and PBFs	None	None	None	•The action does not involve mineral extraction, exploration, or include drilling or blasting into bedrock •The action will not impact any known or potential hibernacula, mines, rocky outcroppings, or tunnels that could provide habitat for hibernating and/or summer roosting bats •The project will not clear or convert >10 acres in total extent of suitable Indiana bat summer habitat	Critical habitat is present; but effects are likely to be insignificant and/or discountable	Not Likely to Adversely Affect
All applicable activity types that occur outside the gray bat SLA	N/A	Mammals	Gray Bat	All lifestages and PBFs	None	None	None	The action area does not intersect the gray bat SLA	If the action occurs where gray bat do not occur or are not reasonably certain to occur, there should be no impact to species.	No effect
All applicable activity types conducted outside of areas of potential habitat or activity types that would not impact potential habitat of listed species.	N/A	Mammals	Gray Bat	All lifestages and PBFs	None	None	None	•The action area does not contain or the action will not directly or indirectly affect natural or semi-natural vegetation types; waterbodies; mines, caves, or associated sinkholes, fissures, or other karst features; buildings bridges, or culverts that may provide potential habitat to listed species	No potential habitat is present within the action area or no effects to the species anticipated.	No Effect

All applicable activity types conducted outside of areas of potential habitat or activity types that would not impact potential habitat of the gray bat including hibernating, roosting (bridge, tunnel, culvert), and summer habitats	•Bridge, tunnel, or culvert work •Drilling and blasting •Military training •Herbicide and pesticide application •Nighttime noises •Lighting •Tree cutting/trimming •Prescribed fire	Mammals	Gray Bat	All lifestages and PBFs	None	None	None	•The action area is not within a primary buffer of a known gray bat maternity colony •The action area does not contain or will not impact any known or potential hibernacula, mines, rocky outcroppings, or tunnels that could provide habitat for hibernating and/or summer roosting bats OR A voluntary habitat assessment for potentially suitable hibernacula has been conducted according to USFWS guidance and in coordination with the IL-IA ESFO within the last 5 years and the assessment does not support that the features in the action area could provide suitable habitat for hibernating bats •The action will not impact a bridge, culvert or tunnel OR the culvert or tunnel did not meet minimum dimensions for bat suitability OR a voluntary site-specific bridge or culvert assessment has been completed following USFWS guidelines within the last two years AND no evidence of bat use was found OR evidence of bat use was found AND a visual survey or guano analysis indicated absence of gray bat •The action area is not within the secondary buffer of a known gray bat maternity colony or hibernacula •Suitable gray bat summer habitat is not present in the action area	No suitable hibernating or summer habitat is present in the action area or being avoided and so no effects to the species are anticipated.	No effect
All remaining applicable activity types that may affect potential habitat but will be conducted during the inactive season for gray bats.	•Drilling and blasting •Military training •Herbicide and pesticide application •Nighttime noises •Lighting •Tree cutting/trimming •Prescribed fire	Mammals	Gray Bat	All lifestages and PBFs	•Habitat loss, degradation, and fragmentation •Disturbance (vibration, noise, heat, smoke, and light) •Exposure to contaminants	•Individuals •Hibernacula •Maternity caves/roosts •Summer roosts •Prey abundance •Water quality •Air quality •Soundscape	•Alteration to breeding, rearing, feeding, roosting/hibernating behavior; flushing •Loss in health and fitness •Injury or mortality	•The action does not involve mineral extraction, exploration, or include drilling or blasting into bedrock •The action will not result in the use of prescribed fire OR prescribed fire will be conducted under conditions that will reduce or eliminate smoke dispersing into a known or potential gray bat summer maternity habitat •No project activities will occur during the summer occupancy season for gray bats (April 1 - November 15)	Activities will be conducted outside the summer active season and fall swarming period and thus remaining activity types are discountable or insignificant	Not Likely to Adversely Affect
All remaining applicable activity types that may affect potential habitat and will be conducted during the active season for gray bats.	•Drilling and blasting •Military training •Herbicide and pesticide application •Nighttime noises •Lighting •Tree cutting/trimming •Prescribed fire	Mammals	Gray Bat	All lifestages and PBFs	•Habitat loss, degradation, and fragmentation •Disturbance (vibration, noise, heat, smoke, and light) •Exposure to contaminants	•Individuals •Hibernacula •Maternity caves/roosts •Summer roosts •Prey abundance •Water quality •Air quality •Soundscape	•Alteration to breeding, rearing, feeding, roosting/hibernating behavior; flushing •Loss in health and fitness •Injury or mortality	•The action does not involve mineral extraction, exploration, or include drilling or blasting into bedrock •The action will not result in the use of prescribed fire OR prescribed fire will be conducted under conditions that will reduce or eliminate smoke dispersing into a known or potential gray bat summer maternity habitat •Any herbicides, pesticides, fertilizers and/or other chemicals will be applied according to label instructions and under conditions that will limit drift, runoff, and potential contamination of surface water, groundwater, and potential habitats AND all herbicides will be applied using only targeted methods AND all pesticides will be applied using only targeted methods while maintaining a buffer between treated areas and surface water and potential habitats of listed species	Remaining activities effects outside of known maternity colony tertiary buffer are expected to be discountable or insignificant.	Not Likely to Adversely Affect
All applicable activity types that occur outside the piping plover SLA	N/A	Birds	Piping Plover	All lifestages and PBFs	None	None	None	The action area will not intersect the piping plover SLA	If the action occurs where piping plover do not occur or are not reasonably certain to occur, there should be no impact to species.	No effect
All applicable activity types conducted outside of areas of potential habitat or activity types that would not impact potential habitat of listed species.	N/A	Birds	Piping Plover	All lifestages and PBFs	None	None	None	•The action area does not contain or the action will not directly or indirectly affect natural or semi-natural vegetation types; waterbodies; mines, caves, or associated sinkholes, fissures, or other karst features; buildings bridges, or culverts that may provide potential habitat to listed species	No potential habitat is present within the action area or no effects to the species anticipated.	No effect
All applicable activity types conducted outside of areas of potential habitat of piping plovers	N/A	Birds	Piping Plover	All lifestages and PBFs	None	None	None	•The action area does not contain piping plover habitat	No potential habitat for piping plover is present within the action area so no effects to the species anticipated.	No effect

All applicable activity types conducted in areas of potential habitat of piping plovers but will not be conducted during the breeding and nesting season	•Herbicide and pesticide application •Beach grooming •Boardwalk actions •Breakwaters •Development •Dredge deposition	Birds	Piping Plover	All lifestages and PBFs	•Crushing •Predation •Disturbance •Alterations to breeding, nesting, or foraging habitat	•Individuals •Breeding, nesting, or foraging habitat	•Mortality •Decreased breeding, nesting, and foraging success+J5	•Any herbicides, pesticides, fertilizers and/or other chemicals will be applied according to label instructions and under conditions that will limit drift, runoff, and potential contamination of surface water, groundwater, and potential habitats AND all herbicides will be applied using only targeted methods AND all pesticides will be applied using only targeted methods while maintaining a buffer between treated areas and surface water and potential habitats of listed species •The action will not influence water quality within a stream, river, or wetland •The action will include measures to avoid erosion and sedimentation and/or contamination of potential habitats and/or surface water runoff into potential habitats •All equipment will be kept free of leaks and other potential contaminants when working near or in areas of potential habitat •Actions will not result in changes to known piping plover breeding and nesting habitat quality, quantity or availability OR changes will not be permanent •Actions will not overlap with the piping plover breeding and nesting season (April 1 through August 31) •Actions will not result in increased human disturbance and/or predation risk in breeding and nesting habitat	Actions taking place during the migratory windows may impact foraging habits and/or activity of the species but is likely insignificant and/or discountable.	Not likely to adversely affect
All applicable activity types conducted in areas of potential habitat of piping plovers but will not be conducted when piping plover are present	•Herbicide and pesticide application •Beach grooming •Boardwalk actions •Breakwaters •Development •Dredge deposition	Birds	Piping Plover	All lifestages and PBFs	None	None	None	•Any herbicides, pesticides, fertilizers and/or other chemicals will be applied according to label instructions and under conditions that will limit drift, runoff, and potential contamination of surface water, groundwater, and potential habitats AND all herbicides will be applied using only targeted methods AND all pesticides will be applied using only targeted methods while maintaining a buffer between treated areas and surface water and potential habitats of listed species •The action will not influence water quality within a stream, river, or wetland •The action will include measures to avoid erosion and sedimentation and/or contamination of potential habitats and/or surface water runoff into potential habitats •All equipment will be kept free of leaks and other potential contaminants when working near or in areas of potential habitat •Actions will not result in changes to known piping plover breeding and nesting habitat quality, quantity or availability OR changes will not be permanent •Actions will not overlap with the piping plover breeding and nesting season (April 1 through August 31) •Actions will not result in increased human disturbance and/or predation risk in breeding and nesting habitat •The action will not occur during the piping plover migration season (April 1 through May 1 in spring OR August 15 through September 15 in fall)	No permanent habitat impacts, no increased disturbance or predation, and not occurring when the species is present so no effect.	No effect
All applicable activity types that occur outside piping plover Critical Habitat	N/A	Birds	Piping plover critical habitat	All lifestages and PBFs	None	None	None	The action area does not intersect piping plover critical habitat	No impact to Critical Habitat so no adverse modification	No effect
All applicable activity types conducted outside of areas of potential habitat or activity types that would not impact potential habitat of listed species.	N/A	Birds	Piping plover critical habitat	All lifestages and PBFs	None	None	None	•The action area does not contain or the action will not directly or indirectly affect natural or semi-natural vegetation types; waterbodies; mines, caves, or associated sinkholes, fissures, or other karst features; buildings bridges, or culverts that may provide potential habitat to listed species	No impact to Critical Habitat so no adverse modification	No effect
All applicable activity types that are not authorized, permitted, licensed, funded, or being carried out by a Federal agency in whole or in part.	N/A	Birds	Piping plover critical habitat	All lifestages and PBFs	None	None	None	N/A	No impact to Critical Habitat so no adverse modification	No effect
All applicable activity types conducted outside of areas of potential habitat of piping plovers	N/A	Birds	Piping plover critical habitat	All lifestages and PBFs	None	None	None	•The action area does not contain piping plover habitat	No impact to Critical Habitat so no adverse modification	No effect

All applicable activity types conducted in areas of potential habitat of piping plovers	•Herbicide and pesticide application •Beach grooming •Boardwalk actions •Breakwaters •Development •Dredge deposition	Birds	Piping plover critical habitat	All lifestages and PBFs	•Alterations to breeding, nesting, or foraging habitat	•Individuals •Breeding, nesting, or foraging habitat	•Mortality •Decreased breeding, nesting, and foraging success	•Any herbicides, pesticides, fertilizers and/or other chemicals will be applied according to label instructions and under conditions that will limit drift, runoff, and potential contamination of surface water, groundwater, and potential habitats AND all herbicides will be applied using only targeted methods AND all pesticides will be applied using only targeted methods while maintaining a buffer between treated areas and surface water and potential habitats of listed species •The action will not influence water quality within a stream, river, or wetland •The action will include measures to avoid erosion and sedimentation and/or contamination of potential habitats and/or surface water runoff into potential habitats •All equipment will be kept free of leaks and other potential contaminants when working near or in areas of potential habitat •Actions will not result in changes to known piping plover breeding and nesting habitat quality, quantity or availability OR changes will not be permanent	Critical habitat is present but effects have been avoided or been minimized so effects are anticipated to be insignificant and/or discountable	Not likely to adversely affect
All applicable activity types that occur outside the Rufa red knot SLA	N/A	Birds	Rufa red knot	All lifestages and PBFs	None	None	None	The action area will not intersect the Rufa red knot SLA	If the action occurs where Rufa red knot do not occur or are not reasonably certain to occur, there should be no impact to species.	No effect
All applicable activity types conducted outside of areas of potential habitat or activity types that would not impact potential habitat of listed species.	N/A	Birds	Rufa red knot	All lifestages and PBFs	None	None	None	•The action area does not contain or the action will not directly or indirectly affect natural or semi-natural vegetation types; waterbodies; mines, caves, or associated sinkholes, fissures, or other karst features; buildings bridges, or culverts that may provide potential habitat to listed species	No potential habitat is present within the action area or no effects to the species anticipated.	No effect
All applicable activity types conducted outside of areas of potential stopover habitat of Rufa red knot	N/A	Birds	Rufa red knot	Adults, juveniles	None	None	None	•The action area does not contain potential stopover habitat	If the action does not overlap potential habitat for Rufa red knot there should be no impact to species.	No effect
All applicable activity types conducted in areas of potential stopover habitat of Rufa red knot	N/A	Birds	Rufa red knot	Adults, juveniles	None	None	None	•Project activities will not impact potential stopover habitat	No habitat impacts anticipated so there should be no effect to the species.	No effect
All applicable activity types conducted in areas of potential stopover habitat of Rufa red knot	N/A	Birds	Rufa red knot	Adults, juveniles	•Disturbance •Alterations to foraging habitat	•Individuals •Foraging habitat	•Changes in behavior •Decreased foraging success	•The action will occur during the red knot migration window (May 1- September 30)	Habitat loss for this species would be insignificant and the potential for disturbance is discountable or insignificant and not measurable.	Not likely to adversely affect
All applicable activity types conducted in areas of potential stopover habitat of Rufa red knot	N/A	Birds	Rufa red knot	Adults, juveniles	None	None	None	•The action will not occur during the red knot migration window (May 1- September 30)	Action does not overlap when the species is present and no habitat impacts so there should be no effect to the species.	No effect
All applicable activity types that occur outside the whooping crane SLA	N/A	Birds	Whooping crane	All lifestages and PBFs	None	None	None	The action area will not intersect the whooping crane SLA	If the action occurs where whooping crane do not occur or are not reasonably certain to occur, there should be no impact to species.	No effect
All applicable activity types conducted outside of areas of potential habitat or activity types that would not impact potential habitat of listed species.	N/A	Birds	Whooping crane	All lifestages and PBFs	None	None	None	•The action area does not contain or the action will not directly or indirectly affect natural or semi-natural vegetation types; waterbodies; mines, caves, or associated sinkholes, fissures, or other karst features; buildings bridges, or culverts that may provide potential habitat to listed species		No effect
All applicable activity types that are not occurring within a National Wildlife Refuge or National Park AND are not authorized, permitted, licensed, funded, or being carried out by a Federal agency in whole or in part.	N/A	Birds	Whooping crane	All lifestages and PBFs	None	None	None	N/A		No effect
All applicable activity types conducted outside of areas of potential stopover habitat of whooping crane	N/A	Birds	Whooping crane	All lifestages and PBFs	None	None	None	•The action area does not contain potential habitat for whooping crane	If the action does not overlap suitable habitat there should be no impact to species.	No effect

All applicable activity types conducted in areas of potential stopover habitat of whooping crane	•Herbicide and pesticide application	Birds	Whooping crane	Adults, juveniles	•Disturbance •Alterations to stopover habitat and migration habitat •Disturbance	•Individuals •Stopover and migration habitat	•Changes in behavior •Decreased foraging and migratory success	•Any herbicides, pesticides, fertilizers and/or other chemicals will be applied according to label instructions and under conditions that will limit drift, runoff, and potential contamination of surface water, groundwater, and potential habitats AND all herbicides will be applied using only targeted methods AND all pesticides will be applied using only targeted methods while maintaining a buffer between treated areas and surface water and potential habitats of listed species •The action will not influence ground or surface water (stream, river, wetland) quantity or flow •The action will not influence water quality within a stream, river, or wetland •The action will include measures to avoid erosion and sedimentation and/or contamination of potential habitats and/or surface water runoff into potential habitats •All equipment will be kept free of leaks and other potential contaminants when working near or in areas of potential habitat •Project activities will not permanently impact potential whooping crane stopover or wintering habitat	Potential for disturbance is discountable or insignificant and not measurable.	Not likely to adversely affect
All applicable activity types conducted in areas of potential stopover habitat of whooping crane	•Herbicide and pesticide application	Birds	Whooping crane	Adults, juveniles	None	None	None	•Any herbicides, pesticides, fertilizers and/or other chemicals will be applied according to label instructions and under conditions that will limit drift, runoff, and potential contamination of surface water, groundwater, and potential habitats AND all herbicides will be applied using only targeted methods AND all pesticides will be applied using only targeted methods while maintaining a buffer between treated areas and surface water and potential habitats of listed species •The action will not influence ground or surface water (stream, river, wetland) quantity or flow •The action will not influence water quality within a stream, river, or wetland •The action will include measures to avoid erosion and sedimentation and/or contamination of potential habitats and/or surface water runoff into potential habitats •All equipment will be kept free of leaks and other potential contaminants when working near or in areas of potential habitat •Project activities will not permanently impact potential whooping crane stopover or wintering habitat •The action will not take place during whooping crane migration and overwintering (October 1 - March 31)	Impacts to habitat on lands outside a Refuge or Park are considered insignificant and occur outside the migration and overwintering period should have no effect to the species	No effect
All applicable activity types that occur outside the alligator snapping turtle SLA	N/A	Reptiles	Alligator snapping turtle	All lifestages and PBFs	None	None	None	The action area will not intersect the alligator snapping turtle SLA	If the action occurs where alligator snapping turtle do not occur or are not reasonably certain to occur, there should be no impact to species	No effect
All applicable activity types conducted outside of areas of potential habitat or activity types that would not impact potential habitat of listed species.	N/A	Reptiles	Alligator snapping turtle	All lifestages and PBFs	None	None	None	•The action area does not contain or the action will not directly or indirectly affect natural or semi-natural vegetation types; waterbodies; mines, caves, or associated sinkholes, fissures, or other karst features; buildings bridges, or culverts that may provide potential habitat to listed species	No potential habitat is present within the action area or no effects to the species anticipated	No effect
All applicable activity types conducted in areas of potential habitat or activity types that would impact potential habitat of listed species.	N/A	Reptiles	Alligator snapping turtle	All lifestages and PBFs	None	None	None	•The action area does not contain potential habitat (rivers/streams/oxbows and associated riparian areas, swamps, lakes, reservoirs, ponds, and adjacent upland areas utilized for nesting) of the alligator snapping turtle	No potential habitat for alligator snapping turtle is present within the action area so no effects to the species anticipated	No effect

All applicable activity types conducted in areas of potential habitat alligator snapping turtle	•Herbicide and pesticide application •Grading •Filling •Digging •Trenching •Disking •Earth moving •Brush/shrub/tree removal	Reptiles	Alligator snapping turtle	All lifestages and PBFs	•Habitat loss/degradation •Exposure to contaminants	•Individuals •Water quality, depth, and flow •Food resources	•Alterations to breeding, nesting, and feeding habits •Interference with breeding, feeding, movement, and hibernation success	•Any herbicides, pesticides, fertilizers and/or other chemicals will be applied according to label instructions and under conditions that will limit drift, runoff, and potential contamination of surface water, groundwater, and potential habitats AND all herbicides will be applied using only targeted methods AND all pesticides will be applied using only targeted methods while maintaining a buffer between treated areas and surface water and potential habitats of listed species •The action will not influence ground or surface water (stream, river, wetland) quantity or flow •The action will not influence water quality within a stream, river, or wetland •The project does not involve in-river or in-stream impacts •The action will include measures to avoid erosion and sedimentation and/or contamination of potential habitats and/or surface water runoff into potential habitats •All equipment will be kept free of leaks and other potential contaminants when working near or in areas of potential habitat •The action will not impact/modify potential habitat of the alligator snapping turtle	Potential habitat for alligator snapping turtle is present but impacts will be avoided or minimized so effects are anticipated to be insignificant and/or discountable	Not likely to adversely affect
All applicable activity types that occur outside the eastern massasauga SLA	N/A	Reptiles	Eastern massasauga	All lifestages and PBFs	None	None	None	The action area will not intersect the eastern massasauga SLA	Project area does not overlap current range of the species	No effect
All applicable activity types conducted outside of areas of potential habitat or activity types that would not impact potential habitat of listed species.	N/A	Reptiles	Eastern massasauga	All lifestages and PBFs	None	None	None	•The action area does not contain or the action will not directly or indirectly affect natural or semi-natural vegetation types; waterbodies; mines, caves, or associated sinkholes, fissures, or other karst features; buildings bridges, or culverts that may provide potential habitat to listed species	No potential habitat is present within the action area or no effects to the species anticipated	No effect
All applicable activity types conducted in areas of potential habitat or activity types that would impact potential habitat of listed species.	N/A	Reptiles	Eastern massasauga	All lifestages and PBFs	None	None	None	•The action area does not contain potential eastern massasauga habitat	No potential habitat for eastern massasauga is present within the action area so no effects to the species anticipated	No effect
All applicable activity types conducted in areas of potential habitat for eastern massasauga within the buffer of a known eastern massasauga population	•Herbicide and pesticide application •Grading •Filling •Digging •Trenching •Disking •Earth moving •Brush/shrub/tree removal	Reptiles	Eastern massasauga	All lifestages and PBFs	•Habitat loss/degradation/fragmentation •Alterations to hydrology •Exposure to contaminants •Ground disturbance •Exposure to heat, smoke, and carbon dioxide •Vehicle strikes •Erosion	•Breeding, feeding, and hibernation habitat •Individuals •Surface and groundwater quality and quantity •Air quality •Prey items	•Alteration of breeding, feeding, movement, and hibernation habits •Decreased overwintering survival •Mortality/injury/crushing •Entanglement •Increased predation risk •Decreased survival	- will be applied according to label instructions and under conditions that will limit drift, runoff, and potential contamination of surface water, groundwater, and potential habitats AND all herbicides will be applied using only targeted methods AND all pesticides will be applied using only targeted methods while maintaining a buffer between treated areas and surface water and potential habitats of listed species •The action will not influence ground or surface water (stream, river, wetland) quantity or flow •The action will not influence water quality within a stream, river, or wetland •The action will include measures to avoid erosion and sedimentation and/or contamination of potential habitats and/or surface water runoff into potential habitats •All equipment will be kept free of leaks and other potential contaminants when working near or in areas of potential habitat •The action will not create a new road or railway, alter an existing road or railway, or convert the surface of an existing road from non-paved to a paved surface •The action will not create a permanent barrier to snake movement •The action does not involve the installation of erosion control fencing or other erosion control materials OR wildlife-safe materials will be used for any erosion control and site restoration OR the use of erosion control products containing plastic mesh netting or other similar materials that could ensnare snakes will be eliminated •The action will not be located within or impact/modify eastern massasauga rattlesnake habitat	Potential habitat is present but effects have been avoided or been minimized so effects are anticipated to be insignificant and/or discountable	Not likely to adversely affect

All remaining applicable activity that are located within or may directly impact/modify eastern massasauga habitat	•Grading •Filling •Digging •Trenching •Disking •Earth moving •Brush/shrub/tree removal • Pesticide and herbicide use	Reptiles	Eastern massasauga	All lifestages and PBFs	•Habitat loss/degradation/fragmentation •Alterations to hydrology •Exposure to contaminants •Ground disturbance •Exposure to heat, smoke, and carbon dioxide •Vehicle strikes •Erosion	•Breeding, feeding, and hibernation habitat •Individuals •Surface and groundwater quality and quantity •Air quality •Prey items	•Alteration of breeding, feeding, movement, and hibernation habits •Decreased overwintering survival •Mortality/injury/crushing •Entanglement •Increased predation risk •Decreased survival	•A voluntary habitat assessment for potentially suitable habitat of the eastern massasauga rattlesnake has been conducted •The action area does not contain suitable hibernation habitat OR the action area contain suitable hibernation habitat but the action will avoid impacts to or modification of hibernation habitat •The action does not involve grading, fill, digging, trenching, disk, or any other earth-moving activity OR the action involves grading, fill, digging, trenching, disk, or other earth moving activities but no more than 0.5 acres of suitable habitat will be permanently lost AND exclusionary fencing will be properly installed and maintained to exclude snakes from the area of disturbance during construction and fencing will be promptly removed at the conclusion of the activity AND the project area will be visually examined following fence installation and prior to beginning work to deem the project area snake free •Vehicles and equipment will be offloaded at the closest point to the work zone as practicable and utilize existing roads to access the work zone •The action does not involve prescribed burning or mowing of suitable habitat •The action does not involve cutting or removal of brush, shrubs, or trees	Potential habitat is present but effects have been avoided or been minimized so effects are anticipated to be insignificant and/or discountable	Not likely to adversely affect
All remaining applicable activity that are located within or may directly impact/modify eastern massasauga habitat	•Brush/shrub/tree removal	Reptiles	Eastern massasauga	All lifestages and PBFs	•Habitat loss/degradation/fragmentation •Ground disturbance	•Breeding, feeding, and hibernation habitat •Individuals	•Alteration of breeding, feeding, movement, and hibernation habits •Mortality/injury/crushing •Decreased survival	•The site will be accessed on foot and cutting will be done by hand or low impact harvest methods in areas of suitable habitat	Potential habitat is present but effects have been avoided or been minimized so effects are anticipated to be insignificant and/or discountable	Not likely to adversely affect
All applicable activity types that occur outside the pallid sturgeon SLA	N/A	Fish	Pallid sturgeon	All lifestages and PBFs	None	None	None	The action area will not intersect the pallid sturgeon SLA	If the action occurs where pallid sturgeon do not occur or are not reasonably certain to occur, there should be no impact to species.	No effect
All applicable activity types conducted outside of areas of potential habitat or activity types that would not impact potential habitat of listed species.	N/A	Fish	Pallid sturgeon	All lifestages and PBFs	None	None	None	•The action area does not contain or the action will not directly or indirectly affect natural or semi-natural vegetation types; waterbodies; mines, caves, or associated sinkholes, fissures, or other karst features; buildings bridges, or culverts that may provide potential habitat to listed species	No potential habitat is present within the action area or no effects to the species anticipated.	No effect
All applicable activity types conducted outside areas of potential habitat for pallid sturgeon	N/A	Fish	Pallid sturgeon	All lifestages and PBFs	None	None	None	•The action area does not contain potential habitat for pallid sturgeon	No potential habitat for pallid sturgeon is present within the action area or no effects to the species anticipated.	No effect
All applicable activity types conducted in areas of potential habitat for pallid sturgeon	•Herbicide and pesticide use	Fish	Pallid sturgeon	All lifestages and PBFs	•Habitat loss/degradation •Exposure to contaminants •Runoff, erosion, and sedimentation	•Individuals •Water quality, depth, and flow	•Alterations to spawning, rearing, overwinter, and feeding •Interference with breeding, feeding, movement, and hibernation success	•Any herbicides, pesticides, fertilizers and/or other chemicals will be applied according to label instructions and under conditions that will limit drift, runoff, and potential contamination of surface water, groundwater, and potential habitats AND all herbicides will be applied using only targeted methods AND all pesticides will be applied using only targeted methods while maintaining a buffer between treated areas and surface water and potential habitats of listed species •The action will not influence ground or surface water (stream, river, wetland) quantity or flow •The action will not influence water quality within a stream, river, or wetland •The action will include measures to avoid erosion and sedimentation and/or contamination of potential habitats and/or surface water runoff into potential habitats •All equipment will be kept free of leaks and other potential contaminants when working near or in areas of potential habitat •The project will not involve in-river, in-stream, or riparian impacts	Potential habitat is present but effects have been avoided or been minimized so effects are anticipated to be insignificant and/or discountable	Not likely to adversely affect

All applicable activity types conducted in areas of potential habitat for pallid sturgeon but not will not occur within or impact rivers with known occurrences of pallid sturgeon	•Herbicide and pesticide use •Dams •Hydropower • Dredging •Sand/gravel mining •Filling •Bank stabilization •River/stream crossings •Bridges •Pilings •Pipelines •Dikes/dams •Levees	Fish	Pallid sturgeon	All lifestages and PBFs	•Habitat loss/degradation •Exposure to contaminants •Runoff, erosion, and sedimentation	•Individuals •Water quality, depth, and flow	•Alterations to spawning, rearing, overwinter, and feeding •Interference with breeding, feeding, movement, and hibernation success	•The action does not involve ground-based and small-scale application of any chemicals including herbicides, pesticides, or fertilizers OR herbicides, pesticides, fertilizers and/or other chemicals will be applied according to label instructions and under conditions that will limit drift, runoff, and potential contamination of surface water, groundwater, and potential habitats AND all herbicides will be applied using only targeted methods AND all pesticides will be applied using only targeted methods while maintaining a buffer between treated areas and surface water and potential habitats of listed species •The action will not influence ground or surface water (stream, river, wetland) quantity or flow •The action will not influence water quality within a stream, river, or wetland •The action will include measures to avoid erosion and sedimentation and/or contamination of potential habitats and/or surface water runoff into potential habitats •All equipment will be kept free of leaks and other potential contaminants when working near or in areas of potential habitat •Project activities will not impact rivers with known occurrences of pallid sturgeon	Potential habitat is present but effects have been avoided or been minimized so effects are anticipated to be insignificant and/or discountable	Not likely to adversely affect
All applicable remaining activity types conducted in areas of potential habitat for pallid sturgeon and will occur within or impact rivers with known occurrences of pallid sturgeon	•Dams •Hydropower • Dredging •Sand/gravel mining •Filling •Bank stabilization •River/stream crossings •Bridges •Pilings •Pipelines •Dikes/dams •Levees	Fish	Pallid sturgeon	All lifestages and PBFs	•Habitat loss/degradation •Exposure to contaminants •Runoff, erosion, and sedimentation	•Individuals •Water quality, depth, and flow	•Alterations to spawning, rearing, overwinter, and feeding •Interference with breeding, feeding, movement, and hibernation success	•The action will not influence ground or surface water (stream, river, wetland) quantity or flow •The action will not influence water quality within a stream, river, or wetland •The action will include measures to avoid erosion and sedimentation and/or contamination of potential habitats and/or surface water runoff into potential habitats •All equipment will be kept free of leaks and other potential contaminants when working near or in areas of potential habitat •The action will impact less than 0.5 acres of potential habitat or 500ft of linear shoreline	Potential habitat is present but effects have been avoided or been minimized so effects are anticipated to be insignificant and/or discountable	Not likely to adversely affect
All applicable activity types that occur outside the Topeka shiner SLA	N/A	Fish	Topeka shiner	All lifestages and PBFs	None	None	None	The action area will not intersect the Topeka shiner SLA	If the action occurs where Topeka shiner do not occur or are not reasonably certain to occur, there should be no impact to species.	No effect
All applicable activity types conducted outside of areas of potential habitat or activity types that would not impact potential habitat of listed species.	N/A	Fish	Topeka shiner	All lifestages and PBFs	None	None	None	•The action area does not contain or the action will not directly or indirectly affect natural or semi-natural vegetation types; waterbodies; mines, caves, or associated sinkholes, fissures, or other karst features; buildings bridges, or culverts that may provide potential habitat to listed species	No potential habitat is present within the action area or no effects to the species anticipated.	No effect
All applicable activity types conducted outside areas of potential habitat for Topeka shiner	N/A	Fish	Topeka shiner	All lifestages and PBFs	None	None	None	•The action area does not contain potential habitat for Topeka shiner	No potential habitat for Topeka shiner is present within the action area or no effects to the species anticipated.	No effect
All applicable activity types conducted in areas of or may impact potential habitat for Topeka shiner	•Herbicide and pesticide use •Channelization •Dredging •Filling •Bank stabilization •River/stream crossing •Bridges •Dike/dams •Levees •Vegetation removal •Livestock access	Fish	Topeka shiner	All lifestages and PBFs	•Habitat loss/degradation •Exposure to contaminants •Alterations to surface water quantity or flow leading to runoff, erosion, and sedimentation	•Individuals •Water quality, depth, and flow	•Alterations to spawning, rearing, and feeding behavior •Interference with breeding, spawning, rearing, movement, and feeding success	•Any herbicides, pesticides, fertilizers and/or other chemicals will be applied according to label instructions and under conditions that will limit drift, runoff, and potential contamination of surface water, groundwater, and potential habitats AND all herbicides will be applied using only targeted methods AND all pesticides will be applied using only targeted methods while maintaining a buffer between treated areas and surface water and potential habitats of listed species •The action will not influence ground or surface water (stream, river, wetland) quantity or flow •The action will not influence water quality within a stream, river, or wetland •The project does not involve in-river or in-stream impacts •The action will include measures to avoid erosion and sedimentation and/or contamination of potential habitats and/or surface water runoff into potential habitats •All equipment will be kept free of leaks and other potential contaminants when working near or in areas of potential habitat •Project activities will not impact potential habitat of the Topeka shiner	Potential habitat is present but effects have been avoided or been minimized so effects are anticipated to be insignificant and/or discountable	Not likely to adversely affect
All applicable activity types that occur outside Topeka shiner Critical Habitat	N/A	Fish	Topeka shiner critical habitat	All lifestages and PBFs	None	None	None	The action area will not intersect Topeka shiner critical habitat	If the action intersect Topeka shiner critical habitat, there should be no impact to critical habitat	No effect

All applicable activity types conducted outside of areas of potential habitat or activity types that would not impact potential habitat of listed species.	N/A	Fish	Topeka shiner critical habitat	All lifestages and PBFs	None	None	None	•The action area does not contain or the action will not directly or indirectly affect natural or semi-natural vegetation types; waterbodies; mines, caves, or associated sinkholes, fissures, or other karst features; buildings bridges, or culverts that may provide potential habitat to listed species	No impact to Critical Habitat.	No effect
All applicable activity types that are not authorized, permitted, licensed, funded, or being carried out by a Federal agency in whole or in part.	N/A	Fish	Topeka shiner critical habitat	All lifestages and PBFs	None	None	None	N/A		No effect
All applicable activity types conducted outside of areas of potential habitat for Topeka shiner	N/A	Fish	Topeka shiner critical habitat	All lifestages and PBFs	None	None	None	•The action area does not contain potential habitat for Topeka shiner	No impact to Critical Habitat.	No effect
All applicable activity types conducted in areas of potential habitat for Topeka shiner	•Herbicide and pesticide use •Channelization •Dredging •Filling •Bank stabilization •River/stream crossing •Bridges •Dike/dams •Levees •Vegetation removal •Livestock access	Fish	Topeka shiner critical habitat	All lifestages and PBFs	•Habitat loss/degradation •Exposure to contaminants •Alterations to surface water quantity or flow leading to runoff, erosion, and sedimentation	•Individuals •Water quality, depth, and flow	•Alterations to spawning, rearing, and feeding behavior •Interference with breeding, spawning, rearing, movement, and feeding success	•Any herbicides, pesticides, fertilizers and/or other chemicals will be applied according to label instructions and under conditions that will limit drift, runoff, and potential contamination of surface water, groundwater, and potential habitats AND all herbicides will be applied using only targeted methods AND all pesticides will be applied using only targeted methods while maintaining a buffer between treated areas and surface water and potential habitats of listed species •The action will not influence ground or surface water (stream, river, wetland) quantity or flow •The action will not influence water quality within a stream, river, or wetland •The project does not involve in-river or in-stream impacts •The action will include measures to avoid erosion and sedimentation and/or contamination of potential habitats and/or surface water runoff into potential habitats •All equipment will be kept free of leaks and other potential contaminants when working near or in areas of potential habitat •Activities will not impact potential habitat within areas designated as critical habitat of the Topeka shiner	Critical habitat is present but effects have been avoided or been minimized so effects are anticipated to be insignificant and/or discountable	Not likely to adversely affect
All applicable activity types that occur outside the listed mussel SLA	N/A	Mussels	Listed Mussels	All lifestages and PBFs	None	None	None	The action area will not intersect the listed mussel SLA	If the action occurs where listed mussels do not occur or are not reasonably certain to occur, there should be no impact to species	No effect
All applicable activity types conducted outside of areas of potential habitat or activity types that would not impact potential habitat of listed species.	N/A	Mussels	Listed Mussels	All lifestages and PBFs	None	None	None	•The action area does not contain or the action will not directly or indirectly affect natural or semi-natural vegetation types; waterbodies; mines, caves, or associated sinkholes, fissures, or other karst features; buildings bridges, or culverts that may provide potential habitat to listed species OR the action area does not contain any stream, rivers, or associated riparian habitat	No potential habitat is present within the action area or no effects to the species anticipated.	No effect
All applicable activity types conducted in areas of potential habitat or activity types that would impact potential habitat of clubshell mussels but surveys indicate absence of listed or proposed mussel species	N/A	Mussels	Clubshell Fanshell Fat pocketbook Higgins' eye Longsolid Northern riffleshell Orangefoot pimpleback Pink mucket Rabbitsfoot Ring pink Rough Pigtoe Salamander Sheepnose Snuffbox Spectaclecase	All lifestages and PBFs	•Habitat loss/degradation •Alterations to hydrology •Erosion, runoff, sedimentation •Exposure to contaminants •Alterations to substrate	•Individuals •Reproduction, rearing, overwintering, and feeding habitat •Surface water quality, depth, and flow •Food resources	•Mortality/survival •Alterations to reproduction, rearing, overwintering, and feeding behavior and success	•Voluntary presence/absence mussel surveys have been conducted within the action area within the last 5 years AND no federally listed or proposed mussel species were detected	Species not detected so effects anticipated to be insignificant and/or discountable	Not likely to adversely affect
All applicable activity types conducted in areas of potential habitat or activity types that would impact potential habitat of clubshell mussels but surveys indicate absence of clubshell mussels	N/A	Mussels	Clubshell Fanshell Fat pocketbook Higgins' eye Longsolid Northern riffleshell Orangefoot pimpleback Pink mucket Rabbitsfoot Ring pink Rough Pigtoe Salamander Sheepnose Snuffbox Spectaclecase	All lifestages and PBFs	•Habitat loss/degradation •Alterations to hydrology •Erosion, runoff, sedimentation •Exposure to contaminants •Alterations to substrate	•Individuals •Reproduction, rearing, overwintering, and feeding habitat •Surface water quality, depth, and flow •Food resources	•Mortality/survival •Alterations to reproduction, rearing, overwintering, and feeding behavior and success	•Voluntary presence/absence mussel surveys have been conducted within the action area within the last 5 years AND federally listed or proposed mussel species were detected but presence of clubshell mussel was not detected	Species not detected so effects to the species anticipated to be insignificant and/or discountable	Not likely to adversely affect

All applicable activity types occurring outside streams or rivers with known occurrences of a listed mussel species	N/A	Mussels	Clubshell Fanshell Fat pocketbook Higgins' eye Longsolid Northern riffleshell Orangefoot pimpleback Pink mucket Rabbitsfoot Ring pink Rough Pigtoe Salamander Sheepnose Snuffbox Spectaclecase	All lifestages and PBFs	None	None	None	•The action area does not contain any streams or rivers with known occurrences of the species	No potential habitat for clubshell mussel is present within the action area so no effects to the species anticipated.	No effect
All applicable activity types occurring in potential clubshell mussel habitat but outside streams or rivers with known occurrences of a listed mussel species	•Herbicide and pesticide use •Dams •Hydropower •Dredging •Sand/gravel mining •Filling •Bank stabilization •River/stream crossings •Bridges •Pilings •Pipelines •Dike/dams •Levees	Mussels	Clubshell Fanshell Fat pocketbook Higgins' eye Longsolid Northern riffleshell Orangefoot pimpleback Pink mucket Rabbitsfoot Ring pink Rough Pigtoe Salamander Sheepnose Snuffbox Spectaclecase	All lifestages and PBFs	•Habitat loss/degradation •Alterations to hydrology •Erosion, runoff, sedimentation •Exposure to contaminants •Alterations to substrate	•Individuals •Reproduction, rearing, overwintering, and feeding habitat •Surface water quality, depth, and flow •Food resources	•Mortality/survival •Alterations to reproduction, rearing, overwintering, and feeding behavior and success	•Any herbicides, pesticides, fertilizers and/or other chemicals will be applied according to label instructions and under conditions that will limit drift, runoff, and potential contamination of surface water, groundwater, and potential habitats AND all herbicides will be applied using only targeted methods AND all pesticides will be applied using only targeted methods while maintaining a buffer between treated areas and surface water and potential habitats of listed species •The action will not influence ground or surface water (stream, river, wetland) quantity or flow •The action will not influence water quality within a stream, river, or wetland •The action will include measures to avoid erosion and sedimentation and/or contamination of potential habitats and/or surface water runoff into potential habitats •All equipment and materials will be inspected for invasive species and/or cleaned prior to arrival on site •All equipment will be kept free of leaks and other potential contaminants when working near or in areas of potential habitat •The project will not involve in-river, in-stream, or riparian impacts	Potential habitat is present but effects have been avoided or been minimized so effects are anticipated to be insignificant and/or discountable	Not likely to adversely affect
All applicable activity types occurring in potential clubshell mussel habitat within streams or rivers with known occurrences of a listed mussel	•Herbicide and pesticide use •Dams •Hydropower •Dredging •Sand/gravel mining •Filling •Bank stabilization •River/stream crossings •Bridges •Pilings •Pipelines •Dike/dams •Levees	Mussels	Clubshell Fanshell Fat pocketbook Higgins' eye Longsolid Northern riffleshell Orangefoot pimpleback Pink mucket Rabbitsfoot Ring pink Rough Pigtoe Salamander Sheepnose Snuffbox Spectaclecase	All lifestages and PBFs	•Habitat loss/degradation •Alterations to hydrology •Erosion, runoff, sedimentation •Exposure to contaminants •Alterations to substrate	•Individuals •Reproduction, rearing, overwintering, and feeding habitat •Surface water quality, depth, and flow •Food resources	•Mortality/survival •Alterations to reproduction, rearing, overwintering, and feeding behavior and success	•Any herbicides, pesticides, fertilizers and/or other chemicals will be applied according to label instructions and under conditions that will limit drift, runoff, and potential contamination of surface water, groundwater, and potential habitats AND all herbicides will be applied using only targeted methods AND all pesticides will be applied using only targeted methods while maintaining a buffer between treated areas and surface water and potential habitats of listed species •The action will not influence ground or surface water (stream, river, wetland) quantity or flow •The action will not influence water quality within a stream, river, or wetland •The action will include measures to avoid erosion and sedimentation and/or contamination of potential habitats and/or surface water runoff into potential habitats •All equipment and materials will be inspected for invasive species and/or cleaned prior to arrival on site •All equipment will be kept free of leaks and other potential contaminants when working near or in areas of potential habitat •Activities will not occur within or impact rivers or streams with known occurrences of the species	Potential habitat is present but effects have been avoided or been minimized so effects are anticipated to be insignificant and/or discountable	Not likely to adversely affect
All applicable activity types that occur outside listed mussel Critical Habitat	N/A	Mussels	Rabbitsfoot CH Sheepnose CH Snuffbox CH Spectaclecase CH	All lifestages and PBFs	None	None	None	The action area does not intersect critical habitat for listed mussel	No impact to Critical Habitat so no adverse modification	No effect
All applicable activity types conducted outside of areas of potential habitat or activity types that would not impact potential habitat of listed species.	N/A	Mussels	Rabbitsfoot CH Sheepnose CH Snuffbox CH Spectaclecase CH	All lifestages and PBFs	None	None	None	•The action area does not contain or the action will not directly or indirectly affect natural or semi-natural vegetation types; waterbodies; mines, caves, or associated sinkholes, fissures, or other karst features; buildings bridges, or culverts that may provide potential habitat to listed species	No impact to Critical Habitat.	No effect
All applicable activity types that are not authorized, permitted, licensed, funded, or being carried out by a Federal agency in whole or in part.	N/A	Mussels	Rabbitsfoot CH Sheepnose CH Snuffbox CH Spectaclecase CH	All lifestages and PBFs	None	None	None	N/A		No effect

All applicable activity types conducted in areas of potential habitat for listed species but do not occur in any streams of rivers with known occurrences of listed mussel species	N/A	Mussels	Rabbitsfoot CH Sheepnose CH Snuffbox CH Spectaclecase CH	All lifestages and PBFs	None	None	None	•The action area does not contain any stream or rivers with known occurrences of a listed mussel species	No impact to Critical Habitat.	No effect
All applicable activity types conducted in areas of potential habitat for listed species and in streams of rivers with known occurrences of listed mussel species	•Herbicide and pesticide use •Dams •Hydropower •Dredging •Sand/gravel mining •Filling •Bank stabilization •River/stream crossings •Bridges •Pilings •Pipelines •Dike/dams •Levees	Mussels	Rabbitsfoot CH Sheepnose CH Snuffbox CH Spectaclecase CH	All lifestages and PBFs	•Habitat loss/degradation •Alterations to hydrology •Erosion, runoff, sedimentation •Exposure to contaminants •Alterations to substrate	•Individuals •Reproduction, rearing, overwintering, and feeding habitat •Surface water quality, depth, and flow •Food resources	•Mortality/survival •Alterations to reproduction, rearing, overwintering, and feeding behavior and success	•Any herbicides, pesticides, fertilizers and/or other chemicals will be applied according to label instructions and under conditions that will limit drift, runoff, and potential contamination of surface water, groundwater, and potential habitats AND all herbicides will be applied using only targeted methods AND all pesticides will be applied using only targeted methods while maintaining a buffer between treated areas and surface water and potential habitats of listed species •The action will not influence ground or surface water (stream, river, wetland) quantity or flow •The action will not influence water quality within a stream, river, or wetland •The action will include measures to avoid erosion and sedimentation and/or contamination of potential habitats and/or surface water runoff into potential habitats •All equipment and materials will be inspected for invasive species and/or cleaned prior to arrival on site •All equipment will be kept free of leaks and other potential contaminants when working near or in areas of potential habitat •The project will not involve in-river, in-stream, or riparian impacts or project activities will not impact potential habitat within areas designated as critical habitat for the species	Critical habitat is present but effects have been avoided or been minimized so effects are anticipated to be insignificant and/or discountable	Not likely to adversely affect
All applicable activity types that occur outside the Iowa Pleistocene snail SLA	N/A	Snails	Iowa pleistocene snail	All lifestages and PBFs	None	None	None	The action area will not intersect the Iowa Pleistocene snail SLA	If the action occurs where Iowa Pleistocene snail do not occur or are not reasonably certain to occur, there should be no impact to species	No effect
All applicable activity types conducted outside of areas of potential habitat or activity types that would not impact potential habitat of listed species.	N/A	Snails	Iowa pleistocene snail	All lifestages and PBFs	None	None	None	•The action area does not contain or the action will not directly or indirectly affect natural or semi-natural vegetation types; waterbodies; mines, caves, or associated sinkholes, fissures, or other karst features; buildings bridges, or culverts that may provide potential habitat to listed species	No potential habitat is present within the action area or no effects to the species anticipated.	No effect
All applicable activity types conducted outside of areas of potential habitat of Iowa Pleistocene snail	N/A	Snails	Iowa pleistocene snail	All lifestages and PBFs	None	None	None	•The action area does not contain potential habitat (Algific talus slopes) for the Iowa Pleistocene snail	No potential habitat for Iowa Pleistocene snail is present within the action area so no effects to the species anticipated.	No effect
All applicable activity types conducted in areas of potential habitat of Iowa Pleistocene snail	•Herbicide and pesticide application •Logging and other forestry practices •Quarrying •Road/trail building •Development •Sinkhole filling •Human foot traffic •Livestock grazing and trampling	Snails	Iowa pleistocene snail	All lifestages and PBFs	•Habitat loss/degradation •Disturbance •Exposure to contaminants •Erosion and sedimentation •Trampling/foot traffic	•Breeding, rearing, and feeding habitat •Surface and groundwater quality and flow •Food resources •Individuals	•Alterations to breeding, rearing, and feeding habits •Mortality •Sublethal effects	•Any herbicides, pesticides, fertilizers and/or other chemicals will be applied according to label instructions and under conditions that will limit drift, runoff, and potential contamination of surface water, groundwater, and potential habitats AND all herbicides will be applied using only targeted methods AND all pesticides will be applied using only targeted methods while maintaining a buffer between treated areas and surface water and potential habitats of listed species •The action will not influence ground or surface water quantity or flow •The action will include measures to avoid erosion, sedimentation, and/or contamination of potential habitats and/or surface water runoff to potential habitat •All equipment will be kept free of leaks and other potential contaminants when working near or in areas of potential habitat •No project activities will impact potential habitat (Algific talus slopes) for the Iowa Pleistocene snail	Potential habitat is present but impacts will be avoided or minimized so effects to the species are anticipated to be discountable and/or insignificant	Not likely to adversely affect
All applicable activity types that occur outside the Hine's emerald dragonfly SLA	N/A	Insects	Hine's emerald dragonfly	All lifestages and PBFs	None	None	None	The action area will not intersect the Hine's emerald dragonfly SLA	If the action occurs where Hine's emerald dragonfly do not occur or are not reasonably certain to occur, there should be no impact to species.	No effect
All applicable activity types conducted outside of areas of potential habitat or activity types that would not impact potential habitat of listed species.	N/A	Insects	Hine's emerald dragonfly	All lifestages and PBFs	None	None	None	•The action area does not contain or the action will not directly or indirectly affect natural or semi-natural vegetation types; waterbodies; mines, caves, or associated sinkholes, fissures, or other karst features; buildings bridges, or culverts that may provide potential habitat to listed species	No potential habitat is present within the action area or no effects to the species anticipated.	No effect
All applicable activity types conducted outside of areas of potential habitat for Hine's emerald dragonfly	N/A	Insects	Hine's emerald dragonfly	All lifestages and PBFs	None	None	None	•The action area does not contain potential habitat for Hine's emerald dragonfly	No potential habitat for Hine's emerald dragonfly is present within the action area or no effects to the species anticipated.	No effect

All applicable activity types conducted in areas of potential habitat for Hine's emerald dragonfly	•Installation of underground fuel/chemical storage, septic systems, or wells •Road or railway creation or alteration •Road surface conversion •Herbicide and pesticide use	Insects	Hine's emerald dragonfly	All lifestages and PBFs	•Groundwater contamination or depletion •Erosion and sedimentation •Exposure to contaminants •Vehicle strikes	•Individuals •Breeding, rearing, feeding, and roosting habitat •Water quality and quantity •Food resources	•Mortality/survival •Alterations to breeding, rearing, feeding, movement, and roosting behavior and success	•The action does not involve installation of underground fuel/chemical storage, septic systems, or installation of wells •The action will not create a new road or railway, alter an existing road or railway, or convert the surface of an existing road from non-paved to a paved surface •Any herbicides, pesticides, fertilizers and/or other chemicals will be applied according to label instructions and under conditions that will limit drift, runoff, and potential contamination of surface water, groundwater, and potential habitats AND all herbicides will be applied using only targeted methods while maintaining a buffer between treated areas and surface water and potential habitats of listed species •The action will not influence ground or surface water (stream, river, wetland) quantity or flow •The action will not influence water quality within a stream, river, or wetland •The action will include measures to avoid erosion and sedimentation and/or contamination of potential habitats and/or surface water runoff into potential habitats •All equipment and materials will be inspected for invasive species and/or cleaned prior to arrival on site •All equipment will be kept free of leaks and other potential contaminants when working near or in areas of potential habitat •Project activities will not directly impact potential habitat of Hine's emerald dragonfly	Potential habitat is present within the action area; however, any activity effects to the species are discountable or insignificant since the action occurs outside of known population buffer.	Not likely to adversely affect
All applicable activity types that occur outside Hine's emerald dragonfly Critical Habitat	N/A	Insects	Hine's emerald dragonfly critical habitat	All lifestages and PBFs	None	None	None	The action area does not intersect critical habitat for Hine's emerald dragonfly	No impact to Critical Habitat so no adverse modification	No effect
All applicable activity types conducted outside of areas of potential habitat or activity types that would not impact potential habitat of listed species.	N/A	Insects	Hine's emerald dragonfly critical habitat	All lifestages and PBFs	None	None	None	•The action area does not contain or the action will not directly or indirectly affect natural or semi-natural vegetation types; waterbodies; mines, caves, or associated sinkholes, fissures, or other karst features; buildings bridges, or culverts that may provide potential habitat to listed species	No impact to Critical Habitat.	No effect
All applicable activity types that are not authorized, permitted, licensed, funded, or being carried out by a Federal agency in whole or in part.	N/A	Insects	Hine's emerald dragonfly critical habitat	All lifestages and PBFs	None	None	None	N/A		No effect
All applicable activity types conducted outside of areas of potential habitat for Hine's emerald dragonfly	N/A	Insects	Hine's emerald dragonfly critical habitat	All lifestages and PBFs	None	None	None	•The action area does not contain potential Hine's emerald dragonfly habitat	No impact to Critical Habitat.	No effect
All applicable activity types conducted in areas of potential habitat for Hine's emerald dragonfly	•Installation of underground fuel/chemical storage, septic systems, or wells •Herbicide and pesticide use	Insects	Hine's emerald dragonfly critical habitat	All lifestages and PBFs	•Groundwater contamination or depletion •Erosion and sedimentation •Exposure to contaminants	•Breeding, rearing, feeding, and roosting habitat •Water quality and quantity	•Mortality/survival •Alterations to breeding, rearing, feeding, movement, and roosting behavior and success	•The action does not involve installation of underground/fuel/chemical storage, septic systems, or installation of wells •Any herbicides, pesticides, fertilizers and/or other chemicals will be applied according to label instructions and under conditions that will limit drift, runoff, and potential contamination of surface water, groundwater, and potential habitats AND all herbicides will be applied using only targeted methods while maintaining a buffer between treated areas and surface water and potential habitats of listed species •The action will not influence ground or surface water (stream, river, wetland) quantity or flow •The action will not influence water quality within a stream, river, or wetland •The action will include measures to avoid erosion and sedimentation and/or contamination of potential habitats and/or surface water runoff into potential habitats •All equipment and materials will be inspected for invasive species and/or cleaned prior to arrival on site •All equipment will be kept free of leaks and other potential contaminants when working near or in areas of potential habitat •Project activities will not directly impact potential habitat of the Hine's emerald dragonfly	Critical habitat is present but effects have been avoided or been minimized so effects are anticipated to be insignificant and/or discountable	Not likely to adversely affect
All applicable activity types that occur outside the monarch butterfly SLA	N/A	Insects	Monarch butterfly	All lifestages and PBFs	None	None	None	The action area does not intersect the monarch butterfly SLA	If the action occurs where monarch butterfly do not occur or are not reasonably certain to occur, there should be no impact to species.	No effect

All applicable activity types conducted outside of areas of potential habitat or activity types that would not impact potential habitat of listed species.	N/A	Insects	Monarch butterfly	All lifestages and PBFs	None	None	None	•The action area does not contain or the action will not directly or indirectly affect natural or semi-natural vegetation types; waterbodies; mines, caves, or associated sinkholes, fissures, or other karst features; buildings bridges, or culverts that may provide potential habitat to listed species	No potential habitat is present within the action area so no effects to the species anticipated.	No effect
All applicable activity types conducted outside of areas of potential habitat for monarch butterfly	N/A	Insects	Monarch butterfly	All lifestages and PBFs	None	None	None	•The action area contains no potential monarch butterfly habitat	No potential habitat for monarch butterfly is present within the action area so no effects to the species anticipated.	No effect
All applicable activity types conducted outside of the active season for monarch butterfly	•Herbicide and pesticide use •Grading •Filling •Disking •Trenching •Earth moving •Mowing •Vegetation removal •Prescribed burning	Insects	Monarch butterfly	All lifestages and PBFs	None	None	None	•No project activities will occur during the summer occupancy season for monarch butterfly (April 1 - October 14)	Activities will be conducted outside the active season and thus remaining activity types are discountable or insignificant	Not Likely to Adversely Affect
All applicable activity types conducted in areas of potential habitat for monarch butterfly during the summer occupancy season	•Herbicide and pesticide use •Grading •Filling •Disking •Trenching •Earth moving •Mowing •Vegetation removal •Prescribed burning	Insects	Monarch butterfly	All lifestages and PBFs	•Habitat fragmentation •Erosion and sedimentation •Exposure to contaminants •Vehicle strikes	•Individuals •Breeding, rearing, feeding, and roosting habitat •Water quality and quantity •Food resources	•Mortality/survival •Alterations to breeding, rearing, feeding, and roosting behavior and success	•Any herbicides, pesticides, fertilizers and/or other chemicals will be applied according to label instructions and under conditions that will limit drift, runoff, and potential contamination of surface water, groundwater, and potential habitats AND all herbicides will be applied using only targeted methods AND all pesticides will be applied using only targeted methods while maintaining a buffer between treated areas and surface water and potential habitats of listed species •The action will include measures to avoid erosion and sedimentation and/or contamination of potential habitats and/or surface water runoff into potential habitats •All equipment and materials will be inspected for invasive species and/or cleaned prior to arrival on site •All equipment will be kept free of leaks and other potential contaminants when working near or in areas of potential habitat •The action will not directly impact/modify potential habitat of the monarch butterfly	Potential habitat is present but impacts will be avoided or minimized so effects are anticipated to be insignificant and/or discountable	Not likely to adversely affect
All applicable activity types that occur outside Poweshiek skipperling Critical Habitat	N/A	Insects	Poweshiek skipperling critical habitat	All lifestages and PBFs	None	None	None	The action area does not intersect critical habitat for Poweshiek skipperling	No impact to Critical Habitat so no adverse modification	No effect
All applicable activity types conducted outside of areas of potential habitat or activity types that would not impact potential habitat of listed species.	N/A	Insects	Poweshiek skipperling critical habitat	All lifestages and PBFs	None	None	None	•The action area does not contain or the action will not directly or indirectly affect natural or semi-natural vegetation types; waterbodies; mines, caves, or associated sinkholes, fissures, or other karst features; buildings bridges, or culverts that may provide potential habitat to listed species	No impact to Critical Habitat.	No effect
All applicable activity types that are not authorized, permitted, licensed, funded, or being carried out by a Federal agency in whole or in part.	N/A	Insects	Poweshiek skipperling critical habitat	All lifestages and PBFs	None	None	None	N/A		No effect
All applicable activity types conducted outside of areas of potential habitat of Poweshiek skipperling	N/A	Insects	Poweshiek skipperling critical habitat	All lifestages and PBFs	None	None	None	•The action area does not contain potential Poweshiek skipperling habitat	No impact to Critical Habitat.	No effect

All applicable activity types conducted in areas of potential habitat of Poweshiek skipperling	•Herbicide and pesticide use •Development	Insects	Poweshiek skipperling critical habitat	All lifestages and PBFs	•Habitat loss/fragmentation/degradation	•Breeding, rearing, foraging, and roosting habitat	•Alterations to breeding, rearing, foraging, and roosting behavior and success	•Any herbicides, pesticides, fertilizers and/or other chemicals will be applied according to label instructions and under conditions that will limit drift, runoff, and potential contamination of surface water, groundwater, and potential habitats AND all herbicides will be applied using only targeted methods AND all pesticides will be applied using only targeted methods while maintaining a buffer between treated areas and surface water and potential habitats of listed species •The action will not influence ground or surface water (stream, river, wetland) quantity or flow •The action will not influence water quality within a stream, river, or wetland •The action will include measures to avoid erosion and sedimentation and/or contamination of potential habitats and/or surface water runoff into potential habitats •All equipment and materials will be inspected for invasive species and/or cleaned prior to arrival on site •All equipment will be kept free of leaks and other potential contaminants when working near or in areas of potential habitat •Project activities will not directly impact potential habitat of the Poweshiek skipperling	Critical habitat is present but effects have been avoided or been minimized so effects are anticipated to be insignificant and/or discountable	Not likely to adversely affect
All applicable activity types that occur outside the Illinois cave amphipod SLA	N/A	Crustaceans	Illinois cave amphipod	All lifestages and PBFs	None	None	None	The action area will not intersect the Illinois cave amphipod SLA	If the action occurs where Illinois cave amphipod do not occur or are not reasonably certain to occur, there should be no impact to species.	No effect
All applicable activity types conducted outside of areas of potential habitat or activity types that would not impact potential habitat of listed species.	N/A	Crustaceans	Illinois cave amphipod	All lifestages and PBFs	None	None	None	•The action area does not contain or the action will not directly or indirectly affect natural or semi-natural vegetation types; waterbodies; mines, caves, or associated sinkholes, fissures, or other karst features; buildings bridges, or culverts that may provide potential habitat to listed species	No potential habitat is present within the action area or no effects to the species anticipated.	No effect
All applicable activity types that do not intersect the buffer of a cave system occupied by Illinois cave amphipod	N/A	Crustaceans	Illinois cave amphipod	All lifestages and PBFs	None	None	None	•The action does not involve installation of underground fuel/chemical storage, septic systems, or installation of wells •The action does not involve mineral extraction, exploration, or drilling or blasting into bedrock •The action area does not contain any streams or rivers or potential habitat	No potential habitat for Illinois cave amphipod is present within the action area so no effects to the species anticipated.	No effect
All remaining applicable activity types that may occur in areas containing streams, rivers, or potential habitat	•Herbicide and pesticide application •Logging and other forestry practices •Road/trail building •Development •Sinkhole filling	Crustaceans	Illinois cave amphipod	All lifestages and PBFs	•Habitat loss/degradation •Runoff and sedimentation	•Breeding, rearing, and feeding habitat •Food resources •Water quality, stream depth, and flow	•Mortality •Sublethal effects •Loss in fitness	•Any herbicides, pesticides, fertilizers and/or other chemicals will be applied according to label instructions and under conditions that will limit drift, runoff, and potential contamination of surface water, groundwater, and potential habitats AND all herbicides will be applied using only targeted methods AND all pesticides will be applied using only targeted methods while maintaining a buffer between treated areas and surface water and potential habitats of listed species •The action will not influence ground or surface water (stream, river, wetland) quantity or flow •The action will not influence water quality within a stream, river, or wetland •The action will include measures to avoid erosion and sedimentation and/or contamination of potential habitats and/or surface water runoff into potential habitats •All equipment will be kept free of leaks and other potential contaminants when working near or in areas of potential habitat •No project activities will impact potential habitat (caves, associated sinkholes, or other karst features) of the Illinois cave amphipod	Potential habitat is present but effects have been avoided or been minimized so effects are anticipated to be insignificant and/or discountable	Not likely to adversely affect
All applicable activity types that occur outside the listed plant SLA	N/A	Plants	Listed Plant Species	All lifestages and PBFs	None	None	None	The action area does not intersect the listed plant SLA	If the action occurs where listed plant species does not occur or are not reasonably certain to occur, there should be no impact to species	No effect
All applicable activity types conducted outside of areas of potential habitat or activity types that would not impact potential habitat of listed species.	N/A	Plants	Listed Plant Species	All lifestages and PBFs	None	None	None	•The action area does not contain or the action will not directly or indirectly affect natural or semi-natural vegetation types; waterbodies; mines, caves, or associated sinkholes, fissures, or other karst features; buildings bridges, or culverts that may provide potential habitat to listed species	No potential habitat is present within the action area or no effects to the species anticipated.	No effect

All applicable activity types conducted in areas of potential habitat or activity types that would impact potential habitat of listed species.	N/A	Plants	Decurrent false aster Eastern prairie fringed orchid Lakeside daisy Leafy prairie clover Mead's milkweed Northern wild monkshood Pitcher's thistle Prairie bush-clover Western prairie fringed orchid	All lifestages and PBFs	None	None	None	•Suitable habitat is not present in the action area	Suitable habitat for the listed plant species is not present in the action area so no effects to the species are anticipated	No effect
All applicable activity types conducted in areas of potential habitat for the listed plant species but surveys indicate absence of species	•Herbicide and pesticide use •Ground disturbance •Vegetation management •Vegetation disturbance •Vegetation removal	Plants	Decurrent false aster Eastern prairie fringed orchid Lakeside daisy Leafy prairie clover Mead's milkweed Northern wild monkshood Pitcher's thistle Prairie bush-clover Western prairie fringed orchid	All lifestages and PBFs	•Habitat loss/degradation •Ground disturbance (soil compaction, erosion) •Exposure to contaminants •Prescribe fire •Mowing/cutting •Trampling/crushing •Grazing •Runoff •Sedimentation	•Individuals •Habitat •Hydrology (surface or groundwater quality and quantity)	•Decreased reproduction, germination, growth, and survival •Mortality	•Voluntary presence/absence surveys for the listed plant species within the action area during the flowering period have been conducted within the last year AND the surveys did not detect the presence of the listed plant species	Species not detected so effects anticipated to be insignificant and/or discountable	Not Likely to Adversely Affect
All applicable activity types conducted in areas of potential habitat for the listed plant species	•Herbicide and pesticide use •Ground disturbance •Vegetation management •Vegetation disturbance •Vegetation removal	Plants	Decurrent false aster Eastern prairie fringed orchid Lakeside daisy Leafy prairie clover Mead's milkweed Northern wild monkshood Pitcher's thistle Prairie bush-clover Western prairie fringed orchid	All lifestages and PBFs	•Habitat loss/degradation •Ground disturbance (soil compaction, erosion) •Exposure to contaminants •Prescribe fire •Mowing/cutting •Trampling/crushing •Grazing •Runoff •Sedimentation	•Individuals •Habitat •Hydrology (surface or groundwater quality and quantity)	•Decreased reproduction, germination, growth, and survival •Mortality	•Any herbicides, pesticides, fertilizers, and/or other chemicals will be applied according to label instructions and under conditions that will limit drift, runoff, and potential contamination of surface water, groundwater, and potential habitat of listed species AND all herbicide use will include only targeted application methods AND all pesticide use will include only targeted application methods while maintaining a buffer between treated areas and surface water and potential habitats of listed species •The action will not influence ground or surface water quantity or flow •The action will avoid or minimize erosion and sedimentation and/or contamination of potential habitats and/or surface water runoff to potential habitat •All equipment and materials will be inspected for invasive species and/or cleaned prior to arrival on site •The action will not directly impact suitable habitat or known populations of the listed plant species	Suitable habitat or species is present but direct impacts will be avoided and indirect effects have been minimized above so effects anticipated to be insignificant and/or discountable	Not Likely to Adversely Affect