

FISH AND WILDLIFE MANAGEMENT CONTEST

The contest will consist of identification of twelve specimens in each of four groups - (1) insect, (2) birds, (3) mammals, and (4) fish. There will *also* be a written test consisting of 15 questions on each of the four groups. All specimens will be selected from the following list of Minnesota insects, birds, mammals, and fish. Use a keyed scoring system for the contest.

INSECTS

Aphids	Fleas	Longhorned borer beetle larva
Backswimmer	Forest tent caterpillar	Mayfly
Blow fly	Giant water bug	Mosquito
Boxelder bug	Green lacewing	Mosquito larva
Braconid wasp	Ground beetle.	Sawfly larva
Caddisfly larva	Honey bee	Springtail
Carpenter ant	Horse fly	Stag beetle
Carrion beetle	House fly	Stonefly nymph
Cicada	Katydid	Syrphid fly
Cornfield ant	June beetle	Water snider
Dragonfly	Ladybird beetle larva	Whirligig beetle
Field cricket	Leafhopper	Woods cockroach
Flirefly		Yellowjacket

BIRDS

<u>Waterfowl</u>	<u>Hawks</u>	<u>Other Birds</u>
Canada goose	American kestrel	Cowbird
Canvasback	(Sparrow hawk)	Crow
Mallard	Broad-winged hawk	House sparrow
Pintail	Cooper's hawk	Grackle
Redhead	N onhern farrier (Marsh hawk)	Great blue heron
Ringneck duck	Red-tailed hawk Sharp-shinned hawk	Hungarian partridge
Ruddy duck		Loon
Scaup (Bluebill)	~ Barred owl	Ring-necked pheasant
Shoveler	Great horned owl	Red-winged blackbird
Snow goose	Screech owl	Ruffed grouse
Teal	Short-eared owl	Sharp-tailed grouse
Whistling swan		Starling
Wood duck		Wilson snipe
		Woodcock

MAMMALS

Badger	House mouse	Spotted skunk
Beaver	Jumping mouse	Striped skunk
Cottontail	Meadow vole	Flying squirrel
Coyote	Muskrat	Fox squirrel
Eastern chipmunk	Norway rat	Franklin's ground squirrel
Gray fox	Opossum	13-lined ground squirrel
Red fox	Otter	Gray squirrel
Jackrabbit	Pocket gopher	Red squirrel
Mink	Porcupine	Weasel
Mole	Raccoon Shrew	Whitetail deer
Moose	Snowshoe hare	Woodchuck
Deer mouse		

FISH

Largemouth bass	Dogfish	Sturgeon
Rock bass	American eel	Sunfish
Smallmouth bass	Gar	Brook trout
Bullhead	Creek chub minnow	Brown trout
Burbot	Fathead minnow	Lake trout
Carp	Shiner minnow	Rainbow trout
Channel catfish	Muskellunge	Walleye
Black crappie	Northern pike	Whitefish
White crappie	Sea lamprey	White sucker
Darter	Smelt	Yellow perch

2. 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.
3. Scientific names will not be used in the identification and written portion of the contest, but the correct common name as used in the above lists must be given.
4. 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 do they eat), life cycle, identifying features, and ecological importance, including impact on humans (insect section). Please see suggested references. The questions must pertain to above listings only.
5. Scoring: Ten points will be given for each correct answer on identification, a possible maximum of 480 points for this section. The written questions will be scored five points for each correct answer - 300 points for the written test. Total points for the contest will be 780 points. Each contestant will work individually and will be scored individually. The individual scores will be added to give team score.
6. Time: Twelve minutes will be allowed for identifying the specimens in each group. Twelve minutes will also be allowed for each of the four sets of written questions.
7. The following are the recommended references for the contest but similar titled references will provide the needed information.

Insect References

An Introduction to the Study of Insects, (6th edition). Donald J. Borror, Charles A. Triplehorn, and Norman F. Johnson. 1989. Saunders College Publishing. 875 pp.

A Brief Overview of the Life History, Physiology, and Ecology of Minnesota Mosquitoes.
Roger D. Moon. 1984/1985. Journal of the Minnesota Academy of Science 50(3) : 6-9.