
From: Mike Miles <mmiles@hrcllc.com>
Sent: Thursday, April 18, 2013 5:12 PM
To: Cafferata, Pete@CALFIRE; Coe, Drew@Waterboards; Huff, Eric@CALFIRE; Hall, Dennis@CALFIRE; sstanish@dfg.ca.gov; Croteau, Joe@Wildlife; Short, Bill@DOC
Subject: Class II-Large
Attachments: 916 9(g) CII Plead_04172013.doc; Class II_L_SurveyResults_Analysis_04172013.docx

Nice illustrations. I do not have a strong opinion on BF versus active channel width, but based on recommendation presented have revised the Plead to use *active channel width*. I have also reviewed Article 6 Watercourse and Lake Protection for existing provisions for enhanced protection measures, where warranted based on site-specific conditions and/or pre-existing adverse cumulative watershed effects, and referenced these provisions again at the start of 916.9(g) as available for addressing 'odd-ball' situations. Third and final change was to provide specificity regarding determination of average active channel width for criteria three. These changes are all reflected in the attached revised plead dated 04/17/2013.

The other attachment you will find are some notes following further review of the February 2013 ASP Survey Response Summary provided by BOF Staff. This data (presented at the March 2013 BOF FPC) can tell us something about the frequency with which Class II watercourses would be typed as Class II-L under the revised plead, based on stream order and contributing drainage area. The overall number of Class II-L watercourses decreases by roughly 50% in each district, with smaller watercourses dropping back to Class II-Standard designation.

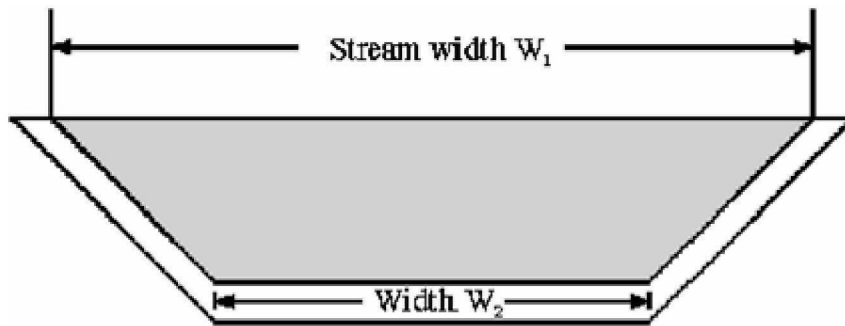
Due to lack of information, it is unknown whether the 5' channel width criteria would capture additional Class II-L not caught by stream order or drainage area, although I suspect such occurrence would be rare and more likely to occur in the Northern district than on the Coast.

From: Cafferata, Pete@CALFIRE [mailto:Pete.Cafferata@fire.ca.gov]
Sent: Tuesday, April 16, 2013 8:30 AM
To: Mike Miles; Coe, Drew@Waterboards; Huff, Eric@CALFIRE; Hall, Dennis@CALFIRE; sstanish@dfg.ca.gov; Croteau, Joe@Wildlife; Short, Bill@DOC
Subject: RE: Active channel width

Hi Mike. I would say that active channel width is not analogous with channel zone, since the banks of the channel zone would in most cases be vegetated. I think that in nearly all cases, the active channel width would be narrower than bankfull channel width. As we discussed last week, bankfull channel width is a term that works well for larger channels with floodplains or flood prone areas, but not well for headwater channels that are incised. Active channel width is much easier to determine in the field. According to the Encyclopedia of Geomorphology (Goudie 2004, ed.), active channel width is the most easily assessed morphological variable for rivers.

I think the following 2 diagrams illustrate how to measure active channel width. In the watercourse crossing design guidance document we put together in 2004, we included the following diagram, and stated that W_2 was the active channel width, and that W_1 was bankfull width (pages 9-10).

Pete



Also, see the diagram below from the Federal Highway Administration website, Design For Fish Passage at Roadway - Stream Crossings: Synthesis Report. See: <http://www.fhwa.dot.gov/engineering/hydraulics/pubs/07033/6.cfm>

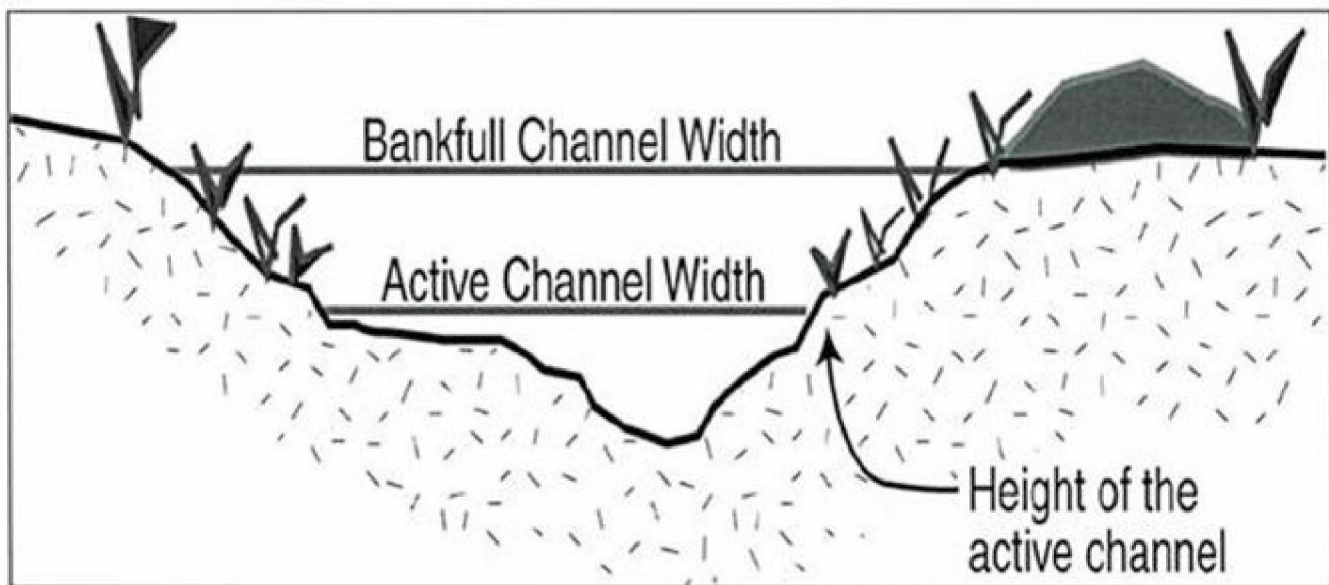


Figure 6.4 Depiction of bankfull channel width compared to active channel width (Taylor and Love 2003) (Note that in certain systems bankfull and active channel can be very similar, and active channel indicators are often used to describe bankfull flow when a floodplain is not present as in entrenched systems)

From: Mike Miles [<mailto:mmiles@hrcllc.com>]

Sent: Monday, April 15, 2013 4:12 PM

To: Cafferata, Pete@CALFIRE; Coe, Drew@Waterboards; Huff, Eric@CALFIRE; Hall, Dennis@CALFIRE; sstanish@dfg.ca.gov; Croteau, Joe@Wildlife; Short, Bill@DOC

Subject: RE: Active channel width

Seems appropriate, but have a few questions -

Is the term (*active channel*) analogous with *channel zone*, currently defined in the FPRs as the "area located between the watercourse transition lines" (895.1, pg.5)? How does the *active channel* correlate to *bankfull channel* width – would it be narrower in all cases to varying degrees? Not sure in application how it would be interpreted or delineated

differently than BF channel width? Is the difference between the two the slope of the bank from the active channel to the top of the bank? Where would you put your pins in the ground when measuring, at the top of the bank or *in the channel* tight against the bank?

Interestingly, I see no definition for *Bankfull Channel width* in the current FPRs, but rather a definition for *Bankfull stage*.

I think of *bankfull* characteristics as pretty much analogous with the *watercourse transition line* in confined headwater channels, and actually find it more difficult to ascertain the former (*bankfull*) in larger systems having CMZs and flood plains.

From: Cafferata, Pete@CALFIRE [<mailto:Pete.Cafferata@fire.ca.gov>]

Sent: Monday, April 15, 2013 10:53 AM

To: Coe, Drew@Waterboards; Huff, Eric@CALFIRE; Hall, Dennis@CALFIRE; sstanish@dfg.ca.gov; Croteau, Joe@Wildlife; Short, Bill@DOC; Mike Miles

Subject: RE: Active channel width

This sounds good, Drew. In Sam Flanagan's thesis, he includes this for active channel width: Bed width was the zone of actively scoured sediment, typically absent any vegetation.
Pete

From: Coe, Drew@Waterboards

Sent: Monday, April 15, 2013 10:48 AM

To: Huff, Eric@CALFIRE; Hall, Dennis@CALFIRE; Cafferata, Pete@CALFIRE; sstanish@dfg.ca.gov; Croteau, Joe@Wildlife; Short, Bill@DOC

Subject: Active channel width

Folks,

I've found a fairly simple definition of active channel width used by Grant et al., (1990). They state that active channel width refers to the "unvegetated width" of the channel, and they use this definition for their field methods in the paper titled "Pattern and origin of stepped-bed morphology in high gradient streams, Western Cascades, Oregon" (GSA Bulletin). The paper is on headwater channels, which makes it applicable to the population that we are dealing with.

This concept might not apply to low energy, spring fed streams where vegetation can be established within the wetted width of the channel, but it's fairly simple and easy to explain, and should work in most cases.

Would somebody forward this to Member Miles. I don't appear to have his email address in my address book.

Drew