

**PROTOCOLS FOR ACTIVITIES WITHIN NATURALLY
VEGETATED BUFFER STRIPS (NVBS)**

The purpose of these protocols is to protect water pollution control and wildlife habitat interest/values under the *State Wetlands Protection Act Regulations, 310 CMR 10.00* and the *Town of Mashpee's Wetlands Protection Bylaw, Chapter 172* while allowing property owners to conduct certain activities within these significant buffer areas to our wetland resources. **Naturally Vegetated Buffer Strips (NVBS)** are defined as the area 100 feet landward from a wetland resource area including 100 year flood-plains and inland and coastal banks.

In order to protect wildlife habitat, as well as other wetland functions such as flood control and prevention of pollution that NVBSs protect, the following protocols are to be followed for work in areas within 50 feet of wetland resources, also referred to as a **Naturally Vegetated Buffer Strip (NVBS)**. Naturally vegetated buffer strips are measured horizontally from all wetland resource areas including inland and coastal banks.

Selective Vista Pruning for View Corridors A Request for a Determination of Applicability, or if pruning is proposed within 50 feet of a water body or vegetated wetland, a Notice of Intent is required to be filed with the Conservation Commission for any vista pruning within 100 feet of a wetland resource, including coastal and inland banks and the 100 year floodplain. The application must clearly show a defined view corridor from the dwelling on a plan or sketch. The main goal here is to minimize the amount of vegetation removed for a view corridor.

On residential lots of two acres or less only one view corridor shall be acceptable. View corridor width at the wetland edge may not alter more than 25% of the width of the Naturally Vegetated Buffer Strip as measured linearly from property line to property line along the edge of the wetland resource or 50 feet in width as measured along the wetland edge whichever is smaller (see attached example diagrams). View corridors shall be trapezoidal in shape with the landward end being no more than 80% of the width of the wetland end.

A view corridor shall be created by selective pruning and cutting of vegetation in the NVBS. Most view corridors can be accomplished by only removing limbs, not trees. Only 30% of the limbs per tree may be cut for view corridors. In some instances, after an MCC staff inspection has been conducted, up to 20% of the saplings (<5 inches dbh (diameter at breast height)) within the view corridor may be removed. The stumps of the saplings must remain in place for a follow-up inspection. Some pruning of shrubs may be allowed within the corridor in order to achieve a view, but never below 5 feet in height above the brush ground level. In view corridors on slopes, shrubs often do not need to be pruned at all. After obtaining a valid permit from the Conservation Commission and prior to any removal of vegetation, the applicant shall clearly define the desired view corridor in the field. This includes the top, bottom and side perimeters of the corridor.

Vista Pruning Protocols for Condominium Complexes:

Vista Pruning protocols for condominium properties that have extensive frontage along wetland resource areas shall be accommodated on a case by case basis. A site visit with the conservation agent is required prior to any permitted pruning taking place within the Chapter 172 Wetlands jurisdiction. All proposed pruning on sapling and mature sized trees shall be clearly marked in the field with colored tape indicating a specific type of cutting activity. All pruning work must be carried out by a licensed and certified landscaper, arborist and/or horticulturalist without exception. Proof of contractor certification must be supplied to the Conservation Dept upon request. All pruning shall be carried out in such a way as to preserve vegetative layers, habitat and bio-diversity to the greatest extent possible.

All vista pruning shall be limited to a time of year restriction from November 1st to March 1st of each calendar year so as not to interfere with bird nesting season. The commission may extend the vista pruning window in any given year in the event of adverse weather conditions that prohibit pruning work to take place during the allowable time period.

No new view corridors will be permitted where existing views/view corridors exceed that described in the underlined passage above. Prior to the commencement of any pruning, there shall be a pre-work on-site by Conservation staff. View corridors may be prohibited in sensitive or critical habitat areas.

Lawns/Installation and Maintenance

For installation, expansion and maintenance of lawn areas within jurisdiction of the *Mashpee Wetlands Bylaw Chapter 172* please refer to Regulation 31 Nitrogen-Loading/Lawn Standards in Chapter 172.

What is Wildlife Habitat?:

Habitat is where animals find what they need to survive: **food, cover from predators and weather, and breeding areas.** Wildlife habitat is the eighth protected interest under the Massachusetts Wetland Protection Act. It is defined as “those areas subject to the *Wetlands Protection Act* which due to their plant community composition and structure, hydrologic regime or other characteristics, provide important food, shelter, migratory or overwintering areas, or breeding areas for wildlife”. Under the *Mashpee Wetlands by Law Regulations, Chapter 172, Regulation 24*, wildlife habitat is defined as “those areas subject to the jurisdiction of Chapter 172, Section 2 which, due to their plant community composition, soils, hydrologic characteristics, geomorphology, proximity to resource areas and/or other characteristics, provide food, shelter, migratory or overwintering areas, breeding and/or rearing areas for wildlife. Vernal pools are a special and important type of wildlife habitat”.

The two most important components of wildlife habitat are the **plant community structure and the plant species composition.** Plant community structure is the various vertical layers such as herbaceous, shrub, sapling and tree layers and the density of vegetation an area may have. Each of these types of plants represents a vertical layer (see illustration). These layers differ from one another in temperature, amount of sunlight, species of insects, and food sources. Each of these layers provides nesting, food and cover habitat for specific animals. For example, ruby-crowned kinglets, blue-winged warblers, Carolina wrens, and yellow warblers are species that utilize the mid

and lower limbs on trees for foraging purposes. Plant species composition is the amount of different kinds of plants that occupy an area. In general, the more diverse vertical structure an area has, that is low growth, shrubs and trees, the more feeding, cover and nesting opportunities are provided for different wildlife. A typical buffer area to a wetland resource in Mashpee will have sedge, winterberry, huckleberry, sweet pepperbush, pitch pine, scrub oaks and hickory trees. These plants are providing important nesting, cover and feeding habitat for many different species of wildlife such as songbirds, owls, amphibians, possums, long-tailed weasel and southern flying squirrel.

The Importance of Snags:

Snags, which are dead standing trees and logs which are dead down wood provide very valuable breeding, cover and feeding habitat for many wildlife species such as black-capped chickadees, woodpeckers, nuthatches, herons, hawks, raccoons, southern flying squirrels, and amphibians, to name a few. Dead wood is inhabited by insects that in turn provide an important food source for many species of birds that feed on insects for all or part of their life cycle. Insects are an essential source of protein for many birds during breeding and brooding seasons. Snags provide important perching sites for raptors. Logs provide safe, moist habitat for species such as red-backed and spotted salamanders. Small mammals, such as shrews, voles and long-tailed weasels will burrow under logs, using the log for safe entrance cover. However, manicured landscaping practices today that remove dead limbs, snags and down wood have contributed to the decline of some species of wildlife that depend on these landscape features. Because of the valuable habitat dead wood provides to wildlife, homeowners are encouraged to keep this landscape feature within the **NVBS** intact whether it's snags, dead limbs or down logs.

Only 25% of snags and logs may be removed within the **NVBS** (see Appendix A).

Uplifting, a popular landscaping practice, consists of removing a large number of lower and mid-canopy limbs along the trunks of trees, leaving only the canopy. Although this may provide views and more sunlight penetration for homeowners, it destroys nesting and feeding habitat for many birds and mammals by removing the most important part of the tree's structure, the lower and mid-canopy layers. Limbs and branches are where birds nest. Limbs and branch surfaces are also where birds feed on insects (called gleaning), seeds and fruit that are produced by the tree. It is also where birds seek cover from avian and mammalian predators. Topping of trees and shrubs can diminish that plant's ability to produce fruit or mast for many years after being cut. This can in turn mean a reduced food source for wildlife, particularly when the practice is used in entire neighborhoods. In addition, this practice can weaken trees and make them more vulnerable to diseases. Uplifting and topping of trees is not allowed within the **NVBS**.

Trees and limbs in close proximity to dwellings that pose legitimate safety and welfare concerns may be approved for removal on a case by case basis. Applicants may be required to file a Request for Determination of Applicability with the Conservation Commission if removal will be within 100 feet of a wetland or within the 100 year flood-plain.

Table 29-1 Naturally Vegetated Buffer Strip Characteristics

NATURALLY VEGETATED BUFFER STRIP (NVBS) (WIDTH IN FEET)	SEDIMENT AND POLLUTION REMOVAL (Approx %)	WILDLIFE HABITAT VALUES ASSOCIATED WITH SPECIFIED NVBS WIDTH
15	50%	Poor habitat value; useful for temporary wildlife activities
35	60%	Minimally protects stream habitat; poor habitat value; useful for temporary activities for wildlife
50	>60%	Minimal general wildlife and avian habitat value
65	70%	Minimal wildlife habitat value; some value as avian habitat
100	70%	May have use as a wildlife travel corridor as well as general avian habitat
165	75%	Minimal general wildlife habitat value
250	80%	Fair-to-good general wildlife and avian habitat value
330	80%	Good, general wildlife habitat value; may protect significant wildlife habitat
650	90%	Excellent general wildlife habitat value; likely to support a diverse wildlife community

Illustration

Vegetative Layers

Plants within vegetative communities are divided into strata, or layers, for analysis. Five layers are used in this assessment: ground cover, shrub, sapling, climbing woody vine, and tree.

The ground cover layer includes woody vegetation less than 3 feet in height (seedlings), non-climbing woody vines less than 3 feet in height, and all non-woody vegetation (herbs and mosses) of any height. (See dark areas in illustration.)



Shrubs are woody vegetation greater than or equal to 3 feet, but less than 20 feet in height. (See dark areas in illustration.)



The sapling layer includes woody vegetation over 20 feet in height with a diameter at breast height (dbh) greater than or equal to 0.4 inches to less than 5 inches. Diameter at breast height is measured 4.5 feet from the ground. (See dark areas in illustration.)

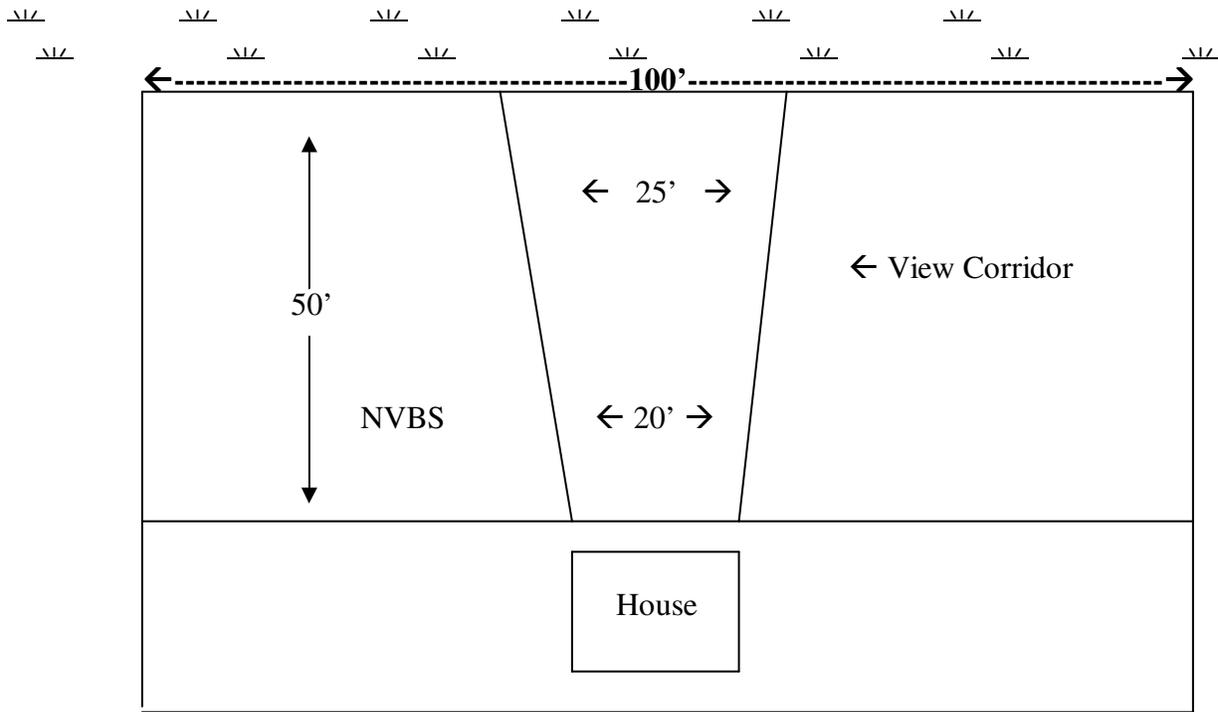


Trees are woody plants with a dbh of 5 inches or greater and a height of 20 feet or more. (See dark areas in illustration.)



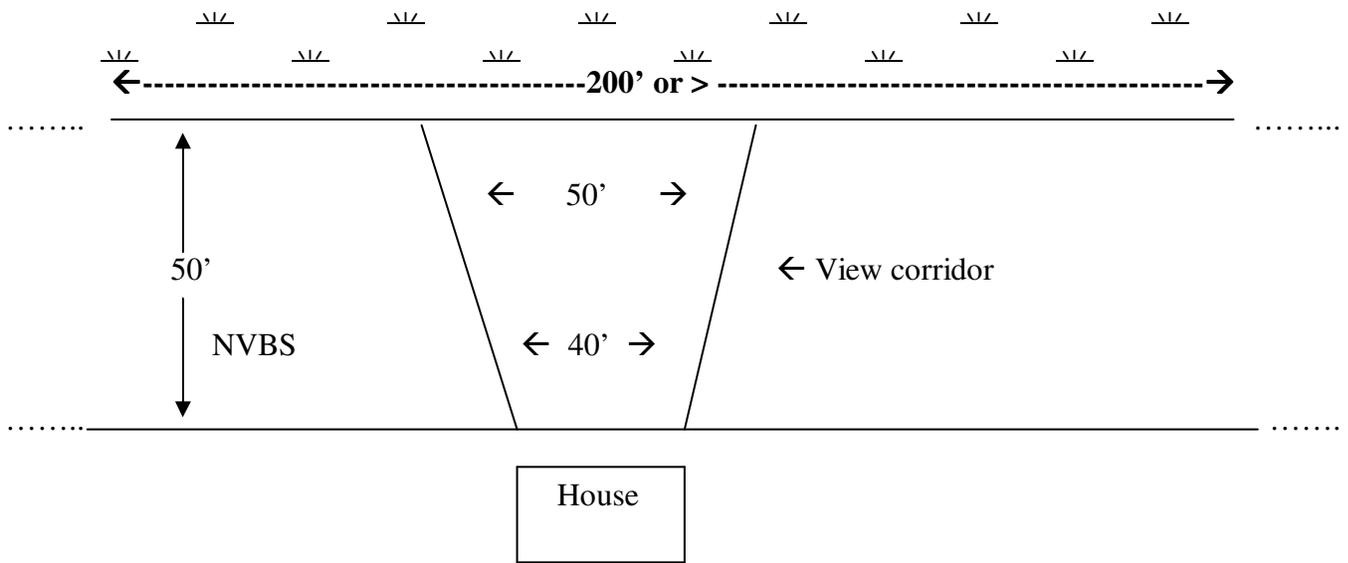
Example # 1

Corridor width that equals 25% of the width of the NVBS adjacent to the wetland resource (Wetlands)



Scale 1" = 30'

Example # 2 –Situation where the 50' maximum corridor width would apply (Wetlands)



Scale 1" = 50'

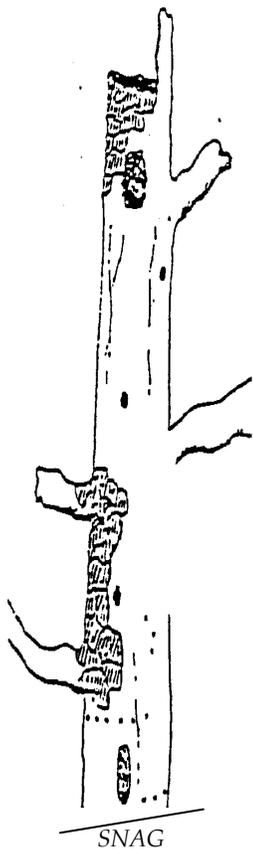
*THE IMPORTANCE OF SNAGS IN HABITAT EVALUATIONS
OR ... DEAD WOOD IS GOOD WOOD*

BY C. DIANE BORETOS

Whether it's standing dead and dying trees (snags) or dead and down wood (logs and root wads), these structural components provide valuable wildlife habitat to a great diversity of species from primary decomposers to mammalian predators. Their uses are wide ranging from nesting, perching, feeding and cover functions to courting display areas. Snags and logs are ecosystems themselves, providing both nutrients to the surrounding soil and an energy source to a complex food web that serves different species as it goes through decomposition succession. Unfortunately, this specialized habitat has been greatly reduced in sections of New England due to past logging practices of clear-cut forestry and manicured landscaping practices in urban and suburban areas. Snags are particularly valuable as wildlife habitat when they are located near wetland resources. Science is just beginning to understand the significance of these forest elements, and as wetland field professionals, we are in a good position to protect them by identifying and calling attention to them in wildlife habitat evaluations. The following are just a few examples of how wildlife utilize snags and logs.

is physically stable. There are primary cavity excavators such as pileated woodpeckers, northern flickers, yellow-bellied sapsuckers and hairy woodpeckers who, in turn, provide habitat for secondary users of the cavities such as wood ducks, great horned owls, red-breasted nuthatches and tree swallows. Beech, hickory and maples can provide long lasting hard snag habitat in New England. In general, the larger the diameter of the snag, the more species can use it. Hard snags are used for cover by birds and mammals during extreme weather and for vulnerable periods such as during molting (e.g. snakes) and they

Soft snags are more decomposed and the wood is punky. Because punk wood is able to hold more moisture it provides good habitat for insects which, in turn, provides foraging and excavating feeding habitat for many species of birds that are insectivores during all or part of the year. Such insectivores are downy and hairy woodpeckers, white-breasted nuthatches and brown creepers to name a few. However, because soft snags hold more moisture, they are generally not as desirable as hard snags for nesting and rearing young.



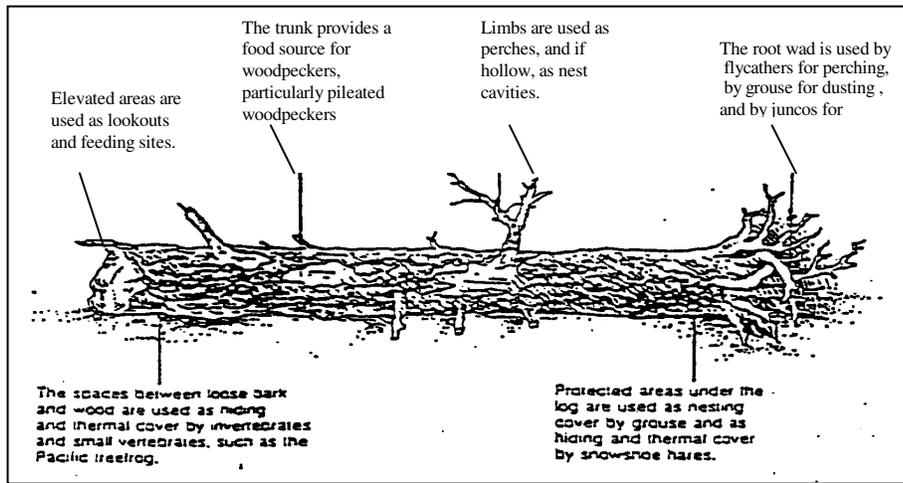
HARD AND SOFT SNAGS

Snags are classified as being either hard or soft, based on their state of decay. A hard snag may be a dead or partially dead tree with solid wood and limbs. Over time it can become a soft snag with just a trunk left standing. Hard snags provide excellent cavity-nesting opportunities for birds (e.g. black-capped chickadee, tufted titmouse, barred owls) and mammals (e.g. southern flying squirrel, fisher, white-footed mouse) because the wood is dry and the snag itself

LOGS

Logs are dead and down wood, including limbs and root wads. Root wads are the uprooted root systems associated with blowdown trees seen in forested wetlands and moist forests. Dead and down woody material is an essential, moist habitat for reptiles and amphibians. Logs can provide perching and displaying opportunities for ground dwelling birds such as wrens and ruffed grouse. Grouse will often use the same "drumming log" year after year. Small rodents such as red-backed voles, shrews and white-footed mice, an important component of the food web, use logs as safe cover for tunnel entrances. Root wads are used as perching areas for certain passerines birds. I have often found mammal burrows at the base of these features in forested areas. Some bird species such as slate-colored juncos nest in root wads. A colleague recently found a downy woodpecker nest that had been exca-

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Downed logs furnish many structural features important to wildlife.

Source: Inventory and Monitoring of Wildlife Habitat by Cooperider et al.

Snags – (continued from Page 6)

vated out of the dirt in a root wad. When logs are hollow and have some diameter to them, they can provide den and cover habitat for porcupine, mink, raccoon and fisher. Some species, such as red fox will use logs as scenting posts. One can find these posts in winter, particularly in January and February when their urine scent is very strong (similar to skunk) and you can see the yellow stains easily in the snow. Down wood is also used as travel ways by fishers and mink. Logs in riparian areas that are partially submerged provide basking areas for turtles and reptiles, loafing spots for ducks, and, when touching both sides of a stream bank, bridges for small mammals.

SNAG DATA FOR HABITAT EVALUATIONS

The following is a list of information that can be collected on snags when you are doing habitat assessments:

- Species
- Hard or soft snag
- Diameter at Breast Height (dbh)
- Amount of remaining bark on trunk
- Existing cavities: diameter and height from ground
- Vegetative: structure around snag
- Other wildlife use (e.g. woodpecker borings, perching use).
- Amount of dead and down wood within site
- Logs: rodent entrances present, state of decay, other evidence of wildlife use

A note of caution: snags are also called "widow makers" by foresters. A snag that looks stable: may not be ...so, use caution when taking measurements.

So, even though snags and logs are a dead or decaying feature in the landscape you will almost always find signs of life in and around them. Dead Wood is Good Wood!

REFERENCES

- Cooperrider, A, Boyd, R. Stuart, H.1986. Inventory and Monitoring of Wildlife Habitat. U.S. Department of Interior, Bureau of Land Management.
- Gutierrez, R., Decker, D., Howard, R, Lassoie, J. Managing Small Woodlands for Wildlife. Cornell Cooperative Extension. Bulletin 157.
- Safe Trees for Wildlife: Project 1997. National Wildlife Federation's Northeast Natural Resource Center.