

## **Summary of DNRC Comments on Niklin Report**

**The Niklin report is not an evaluation of water rights in closed basins as the title implies.**

- The report does not assess the potential effects of ground water pumping on surface water flows.
- The report does not consider that depletions caused by ground-water pumping increase the need for curtailment or voluntary reductions of surface water uses.
- The report does not consider the water-right priority system or the difficulty of controlling junior ground water users to protect senior surface water users.

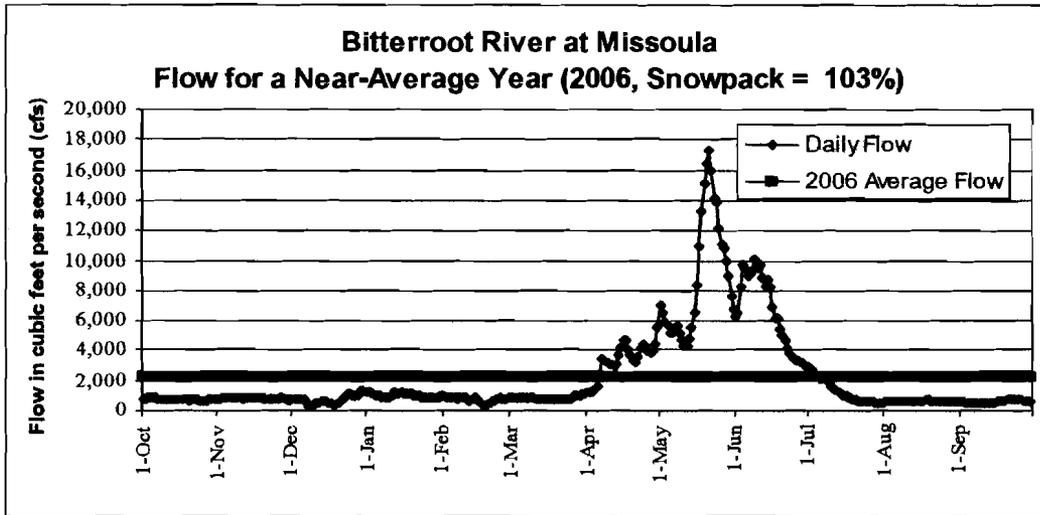
**The Niklin report erroneously relies on an evaluation of annual basin-wide water budgets.**

- A more rigorous analysis would consider the water supply during the late summer, when streamflows are low and water demands are high.
- To illustrate the shortcomings associated with using annual average flows, Figure 1 compares flows for each day to the annual average for the Bitterroot River near Missoula during a near-average snowpack water year. The daily flow was below the average about 75 percent of the time.
- Water commissioners' records shown in Table 1 and streamflow measurements during the irrigation season demonstrate that water shortages occur on main stem rivers and tributaries in closed basins nearly every year. These water shortages result in surface water uses being curtailed.
- Depletions caused by ground-water pumping increase the need to curtail surface water use or for surface water users to voluntarily reduce their use during shortages.
- The effects of ground-water pumping may not show up in records of annual basin water outflow because they can be offset by curtailed surface-water use within the basin.

**Data presented in the Niklin report do not support the conclusion that overall water consumption in closed basins is declining.**

- Agricultural statistics do not indicate the report's conclusion that irrigated acreage is declining as a result of subdivision development.
- Considerable development is occurring on land that previously was not irrigated.
- Irrigation water that is released when subdivisions are developed on land that previously was irrigated is not necessarily returned to the source stream or does not necessarily go to senior users by priority.
- Conversions from flood irrigation to sprinkler systems, more use of fertilizer, and enhanced alfalfa varieties can increase water consumption in a basin even as the amount of irrigated land remains constant or even decreases.
- The period of water use for a subdivision may be greater than for historic agricultural uses that had partial service because of the crop grown (e.g. grains) or because of curtailment of historic surface water uses during shortages.

**Figure 1. Bitterroot River near Missoula flows for the 2006 water year.**



**Table 2. Priority Dates at which junior water users have been shut off during late July of 2008 by stream.**

<u>Stream</u>	<u>2008 July Shut-Offs</u>	
	<u>Water Commissioner</u>	<u>Priority Date</u>
West Gallatin River	Alberda	1890
Musselshell River	Marchi	1892
Tenmile Creek nr Helena	Tordale	1870
Big Lake, Rock Creeks (Big Hole)	Boetticher	1886
North Fork of Smith River	Horchstradt	1878