

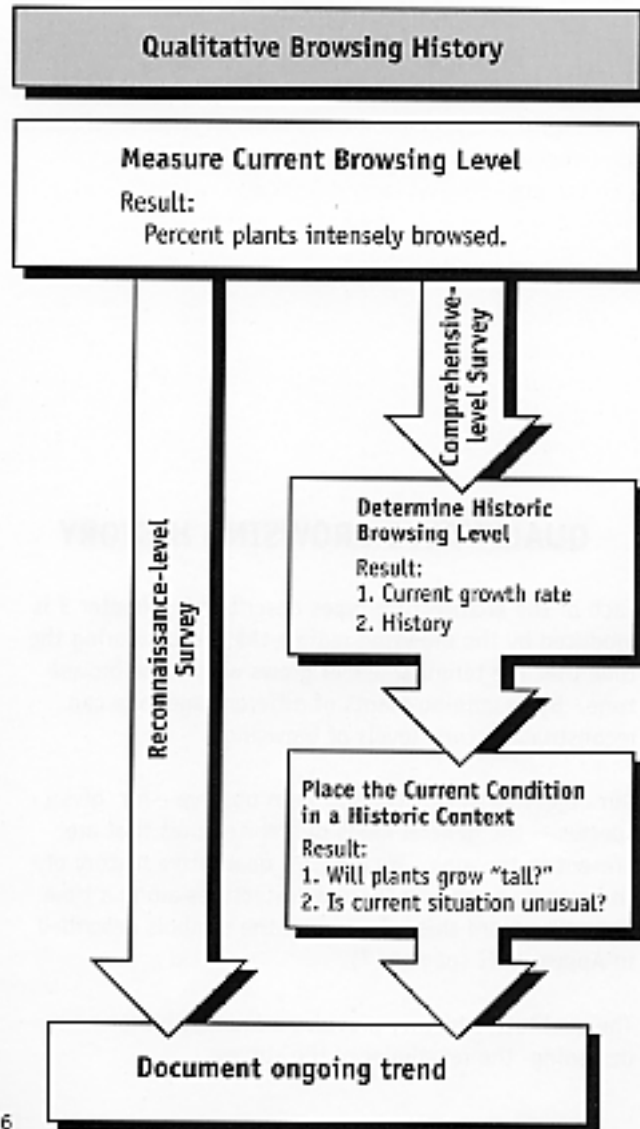
### **QUALITATIVE BROWSING HISTORY**

Each of the architecture-types described in Chapter 3 is produced by the browsing regime that occurs during the time that the terminal leader grows within the browse zone. By examining plants of different age, one can reconstruct historic levels of browsing.

Our objective in this chapter is to observe—for given species—the general kinds of architectures that are present in the area. We depict a qualitative history of the area by arranging those architectures along a time line. We record this information the symbols described in Appendix II (page 147).

The qualitative history provides a foundation for designing the remainder of the survey.

## BROWSE SURVEY SEQUENCE



## A Qualitative History Of Light-to-moderate Browsing

In the 1996 photograph below, all aspen—from oldest to youngest—have uninterrupted-growth type architecture. Several ranged from one year to about 10 years of age. Trees in the background appear to be about 20-30 years of age.

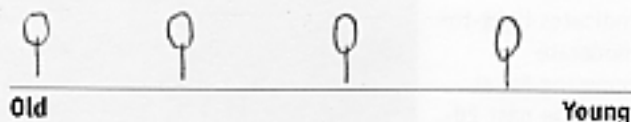
The relationship between age and architecture in this stand indicates light-to-moderate browsing for at least the past 20-30 years.

Additional lines of evidence support this interpretation. When aspen is intensely browsed, ungulates also gnaw at the bark. The bark of these aspens is largely unscarred. In addition, none of the 20-30 year old trees were highlined. Trees are described as "highlined" when ungulates kill the lower branches by browsing all of the foliage within reach.



The first step in documenting the qualitative history is simply to note the architectures that are exhibited by individuals of different age. We record the observations by placing architecture symbols along a timeline. One end of the timeline we label "old," the other we label "young." In Chapter 6 (QUANTITATIVE BROWSING HISTORY) we will describe methods of assigning timeline dates.

The aspen community illustrated on the previous page might be depicted as follows:



Based on the architecture types that are present, we can say that site appears to have been light-to-moderately browsed since the establishment of the oldest aspen. Based on the size of the aspen trunks, we could make a rough guess that the site has been light-to-moderately browsed for the past 20-30 years.

### **A Qualitative History That Documents An Increase In Browsing Intensity**

The photograph on the facing page shows a large birch (*Betula occidentalis*) with retrogressed-type architecture. This plant by itself records a change from light-to-moderate browsing to intense browsing.

The four younger birches to the left of the larger birch had arrested-type architecture. The younger birches corroborate the history suggested by the larger birch.



The architectures are recorded on the timeline below.



**Old**

**Young**

As in the previous case, we cannot assign actual dates on the timeline. But we know that the stems of this birch species do not live as long as the stems of aspen. As a result, the history that is recorded is correspondingly shorter. We might suspect that there has been an increase in browsing intensity within the past 20 years.

### **Case Study: Wisdom District, Beaverhead-Deerlodge National Forest**

To get an overview of conditions in the general area, we reconstructed a qualitative history of three species: Geyer willow, aspen, and Douglas fir. At a given site, the total time required was less than five minutes.

Ungulates prefer some browse species over others. For example, Douglas fir is less-highly preferred compared to aspen. By noting the architectures of browse species that span the preference range, one can document the severity of the browsing impact that may occur. In this case study, aspen and Douglas fir were selected to bracket the preference range.

The placement of symbols along the timeline was based on rough estimates of age.

Symbols for each of the architectures are shown in Appendix II (page 147).

Architecture-based Survey  
Qualitative History

Date: 3 Aug 97 Observer: R. Keigley

Sample area: 1 Sample site: 1

Species: Douglas fir



Old

Young

Species: Aspen



Old

Young

Species: Geyer Willow



Old

Young