

Conservation Matters

A monthly column focused on conservation education, as the result of collaboration among several area conservation commissions and organizations. If your town's commission or conservation organization would like to contribute articles, please contact Jessica Tabolt Halm jess_tabolt@hotmail.com

Title: Floodplains

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With spring upon us, and the winter snows beginning to melt away, it seems fitting that we discuss floodplains and the important functions they serve in helping to control floods and provide clean, safe drinking water. Most of us are familiar with floodplains and know that they are the area adjacent to a river or a stream. Technically, they also include the areas prone to flooding along the immediate shoreline of lakes and even oceans; although these areas are generally not referred to as floodplains, but as beaches or marshes, and often transition away from the shoreline and intermingle with the floodplains of rivers and streams further inland. For purposes of this discussion, I'll focus on floodplains associated with rivers and streams.

Floodplains associated with rivers and streams generally contain unconsolidated sediments or accumulations of sand, gravel, loam, silt, and/or clay. They are often important aquifers, where water is filtered through the layers of soil to provide clean drinking water. The floodplain is the natural place for a river to dissipate its energy. Smaller brooks or fingers, called 'meanders' often branch off the main river channel into the floodplain and slow down the flow of water. At the point when the primary channel reaches capacity, the excess water spills over into the floodplain where it is temporarily stored.

In terms of flood management, the upper part of the floodplain (piedmont zone) is crucial as this is where the floodwater control starts. Any attempts to control the natural flow of the water, especially in the piedmont sector, can have a major impact on flooding downstream.

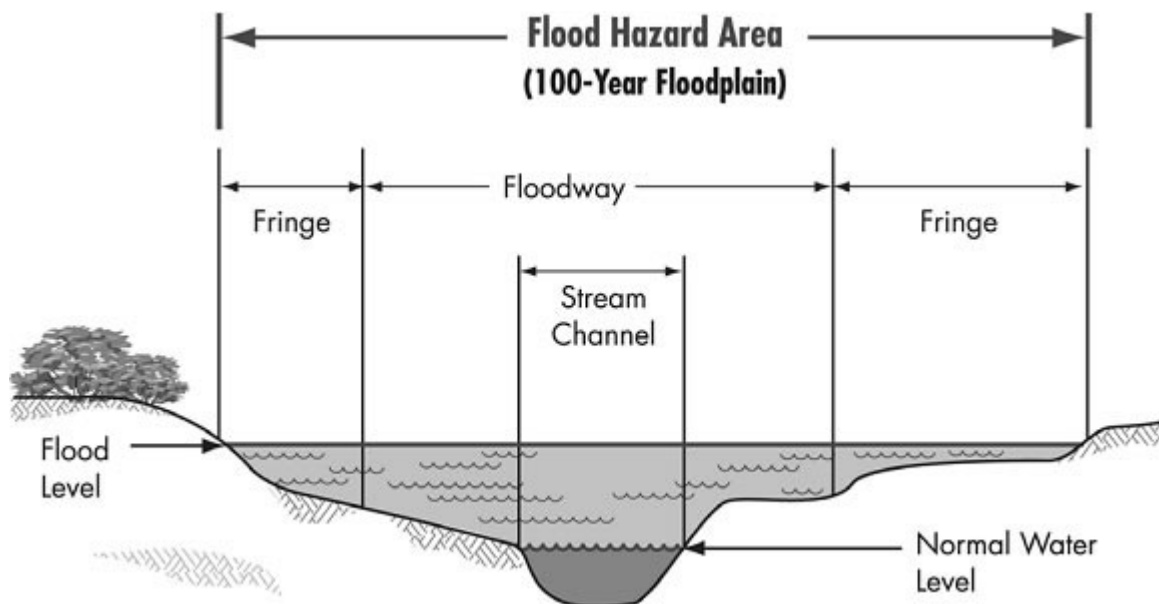
When a floodplain floods, the saturated soil releases an immediate surge of nutrients. Microscopic organisms thrive and larger species enter a rapid breeding cycle. Opportunistic feeders (particularly birds) move in to take advantage of the flourishing bounty. The production of nutrients peaks and falls away quickly; however, the surge of new growth continues for some time. This makes floodplains particularly valuable for agricultural purposes.

Floodplains are not only important in controlling the flow of water to help control flooding and form aquifers that provide clean drinking water; they also enhance the diversity of the natural environment by supporting a variety of unique ecosystems. In addition to the agricultural benefits, floodplains offer recreational opportunities for hiking, kayaking /canoeing, hunting and fishing. If a detailed study of a waterway has been done, the 100-year floodplain map [map projecting maximum water levels of a

major flood event that has a 1% probability of occurring in any given year] will include: the floodway, the critical portion of the floodplain which includes the stream channel, and any adjacent areas that must be kept free of encroachments that might block flood flows or restrict storage of flood waters.

Floodplains are protected by the Wetlands Protection and Shoreland Water Quality Acts. New Hampshire, and other states, has specific laws that protect floodways from unauthorized construction of dams, canals, or impediments restricting or redirecting the flow of water. Many towns have adopted the restrictions set forth by the federal government, which is a requirement for residents to be eligible for flood insurance; and, in addition to the federal and state restrictions, some towns have passed local legislation further restricting development [both residential and commercial] in floodway areas.

Before beginning any modification activities in a floodplain zone, landowners should check with their town and the state to determine if permits are necessary; chances are they will be, and moving ahead without proper approval can adversely affect the environment, and be costly for the landowner. Residents, who live in designated floodplain areas, should also be aware that generally your homeowner insurance does not cover losses due to flooding; you need flood insurance which is managed and subsidized by the federal government – contact your insurance provider for details.



Drawing by University of New Hampshire;

http://www.nhflooded.org/flood_plains101.php

Note: More information about floodplains and links to related topics can be found at: <http://www.nhflooded.org>