

# **South Fork Campbell Creek Instream Flow Reservation Discussion/Exercise**

## **BACKGROUND**

Methods for quantifying the flow rates needed to support instream water uses have evolved significantly over the last 25 years. In addition, the types of water uses claimed on instream flow applications have evolved significantly, with changes in instream flow laws in the western states. The purpose of this exercise is to review an existing instream reservation, and discuss alternative quantification methods and alternative instream flow uses that might be claimed if this application were submitted today. This exercise is not meant to criticize the work that was done on this instream application, but instead use the previous work as a method to better understand instream flow applications.

Alaska Department of Fish and Game submitted an instream flow application on South Fork Campbell Creek in 1991, and the Alaska Division of Land and Water Management rendered a decision on the application in 2005.

- The purpose of the reservation is to protect fish and wildlife habitat, migration, and propagation.
- The claimed flow amounts were developed by the Tennant Method. The Tennant Method identifies flow instream flow rates by suggesting percentages of the average annual flow that should be protected at various time of the year. The percentage of average annual flow is divided into classifications, depending upon how well that percentage protects fish habitat. The Tennant classifications range from < 10% (severe degradation of habitat) to 60 to 100% (optimum range). The final flow numbers in the South Fork Campbell Creek reservation reflect some modifications to the Tennant method recommendations, based upon analyses of hydrologic variability in the creek, and based upon time periods that various fish species use the creek.

## **EXERCISE/DISCUSSION**

Excerpts from the instream flow application and decision are attached. After reviewing these documents and viewing Campbell Creek in the field, answer the following questions:

1. Could it potentially be appropriate to claim recreation and park purposes for an instream flow reservation on Campbell Creek? If yes, then what type of other studies and analysis would need to be performed to support the requested purposes?
2. Could it potentially be appropriate to claim flow rates necessary to support wetland and riparian habitat adjacent to the stream channel? For example, could a claim be submitted based upon overbank flows necessary to periodically inundate wetlands and backwater habitats? If yes, then what types of other data would be necessary to request overbank flows?
3. On a stream such as this, which does not have any major diversion or storage facilities in upstream locations, could it be appropriate to claim channel maintenance flows for maintenance of wildlife habitat (e.g. for flushing spawning gravels, removing seeds and seedlings from gravel bars, etc.)? If yes, then what types of data would be necessary to claim channel maintenance flows?
4. South Fork Campbell Creeks flows through a combination of private, municipal, state, and federal lands. What would be the advantages of applying for an instream flow reservation on this creek versus relying upon a federal reserved water right for BLM's Campbell Tract (assume that a federal reserved water right exists for purposes of this exercise.)