



September 10, 2009

Eye on the Environment

### **Sketching the Swan Watershed**

By Anne Dahl, Swan Ecosystem Center

If you were to sketch the rim of the of the Swan River watershed with your eyes closed, you might include the outlines of Wolverine, Waldbillig, Holland, Swan, and Thunderbolt peaks, going north along the Swan Range. Carmine, Cooney, Hall and several other peaks might be included if your memory were sharp.

Continuing your sketch south along the Mission Mountains Divide, you could draw in Crane, Weisner, Mountaineer, and Graywolf peaks. Appearing as sharp dips in your outline would be the passes named Hellroaring, Piper Crow, Mollman, and Lone Tree.

Your pencil would curve around the south end of the Missions to connect with the Swan Range again, following the outlines of Weather, Blacktail and North Jocko peaks, before sweeping low to depict the ridges of the Swan-Clearwater Divide.

Holland Peak on the Swan Range would be the highest point of your sketch; its elevation is 9,356 feet. On the Mission Mountains Divide, Mountaineer, at 9,261 feet, would be the tallest.

McDonald Peak, 9,820 feet, is the highest in the Mission Mountains. But the mountain is west of our watershed divide. Water shedding off McDonald flows away from the Swan watershed, so it would not in your picture. All the rain and snow landing within the 410,000-acre Swan River watershed flows north through Swan Lake leaving the Swan River watershed.

Your drawing might resemble a rough-edged, tilted, open-ended bathtub with the water draining to the north. If Earth's surface suddenly buckled, causing the north floor of the watershed at Swan Lake to tilt upward a mere 1,500 feet, the water would reverse its flow and join the Clearwater River going south, because the elevation at the low-point of the Swan-Clearwater Divide is only 4,300 feet, while the surface of Swan Lake is just above 3,000 feet.

Continuing your sketch, the Swan River could be delineated with a squiggly line starting at Grey Wolf Lake, high at the south end of the Mission Mountains. The squiggle would curve northeastward coursing through Lindbergh Lake then veer slightly to the northwest on its long trip to Swan Lake, about 50 air miles away, many times farther if you measure the stream's many bends and wends.

The east side tributaries—Holland, Smith, Lion, Squeezer, Soup, Cilly, Bond and Hall—and the west side creeks—Porcupine, Woodward, Fatty, Cedar, Piper, Jim, Cold, Elk, Glacier, and Beaver—would look like branches on an upside down tree. Swan Lake would be a long tap root at the top of your page.

All the lakes, ponds, potholes and wetlands would be the fruits, and the upside down tree would be heavily laden. The Swan Valley has more surface water than any other watershed in Montana.

The west side of the valley is especially wet when you take into account all the lakes in the Mission Mountains and the network of ponds and wetlands running north from Lindbergh Lake as far as Jim Creek and beyond. Two large fruits on the eastside would represent Holland and Van lakes.

After sketching the abundant waters, you might begin populating the watershed with trees of all kinds native to Northwest Montana, putting most of the ponderosa on the east side and more of the larch and lodgepole on the west.

Douglas-fir would be scattered throughout. Cottonwoods would line the streams. Western red cedar would be drawn in the shady canyons. Higher on the slopes you would sketch in the subalpine fir with their pointy tops, and you might draw a few bendy topped mountain hemlock trees.

The understory would be full of deciduous shrubs and wildflowers. Sketching with you eyes closed, the picture might be sloppy. But in your mind's eye, it would be colorful, with greens of all shades, blue waters, and red, purple and yellow flowers.

In the fall, the hillsides of tall larch would be yellow. If it were a winter scene, there would be blankets of snow shining on the mountain tops and ice on the water.

Then you might start adding the grizzlies, black bears, mountain lions, mountain goats, elk, deer, coyotes and the controversial wolves. The sky would be alive with eagles, osprey, goshawks, ravens and all the smaller birds. Pine squirrels would be jumping from tree to tree, while chipmunks would be peaking out from behind rock piles and stumps, and the voles and mice would be sneaking through the forbs and grasses, avoiding garter snakes and owls.

In a summer sketch, painted turtles would be warming on logs in the ponds, and bull trout and cutthroat would be pocking the surface of the lakes and streams.

Next you could start adding Highway 83 and all the forest roads, trailheads and trails. You could delineate the Mission Mountains Wilderness and the roadless area high on the Swan Range.

You might include the checkerboard of land ownership south of Goat Creek with alternating squares of national forest and The Nature Conservancy land (former Plum Creek timberlands, future national forest), and the checkerboard that still includes Plum Creek north of Goat Creek.

Houses would be scattered near the highway and the Swan River at Condon and Salmon Prairie, and further into the woods off the side roads. People might be sketched riding horses or snowmobiles, hiking or cross-country skiing, fishing, hunting or

berry picking. Some might be driving log trucks, operating feller bunchers or teaching school.

Then you could add people sitting at tables, looking at maps and writing on flip charts. The Swan Valley residents at the tables might be wearing shorts or jeans, depending on the season. Others at the table would be dressed in uniforms identifying them as specialists and technicians of the Forest Service, Montana DNRC, Montana Fish, Wildlife and Parks, and the other land and wildlife agencies involved in the watershed. Some people would be wearing baseball hats with logos of various nonprofits and other groups.

This assemblage of characters would be pondering the future of the watershed, given all the changes occurring as a result of the Montana Legacy Project, which is consolidating former Plum Creek lands into national forest and state ownership.

The people at the tables would be thinking about water quality in Swan Lake, sediments flowing into streams from forest roads, tree insects and diseases, forest fuels that threaten homes, wildlife habitat for a diversity of species, and noxious weeds. Their thoughts would be directed at protecting and restoring the water and the land for the humans and the animals that the watershed supports. They would be developing a cooperative watershed restoration plan.

If you can envision yourself as one of the characters in this sketch, contact Swan Ecosystem Center, 406-754-3137, to help develop a Swan Valley watershed restoration plan.