

Wisconsin Wildlife *Fast Facts*

From various sources by Christian W. Cold, WDNR Ladysmith

What is wildlife? Pose this question to anyone, and you can rest-assured, that one of the first images that flashes through their thoughts will be a deer. The animal is so much a part of our lives, that we are quick to notice and engage ourselves in any stimulating conversation regarding its status and future in Wisconsin.

Probably more research has been done on the whitetail than any other critter in existence. And although there are probably tens of thousands of experts out there on deer and deer management, perhaps a closer look might reveal something that we didn't know about this icon of Wisconsin culture.

"Throughout most of Wisconsin's history, we had a very simple objective concerning the whitetail: produce more deer. In this effort we succeeded remarkably well."

L.P. Voight, Director
Wisconsin Conservation Department 1956



Northern White-tailed Deer *Odocoileus virginianus borealis*

Synonyms: Whitetail, deer, Virginia deer, flag deer, o-masch-kosh (Chippewa), psu-ksi (Potawatomi)

Description:

A medium-sized, reddish-tan to brownish-gray deer with dark markings on the face & ears. Underparts (throat, undersides, insides of legs and underside of long tail) are white or whitish at all seasons. Shoulder height to 42". Total length to 85". Adult bucks weigh 150-310 lbs. (WI record 491 lbs. - 1924). Adult does weigh 90-210 lbs.

Range:

Most of southern Canada and all of mainland United States except 2-3 states in the West. Range extends south throughout South America to Bolivia. Whitetails have been introduced (and established) in localized areas of N. Europe, including parts of Finland and the Czech Republic.

Origin:

The earliest artiodactyls appeared in the early Eocene (approx. 50 MYA), probably evolving from primitive rabbit-sized ancestors (condylarths) living with the dinosaurs at the end of the Cretaceous (>65 MYA). The greatest radiation of the true antlered artiodactyls occurred in Eurasia during the Miocene (24-5 MYA) as grasslands were replacing forests worldwide. For a time, they even occupied most of N. Africa, where they are now (almost) wholly absent. Ruminant forms then proliferated as smaller (muntjac-like) forest forms declined and vanished. During the Pliocene (5-1.8 MYA) cervid evolution continued and several lines diversified from common "stem stock", first in Eurasia and then in North America. In North America, a gradual increase in body and antler size continued, culminating in the massive (and now extinct) Stag Moose - a beast that rivaled the famous (also extinct) Irish Elk of Eurasia. The ancestral progenitor to *Odocoileus* immigrated to North America from Eurasia at the end of the Pliocene and continued to develop (and diverge*) through the Pleistocene (1.8 MYA - 10,000 YA) into the familiar two forms of today.

- Based on mitochondrial DNA studies, mule deer and whitetails share a common ancestor.

Wisconsin status & history:

Widespread and abundant statewide. Population continues to exceed established management goals in most locations (2008).

In the 1600's early explorers reported deer as common everywhere in Wisconsin and especially so in the south. Deer were primarily concentrated in the "prairie-oak-maple" areas of south while the northern forests were considered secondary range. Wisconsin population estimates for period prior to 1800 put deer at <10/square mile in the NW, 10-15/square mi. in the NE, and 20-50/square mi. in the south and west-central part of the state.

The ax and the plow reduced deer numbers in the south.

By 1860 deer had practically vanished from Wisconsin south of latitude 40' N.

The ax and the saw benefited deer in the north. The population growth was phenomenal.

Following the cutover, deer range began to show the signs of this pop. growth.

1930's: We had our first warnings that deer range was beginning to deteriorate due to high deer numbers.

1930's - 1940's.: Deer range continues to deteriorate.

State deer population estimate in 1941 was 604,625.

State deer population estimate in 1947 was 800,000.

1949-1951: Deer numbers are reduced in many accessible areas through liberal hunting regulations.

Temporary range improvement followed, so we let the herd go again.

1956: We are faced with the chance that deer range problems will repeat themselves.....

See a pattern here?

Ecological signature:

The whitetail exerts a profound influence on the overall richness and structure of the local plant community via its highly-selective grazing & browsing activity – especially where it occurs at high numbers. The quality and/or state of degradation of the local flora are often a (preliminary or “post-mortem”) reflection of the present (or recent) condition of the local deer herd.

Deer are considered a keystone species - they play a major role in the shaping (eating) of their community. Recent research appears to confirm that a small amount of deer browsing (intermediate disturbance) actually stimulates (maximizes) forb diversity and abundance in a tallgrass ecosystem. But unlike beaver (also keystone sp.) - who create habitat (debated), deer have demonstrated a greater influence as habitat degraders, especially in forest ecosystems (see The dark side, below.).

Habitat:

Forest edge and parklands, agricultural landscapes, sometimes old growth where arbor vitae (w. cedar), balsam fir and mountain maple predominate. From the northern forests to the saw grass and hammocks of sub-tropical Florida.

Farm and brushlands to desolate cactus and shrublands of Texas and Mexico. Sometimes congregates in tamarack and spruce swamps (winter yards) in north.

Behavior:

Deer are most active at daybreak and just-before nightfall (crepuscular). Moonlit nights also prompt activity.

Their movements are primarily influenced by the locations of feeding and resting areas.

When alarmed, deer often emit wheezy-whistle (usually does), or grunt/snort (usually bucks) and tail goes up (flags), especially when running.

Special Adaptations:

Deer hearing and smelling ability is exceptional.

They run to 50mph, leap objects to 8' high and swim (reluctant) reasonably well.

Deer (esp. bucks) communicate by emitting olfactory cues via glandular secretions:

- Orbital gland (head- near eyes). Buck rubs secretion on hanging twigs.
- Tarsal glands (hind leg) Buck deposits secretion on vegetation while walking.
- Metatarsal gland (inside of “knee” and most-potent) Scent is deposited while the buck urinates down his leg, mixing secretion, urine & bacteria into a pungent and potent “potion”.

Scrapes are made with the front legs & then topped with (above) metatarsal deposit.

Sight: Deer sight is best suited for motion detection and low-light conditions.

DEER ARE NOT ENTIRELY COLORBLIND!

They cannot see red or green, but they can see yellow and blue.

They see UV blue better than you can see blaze orange!

DID YOU KNOW.....Commercial laundry detergent contains UV-brighteners.

If you wash your camo in this (even one time) your camo will glow UV HOT to deer.

You will be a “glowing blue ghost” in their eyes! (Test this with a black light).
TO FURTHER FRUSTRATE YOU....most camo fabric today is made in China, where the base cloth is commonly treated with permanent UV brightening dyes. There are commercial products to fix this.

Antler development:

Antlers emerge from raw pedicles in April or May.

They develop quickly and attain full size in 14-15 weeks.

Antlers are shed annually from mid-December to late January.

Their size is a function of genetics (primarily), nutritional state and age.

Antler size and points are not reliable indicators of age.

Older bucks (often) have progressively smaller and more abnormally-formed antlers.

Diet:

The whitetail is (primarily) a browsing and (secondarily) grazing animal.

Top browse (WI) includes yew, white cedar, hemlock, red-osier & alternate-leaved dogwood, willow, mountain ash, yellow birch, basswood, red maple, staghorn sumac, wintergreen and wild cranberry.

Over 100 other species of woody browse and forbs are recorded.

An average-sized deer will consume 6-8 lbs. of browse daily.

Top (WI) agricultural (grazed) plants are alfalfa and clover.

Field corn in excess may overload (engorge and damage) deer with carbohydrates.

Reproduction:

Does normally breed at 19 months but may breed at 7 mo. (esp. south).

The doe is in estrus only 24 hours. If not bred, she repeats the cycle in 28 days.

Rut is usually last week of October - early December. Peaks the last 2 weeks of Nov.

The rut is triggered by the shortening length of daylight (photoperiod).

Gestation is approx. 196 days (6 ½ months).

1-2 (rarely 3) 6-8lb. spotted fawns are born in late May-early June.

Fawns are nursed 2-3X/day, weaned at approx 3 months, & lose their spots at 4 months.

Fawns normally remain with their mother through their first year.

Fawns are chased-off just prior to the birth of mother's new fawns.

Yearling does will often establish a home range near their natal area and may occasionally associate with relatives.

Life span: To 15 yrs (20 record). In hunted populations – deer rarely live beyond 6 years.

Population dynamics:

Deer populations appear to reach highest densities where woody cover and open grassland occurs in equal proportions.

Deer numbers are never evenly (or randomly) distributed across the environment.

They occur in clumps which are proportionate to the the quantity, quality and accessibility of resources in that area.

In the northern forest region, winter severity* exerts its influence on deer survival and subsequent fawn production.

In the central forests and southern farmlands, deer populations benefit by the presence of dairy and grain-based agriculture.

Mortality & disease: Predators include humans, wolves, coyotes, dogs, bears (to 20% of fawns), bobcat, fox (fawns) & fisher (fawns). Eagles occ. take unattended fawns.

Vehicles are the next significant factor after hunting (> 50,000 reportable annually).

Parasites (>14 sp.) include liver fluke, lungworms, stomach worms, meningeal worms (rarely serious problem with whitetails), arterial worms, abdominal worms, tapeworms, nasal bots, ticks, louse flies, lice, ear mites, and follicle mites (mange).

Viral and bacterial diseases include leptospirosis, bovine tuberculosis, salmonellosis (esp. young deer), hemorrhagic disease (incl. bluetongue), and bacterial brain abscesses.

Diseases have never been a serious destructive factor (historically) in Wisconsin.

Past and present concern and measures directed towards Chronic Wasting Disease reflects WDNR and citizen commitment and effort to limit the contagion's destructive influence on the whitetail in Wisconsin.

Management:

In Wisconsin, biologists set overwinter population goals for approximately 130 compartmentalized deer management units (DMU).

Each DMU provide a framework for collecting harvest data on a yearly basis which is then plugged into the Sex-Age-Kill formula, a nationally acclaimed model used in Wisconsin for estimating overwinter deer populations.

By law the DNR must manage each unit to its assigned goal.

In time, a unit history provides managers with a practical (and intuitive) ability to predict the status of the fall deer population each year and set a harvest objective.

An assortment of climatological*, biological and social factors comes into play when overwinter goals are determined. Managers must also consider the interests, actions, and influences of citizens, farmers, public officials and their constituents, and the wishes of hunters- who continue to provide the primary support (\$\$) for the wildlife management program.

* Winter Severity Index: Dec 1 through April 30th. Accumulate daily value points for snow $\geq 18"$ (1 point), and temperatures $\leq 0^{\circ}$ F. (1 point). Tally total points as index period progresses.

Tally Total: < 50 points = mild 50-80 points = moderate > 80 points = severe

For a thorough and detailed account of Wisconsin whitetail management issues & strategies, readers are advised to consult the contributions of McCaffery and

others in the WDNR Wildlifer & Wildlife Management Journal. WM Wildlife Journal.

The Pennsylvania Bureau of Forestry has developed a very novel, and comprehensive Deer Management Plan. A Deer Management Assistance Program assists landowners by targeting areas which are vulnerable or subject to forest regeneration problems associated with deer herbivory.

<http://www.dcnr.state.pa.us/forestry/deer/index.aspx>

The dark side:

Whitetail venison has (slightly) more cholesterol than beef.

If cattle were at large and on the roads at night, I would be reaching for the telephone.

The economic losses in forestry, agriculture, and transportation are measureable and a matter of record. The impact of deer to natural ecosystems is also dramatic but difficult to quantify. The cascading negative effects of deer herbivory extends from vegetation dynamics and nutrient cycles to entire suites of insects, birds, herptiles and mammals. The cumulative result is often a redirection of succession in a community that has lost most of its richness. A community that has lost most of its richness has lost a great measure of its resiliency. As a heavily disturbed site, it is vulnerable to exotic and invasive establishment (no longer a "closed shop"). It is also susceptible to further decline via erosion and/or desiccation- especially where much of the herbaceous cover is missing and soils are trampled or exposed. Once the community richness is reduced or lost, it is difficult and costly to reestablish the missing plants & animals.

The brighter side:

Whitetail venison has less fat than beef.

Venison continues to provide an economical and wholesome source of protein to millions of people.

The intangible recreational and esthetic value of the whitetail is legendary and immeasurable.

Human dimensions:

In that part of the U.S. and Mexico east of longitude 105° the whitetail is (and will continue to be) the most economically and socially-important big game animal on the continent.

But the success of the whitetail has not come without a price.

Hunters, skiers, snowmobilers, birders, hikers, other recreationalists, biologists and other land managers (including farmers) are continually confronted with conflicting interests, which make deer management difficult. Even in areas where deer numbers continue to exceed the capacity of the land to sustain them, many sportsmen continue to insist on having more deer. The logic of having too much of a good thing perplexes some people- especially those with an insufficient understanding of deer biology and landscape ecology.

On the front lines of this controversy stand our biologists- equipped with the cumulative findings of sound scientific inquiry and entrusted with a contractual obligation (as public servants) to maintain a valuable public resource in perpetuity.

These trained professionals recognize their responsibility to enlighten the uninformed and contend with those few who would seek to trump the science and application of wildlife management for selfish reasons. It is therefore imperative that as biologists, we recognize, develop, and assume our role as communicators (educators) when interpreting deer (and other wildlife) biology and management in the public arena.

Failing in this effort will further confuse, aggravate, and evoke feelings of contempt in the minds of clients – who should be partners in management.