

Descriptions of the Settings.

The descriptions are organized by three broad elevation zones, and the number of settings decreases with increasing elevation. *Information on the species and communities that are currently located in the setting are based on Natural Heritage occurrences, and are provided to give users an indication of the type of biodiversity that this setting favors. We do not expect these species or communities to occur in these settings in all parts of the region or to stay the same in the future, but we do expect the future composition to be of a similar character.*

LOW ELEVATION: Coastal and Very Low Elevation Settings.

Settings below 800' including coastal plains, large floodplains, river mouths and deltas, coastal shorelines, beaches and dunes, tidal marshes and other low elevation settings.

Rare species currently found across most of these settings includes the following: Vertebrates: Cooper's hawk, grasshopper sparrow, pied-billed grebe, red-headed woodpecker, sharp-shinned hawk, yellow-breasted chat, american bittern, bobolink, long-eared owl, red-shouldered hawk, vesper sparrow, yellow rail, upland sandpiper, black tern, eastern meadowlark, common nighthawk, brown thrasher, spotted turtle, carpenter frog, tiger salamander, New England cottontail, glassy darter. Invertebrates: eastern lampmussel, eastern pond mussel, fragile papershell, tidewater mucket, yellow lampmussel, glassy darter

Geophysical Settings in the Low Elevation Group

Non-coastal settings: the non-coastal low elevation settings occur above 20' and below 800', these are the most abundant and widespread environments in the region.

Low Elevation Coarse Sand (L-COARSE): Coastal plain settings with oak-pine forest, pine barrens, coastal plain ponds. Numerous rarities.

Low Elevation Granite (L-GRAN): Rocky bedrock-based acidic setting with hilltop woodlands.

Low Elevation Mixed Granite and Coarse Sand (L-GRAN/COARSE): A common setting supporting acidic forests, inland dunes, and many rarities.

Low Elevation Fine Silt (L-FINE): Fertile silt or clay setting in old lake beds and floodplains.

Low Elevation Mafic (L-MAFIC): Setting on volcanic basalts, or other mafic rocks such as trap rock ridges or old ring dikes; often with a richer flora and fauna than the more acidic settings.

Low Elevation Acidic Sedimentary (L-SED): Widespread settings on sandstone, siltstone, conglomerate usually overlain with shallow till and supporting many common acidic forests types.

Low Elevation Sedimentary and Coarse Sand (L-SED/COARSE): Uncommon setting characterized by river bluffs, shoreline marshes, dry forests and acidic wetlands.

Low Elevation Calcareous (L-CALC): Fertile agricultural and timber lands on limestone and dolomite that support an array of distinctive communities and rare species.

Low Elevation Moderately Calcareous (L-MODCALC): Fertile settings similar to calcareous but less distinctive and slightly more common. Bedrock is a mixture of acidic and calcareous rock.

Low Elevation Granitic and Calcareous (L-GRAN/CALC): Mixed settings with pockets of limestone communities embedded in an acidic granitic matrix.

Low Elevation Acidic Shale (L-SHALE): Settings on unstable shale slopes often supporting a unique flora and sedimentary-like shale lowlands.

Low Elevation Ultramafic (L-ULTRA): Settings on toxic soils high in nickel and chromium supporting stunted trees and a unique flora.

Coastal settings: we present the information on the coastal zone for completeness and interest; however, the methods presented here have numerous problems in the coastal zone. Foremost among these, is that the data sets are inconsistent in their coastal boundaries and most of the coastal hexagons extend into the “ocean” outside of this analysis. Thus, **the generated numbers and calculations for these settings are not trustworthy and the results may be misleading.** On the settings maps (Map 3.4), these three settings can be seen as to fringe the coastal boundary.

Coastal Bedrock Settings (L-COAST/BED): Maritime settings under 20’ elevation where bedrock of any type predominates. Forests and swamps.

Coastal Coarse Sand (L-COAST/COARSE): Maritime settings under 20’ elevation on coarse sand. Beaches, dunes, swales and sandplains.

Coastal Fine Silt (L-FINE): Maritime settings under 20’ elevation on fine silts and mud. Coastal tidal marshes, salt marsh, river mouths, swamps.

Mid Elevation: Settings from 800' to 2500'.

Communities in this elevation zone that are inventoried and monitored by the State Natural Heritage Programs: boreal conifer swamp, limestone / dolomite barren, acidic shrub swamp, ridgetop dwarf-tree forest, high-energy riverbank community, allegheny oak forest, broadleaf-conifer swamp, maple-basswood rich mesic forest, boreal acidic cliff, hemlock forest, intermediate fen, montane dry calcareous forest, northern new england calcareous seepage swamp, rich hemlock-hardwood peat swamp, spruce-fir swamp, glacial bog, hemlock palustrine forest, hillside graminoid-forb fen, ice cave talus community, mountain acidic woodland, mountain acidic seepage swamp, seepage forest, acidic rocky summit/rock outcrop community, spruce flats, acidic talus slope woodland.

Rare Species in this elevation zone that are inventoried and monitored by the State Natural Heritage Programs: Vertebrates: Shenandoah salamander, West Virginia spring salamander, peregrine falcon, golden eagle, blackpoll warbler, yellow-bellied flycatcher, bluebreast darter, spotted darter, Tippecanoe darter, rock vole, eastern massasauga, timber rattlesnake, Invertebrates: Franz's cave isopod, Henrot's cave isopod, Elk River crayfish, Helma's net-spinning caddisfly, Harris's checkerspot, rubifera dart, New England bluet, yellow lance, northern riffleshell, snuffbox, Atlantic pigtoe, longsolid, clubshell, round pigtoe, Plants: northern monk's-hood, musk root, shale barren rockcress, Bartram shadbush, piratebush, blue ridge bittercress, Hammond's yellow spring beauty, Schweinitz' sedge, spreading pogonia, blunt manna-grass, auricled twayblade, drooping bluegrass

Geophysical Settings in the Mid Elevation Group

These are settings that occur above 800' and below 2500'.

Mid Elevation Granite (M-GRAN): Mountainous settings supporting natural communities typical of acid nutrient-poor shallow-soil environments

Mid Elevation Mafic (M-MAFIC): Mountainous settings often intermixed with granite, but derived from volcanic basalts or intrusive igneous rocks, and supporting a richer flora and fauna.

Mid Elevation Acidic Sedimentary (M-SED): Resistant ridges and high plateaus composed of sandstone, siltstone, or conglomerates. This abundant setting supports many common acidic forests types.

Mid Elevation Calcareous (M-CALC): Fertile rolling settings on limestone and dolomite that support an array of distinctive communities including caves, alkaline wetlands and limestone barrens.

Mid Elevation Moderately Calcareous (M-MODCALC): Fertile settings similar to calcareous, but less distinctive and slightly more common. Bedrock is a mixture of acidic and calcareous rock.

Mid elevation Acidic Shale (M-SHALE): Settings on unstable shale slopes often supporting a unique flora and sedimentary-like shale lowlands

Mid Elevation Surficial Sediments (M-SURF): Valley or flat settings with surficial deposits of sand or silt: floodplains and shorelines.

Mid elevation Ultramafic (M-ULTRA): Very rare settings on toxic serpentine soils high in nickel and chromium supporting stunted trees and a unique flora.

High Elevation: Settings over 2500’.

Communities in the elevation zone that are inventoried and monitored by the State Natural Heritage Programs: alpine krummholz, alpine peatland, grass bald, montane yellow birch-red spruce forest, montane spruce-fir forest, mountain fir forest, mountain peatland, high-elevation seepage swamp, high-elevation cove forest, northeast boreal heathland, northeast moist subalpine heathland, northern new england cold-air talus, red spruce-fraser fir /southern mt cranberry forest, red spruce / great laurel forest.

Rare Species in this elevation zone of that are inventoried and monitored by the State Natural Heritage Programs: Vertebrates: Cheat Mountain salamander, Cow Knob salamander, Peaks of Otter salamander, Bicknell's thrush, candy darter, cheat minnow, Virginia northern flying squirrel, southern rock vole, southern water shrew, virginia big-eared bat, Invertebrates: White Mountain fritillary, hudsonian whiteface, bog copper, White Mountain butterfly, Katahdin arctic, Spruce Knob threetooth, Plants: bog rosemary, dwarf white birch, sand-heather, long-stalked holly, Marcescent sandwort, Robbins' cinquefoil, northern meadow-sweet, small cranberry.

High Elevation Granite or Mafic (H-GRAN): Bedrock mountain setting of intrusive granitic rock, plutons of mafic rock or volcanic basalts.

High Elevation Sedimentary (H-SED): Bedrock mountain setting of sandstone, quartzite, conglomerate or other resistant sedimentary rocks .

High Elevation Mixed Sedimentary and Calcareous (H-SED/CALC): Mountains and ridges of resistant sandstone intermixed with valleys or lowlands of limestone or other calcareous bedrock.

High Elevation Calcareous and Moderately Calcareous (H-CALC/MOD): Mountainous landscapes of rich limestone or dolomite.

High Elevation Acidic Shale (L-SHALE): Settings on stable and unstable shale slopes.

Alpine and Subalpine (ALP-ALL): Very high elevation settings over 2500’ on any substrate with systems dominated by extreme wind and cold. Alpine areas often have stunted trees (krumholz) and unique floras.