# Threatened & Endangered Species

## Iowa Animal ID Guide

USDA NRCS
United States Department of Agriculture
Natural Resources Conservation Service

September 2011

Amphibians
Birds
Butterflies
Fish
Fresh Water Mussels
Land Snails
Mammals
Reptiles

A special thanks to the
Iowa Department of Natural Resources
for providing content to this guide.

NRCS Natural Resources Conservation Service

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# How to use the Threatened & Endangered Species Iowa Animal ID Guide:

- *Endangered species* are fish, plant life, or wildlife in danger of extinction throughout all or a significant part of its range.
- *Threatened species* likely become endangered within the foreseeable future throughout all or a significant part of its range.
- **Orange** color-coded species are Iowa's **endangered** animal species. They are listed in alphabetical order by common name.
- **Blue** color-coded species are Iowa's **threatened** animal species. They are also listed in alphabetical order by common name.
- The scientific name for each species is listed below the common name.
- Maps on each page highlight the species range in Iowa. Counties filled with a lighter color are only federally protected, while those with a darker color are both state and federally protected.

# Categories for each species:

Amphibians

Fish

Mammals

Birds

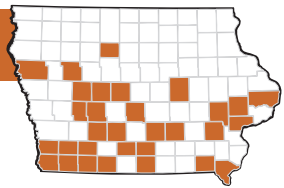
Fresh Water Mussels

Butterflies

Land Snails

Reptiles

Endangered Animal Species



# Barn owl

Tyto alba

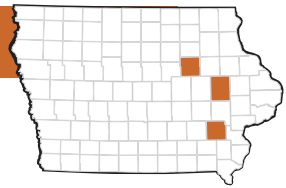
## Habitat

Nests and roosts in dark, secluded places. Often found in old barns and abandoned buildings. Barn owls hunt in grassland habitats along field edges, fence rows, and wetland edges where pray is most available.

## Appropriate practices

- Establish grassland to attract prey (200 acres adjacent to potential barn nesting sites can produce good results).
- Maintain old farmsteads with wooden barns, wood lots, and adjoining grasslands.
- Use nest boxes in place of cavity trees or abandoned buildings.
- Minimize rodenticide use in areas known to have barn owl populations.

Endangered Animal Species



# Blue-spotted salamander

Ambystoma laterale

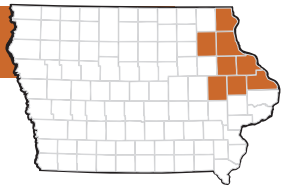
## Habitat

Forest dweller; likes moist soils and small ponds. Blue-spotted salamanders are very secretive and take shelter under fallen, rotten logs, in leaf litter, moss, and other debris provided the soil is damp.

## Appropriate practices

- Excavation to the original depth may be necessary if critical breeding pools have silted in and no longer retain water during the breeding season.
- Limit disturbance activities around woodland pools. Retain adequate habitat that is undivided from breeding pools to limit fatalities on the route from hibernating grounds to breeding pools.
- Preserve remaining woodlands, and limit logging.

Endangered Animal Species



# Bluff Vertigo

Vertigo meramecensis

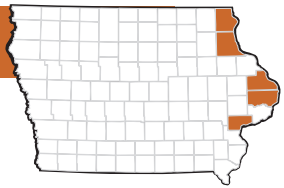
## Habitat

Algific slopes and maderate cliffs (basically Algific slopes without a substantial talus). Generally, the eroded fissure and sink system is small. Fissures do not extend more than 500 feet into the rock, and surface feeder sinks are usually cryptic.

## Appropriate practices

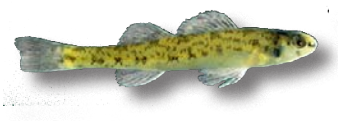
- Fencing to exclude grazing.
- Do not spray pesticides aerially within 100 yards of known habitat or ground spray within 20 yards of known habitat.
- Buffer sink holes to prevent them from filling with sediment.
- Limit human access to areas known to harbor Bluff vertigo.

Endangered Animal Species



# Bluntnose darter

Etheostoma chlorosoma



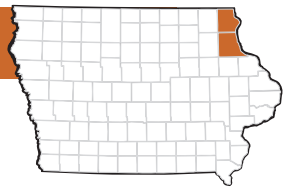
## Habitat

Slow moving streams with low gradients and mud bottoms

## Appropriate practices

- Create buffers around water bodies to filter silt and nutrients from runoff before reaching streams, rivers and wetlands.
- Remove instream barriers that may interfere with fish passage.
- Allow lowland/floodplain streams to naturally meander.
- Maintain integrity of existing and future river backwaters and floodplain wetlands.

Endangered Animal Species



# Briarton pleistocene vertigo

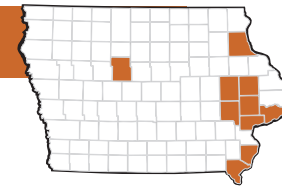
Vertigo brierensis

## Habitat

Cold, undisturbed, well-forested Algific slopes.

## Appropriate practices

- Fencing to exclude grazing.
- Do not spray pesticides aerially within 100 yards of known habitat or ground spray within 20 yards of known habitat.
- Buffer sink holes to prevent them from filling with sediment.
- Limit human access to areas known to harbor Briarton pleistocene vertigo.



# Buckhorn (pistolgrip)

Tritogonia verrucosa

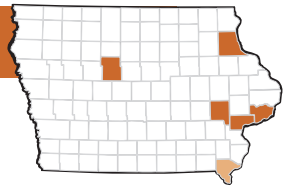
## Habitat

Found in medium to large rivers with gravel or sandy substrates.

## Appropriate practices

- Implement proper upland management, such as contour farming and other soil erosion control practices.
- Install riffles or other fish habitat components in areas where the mussel is not present.
- Cease channelization.
- Limit new construction of dam structures and remove existing dam structures when feasible.
- Create fish passageways over existing dams or other fish passage barriers.
- Limit dredging to previously disturbed areas or to areas of unsuitable habitat.

Endangered Animal Species



# Bullhead (Sheepnose)

Plethobasus cyphyus

## Habitat

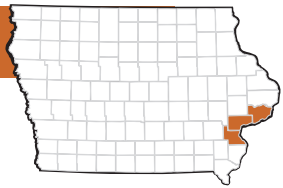
Medium to larger rivers in gravel or mixed sand and gravel.

## Appropriate practices

- Implement proper upland management, such as contour farming and other soil erosion control practices.
- Install riffles or other fish habitat components in areas where the mussel is not present.
- Cease channelization.
- Limit new construction of dam structures and remove existing dam structures when feasible.
- Create fish passageways over existing dams or other fish passage barriers.
- Limit dredging to previously disturbed areas or to areas of unsuitable habitat.

Endangered Animal Species

Federally Threatened



# Copperbelly water snake

Nerodia erythrogaster neglecta

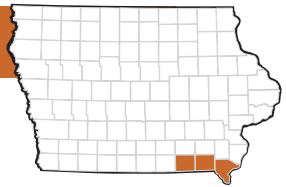
## Habitat

Wetlands with mature timber. Large wetland complexes with extensive upland buffer areas.

## Appropriate practices

- Maintain landscapes with high densities of shallow wetlands with forested corridors between wetlands. Copperbellies frequently move between wetlands and may occupy areas over 30 acres.
- Timber harvests that affect areas greater than about one or two tree heights are probably not helpful. Forest should be left around wetlands.
- Woodlands surrounding wetlands should have limited disturbance during the snakes' active season (daytime average temperatures > 58 degrees F), roughly April-October.

Endangered Animal Species



# Copperhead

Agkistrodon contortrix

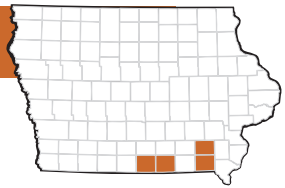
## Habitat

Found in rocky, wooded river or stream valleys in southeastern Iowa.

## Appropriate practices

- Leave any known snakes alone; copperheads tend to not be aggressive unless harassed.
- Maintain forest areas and limit timber harvest.
- Protect forest areas from heavy grazing.

Endangered Animal Species



# Crawfish frog

Lithobates areolatus

*Illinois DNR*

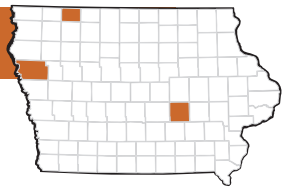
## Habitat

Stream valley ponds.

## Appropriate practices

- Excavation to the original depth may be necessary if critical breeding pools have silted in and no longer retain water during the breeding season.
- Fish prey on young frogs and frog eggs.
- Optimal breeding pools are 1-2 feet deep, hold water for 2-3 months in the spring, and include trees in surrounding areas.
- Avoid disturbing timber surrounding woodland pools.

Endangered Animal Species



# Dakota skipper

Hesperia dacotae

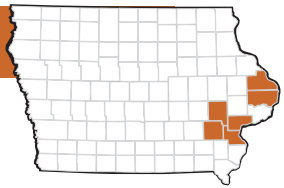
## Habitat

Tallgrass prairie

## Appropriate practices

- Prairie preservation.
- When reconstructing new prairie, include forbs that bloom at different times throughout the summer for a constant food source.
- Prescribed burns should not occur more frequently than every 5-7 years. Fall burnings are important to promote forb growth. Early, rather than late, spring burns are better because larvae are still underground. Do not burn more than 1/3 of the habitat area.
- Remove woody vegetation to promote prairie grasses and forbs.
- In addition to burning, haying every 3-4 years may help to control undesirable trees and shrubs. Do not hay more than 1/3 of the habitat area.

Endangered Animal Species



# Freckled madtom

Noturus nocturnus

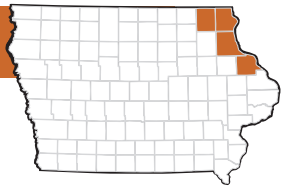
## Habitat

Prefers riffle areas in moderate to large-sized streams. Often found in undercut banks near debris or tree roots.

## Appropriate practices

- Cease channelization.
- Implement proper upland management, such as contour farming and other soil erosion control methods.
- Remove instream barriers that may interfere with fish passage.
- Create buffers along water bodies to filter sediment and nutrient runoff.

Endangered Animal Species



# Frigid ambersnail

Catinella gelida

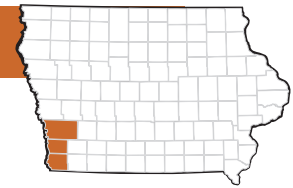
## Habitat

Cold, undisturbed, well-forested Algific slopes.

## Appropriate practices

- Fencing to exclude grazing.
- Do not spray pesticides aerially within 100 yards of known habitat or ground spray within 20 yards of known habitat.
- Buffer sink holes to prevent them from filling with sediment.
- Limit human access to areas known to harbor Frigid ambersnail.

Endangered Animal Species



# Great Plains skink

Plestiodon obsoletus

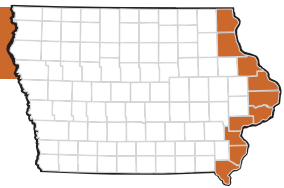
## Habitat

Open, rolling grasslands with few trees and scattered rocks.

## Appropriate practices

- Prescribed burning helps to keep grassland habitat healthy. Avoid burning during the skink's active season (daytime average temperatures > 58 degrees F), roughly late April through September.
- Remove encroaching woody species. Leave some debris to provide basking areas and escape areas from predators.
- Mowing, when possible, can create areas of open vegetation for basking. Do not mow during the active period.
- The use of moderate to light grazing according to a prescribed grazing plan may provide habitat benefits in some circumstances.

Endangered Animal Species



# Higgin's-eye pearly mussel

Lampsilis higginsii

## Habitat

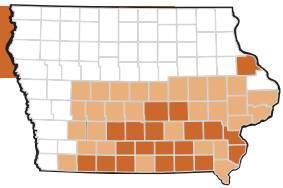
Large, rapidly flowing rivers with gravel and stone substrates.

## Appropriate practices

- Implement proper upland management, such as contour farming and other soil erosion control practices.
- Install riffles or other fish habitat components in areas where the mussel is not present.
- Cease channelization.
- Limit new construction of dam structures and remove existing dam structures when feasible.
- Create fish passageways over existing dams or other fish passage barriers.
- Limit dredging to previously disturbed areas or to areas of unsuitable habitat.

Endangered Animal Species

Federally Endangered



# Indiana bat

Myotis sodalis

*U.S. Fish & Wildlife Service*

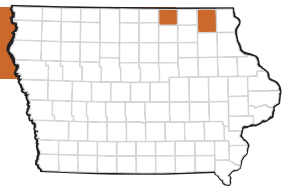
## Habitat

Needs large diameter trees with loose bark; females and young roost under areas of loose bark. Indiana bats like to be close to water.

## Appropriate practices

- Plant and maintain large trees with loose bark and cavities, especially in riparian areas.
- Maintain snag trees.
- Reduce insecticide use, since these bats are dependent upon insects for a food source.

Endangered Animal Species



# Iowa pleistocene ambersnail

Novisuccinea sp 4

No
Photo
Available

## Habitat

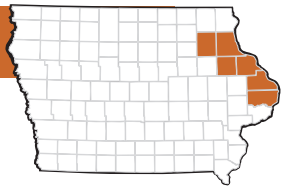
Maderate cliffs, which are essentially Algific slopes without a substantial talus. Generally, the dissected (eroded) fissure and sink system is small. Fissures do not extend more than 500 feet into the rock and surface feeder sinks are usually cryptic.

## Appropriate practices

- Fencing to exclude grazing.
- Do not spray pesticides aerially within 100 yards of known habitat or ground spray within 20 yards of known habitat.
- Buffer sink holes to prevent them from filling with sediment.
- Limit human access to areas known to harbor Iowa pleistocene ambersnail.

Endangered Animal Species

Federally Endangered



# Iowa pleistocene snail

Discus macclintocki

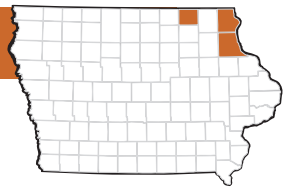
## Habitat

Cold air talus slopes in leaf litter. These slopes are typically rocky around the cold air vents. The ice helps to maintain cool and moist soils.

## Appropriate practices

- Fencing to exclude grazing.
- Do not spray pesticides aerially within 100 yards of known habitat or ground spray within 20 yards of known habitat.
- Buffer sink holes to prevent them from filling with sediment.
- Limit human access to areas known to harbor Iowa pleistocene snails.

Endangered Animal Species



# Iowa pleistocene vertigo

Vertigo iowaensis

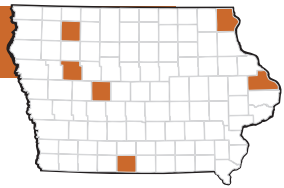
*Jeff Nekola*

## Habitat

Cold, undisturbed, well-forested Algific slopes.

## Appropriate practices

- Fencing to exclude grazing.
- Do not spray pesticides aerially within 100 yards of known habitat or ground spray within 20 yards of known habitat.
- Buffer sink holes to prevent them from filling with sediment.
- Limit human access to areas known to harbor Iowa pleistocene vertigo.



# King rail

Rallus elegans

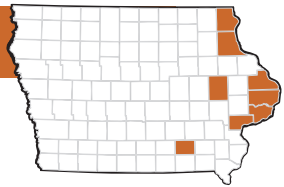
## Habitat

Wetland and grassland complexes; especially found in the sedge meadow zone at the edges of marshes.

## Appropriate practices

- Restore wetlands by re-establishing large wetland complexes, reducing cattails, conduct plantings to re-establish sedges.
- Re-establish grasslands/prairies in areas surrounding marshes.
- Maintain stable water levels during the summer to increase nesting success, preferably 4-18 inches deep.
- Eliminate the use of pesticides as much as possible to encourage crayfish and aquatic insects to inhabit marshes.

Endangered Animal Species



# Lake sturgeon

Acipenser fulvescens

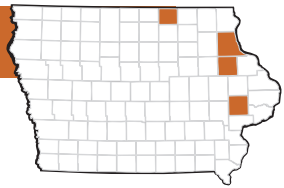
## Distribution in Iowa

Lives in the Mississippi River and Des Moines River at Ottumwa

## Appropriate practices

- Remove dams or create fish passages in areas important to lake stugeon spawning.
- Create buffers along water bodies to filter sediment and nutrient runoff.
- Implement proper upland management, such as contour farming and other soil erosion control methods.
- Allow rivers to naturally meander.

Endangered Animal Species



# Least darter

Etheostoma microperca

## Habitat

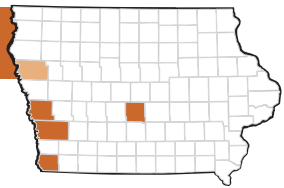
Clear, slow moving streams with an abundance of vegetation with a gravel, sand, or silt bottom.

## Appropriate practices

- Cease channelization; maintain natural riparian vegetation.
- Implement proper upland management, such as contour farming and other soil erosion control methods.
- Remove instream barriers that may interfere with fish passage.
- Create buffers along water bodies to filter sediment and nutrient runoff.

Endangered Animal Species

Federally Endangered



# Least tern

Sterna antillarum

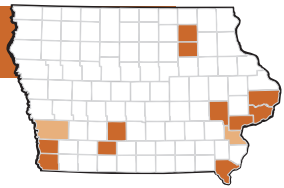
## Habitat

Sandbars along large, slow moving rivers. With the loss of habitat along the Missouri River, nesting areas are limited to a power plant fly-ash site in Council Bluffs and an Iowa Public Service site near Sioux City – both sites are owned by MidAmerican Energy.

## Appropriate practices

- Areas along the Missouri River with suitable sandy habitat need to be cleared of any vegetation that isolates the sandy area from open water.
- Maintain open, unvegetated habitat required for nesting.
- Limit disturbance from humans, free roaming dogs, and any other disturbances.

Endangered Animal Species



# Massasauga rattlesnake

Sistrurus catenatus

## Habitat

Prefer a variety of early successional habitats, including fens, marshes, old fields, prairies, sedge meadows, pastures and wet grasslands.

## Appropriate practices

- During the inactive period (Nov. 1 - April 1), maintain early successional habitats by removing woody invasives, prescribed burning, disking, and mowing (set blade higher than 10 inches).
- Restore wetlands in close proximity to known source populations, and include large upland buffer areas of restored prairie.
- The use of moderate to light grazing according to a prescribed grazing plan may provide habitat benefits in some circumstances.
- Grazing keeps open areas for basking.

Endangered Animal Species

# Minnesota pleistocene ambersnail

Novisuccinea sp 3

No
Photo
Available

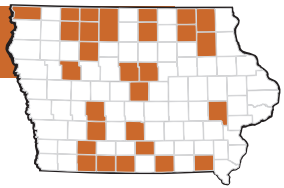
## Habitat

Maderate cliffs, which are essentially Algific slopes without a substantial talus. Generally, the dissected (eroded) fissure and sink system is small. Fissures do not extend more than 500 feet into the rock and surface feeder sinks are usually cryptic.

## Appropriate practices

- Fencing to exclude grazing.
- Do not spray pesticides aerially within 100 yards of known habitat or ground spray within 20 yards of known habitat.
- Buffer sink holes to prevent them from filling with sediment.
- Limit human access to areas known to harbor Minnesota pleistocene ambersnail.

Endangered Animal Species



# Northern harrier

Circus cyaneus

## Habitat

Large tracts of undisturbed, open grasslands with thatch used for nesting cover.

## Appropriate practices

- Prescribed burns should not be conducted more than once every four years, since harriers will not nest in an areas that has been burned during that season. Burns should not be done during the nesting season, April-July.
- Repeated haying deters nesting use.
- Mowing should be done after the nesting season.
- Only lightly graze areas used by harriers, but should be limited to after the nesting season.
- Establish new tracts of grassland as habitat.

Endangered Animal Species

# Ozark pigtoe

Fusconaia ozarkensis

No
Photo
Available

## Habitat

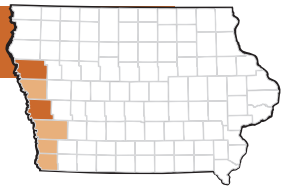
Found in streams with substrate composed of medium-sized gravel several feet deep, with a moderate to rapid current.

## Appropriate practices

- Implement proper upland management, such as contour farming and other soil erosion control practices.
- Install riffles or other fish habitat components in areas where the mussel is not present.
- Cease channelization.
- Limit new construction of dam structures and remove existing dam structures when feasible.
- Create fish passageways over existing dams or other fish passage barriers.
- Limit dredging to previously disturbed areas or to areas of unsuitable habitat.

Endangered Animal Species

Federally Threatened



# Pallid sturgeon

Scaphirhynchus albus

## Habitat

Large turbid rivers with rocky or sandy bottoms. Prefers naturally meandering rivers with channels, backwater, diversity in water depths and flow velocities.

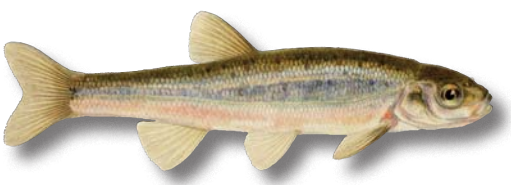
## Appropriate practices

- Mimic a natural hydrologic flow in areas with flow controlled from dams.
- Limit new construction of dams in major rivers that harbor pallid sturgeon populations.
- Avoid additional channel modifications for commercial navigation; allow, to the extent possible, natural river procecesses (e.g., meandering, sandbar formation) to occur.

Endangered Animal Species

# Pearl dace

Margariscus margarita



## Habitat

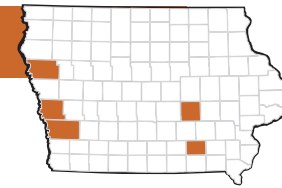
Wetland and marshy areas of low gradient streams, unmodified small creeks with gravel bottoms and good water quality.

## Appropriate practices

- Cease channelization.
- Implement proper upland management, such as contour farming and other soil erosion control methods.
- Remove instream barriers that may interfere with fish passage.
- Create buffers along water bodies to filter sediment and nutrient runoff.

Endangered Animal Species

Federally Endangered



# Piping plover

Charadrius melodus

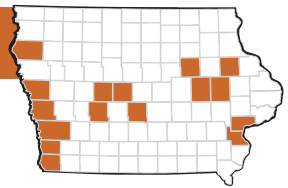
## Habitat

Areas along rivers with suitable open, sandy habitat; with the loss of habitat along the Missouri River, nesting areas are limited to a power plant fly-ash site in Council Bluffs and an Iowa Public Service site near Sioux City – both sites are owned by MidAmerican Energy.

## Appropriate practices

- Habitat areas need to be cleared of any vegetation that isolates the sandy area from open water.
- Keep nesting areas undisturbed during the nesting season.
- Maintain open, unvegetated habitat for nesting.

Endangered Animal Species



# Plains pocket mouse

Perognathus flavescens

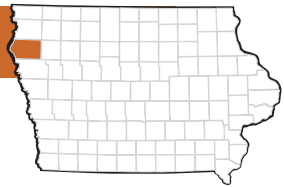
## Habitat

Large open prairie with dry loess or sandy soils. Plains pocket mice prefer loose sand for burrows and grooming habits.

## Appropriate practices

- Prescribed fire can help exotic invaders, such as woody plants, and keep grassland habitat healthy. Leave plenty of unburned vegetation in any given year to provide refuge. Burns should be a minimum of three years apart on any given area.
- Remove encroaching woody species.
- Establish native short grasses and forbs in close proximity to known populations.
- Grazing can help keep areas open, but as always, a good management plan needs to be prepared to ensure that overgrazing does not occur.

Endangered Animal Species



# Prairie rattlesnake

Crotalus viridis

## Habitat

Large open areas of grassland.

## Appropriate practices

- Prescribed burns should be done to keep grassland habitat healthy, but avoid burning during the snake's active period (daytime average temperatures > 58 degrees F), roughly April-October.
- Remove encroaching woody species while snakes are inactive.
- Repeated haying will deter use by prairie rattlesnakes.
- Mowing should be conducted while snakes are inactive. These species can be found above ground at temperatures higher than 58 degrees Fahrenheit.
- The use of moderate to light grazing according to a prescribed grazing plan may provide habitat benefits in some circumstances.

Endangered Animal Species

# Pugnose shiner

Notropis anogenus

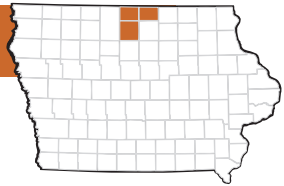
## Habitat

Clear, slow moving water of large streams or naturally glaciated lakes with an abundance of vegetation.

## Appropriate practices

- Allow streams to naturally meander.
- Encourange the natural growth of vegetation in shallow areas.
- Implement proper upland management, such as contour farming and other soil erosion control methods.
- Create buffers along water bodies to filter sediment and nutrient runoff.
- Remove instream barriers that may interfere with fish passage.
- Avoid chemical renovation of fish populations in natural lakes that may harbor this species.

Endangered Animal Species



# Red-backed vole

Clethrionomys gapperi

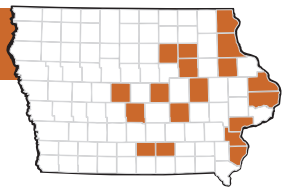
## Habitat

Prefer old growth, boreal forest remnants in north central Iowa. Red-backed voles need classic understory with fallen rotting logs.

## Appropriate practices

- Establish new trees on the periphery of timber known to house red-backed voles or close to bogs or wetlands.
- Limit grazing in timber.
- Minimize disturbance on small tracts of timber.
- Keep disturbance on large tracts of timber to less than 10 percent of the area at any one time.

Endangered Animal Species



# Red-shouldered hawk

Buteo lineatus

## Habitat

Requires at least 250 acres of medium to mature, even-aged floodplain forests dominated by maple and cottonwood trees that have not been logged in 45 to 55 years.

## Appropriate practices

- Limit the disturbance of known nesting sites by providing 1/4 mile protective buffer zone around nests.
- Provide large, uniform mature tree stands.
- Create and/or protect large tracts of riparian forest areas.

Endangered Animal Species

# Ringlet

Coenonympha tullia

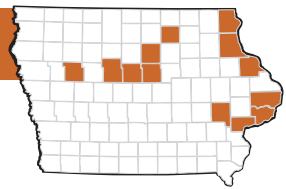
## Habitat

Prairie

## Appropriate practices

- Prescribed burns should not occur more frequently than every 5-7 years.
- Management areas should be broken into a minimum of three units units, with management occurring on a rotational basis to provide refuge.
- Burning adjacent burn units in consecutive years should be avoided.
- No more than 1/3 of a habitat area should be burnt, mown, hayed, or grazed at one time.

Endangered Animal Species



# Round pigtoe

Pleurobema sintoxia

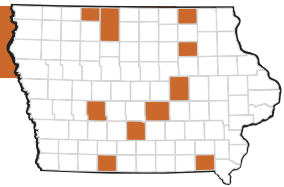
## Habitat

Medium to larger rivers in gravel or mixed sand and gravel.

## Appropriate practices

- Create buffers along water bodies to filter nutrients and sediment out of runoff before it reaches waterways. Buffers help cool water temperatures, too.
- Install riffles or other fish habitat components in areas where the mussel is not present.
- Limit the use of chemicals to control undesirable species.
- Limit new construction of dam structures and remove existing dam structures whenever possible.
- Create fish passageways over existing dams or other fish passage barriers.
- Limit dredging to previously disturbed areas or to areas of unsuitable habitat.

Endangered Animal Species



# Short-eared owl

Asio flammeus

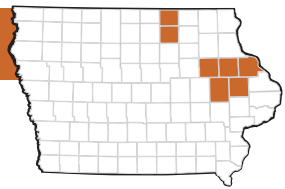
## Habitat

Large tracts of undisturbed, open grassland. Large complexes of grassland and wetlands are ideal.

## Appropriate practices

- Prescribed burns should be conducted no more than once every four years, and should not be done during the nesting season, April-July.
- Establish new tracts of grassland.
- Haying periodically will stimulate plant growth, but haying often will deter grassland use by short-eared owls.
- Limit or eliminate grazing.
- Restore wetlands to the greatest extent possible.
- Limit disturbing activities during the nesting season.

Endangered Animal Species



# Slippershell

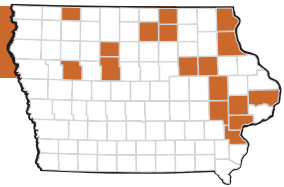
Alasmidonta viridis

## Habitat

Creeks and the headwaters of large rivers in sand, mud, or fine gravel. Slippershells require clean, clear water.

## Appropriate practices

- Implement proper upland management, such as contour farming and other soil erosion control practices.
- Install riffles or other fish habitat components in areas where the mussel is not present.
- Cease channelization.
- Limit new construction of dam structures and remove existing dam structures when feasible.
- Create fish passageways over existing dams or other fish passage barriers.
- Limit dredging to previously disturbed areas or to areas of unsuitable habitat.



# Slough sandshell

Lampsilis teres

## Habitat

Muddy sloughs and pond-like areas of rivers where the water moves slowly.

## Appropriate practices

- Implement proper upland management, such as contour farming and other soil erosion control practices.
- Install riffles or other fish habitat components in areas where the mussel is not present.
- Cease channelization.
- Limit new construction of dam structures and remove existing dam structures when feasible.
- Create fish passageways over existing dams or other fish passage barriers.
- Limit dredging to previously disturbed areas or to areas of unsuitable habitat.

# Spectaclecase

Cumberlandia monodonta

Ed Miller

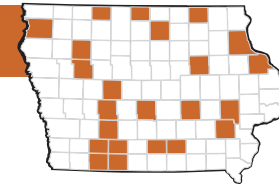
## Habitat

Large rivers with swiftly flowing water, among boulders in patches of sand, cobble, or gravel in areas where current is reduced.

## Appropriate practices

- Implement proper upland management, such as contour farming and other soil erosion control practices.
- Install riffles or other fish habitat components in areas where the mussel is not present.
- Cease channelization.
- Limit new construction of dam structures and remove existing dam structures when feasible.
- Create fish passageways over existing dams or other fish passage barriers.
- Limit dredging to previously disturbed areas or to areas of unsuitable habitat.

Endangered Animal Species



# Spotted skunk

Spilogale putorius

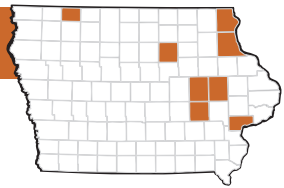
## Habitat

Prefer savanna habitat; areas with a combination of trees and grassland. Spotted skunks need rocky areas with coarse soils; and use rocky areas as den sites.

## Appropriate practices

- Create rock piles to be used as dens.
- Maintain mature trees and hollow logs in areas with rocky out-cropping or coarse sandy soil.
- Maintain brushy fence lines and other corridors between larger tracts of habitat.
- Include hay in crop rotations.

Endangered Animal Species



# Weed shiner

Notropis texanus

## Habitat

Riverine, slough, and lake habitats with sand bottom and slow or no current.

## Appropriate practices

- Implement proper upland management, such as contour farming and other soil erosion control methods.
- Create buffers along water bodies to filter sediment and nutrient runoff.
- Remove instream barriers that may interfere with fish passage.
- Minimize the use of agricultural chemicals.
- Control industrial pollution.

Endangered Animal Species

# Western hognose snake

Heterodon nasicus

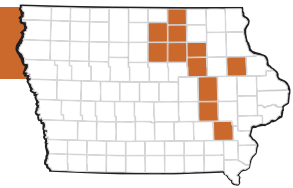
## Habitat

Very open areas of sand prairies and sand dunes with minimal cover.

## Appropriate practices

- Prescribed burns should be conducted to keep grassland habitat healthy. Avoid burning during the snake's active period (daytime average temperatures > 58 degrees F), roughly March-October.
- Remove encroaching woody species from sand dunes and grassland habitat.
- Establish grassland with a mix of tall grasses for shade and a high forb concentration to open up the grass stand for basking. Creating more grassland will help defragment existing tracts of grassland.

Endangered Animal Species



# Wood turtle

Glyptemys insculpta

## Habitat

From November through April wood turtles use rivers and streams with sandy or gravel bottoms; from May through October Wood turtles use grassland, lightly wooded areas, and agricultural field edges within 800 yards of river habitat. During summer, frequent trips to water are common, prompting movement through wooded or grassy corridors.

## Appropriate practices

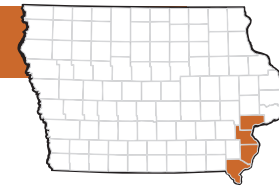
- Opening up woodland habitats should be done in certain cases, and mostly along forest/grassland edges.
- Remove woody species invading grassland habitat.
- Only burn when average night temperatures fall below freezing.
- Restore riparian forest buffers within 800 yards of streams to provide habitat and corridors between patches of riparian forest.
- Reconstruct prairie within 800 yards of river habitat.

Endangered Animal Species

# Yellow mud turtle

Kinosternon flavescens

*Tom Brennan*



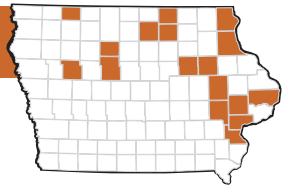
## Habitat

Shallow, often ephemeral bodies of water adjacent to soils of nearly pure sand. These turtles spend nine months of the year burrowed about 35 inches in the ground under pools of shallow water. Yellow mud turtles emerge between late May and early June and move to areas of sand adjacent to the water bodies to lay eggs. The species returns to the water, eating and breeding for the next few weeks and return underground by August.

## Appropriate practices

- Remove encroaching trees while turtles are inactive, between August-May.
- Excavation to the original depth may be necessary if critical breeding pools have silted in and no longer retain water during the breeding season.
- Remove woody vegetation within 60 meters of sandy nesting habitat during the turtles inactive season (daytime average temperatures < 58 degrees F).

Endangered Animal Species



# Yellow sandshell

Lampsilis teres anodontoides

No
Photo
Available

## Habitat

Medium to large rivers in sand or fine gravel.

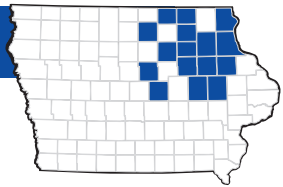
## Appropriate practices

- Implement proper upland management, such as contour farming and other soil erosion control practices.
- Install riffles or other fish habitat components in areas where the mussel is not present.
- Cease channelization.
- Limit new construction of dam structures and remove existing dam structures when feasible.
- Create fish passageways over existing dams or other fish passage barriers.
- Limit dredging to previously disturbed areas or to areas of unsuitable habitat.

Threatened Animal Species

# American brook lamprey

Lampetra appendix



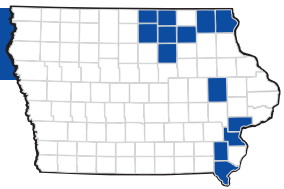
## Habitat

Small, high quality streams and mid-sized rivers.

## Appropriate practices

- Implement proper upland management practices, such as contour farming and soil erosion control methods.
- Avoid additional channel modifications for commercial navigation; allow, to the extent possible, natural river processes (e.g., meandering, sandbar formation) to occur.
- Remove instream barriers that may interfere with fish passage.
- Re-establish natural riparian vegetation.

Threatened Animal Species



# Baltimore checkerspot

Euphydryas phaeton

## Habitat

Seadge meadows and fens, as well as deciduous forest in extreme southeast Iowa.

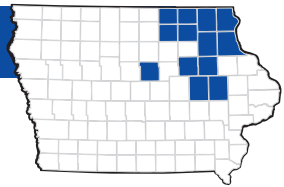
## Appropriate practices

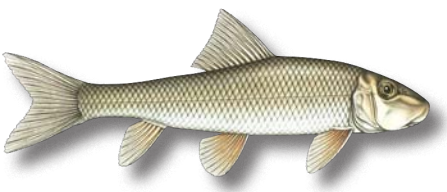
- Protect fens and sedge meadows with populations of turtlehead, which is the only first year food source for the caterpillars in northeast and east-central Iowa.
- Protect deciduous forest in extreme southeast Iowa with populations of yellow false foxglove, which may be the only first year food source for the caterpillars in this portion of Iowa.
- No more than 1/3 of a habitat area should be burnt, mown, or hayed at one time.
- Prescribed burns should not occur more frequently than every 5-7 years. Burning adjacent burn units in consecutive years should be avoided.

Threatened Animal Species

# Black redhorse

Moxostoma duquesnei





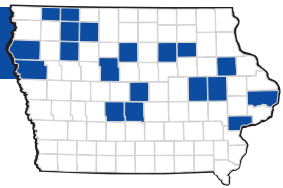
## Habitat

Require good water quality in mid-size streams with clean, coarse substrates with minimal disturbance of channel form or riparian vegetation.

## Appropriate practices

- Implement proper upland management practices, such as contour farming and other soil erosion control methods.
- Avoid additional channel modifications for commercial navigation; allow, to the extent possible, natural river processes (e.g., meandering, sandbar formation) to occur.
- Remove instream barriers that may interfere with fish passage.
- Re-establish natural riparian vegetation.

Threatened Animal Species



# Blacknose shiner

Notropis heterolepis

## Habitat

Small creeks in weedy shallow areas. It needs clean, clear, cool water.

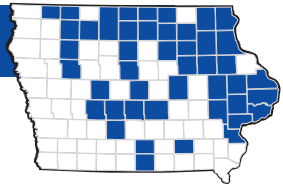
## Appropriate practices

- Plant tall, native grass buffers to filter runoff before it reaches the stream, and create shade to cool water.
- Remove instream barriers that may interfere with fish passage.
- Exclude cattle from streams, creeks, and rivers. Fencing out cattle will reduce bank erosion and allow for better establishment of grass buffer areas.

Threatened Animal Species

# Blanding's turtle

Emydoidea blandingii



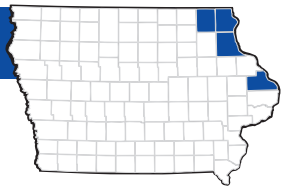
## Habitat

Inhabits large wetland complexes with slow-moving water, abundant vegetation, and a diversity of water depths and duration. Diverse vegetation is necessary to support populations. Suitable nesting sites include upland areas with well drained, sandy loam or sandy soils.

## Appropriate practices

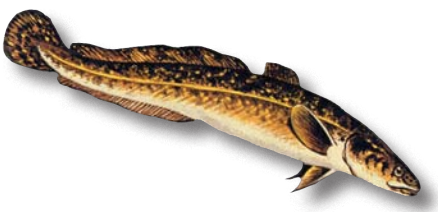
- Protect and restore wetlands with diverse vegetation and water depths, ranging from shallow sedge meadows to emergent marsh or open water areas ≥ 36" deep for overwintering.
- Restore uplands with suitable nesting areas less than 1/8 mile from wetlands, and with 60 percent grassland.
- During the turtles' inactive season (daytime average temperatures < 58 degrees F), remove encroaching woody species from grassland habitats and within a minimum of 60 meters of nesting areas.

Threatened Animal Species



# Burbot

Lota lota



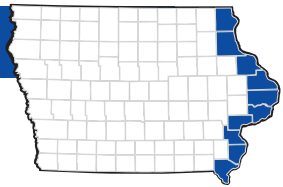
## Habitat

Require cold water to complete lifecycle. Burbots are characteristic of large, cold, deep, rivers with rocks, roots, or holes to find refuge under.

## Appropriate practices

- Implement proper upland management practices, such as contour farming and other soil erosion control methods.
- Avoid additional channel modifications for commercial navigation; allow, to the extent possible, natural river processes (e.g., meandering, sandbar formation) to occur.
- Remove instream barriers that may interfere with fish passage.
- Re-establish natural riparian vegetation.

Threatened Animal Species



# Butterfly

Ellipsaria lineolata

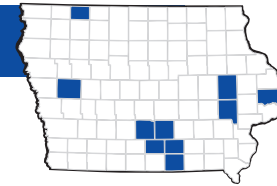
## Habitat

Found in large rivers in sand or gravel.

## Appropriate practices

- Implement proper upland management, such as contour farming and other soil erosion control practices.
- Install riffles or other fish habitat components in areas where the mussel is not present.
- Cease channelization.
- Limit further construction of impoundment structures and remove existing structures when feasible.
- Create fish passageways over existing dams or other fish passage barriers.
- Limit dredging to previously disturbed areas or to areas of unsuitable habitat.

Threatened Animal Species



# Byssus skipper

Problema byssus

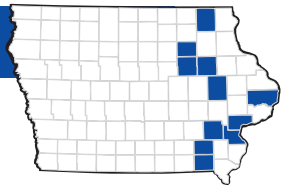
## Habitat

Tall grass prairie

## Appropriate practices

- Maintain prairie management techniques: mechanical tree removal, mowing, haying, grazing, prescribed burning.
- No more than 1/3 of a habitat area should be burnt, mown, or hayed at one time.
- Burn interval should be at least 5-7 years, and burning adjacent burn units in consecutive years should be avoided.
- Management techniques should be applied at various times of the year to eliminate continual impact of one stage of life.
- Caterpillars feed on grasses, such as eastern grama grass. Adults feed on nectar of forbs. When creating a new seeding, consider including forbs that bloom throughout mid-late summer to create a constant food source.
- The use of moderate to light grazing according to a prescribed grazing plan may provide habitat benefits in some circumstances.

Threatened Animal Species



# Central newt

Notophthalmus viridescens

## Habitat

Well-vegetated woodland ponds, roadside ditches and riverside pools.

## Appropriate practices

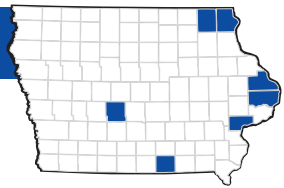
Newts have three stages of life - larvae, eft, and adult. Each of these stages has a different habitat requirement.

- Efts are terrestrial and require fallen logs, brush piles and other forest floor debris. These habitat elements should be provided.
- Adults and larvae are aquatic. Fishless woodland pools with abundant emergent vegetation need to be preserved. Woodland pools should hold water seasonally to semi-permanently to discourage fish inhabitance. Fish prey on newt eggs.

Threatened Animal Species

# Chestnut lamprey

Ichthyomyzon castaneus



## Habitat

Adults are parasitic on other fishes and are found in moderate-sized to large rivers. Larvae require a sand or muddy substrate in small streams. After an approximately 18-month lifespan, as adults, the chestnut lamprey come to spawn in smaller streams, and die shortly thereafter.

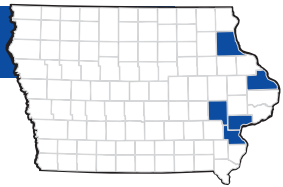
## Appropriate practices

- Create buffers around water bodies to filter out sediment and nutrients.
- Remove instream barriers that may interfere with fish passage.
- Educate anglers to the difference between the native lampreys and the exotic sea lampreys.

Threatened Animal Species

# Common musk turtle

Sternotherus odoratus



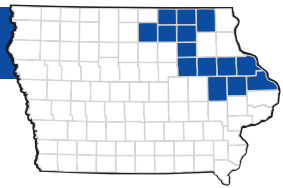
## Habitat

Permanent water streams, backwaters, and spring-fed ponds. Sandy uplands adjacent to the pools are used for nesting and over wintering.

## Appropriate practices

- Restore riparian wetlands whenever possible. These turtles need an abundance of clean open water.
- Maintain or recreate riparian habitats. Common musk turtles do not travel well across land and, therefore, are dependent upon riparian areas directly adjacent to water for successful nesting.
- Remove woody vegetation within 60 meters of sandy nesting habitat during the turtle's inactive season (day-time temperatures < 58 degrees F).

Threatened Animal Species



# Creek heelsplitter

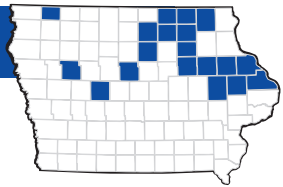
Lasmigona compressa

## Habitat

Creeks and the headwaters of small to medium rivers in fine gravel or sand.

## Appropriate practices

- Implement proper upland management, such as contour farming and other soil erosion control practices.
- Install riffles or other fish habitat components in areas where the mussel is not present.
- Limit further construction of impoundment structures and remove existing structures when feasible.
- Create fish passageways over existing dams or other fish passage barriers.
- Limit dredging to previously disturbed areas or to areas of unsuitable habitat.



# Cylinder

Anodontoides ferussacianus

## Habitat

Small creeks and the headwaters of larger streams in mud and sand.

## Appropriate practices

- Implement proper upland management, such as contour farming and other soil erosion control practices.
- Install riffles or other fish habitat components in areas where the mussel is not present.
- Cease channelization.
- Limit new construction of dam structures and remove existing dam structures when feasible.
- Create fish passageways over existing dams or other fish passage barriers.
- Limit dredging to previously disturbed areas or to areas of unsuitable habitat.

Threatened Animal Species

# Diamondback water snake

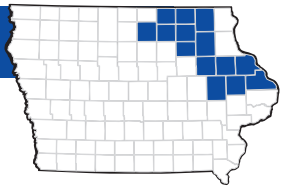
Nerodia rhombifer

## Habitat

Quiet pools, drainage ditches, and backwater sloughs with abundant basking sites. Overhanging vegetation appears to be important.

## Appropriate practices

- Management to control wood invasion and promote plant diversity should be conducted in grassland habitat outside of the snake's active season (daytime average temperatures < 58 degrees F).
- Habitat should be broken into a minimum of three management units, with no more than 1/3 of the available habitat disturbed in any given year.
- Remove encroaching woody species by cutting or herbicide treatment. These snakes avoid wetlands and ponds that are heavily wooded.
- Logs or other basking areas should be left alone or created.
- Establish new grassland areas.



# Ellipse

Venustaconcha ellipsiformis

## Habitat

Small to medium clear streams with mixed sand and gravel substrate.

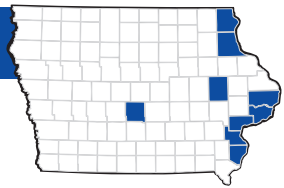
## Appropriate practices

- Implement proper upland management, such as contour farming and other soil erosion control practices.
- Install riffles or other fish habitat components in areas where the mussel is not present.
- Cease channelization.
- Limit further construction of impoundment structures and remove existing structures when feasible.
- Create fish passageways over existing dams or other fish passage barriers.
- Limit dredging to previously disturbed areas or to areas of unsuitable habitat.

Threatened Animal Species

# Grass pickerel

Esox americanus



## Habitat

Clear, shallow, densely vegetated waters of low gradient streams, springs, marshes, oxbows, overflow and pothole ponds. Grass pickerel prefer clear waters, particularly areas that have not been ditched, dredged or channelized. Grass pickerels avoid turbid or muddy water with silt bottoms.

## Appropriate practices

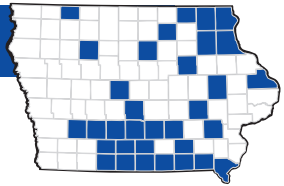
- Allow lowland/floodplain streams to meander naturally.
- Maintain integrity of existing and future floodplain wetlands.
- Remove instream barriers that may interfere with fish passage.
- Create buffers around water bodies to filter sediment and nutrient runoff.

Threatened Animal Species

# Henslow's sparrow

Ammodramus henslowii

Greg Lavaty



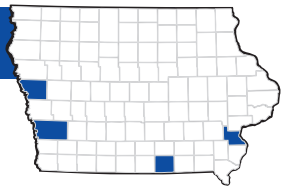
## Habitat

Tall, dense grass with a well-developed litter layer with little to no woody vegetation. These birds are primarily found in grasslands greater than 100 acres.

## Appropriate practices

- Prescribed burning to control woody vegetation. Burning should be limited to early spring and late fall. Leave plenty of grassland that has not been disturbed for about 10 years.
- Periodically remove woody vegetation.
- Haying should take place after the breeding season.
- Limit mowing until after the nesting season (Aug. 15).
- Avoid heavy grazing.

Threatened Animal Species



# Least shrew

Cryptotis parva

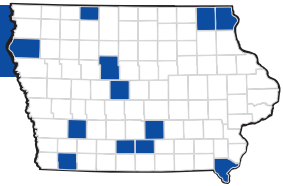
## Habitat

Tallgrass prairie and forest edge.

## Appropriate practices

- Prescribed fire is an important tool to control exotic invaders and the encroachment of woody species. Leave plenty of unburned vegetation to provide refuge. Burns should should be a minimum of three years apart.
- Remove encroaching woody vegetation.
- Establish native grasses and forbs in close proximity to known populations to create new habitat while minimizing fragmentation of existing habitat.

Threatened Animal Species



# Long-eared owl

Asio otus

## Habitat

Alternates time between dense woodland patches and adjacent grassland and prairie marshes. It typically nests and roots in thick stands of conifer trees. Ideally, the trees are rank and the limbs reach the ground. These owls are often found in windbreaks, tree farms, or tree plantings.

## Appropriate practices

- Establish grasslands or foraging adjacent to dense woodland patches for nesting.
- Protect large, old rank stands of cedar trees adjacent to woodland and grassland.
- Protect known winter roost sites from disturbance.
- Establish windbreaks using conifers in combinations with establishing adjoining grassland habitat.

Threatened Animal Species

# Midwest pleistocene vertigo

Vertigo hubrichti

*Jeff Nekola*

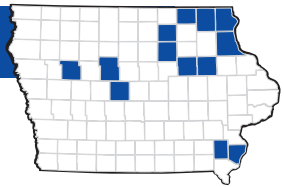
## Habitat

Cold, undisturbed, well-forested Algific slopes. Often found in or adjacent to cold air vents.

## Appropriate practices

- Fencing to exclude livestock.
- Do not spray pesticides aerially within 100 yards of known habitat or ground spray wthin 20 yards of known habitat.
- Buffer sink holes to prevent them from filing with sediment.
- Limit human access to areas known to harbor Midwest pleistocene vertigo.

Threatened Animal Species



# Mudpuppy

Necturus maculosus

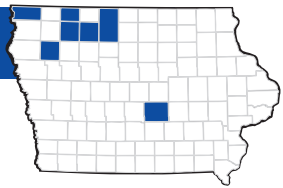
## Habitat

Medium to large rivers and lakes. Found in permanent water bodies at least three feet deep. Prefer to live on the floor of its aquatic habitat under sunken logs or rocks.

## Appropriate practices

- Install riparian buffers and erosion control practices to improve water quality.
- Cease use of chemicals for aquatic species control in mudpuppy spawning areas.
- Cease all collection of mudpuppies.
- Anglers should release mudpuppies if caught while fishing.
- Leave aquatic woody debris and other potential cover in place.
- Remove instream barriers that may interfere with fish passage.

Threatened Animal Species



# Mulberry wing

Poanes massasoit

## Habitat

Tallgrass meadows or marshes with sedges. Mulberry wings favor wetland habitats.

## Appropriate practices

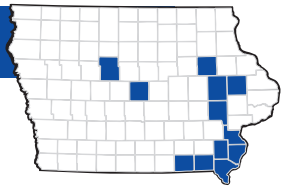
- Restore wetland habitat. These areas need to be a sedge component, which seems to be an important food source.
- No more than 1/3 of a habitat area should be burned at one time.
- Prescribed burns should not occur more frequently than every 5-7 years. Burning adjacent burn units in consecutive years should be avoided.

Threatened Animal Species

# Orangethroat darter

Etheostoma spectabile

Lance Merry



## Habitat

Prefer small to mid-sized, well-meandered streams and spring runs. These fish are usually associated with well-timbered riparian zones. Orangethroat darters are most tolerant of low flow and warmer water than most darter species found in Iowa.

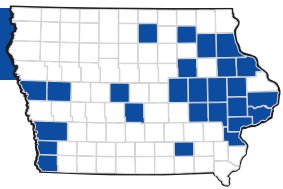
## Appropriate practices

- Avoid additional channel modifications for commercial navigation; allow, to the extent possible, natural river processes (e.g., meandering, sandbar formation) to occur.
- Re-establish natural timber riparian vegetation.
- Remove instream barriers that may interfere with fish passage.
- Protect areas with orangethroat darter populations from development.

Threatened Animal Species

# Ornate box turtle

Terrapene ornata



## Habitat

Sand for nesting and over wintering. Sand dunes need to be open, shifting and unstable. The rest of the year the turtles will use tallgrass prairie when available. Ornate box turtles prefer shrubs over short grass to keep cool. Ornate box turtles eat fruits, such as blackberries, wild strawberries, and wild plums.

## Appropriate practices

- Remove encroaching woody species from sand dunes, grassland habitat, and within 60 meters of sandy nesting habitats.
- Establish native grassland with a mix of tall grasses for shade and high forb concentration to open up the grass stands for basking.

Threatened Animal Species

# Poweshiek skipperling

Oarisma poweshiek

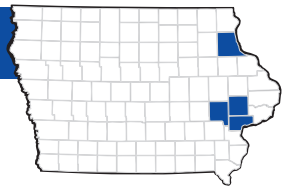
## Habitat

Undisturbed prairie remnants

## Appropriate practices

- Preserve prairies.
- Re-establish grassland habitat. Forb nectar is a very important food source for adults. When creating a new seeding, consider including forbs that bloom at all different times throughout the summer to create a constant food source for many different butterfly species.
- Fall burnings help promote forb growth. Do not burn areas more than every five years. Burn areas on a rotational basis to provide refuge. This species will not use an area that is grown up to trees.
- Do not disturb population areas regularly.

Threatened Animal Species



# Purple Pimpleback

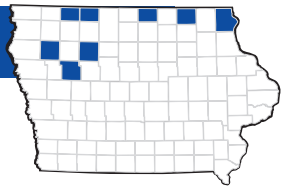
Cyclonaias tuberculata

## Habitat

Medium to large rivers in gravel or mixed sand and gravel.

## Appropriate practices

- Implement proper upland management, such as contour farming and other soil erosion control practices.
- Install riffles or other fish habitat components in areas where the mussel is not present.
- Limit further construction of impoundment structures and remove existing structures when feasible.
- Create fish passageways over existing dams or other fish passage barriers.
- Limit dredging to previously disturbed areas or to areas of unsuitable habitat.



# Silvery blue

Glaucopsyche lygdamus

## Habitat

Tallgrass prairie

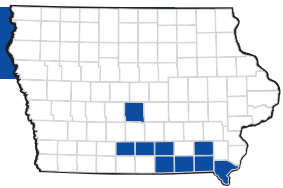
## Appropriate practices

- Preserve prairies.
- Re-establish grassland habitat. Caterpillars feed on prairie species in the pea family. Adults feed on nectar. Silvery blue feed on nectar from early spring through early summer.
- Remove woody vegetation to promote prairie grasses and forbs essential for Silvery blue butterflies.
- Fall burnings help promote forb growth. Do not burn areas more than every five years. Burn areas on a rotational basis to provide refuge. This species will not use an area that is grown up to trees.

Threatened Animal Species

# Slender glass lizard

Ophisaurus attenuatus



## Habitat

Oak savannas, sand prairies, and old fields.

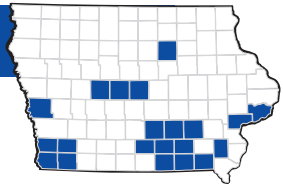
## Appropriate practices

- Prescribed fires help maintain healthy grassland habitat. Avoid burning during the active period (daytime average temperatures > 58 degrees F, April - October).
- Remove undesirable trees mechanically, instead of chemically. Limit the use of chemicals in areas used by the slender glass lizard.
- Limit insecticide use.

Threatened Animal Species

# Southern bog lemming

Synaptomys cooperi



## Habitat

Tallgrass prairie

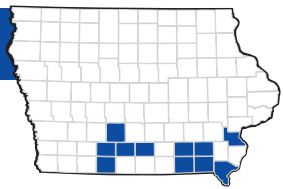
## Appropriate practices

- Prescribed fire is an important tool to control exotic invaders and the encroachment of woody species. Leave plenty of unburned vegetation to provide refuge. Burns should should be a minimum of three years apart.
- Remove encroaching woody vegetation.
- Establish native grasses and forbs in close proximity to known populations to create new habitat while minimizing fragmentation of existing habitat.

Threatened Animal Species

# Speckled kingsnake

Lampropeltis getua

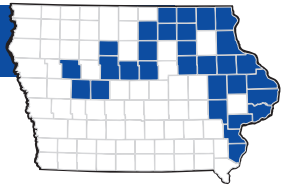


## Habitat

Large open areas of grassland.

## Appropriate practices

- Remove encroaching woody species while snakes are inactive by cutting and treating woody species.
- Prescribed burns should be conducted to keep grassland habitat healthy. Avoid burning during the active period (daytime average temperatures > 58 degrees F). Limit burning to every 3-5 years.



# Strange floater

Strophitus undulatus

## Habitat

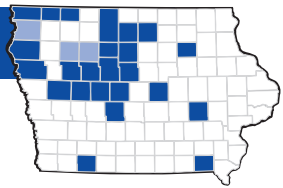
Small to medium clear streams and occasionally in large rivers. Strange floaters can be found in mud, sand, and gravel.

## Appropriate practices

- Implement proper upland management, such as contour farming and other soil erosion control practices.
- Install riffles or other fish habitat components in areas where the mussel is not present.
- Cease channelization.
- Limit further construction of impoundment structures and remove existing structures when feasible.
- Create fish passageways over existing dams or other fish passage barriers.
- Limit dredging to previously disturbed areas or to areas of unsuitable habitat.

Threatened Animal Species

Federally Endangered



# Topeka shiner

Notropis topeka

*Kraig McPeek, USFWS*

## Habitat

Prairie streams with stable stream channels. Also found in off-channel oxbows with sandy or gravel bottoms.

## Appropriate practices

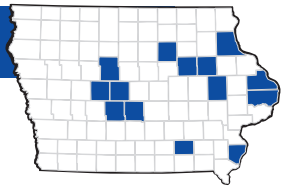
- Limit new construction of dam structures and remove existing dam structures whenever possible. Create fish passageways over existing dams.
- Restore stream channels.
- Implement upland management practices, such as contour farming and other soil erosion control methods.
- Re-establish grassy riparian corridors.
- Maintain oxbows and, in some cases, excavation to the original depth may be necessary if critical breeding pools have silted in and no longer retain adequate water depth or duration.
- Remove instream barriers that may interfere with fish passage.

Threatened Animal Species

# Western sand darter

Ammocrypta clara

Konrad P. Schmidt



## Habitat

Prefer large streams or rivers with slight to moderate current with a sandy bottom.

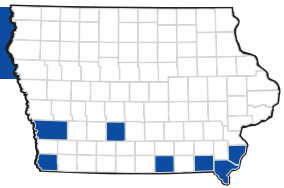
## Appropriate practices

- Create buffers along water bodies to filter sediment and nutrients out of runoff.
- Improve management of nutrients and reduce nutrient delivery to streams and rivers.
- Allow streams and rivers to meander naturally.
- Remove instream barriers that may interfere with fish passage.

Threatened Animal Species

# Western worm snake

Carphophis amoenus



## Habitat

Damp woodland areas along streams with fallen logs or other debris. Western worm snakes spend most of their time below ground and, therefore, are rarely ever seen.

## Appropriate practices

- Maintain woodlands in areas known to harbor western worm snakes.
- Maintain fallen debris in woodland areas.
- Limit grazing within woodland areas.

USDA NRCS

**United States Department of Agriculture**

Natural Resources Conservation Service