

Bark Beetle Management Strategies



What is bark beetle management?

- **Good forest management results in good bark beetle management.**
 - **Maintaining appropriate stocking levels helps to maintain tree vigor.**
 - **Reducing tree densities in beetle prone areas can help to decrease the future risk posed by spreading beetles.**

What is bark beetle management?

- **Prevention:**
 - Proper forest and slash management to limit the amount of easily infested host material.
- **Suppression:**
 - The use of various methods and techniques to attempt to decrease a population:
 - Mechanical
 - Chemical

Prevention

- **Maintaining appropriate levels of tree stocking for a given site:**
 - Allows trees to have ample moisture and nutrients.
 - Reduces environmental stress:
 - Also helps to increase the drought resilience of the trees.
 - Can remove infested trees to reduce population levels.

Prevention



Thinned, appropriate stocking



Unthinned, overstocked

Prevention

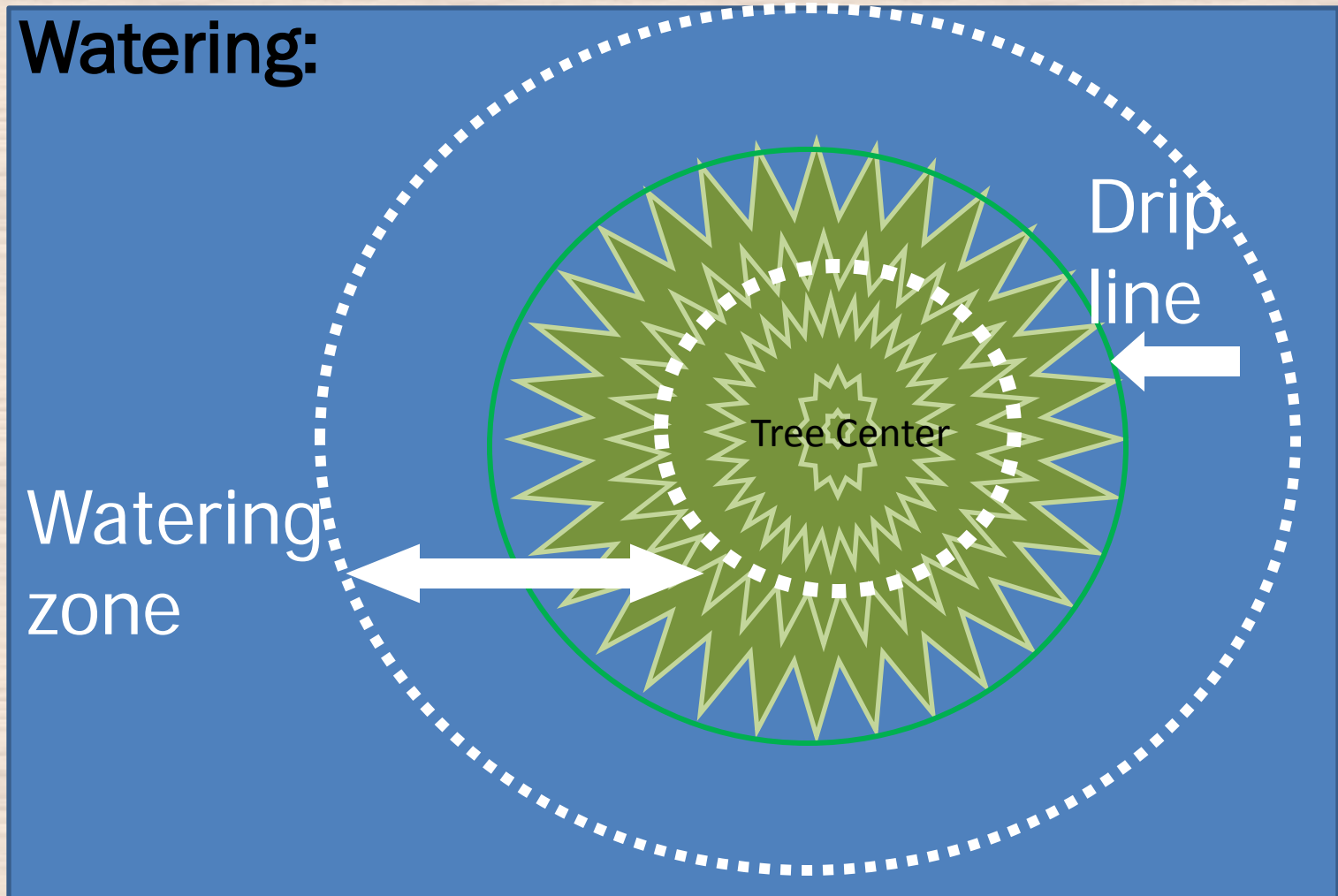
- **Silvicultural thinning and proper slash treatment help**
- **Use of alternative species**
- **Watering**
- **Removing competing brush**
- **Do not fertilize (exacerbates the moisture stress issue)**

Prevention

- **Watering:**
 - Valuable trees
 - Not possible on a landscape scale
 - Deep (2 feet or more) watering once a month are better than frequent, shallow watering

Prevention

- **Watering:**



Slash Management

- Proper slash management is very important:
 - Slash can provide a breeding habitat for beetles
 - it lacks any defenses that a live tree has
 - Slash can attract beetles to live, residual trees
 - Deep chip piles do the same
 - Populations can be moved in slash/firewood



Slash Management

- Removing slash from the site is best.
 - Preferably to an area without the host species

- Alternatives:
 - Chipping
 - Removing bark
 - Burning



Slash Management

- **Best to do thinning work in October through January**
 - **Allows slash to dry before first flight**
- **Place slash in full sunlight**
- **Do not pile firewood around trees.**

Chemical Prevention

- Possible to prevent beetles from attacking trees
 - Requires application of insecticides to the entire bole of the tree to a 3 inch diameter.
 - Lasts about a year
 - Carbaryl and Permethrin
 - Brand names: Sevin, Astro Permethrin Plus C
 - Registered products: must be applied by a licensed professional
 - Expensive

Applying insecticides



Post Attack Management

- “If it’s Brown, Cut it Down”
- A mass attacked tree is a dead tree.
- No systemic treatment for infested trees
- Best approach:
 - Remove tree from site,
 - Chip and remove chips
 - Burn
 - Peel the bark



Where to go from here?

- In an ecological sense, pockets of mortality are a natural way to thin an over stocked forest.
 - The forest will be thinned one way or another
 - Bark beetles
 - Fire
 - Human actions
 - Sites can only support so much vegetation
 - Moisture, soils, sunlight, etc.

Where to go from here?

- There is no guarantee that any treatments will be 100% effective
- With extreme droughts populations can build quickly
- The largest contributor to increasing populations of bark beetles is the environment

More Information

- Contact local NMSF district or state office:
 - [District Offices](#)
 - State Office:
 - Danny Norlander
505-476-3351
 - Website: nmforestry.com