**Protocol for Seedling Survey\_ SCBI\_ 2016**

**Last Update:** July 18, 2016

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The woody seedlings annual survey for 2016 will include 125 1 x 1mts plots located in the same 40 stakes from 2015.

All tree, shrub, and woody vines with stems under 1 cm dbh are identified to species; their height measured, and mapped their location within 1x1 m plots. We also estimate percentage of leaf litter and record presence of invasive species cover (percentage or count) in each plot.

**Plot selection**

In 2014 forty (40) seedling plots were randomly selected to be measure. The selection was based on the distribution of plot per “habitat type” defined as: *riparian (Fraxinus Americana), tulip dominant (Liriodendron tulipifera), and oak dominant (Quercus spp.)*. Habitat type of the SCBI plot is based on McGarvey et al (2013) cluster analysis of plot quadrats (20x20m) and its overstory composition.

**Plots location/description**

See diagram below for dimensions of seedling plots. Hollow circles represent PVC pipes at the diagonal corners. One PVC pipe stake of each seedling plot is placed 2 meters from the central grid rebar. In 2012 yellow brushes were installed in the other two corners of the seedling plot for a more permanent and better orientation of the plots.

Yellow brushes

1.44

1 m

**Plot Stake**

**N**

1 m

1 m

1 m

1 m

1 m

2 m

2 m

2 m

**About the plots and tagging new seedlings**

Seedling plots will inevitably lose tags and/or PVC pipes throughout the winter season, and must be re-installed and checked for tag retention every spring. The document “FIXING SEEDLING PLOT CORNERS.docx” describes how to re-install PVC pipes (V:\SIGEO\Seedling plots\Protocols)

In 2014 we did locate individuals without tags based on local coordinates given in 2012. In 2014 and 2015 all individuals >10cm height were tagged.

Also new stems (recruitments) are tagged using tags that have engraved “00”. All new seedlings are specified in the database as “New 20xx”. Only new seedlings taller than 10 cm get a new tag.

When we are sure that the seedling is certainly dead we removed the tag from the field and indicate in notes as “D, TR” (Dead, Tag removed).

Height is measured in cm to the length of the longest woody stem of the seedling. In the case of woody vines, such as *Lonicera japonica*, we measured the length of the longest vine. Estimates of percentage leaf litter (%L), % invasive species (%I) and name of invasive is given for each plot.

**Map**

The folder V:\SIGEO\Seedling plots\ spatial\_data contains a shape file of the seedling plot locations and a .mxd file called “SIGEOSeedlingPlotLocations.mxd” which is a map of the SIGEO plot with the location of all of the seedling plots. There are 120 groups of three 1 m2 seedling plots randomly-selected around leaf litter baskets.