

## Handout H18-1: Imagine a forest with a mixed-severity fire regime.

For this assignment, you will use what you know about historical fire regimes to imagine and describe a montane forest in the Sierra Nevada. Your description will be quantitative – that is, based on numbers and displayed as a *stand history diagram* – rather than qualitative, like the forests described for Activity H17.

Create a stand history diagram that describes a forest in a California montane ecosystem that had a history of mixed-severity fire before the fire suppression period. You can draw the stand history diagram by hand or use a computer program. No matter what medium you use, you may find it easiest to sketch the diagram in pencil before creating a finished product. Make it as complex as you like, but you must include at least the following:

- a) A timeline at the bottom that goes back at least 400 years
- b) Timelines for trees of at least two different species – one that grows thick bark at an early age so it can survive low-severity fires, and another that has less resistance to fire. Label each tree's timeline with its species or use a color key to show the species of each tree.
- c) At least 1 severe fire – that is, one that initiated a new cohort
- d) At least 4 low-severity fires – that is, they scarred some trees
- e) The start of the fire suppression period
- f) Either labels on the diagram or a separate paragraph that identifies all of these features
- g) Answer these questions: **Is the fire regime of your imagined forest out of whack? How do you know it is (or isn't)? If it is, what are some possible ecological consequences?**