

Conservation Buffers for Reducing Non Point Source Pollution

Introduction

Conservation buffers are strips of land in permanent vegetation designed to protect wetlands and bodies of water. Protection includes control of erosion and absorption of runoff, including runoff containing contaminants such as nutrients, pesticides or other pollutants. Conservation buffers may also be used as wildlife habitat.

Some examples of conservation buffers

A grassy strip between a field and a wetland can be a conservation buffer. The strip may be mowed several times a year to keep it from growing up to brush.

Shrubberies can also be effective conservation buffers. They can attract wildlife which may be beneficial (insect-eating birds) or detrimental (blueberry-eating birds).

Shrubberies can also block wind, but may be difficult to maintain at a manageable size.

Some examples of uses of conservation buffers

Fertilization of agricultural fields, whether through manure or purchased fertilizer, often results in leaching of nutrients. A conservation buffer between the agricultural field and nearby wetland can absorb at least some of these “runaway” nutrients. Excess nitrogen and phosphorous are particularly harmful to aquatic systems.

A hillside farm pasture, sloped gently toward a stream, is fenced 50 ft away from the stream, allowing space for nutrients from manure to be absorbed before reaching the stream. Not allowing the animals access to the stream bank also preserves the bank and keeps the stream cleaner.

Regulations

Placement and width of conservation buffers is often a matter of common sense, but in some cases regulations exist. Massachusetts regulations define a buffer zone as extending 100 ft horizontally from the wetland. Activities within 100 ft of a wetland, if they will affect the wetland, may require approval from a local conservation commission or Massachusetts DEP. Stricter regulations exist for areas within 50 ft of wetland or streams. Slopes greater than 15% also require special consideration. Agricultural activities are regulated somewhat differently from other development (see pp.46-47 of <http://www.mass.gov/dep/service/regulations/310cmr10b.pdf>). Placing permanent vegetative conservation buffers can significantly reduce impact on wetlands and reduce the safe distance between a wetland and an agricultural activity.

Use conservation buffers to separate streams and wetlands from:

1. Pastures.
2. Cultivated fields.
3. Manure piles.
4. Paddocks.
5. Farm shops.

Resources

The Massachusetts wetlands protection act relates primarily to modification or direct destruction of wetlands, but also addresses wetland protection:
<http://www.mass.gov/dep/water/laws/ch131s40.pdf>

The following contains additions to the above Wetlands Protection Act, and includes more specific provisions than the original act. Pages 46-47 pertain specifically to agriculture:
<http://www.mass.gov/dep/service/regulations/310cmr10b.pdf>

Improvement of wildlife habitat through use of conservation buffers:
http://www.umass.edu/nrec/pdf_files/final_project.pdf

For more information visit www.umass.edu/cdl

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