



MINNESOTA ZOO

Field Guide

to local plants & wildlife



MINNESOTA ZOO

how to use this guide

Welcome to the Minnesota Zoo grounds! The Zoo campus is teeming with flora and fauna native to Minnesota—and not just the ones on exhibit! You can use this guide while walking the Zoo trails or back roads.

There's more than one way to identify many of the organisms in this guide. For plants, look at leaves as well as bark, seeds, and flowers. For animals, look for tracks and scat left behind, and notice how the animal moves or what sounds it makes. See how many plants and animals you can identify using these different clues! Test your skills with the Zoo Scavenger Hunt at the end of this guide.

Remember to be calm and patient when you're looking for wildlife. If you're quiet and still, you will be much more likely to see animals.

See page 42 for additional species identification resources.

GOOD LUCK AND HAVE FUN!

References

Tree descriptions and information adapted from:

Trees of Minnesota, Stan Tekiela, Adventure Publications, Cambridge, MN: 2001.

Bird descriptions and information adapted from: *Sibley Birds East*, David Allen Sibley.

Knopf, New York: 2016. And Cornell Lab of Ornithology's www.allaboutbirds.org

Mammal descriptions and information adapted from:

MN DNR *Mammals of Minnesota* website:

<http://www.dnr.state.mn.us/mammals/index.html>

Mammal Tracks Image Sources:

MN DNR *Mammals of Minnesota* website:

<http://www.dnr.state.mn.us/mammals/index.html>

Reptile and Amphibian descriptions and information adapted from: MN DNR *Reptiles and*

Amphibians of Minnesota website:

http://www.dnr.state.mn.us/reptiles_amphibians/index.html

<http://www.extension.umn.edu/garden/yard-garden/fruit/wild-and-edible-fruits-of-minnesota/>

Wildflower, shrub and fern information from: *Minnesota Wildflowers, A Guide to the Flora of*

Minnesota website:

<https://www.minnesotawildflowers.info/>

Images are from various online sources, found with Google Image search engine

Additional Resources Online

Plant Identification

MN DNR Guide:

http://files.dnr.state.mn.us/forestry/ecssilviculture/npc_plantID.pdf

Bird Identification

Cornell Lab of Ornithology's All About Birds Website:

<https://www.allaboutbirds.org/>

Audubon Minnesota: <http://mn.audubon.org/birds>

MN DNR: <http://www.dnr.state.mn.us/birds/index.html>

Reptile & Amphibian ID

MN DNR Guide:

http://www.dnr.state.mn.us/reptiles_amphibians/index.html

Amphibian & Reptile Survey of Minnesota:

<http://mnherps.com/>

Mammal ID

MN DNR Guide: <http://www.dnr.state.mn.us/mammals/index.html>

Rare Species Guide

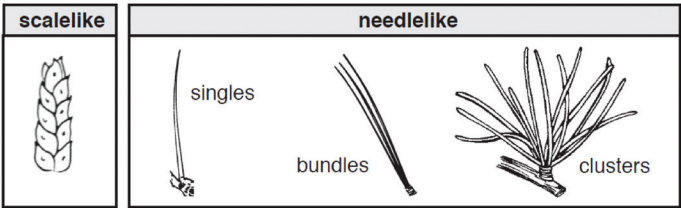
<http://www.dnr.state.mn.us/rsg/index.html>

table of contents

How to Use This Guide.....	2
PLANTS.....	4
Deciduous Trees	5
Coniferous Trees	10
Shrubs, Ferns and Vines.....	12
Wildflowers.....	15
ANIMALS.....	18
Birds	19
Mammals.....	30
Reptiles	34
Amphibians.....	35
Insects	37
Invasive Species.....	38
Zoo Grounds Scavenger Hunt.....	40
Additional Resources	42
References	43

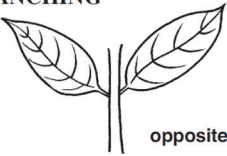
Plant Terminology Guide

CONIFEROUS LEAVES

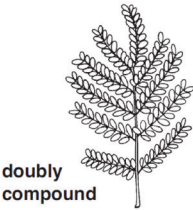
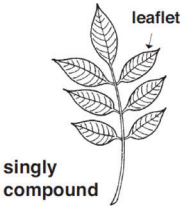


DECIDUOUS LEAVES

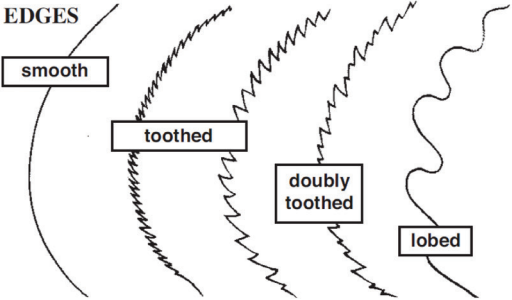
BRANCHING



LEAVES



LEAF EDGES



Zoo Grounds Scavenger Hunt: KEY

Let's compare our lists! This is what I found—did you get all of these too? What did you find that I missed?

(Note—there will be some seasonal variation!)

Location A: Eastern White Cedar, Douglas Fir, Red Maple, American Elm
Northern Pin Oak, Quaking
Aspen, Box Elder, Dogwood, Virginia Creeper

Location B: Ginkgo, Kentucky Coffee Tree, Ohio Buckeye, White Oak, Buck-
thorn, Pin Oak, Paper Birch, American Elm, Wild Grape

Location C: Red Pine, Red Cedar, White Cedar, Douglas Fir, Colorado Blue
Spruce, Bur Oak, Quaking Aspen, Cottonwood, Sumac, Wild Grape, Yarrow

Zoo Grounds Scavenger Hunt

Test your new skills! Choose one of the locations below and head out, trusty field guide in hand. How many plant species can you find and identify?

Once you have your list, turn to the next page to compare your list to ours. How many did you correctly identify?

Location A: Between the Central Plaza splash pad and the Tiger Lair Entrance

Location B: Between the East Gate and the Upper Plaza (top of the snow monkey ramp)

Location C: Between the Takin and Bison Exhibits on the Northern Trail

Deciduous Trees

AMERICAN ELM

- Simple, alternate; Fall color: yellow; Height: 70–100'
- Asymmetrical leaf base, double-toothed leaf margin



QUAKING ASPEN

- Simple, alternate; Fall color: yellow; Height: 40–70'
- Smooth white to cream colored bark, fine-toothed leaf margins



PAPER BIRCH

- Simple, alternate; Fall color: yellow; Height: 40–60'
- Light bark with dark horizontal lines, often peeling



NORTHERN PIN OAK

- Alternate, lobed; Fall color: deep red/brown; Height: 40–60'
- Narrow lobes, deep spaces between end in point



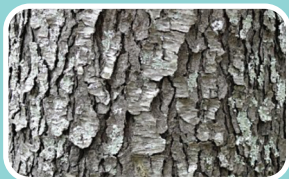
RED OAK

- Alternate, lobed; Fall color: red/brown; Height: 50–70'
- Lobes end in pointed tips, less space between lobes compared to Pin Oak



BLACK CHERRY

- Bark with large curving scales; Height: 50–70'
- Simple, alternate; Fall color: yellow
- Leaf with inward curved tip, fine-toothed margin



COMMON BURDOCK

- Thistle-like pink flowers; Alternate; hairy, heart-shaped leaves



RUSSIAN OLIVE

- Alternate, simple; Long, narrow leaves; Height: 10-20'



Invasive Species

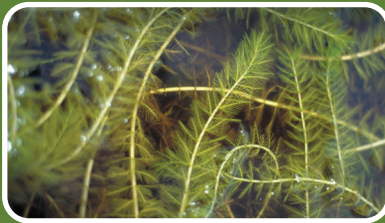
According to the Minnesota Department of Natural Resources (DNR), "Invasive species are species that are not native to Minnesota *and* cause economic or environmental harm or harm to human health."

EUROPEAN BUCKTHORN

- Opposite, finely toothed leaves, thorns; Height: 10-20'



EURASIAN WATERMILFOIL (AQUATIC)



SILVER MAPLE

- Lobed, opposite; Fall color: yellow/orange; Height: 75-100'
- Underside of leaf very light in color, double-toothed margin
- Bark with long, scaly strips



← Maple seeds

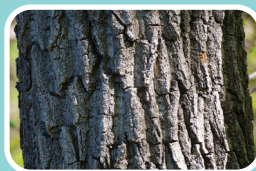
SUGAR MAPLE

- Lobed, opposite; Fall color: red/orange; Height: 50-70'
- Underside of leaf more similar to top in color



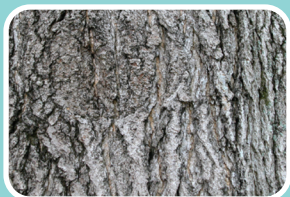
EASTERN COTTONWOOD

- Simple, alternate; Fall color: yellow; Height: 70-100'
- Coarse-toothed leaf margins and flat leafstalks



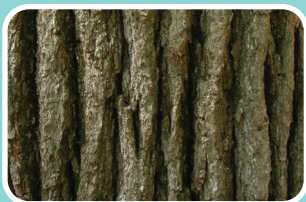
GINKGO

- Simple, alternate; Fall color: yellow; Height: 40-60'
- Fan-shaped leaf



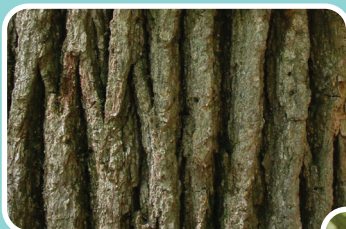
WHITE OAK

- Alternate, lobed; Fall color: red brown; Height: 50-70'
- 5-9 rounded lobes



BUR OAK

- Alternate, lobed; Fall color: yellow/brown; Height: 50-80'
- 7-9 rounded lobes, last lobe usually largest



Oak seeds
(acorns)



Insects

MONARCH BUTTERFLY



RED ADMIRAL



BLACK SWALLOWTAIL



PEARL CRESCENT



CABBAGE WHITE



EASTERN TAILED BLUE



SPRING PEEPER

- Tan with brown X on back, 0.75–1.25 inches
- Short, high *peep* call



GRAY TREE FROG

- Green to gray to white (can change color), 1.25–2 inches
- High musical trill call



WOOD FROG

- Black marks behind eyes, 2–3 inches
- *Quack*-like call



EASTERN TIGER SALAMANDER

- Dark body, brown to yellow spots, long tail



KENTUCKY COFFEE TREE

- Doubly compound, alternate
- Fall color: yellow; Height: 40-60'
- Up to 70 leaflets, large leathery seed pods



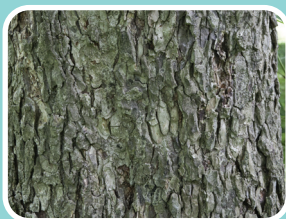
BOX ELDER

- Opposite, compound leaf with 3-5 leaflets; Fall color: yellow
- Height: 30-50'



OHIO BUCKEYE

- Compound palmate, opposite; Fruit in spiny capsules
- Fall color: yellow/orange; Height: 20-40'



Coniferous Trees

COLORADO SPRUCE

- Single needles, square cross-section; Height: 40-60'



DOUGLAS FIR

- Flat needles, arranged spirally on twig; Height: 50-70'



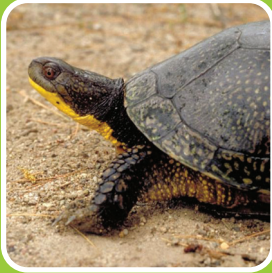
TAMARACK

- Clustered needles, 12-30 per cluster; Height: 40-70'



BLANDING'S TURTLE

- Black with three yellow stripes down back and sides; up to 3 feet



SPINY SOFTSHELL TURTLE

- Gray/brown body, red/orange belly; 8-10 inches long



Amphibians

AMERICAN TOAD

- Brown or reddish brown warty skin; 2-3 inches
- Long, musical trill call



NORTHERN LEOPARD FROG

- Green with dark spots; 3-5 inches
- Call is long snore ending with chuck-chuck-chuck



Reptiles

COMMON GARTER SNAKE

- Black with three yellow stripes down back and sides; up to 3 feet



RED BELLIED SNAKE

- Gray/brown body, red/orange belly; 8-10 inches long



WESTERN PAINTED TURTLE

- Plastron (underside of shell) is red with black patterns; yellow stripes on head and legs; 7-10 inches long



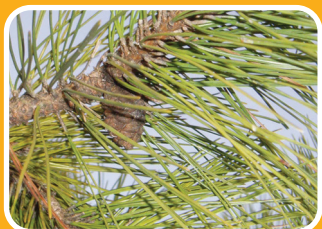
SNAPPING TURTLE

- Gray, brown or green color
- Long tail with raised scales, strong jaws, shell 8-14 inches



RED PINE

- Bundles of needles, 2 per bundle
- Height: 40-80'



WHITE PINE

- Bundles of needles, 5 per bundle
(hint: 5 letters in W-H-I-T-E)
- Height: 70-100'



RED CEDAR

- Scaly needles, blue berry-like cones
- Height: 25-50'



WHITE CEDAR

- Scaly needles, woody cones
- Height: 30-50'



Shrubs, Ferns and Vines

FIELD HORSETAIL

- "Leaves" are rounded sheaths surrounding central stem
- 6-24 inches tall, found in moist woods, ditches



LADY FERN

- Doubly compound, leaflets rounded
- 16-40 inches tall, found in moist woods, near stream banks



GOOSEBERRY

- Prickly shrub, 2-5 ft tall
- Lobed leaves, round fruit



RASPBERRY

- Prickly shrub, 1-5 ft tall
- Compound leaves, toothed leaflets



Mammal Tracks

EASTERN COTTONTAIL



ERMINE



GRAY SQUIRREL



BEAVER



MUSKRAT



STRIPED SKUNK



COYOTE



RED FOX



STRIPED SKUNK

- Black with white stripe on face, two white stripes down back, bushy tail



ERMINE

- (a.k.a. short-tailed weasel)
- Black tipped tail, body white in winter, brown in summer



COYOTE

- Bushy tail, white throat and belly



RED FOX

- Some color variation, but usually Rust colored coat, black legs, white tip of tail



SUMAC

- Bright red fruit, compound leaves with 11-31 leaflets
- Height: 10-20'



DOGWOOD

- Bright red bark in winter; Height: 25-35'



COMMON PRICKLY-ASH

- Compound, alternate; 5-11 leaflets; wide, sharp thorns
- Fall color: yellow; Height: 5-15'



WILD GRAPE

- Vine, will grow on other trees, shrubs



POISON IVY

- Compound, 3 leaflets per leaf, short woody stem



VIRGINIA CREEPER

- Compound, 5 leaflets per leaf, vine



BEAVER

- Wide, paddle-like tail



MUSKRAT

- Long, almost hairless tail
- Smaller than beaver



VIRGINIA OPOSSUM

- White face, hairless ears and tail



RACCOON

- Bushy ringed tail, black eye "mask"



Mammals

GRAY SQUIRREL

- Gray is twice the size of the red squirrel



RED SQUIRREL

- Both the gray squirrel and red squirrel have white bellies



EASTERN CHIPMUNK

- Alternating dark and light stripes



EASTERN COTTONTAIL RABBIT

- White tail, belly, chin, and inner legs



Wildflowers

SHINING BEDSTRAW

- 4 white petals with pointed tips
- Whorled leaves in groups of 6



CROWN VETCH

- *Invasive, Non-Native Species*
- Pink flower clusters (up to 25)



COMMON BLUE VIOLET

- Flowers with 5 rounded petals
- Heart-shaped leaves with rounded teeth



YELLOW VIOLET

- Flowers with 5 yellow petals, brown lines near petal base



WILD STRAWBERRY

- 5 white petals; palmate, compound leaves in groups of 3



FALSE RUE ANEMONE

- 5 white petals; leaves deeply lobed, doubly compound



TRILLIUM

- Flowers with 3 elliptical petals
- Whorled of 3 leaves near flower



WILD GERANIUM

- 5 pink/lavender petals
- Leaves have 3-7 deep lobes



BALD EAGLE

- Juvenile has white on belly, dark head
- Adult has white head, yellow beak. Usually found near water (lakes, rivers)



PEREGRINE FALCON

- Pointed wing shape; underside of wings spotted; gray cheek/top of head



AMERICAN KESTREL

- Male has blueish gray wings, red back with black bars; female duller colors
- Male and female have several face markings



Raptors

GREAT HORNED OWL

- Large ear tufts, tips of wings barred



BARRED OWL

- Coarse vertical bars on chest



RED-TAILED HAWK

- Reddish Brown tail feathers, dark head



BLOODROOT

- Flowers with 8-10 white petals;
- leaves with 3-9 round lobes



AMERICAN YELLOW ROCKET

- Clustered yellow flowers with 4 petals; deeply lobed leaves



YARROW

- Clusters of white flowers at stem tip
- Flowers with 4-6 notched petals;
- Feathery, fern-like leaves



Animals

INTRODUCTION TO BIRDS

The birds in this field guide have been placed into five different categories based on how they move or what they eat. The categories are swimming birds, wading birds, perching birds, walking birds, and raptors.

- **Swimming birds:** Webbed or lobed feet
- **Wading birds:** Long legs, flat feet
- **Walking birds:** Flat feet
- **Perching birds:** Grasping feet
- **Raptors:** Strong hooked beak, long talons

If male and female individuals of a species have different coloration (this is called sexual dimorphism), that has been noted in the guide with the symbols ♀ (female) and ♂ (male).

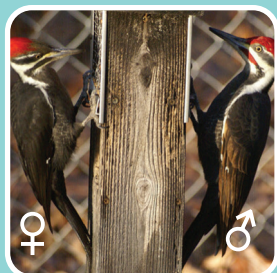
Note that some birds also have seasonal changes in pigmentation and sometimes juveniles will look different from adults (almost all of the pictures in the guide are of adults). A more comprehensive field guide will have seasonal and juvenile pictures. Additionally, many Minnesota bird species migrate, so not all of the birds in this guide will be here year-round.

Here are some tips on identifying birds:

- Pay attention to shape: body shape, beak shape, wing shape
- Pay attention to behavior & location: What is the bird doing? Where is it located (ex. On the edge of a lake, in a tree, on the ground)?
- Get a good look at the bird before trying to flip through the field guide (the bird will probably fly away while you are flipping)

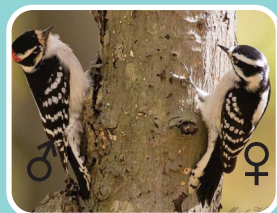
PILEATED WOODPECKER

- Male has red mustache, male and female have red crest



DOWNY WOODPECKER

- White patch on back, male has red on back of head



Walking Birds

WILD TURKEY

- Large, plump bird; Males have bare pink and blue head



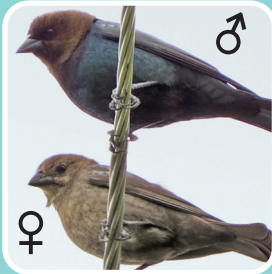
Male in display



Male "beard" hangs from chest

BROWN-HEADED COWBIRD

- Male with black body, green gloss
- Female gray-brown with fine streaks



RED-WINGED BLACKBIRD

- Male black body with red wing patch
- Female brown and streaky with red patch



COMMON GRACKLE

- Long, heavy bill, iridescence (female less iridescent than male)



EUROPEAN STARLING

- *Non-Native Species*
- Yellow beak, iridescent body



Wading Birds

GREAT EGRET (AMERICAN EGRET)

- Long neck, long tail plumes, thin yellow bill



GREAT BLUE HERON

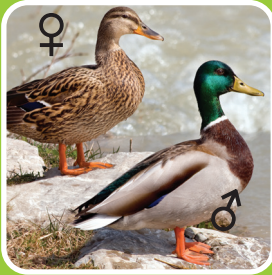
- Black head plumes, two-toned upper wing



Swimming Birds

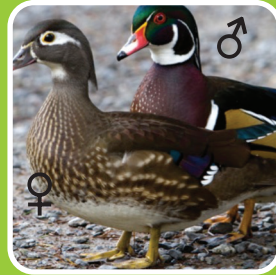
MALLARD

- Male has dark head, white neck ring, female is pale brown



WOOD DUCK

- Male has drooping head crest, female has white around eye



TRUMPETER SWAN

- Straight, long bill; rounded back



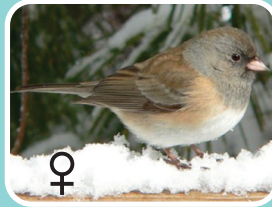
CANADA GOOSE

- Pale colored breast, white across cheeks and chin



DARK EYED JUNCO

- White underside; Male gray wings, head
- Female brown wings, gray hood



MOURNING DOVE

- Gray-brown with black spots, long tail



ROCK DOVE

- Variable plumage, usually two black bars



AMERICAN CROW

- Black overall color; heavy, straight bill



HOUSE SPARROW

- Male with black breast, bill



SONG SPARROW

- Coarse, red-brown markings



CHIPPING SPARROW

- Reddish crown, dark eye stripe



YELLOW-RUMPED WARBLER

- White throat, dark around eyes



Perching Birds

AMERICAN GOLDFINCH

- Male has black forehead



BLACK CAPPED CHICKADEE

- *chickadee dee dee* call



AMERICAN ROBIN

- Thin yellow beak, male has dark head



BLUE JAY

- Dark "necklace," crest on head



NORTHERN CARDINAL

- Male is bright red overall, males and females have red beaks



EASTERN BLUEBIRD

- Male is more brightly colored; male and female have white bellies



TREE SWALLOW

- Long tail; male has iridescent blue-green back



BARN SWALLOW

- Long tail; female with orange throat; male orange underside



BALTIMORE ORIOLE

- Male is orange with black head, white wing markings
- Female duller orange, mottled orange/gray head



HOUSE WREN

- Thin, slightly curved bill, darker on back than belly



EASTERN PHOEBE

- Dark head, tail; white-yellow belly

