

Anadromous Fish Floor Addendum Report

Washington State Forest Practices Board Water Typing Rules Committee

March 15, 2022

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Anadromous Fish Floor Project

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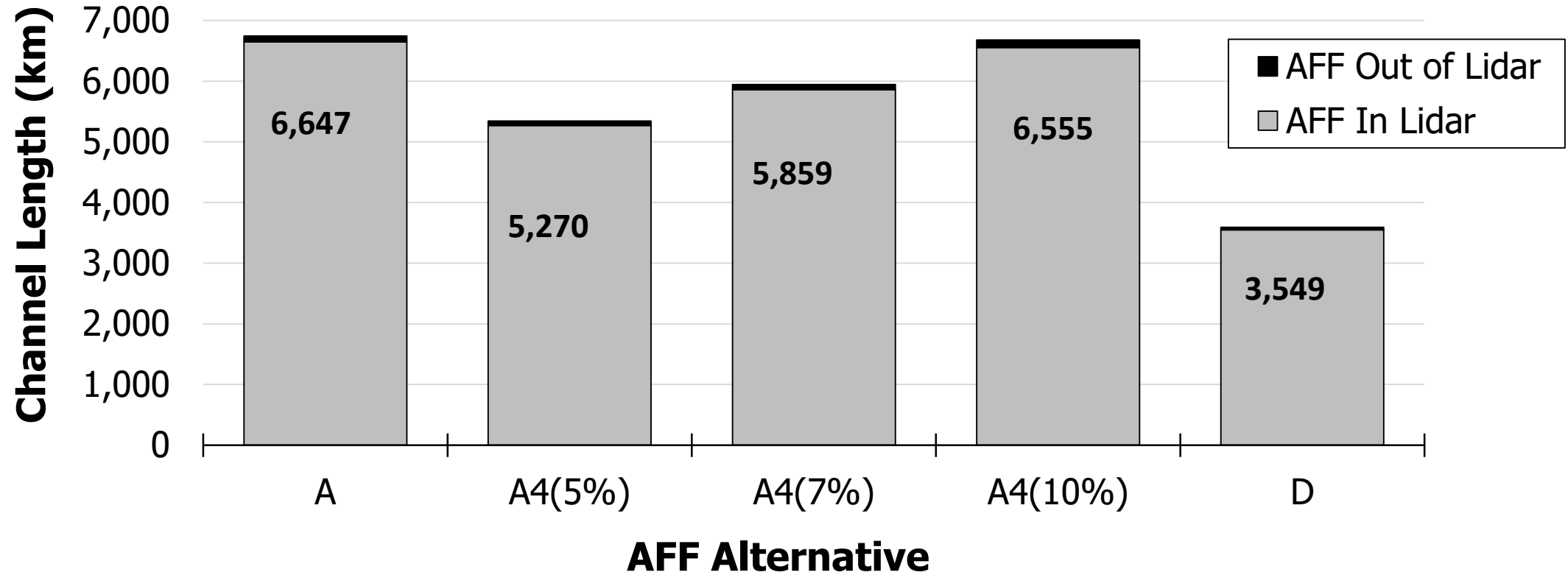
Marc Ratcliff

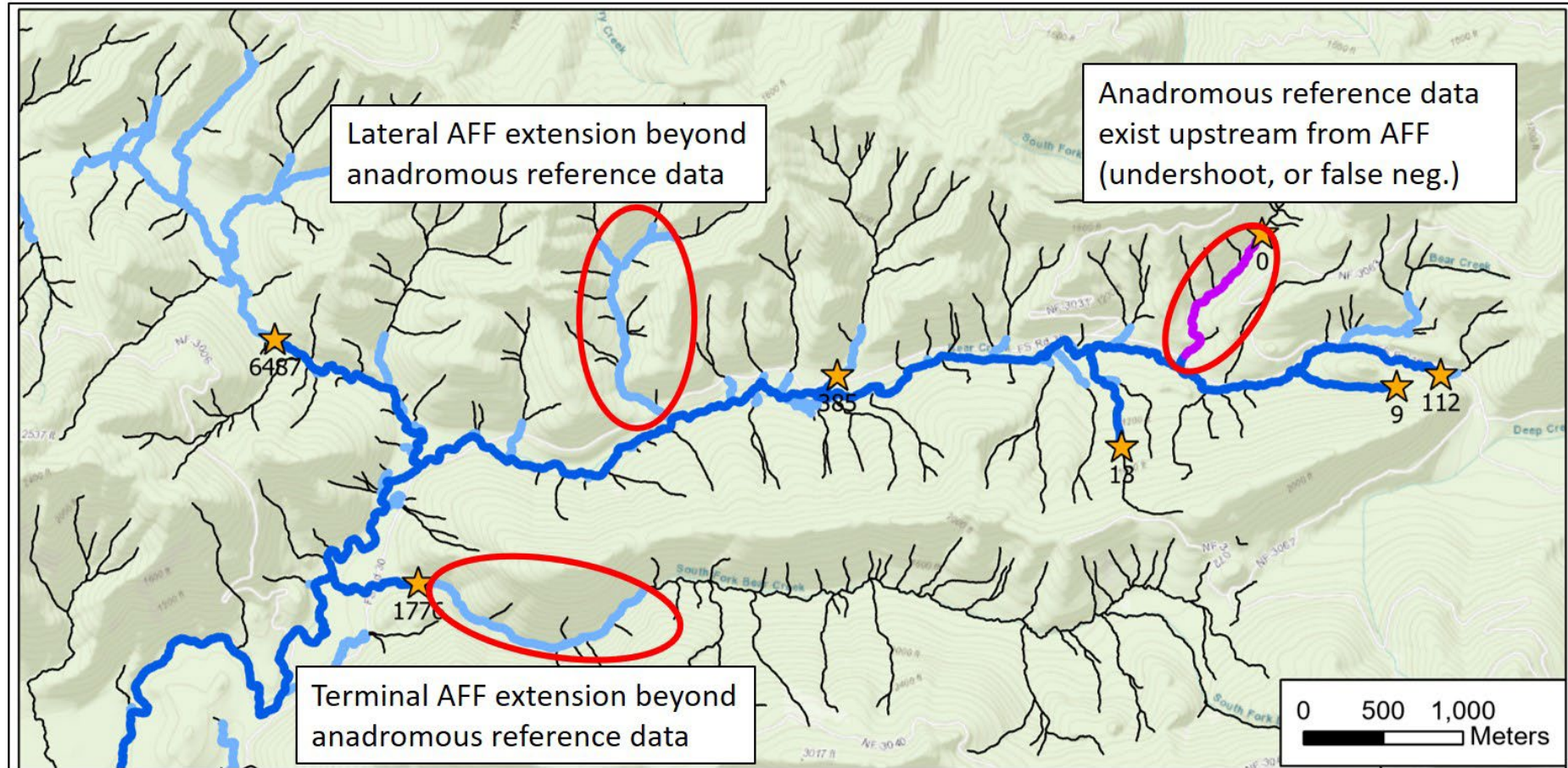
Ash Roorbach

Addendum Includes:

- Additional model runs
 - A4 5% and A4 7%
(Addendum includes results for A, A4 5%, A4 7%, A4 10%, D)
 - A4 barriers – sized to stream width
- Histograms and box and whisker plots that compare the extent of the different AFF alternatives relative to fish reference points.
- PDF Maps
- Summary of spatial analysis

Total length of modeled AFF alternatives

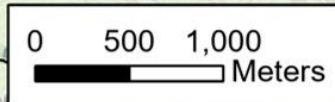




Lateral AFF extension beyond anadromous reference data

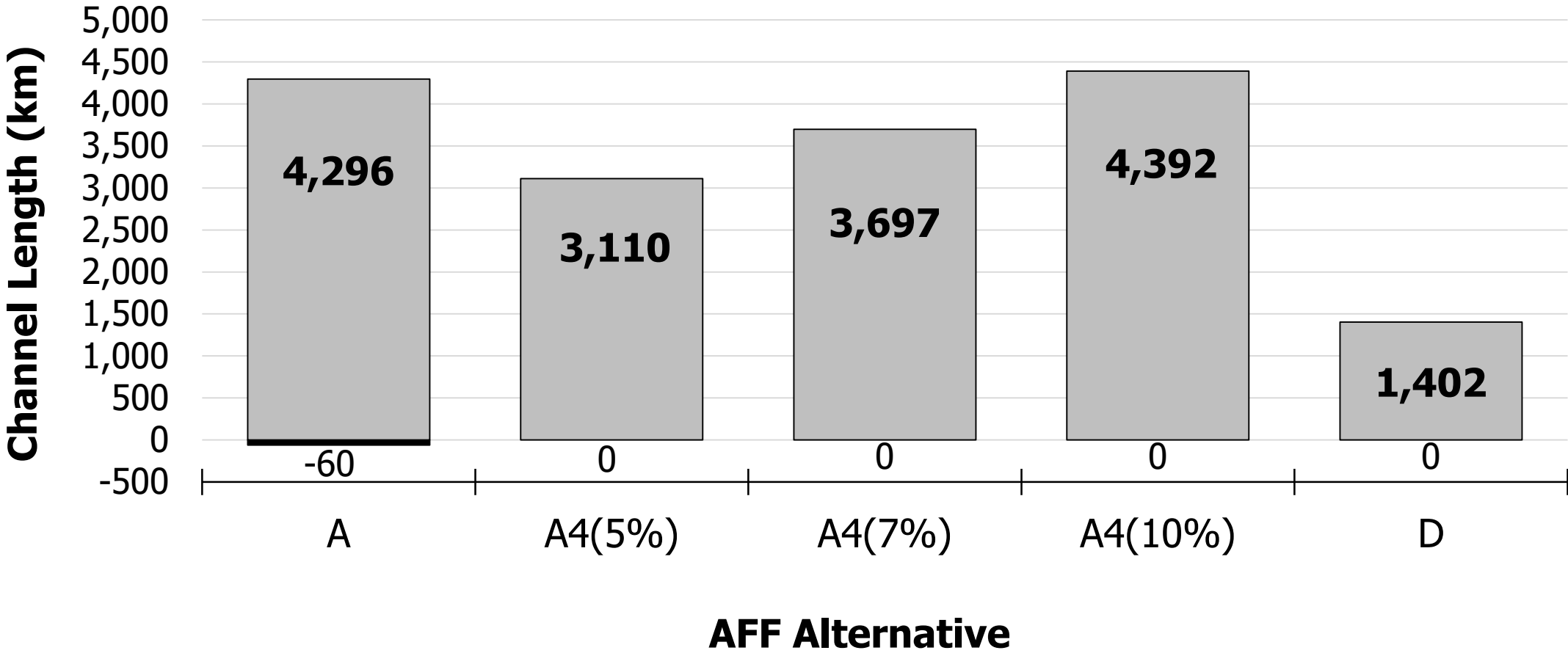
Anadromous reference data exist upstream from AFF (undershoot, or false neg.)

Terminal AFF extension beyond anadromous reference data

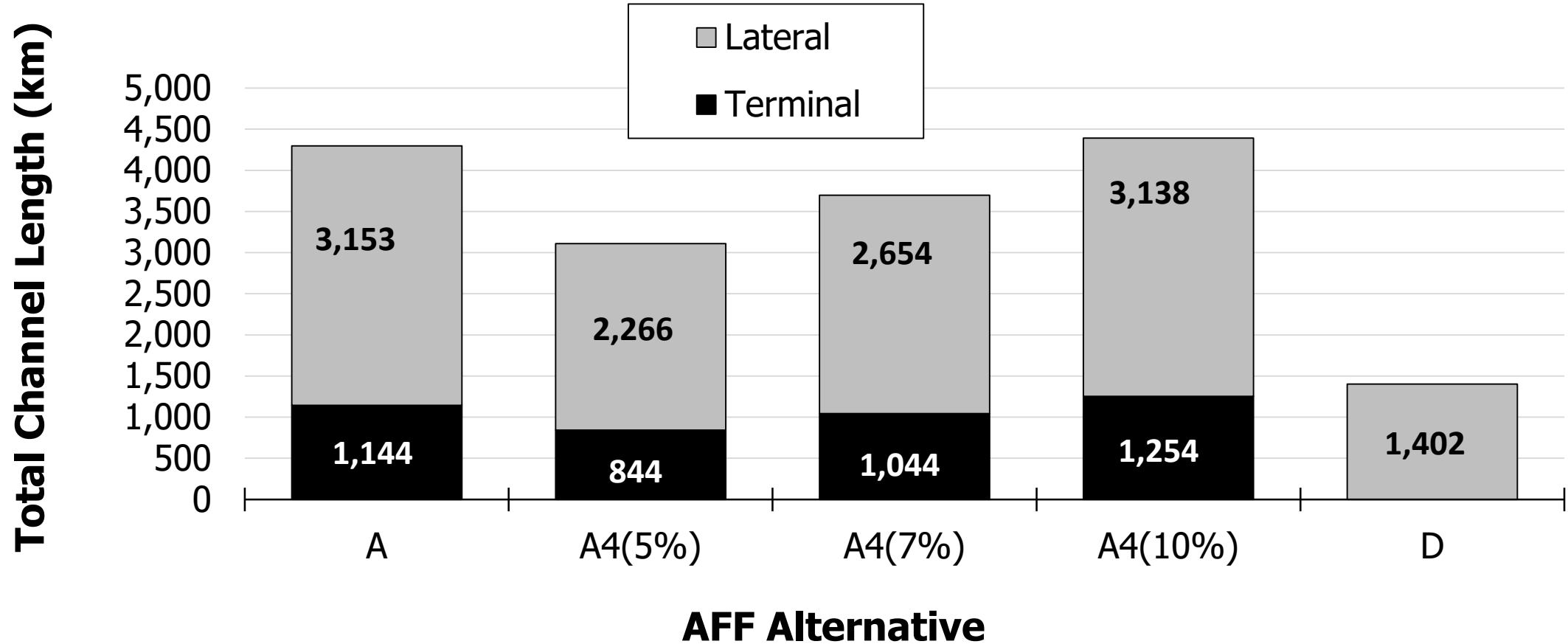


- ★ Upstream-most anadromy point, labels indicate upstream length of AFF in meters
- (light blue) AFF upstream of known anadromy (following slides show only channel lengths upstream of fish data points)
- (thick blue) AFF downstream of upper-most anadromy point
- (purple) Anadromy upstream of AFF
- (black) Upstream of AFF and known anadromy

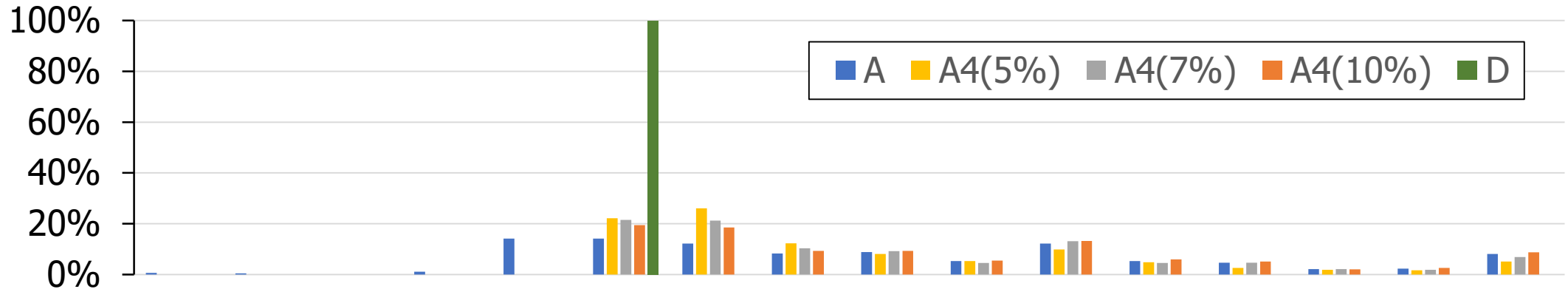
Total Modeled AFF Length Above and Below SWIFD



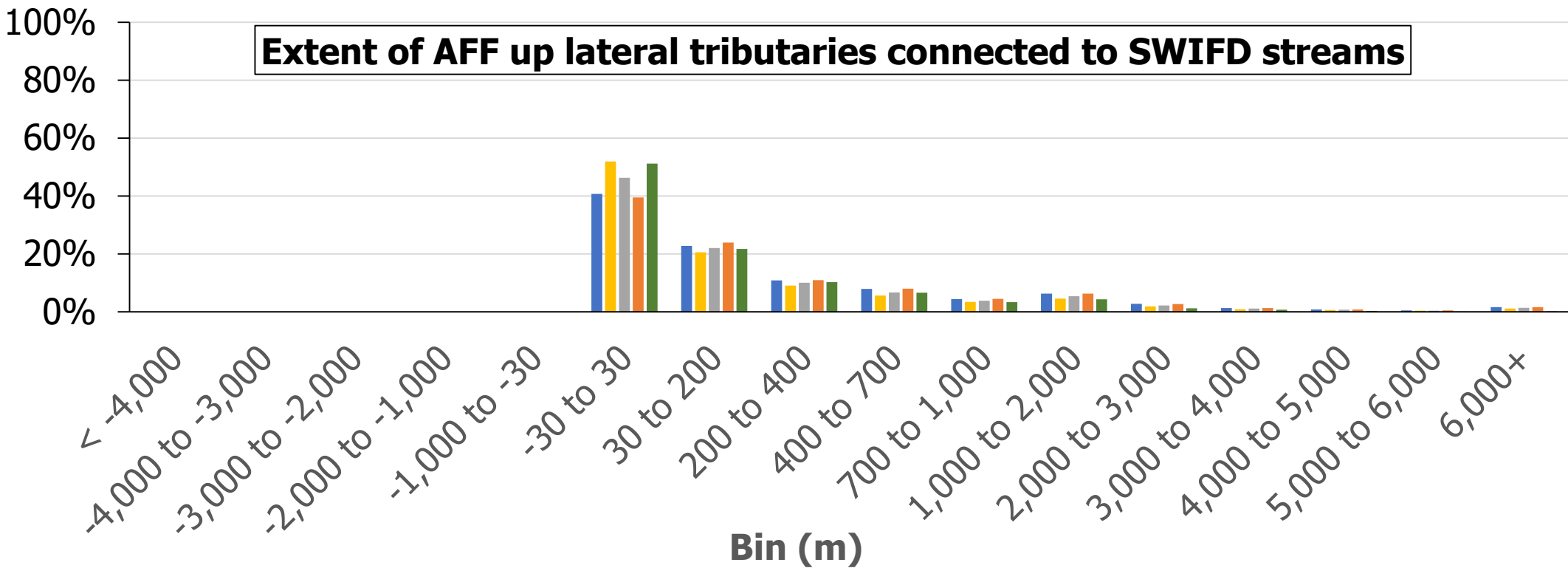
AFF Extension beyond SWIFD

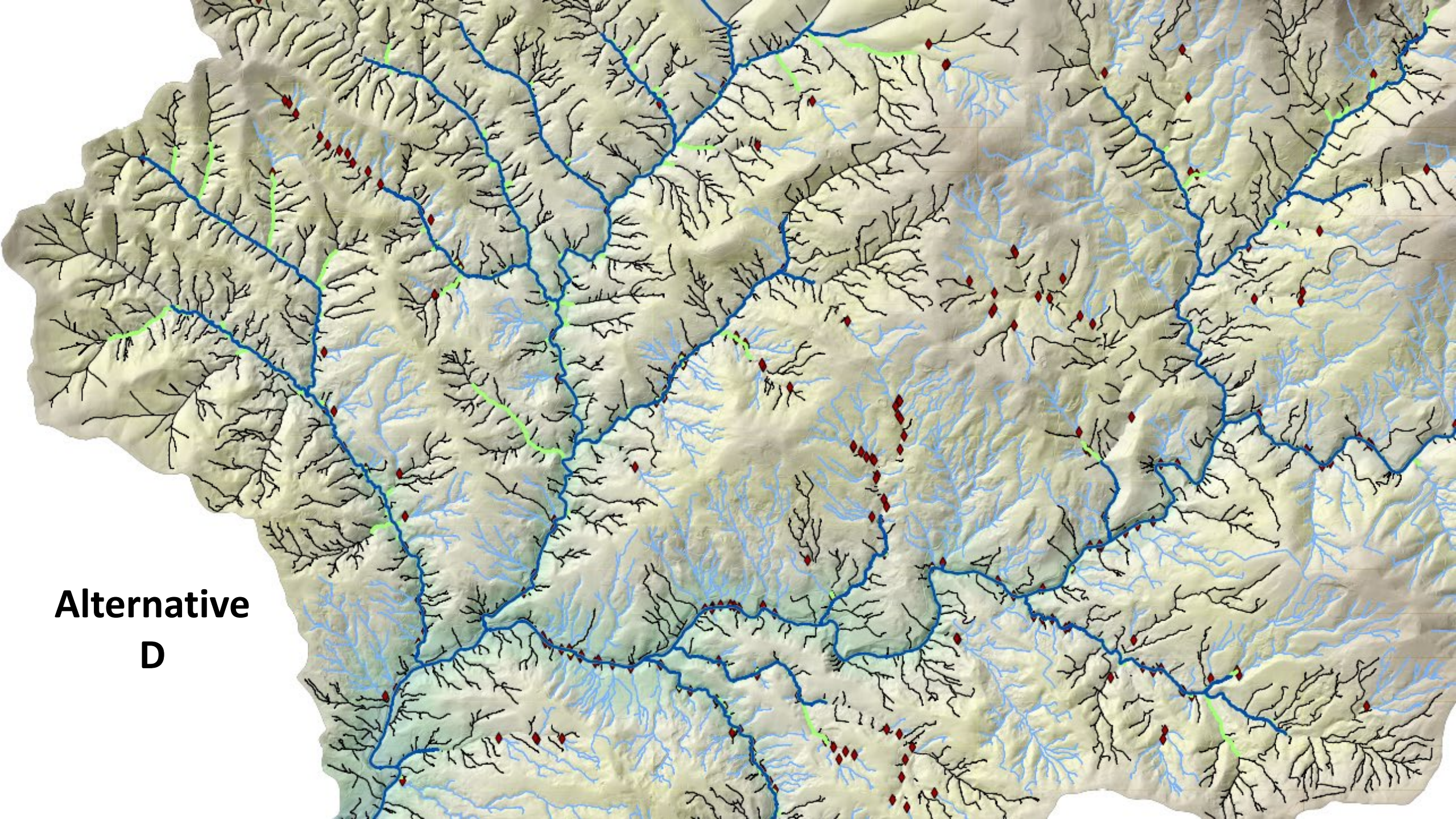


AFF relative to SWIFD terminal points



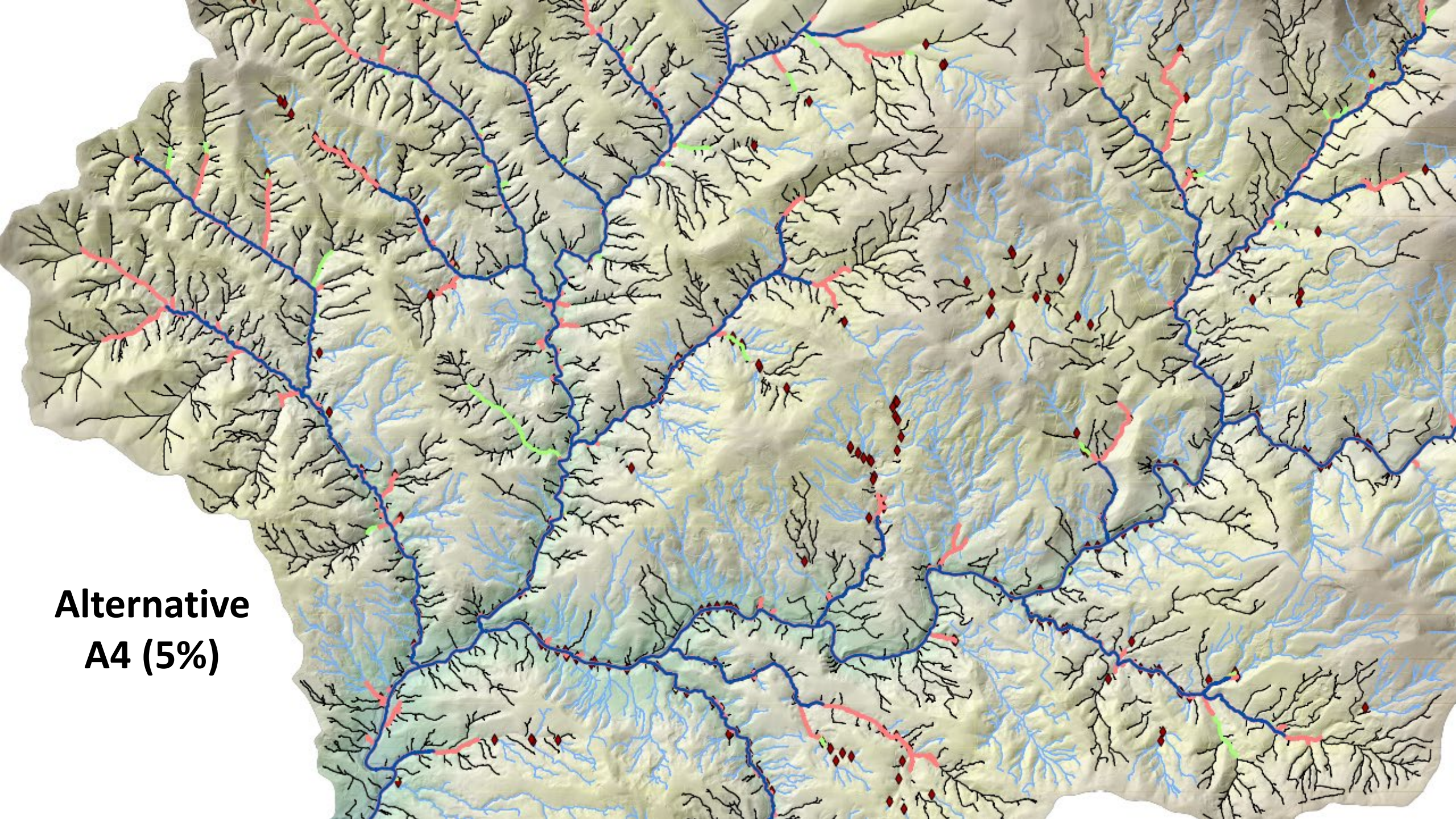
Extent of AFF up lateral tributaries connected to SWIFD streams



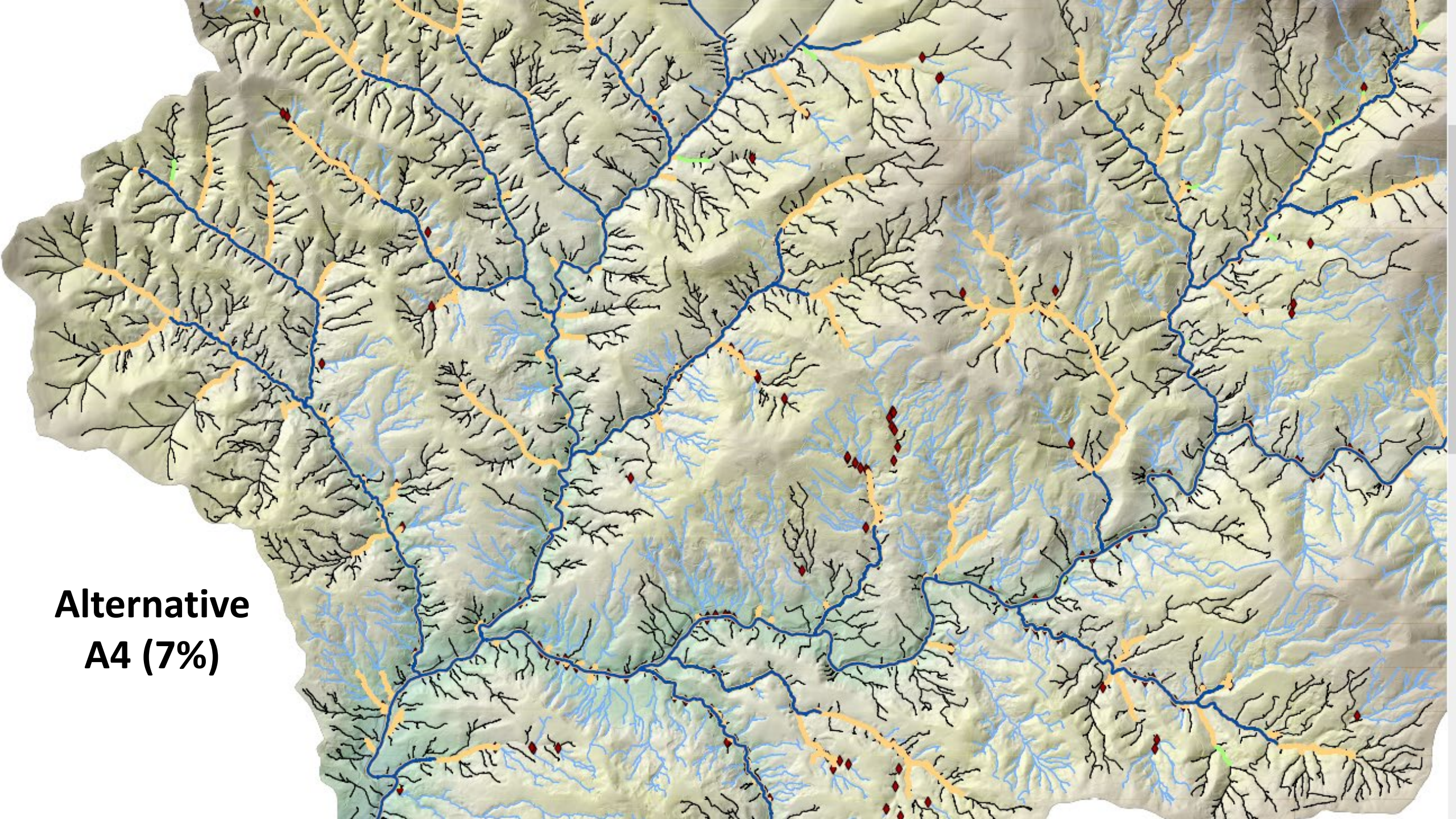


**Alternative
D**

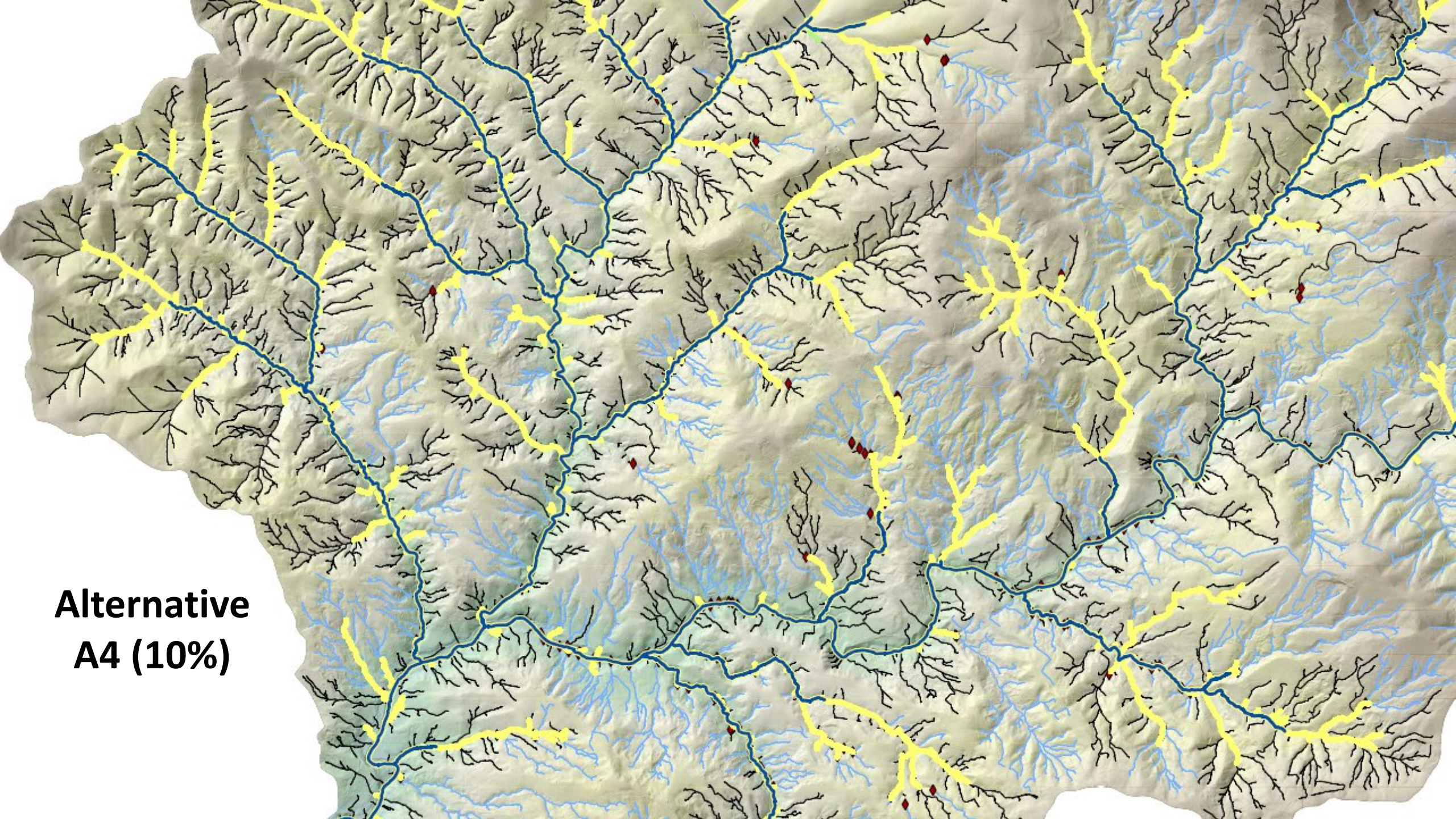
**Alternative
A4 (5%)**



**Alternative
A4 (7%)**

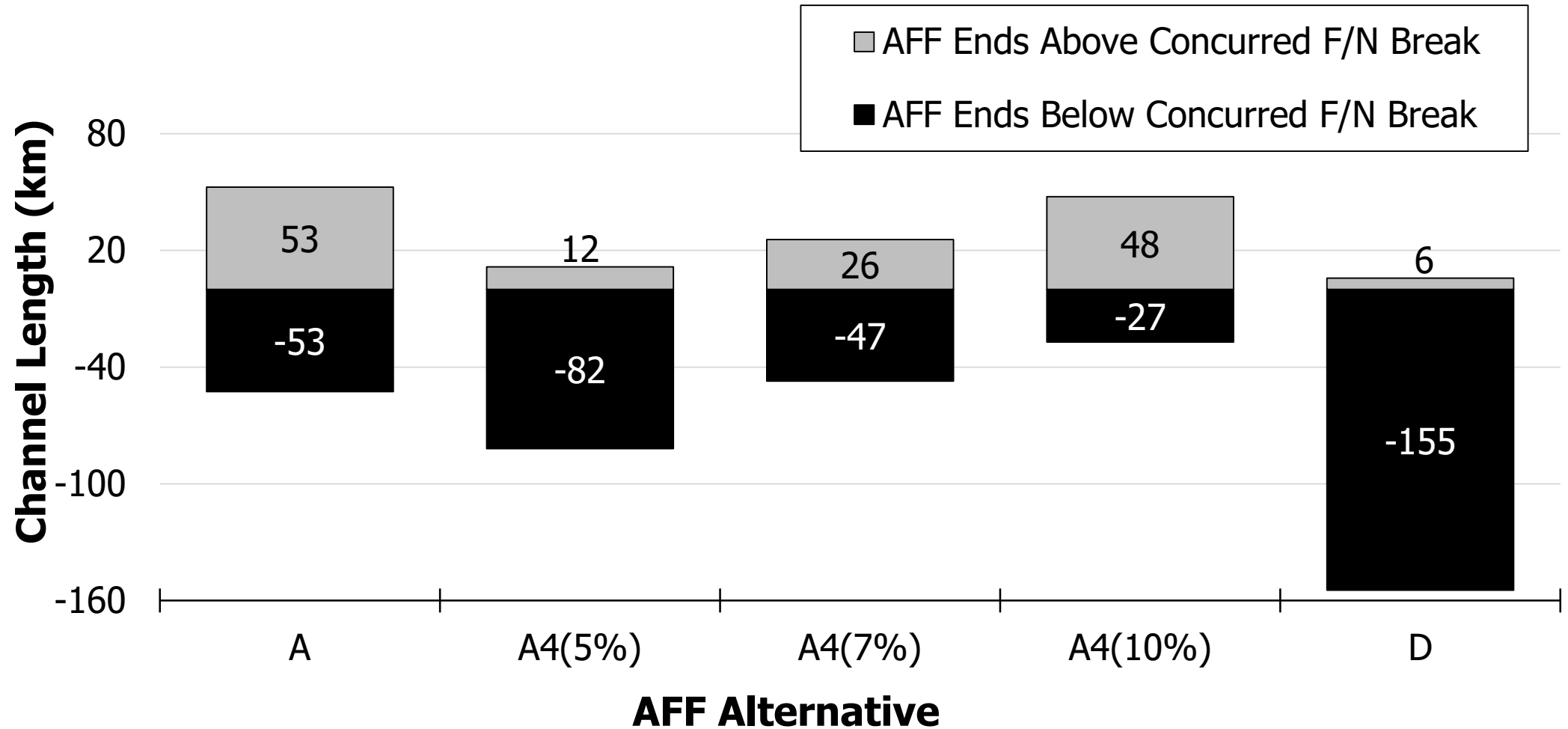


**Alternative
A4 (10%)**

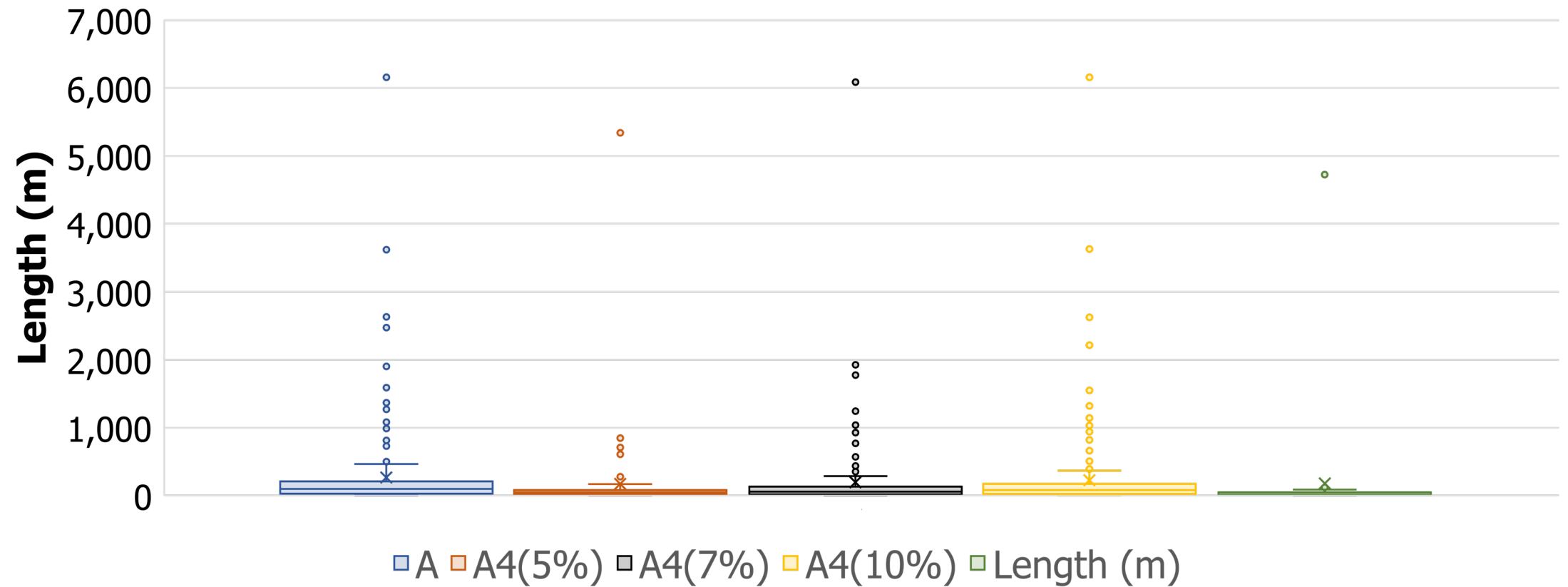


Total AFF Length Above and Below Concurred F/N

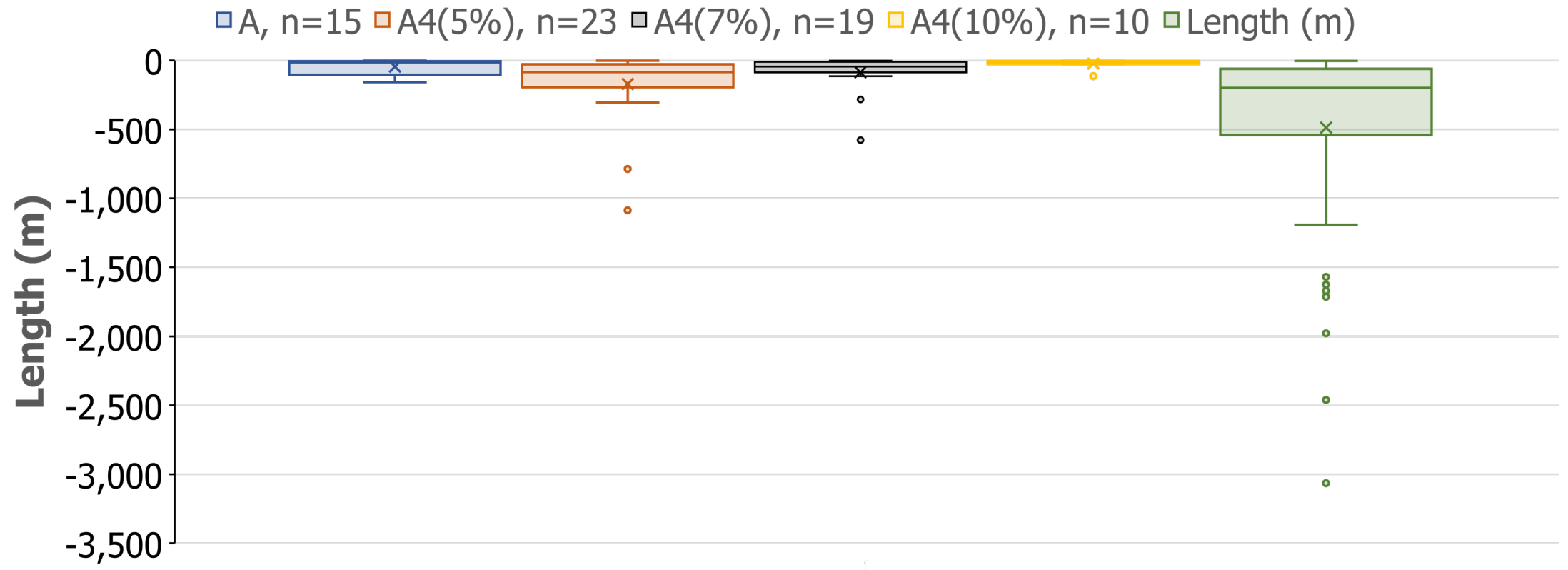
(grey bars = False Positives)



AFF extension above F/N Break Point



AFF channel lengths that terminate downstream of Other Anadromy



Summary of Analysis

Alternative D

- Total modeled AFF channel length was lower under alternative D than any of the A4 alternatives.
- The total AFF channel length predicted by the model to occur above the fish reference points (SWIFD, Other Anadromy, F/N Break Points, Other Fish) was lower under alternative D than any of the A4 alternatives.
- The occurrence of the AFF terminating downstream of uppermost Other Anadromy reference data was higher under Alternative D than any of the A4 alternatives.

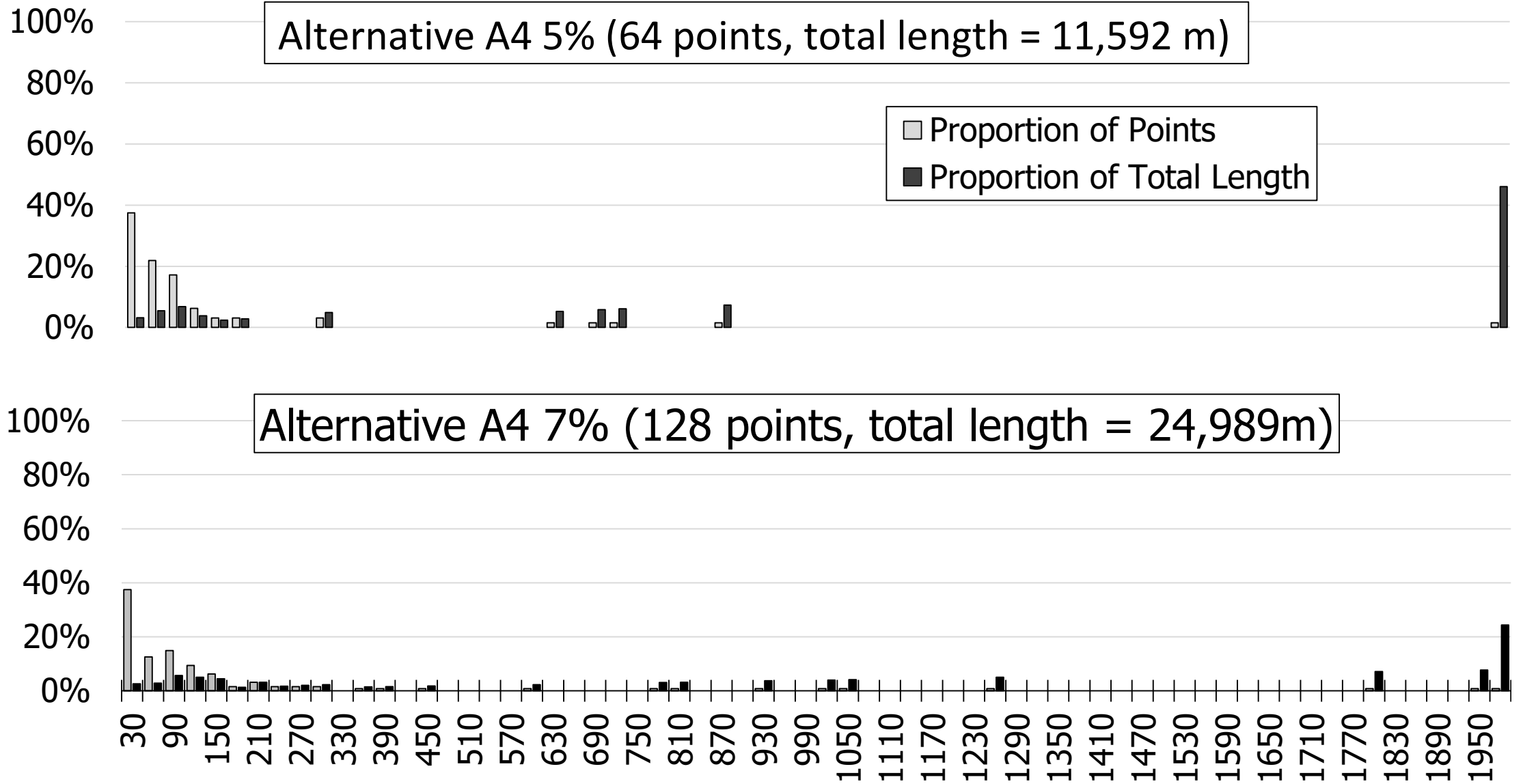
Alternative A4

As gradient threshold values increase there is an associated:

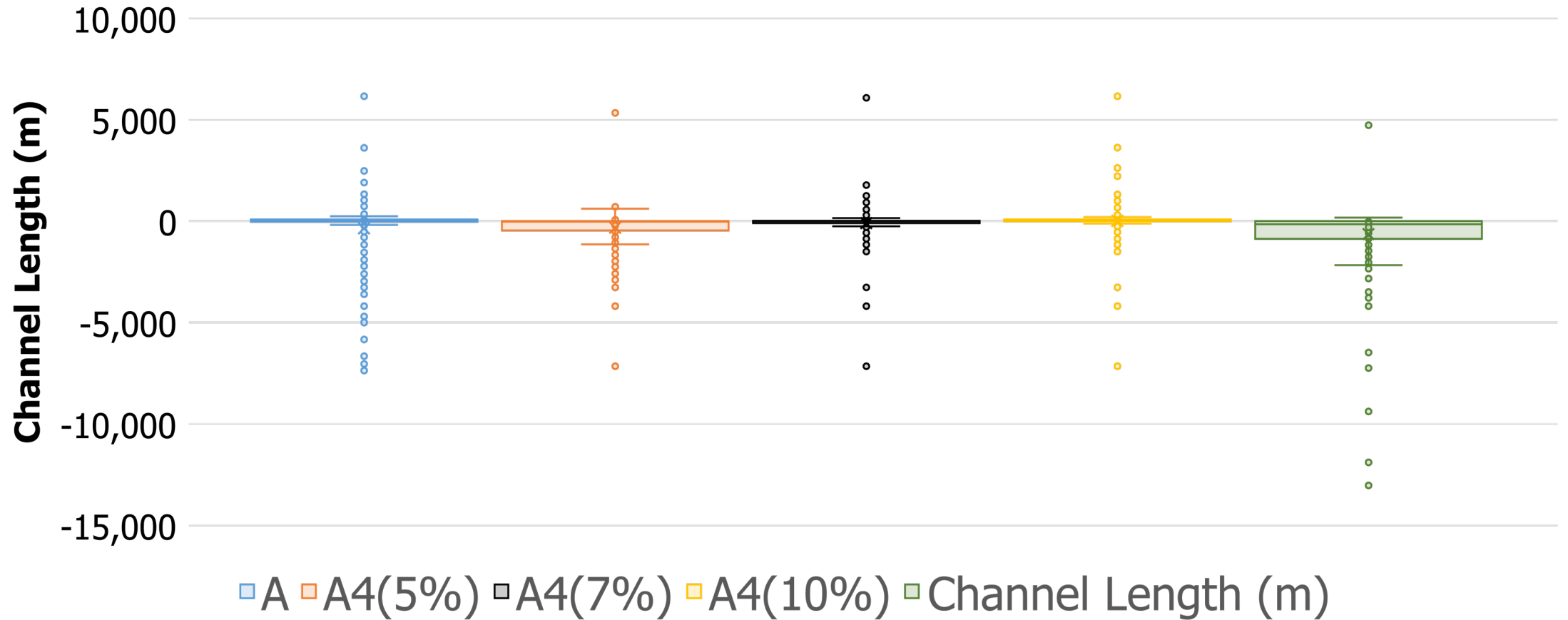
- Increase in the total modeled AFF channel length upstream of fish reference points (SWIFD, Other Anadromy, F/N Break Points, Other Fish)
- Increase in the total modeled AFF channel length in Unsurveyed Streams (Addendum Figure 7).
- Reduction in the occurrence of the AFF terminating downstream of uppermost Other Anadromy reference data.

Questions?

AFF Length Upstream of Concurred F/N Break Points (30-m bins)



Modeled AFF Channel Lengths relative to Concurrred F/N Break Points, 435 Points



Modeled AFF Channel Lengths relative to Concurrred F/N Break Points, 435 Points

