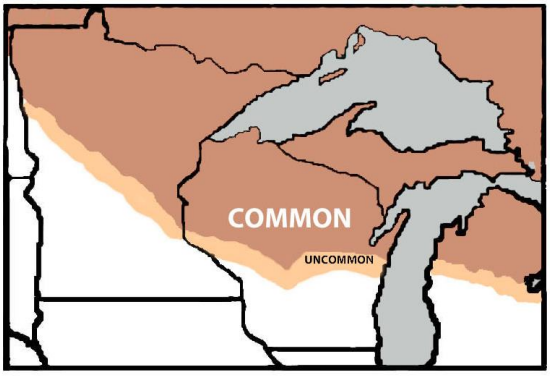
Wisconsin Wildlife *Fast Facts*

Compiled from various sources by Christian W. Cold, WDNR Ladysmith

The Much-Maligned Quill Pig

Those of us who live in the northern forests of the upper Great Lakes region are familiar with this large, solitary, unassuming rodent of the treetops. Its sheer size makes it difficult to overlook once the trees have shed their leaves. On the ground, its comical, ambling gait brings a grin to your face. Never looking for trouble, the porcupine's only defense is its formidable fur.



Porcupine ***Erethizon dorsatum***
(pig with quills) **(arouse or irritable)** **(back)**

Synonyms:
Porky, quill pig, prickle pig, porky hog, prickle cub*, ogog* (Chippewa)*, okak* (Potowatomi) and porcupette (unweaned young).

Description:
A large, stout rodent with a compact body covered in long, coarse brown to black fur.
The fur is composed of long stiff guard hairs, soft, wooly under-fur and up to 30,000 stiff, hollow, barbed quills on the dorsal surface of the body and thick, muscular tail.
The head and ears are small. The eyes are small and dull black.
The nose and rostrum is flat and fleshy (like a manatee).
The legs are short and bowed.
The feet are large with rough (tubercular) friction-pads and the toes are equipped with long, strong claws for climbing.
Length: 26 to 40 inches. **Weight:** males 13.5 to 40 lbs. Adult females average 11.5 lbs.

Niche and Ecological Signature:
Medium-sized, semi-arboreal, herbivorous forager and browser.

Range:
Most of Alaska and Canada, south to northern part of the Great Lakes, northeast United States and west through Rockies and Great Basin desert.

Home range and territory:
Winter: 6 to 12 acres. Summer: 25 to 35 acres.
Male home range may overlap ranges of up to 5 females.
As a male gets older, the size of his territory increases.

Population Density:
One porcupine/ 25-50 acres.

Communication:
Visual: When threatened, displays black and white contrast on back and tail.
Tactile: Physical aggression.
Acoustic: Chatters, grumbles, grunts, whines, moans, meows and barks.
Gnashes or chatters teeth when threatened.
Chemical: Scent marking (usually urine), pheromones.

Wisconsin status & history:
Today, relatively common and local in forested regions of northern and central Wisconsin.
Current status (WI) as unregulated & unprotected with no season or bag/possession limit.
Early settlers reported its extensive use (quills by natives and flesh) as early as 1662.
Practically extirpated in all regions south of 44'N. by 1870.

Origin & prehistory:
South American *Hystricomorphs* first appear in the lower Oligocene (28-33MYA).
It is thought that they initially evolved in Africa.
Ancestors of our porcupine then emigrated north from South America.
The earliest appearance of *E. dorsatum* in North America is from Pleistocene (2.6 MYA to 10,000 YA) deposits near Aguascalientes, Mexico.

Habitat:
Geographically variable – open tundra/taiga interphase, deciduous, coniferous and mixed forest (preferred), scrub prairie and desert chaparral.

Den Site:
Temporary shelter from rain, snow, insects and bitter cold.
Live or dead hollow tree, cave or crevice in rock, abandoned building.
Den typically has bare floor (no nest material) which accumulates large amount of feces.

Two seasonal den-types:

Pre-winter**:** Usually a hollow tree near favorite feeding & resting location.

Winter**:** Usually a rock crevice, away from feeding & resting sites.

A string of bitter cold days will drive it to a permanent (winter) den.
Some porcupines remain outside all winter, especially in stands with hemlock or white spruce.

Behavior:

Primarily nocturnal and active all year.
Solitary, except in fall, when males are attracted to scent of female in estrus.
Related males are often tolerant of each other. Unrelated males will usually fight.
Mature females are intolerant of all other females (including their own daughters).
Females maintain small, highly-defensible territories.
Bulk of time is spent "resting" in trees.

Sign:

Profusion of 1"X ½ "oval or bean-shaped, brown or greenish-brown scats.
Winter nip-twigs on ground beneath feeding sites (esp. hemlocks and white cedars).
Patches of (living) bark removed from upper trunk of preferred trees.

Diet and Nutrition:

Crucial nutritional requirement is nitrogen (component of all proteins).
Spring – skunk cabbage, buds of sugar maple (rich in protein), cambium of aspen & basswood, catkins of aspen, birch & alder.
Summer – foliage of ground herbaceous plants & shrubs (may constitute 85% of diet).
Favorites include raspberry leaves (consumed in excess), grasses, dandelions, lupine, mushrooms, and mistletoe.
Fall – Tree foliage and mast (may constitute 75%), including acorns, hazelnut, chokeberries, corn.
Winter- Bark, twigs, buds & needles (browse) of trees & shrubs.
Favorites include hemlock, white cedar, spruce, sugar maple, yellow birch & jack pine, white pine, white spruce, aspen, elm, linden & red oak.
Nitrogen-rich spring diet triggers molt, which is accomplished in a matter of days.
Rich spring diet creates sodium deficiency with subsequent craving for salt.
Porcupines seek salt-rich soil, road salt, plywood, bone, leather or wood impregnated with urine to satisfy salt-demand.
Bone (and antler) is a rich source of protein (45%), calcium, magnesium, and sodium.

Intelligence:

Successfully negotiates mazes.
Long-term memory (several years) demonstrated in liberated (hand-reared) captives.

Special adaptations, abilities and limitations:

Special rubber-like foot pads have pebble-like texture (tuberesites) for friction gripping.
Footpads are used for climbing trees or branches too small in diameter for gripping with a claw-hold.

Another adaptation for tree climbing is lack of external penis (protected in cloaca-like structure).
Appears to have a metabolic ability to detoxify tannins (plant defense compounds).
Highly buoyant and swims "reasonably" well.
A bit slow to figure things out (personal observation on response to approach) but good memory.
Excellent hearing and sense of smell.
Poor eyesight (near-sighted).

Reproduction:

Great Lakes: Mates in late September through November.
Female defense polygyny: A successful male defend the female from other males for 1-4 days, then goes looking for another girlfriend.
Male sprays female repeatedly with urine prior to mating. (See captive management/education use)
Gestation is 7 months. (average of 210 days)
Single 1 lb., fully-developed (precocious) offspring born in May or June.
Newborn is larger than a newborn black bear.
Quills dry and harden within a few hours.
Offspring exhibit tail-striking defense within hours of birth.
Weight doubles within first 2 weeks.
Mother nurses 127 days (due to inherent poor nutritional quality of diet).
Youngster is weaned in late fall.
Youngster spends days in small saplings or on the ground.
Mother joins youngster on the ground at night.
Mother may travel ½ mile to join young on ground at night.
Sexual maturity: Male at 29 months. Female at 25 months.

Life span:

Average of 7 to 8 years.
Individuals are considered geriatric at 12 years.
Individuals > 12 years usually have low weights resulting from restricted feeding due to extreme tooth wear.
Cheek teeth are not replaced throughout life but continually wear.
The large incisors (hardened by orange salts) grow 12"/year and must be kept in check (as- with beaver, woodchucks etc.).
Porcupine longevity potential is much like deer (same tooth-wear factor).

Mortality & disease:

Low mortality rate.
Scabies mites (*Sarcoptes scabies*) may cause high mortality during outbreaks.
Also lice, ticks, flatworms, tapeworms (serious), threadworms and nematodes.
Sometimes killed or injured during falls.
Predators include fisher, bobcat, coyote, red fox, wolf, bear, marten & horned owl.
Tularemia.

Captive management & educational use:

Females are best for use in a classroom setting (personal observation).
Females are smaller, easier to handle (good temperament) & less smelly.
Mature males have a tendency to spray urine in all directions - upsetting students & faculty.
Mature males should not be housed together (may kill each other).
Author (compiler) has used commercial alfalfa-based deer or horse pellets successfully.
Most zoos use rodent and/or primate chow pellets or biscuits as staple.
Bananas, apples, grapes, pumpkins, sweet potatoes, yams, sweet corn, carrots, spinach & lettuce.
Fig bars are relished as a special treat.
Avoid citrus fruits (cause gastric problems).

Recommended milk replacer formula for orphaned newborns:
1 part Esbilac™ or Zoologic™ Milk Matrix 33/40
1 part Multi-Milk™, or Zoologic™ Milk Matrix 30/55
2 parts water
(3 feedings per 24 hr. period)

Nuisance and damage abatement:

Although they eat apples, porcupines rarely show interest in the bark or leaves of apple trees.
Record of serious damage to sweet corn (by several animals) in Maine.
A trunk wrap of aluminum flashing may protect certain mature trees from canopy browsing.
Trap with a #2 or #3 steel leghold w/ salt-soaked wood block near active winter den or associated trails.

Ecological Value: Porcupines may influence local forest structure and biodiversity.

- Browsing may suppress preferred tree species.
- Suppression of preferred tree species may favor increase of other tree species.
- Canopy browsing creates scattered openings for sunlight penetration.
- Sunlight penetration stimulates ground herbaceous and understory growth
- A more diverse understory provides conditions (habitat) for associated wildlife.
  Canopy twig-nipping provides some winter browse (respite) in winter deer yards.

Utilitarian value: Embroidered quillwork (dyed, pressed & woven) on baskets, pouches, roaches (guard hairs) and garments of indigenous natives.
Properly prepared, the flesh of a young porcupine is "*comparable to duck & venison*".

Esthetic value: For thousands of people (especially tourists) the sight of this animal is a powerful and wonderful experience.
Excellent photographic subject.

Conservation status and outlook:

The North American porcupine is not threatened, however, persecution has caused local populations to decline in much of the eastern U.S. and portions of the Midwest. It has been targeted by the timber and agricultural industry due to its taste for trees and certain crops (corn). In portions of the Northeast U.S., where hemlock plays an important role during the winter, insect pests such as the hemlock wooly adelgid *Adelges tsugae* may pose a significant impact on future porcupine habitat.

Some final considerations…….

In 1957, Weyerhaeuser Inc. (a forest industry giant) completed a study that claimed a porcupine destroys $6000.00 worth of timber in its lifetime. Other timber companies frequently cite the animal for extreme damage to commercial plantations, but rarely described the location, extent of damage, methods used in estimating damage, or considerations regarding other animals (deer, rabbits, beavers & insects) or factors (drought, fungi & disease) causing damage.

On a recent episode of the popular syndicated series *The Incredible Dr. Pol* (a rural veterinarian) a dog-owner client brings in his pit bull terrier with a face full of quills and claims, *"My dog was attacked by a porcupine".* (A porcupine never attacks.)

It is no surprise that the attitudes of most folk towards a particular animal are based on a combination of personal knowledge and experience. We tend to define animals as valuable or harmful by a measure of these factors. Personal experience is a powerful teacher. Technical knowledge ….. on the other hand….is only as good as the accuracy of the information we expose ourselves to. We would be well-advised to base our philosophical positions (attitudes) towards animals on the quality and quantity of both. CWC