

Hi Jim –

I wanted to comment on the temperature assessment methodology. Having sampled stream water temperature on streams both in Oregon and Utah for a combined 15 years I am aware of a variety of assessment methods and the difficulty in keeping the methodology simple and inclusive but yet complex enough to be reflective of the diversity of stream systems and uses. However, I have noted 2 primary deficiencies with Utah's temperature assessment methodology.

1. The use of discrete sampling can be very biased due to sampling at a particular time of day. For example, with some stream systems if you were to sample temperature at hour 0900 each time, you may never exceed the criteria as you would expect to have the coldest temperatures of the diel fluctuation. This stream may well exceed the criteria at hour 1700 for more than 10% of the samples but if it is never sampled at that time it won't exceed the criteria. I think that temperature sampling should be done more continuously in order to more accurately assess conditions. With continuous data you could still use the 10% of sample points exceedance threshold or choose a 7 day running average of max or some other statistic that makes the most sense for the beneficial use.

2. Spatially transitioning from one beneficial use class to another can be problematic, especially from 3A to 3B or 3C. Many streams that I am familiar with that support cold water aquatic life will gradually warm as they progress downstream and do not simply stay well below the 20 degrees threshold until they cross the designated beneficial use line into warm water aquatic life. Rather there is a transition area where both warm and cold water aquatic life overlap but it shifts more toward warm water aquatic life. I think that either the warmer water beneficial use classes reaches be extended far enough upstream into the cold water aquatic life habitat that this transition zone has warm water designations or there be some kind of allowance for a greater percentage of temperature exceedances on 3A use class in this transition zone (this transition zone could be defined uniquely for each 3A stream based on sampling, or generally by saying that a universal percentage of the stream length would be classified as a transition zone).

These comments do not necessarily represent the position of the Forest Service but rather are my professional opinions and suggestions.

Thanks,

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