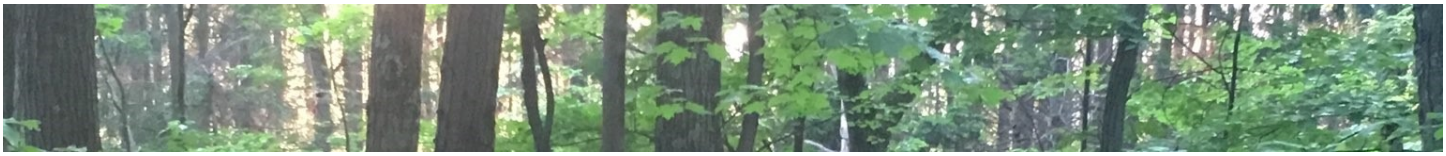

Natural Communities

A Natural Community is a set of interacting plants and organisms based on the natural processes and physical environment they occur in, such as elevation and soil type. Listed in the map layers are areas that fall under the categories of Clayplain, Evergreen Forest, Oak Forest, Riverine Floodplain, Swamp, Montane, and Northern Hardwood Forest. The following descriptions are generated based off of the book Wetland, Woodland, Wildland; A Guide to the Natural Communities of Vermont by Elizabeth H Thompson and Eric R Sorenson.

Clayplain:

Wet Clay Plain Forest Variant (p. 175)

Description: Wet Clayplain Forest Communities are usually found as small patches within Mesic Clayplain Forest. They occur around Lake Champlain, with a few isolated patches in south-western Vermont. Typical characteristics include poorly-draining soils that stay wet through the spring but may become dry during droughts in the summer.

Species:

Trees: Green Ash (*Fraxinus pennsylvanica),* Swamp white oak (*Quercus bicolor),* Black Ash (*Fraxinus nigra),* Bur Oak (*Quercus macrocarpa),* American Elm (*Ulmus americana),* Red Maple (*Acer rubrum),* White oak (*Quercus alba),* White ash (*Fraxinus americana),* Eastern hemlock (*Tsuga canadensis),* Red oak (*Quercus rubra),* White pine (*Pinus strobus),* Yellow birch (*Betula alleghaniensis),* Shagbark hickory (*Carya ovata),* Musclewood (*Carpinus caroliniana),* Northern white cedar (*Thuja occidentalis),* Basswood (*Tilia americana),* Silver maple (*Acer saccharinum).*

Shrubs: Winterberry holly (*Ilex verticillata),* Arrowwood (*Viburnum dentatum)*

Valley Clayplain Forest Variant (p. 176)

Description: Wetland forest that occurs on poorly draining but deep and fertile clay soils. This community was once the dominant community in the Champlain valley but today is rare because of agricultural use.

Species:

Trees: Green ash (*Fraxinus pennysylvanica),* Swamp white oak (*Quercus bicolor*), Black ash (*Fraxinus nigra*), Bur oak (*Quercus macrocarpa*), American elm (*Ulmus americana),* Red maple (*Acer rubrum).*

Shrubs: Winterberry holly (*Ilex verticillata),* Arrowwood (*Viburnum dentatum).*

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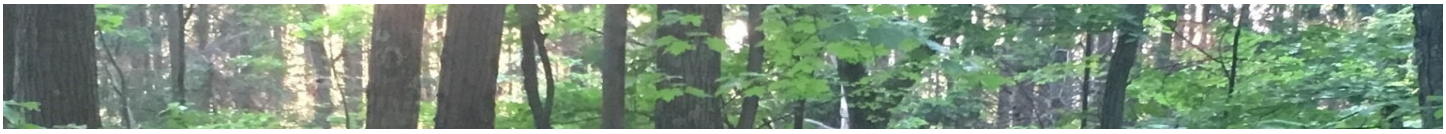

Evergreen Forest:

Red Cedar Woodland (p. 163)

Description: This community occurs along the western border of Vermont and along the Connecticut river valley and is composed of narrow bands of scattered trees. It occurs on south and west facing clifftops. Bedrock varies from acidic to calcareous, and well-drained soils are very shallow, resulting in drought-tolerant vegetation thriving in this community. It usually grades into Dry Oak-Hickory-Hophornbeam communities or other oak-dominated communities.

Species:

Trees: Eastern red cedar (*Juniperus virginiana),* Hophornbeam (*Ostrya virginiana),* Shagbark hickory (*Carya ovata),* White pine (*Pinus strobus),* White ash (*Fraxinus americana),* Red oak (*Quercus rubra),* Red pine (*Pinus resinosa),* Black cherry (*Prunus serotina),* White oak (*Quercus alba),* Chestnut oak (*Quercus montana).*

Shrubs: Downy arrowwood (*Viburnum rafinesquianum),* Smooth rose (*Rosa blanda),* Running shadbush (*Amelanchier spicata),* Low sweet blueberry (*Vaccinium angustifolium),* Chokecherry (*Prunus virginiana).*

Lowland Spruce Fir Forest (p. 115)

Description: This community occurs above 2,000 ft. in elevation and is less affected by wind and ice. It occurs in basins and other areas where cold air settles. Soils vary from slightly poorly drained to moderately well-drained and are composed of basal till or lacustrine sediments. They are acidic and low in fertility. Moisture results in shallow soil depth, increasing the chance of wind damage.

Species:

Trees: Red spruce (*Picea rubens),* Balsam fir (*Abies balsamea),* White pine (*Pinus strobus),* Yellow birch (*Betula alleghaniensis),* Paper birch (*Betula papyrifera),* Black spruce (*Picea mariana),* White spruce (*Picea glauca),* Northern white cedar (*Thuja occidentalis),* Red maple (*Acer rubrum),* Tamarack (*Larix laricina),* Pin cherry (*Prunus pensylvanica),* Quaking aspen (*Populus tremuloides),* Balsam poplar (*Populus balsamifera).*

Shrubs: Striped maple (*Acer pensylvanicum),* Hobblebush (*Viburnum alnifolium),* Mountain holly (*Nempanthus mucronatus),* Wild raisin (*Viburnum nudum var. cassinoides),* Sheep laurel (*Kalmia angustifolia),* Labrador tea (*Ledum groenlandicum),* Speckled alder (*Alnus incana),* Leatherleaf (*Chamaedaphne calyculata),* Mountain maple (*Acer spicatum),* American mountain-ash (*Sorbus americana),* Bartrum's shadbush (*Amelanchier bartramiana),* Velvetleaf blueberry (*Vaccinum myrtilloides).*

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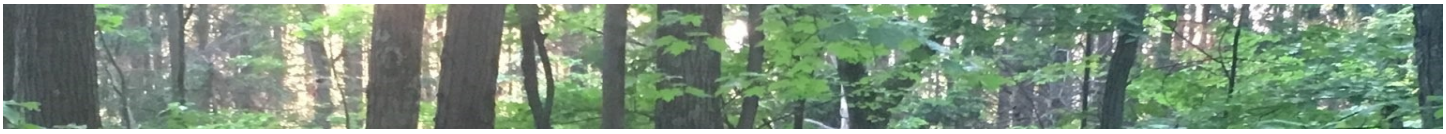

Riverine Floodplain:

Silver Maple Sensitive Fern Forest (p. 254)

Description: The Silver Maple-Sensitive Fern community occurs on floodplains on lower gradients near rivers, and receives annual overbank flooding in the spring and/or fall. In Vermont, it occurs in the Champlain valley and the Connecticut River valley. This community remains flooded, and comprises alluvial soils ranging from clay-loam, silt-loam, and fine sandy-loam. Soils will also have mottling in the top 4", causing fine soil textures. Leaf litter decomposes quickly, preventing an organic layer from forming. Always considered a wetland.

Species:

Trees: Silver maple (*Acer saccharinum),* Green ash (*Fraxinus pennsylvanica),* American elm (*Ulus americana),* Swamp white oak (*Quercus bicolor).*

Shrubs: Winterberry holly (*Ilex verticillata),* Poison ivy (*Toxicodendron radicans),* Riverbank grape (*Vitis riperia).*

Silver Maple Ostrich Fern Forest (p. 250)

Description: This community occurs on the low to moderate gradients of most of the major rivers in Vermont, throughout the whole state. They receive annual flooding. However, water tables might occur well below the surface for most of the growing season. Levees and old channel meander scars are regular occurrences in this community. Alluvial soils are moderate to well-drained sandy loam, with no mottling. Thin buried lenses of decomposing leaves may occur in lieu of an organic layer. Almost always considered a wetland.

Species:

Trees: Silver Maple (*Acer saccharinum),* Cottonwood (*Populus deltoides),* American elm (*Ulnus americana),* Slippery elm (*Ulnus rubra),* Hackberry (*Celtis occidentalis),* Boxelder (*Acer negundo),* Black willow (*Salix nigra),* Butternut (*Juglans cinerea),* Sycamore (*Platanus occidentalis).*

Shrubs: Riverbank grape (*Vitis riperia),* Virginia creeper (*Pathenocissus quinquefolia),* Nannyberry (*Viburnum lentago),* Chokecherry (*Prunus virginiana).*

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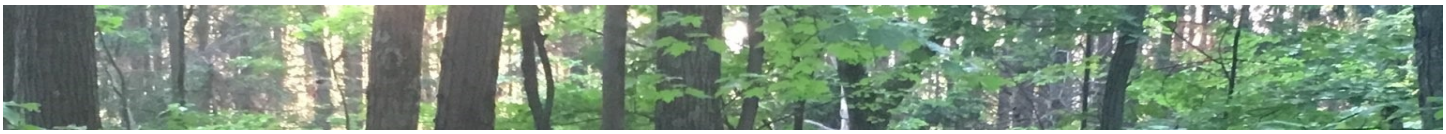

Montane Forest:

Montane Spruce Fir Forest (p. 111)

Description: This community occurs along central and northeastern Vermont and generally occurs above 2,800 ft. Climate is usually harsh and cold, with frequent clouds that trap in constant moisture and create fog. This fog provides a reliable source of moisture to vegetation. Soils are typically acidic and low in fertility.

Species:

Trees: Red spruce (*Picea rubens),* Balsam fir (*Abies balsamea),* Yellow birch (*Betula alleghaniensis),* Heart-leaved paper birch (*Betula cordifolia),* Black spruce (*Picea mariana).*

Shrubs: Mountain maple (*Acer spicatum),* Striped maple (*Acer pensylvanicum),* Hobblebush (*Viburnum lantanoides),* Showy mountain ash (*Sorbus decora),* American mountain ash (*Sorbus americana),* Bartram's shadbush (*Amelanchier bartramiana).*

Montane Yellow Birch Red Spruce Forest (p. 119)

Description: This community typically occurs in the transition zones between the northern Hardwood and Montane Spruce Fir Forest communities and is seen throughujut the Green Mountains. Soils are well drained and there is often exposed bedrock present.

Species:

Trees: Red spruce (*Picea rubens),* Balsam fir (*Abies balsamea),* Yellow birch (*Betula alleghaniensis),* Sugar Maple (*Acer saccharum*), Red Maple (*Acer rubrum),* American Beech (*Fagus grandifolia*), Paper Birch (*Betula papyrifera*), Pin Cherry (*Prunus pensylvanica),* Quaking Aspen *(Populus tremuloides)*

Shrubs: Mountain maple (*Acer spicatum),* Striped maple (*Acer pensylvanicum)* Hobblebush (*Viburnum lantanoides)*

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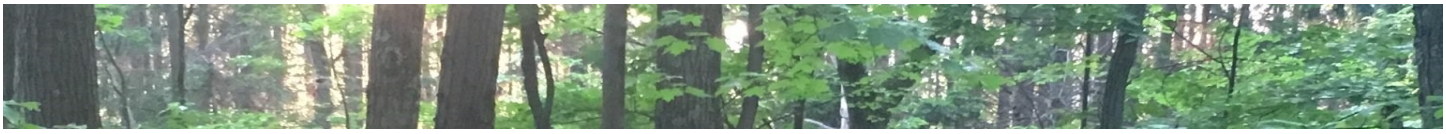

Northern Hardwood Forest:

Rich NH Forest (p. 138)

Description: This community is found all throughout Vermont. Downward colluvial processes provide vegetation with continuous nutrients. Soils range from somewhat poorly drained to well-drained, with a hardpan about 12-24" below the surface. This keeps moisture and nutrients near the surface.

Species:

Trees: Sugar maple (*Acer saccharum),* White ash (*Fraxinus americana),* Basswood (*Tilia americana),* Black birch (*Betula lenta),* Bitternut hickory (*Carya cordiformis),* Yellow birch (*Betula alleghaniensis),* American beech (*Fagus grandifolia),* Black cherry (*Prunus serotina),* Butternut (*Juglans cinerea),* Hophornbean (*Ostrya virginiana).*

Shrubs: Striped maple (*Acer pensylvanicum),* Alternate-leaved dogwood (*Cornus alternifolia),* Maple-leaved viburnum (*Viburnum acerifolium),* Red-berried elder (*Sambucus racemosa),* Round-leaved dogwood (*Cornus rugosa),* Leatherwood (*Dirca palustris).*

NH Forest (p. 132)

Description: This community is found all throughout Vermont, and is its most abundant natural community. It has a lot of variation depending on climate, slope, landscape position, bedrock and till chemistry, stoniness, depth to hardpan or bedrock, and past land use. Northern Hardwood forests usually occur below 2,700 ft. elevations. Loam soils are typically cool and moist.

Species:

Trees: Sugar maple (*Acer saccharum),* Yellow birch (*Betula alleghaniensis),* American beech (*Fagus grandifolia),* Eastern hemlock (*Tsuga canadensis),* Red maple (*Acer rubrum),* White ash (*Fraxinus americana),* White pine (*Pinus strobus),* Black cherry (*Prunus serotina),* Black birch (*Betula lenta),* Basswood (*Tilia americana),* Red spruce (*Picea rubens).*

Shrubs: Hobblebush (*Viburnum lantanoides),* Striped maple (*Acer pensylvanicum),* Shadbush (*Amelanchier spp.),* Canada honeysuckle (*Lonicera canadensis),* Beaked hazelnut (*Corylus cornuta),* Alternate-leaved dogwood (*Cornus alternifolia).*

Hemlock NH Forest (p. 148)

Description: This community is composed of hemlocks, pines, and hardwoods. Soils are moist and vary from till-derived to shallow -to-bedrock, sandy, or gravelly. Hemlocks and yellow birch trees found here both require exposed mineral soil or mossy logs to germinate, which is why they are usually found together.

Species:

Trees: Eastern hemlock (*Tsuga canadensis),* American beech (*Fagus grandifolia),* Yellow birch (*Betula alleghaniensis),* Sugar maple (*Acer saccharum),* Red maple (*Acer rubrum),* Paper birch (*Betula papyrifera),* White pine (*Pinus strobus),* Red oak (*Quercus rubra).*

Shrubs: Striped maple (*Acer pensylvanicum),* Hobblebush (*Viburnum lantanoides).*

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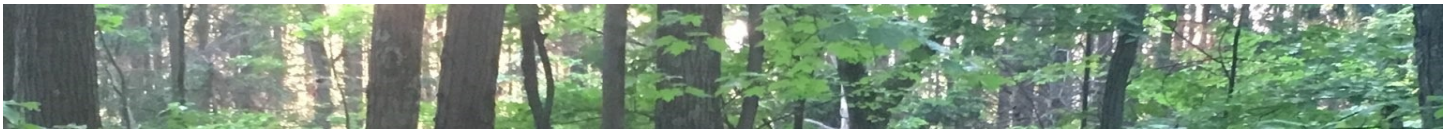

Oak Forest:

Mesic Maple Ash Hickory Oak Forest (p. 171)

Description: This community occurs in warmer climates and gains nutrients from either bedrock influences or colluvial processes.

Species:

Trees: White oak (*Quercus alba),* Bitternut hickory (*Carya cordiformis),* Sugar maple (*Acer saccharum),* Basswood (*Tilia americana),* White ash (*Fraxinus americana),* Shagbark hickory (*Carya ovata),* Red oak (*Quercus rubra),* Red maple (*Acer rubrum),* Eastern hemlock (*Tsuga canadensis),* White pine (*Pinus strobus),* Paper birch (*Betula papyrifera),* Hophornbeam (*Ostrya virginiana),* Butternut (*Juglans cinerea),* Black cherry (*Prunus serotina).*

Shrubs: Maple-leaved viburnum (*Viburnum acerifolium),* Shadbushes (*Amelanchier spp.).,* Striped maple (*Acer pensylvaicum),* Witch hazel (*Hamamelis virginiana),* Beaked hazelnut (*Corylus cornuta).*

Dry Oak Hickory Hophornbeam Forest (p.169)

Description: These natural communities are very open with high visibility, with low amounts of shrubs. They are generally found on hilltops and gentile ridgelines, and occur in warmer climates with shallow soils that shed water. These communities likely resulted naturally, as well as being used as pastures.

Species:

Trees: Red Oak (*Quercus rubra),* White Oak (*Quercus alba),* Shagbark Hickory (*Carya ovata)*, Hophornbeam (*Ostrya virginiana)*, Sugar Maple (*Acer saccharum)*, White Ash (*Fraxinus americana)*, Sugar Maple (*Acer saccharum*)

Shrubs: Maple-leaf viburnum (*Viburnum acerifolium),* Downy Arrowwood (*Viburnum rafinesquianum)*

White Pine Red Oak Black Oak Forest (p. 177)

Description: This community occurs in Southern New England, where the climate is usually more temperate. In Vermont, this occurs in the Connecticut valley and in the Champlain Valley. This community is not found above an elevation of 1,400 ft. Well-drained to excessively well-drained soils are common.

Species:

Trees: White Pine (*Pinus strobus*), Red Oak (*Quercus rubra*), Black Oak (*Quercus veluntina)*, White oak (*Quercus alba), Red pine (Pinus resinosa),* American Beech (*Fagus grandifolia)*, Eastern Hemlock (*Tsuga canadensis)*, Red Maple (*Acer rubrum)*,White Ash (*Fraxinus americana)*

Shrubs: Witch-Hazel (*Hamamelis virginiana)*, Smooth Shadbush (*Amelanchier laevis)*, Beaked Hazelnut (*Corylus cornuta),* Maple-leaf viburnum (*Viburnum acerifolium)*, Low sweet blueberry (*Vaccinium angustifolium),* Late low blueberry (*Vaccinium palladium),* Sheep laurel (*Kalmia angustifolia),* Mountain laurel (*Kalmia latifolia).*

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Lake Champlain Basin Program

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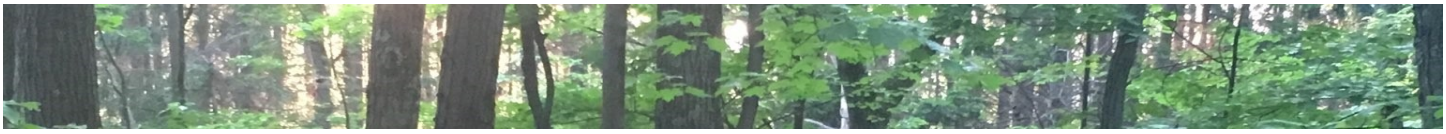

Swamp:

Alder Swamp (p.379)

Description: This shrub-dominated community can be found all throughout Vermont. Soils are well-saturated and experience occasional seasonal flooding. Soils vary from having a high organic content to organic muck and peat. Alder is an early successional species, often taking over wetlands that have been disturbed by humans, such as for agriculture.

Species:

Trees: Red Maple (*Acer rubrum),* Black Willow *(Salix nigra)*

Shrubs: Speckled Alder (*Alnus incana),* Smooth Alder (*Alnus serrrulata),* Pussy Willow (*Salix discolor),* Silky Willow (*Salix sericea),* Silky dogwood (*Cornus amomum),* Arrowwood (*Viburnum dentatum),* Red Osier Dogwood *(Cornus sericea),* Spicebush *(Lindera benzoin)*

Red Maple Black Ash Swamp (p. 265)

Description: This community occurs all throughout Vermont, most commonly in the Champlain valley, the Piedmonts, and the Taconic Mountains. It is defined by groundwater seepage and tends to be the headwaters for perennial streams. Chemical nature depends on underlying bedrock and mineral deposits, although some minerals are delivered through seepage. Soil development is affected by the shape of the swamp basin and the amount and seasonality of groundwater discharge. In basins with sufficient water, well-decomposed organic soil is produced. In basins that dry out occasionally, organic material is allowed to decompose, reducing peat production.

Species:

Trees: Red maple (*Acer rubrum),* Black ash (*Fraxinus nigra),* Yellow birch (*Betula alleghaniensis),* American elm (*Ulnus americana),* White pine (*Pinus strobus),* Eastern hemlock (*Tsuga canadensis).*

Shrubs: Winterberry holly (*Ilex verticillata),* Arrowwood (*Viburnum dentatum),* Dwarf raspberry (*Rubus pubescens),* Speckled alder (*Alnus incana),* Highbush blueberry (*Vaccinium corymbosum),* Spicebush (*Lindera benzoin),* Poison sumac (*Toxicodendron vernix),* Musclewood (*Carpinus caroliniana).*

Spruce Fir Tamarack Swamp (p. 293)

Description: This natural Community occurs in colder climates, and is therefore found in the northern region of Vermont. A characteristic of this community is peat soil of varying depth that stays flooded during the entire year due to poor drainage. Soils and water tend to be acidic, but can gain nutrients from surface water runoff or groundwater seepage. Wind is the primary disturbance in this community.

Species:

Trees: Red spruce (*Picea rubens),* Balsam fir (*Abies balsamea),* Tamarack (*Larix laricina),* Black spruce (*Picea mariana),* Northern white cedar (*Thuja occidentalis)*

Shrubs: Mountain holly (*Ilex mucronata),* Wild raisin (*Viburnum nudum),* Sheep laurel (*Kalmia angustifolia),* Rhodora (*Rhododendron canadense),* Labrador tea (*Rhododendron groenlandicum),* Bog laurel (*Kalmia polifolia),* Leatherleaf (*Chamaedaphne calyculata),* Velvetleaf blueberry (*Vaccinium myrtilloides).*

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