Seeley Swan
PATHFINDER

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Eye on the Environment -Water: The Valley's Valuable Relief For Heat
By Anne Dahl for the Seeley-Swan Pathfinder

Our watershed is an amazing source of clean, clear water. Snow and rainfall filter down through the talus slopes of the Missions and Swan Range and spurt out in springs on the mountainsides and across the valley floor. Water collects in thousands of lakes, ponds and wetlands, making the Swan Valley the wettest valley in the state with about 16 percent of it underwater.

In this hot weather, people are drawn to our abundant watering holes. Every evening when I cross the creek on the way home from work, someone is playing under the bridge or throwing sticks for their dogs. Another popular summer spot to cool off is in the Swan River under the Cold Creek Road bridge, on former Plum Creek land that now belongs to the public as part of the Flathead National Forest. It's hard to find a time in this hot weather when no one is in the water or on the beach below the bridge.

Not only is it hot. It's dry. Cygnet Lake resident Marty Kux has been recording rain and snowfall since 1982. Marty took over from John Stark, who kept records from 1959 to 1981 before he died. Their combined records show a steady decline in precipitation over the years.

Marty calculates the average rainfall at 5-year increments. The 20-year average was 28.21 inches. The 25-year average slid to 28.04. At 30 years it was down to 27.19. At 35 years the average was 27.17. At 40 years it was 26.96. You get the picture. Snowfall is also declining, according to Marty's records.

Meanwhile air temperature averages have been warming but with more variation. In June this year the average temperature was 58 F. The average high was 71 F and the average low was 45 F.

June 2007 was quite a bit warmer than June 1998 but cooler than in 1986. In 1986 the average high in June was 75 F, which was the highest high-average since 1982. The lowest average for high temperatures since 1982 was in 1998 at 62.7 F.

It is unclear what this drying trend will mean for water abundance, water quality, recreation and the life systems our water supports if the trend continues over the next several decades. In the short-term it means staying cool however you can.

A few weeks ago my grandchildren, ages eight and five, practiced “fast water” swimming with life jackets. They floated down shallow Glacier Creek feet-first on their backs, readying themselves for a time in the future when they might be washed off a raft into real whitewater. The kids were staying cool, learning firsthand they can’t swim upstream and it hurts to bump rocks.

On that 100 F day they also had fun catching and releasing a frog. Later they observed one of Nature’s poignant moments. A garter snake had caught a spotted frog and had consumed one whole leg up to the hip when the children noticed the unsavory (from their perspective) event in the grasses at the edge of our pond.

“Get it out, Daddy! Get it out!” they pleaded. We had to tell the children we couldn’t save the frog and that we would torture or kill the snake if we pulled the frog out of the its tightly clamped mouth.

I walked away to let Nature take its course, while the kids watched fascinated until only “the eyes and eyebrows showed.” Afterward we talked about predators and how they must capture their food to stay alive. But my grandchildren weren’t happy with that snake.

In addition to snakes and frogs, nearly all other wildlife species native to the Swan Valley depend on our wet areas at some time throughout the year. I’ve noticed quite a few spotted frogs this summer along our cold streams. But they seem to be absent from other places, compared to years ago when Justin and Sky Vernon were small and expert at catching frogs. The Vernon kids are both grown and graduated from college now.

The Swan River watershed encompasses 421,727 acres and includes all of the land from the north end of Swan Lake to the Swan Clearwater divide in the south and between the Mission Mountains and Swan Range divides. All the snow and rainfall over this area, and all the water that emerges from underground, flows north through Swan Lake and on into Flathead Lake and eventually to the Columbia River and the Pacific Ocean.

The Montana Department of Environmental Quality in 2004 completed a water quality protection plan for the Swan watershed. This set the stage for grant-funded monitoring of our lakes and streams as well as funds to reduce sedimentation into our water bodies. The goal of DEQ’s plan is to protect and improve water quality in the watershed to the extent that it meets State standards and to continue to meet State water quality standards even under potential future development.

The scientists who conducted the studies for the plan weren’t thinking about global warming at the time. They were trying to determine whether development might be affecting water quality. They wanted to know if sedimentation from roads, logging or housing development might be causing oxygen depletion in two deep holes in Swan Lake that in summer lack sufficient oxygen.

Despite the original intent, the monitoring data collected during the study and since then with grant funds may help scientists track the effects of climate change in our watershed. Three years ago I began inserting temperature probes into the Swan River and six of it's tributaries as part of this project. The probes read water temperature every hour from early summer to just before freeze up. It will be several years before any long-term trends can be determined.

There's no questioning whether the Swan River is warm now. The water temperature near the Kraft Creek bridge on July 6 this year was 75 F. Hot for trout. When it's warm, fish go deeper looking for colder waters. This gets difficult with low stream flows due to drought. Anglers can reduce the stress to trout by fishing in our cold alpine lakes or in the river only in the early hours of the day. And we can stay cooler by staying wet.