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Dear Conservation Commission of Waltham,

I hope you all are well, thank you for your support in recent years for a variety of invasive plant projects and other work conducted in Waltham. It has been a pleasure to work especially closely with the Waltham Land Trust on stewardship efforts along the Charles River, tackling Japanese Knotweed in places, as other troublingly aggressive species. I look forward now to helping with the Wisteria cutting project at the Paine Estate in November this year.

I am writing to seek your blessing for a less dramatic project, compared to what is involved with eradication of an invasive plant like Wisteria or Knotweed. Specifically, with my Field Biology class this fall we are establishing four permanent circular plots, each 28 meters in diameter, in several different forest types in Storer Forest, at the Paine Estate. No permanent visible mark is left behind, though we do very discreetly hide a thin metal rod into the soil at the center of each plot, and identify its location with GPS coordinates. Unless someone is actually digging in the Storer forest, no one would ever find these marker rods. But I have found it possible, with use of the map and GPS, to locate these center points years later, by brushing aside natural forest litterfall. There is one such metal rod per plot, so four 0.5 cm diameter rods in the soil in the 100 acres of the Storer Forest.

Marking the center of a plot is useful in this way, because it allows precise location of the plot years into the future. The objective here is to track mapped trees in the plot, with all trees and shrubs over about 5 cm in diameter (DBH) mapped, identified, and assessed for health (alive, dead, dying). Permanent plots have been used world-wide to track changes in forest composition, and just the process of mapping sections of forest in this way helps to describe a forest on the basis of species present, dominant species, rare species, forest age (estimated, or where possible with ring counts), number of forest layers from moss to canopy, etc.

So the work involves defining a plot location, using surveyor flags to temporarily (1 to 3 days) mark the boundaries of the plot, and mapping and measuring every tree with tape measure, compass, and DBH tape. *Once the map is made all flags are removed* and not a trace of our presence – except for hidden steel rod concealed into

the soil at the plot center – is left behind. No flags, no tags on trees, etc. remain. No one will be able to tell where we were without a copy of the map and the GPS coordinates.

Once established a permanent plot can be used for many kinds of studies – of tree growth and mortality, of arrival of invasive shrubs and other species over years, of forest recovery following storm damage – even identifying to species a decaying log on the forest floor in 20 years, tracking it back to the place the tree it once was once stood. I have an interest in multi-year studies of the Storer Forest, and that is a large motivation (besides teaching my students) to me doing this work with my Brandeis class.

Thanks for your consideration,

Sincerely,

Eric Olson
617-872-9928 for questions