

Riparian Notes

Note Number 28, December, 2012

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Creek and River Myths

Myths and misperceptions creep into every area of life, including our beliefs about creeks and rivers. Most myths are not completely false; many myths are interwoven with threads of truth. When myths and misperceptions are examined from different perspectives, they can often be clarified. Seven common myths about creeks and rivers have been identified, which perpetuate misunderstanding of important riparian truths. These myths will each be addressed in upcoming issues of Riparian Notes:

- Myth No. 1 Floods are bad
- Myth No. 2 Droughts are bad
- Myth No. 3 Vertical eroding cut banks are bad
- Myth No. 4 Creeks should be wide and straight
- Myth No. 5 Removal of riparian trees is a good way to increase streamflow
- Myth No. 6 Large woody material clogs creeks and should be removed
- Myth No. 7 People must fix damaged creeks

Myth Number 1 – Floods are Bad

Billions of dollars are spent to fix damage caused by flooding; billions more are spent in the name of flood control. To the average person, floods are considered bad; to the people who are directly affected, floods seem especially bad. Loss of life, loss of property, damage to roads, buildings or farms is the basis for the belief that floods are bad. Actually, floods become “bad” only when people and their activities encroach into flood prone areas. Creeks and rivers must have room for floodwaters to spread out. When people build roads, houses, or other kinds of development in the floodplain, they are literally inviting flood damage. Rivers own their floodplains; trespassing will have consequences.

Ironically, “flood control” efforts can sometimes make flooding worse, the exact opposite of the intent. By creating levees to restrict rivers or by cleaning out or straightening the channel to speed up the water, the energy of floodwater is increased which in turn increases the damage it can cause.

From the viewpoint of the creek and river, floods are normal, natural, good and beneficial. Here are three of the essential benefits of floods:

1. **Recharge aquifers / maintain base flow** - Out of bank flooding, where water spills out on to the floodplain, helps recharge the alluvial water table. These shallow aquifers are in turn, what feed and sustain creeks and rivers during the majority of the year.
2. **Maintain proper channel geometry** – Flooding is a powerful channel forming force. By carving away material from some locations and depositing that material in other locations, floods adjust the dimensions and geometry of channels thus maintaining a natural equilibrium.
3. **Trapping sediment** - When floodwater spreads out across the floodplain, the velocity of water is reduced, allowing suspended sediments to drop. This addition of new sediment to the floodplain does two things. First, it reduces the amount of sediment moving downstream, prolonging the life of reservoirs and improving water quality. Secondly, the new sediments increase the water holding capacity of the floodplain, sometimes referred to as the “riparian sponge”.

The next time you observe or hear about a flood, think about the benefits of recharging aquifers, reshaping channels, and trapping sediment. Winter floods are not unheard of; let’s be praying for one.

Wayne Elmore, nationally recognized riparian authority, is credited with compiling the original list of riparian myths, which he uses to teach riparian principles. With over 40 years of direct riparian experience on several thousand miles of creeks and rivers, Wayne has been instrumental in teaching and encouraging a proper appreciation and practical understanding of riparian dynamics and riparian management. The author is indebted to Wayne as a mentor, for sharing his expertise, and for allowing the use of his material in these notes.