

# FISH AND WILDLIFE MANAGEMENT CAREER DEVELOPMENT EVENT

Revised 7/20

The Fish and Wildlife CDE will consist of three parts:

Individual Identification- 50 specimens @ 8 points each	400 points
Individual Exam- 50 questions @ 5 points each	250 points
Individual current issue activity- up to 25 questions	50 points

Total possible team score- 3 Individual scores (700 points possible) 700 X 3 = 2100 points

Total points for each contestant will be 700 points. Each contestant will work individually and will be scored individually. The top three individual scores of the four person team will be added to get the total team score. Contestants will get 38 minutes (45 seconds per sample) to complete each section of the CDE (ID, exam, and current issue activity)

## I. Identification

The CDE will consist of identification of ten specimens in each of the five groups — (1) Insects, (2) Birds, (3) Mammals, (4) Fish, and (5) Reptile & Amphibians. All specimens will be selected from the following list of Minnesota (insects, birds, mammals, fish and reptile & amphibians. Eight points will be given for each correct answer on identification, a possible maximum of 400 points for this section.

### Fish and Wildlife Identification List

#### Insects (54 Species)

Alderfly	Emerald Ash Borer	Polyphemus Moth
Aphids	Firefly	Predacious Diving Beetle
Assassin Bug	Giant Ichneumon	Red Admiral
Backswimmer	Giant Water Bug	Robber Fly
Black and Yellow Mud Dauber	Grasshopper	Rove Beetle
Blow Fly	Ground beetle	Soldier Beetle
Boxelder Bug	Gypsy Moth	Sphinx Moth
Bumble Bee	Honey Bee	Springtail
Caddisfly	House Fly	Stink Bug
Carpenter Ant	June Beetle	Stonefly
Cecropia Moth	Katydid	Syrphid fly
Cicada	Lacewing	Two-Lined Chestnut Borer
Crane Fly	Lady Beetle	Viceroy
Damselfly	Long-Horned Beetle	Water Strider
Deer Fly	Mayfly	Weevil
Dobsonfly	Midge	Whirligig Beetle
Dragonfly	Monarch	Woods Cockroach
Elm Sawfly	Mosquito	Yellowjacket

## **Birds (56 Species)**

### **Non-Game Birds**

American Kestrel  
Bald Eagle  
Barred Owl  
Black Capped Chickadee  
Blue Jay  
Broad-Winged Hawk  
Common Loon  
Common Snipe  
Cooper's Hawk  
Crow  
Double Crested Cormorant

Eastern Bluebird  
Grackle  
Great Blue Heron  
Great Egret  
Great Horned Owl  
House Sparrow  
Mourning Dove  
Northern Harrier  
Northern Saw-Whet Owl  
Northern Cardinal  
Osprey

Purple Martin  
Red-Tailed Hawk  
Red-Winged Blackbird  
Robin  
Sandhill Crane  
Screech Owl  
Sharp-Shinned Hawk  
Starling  
Trumpeter Swan  
Turkey Vulture

### **Game Birds**

American Coot  
American Widgeon  
Blue-Winged Teal  
Canada Goose  
Canvasback  
Crow  
Gadwall  
Green-Wing Teal

Greater Prairie Chicken  
Lesser Scaup  
Mallard  
Northern Pintail  
Northern Shoveler  
Redhead  
Ring-Necked Duck  
Ring-Necked Pheasant

Ruddy Duck  
Ruffed Grouse  
Sharp-Tailed Grouse  
Spruce Grouse  
Snow Goose  
Woodcock  
Wood Duck  
Wild Turkey

## **Mammals (48 Species)**

Badger  
Beaver  
Black Bear  
Bobcat  
Cougar  
Coyote  
Deer Mouse  
Eastern Mole  
Eastern Chipmunk  
Eastern Cottontail  
Elk  
Ermine  
Fisher  
Flying Squirrel  
Fox Squirrel  
Franklin's Ground Squirrel

Gray Fox  
Gray Squirrel  
Gray Wolf  
House Mouse  
Jackrabbit  
Jumping Mouse  
Little Brown Myotis  
Long-Eared Bat  
Meadow Vole  
Mink  
Moose  
Muskrat  
Northern Grasshopper Mouse  
Norway Rat  
Pine Marten  
Pocket Gopher

Porcupine  
Raccoon  
Red Fox  
Red Squirrel  
Red-Backed Vole  
River Otter  
Shrew  
Snowshoe Hare  
Spotted Skunk  
Star-Nose Mole  
Striped Skunk  
13-Lined Ground Squirrel  
Virginia Opossum  
White Footed Mouse  
Whitetail Deer  
Woodchuck

## **Fish (39 Species)**

Bigmouth Buffalo  
Black Crappie  
Bluegill Sunfish  
Bowfin  
Brook Trout  
Brown Trout  
Bullhead  
Burbot  
Channel Catfish  
Chinook Salmon  
Cisco  
Coho Salmon  
Common Carp

Creek Chub Minnow  
Darter  
Fathead Minnow  
Flathead Catfish  
Freshwater Drum  
Green Sunfish  
Lake Sturgeon  
Lake Trout  
Largemouth Bass  
Long-Nose Gar  
Muskellunge  
Northern Pike  
Paddlefish

Pumpkinseed Sunfish  
Rainbow Trout  
Rock Bass  
Sauger  
Sea Lamprey  
Shiner Minnow  
Smallmouth Bass  
Smelt  
Walleye  
White Crappie  
White Sucker  
Whitefish  
Yellow Perch

## **Reptile & Amphibians (25 Species)**

American Toad  
 Blue Spotted Salamander  
 Boreal Chorus Frog  
 Bull Snake  
 Canadian Toad  
 Common Garter Snake  
 Eastern Hognose Snake  
 Eastern Red-Backed Salamander

Gray Tree Frog  
 Great Plains Toad  
 Green Frog  
 Milk Snake  
 Mink Frog  
 Mudpuppy  
 Northern Leopard Frog  
 Northern Map Turtle  
 Painted Turtle

Prairie Skink  
 Six-Lined Racerunner  
 Snapping Turtle  
 Spiny Soft-Shell Turtle  
 Spring Peeper  
 Tiger Salamander  
 Timber Rattlesnake  
 Western Fox Snake

**Identification will consist of 10 samples in each of the five areas.**

1. Specimens must not be handled by contestants unless protected in tubes or boxes. If very small insects are used, they may be mounted under a binocular microscope. All specimens will be represented by study specimens or photographs. The ducks can be either male or female.
2. Scientific names will not be used in the identification and written portion of the CDE, but the correct common name as used in the above lists must be given.

**II. Exam**

There will be a written test consisting of 10 questions on each of the five ID groups. The written questions will be scored five points for each correct answer – 250 points possible for the written exam.

1. The written part will be objective questions on such items as: nesting, feeding, habitat, game laws, identifying features, etc. (for bird, mammal, fish section) and biology (e.g. where they live, what they eat), life cycle, identifying features, and ecological importance, including impact on humans (insect section). Hunting Safety/Regulations, Fishing/Ice Fishing/Spearing Safety & Regulations Trapper Safety & Regulations, History & Legislation of Wildlife Management

Please see suggested references. The questions must pertain to above listings only.

**III. Current Issue Individual Activity**

The current issue activity will look at real world applications and what is happening currently in the Fish and Wildlife Industry. The current issue activity will be up to 25 questions worth 50 points.

1. Each individual will work on the current issue activity individually. The team activity will have specific reference material posted for that year.

2018	Invasive species	2022	Wildlife Diseases
2019	Limnology/ Water quality	2023	Technology Used in Wildlife Mgt.
2020	Population Dynamics & Management	2024	Wildlife Nuisances & Depredation
2021	Environmental Analysis/Species of special concern	2025	Biological Indicators in Habitat Monitoring

**IV. Tiebreakers**

If individuals or teams have a final tie score, the tie will be broken in this order.

1. Identification score
2. Exam score
3. Current Issue score

**IV. Additional Information**

1. Computer scan sheets will be used for this CDE. Form number 105482 will be used. Refer to the CDE rules link for a sample.
2. Official Dress or appropriate FFA attire is required. Refer to Rule 1-A-5 in General CDE/LDE Rules and Procedures

3. The following are the recommended references for the CDE but similar titled references will provide the needed information.

## V. References:

### **Insect References Primary**

Insects of the North Woods Jeff Hahn Adventure Publications 820 Cleveland Street South Cambridge, MN 55008

### **Supplementary**

National Wildlife Federation Field Guide to Insects and Spiders & Related Species of North America (National Wildlife Federation Field Guide). 2007. Arthur V.Evans. 496 pp.

### **Bird References Primary**

Birds of Minnesota and Wisconsin, Robert Janssen, Daryl Tessen, Gregory Kennedy, 2003, Lone Pine Publishing

### **Supplementary**

Peterson Field Guide Series. Number 1.

Ducks at a Distance: A Waterfowl Identification Guide, 1978, U.S. Department of the Interior.

Supt. of Documents; Washington, D.C.

Free download at <http://www.gutenberg.org/files/18884/18884-h/18884-h.htm>

### **Mammal References Primary**

Mammals of Minnesota, Evan B. Hazard, 1982, University of Minnesota Press.

### **Supplementary**

Mammals of Minnesota Web Page <http://www.dnr.state.mn.us/mammals/index.html> Minnesota DNR

Mammals of Minnesota-Field Guide Stan Tekeila Adventure Publications 820 Cleveland Street South Cambridge, MN55008

### **Fish References Primary**

Fish of Minnesota Field Guide, Dave Bosanko, 2007, Adventure Publications

### **Supplementary**

Minnesota DNR Webpage "Fish of Minnesota" <http://www.dnr.state.mn.us/fish/index.html>

### **Herpetology References Primary**

Minnesota DNR Webpage "Reptiles & Amphibians" [http://dnr.state.mn.us/reptiles\\_amphibians/index.html](http://dnr.state.mn.us/reptiles_amphibians/index.html)

### **Supplementary**

Tekeila, S. 2003. Reptiles and Amphibians of Minnesota Field Guide and CD. Adventure Publications, Cambridge. 140 pp. CD: 81 Tracks

## **2021 Fish & Wildlife Current Issue References- Environmental Analysis/ Species of Special Concern**

Minnesota's endangered, threatened, & special concern species <https://www.dnr.state.mn.us/ets/index.html>

Biology: Habitats <https://www.dnr.state.mn.us/whaf/about/5-component/habitats.html>

**Use homepage information only** some of the links are too technical (especially 2018-2028 Strategic Plan)

The Big Reveal | Mar-Apr 2020 | Minnesota Conservation Volunteer

<https://www.dnr.state.mn.us/mcvmagazine/issues/2020/mar-apr/survey.html>

Ecological and Water Resources Division Strategic Plan 2018-2028 Only responsible for Pages 7- 24

<https://files.dnr.state.mn.us/eco/ewr-strategicplan.pdf>

Questions on why the following animals are Species of Special Concern- All are on the CDE Identification List:

Purple Martin	Trumpeter Swan	Caddisfly	Dragonfly	Green Plains Toad
Mudpuppy	Timber Rattlesnake	Darter	Lake Sturgeon	Paddlefish
Elk	Moose	Pocket Gopher	Spotted Skunk	

**Use the SPC List for specific animals** <https://www.dnr.state.mn.us/rsg/index.html>

## MN FFA ~ FISH & WILDLIFE MANAGEMENT CDE- Identification List

### Birds (Non-game)

- \_\_\_ 101 American Kestrel
- \_\_\_ 102 Bald Eagle
- \_\_\_ 103 Barred Owl
- \_\_\_ 104 Black Capped Chickadee
- \_\_\_ 105 Blue Jay
- \_\_\_ 106 Broad-Winged Hawk
- \_\_\_ 107 Common Loon
- \_\_\_ 108 Common Snipe
- \_\_\_ 109 Cooper's Hawk
- \_\_\_ 110 Crow
- \_\_\_ 111 Double Crested Cormorant
- \_\_\_ 112 Eastern Bluebird
- \_\_\_ 113 Grackle
- \_\_\_ 114 Great Blue Heron
- \_\_\_ 115 Great Egret
- \_\_\_ 116 Great Horned Owl
- \_\_\_ 117 House Sparrow
- \_\_\_ 118 Northern Harrier
- \_\_\_ 119 Northern Saw-Whet Owl
- \_\_\_ 120 Northern Cardinal
- \_\_\_ 121 Osprey
- \_\_\_ 122 Purple Martin
- \_\_\_ 123 Red-Tailed Hawk
- \_\_\_ 124 Red-Winged Blackbird
- \_\_\_ 125 Robin
- \_\_\_ 126 Sandhill Crane
- \_\_\_ 127 Screech Owl
- \_\_\_ 128 Sharp-Shinned Hawk
- \_\_\_ 129 Starling
- \_\_\_ 130 Trumpeter Swan
- \_\_\_ 131 Turkey Vulture

### Birds (Game)

- \_\_\_ 151 American Coot
- \_\_\_ 152 American Widgeon
- \_\_\_ 153 Blue-Winged Teal
- \_\_\_ 154 Canada Goose
- \_\_\_ 155 Canvasback
- \_\_\_ 156 Gadwall
- \_\_\_ 157 Green-Wing Teal
- \_\_\_ 158 Greater Prairie Chicken
- \_\_\_ 159 Lesser Scaup
- \_\_\_ 160 Mallard
- \_\_\_ 161 Mourning Dove
- \_\_\_ 162 Northern Pintail
- \_\_\_ 163 Northern Shoveler
- \_\_\_ 164 Redhead
- \_\_\_ 165 Ring-Necked Duck
- \_\_\_ 166 Ring-Necked Pheasant
- \_\_\_ 167 Ruddy Duck
- \_\_\_ 168 Ruffed Grouse
- \_\_\_ 169 Sharp-Tailed Grouse
- \_\_\_ 170 Spruce Grouse
- \_\_\_ 171 Snow Goose
- \_\_\_ 172 Woodcock
- \_\_\_ 173 Wood Duck
- \_\_\_ 174 Wild Turkey

### Insects

- \_\_\_ 201 Alderfly
- \_\_\_ 202 Aphids
- \_\_\_ 203 Assassin Bug
- \_\_\_ 204 Backswimmer
- \_\_\_ 205 Black & Yellow Mud Dauber
- \_\_\_ 206 Blow Fly
- \_\_\_ 207 Boxelder Bug
- \_\_\_ 208 Bumble Bee
- \_\_\_ 209 Caddisfly
- \_\_\_ 210 Carpenter Ant
- \_\_\_ 211 Cecropia Moth
- \_\_\_ 212 Cicada
- \_\_\_ 213 Crane Fly
- \_\_\_ 214 Damselfly
- \_\_\_ 215 Deer Fly
- \_\_\_ 216 Dobsonfly
- \_\_\_ 217 Dragonfly
- \_\_\_ 218 Elm Sawfly
- \_\_\_ 219 Emerald Ash Borer
- \_\_\_ 220 Firefly
- \_\_\_ 221 Giant Ichneumon
- \_\_\_ 222 Giant Water Bug
- \_\_\_ 223 Grasshopper
- \_\_\_ 224 Ground beetle
- \_\_\_ 225 Gypsy Moth
- \_\_\_ 226 Honey Bee
- \_\_\_ 227 House Fly
- \_\_\_ 228 June Beetle
- \_\_\_ 229 Katydid
- \_\_\_ 230 Lacewing
- \_\_\_ 231 Lady Beetle
- \_\_\_ 232 Long-Horned Beetle
- \_\_\_ 233 Mayfly
- \_\_\_ 234 Midge
- \_\_\_ 235 Monarch
- \_\_\_ 236 Mosquito
- \_\_\_ 237 Polyphemus Moth
- \_\_\_ 238 Predacious Diving Beetle
- \_\_\_ 239 Red Admiral
- \_\_\_ 240 Robber Fly
- \_\_\_ 241 Rove Beetle
- \_\_\_ 242 Soldier Beetle
- \_\_\_ 243 Sphinx Moth
- \_\_\_ 244 Springtail
- \_\_\_ 245 Stink Bug
- \_\_\_ 246 Stonefly
- \_\_\_ 247 Syrphid fly
- \_\_\_ 248 Two-Lined Chestnut Borer
- \_\_\_ 249 Viceroy
- \_\_\_ 250 Water Strider
- \_\_\_ 251 Weevil
- \_\_\_ 252 Whirligig Beetle
- \_\_\_ 253 Woods Cockroach
- \_\_\_ 254 Yellowjacket

### Reptiles & Amphibians

- \_\_\_ 301 American Toad
- \_\_\_ 302 Blue Spotted Salamander
- \_\_\_ 303 Boreal Chorus Frog
- \_\_\_ 304 Bull Snake
- \_\_\_ 305 Canadian Toad
- \_\_\_ 306 Common Garter Snake
- \_\_\_ 307 Eastern Hognose Snake
- \_\_\_ 308 Eastern Red-Backed Salamander
- \_\_\_ 309 Gray Tree Frog
- \_\_\_ 310 Great Plains Toad
- \_\_\_ 311 Green Frog
- \_\_\_ 312 Milk Snake
- \_\_\_ 313 Mink Frog
- \_\_\_ 314 Mudpuppy
- \_\_\_ 315 Northern Leopard Frog
- \_\_\_ 316 Northern Map Turtle
- \_\_\_ 317 Painted Turtle
- \_\_\_ 318 Prairie Skink
- \_\_\_ 319 Six-Lined Racerunner
- \_\_\_ 320 Snapping Turtle
- \_\_\_ 321 Spiny Soft-Shell Turtle
- \_\_\_ 322 Spring Peeper
- \_\_\_ 323 Tiger Salamander
- \_\_\_ 324 Timber Rattlesnake
- \_\_\_ 325 Western Fox Snake

### Fish

- \_\_\_ 401 Bigmouth Buffalo
- \_\_\_ 402 Black Crappie
- \_\_\_ 403 Bluegill Sunfish
- \_\_\_ 404 Bowfin
- \_\_\_ 405 Brook Trout
- \_\_\_ 406 Brown Trout
- \_\_\_ 407 Bullhead
- \_\_\_ 408 Burbot
- \_\_\_ 409 Channel Catfish
- \_\_\_ 410 Chinook Salmon
- \_\_\_ 411 Cisco
- \_\_\_ 412 Coho Salmon
- \_\_\_ 413 Common Carp
- \_\_\_ 414 Creek Chub Minnow
- \_\_\_ 415 Darter
- \_\_\_ 416 Fathead Minnow
- \_\_\_ 417 Flathead Catfish
- \_\_\_ 418 Freshwater Drum
- \_\_\_ 419 Green Sunfish
- \_\_\_ 420 Lake Sturgeon
- \_\_\_ 421 Lake Trout
- \_\_\_ 422 Largemouth Bass
- \_\_\_ 423 Long-Nose Gar
- \_\_\_ 424 Muskellunge
- \_\_\_ 425 Northern Pike
- \_\_\_ 426 Paddlefish
- \_\_\_ 427 Pumpkinseed Sunfish
- \_\_\_ 428 Rainbow Trout
- \_\_\_ 429 Rock Bass
- \_\_\_ 430 Sauger
- \_\_\_ 431 Sea Lamprey

### Fish (cont.)

- \_\_\_ 432 Shiner Minnow
- \_\_\_ 433 Smallmouth Bass
- \_\_\_ 434 Smelt
- \_\_\_ 435 Walleye
- \_\_\_ 436 White Crappie
- \_\_\_ 437 White Sucker
- \_\_\_ 438 Whitefish
- \_\_\_ 439 Yellow Perch

### Mammals

- \_\_\_ 501 Badger
- \_\_\_ 502 Beaver
- \_\_\_ 503 Black Bear
- \_\_\_ 504 Bobcat
- \_\_\_ 505 Cougar
- \_\_\_ 506 Coyote
- \_\_\_ 507 Deer Mouse
- \_\_\_ 508 Eastern Mole
- \_\_\_ 509 Eastern Chipmunk
- \_\_\_ 510 Eastern Cottontail
- \_\_\_ 511 Elk
- \_\_\_ 512 Ermine
- \_\_\_ 513 Fisher
- \_\_\_ 514 Flying Squirrel
- \_\_\_ 515 Fox Squirrel
- \_\_\_ 516 Franklin's Ground Squirrel
- \_\_\_ 517 Grey Fox
- \_\_\_ 518 Grey Squirrel
- \_\_\_ 519 Grey Wolf
- \_\_\_ 520 House Mouse
- \_\_\_ 521 Jackrabbit
- \_\_\_ 522 Jumping Mouse
- \_\_\_ 523 Little Brown Myotis
- \_\_\_ 524 Long-Eared Bat
- \_\_\_ 525 Meadow Vole
- \_\_\_ 526 Mink
- \_\_\_ 527 Mouse
- \_\_\_ 528 Muskrat
- \_\_\_ 529 Northern Grasshopper Mouse
- \_\_\_ 530 Norway Rat
- \_\_\_ 531 Pine Marten
- \_\_\_ 532 Pocket Gopher
- \_\_\_ 533 Porcupine
- \_\_\_ 534 Raccoon
- \_\_\_ 535 Red Fox
- \_\_\_ 536 Red Squirrel
- \_\_\_ 537 Red-Backed Vole
- \_\_\_ 538 River Otter
- \_\_\_ 539 Shrew
- \_\_\_ 540 Snowshoe Hare
- \_\_\_ 541 Spotted Skunk
- \_\_\_ 542 Star-Nose Mole
- \_\_\_ 543 Striped Skunk
- \_\_\_ 544 13-Lined Ground Squirrel
- \_\_\_ 545 Virginia Opossum
- \_\_\_ 546 White Footed Mouse
- \_\_\_ 547 Whitetail Deer
- \_\_\_ 548 Woodchuck