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## **Water quality: more is better**

**By Cherry Sokoloski**  
**North Forty News**

When the topic is water quality in the Poudre River, a flood of viewpoints is readily available. However, one theme repeatedly bobs to the surface: the more water, the better. More water in the stream leads to higher water quality, and less water leads to a degraded stream.

That basic principle is accepted by Fort Collins water managers, biologists and Friends of the Poudre, an advocacy group for the river. Keeping water in the river is a major challenge, however, given historic water rights, periodic droughts and the increasing demands of a growing population.

LeRoy Poff, a river ecologist with Colorado State University, listed several reasons why the health of the river declines with decreased streamflow. Temperatures are higher, oxygen levels are lower and pollution is more concentrated when water in the river is low. All of these factors make it more difficult for some aquatic species to survive.

Ecologically speaking, Poff said, aquatic organisms can be divided into two groups: sensitive and tolerant. Some are very sensitive to water temperatures, oxygen levels and pollution and will not survive unless these are kept at fairly pristine levels. Two examples of sensitive creatures are stoneflies and mayflies, and the presence or absence of these two flies is a good indicator of how good the water quality is.

"We don't find them in Fort Collins," Poff said, "except in the spring when water is high." That time of year, the flies wash down from upper reaches of the Poudre where water quality is better. After the Poudre goes under the North College Avenue bridge, most sensitive organisms are absent, Poff said.

On the other hand, the population of tolerant species such as aquatic worms and

midges increases as the river passes through Fort Collins. Several factors contribute to the degradation of water quality as the Poudre River passes through Fort Collins and heads to Windsor and Greeley. One is the presence of irrigation return flows on this stretch, water that contains chemicals and organic pollutants.

### ***Stormwater 'elephant'***

Stormwater runoff also has an adverse effect on water quality. "The stormwater issue is like an elephant in the living room that no one wants to talk about," said Keith Elmund, environmental services manager for Fort Collins Utilities. A big storm can have an immediate impact on the river, he noted, because lawn chemicals and waste from dogs and geese wash right into the river and ponds.

To help with the stormwater problem, Elmund said, more containment ponds and wetlands are needed.

David Lauer, a board member with Friends of the Poudre, pointed out that wetlands along the river corridor are very important in maintaining good water quality. "Treatment plants can't do what a network of wetlands can do," he said, referring to the filtering effect of marshy areas. He is concerned that, with the continued depletion of streamflow, there won't be enough water in the Poudre to support the wetlands. "Then, we can't process the pollutants we're putting into the river," he said.

As the river flows southeast, more water is diverted for irrigation, less water remains in the river, and pollutants become more concentrated. All agree that the lower stretches of the river suffer from poor water quality. Elmund pointed out that the recent drought produced abnormally low water levels in the Poudre and subsequently greater pollution.

### ***'Minimum flow' helps***

Currently, a minimum-flow agreement exists among Fort Collins, Greeley and the federal government for the upper reaches of the Poudre, whereby water is released from the mountain reservoirs during the winter, from Nov. 1 through March 31. "It's a win-win situation," said river commissioner George Varra. However, it applies only as far downstream as the cities' treatment plants, leaving some lower stretches high and dry during those months.

Poff and Lauer, as well as many water managers, agree that the solution to water quality problems is to keep more water in the river. "The way the river is currently managed is impairing water quality," Poff said. "Better flows would improve biological conditions."

Lauer offered a possible strategy for making this happen. He would like to see water users coordinate their draws from the river, so that fluctuations are not so wide and decent minimum flows are maintained. That's a difficult task, however, Varra said, because when crops need the water, they need it right away.

"Slowly things are changing," said Poff, "and water is seen as valuable if it stays in the river." Ecologically speaking, that way of valuing the water is obvious to many. Practically and politically speaking, keeping water in the river remains a huge challenge.

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