

# Piñon-Juniper (PJ) Spot Thinning Field Guide



October 2022

## Introduction:

The ecological dynamics of PJ ecosystems in the drier parts of northern New Mexico, are dominated by cycles of drought, tree disease, and infrequent fire occurrences. Soil health induced drought conditions can be alleviated through soil health stabilization measures that reduce erosion and stimulate water infiltration and organic matter accumulation. The removal or pruning of trees is primarily necessary to generate slash for soil cover and erosion control structures and to remove diseased trees and ladder fuels beneath tall and old trees. Tree removal must be very localized, selective, and with an emphasis on opening woodland areas on finer textured soils that can grow grass and other herbaceous plant cover while maintaining distinct PJ clumps. We have introduced the term "*spot thinning*" for this approach.



The following pages guide you through a series of questions to help you decide whether a tree is a candidate for thinning.



**Question 1:** Does the area in question have good grass growing potential (are open areas without woody vegetation currently growing grass)?

- If not, do not cut any trees and move to the next site.
- If so, proceed to Question 2.

## Grass Growing Potential



PJ Savannah woodlands (fine soils with grass and forb component) = **higher grass potential**



Open/persistent PJ woodlands (higher, rocky sites, denser woody veg) = **less grass potential**

### TIPS:

Where does the PJ ecosystem seem to cover finer (alluvial) soil texture, lower slopes, flatter terrain or (slight) depressions, wetter or micro-drainage related conditions with signs of more grass and other herbaceous cover? These sites have potential for grass growth.

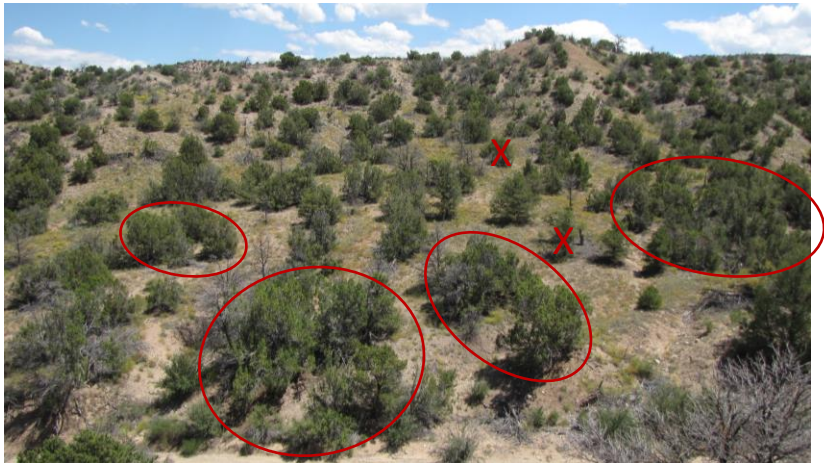
Most north-facing slopes have low grass growing potential; so, consider maintaining trees here to provide stability to the slope.

## Defining Clumps

**Question 2:** Is the tree clearly part of a clump or group (are canopies connected; are there small trees between the target tree and other nearby trees; does the target tree shelter other trees)?

- If not clearly part of a clump, proceed to Question 3.
- If so,
  - Are the trees in the clump weak or diseased?
    - If so, consider taking 1 or 2 weak trees in a larger clump, or taking an entire small clump, and proceed to Question 3 to finalize this determination.
    - If the clump is vigorous with healthy trees, do not cut the tree
  - Is the clump relatively large, is there a great need for trees to be harvested, and is the target tree at the edge of a clump and would its removal possibly help grow grass at that site?
    - If so, consider cutting the tree by proceeding to Question 3 to finalize this determination.

# Defining Clumps



○ = clump: keep

X = outside of clump: possibly thin

## Functional Characteristics

**Question 3:** Is the tree currently holding back sediment, especially in drainages and other erosion prone areas?

- If so, do not touch the tree.
- If not, proceed to Question 4.



## Functional Characteristics

**Question 4:** Is the tree currently nursing a young tree (is there a small tree growing below the canopy or within the shadow of the tree in question)?

- If so, do not consider cutting the tree unless there is significant regeneration of trees in the area (i.e., nearly all trees are nursing small trees).
- If not, proceed to the final considerations.



Juniper nursing a piñon

# Final Considerations

- Is the stem in question less than 5 inches in diameter at the root collar?
- Would tree removal reduce spread of dwarf mistletoe and/or beetles in the clump or to surroundings?
- Would it reduce chance of wildfire reaching tree crowns or spreading?
- Would it reduce soil loss and improve general soil conditions?
- Would it lead to better ecological functions (use) of the tree carcass? (e.g., slash use for soil cover, branches and logs on contour lines for erosion control, etc.)

**If most of these conditions are true, it is generally OK to cut the tree.**

**If none or only a few of these conditions are true and the tree must be preserved, consider pruning it by removing the lowest “skirt” of branches up to 18 inches high on the stem on the north side of the tree.**



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