

# Wisconsin Wildlife *Fast Facts*

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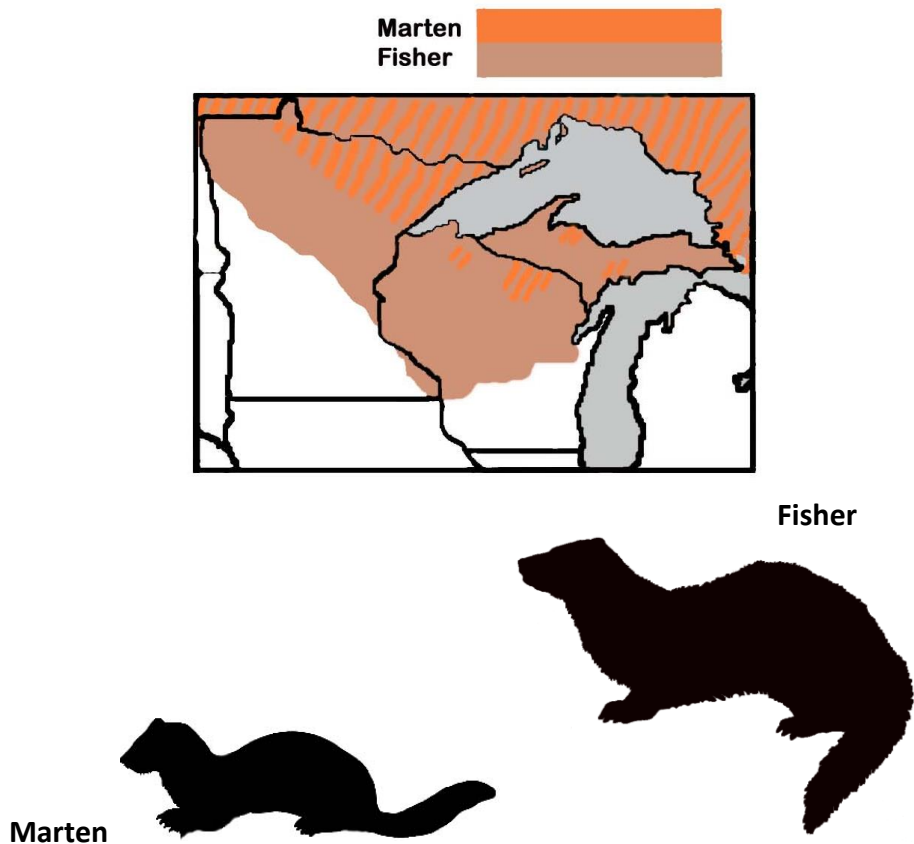
*The weasels or Mustelidae represent one of the most distinct and diverse families of carnivores on earth. They range in size from little larger than a mouse to a pit bull terrier and occupy practically every terrestrial and aquatic environment.*

*Three forms have been eliminated from the Wisconsin landscape in recent history. Their disappearance was a casualty of a growing nation's demand for timber and an insatiable desire for (and unregulated commerce in) their luxurious pelts.*

*Today, our culture recognizes and endorses both the utility and ecological values of these animals. We are now fortunate to bear-witness to the return of the fisher and marten to their ancestral homelands.*

## *Fisher Cats and Canadian Sables*

### *The Fisher and American Marten*





## **Fisher** *Martes pennanti*

(marten) (Pennant – Welsh naturalist))

### **Synonyms:**

Fisher cat, fisher weasel, fisher marten, black cat, black fox, Pennant's cat, pekan (French-Canadian), pequam, wejack (early fur traders), wood shock, otchoek (Cree), ochig (Ojibwa), tha-cho (Chippewayan for "big marten") .

### **Description:**

A medium-large (fox-sized) dark brown weasel with a pointed muzzle, small ears and long, bushy tail.

Resembles a giant mink.

A grizzly or hoary sheen to the pelt.

Rump and tail may appear blackish.

Males have coarser coats than females.

Occasionally a small white or cream splash (bib) appears on the chest.

Each of five toes has unsheathed semi-retractable claws.

Females measure 75 to 95 cm (30-37") and weigh 5 to 8 lbs.

Males measure 90 to 120 cm (35-47") and may attain 20 lbs.

### **Range:**

Widespread in northern forests of United States and Canada.

North to Great Slave Lake in NWT.

Isolated populations in Sierra Nevada (Calif.) and Appalachians (WV).

Recent range extensions (dispersal and introductions) include Rocky Mountain States, Oregon and Washington State, Vermont, New Hampshire, Massachusetts, Rhode Island, Connecticut, New York, Pennsylvania, and New Jersey. It first appeared in Alaska in the 1990's.

### **Home Range:**

Regionally and seasonally highly variable - dependent on habitat attributes.

"In general terms", home ranges average 4 to 10 square miles.

Male home ranges average larger (reported to 38 sq. mi.).

### **Density:**

One fisher per square mile is possible in optimum habitat.

### **Origin:**

The mustelidae (translates to "one who carries away mice") represent one of the oldest and most species-rich families in the order Carnivora. Weasel-like forms (miacids) first appeared in the late Eocene early Oligocene (34- 40 MYA). The miacids quickly diverged into two major groups- the Canoidae (canids) and

Feloidae (cats). It is believed that the mustelids evolved quickly from the canid family and were clearly distinguishable as weasels by the middle Miocene. Towards the end of the epoch (6MYA) one African mustelid, *Ekorus ekakeran* emerged - which was the size of a leopard!

As the cooling of the world climate (30 MYA) increased forest cover, the mustelids spread and further diverged into a myriad of new forms. By the Pliocene (2-5 MYA) martens (fishers incl.) were a distinct group within the mustelid family.

Current evidence suggests that our ancestral martens and fishers emigrated from Europe to temperate Asia, then into North America via Beringia between 2.5 and 5 million years ago. The populations in North America spread throughout the boreal forests, and then became isolated in the East by the Laurentian Ice Sheet, and then reinvaded Western Canada and Alaska as the glaciers retreated. A later migration from Siberia brought new (now extinct) forms to the Sierras and Rockies, and some evidence suggests that these new arrivals may have made contributions to the DNA of current forms. Remains of fisher *M. pennanti* have been found in deposits as early as the late Pleistocene (125,000 YA). Fossil locations indicate it was found further south than today.

### **Status & history:**

Minnesota:

Nearly extirpated in state by beginning of 20th century.

Since the 1970's has remained at approx. 10,000 individuals.

Approx. 2000 animals are harvested annually.

A 2010 combined take of 5 marten & fisher is permitted (of which only 2 can be fishers)

Wisconsin:

Extirpated by early 20th century due to unregulated trapping and extensive logging.

Reintroductions begin in late 1950's and 60's - USFS and WDNR stock 60 animals each in Chequamegon NF and Nicolet NF.

Population estimate in 1984 was 4,100

Population estimate in 2009 was 11,500 (excluding south and south central zones E & F).

Recent harvest goals (2009) recommended a regulated statewide take of approx. 2,200 animals (90% from northern 1/3 of state).

Michigan (Upper Peninsula)

A 2010 take of one marten and 3 fishers is allowed in the western portion of the U.P.

Trappers are limited to one marten and one fisher in the eastern portion of the U.P.

### **Habitat:**

Occupies a wide variety of forested and forest edge habitats, including coniferous, deciduous, mixed, oak savannahs, river valleys, and farm/forest fringe.

Prefers the edges of conifers when adjacent to deciduous stands.

Also shows a preference for closed canopy riparian forest with coarse woody debris.

Generally avoids open areas.

### **Behavior:**

Solitary

Primarily crepuscular but sometimes active by day or night.

Not averse to water (unlike marten) and swims reasonably well.

Appears to have a "cognitive map" in its head which directs it to locations it has successfully hunted in before. During winter, it will routinely visit known porcupine den sites.

When hunting in high prey density areas (hares) it will repeatedly change direction.

When hunting in low prey density areas it will travel in extended direct lines.

Typical hunting method is to run back and forth over an area until prey is flushed.

Usually ignores roads and trails, preferring to cross and go where its senses direct it.

Described as curious, intelligent, mischievous, suspicious and impulsive.  
When stressed or agitated, swishes tail rapidly back and forth.

### **Communication:**

A circular patch of hair on central pads of hind paws has plantar glands which are probably used for territorial and/or reproductive communication.

Adults urinate on stumps & mounds of snow, then roll in it or rub their abdomens over this in scent marking.

Will also roll in other animal scent posts (esp. fox).

Voice is a low chuckle, growl, hiss, snarl, grunt, or crooning sound (contexts unknown).

### **Diet:**

Wide and varied (omnivorous) diet.

small mammals –esp. mice, voles, chipmunks and snowshoe hare.

Also ground and tree squirrels, rabbits, woodchucks, beavers, muskrats, young raccoons & foxes, skunks, porcupines\* and occasionally domestic cats.

Birds – esp. ground nesters (but will climb to access eggs & nestlings). Rips into tree cavities (and bird houses) to extract contents.

May attack and kill all species of birds incl. large hawks and owls (compiler personal obs.).

Also amphibians, reptiles, insects, soft mast (apples, fruit and berries), hard mast (seeds and nuts), mushrooms, carrion (esp. deer) and deer fawns (possibly a brief but seasonally-important food locally).

One porcupine will sustain one fisher for 10-35 days (depending on temperature).

One snowshoe hare will sustain one fisher for 2 ½ – 8 days.

\* Porcupines are not attacked from below, but subject to repetitive (and prolonged) facial biting assaults.

### **Adaptations & unique abilities:**

Extremely mobile ankle joints can rotate hind paws almost 180 degrees (like squirrels). This enables exceptional agility while maneuvering in trees.

Although adept at climbing, does not often travel canopy to canopy.

In fact- only occasionally climbs trees - spending most of time on ground.

Disproportionately large paws provide additional “flotation” or weight displacement on snow packs.

### **Reproduction:**

Females begin to breed at one year.

Breeding occurs in late March to early April.

Delayed implantation (blastocyst suspends development) for the next ten months.

In mid-February implantation occurs and development resumes.

50 days later one to six blind and helpless kits are born.

She will be pregnant again within ten days of giving birth.

She is therefore pregnant for about 350 days per year! (most of her adult life)

Kits begin to crawl about at 3 weeks.

Eyes are open at 7 weeks.

Kits start to climb at 8 weeks.

Weaning begins at 10 weeks.

At 4 months kits become intolerant of their litter mates.

At 5 months, mom “encourages” them to find their own homes.

At 1 year juveniles have established their own home ranges.

### **Den sites:**

Old porcupine dens in hollow trees are favored sites.

Abandoned beaver lodges (dry ponds).

Hollow logs, rock crevices.

Improved underground burrows (former skunk, woodchuck and fox dens).

Sometimes interior walls of abandoned buildings (personal obs.).

### **Sign:**

Scat is dark, elongated, twisted and overlapping and not tightly packed (like in mink).

Does not often mark trails with scat, but will mark elevated surfaces (knolls, boulders and logs) with it.

Also uses raccoon latrines.

Tracks are plantigrade (walks on full sole and toes like a bear or raccoon).

Toes (5) and claws register easily in wet snow (1'-2' fresh snow is ideal).

Coursing gate is sometimes a 3X4 lope:



In deep snow gate becomes a 2X2 lope:



Typical exploring and investigating "walk":



### **Life Span:**

Records of nine and ten years in captivity.

### **Mortality & disease:**

Predators include bobcat, coyote, wolf and occasionally great-horned owl (juvenile fishers).

Parasites: roundworms -*Soboliphyme baturini*, *Ucinaria stenocephalia*, & *Ascaris devosi*

Tapeworm -*Mesocostoides variabilis*

Tick- *Ixodes cookei* & flea- *Oropsylla aretomys*

### **Damage and abatement:**

Can cause considerable damage in poultry yards (surplus killing).

Occasional reports of attacks on domestic (free ranging) cats and small dogs.

Might be a significant predator of hunter-coveted deer fawns and turkey poults locally.

### **Harvest management:**

Easy to trap, but demonstrates a low to intermediate resiliency to trapping pressure.

Sets: cubby and leaning pole sets.

Traps: Number 220 or similar sized body-gripping traps, foothold #1 ½, #1 ¾, or #2.

Lures and baits: Commercial lures, skunk essence, beaver castor and flesh.

### **Conservation status:**

Recent anecdotal evidence suggests that fishers may be adapting (habituating) to developed landscapes.

Reports of fishers in suburban backyards, agricultural lands and even semi-urban areas in the Upper Great

Lakes Region and Northeast are on the increase. A recent report of fisher abundance in grassland areas

near Albany, New York suggests a high level of resilience and adaptability to new environments. As

existing forest cover continues to increase and mature, it is probable that the tenure of the fisher is

secure for the near future.

### Human Dimensions:

It has been reported (and published) that fishers were reestablished by wildlife managers to kill excess porcupines in order to save trees. One would think (and hope) that the landscape managers of today are more ecologically-grounded (informed) and less utility-based in their assessment and rationale for reestablishing extirpated species to their former ranges.



### American marten *Martes americana* (marten) (of America)

#### Synonyms:

Canadian sable, pine marten, ranger's cat, la fouine (French), wabachis (Cree for "the rabbit chaser"), waabesheshi (Ojibwe).

#### Description:

About the size of a small house cat (with very short legs).

At first glance, "Looks like a tabby cat."

Half the size of a fisher and  $\frac{1}{4}$  its weight.

Pointed muzzle with broad, rounded ears ("elfin face").

Pelt is light w/glossy hair and fine, dense underfur.

Color variations of brown – from pale blonde through yellows, tans, reds, grays, and dark brown to nearly black.

Legs and thick, bushy tail is typically darker than rest of body.

Most have distinctive yellow or orange "bib" patch on throat and chest.

Adult males are 23 to 25 inches (including tail which is  $\frac{1}{3}$  of total) and weigh 1.6-2.8 lbs.

Adult females are 20 to 22 inches and weigh 1.5-1.8 pounds

Summer coat is darker and less fluffy than winter coat.

#### Range:

Historically, lived in mature conifer-dominant forests of northern United States, north to treeline in Canada. Populations once extended south along Sierra Nevada Mts. of California, the Rockies to New Mexico, the Great Lakes and Ohio River Valley.

Today, lives across forested Canada and Alaska, the Sierra Nevada, the Rockies south to Colorado, and limited portions of NE Minnesota, N Wisconsin, Michigan, New York and the northern New England states.

#### Home range:

Female average of 2-3 square km (British Columbia), .6 square km (WI)

Male average of 5 square km (BC), 1 square km in Wisconsin (1.8 during winter)

During periods of food scarcity home range may exceed 15 square miles.

**Origin:** (See fisher for mustelid ancestral lines).

Martens do not appear in the fossil record until the Middle Pliocene (3 MYA) in Poland.  
The sub-genus *Martes* did not appear in North America until the late Pliocene.

### **Status & history:**

Minnesota:

Due to trapping, wholesale logging (and associated slash fires) a drastic population decline occurred by mid. 1890's.

Last reported animal trapped was in 1920.

Trapping season discontinued in 1929.

Universally considered to be extirpated from the state in late 1950's.

Protected...but never formally designated as a species of special concern.

As forests matured martens reproduced (and immigrated in from Ontario).

Recovery continued (without reintroductions).

Regulated trapping resumed in 1985 (16 days w/limit of one marten).

Approximately 10,000 martens now live in NE Minnesota (2010).

Wisconsin:

Considered extirpated in the state by 1939.

1953 & 1956 - Small stockings on Stockton Island, Ashland Co.

1975 – 1983: 172 stocked in Nicolet National Forest (Forest Co.).

1986: - WI Marten Recovery Plan developed.

1987 – 1990: 139 stocked in Chequamegon National Forest (Ashland Co.).

2008 - Stocking resumes in Ashland and Sawyer Co, (Cooperative project WDNR, USFS and GLIFWC).

As per Oct. 2010 a total of 90 MN martens have been released near Clam Lake, WI.

### **Habitat:**

Conifer-dominated forest (especially spruce /balsam or cedar/hemlock stands).

Does not prosper in recent clearcuts or heavily thinned forest stands.

Once considered an "old growth obligate" (dependent), it is now understood that the structural make-up of the forest is also of critical importance in evaluating marten habitat. Coarse woody debris (downed logs, snags, stumps, and litter) and sufficient overhead vegetation (trees, saplings and shrubs) provide cover for martens and their primary prey.

Ideal (classic) marten habitat will be a structurally complex, late successional coniferous (or mixed conifer/deciduous) forest with 20% to 50% of the surface area covered with large woody debris (deadfalls, stumps, root tip-ups). The understory should be heavily stocked in small conifers or shrubs.

### **Behavior:**

Solitary – except during the breeding season (July/August).

A nervous temperament.

Primarily nocturnal (marginally crepuscular).

Readily climbs – spends most of day resting (sun-bathing) on upper branches or in cavity.

Often chooses a "witches broom" as day nest.

Travel and hunting is usually done on the ground, however in continuous canopy may travel several miles aloft before ascending to ground.

It has been reported that when the territories of the male and female overlap, he hunts in the evening and she hunts by day.

During winter spends considerable time beneath the snow, using tunnels and cavities under vegetation, brush and coarse woody debris.

When snow cover is 100% all rest sites will be beneath the snow (subnivean) with squirrel middens and rotted tree fall mounds being top choices.

Uses trails regularly (more than fishers).

Will cross roads but prefers to locate a culvert and pass underneath.

Loathes water - swims only if pressed and rarely (or never) bathes. Will search for log bridges to cross streams. Retires to shelter during rain.

Described as nervous, hyperactive, energetic, and intensely curious (but wary).

Foraging pattern described as "haphazardly circling and crisscrossing trails aimlessly".

### **Diet:**

The following items (in order of significance) reflect local observations of various observers. As with all predators, actual diets are often opportunistic and responsive to local resources and conditions.

**Spring** – small rodents (esp. boreal red-backed vole and white-footed mouse), carrion.

**Summer** – small rodents, amphibians, snakes, insects, small birds (& eggs), berries, honey.

Raspberries and blueberries may temporarily comprise up to 85% of intake.

**Fall** – small rodents, amphibians, snakes, insects, small birds, berries and fruit (esp. raspberries, blackberries, blueberries & mountain ash).

Berries are especially important to dispersing juveniles.

**Winter** – small rodents (esp. during snow-free periods), hares, flying squirrels, red squirrels (3%), grouse, small birds and carrion.

Martens may frequent bird feeders. A Phelps, WI resident was occasionally visited by a marten that developed a taste for chocolate chip cookies.

### **Adaptations & unique abilities:**

Rotatable rear ankles (like fisher) and semi-retractile claws make this animal as proficient as a squirrel in the canopy.

Special gland (1" X 3") between hide and muscle wall of abdomen secretes musk.

### **Reproduction:**

Low reproductive potential.

Polygamous

Breeds in July and August. Pair may remain in company for several days.

She solicits his attention with low "clucking" sounds.

Delayed implantation (blastocyst development interrupted for 7-8 months).

Development resumes around February and birth occurs in March or April.

One to five (usually 3) 30-40 gram kits are born blind, sparsely furred and helpless.

Mom is the sole provider.

Young are weaned at 6 weeks.

Young are moved from tree cavity to ground level den at 7-8 weeks.

Young are nearly full size and following mom at 12 weeks.

Juveniles are independent and begin to disperse from mother's home range at 18 weeks.

Females are sexually mature at 2 years.

### **Den site:**

Usually a cavity in large, live tree (yellow birch, w. cedar, or sugar maple >20" dbh).

The entry hole is typically < 3" in diameter.

Also dead snag or stump.

Pileated woodpecker cavity a favorite site.

Some sites are beneath a tree fall mound or hollow log on the ground.

Occasionally a pile of debris, rock crevice or underground burrow.

Rarely uses same den site in two consecutive years.

### **Sign:**

Scat is similar in size and appearance (small, dark, twisted and string-like) to mink scat.

In summer scat will often contain seeds of berries (which are rarely present in mink scat).

Often marks trails with scat (unlike fisher).

**Population dynamics:**

Numbers are (typically) highest in early fall and lowest in late winter.

Food supply is a major factor in annual (seasonal) and long term population cycles.

Influences of rodent (4yrs) and hare (10 yrs.) cycles have distinct (& reciprocal) impacts.

Short term weather effects may punctuate a population increase (or decline). A period of prolonged snow cover in late spring may suppress both small mammal (prey) populations and berry crops.

Just prior to a population decline, a widespread dispersal of martens is often reported. At such times animals are observed in “unusual places” - like extensive hardwood stands or even agricultural land. Over most of North America densities range from .4 to 2.4 animals/ square km.

**Life span:**

Reported age of 14 years in the wild.

One record of 11 years in captivity.

Few live longer than 5 years.

**Mortality & disease:**

Parasites : flea- *Orchopeas caedens* , louse- *Trichodectes retusus*, mites, ticks, roundworms- *Diectophyme renale*, *Ascaris columnaris*, & *Soboliphyme baturini*.

Pathogens: rabies virus

Predators include great-horned owl, goshawk, fisher, bobcat, lynx, red fox, coyote, wolf (& sometimes other martens). Most raptor-caused mortality occurs in forest openings (MN).

A fisher will cache (store) a dead marten in a tree.

Competitors include weasels fisher, mink, fox, bobcat, lynx, shrews, snakes, and small raptors which compete for the same primary food supply.

Due to its high metabolic rate and small fat reserves the marten is susceptible to “nutritional difficulties” which predispose it to infection by pathogens or parasites.

Starvation (and disease associated with “low condition”) poses a significant mortality factor – especially with dispersing juveniles in the fall.

**Conservation Status and habitat management:**

It is well known now that the largest negative influence on marten habitat has been timber harvest.

When and where tree harvest is practiced, managers should limit cut blocks to small acreages which retain forest corridors which connect known (or potential) marten habitat stands. Coarse woody debris (CWD) should be retained and scattered across cut blocks as much as possible. Where logging is conducted with little retention of CWD a long term population decline may be anticipated locally.

Although not usually considered cost-effective or ecologically sustainable, some states and provinces (BC) have recommended the initial practices of providing brush piles and fresh carrion in strategic locations.

In spite of its low reproductive potential, the marten demonstrates a high capacity to locate and colonize vacant habitats – provided adequate forest corridors offer safe\* access to such areas.

\*not so-narrow that it creates a bottleneck or “ecological trap” (predation gauntlet).

**Harvest management:**

In Wisconsin fully protected as a state-endangered species (2010).

Easily trapped and sometimes taken incidentally in fisher, fox, bobcat or coyote sets.

Glacier NP biologist recaptured same male 77 times!

Pelt becomes prime in late November – early December.

See Fisher (status and history) for 2010 marten harvest quotas in Minnesota and Michigan.

**Captivity:**

If taken young, becomes quite tame (“rather docile”) and manageable.  
Males cannot be confined together nor should they be housed with females.  
Captive martens (and fishers) are prone to many disease problems.

**Human dimensions:**

In areas where martens and campers routinely coincide, the curious little animals may become quite tame and regularly visit occupied campsites. Their inquisitive “elfin faces”, charismatic charm and mischievous behavior may add a memorable intrinsic connection with wildlife for many folks.

*If you see a marten, try this.....*

*Freeze! Remain still and begin to emit delicate “mouse in distress” sounds (with tight lips, lightly kiss on the back of your hand in short sequences). The marten will probably approach to investigate. (Unlike you - the little guy is in for a big disappointment!)*