

VT NRCS Practices Effects on Threatened and Endangered Species (T&E)

This table shall be used to assist in making planning decisions regarding federally threatened and endangered species. Numbers adjacent to Xs correspond to footnotes at the end of the table. Refer to the “Vermont’s Guidance Document For NRCS Compliance with the Endangered Species Act (ESA)” for further guidance on use of this table and other tools.

No Effect - No effect to T&E species

NLAA - Not Likely to Adversely Affect T&E species

Negative - Potential adverse effect on T&E species if present (May require further consultation.)

Positive - Practice may beneficially affect T&E species if present

Practice Name and Unit	Practice Code	No Effect	NLAA	Negative	Positive
Access Control	472				X2
Access Road (Feet)	560		X1, X3	X1, X3	
Agrichemical Handling Facility (No.)	309	X			
Agricultural Secondary Containment Facility (No.)	710	X			
Anaerobic Digester, Controlled Temp. (No.)	366	X			
Animal Mortality Facility (No.)	316	X			
Animal Trails and Walkways (Feet)	575		X1, X3	X1, X3	
Aquatic Organism Passage (Miles)	396				X2
Brush Management (Acre)	314		X3, X5	X3, X5	X2
Channel Bed Stabilization (Feet)	584		X4		
Channel Bank Vegetation (Acre)	322		X1, X6	X1, X6	X2
Clearing and Snagging (Feet)	326		X4		
Closure of Waste Impoundments (No.)	360	X			
Composting Facility (No)	317		X3	X3	
Conservation Cover (Acre)	327				X2
Conservation Crop Rotation (Acre)	328				X2
Constructed Wetland (Acre)	656		X4		
Contour Buffer Strips (Acre)	332				X2
Contour Farming (Acre)	330				X2
Cover Crop (Acre)	340				X2
Critical Area Planting (Acre)	342	X			
Deep Tillage (Acre)	324	X			
Dike (Feet)	356		X4		
Diversion (Feet)	362	X			
Dry Hydrant (Each)	432	X			
Early Successional Habitat Mgmt. (Acre)	647		X3	X3	
Farmstead Energy Improvement (No.)	374	X			
Feed Management (No)	592	X			
Fence (Feet)	382				X2
Field Border (Acre)	386	X			
Filter Strip (Acre)	393				X2
Forage and Biomass Planting (Acre)	512	X			
Forage Harvest Management	511	X			
Forest Stand Improvement (Acre)	666		X3	X3	X2

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Practice Name and Unit	Practice Code	No Effect	NLAA	Negative	Positive
Forest Trails and Landings (Feet)	655		X1, X3	X1, X3	
Grade Stabilization Structure (No)	410	X			
Grassed Waterway (Acre)	412				X2
Heavy Use Area Protection (Acre)	561				X2
Hedgerow Planting (Feet)	422				X2
Herbaceous Weed Control (Acre)	315		X5	X5	X2
Integrated Pest Management (Acre)	595	X			
Irrigation Pipeline (Feet)	430	X			
Irrigation Reservoir (No.)	436		X1, X3	X1, X3	
Irrigation System, Microirrigation (No/Acre)	441	X			
Irrigation System, Sprinkler (No/Acre)	442	X			
Irrigation Water Management (Acre)	449	X			
Land Clearing (Acre)	460		X4		
Lined Waterway or Outlet (Feet)	468	X			
Monitoring Well (No)	353	X			
Mulching (Acre)	484	X			
Nutrient Management (Acre)	590				X2
Obstruction Removal (Acre)	500		X3	X3	
Open Channel (Feet)	582		X4		
Livestock Pipeline (Feet)	516	X			
Pond (No)	378		X4		
Pond Sealing or Lining		X			
Flexible Membrane Lining (No)	521-A				
Soil Dispersant (No)	521-B				
Bentonite Sealant (No)	521-C				
Compacted Clay (No)	521-D				
Prescribed Burning (Acre)	338		X3	X3	
Prescribed Grazing (Acre)	528		X1	X1	
Pumping Plant (No)	533	X			
Residue & Tillage Mgt.: Seasonal (Acre)	344	X			
Residue & Tillage Mgt.: Mulch Till (Acre)	345	X			
Residue & Tillage Mgt.: No-Till/Strip Till/Direct Seed (Acre)	329	X			
Residue & Tillage Mgt.: Ridge Till (Acre)	346	X			
Restoration & Mgt. of Declining Habitat (Acre)	643				X2
Riparian Forest Buffer (Acre)	391				X2
Riparian Herbaceous Cover (Acre)	390		X4		
Roof Runoff Structure (No)	558	X			
Roofs and Covers (No.)	367	X			
Row Arrangement (Acre)	557	X			
Seasonal High Tunnel (Ft. ²)	798	X			

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Practice Name and Unit	Practice Code	No Effect	NLAA	Negative	Positive
Sediment Basin (No)	350		X4		
Shallow Water Management For Wildlife(Ac)	646		X4		
Spring Development (No)	574		X1		
Stream Crossing (No)	578		X1	X1	
Stream Habitat Improvement & Management	395		X3	X3	X2
Streambank and Shoreline Protection (Feet)	580		X1, X6	X1, X6	X2
Stripcropping(Acre)	585	X			
Structure For Water Control (No)	587	X			
Subsurface Drain (Feet)	606	X			
Surface Drainage					
Field Ditch (Feet)	607		X4		
Main or Lateral (Feet)	608		X4		
Tree/Shrub Establishment (Acre)	612				X2
Tree/Shrub Pruning (Acre)	660	X			
Tree/Shrub Site Preparation (Acre)	490		X5	X5	
Underground Outlet (Feet)	620	X			
Upland Wildlife Habitat Management (Acre)	645		X3	X3	
Vegetated Treatment Strip	635				X2
Waste Storage Facility (No)	313		X1, X3	X1, X3	
Waste Transfer (No.)	634	X			
Waste Treatment (No.)	629		X1		
Waste Treatment Lagoon (No)	359		X1, X3	X1, X3	
Waste Utilization (Acre)	633				X2
Water and Sediment Control Basin (No)	638		X4		
Water Well (No)	642	X			
Water Well Decommissioning (No.)	351	X			
Watering Facility (No.)	614	X			
Wetland Creation (Acre)	658		X4		
Wetland Enhancement (Acre)	659		X4		
Wetland Restoration (Acre)	657		X3	X3	X2
Wetland Wildlife Habitat Management (Acre)	644	X			
Windbreak/Shelterbelt Establishment (Acre)	380				X2
Windbreak/Shelterbelt Renovation (Acre)	580		X4		X2

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Practice Name and Unit	Practice Code	No Effect	NLAA	Negative	Positive
Conservation Activity Plans (CAPs)					
Agricultural Energy Mgt. Activity Plan (Headquarters)	122	X			
Agricultural Energy Mgt. Activity Plan (Landscape)	124	X			
Comprehensive Nutrient Management Plan	102	X			
Conservation Plan Supporting Organic Transition	138	X			
Drainage Water Mgt. Plan	130	X			
Forest Mgt. Activity Plan	106	X			
Grazing Conservation Activity Plan	110	X			
Irrigation Water Mgt. Plan	118	X			
Integrated Pest Mgt. Plan	114	X			
Nutrient Mgt. Plan	104	X			
SPCC Spill Prevention & Countermeasure Plan	150	X			

CAPs*

CAPs allow for the development of specialized resource plans by Technical Service Providers (TSPs) with the intent of implementation of NRCS Conservation Practices. The CAPs are not considered to be a federal action per National Bulletin NB_450_9_6 and review by the Office of General Counsel (OGC). They are a plan, developed with resource conservation and landowner objectives in mind, intended to be implemented with NRCS conservation practices over time.

If the plan leads to NRCS practices being planned and implemented with NRCS assistance, the VT NRCS ESA Procedures will be followed. This will require analysis of the proposed practices before they are applied.

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Footnotes

Review From Procedural Guidance – Remember to contact personnel from the Contact List early in the process as they may be able to determine if any species are present. Informal consultation can be as simple as sending a site and practice description, map, and pictures via email to Vermont’s USFWS contact. Initially, do not identify a site to a landowner. USFWS will respond and provide comment indicating whether the project will have an effect or not. If the USFWS needs more information then the informal consultation requires more documentation. If further review would require landowner identification, NRCS must first secure landowner consent to notify USFWS using form NRCS-VT-CPA 52c. Then NRCS will submit form NRCS-VT-CPA-52b to the USFWS detailing the project where there are potential adverse effects to threatened or endangered species.

Canada Lynx: As of the date of this publication the Canada lynx (threatened) is considered “transient” in Vermont by the US Fish and Wildlife Service. Due to this designation, the USFWS does not expect any adverse effects to the species from NRCS conservation practices. When or if this “transient” status in Vermont is updated there may be updates to this practice effects matrix. Lynx have enormous home ranges and are found in large areas of boreal forest with mosaics of stand successional stages for snowshoe hare their primary prey. Denning sites have been found in areas of windfalls and other areas with coarse woody debris.

X1 – Earthmoving or implementation of certain practices in some areas may negatively affect threatened or endangered plant or animal species. Further investigation is required if the practice will be placed in a habitat type where a threatened or endangered plant may reside. Review the Town and habitat location/type in the SPECIES TOWN LIST. Make a visual observation of the area to determine if the species or habitat for the species exists or appears to exist. Contact the USFWS or the Vermont Nongame and Natural Heritage Program for assistance in identifying suitable habitats or if there are potential effects.

The most likely negative effect to listed plants will be placement of these practices in Northeastern bulrush habitat. Northeastern bulrush habitat includes sedge meadows, beaver pond margins and hemlock swamps. Check the SPECIES TOWN LIST to determine if potential N.E. Bulrush habitat exists in your planning area. If these habitats occur in the planning area then you will need to protect these resources through the planning process. This may include moving the location of certain practices.

For Practices such as ‘Access Road’ or ‘Forest Trails and Landings’ the planner must also think about impacts beyond the footprint of the road. While the access road may not be impacting an endangered or threatened species directly through filling or earth moving it may facilitate an action that could negatively affect another endangered species. For example, the access road may make a forested tract accessible and the landowner cuts all snags down. This could constitute ‘take’ under the ESA if this was an area that was known or suspected to support Indiana bats. Any knowledge of such activities would preclude cost share assistance on the proposed access road.

X2 – Practices should have a beneficial effect to threatened or endangered species if planned in a occupied Town and improving a habitat that could support those species. To benefit Indiana bats, suitable foraging habitat may be connected with riparian forest buffer and hedgerow widths of 25 feet

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or more. Open fields are generally avoided by bats during foraging while forest stands, forest edges and hedgerows are used. Forest Stand Improvement could be used to improve habitat for Indiana bat through roost tree management or stand-wide treatments. Exclusion of livestock or improvement to water quality in and around areas with dwarf wedgemussel and northeastern bulrush should have a positive effect. Invasive plant control can be used to help improve habitat and or reduce competition to listed species. Refer to the SPECIES TOWN LIST and habitat descriptions to determine if practice will likely benefit species in the planning unit. Also see X3 and X6 for habitat descriptions for Indiana bat and dwarf wedgemussel respectively.

X3 – Indiana Bats - Tree removal or alteration of trees during land clearing, forest management, habitat management, prescribed burning or for any other purpose authorized under these practices may adversely affect the Indiana bat if conducted in suitable habitat within the towns listed in the Vermont T+E Species by Town List. It should be assumed that Indiana Bats may be roosting and or foraging, **in suitable habitat**, within 3 miles of a known Indiana bat maternity colony, within 5 miles of a hibernacula (cave) or within any of the towns listed in the SPECIES TOWN LIST. Bat maternity colonies and foraging sites will change over time as the roost trees and habitats change (e.g. roost tree falls over). The listed towns all represent potential locations based on natural communities and age classes, climate and similarity to towns in proximity to known bat colonies or roosts. It is likely that not all roosting sites have been located so it is important to recognize all potential suitable habitats in the Champlain Valley.

Maternity colony habitat is comprised of two essential components – roost trees and suitable foraging habitat. Maternity colonies congregate in primary and secondary (the latter often termed “alternate”) roost trees where the bats “roost” under loose (i.e., exfoliating) bark. Bats from the same colony may use as many as 10 – 15 different roost trees within their home range. The primary roost trees are generally occupied by many bats (as many as 300+ in some cases).

Suitable and preferred foraging habitat shall be maintained. General forest bat research suggests that high quality foraging habitat is a relatively open stand condition below a main canopy of small sawtimber and larger size classes. Mature and over-mature uneven-aged stands that exhibit structural diversity and occasional gap openings can provide similarly high quality roosting and foraging habitat. In contrast, stand-wide sapling to pole size classes (0-7 inch dbh) are less favorable as these limit bat flight and foraging to the stand edge or above the canopy. While it is not necessary for the entire parcel to be dedicated to suitable roosting and foraging habitat, it is important that these habitats are available in an interconnected network of forest patches and riparian areas. Presence of a short woody vegetation layer less than 3-6 feet tall is acceptable. Open sugarbushes have been documented to be good foraging areas. Canopy cover should be maintained at 70-80% crown closure.

Maintain all known and potential primary and alternate roost trees. Research from Vermont and elsewhere on the characteristics of primary and secondary roost trees indicate that they are:

- Live shagbark hickory or black locust trees, or dead or dying trees (in the earlier stages of decay) of any species
- Possess exfoliating bark under which bats roost
- Greater than 8 inches dbh
- Dominant or co-dominant in the forest stand

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Dominant – crown extends above typical canopy height, co-dominant – crown is equal to typical canopy height

- Receive some level of direct solar radiation
- Generally within 20 feet of forest cover

Source: From Forest Management Guidelines for Indiana Bat Habitat - Vermont Fish and Wildlife Department

All harvesting of stands with trees with a diameter at breast height (DBH) of less than 8 inches may be conducted at anytime during the year following review of other T & E species requirements.

Any projects planned that may negatively affect roost trees and or suitable foraging habitat within the identified towns will require a consultation with the USFWS and or State Fish and Wildlife Department. USFWS will provide recommendations to limit or eliminate negative effects. This may include recommending to not proceed with the plan as described or recommending a certain portion of the parcel be maintained in a mature forest condition to support the bats. If project consent is given, tree harvesting within stands with trees greater than 8 inches DBH will occur between November 1 and April 1 to avoid harming or killing roosting bats.

Invasive plant control will, in most cases, provide habitat improvements to Indiana bats by favoring native trees and forests. If tree cutting (>8 inch DBH) is associated with this practice then there could be negative effects to the bats. An example of a practice that would need review would be cutting of tree species not native to Vermont such as black locust. While there may be long term benefits there could be short term adverse effects as these are often used as roost trees.

X4 – Vermont NRCS is not providing financial assistance for these practices and is expected to provide little technical assistance. This may also reference practices that are seldom used or have never been used in the State. If NRCS provides financial assistance for these practices, the NRCS State Biologist must be contacted for assistance using form NRCS-VT-CPA-52b during the planning process if the practice will be planned in a geographic location and habitat of a threatened or endangered species. The NRCS field office planner will review the SPECIES TOWN LIST for listed species locations and habitats. Contact the USFWS for assistance in identifying suitable habitats or if there are potential effects.

X5 – Herbicide application as part of these practices may adversely affect listed plant species if present. Further investigation is required if the practice will be placed in a habitat type where a threatened or endangered plant may reside. The most likely negative affect to listed plants will be application of herbicides in Northeastern bulrush habitat. Northeastern bulrush habitat includes sedge meadows, beaver pond margins and hemlock swamps. Check the SPECIES TOWN LIST to determine if potential N.E Bulrush habitat exists in your planning area. Make a visual observation of the area to determine if the species or habitat for the species exists or appears to exist. If these habitats occur in the planning area then you will need to protect these resources through the planning process. This may include moving the location of certain practices. Contact the USFWS or the Vermont Nongame and Natural Heritage Program for assistance in identifying suitable habitats or if there are potential effects.

X6 – Armoring or earth moving of stream banks/channels and clearing obstructions may negatively affect threatened or endangered aquatic species. Further investigation is required if the practice will be

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placed in a habitat type where a threatened or endangered aquatic species may reside. Review the town and habitat type in the SPECIES TOWN LIST for geographic locations of these species. Contact the USFWS for assistance in identifying suitable habitats or if there are potential effects.

The most likely negative effect to listed animals will be placement of these practices in dwarf wedgemussel habitat. Dwarf wedgemussels may be found anywhere along the Connecticut river between Bellow's Falls and Guildhall, Vermont as well as at the mouth of tributaries within this stretch of river. If any of these practices are proposed in these areas they will need to be reviewed by the USFWS.

Dwarf wedgemussels occupy a tremendous range of habitat conditions in the Connecticut River watershed and elsewhere in their North American range, especially with regard to stream size, substrate, and flow conditions. They inhabit small streams less than five meters wide to large rivers more than 100 meters wide, without the apparent need for connectivity between large rivers and small tributaries (although this connectivity can be important where it occurs). They may inhabit very shallow water along streambanks and can move laterally or horizontally in the substrate as water levels fluctuate, but they have also been found at depths of 25 feet in the Connecticut River. High-density populations have been found in a variety of substrate types including silt, clay, sand, gravel, and pebble, as well as in isolated pockets of fine sediment in otherwise rocky areas (boulder and ledge). They do not inhabit lakes or reservoirs but may occur in small impoundments created by run-of-river lowhead dams, beaver dams, or by natural landforms that create deep and stable stream reaches.

They occur in impounded portions of the upper Connecticut River but usually only toward the upper end of an impoundment. Dwarf wedgemussels are often patchily distributed in rivers, especially those with highly variable physical habitat and fragmenting features such as dams and culverts. Their primary host in the Connecticut River watershed—the tessellated darter—is one of the most widespread and numerically dominant fishes in small to large rivers. The rarity of dwarf wedgemussels cannot be explained on the basis of the distribution of its host fish.

An increasing number of published studies and field observations suggest that stable flow and substrate are critical for this species. Stability is key—and probably shapes distribution more than specific depths, flows, or substrates. In the Connecticut River watershed, dwarf wedgemussels seem to occur in stable river reaches that are less affected by floods, droughts, winter ice conditions, or other seasonal, annual, or infrequent events.

NOTE: From Distribution, Threats, and Conservation of the Dwarf Wedgemussel (Alasmidonta heterodon) in the Middle and Northern Macrosites of the Upper Connecticut River by Ethan Nedeau