

# Increased Flood Potential of Streams Draining the High Park Fire

with ratios of predicted post/pre fire peak flows for the 1-hour, 25-year rain event (1.8 inches, 46 mm)

Example: for Rist Canyon at point RC-4, the peak flow ratio = post fire peak flow / pre fire peak flow = 1710 cfs / 550 cfs = 3.1

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### Methods:

- \* post and pre fire flows predicted using the NRCS Curve Number (CN) methodology, using a 1-hour rainfall event over entire stream catchments
- \* CN development accounted for hydrologic soil group, vegetation type and soil burn severity
- \* catchment lag time computation accounted for soil burn severity
- \* rainfall prediction extracted from NOAA Atlas 2, Volume 3
- \* area-reduction factor applied to rainfall depth, which varied from 0.95 (Skin Gulch) to 0.78 (Buckhorn Creek)
- \* stream flow routing performed using Muskingum-Cunge methodology

### Acknowledgements:

Appreciation is expressed to Brandon Stone and Colorado State University for the revised (7/20) BARC soil burn severity interpretation, John Norman for GIS analysis assistance, and Kari Sever and Sam Streefer for field data collection.

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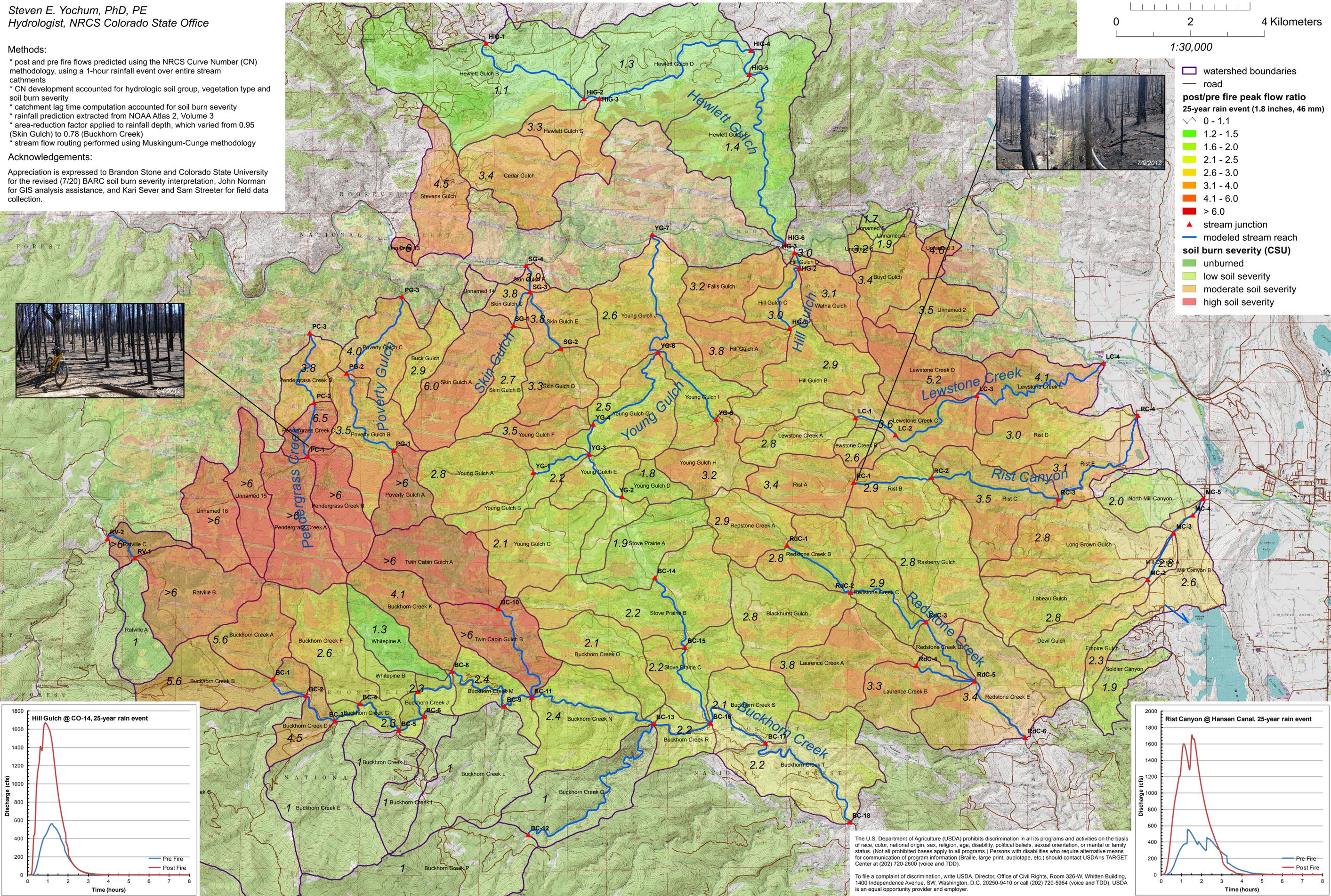


U.S. Department of Agriculture  
Natural Resources Conservation Service

0 1 2 Miles

0 2 4 Kilometers

1:30,000



watershed boundaries

road

post/pre fire peak flow ratio  
25-year rain event (1.8 inches, 46 mm)

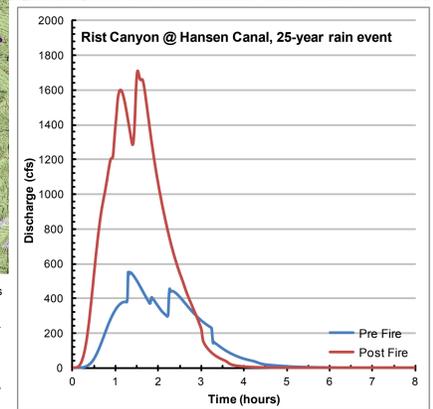
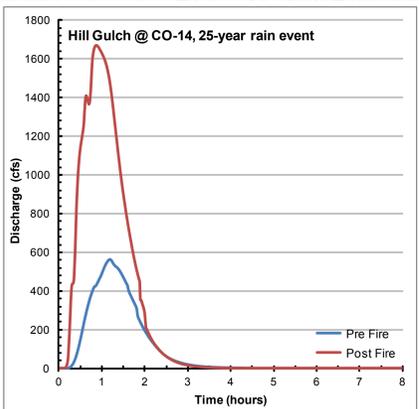
- 0 - 1.1
- 1.2 - 1.5
- 1.6 - 2.0
- 2.1 - 2.5
- 2.6 - 3.0
- 3.1 - 4.0
- 4.1 - 6.0
- > 6.0

stream junction

modeled stream reach

soil burn severity (CSU)

- unburned
- low soil severity
- moderate soil severity
- high soil severity



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