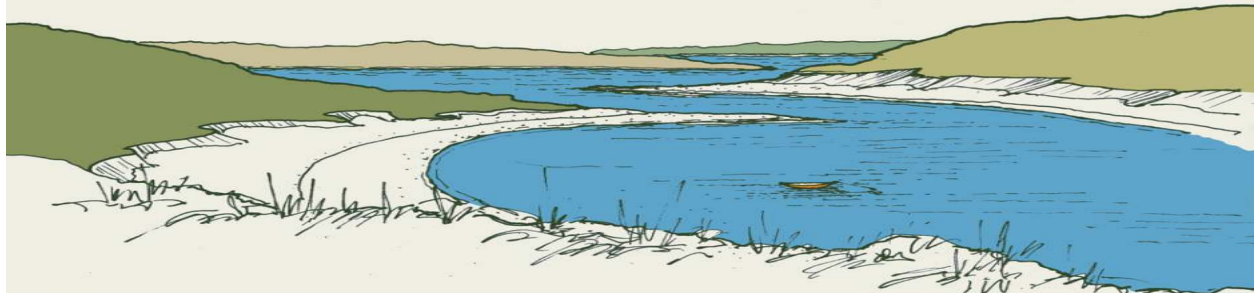


www.SafeHarborEnv.com



HABITAT RESTORATION
ENVIRONMENTAL MANAGEMENT

TREE PROTECTION GUIDELINES



2023, By Gordon Peabody, Director, www.safeharborenv.com
gordonpeabody@gmail.com P.O. Box 880, Wellfleet, MA, 02657

Office: 95 Commercial St, Room 211 Wellfleet, MA 02667, 508-237-3724

The Outer Cape's overburden (Topsoil) is held together by native vegetation, especially trees. Post Glacial hardwoods have been mostly eradicated, replaced by Pitch Pines and Oaks. When Thoreau walked from Orleans to Provincetown, he remarked on never seeing a single tree and planting two acres of Beach Grass was required for every marriage license. Since pine needles were poor photo synthesizers, they could not successfully reseed in their own shadows. Broadleaf Oaks have successfully been growing, in the shadows of the Pitch Pines. Trees and people don't always interact kindly, especially on building sites. Here are some short- and long-term guidelines for protection and replacement of our trees on project sites.

I. **BASICS:** Protecting critical nutrient transfer area, known as “Basal Collar”.



II. WHAT ARE WE PROTECTING?

1. Healthy trees balance growth with predation. When anything destabilizes the balance, stress occurs and different chemical signals are emitted by the tree, often attracting new, predatory insects. An example would be Pitch Pines, near excavation areas, which become heavily infested by Pine Boring Beetles.
2. The lowest area of the tree trunk is called the Basal Collar, a critical area where root growth emerges into the trunk. This should be protected from filling or excavation, as any stress in this area will be transmitted to the rest of the tree,
3. Trees can tolerate a degree of pruning, if professionally performed off season.
4. Cost benefit evaluations for protecting or removing and replacing trees should include assessment of grade changes, possibly impacting the Basal Collar.

III. SHORT TERM PROTECTION-CLADDING



Image by Gordon Peabody. We use ratchet straps to hold the 2 x 3 wood in place. This avoids nailing or using screws, which would not be good for the tree. We then staple bright contractor fencing around the wood to provide good visual performance.



Image by Jaimie Binder. Bright contractor fencing is stapled around wood, to help keep it connected and as a visual signal to use caution. The ratchet straps can be left or removed.

IV. ALTERNATIVE CLADDING MATERIALS



V. LONG TERM PROTECTION





VI. TREE PROTECTION ALTERNATIVES: BY DESIGN



Image by Gordon Peabody. Designing around trees in sensitive areas contributes to the long term value of the structure.

SAFE HARBOR DONATES 20 TRUCKLOADS OF FREE FIREWOOD TO OUTER CAPE CANCER SURVIVORS AND ELDERLY RESIDENTS, EACH YEAR.

VII. SAMPLE TREE REPLACEMENT GUIDELINES

SYNOPSIS: Planting trees should be part of any project. Nearly every project requires some degree of tree removal. These guidelines are intended to enhance habitat performance standards with resilience, diversity and sustainability. There should be some consideration given to planting native ground cover to protect soil moisture and temperature spikes. We want to keep the core habitat restoration guideline of “Linkage To Scale” when planning tree replacements. Species not normally found in the area should be discouraged. Use the Safe Harbor “**NATIVE HABITAT VEGETATION GUIDE**” Gordon Peabody, 2020, 11 pages.

1. *Safe Harbor Conservation of Biomass* Policy includes **TREE REPLACEMENT GUIDELINES**, designed to maintain habitat performance standards when tree removal is necessary.
2. A portion of removed trees: branches; crowns; may be left on site as habitat.
3. Removed trees dbh > 12” will be replaced 3-1, same species, 7 ft tall.
4. Removed trees dbh 12”-6” will be replaced 2-1, same species, 7 ft tall.
5. Removed trees dbh 6”-4” will be replaced 1-1, same species, 7 ft tall.
6. If taller growing trees create a conflict, 3 Bear/Scrub Oaks may be substituted.
7. Tree replacement plantings shall be performed by trained Safe Harbor workers.
8. Invasive vegetation shall be removed by trained Safe Harbor workers.
9. Bare understory may be seeded with *Deschampsia flexuosa* (Crinkle hair grass).
10. Limited, seasonal above ground, well water irrigation, shall be incorporated as necessary, to protect survivability during the first growing season, in times of prolonged draught.
11. Native, coastal Bio Mass species recommended: Bear Oak; Red Maple; White Oak; Eastern Red Cedar; Arrow Wood; Shad Bush.

Safe Harbor Environmental Educational Publications are self-funded. For more information Contact gordonpeabody@gmail.com www.safeharborenv.com