



Aquatics Section Resources

Hydrologic Cycle, Topography, Watersheds, and Landforms

- National Oceanic and Atmospheric Administration overview of the hydrologic cycle: <https://www.noaa.gov/jetstream/atmosphere/hydro>
- Vermont Department of Environmental Conservation presentation on reading topographic maps: https://vacd.wpenginpowered.com/wp-content/uploads/2017/09/topo_reading.pdf
- New Hampshire Natural Resources Conservation Service fact sheet on topographic map interpretation and watershed delineation: https://www.soilandwater.nyc/files/b74771cac/watershed_delineation.pdf
- Vermont Project WET Fact Sheet on topographic map interpretation: <https://vacd.wpenginpowered.com/wp-content/uploads/2017/09/watershed.pdf>
- US Geological Survey topoBuilder (online source for digital topographic maps): <https://www.usgs.gov/the-national-map-data-delivery/topographic-map-access-points>
- Overview of the glacial influence on New England topography: <https://geology.teacherfriendlyguide.org/index.php/glaciers>

Lacustrine, Riverine, and Wetland Processes and Ecology

- Vermont Department of Environmental Conservation information about local lakes and ponds: <https://dec.vermont.gov/watershed/lakes-ponds/aboutlakes>
- Lake Champlain Basin Program overview of open water habitats: <https://www.lcbp.org/our-goals/healthy-ecosystems/habitat/open-water/>
- Vermont Department of Environmental Conservation fact sheet on river morphology and dynamics: https://dec.vermont.gov/sites/dec/files/wsm/rivers/docs/rv_river_dynamics_101.pdf
- US Environmental Protection Agency overview of stream order: https://www.epa.gov/sites/default/files/2016-01/documents/whatszup_article.pdf
- Montana Department of Conservation and Natural Resources guide to stream discharge calculation: https://dnrc.mt.gov/docs/water/Distribution/Webpage_Assets/Other_Resources/Float_area_method.pdf
- US Army Corps of Engineers Northeast Regional Supplement for Wetland Delineation: https://www.nae.usace.army.mil/Portals/74/docs/regulatory/JurisdictionalLimits/Regional_Supplement2012.pdf
- Vermont Department of Environmental Conservation Vernal pool fact sheet: <https://www.vtfishandwildlife.com/conservation/conservation-planning/natural-community-fact-sheets/vernal-pool>
- Vermont Department of Environmental Conservation beaver fact sheet: <https://dec.vermont.gov/sites/dec/files/wsm/wetlands/docs/Beaver%20FactSheet.pdf>

Aquatic Species Biology and Identification

- Blooket Fish species identification practice quiz
<https://dashboard.blooket.com/set/68da995a0a6401de4613fef3>
- South Carolina Department of Natural Resources overview of fish anatomy:
<https://www.dnr.sc.gov/fish/anatomy.html>
- Vermont Fish & Wildlife Department information on sportfish of Vermont:
<https://www.vtfishandwildlife.com/fish/fishing-opportunities/sportfish-of-vermont>
- Vermont Fish & Wildlife Department information on brook trout:
<https://www.vtfishandwildlife.com/learn-more/vermont-critters/fish/brook-trout>
- Blooket water bugs species identification practice quiz
- Download the free App “Creek Critters” on your phone and turn over some rocks in any stream
- Watch the Izaak Walton League Intro to invertebrates Webinar
<https://youtu.be/Sr1rNVYaE4>
- Vermont Department of Environmental Conservation information on invasive aquatic species: <https://dec.vermont.gov/watershed/lakes-ponds/aquatic-invasives/gallery>

Land Management for Water Quality Conservation

- Vermont Low Impact Development Guide for Residential and Small Sites:
https://dec.vermont.gov/sites/dec/files/wsm/stormwater/docs/Resources/sw_LID%20Guide.pdf
- Vermont Department of Forest, Parks, and Recreation Acceptable Management Practices Manual for Logging Professionals:
<https://fpr.vermont.gov/forest/managing-your-woodlands/acceptable-management-practices>
- Vermont Fish & Wildlife Department information on aquatic organism passage at road-stream crossings:
<https://www.vtfishandwildlife.com/conserve/aquatic-habitat-conservation/aquatic-organism-passage-at-road-stream-crossings>

Water Quality & Monitoring

- Watch the Izaak Walton League webinar- SOS Training Class: Introduction to Water Quality <https://youtu.be/Db2kMIs7XG8>
- Vermont Department of Environmental Conservation Biomonitoring Monitoring Program:
<https://dec.vermont.gov/watershed/map/monitor/biomonitoring>
- US Environmental Protection Agency overview of combined sewer overflows:
<https://www.epa.gov/npdes/combined-sewer-overflow-basics>
- Lake Champlain Basin Program overview of nutrient pollution:
<https://www.lcbp.org/our-goals/clean-water/nutrients-and-cyanobacteria/nutrient-pollution/>
- Lake Champlain Basin Program overview of phosphorus concerns and sources:
<https://www.lcbp.org/our-goals/clean-water/nutrients-and-cyanobacteria/phosphorus-sources/>

- Guide to identifying trends in data:
<https://serc.carleton.edu/mathyouneed/graphing/bestfit.html>
- Lake Champlain Basin Program overview of non-point source pollution:
<https://www.lcbp.org/wp-content/uploads/2012/08/npsfactsheet2006.pdf>
- Vermont Department of Environmental Conservation Vermont Surface Water Management Strategy Appendix B (Pollutants):
https://dec.vermont.gov/sites/dec/files/documents/wsmd_swms_Appendix_B_Pollutants.pdf

Other Resources

- USDA definitions of ecosystem services:
<https://www.climatehubs.usda.gov/ecosystem-services>
- Vermont Envirothon water quality monitoring kit (available for check out by teams):
<https://www.vacd.org/programs/envirothon/kits/>