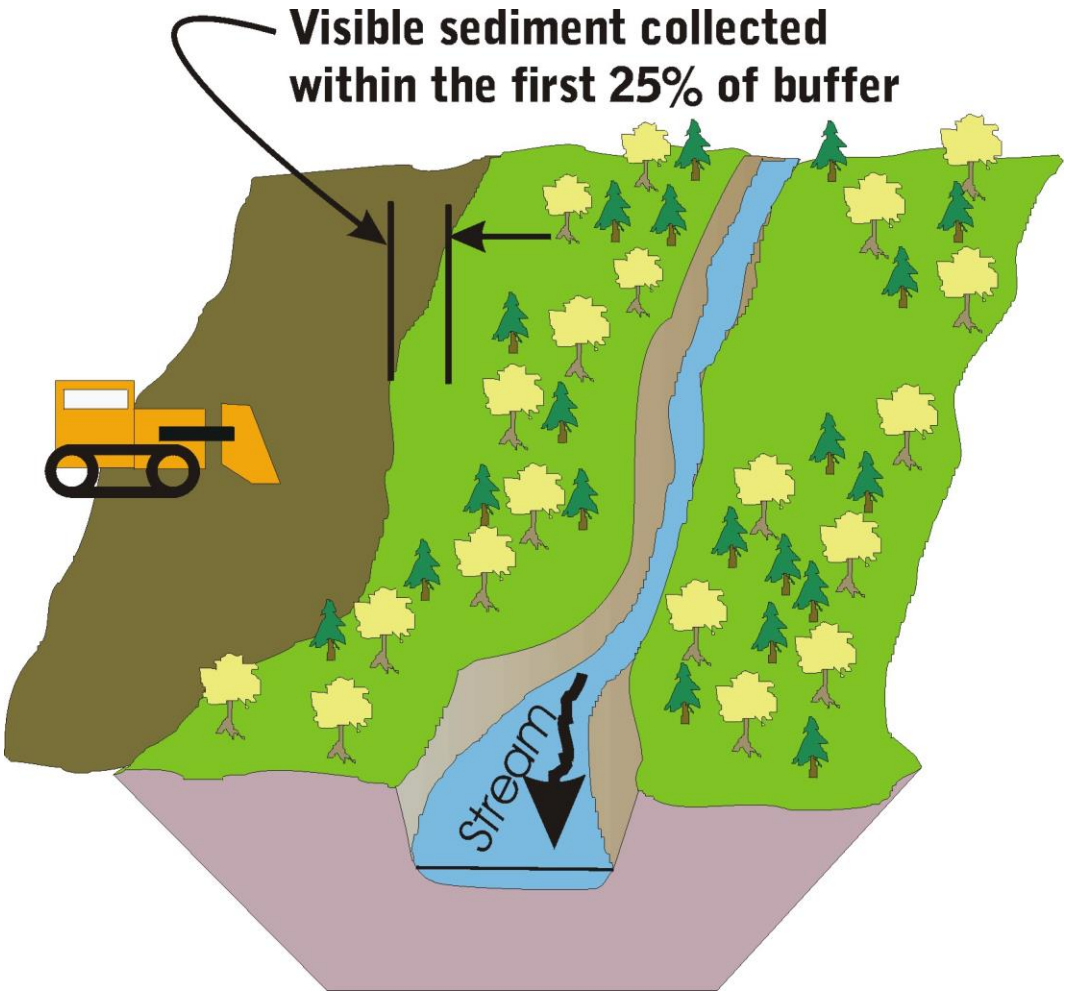
Buffer Zone Requirements

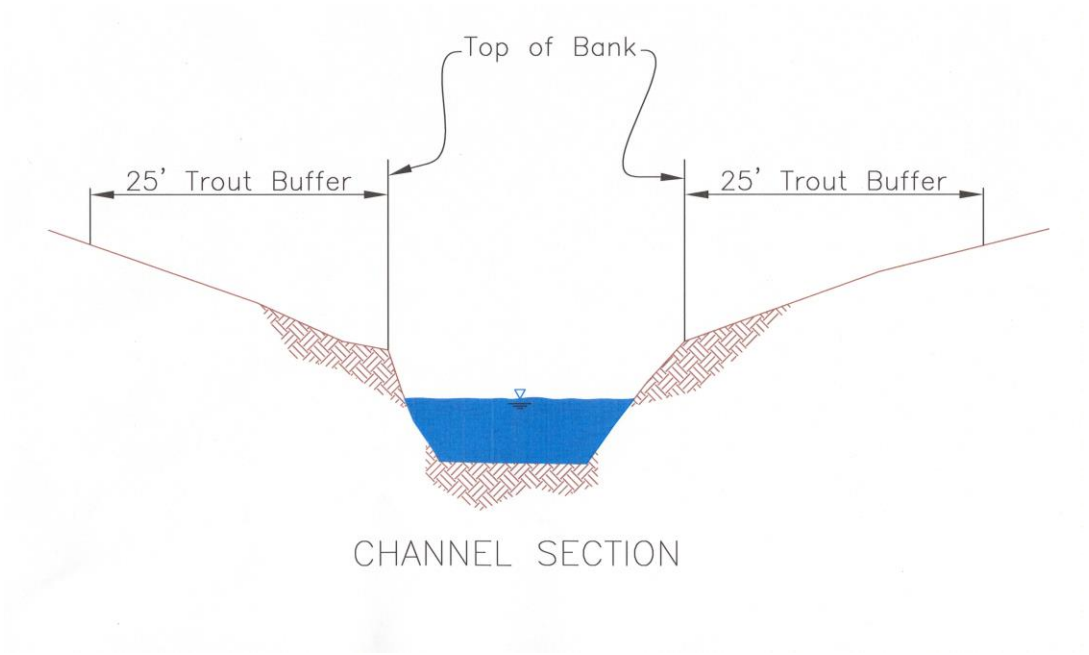
Buffers are natural areas of vegetation that are adjacent to natural watercourses (eg: stream, lake, wetland, marsh etc.). The final Report of Riparian Forest Buffer Panel of the Chesapeake Bay Executive Council in 1996 stated that buffers have many benefits. Surface runoff and groundwater recharge is filtered. Nutrients are taken up by roots. Dust is filtered from adjacent project wind erosion, and leaves and woody debris provide food and shelter for aquatic organisms in the watercourse. Buffers protect by moderating adverse influences on natural watercourses.

The first mandatory standard in the SPCA discusses buffer requirements (Reference 113A-57(1)). Land-disturbing activities near lakes or natural watercourses have buffer zone requirements. Visible siltation should be kept within the 25% of the buffer zone nearest the land-disturbing activity. For example, land disturbance taking place 20 feet from a stream would be in compliance if the sediment from the construction site travels less than 5 feet into the buffer.



Width is a very important consideration in the overall effectiveness of buffers. The appropriate buffer width can vary depending on site conditions, soils, topography, hydrology, adjacent land use, and benefits one is trying to gain by maintaining or installing a buffer. Guidance is provided for determining the width of undisturbed vegetation zones with percent slope considerations. Reference Guidance for Determining Width of Undisturbed Vegetation Zones policy here.

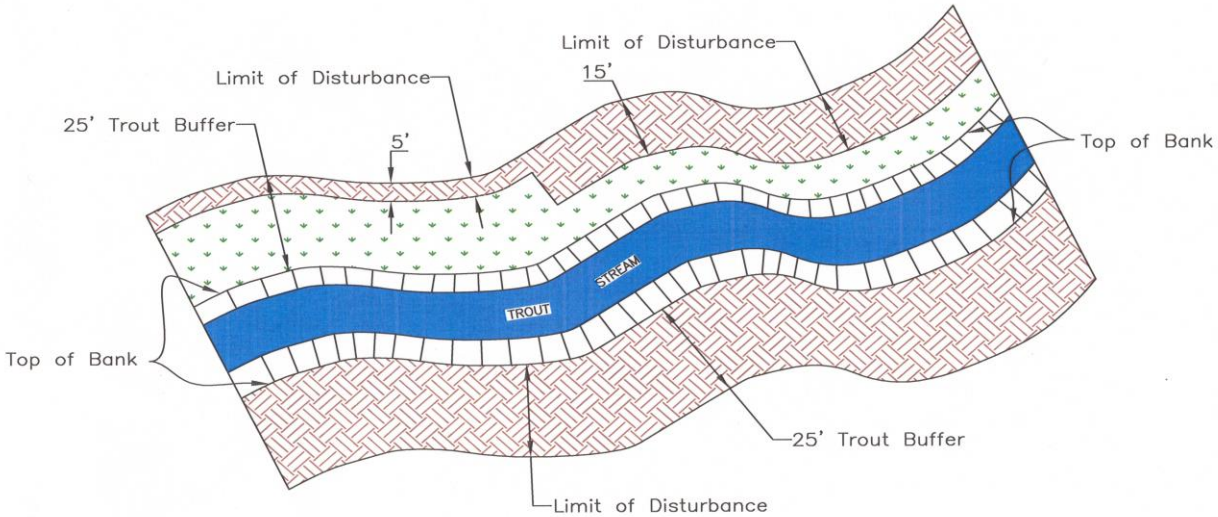
Classified Trout Streams have the same requirement as all other lake or natural water course, but the undisturbed buffer zone for a trout stream must be at least 25 feet wide. Provided, however, that the Sedimentation Control Commission may approve plans which include land-disturbing activity along trout waters when the duration of said disturbance would be temporary and the extent of said disturbance would be minimal. The SPCA requires the minimum buffer for those streams classified as trout waters by the Environmental Management Commission. To find out if a stream is classified as
Pull article on trout water classification from
http://www.dlr.enr.state.nc.us/images/2004_vol11_no4_octnovdec_sediments.pdf
All tributaries to those streams (named and unnamed) take on the trout classification.
The 25' buffer is to be measured from the top of the bank.



The Sedimentation Control Commission can allow trout buffer zones to be violated if the violation is temporary and minimal. The disturbance is temporary and minimal by rule when the disturbance is limited to a maximum 10% of the buffer zone within the tract such that no more than 100 linear feet of disturbance occurs in every 1,000 feet of buffer zone. For example, if the tract has 5,000 linear feet of buffer zone then the total amount

of buffer zone that can be disturbed is 500 feet. However, the 500 feet cannot be a continuous 500 feet. Only 100 feet in every 1000 feet can be disturbed. These disturbances can be approved by the regional office as part of the erosion and sedimentation control plan approval. Longer lengths of the buffer zone may be disturbed with the approval of the Division of Energy, Mineral, and Land Resources Director. In other words, if more than 10% of the stream and/or more than 100 feet in 1000 feet of stream is proposed to be disturbed then it requires Director approval. This approval has been delegated to the Section Chief of Land Quality. If someone wants to disturb more than allowed by the rules, they must submit a variance request in the form of a plan to the Land Quality Section Chief in Raleigh. No land disturbing activity shall be undertaken within a buffer zone adjacent to designated trout waters that will cause adverse temperature fluctuations, as set forth in 15A NCAC 2B.0211 "Fresh Surface Water Classification and Standards", in these waters.

The plan shall include the following: a description of actions taken to avoid and to minimize the impact on the buffer and why this disturbance is considered to have temporary impacts on the buffer and stream from erosion and sedimentation, the top of bank of the trout stream must be identified on the plan, the 25 foot buffer must be identified on the plan, the length and width of buffer to be disturbed must be identified on the plan, and a narrative including a description of the disturbance, a construction schedule detailing how the buffer is to be disturbed, the erosion and sedimentation control measures to be used in the buffer with details and calculations, show any additional measures that may be planned to minimize the impact from erosion and sedimentation. This does not include taking into consideration other types of water quality impacts or wildlife impacts.



PLAN VIEW

Maintenance
When planning, consideration should be taken not to store excavated material from project or sediment control measure in or above a buffer. Also, the buffer should remain undisturbed. Keep equipment and material storage out of the buffer.

If the buffer is in a 100-yr flood plain, allowing a larger riparian area may be prudent. Perhaps stormwater or tax credits can be allowed for implementation of larger buffers.

Trout buffer variance
There is no set time frame to review a request for trout buffer variance. The Land Quality staff looks at each plan thoroughly and determines if impacts will be minimal and temporary. No disturbance will be approved if it can be moved out of the trout buffer. Variances that are approved will generally have conditions that shall be come part of the plan. These conditions may be general which pertain to all projects or project specific. Several of these conditions are as follows: not working when precipitation is forecasted, No work during fish spawning seasons, a full time erosion and sedimentation control inspector with the authority to shut the job down.

Anyone requesting a trout buffer waiver is encouraged to contact the Division of Water Resources and obtain a 401 certification if needed. The Division of Energy, Mineral, and Land Resources and the Division of Water Resources coordinate the 401 certification and the trout buffer variance. Trout buffer variances do not supercede the turbidity standard of 10 NTUs.

In 1991, a change was made to the NC Sedimentation Pollution Control Act (SPCA) stating that "waters that have been classified as trout waters by the Environmental Management Commission (EMC) shall have an undisturbed buffer zone 25 feet wide or of sufficient width to confine visible siltation within the twenty-five percent (25%) of the buffer zone nearest the land disturbing activity, whichever is greater" (G.S. 113A-57(1)). Trout waters are classified as "suitable for natural trout propagation and maintenance of stocked trout" (15A NCAC 02B .0301) which means trout do not have to be present in the waters for them to be classified as trout waters. All named and unnamed tributaries flowing to the affected trout waters are classified as trout waters as defined by the EMC (15A NCAC 02B .0301(i)(1)). Since it was passed, this provision of the SPCA has helped protect trout waters in North Carolina. The law also states that "the Sedimentation Control Commission may approve plans which include land-disturbing activity along trout waters when the duration of said disturbance would be temporary and the extent of said disturbance would be minimal" (G.S. 113A-57(1)). The NC Department of Environmental Quality (DEQ) has established procedures for granting approval of temporary disturbances in the trout water buffer zone (15A NCAC 04B .0125).

Trout Buffer Variance

Request

Parties that plan to conduct land-disturbing activities along EMC classified trout waters must submit a trout buffer variance request in addition to their erosion control plan. If land-disturbing activity is to be ten percent or less of the total length of the buffer zone within the tract to be disturbed, and does not exceed 100 linear feet of disturbance in each 1000 linear feet of the buffer zone, then the regional engineer may review the trout buffer variance request (15A NCAC 04B .0125(c)). If land-disturbing activity is to be more than ten percent of the total length of the buffer zone within the tract to be disturbed, or more than 100 linear feet of disturbance in each 1000 linear feet of the buffer zone, then the trout buffer variance request must be reviewed by the chief of the Land Quality Section, Division of Energy, Mineral, and Land Resources (DEMLR) (15A NCAC 04B .0125(c)). When submitting a trout buffer variance request the following items must be included:

- A map depicting:
- all the trout waters on the tract
- the linear distance and width of the buffer to be disturbed
- the first 25 feet of the buffer measured from the top of the bank
- discharge points into the buffer zone
- A description of disturbance in the buffer
- A construction schedule describing how and when the work in the buffer will be done
- A description of measures that will be used to control erosion and sedimentation
- Additional protection, such as planting trees

Points of guidance

Parties that plan to conduct land-disturbing activities in a trout buffer need to be aware of the following:

- DEMLR looks at erosion and sedimentation control impacts only and does not look at other impacts such as water quality or heavy metals.
- There is no fee and no set timeframe to review the erosion and sedimentation control plans with trout buffer variances. The 30-day rule does not apply as with regular erosion and sedimentation control plans.
- DEMLR reviews the plans thoroughly. If the project can be moved out of the trout buffer, the plan will not be approved as proposed.
- There may be site-specific conditions for variances that are approved. Such conditions may include: hiring a full-time erosion and sedimentation control inspector; monitoring the weather for proper timing of land-disturbing activity; and not allowing land-disturbing activity in the buffer during fish spawning season.
- Parties are required to coordinate with the Division of Water Resources for 401 certification, if needed.
- If dewatering is part of the plan, the location of the settling device and discharge point must be included in the plan.
- Each side of a stream is considered a separate buffer zone.
- The 25 foot minimum width for an undisturbed buffer zone is measured horizontally from the top of the bank (15A NCAC 04B .0125(b)).
- The erosion and sedimentation control plans must be approved and measures must be in place before land-disturbing activity is allowed to take place in the buffer.

 If any land-disturbing activity is done without approval, the party involved can be fined up to $5000 per day and restoration of damage may be required (G.S. 113A- 64(a)(1)).

Buffers and other agencies

Buffers remove sediments, lower surface water flow, reduce nutrients, control stream temperature, modify channel morphology, and maintain habitat diversity. Thereby, maintaining a health stream system. Since the late 1990's, the DWR has established several major river basinwide programs that require protected buffers along jurisdictional waters of the State (as shown on soil surveys, USGS topographic maps or by field determination) such as streams, lakes, ponds and estuaries. Typically, a 50-foot wide vegetative band along each side of the water body is protected from development activities. DWQ has requirements for buffers in the Neuse, Tar Pamlico, Catawba River Basins and Randleman Reservoir Watershed. Reference DWR website here. Additional state DWR basinwide buffer programs may be developed in the future. The Coastal Area Management Act regulates coastal shoreline buffers. Reference web site? Cities, towns, counties or other public entities may establish local stream buffer programs. These requirements may be more stringent than state buffer requirements.

Reference 113A-57

(1) No land-disturbing activity during periods of construction or improvement to land shall be permitted in proximity to a lake or natural watercourse unless a buffer zone is provided along the margin of the watercourse of sufficient width to confine visible siltation within the twenty-five percent (25%) of the buffer zone nearest the land-disturbing activity. Waters that have been classified as trout waters by the Environmental Management Commission shall have an undisturbed buffer zone 25 feet wide or of sufficient width to confine visible siltation within the twenty-five percent (25%) of the buffer zone nearest the land-disturbing activity, whichever is greater. Provided, however, that the Sedimentation Control Commission may approve plans which include land-disturbing activity along trout waters when the duration of said disturbance would be temporary and the extent of said disturbance would be minimal. This subdivision shall not apply to a land-disturbing activity in connection with the construction of facilities to be located on, over, or under a lake or natural watercourse.

References:

Sediments newsletter. What You Need to Know About Disturbing Buffers on Trout Waters. July-Sept, Vol 11 No3, 2004.