

Forester's Log: An E-Flow FishTale

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The Forester's Log is a monthly column published in newspapers and magazines primarily in the American west. Stuever is a forester in the American Southwest. She can be reached at sse@nmia.com.

"You know, I got grilled at that water conference the other day," my friend was telling me. When she introduced herself to the woman sitting next to her as a landscape architect who helps design developments, the environmental organization representative couldn't understand why she was interested in environmental flows. She explained that although developments do use water, the design can influence how much water is used or captured as runoff.

"That person is from out of state," I assured my colleague. "Maybe where she lives, they do not have the tradition of inviting everyone who is a part of a problem into the same room."

A fish biologist showed a map charting the status of fish species in the major watersheds in New Mexico. In my home basin, the Rio Grande, 9 of the 24 native fish known to have been here are no longer here. Another fish is endangered. Five others are listed as "species of concern". The major culprit to this fish disaster is lost of habitat, and for fish, water is habitat.

So this fish tale is about "environmental flows." Some folks use the term 'In-Stream Flow' to mean keeping a base amount of water always in a river, but biologists shake their heads no. It isn't just about keeping water in the creek, they explain. Environmental flows are about mimicking patterns of stream flow so the organisms in the environment have the amount of water they need at the different points in their life cycles. The challenge in these days of highly regulated water flow is to be aware of the critical times when the ecosystem needs a drink...a flood or increase in flows that will create a spawning ground, or water a seed bed, or recharge the root zone of a riparian forest.

Charts and graphs dominate the conference discussions. When water flow is charted over time the resulting image is called a 'hydrograph'. Natural hydrographs are messy, lots of humps, highs and lows, but overall there are general patterns. Often, hydrographs from regulated rivers—where there are dams that control the release of water—have regular spikes spread far apart. Just try being a fish in that situation!

My neighbor wants to know why there isn't water in the creek bed that runs through her property. Here the water is stored in a reservoir and only runs in the irrigation ditches. I try to provide a brief introduction of water law for our state. The water here is over-allocated...there is more demand for water than supply of water. The people who were using the water earliest have the strongest rights to the water, but only as much as their historic use. The flaw in the system is that no water rights were reserved for the environment, even though it is clear the animals and plants were here using water before the antiquated concept of water rights ever originated. Now, before the demand for water escalates way beyond supply, there is an effort to buy some water rights to judiciously provide key environmental flows.

As seen in other western states, finding a solution isn't impossible, but it isn't simple either. It will take us all, farmers, developers, biologists, politicians, students, teachers, everybody, including people who have lived on the land for centuries, or decades, or even just weeks. The first step though is understanding the problem, and of course, understanding that we can't solve it unless everyone in the same room.

Note: PowerPoint presentations from the March 15, 2010 New Mexico Environmental Flows Workshop can be viewed at <http://uttoncenter.unm.edu/E-Flows.html>.

