Deer Hunting

Mention deer hunting to any gathering of Keuka Lake residents (or any other group) and you'll get three responses: 1) a small number of deer hunters who will regale you with stories of the big buck they got; 2) an equally small number of anti-hunters who express revulsion and disgust ("You shot Bambi?"); and, 3) the vast majority who think of deer as cute, brown-eyed critters they like to see and maybe feed corn to in winter (illegal, by the way), wish they wouldn't eat their landscaping, and have either hit one with their car or know of others who have. Deer hunting will start in a few weeks in the Finger Lakes region (October 14 for archery and muzzle-loading guns, November 15th for rifle/shotgun): it is the primary tool for managing white-tailed deer. Why do deer need to be managed, and why by hunting?

Prior to settlement, clearing, and development of the vast eastern deciduous forest by Europeans in the 1770s-1880s, deer abundance was controlled by availability of food (tree seedlings, shrubs, and herbaceous plants such as grasses, ferns, and wildflowers) and constant predation by an impressive lineup: mountain lions, wolves, bears, bobcats, wolverines, the occasional eagle (on fawns) and Native Americans. When overabundant food was created by natural disturbance (large windstorms or ice storms) knocked down trees over vast acreages, stimulating growth of seedlings, shrubs, and herbs, deer responded by having twins, triplets, and even by fawns breeding and by large survival rates overwinter. Deer numbers were kept in check by the predators, except when huge forage areas were created and deer could momentarily overcome the predators. But a decade or so after the forest was opened by disturbance it again closed up, greatly reducing the amount of forage. Deer abundance then declined because of starvation, reduced reproduction and fawn survival, and the ever-present predators.

Historians tell us that under these natural conditions, deer averaged about 10-15 deer per square mile of forestland and probably produced about 4-5 fawns per square mile. The combined impact of predators (about 2 deer per square mile per year by mountain lions, wolves and bears and about 2 deer per square mile by Native Americans) kept deer abundance in check – for every fawn surviving winter's rigors, the predator consortium removed a corresponding deer, adult or fawn. This natural system of checks and balances for deer was upset in the late 1800s by three factors: 1) near elimination of historical predators – bears, wolves, and mountain lions were hunted and trapped to near extinction, and Native Americans were displaced; 2) the vast forest was almost completely clearcut at least two times; and 3) deer were nearly eliminated by market hunting.

Many state wildlife agencies had as their genesis the demand to bring back depleted game populations, primarily deer. As a first step in deer recovery, these agencies banned doe hunting, and restricted buck hunting. This management directive (no doe hunting and bring back deer abundance) initiated to recover deer hunting, has since been discarded by management agencies, but is still embraced by the majority of deer hunters (don't shoot does and keep deer abundance high) for whom it is an unshakeable mantra. The end result of elimination of natural deer predators, vast increases in deer forage, and restriction/elimination of doe hunting resulted in an exponential increase in deer

abundance 1915-1940. In many places, deer density exceeded 50 deer per square mile, more than three times the natural abundance. In the interface between agricultural lands and forests, these high deer populations created huge losses of agricultural crops. And as the recovering forests shaded out the understory, there was a huge drop in abundance of deer forage. As a result, deer overbrowsed the forest understory, eliminating seedlings, shrubs, and herbs. Vast deer starvation die-offs followed, with thousands of deer starving to death in severe winters. Doe hunting, which had been recently initiated as a way to reduce overabundant deer herds, was hooted down by disgruntled hunters. The yo-yoing of deer abundance, and concerns over impacts of overabundant deer herds generated immense pressure for more knowledge.

The white-tailed deer is the most heavily-researched wild animal in North America. Google white-tailed deer on the internet and you will come up with over 1,000,000 hits. The science of white-tailed deer is enormous, comprehensive, and instructive. As a result of decades of dedicated white-tailed deer science, we know that:

Deer can degrade ecosystems. - Because deer do not effectively regulate their own numbers like predators do, in the absence predators they can outstrip the environment and cause great environmental damage. In forests, this generally occurs when deer exceed 10-15 deer per square mile. At densities in the 20-40 deer per square mile, which in the past were experienced by hunters and are today accepted as the norm, deer change the dynamics of understory vegetation. They eliminate preferred tree seedlings, shrubs, and wildflowers, resulting in a simplified understory of seedling species resistant to deer browsing, ferns and grasses and threatening with extinction shrubs and wildflowers that never grow out of their reach. A distinctive "browse line" exists, where there is little if any vegetation below the six foot height interval that deer can reach. Because wildlife food and cover (habitat) are eliminated, many forest bird species that feed and breed in the understory are lost or greatly diminished. Foresters cannot harvest mature trees because the seedlings that are needed to replace them and grow the next forest are not there. When density exceeds 60 deer per square mile, vast winter starvation die-offs occur. *For healthy and diverse forest ecosystems, such as surrounding Keuka Lake, deer abundance must be managed to keep it in the 10-15 deer per square mile interval.*

Deer can cause enormous amounts of damage to agriculture. – The interface of forest woodlots and agricultural lands amounts to deer heaven: abundant and nutritious food right next to forestlands for hiding and fawn-rearing. Such systems can support densities exceeding 50 deer per square mile, but deer impact on crops can reach hundreds to thousands of dollars per acre (especially where fields border woodlots), and the impact of inflated deer density on the understory in adjacent woodlots is catastrophic – virtually nothing grows there except ferns, grasses, and deer-resistant tree seedlings such as locust and beech. Combating deer damage to agricultural crops is expensive (fencing, deer cannons, repellents) and not always effective.

Deer can negatively affect humans in other ways. - The New York DEC estimates there are in excess of 50,000 deer/vehicle collisions annually in New York, representing about $100 million in damages, several human fatalities, and hundreds of human

hospitalizations. In areas with high deer density and proximity to forestlands, landowners may lose most of their landscaping: in forested parts of Westchester County shrubs and flowers on properties not protected by 8 foot or taller deer fences are virtually non-existent. Lyme disease, a disease carried by deer ticks infected with the Lyme bacteria, is not yet prevalent in the Finger Lakes region, although there are cases reported every year. In Westchester County, and other coastal counties with high deer density, persons walking in the woods usually find deer ticks on them and rates of Lyme disease in humans are high.

Deer density and impacts can be reduced by hunting. - An international association called the Quality Deer Management Association (QDMA) has shown that reducing deer density by emphasizing harvest of doe deer, and restricting harvest of bucks to those with bigger racks can result in improved deer weight and antler characteristics. A large demonstration project in Pennsylvania covering 74,000 acres of forestland and utilizing QDMA principles reduced deer density from 28 to 11 deer per square mile in 5 years with an aggressive program of increased doe harvest and restrictions on buck harvest (www.kqdc.com). Weights and antler characteristics of deer greatly improved, and impact of deer on forest resources was greatly reduced. Hunters in New York can obtain additional permits (Deer Management Permits or DMPs) to harvest antlerless deer as a way to reduce local deer density. A similar program in Pennsylvania (Deer Management Assistance Program or DMAP) resulted in a significant reduction in deer density and impact on forest resources in Pennsylvania's Northern Tier.

Alternatives to hunting are expensive and/or don't work. - Eight-foot high deer fences have been used successfully to reduce deer damage to forestlands, agricultural lands and home site landscaping. Unfortunately, at a construction cost of $2.50-$3.00 per linear foot of fencing, and an annual maintenance cost of $0.50 for per linear foot, fencing is too costly an alternative for most foresters and farmers. Repellents are of limited effectiveness, and must be applied repeatedly to all plants. Importing mountain lions and wolves will not work in areas where humans co-exist. Contraceptives or chemo-sterilants can work on small deer herds enclosed by deer-proof fences but are not practical on free-ranging deer (each doe must receive an initial injection, usually fired from a rifle, and must receive one or more additional booster injections).

The bottom line – hunting is the only practical, economical solution. - Hunters, usually armed with DMP permits, can reduce local deer density and damage, and they do it for free. Hunters can only be effective when they are motivated to harvest does, and in cases where landowners can provide safe access to hunting and enough doe permits to effect significant reduction in deer density.

For information on the DMP program (how to get permits as a landowner, and how to get permits as a hunter) visit the NY DEC websites: www.dec.ny.gov/outdoor/6403 and www.dec.ny.gov/animals/7199