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Tree Mapping for Leaf Collection (Megantic Only)

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ABSTRACT

Here, we describe the standardized protocol used by the Canadian Airborne Biodiversity Observatory (CABO) in preparation of the collection of trees during the leaf spectra effort at Parc national du Mont-Mégantic. It represents what the leaf spectra crew asked the veg crew to do prior to their arrival at the Megantic site, in order to save time, as the veg crew has easier access to this site and is familiar with it.

EXTERNAL LINK

http://www.caboscience.org

ATTACHMENTS

CABO_species_list_per_site_2019.xlsx

MATERIALS TEXT

Hammer and nails

- -

Numbered Aluminium Tree Tags

- -

S41

Cellphone

CAT -

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BEFORE STARTING

SITE SPECIFIC INFORMATION

Parc national du Mont-Mégantic

- Project: “2019-Crofts-PhD-UdeS”.
- Site: “MtMeg-1”.
- Address: For plots in the Mont-Saint-Joseph area, park at 4491 Chemin de la Montagne, Val-Racine, QC G0Y 1E1. For plots in the Franceville area, park in the Franceville parking lot.
- Project Leaders: Anna Crofts and Mark Vellend.
- Local crew for 2019: Anna Crofts, Sabine St-Jean, Guillaume Tougas, Charlotte Taillefer, Florence Normand-Boisseau and Juliette Frappier-Lecomte.
- Park contacts: Camille-Antoine Ouimet, Head of Conservation, Maintenance and Infrastructures (ouimet.camilleantoine@sepaq.com) and Mélina Dubois-Verret, Partnership Consultant (duboisverret.melina@sepaq.com).
- Notice: The park patrol officers need to be notified via email on the same day or before of details about the upcoming tree surveys (where, when, how many people; see the attached "Sample_notice_park_rangers.txt" file under the "Abstract" tab of this protocol). A research permit has to be carried by each team during the surveys.
- Number of plots: 30 in 2019.
- Site gradients of interest: species composition, elevation, slope orientation, and logging history.
- Conservation value: high, but trampling is only a problem in the wet areas.
- Magnetic declination: about -15° 21' (West).

/!\ Magnetic declination changes with time, and has to be verified shortly before fieldwork on http://www.magnetic-declination.com/

- Plant ID resources:

- Arbres et plantes forestières du Québec et des Maritimes, Michel Leboeuf, Éditions Michel Quintin, 2016.

Tree Selection and Scouting

1 During site reconnaissance (walking between plots), pay attention to: 1) individuals of rare tree species (see attached Species List per Site and step 11 of the Canopy Trees Survey Protocol - Forests of Southern Québec), and 2) trees that meet the Leaf Spectra selection criteria.

Leaf Spectra Selection Criteria:

- Leaves exposed to direct sunlight for at least 6 hrs a day.
- Tree height that allows for leaf collection (target leaves located at ____ m at most).
- Within 30 mins, ideally 15 mins, from parking spots for the Leaf Spectra van.
- If possible, sample individuals of the same species across the park (i.e., in both sectors and across the altitudinal gradient).
- Goal: 10 individual trees per species, for the common species; and 5 individual trees per species, for rare species (see attached Species List).

Details to know to assist the Leaf Spectra Crew during leaf collection:

- The Leaf Spectra van, once settled, won’t move for the rest of the day.
- Once harvested from the tree, the leaves must remain attached to the branch during transportation to the Leaf Spectra van.
- If leaf collection occurs before aerial imagery, do not collect leaves inside the plots.

Record Creation and Tree Marking

From the *Fulcrum* main menu, go to the Plants app to create and save individuals.

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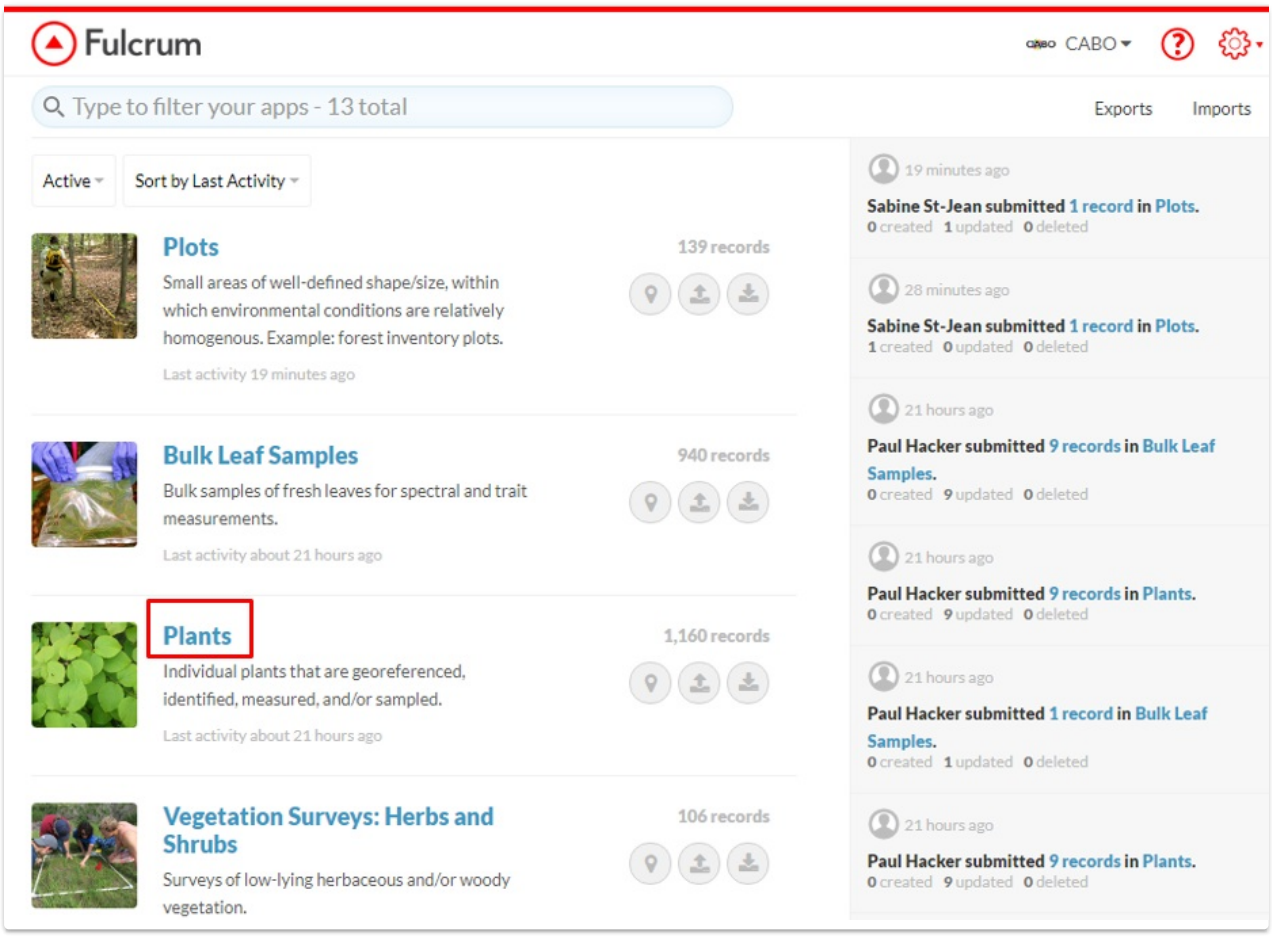

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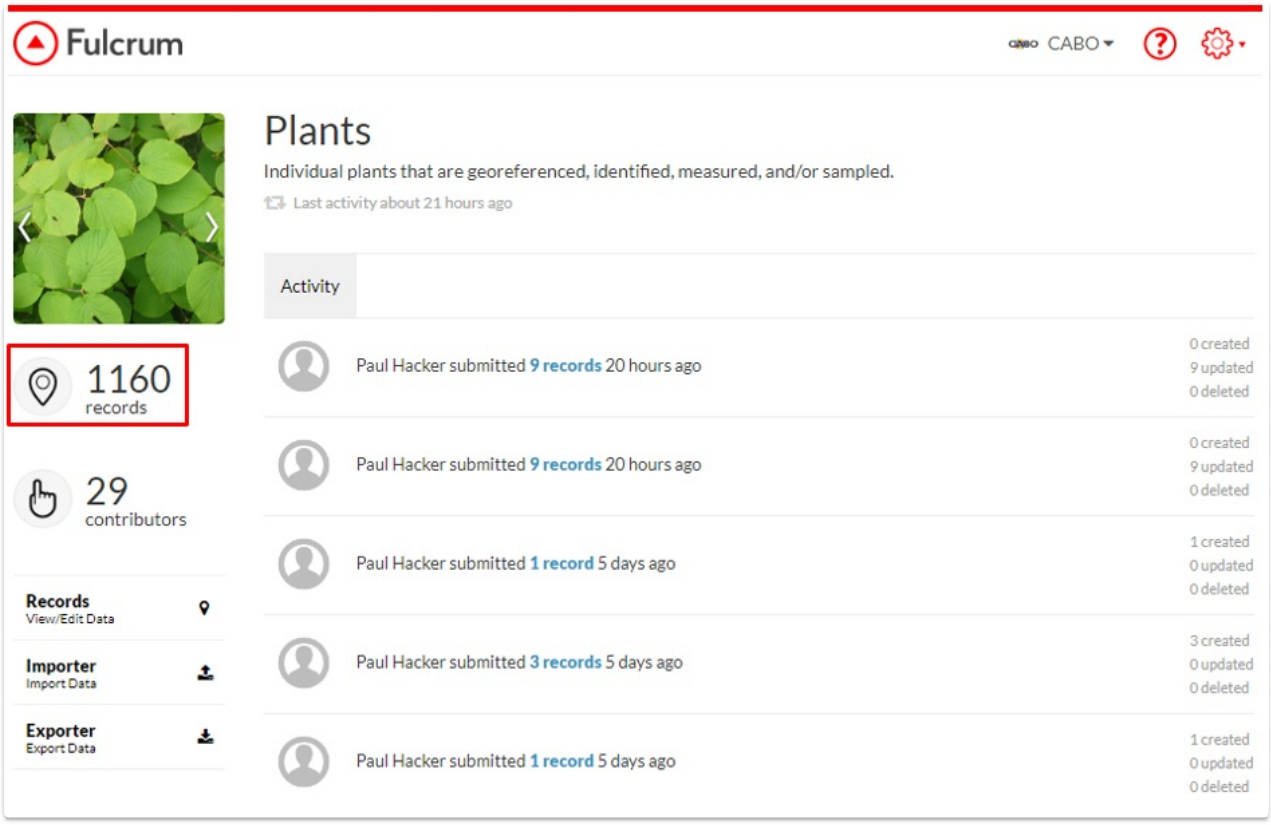
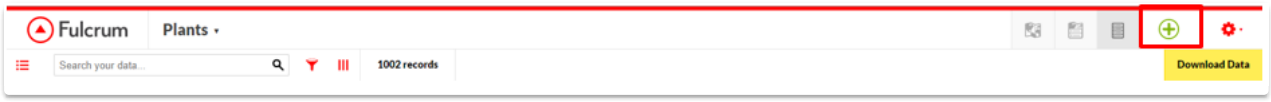


3 Create a new record.



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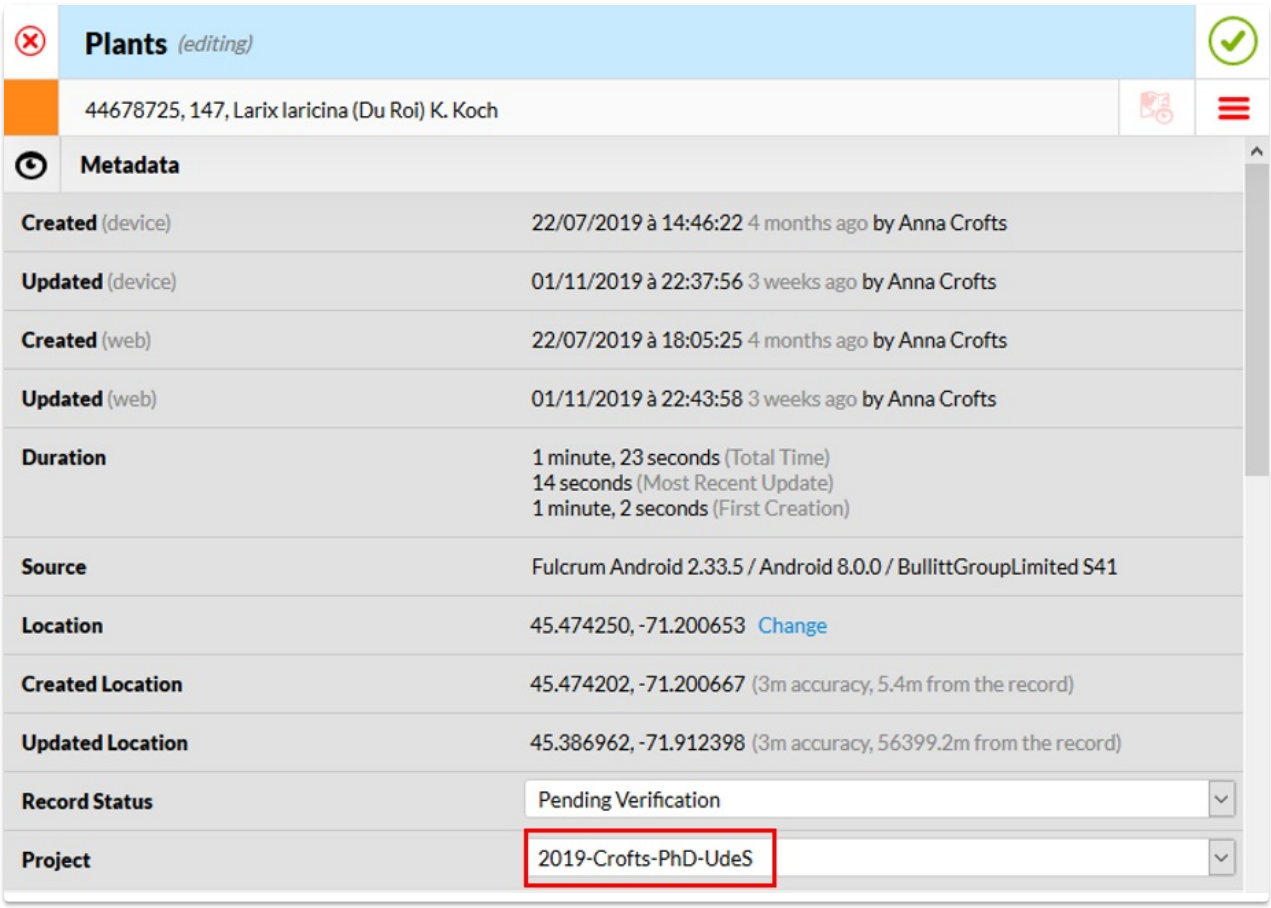
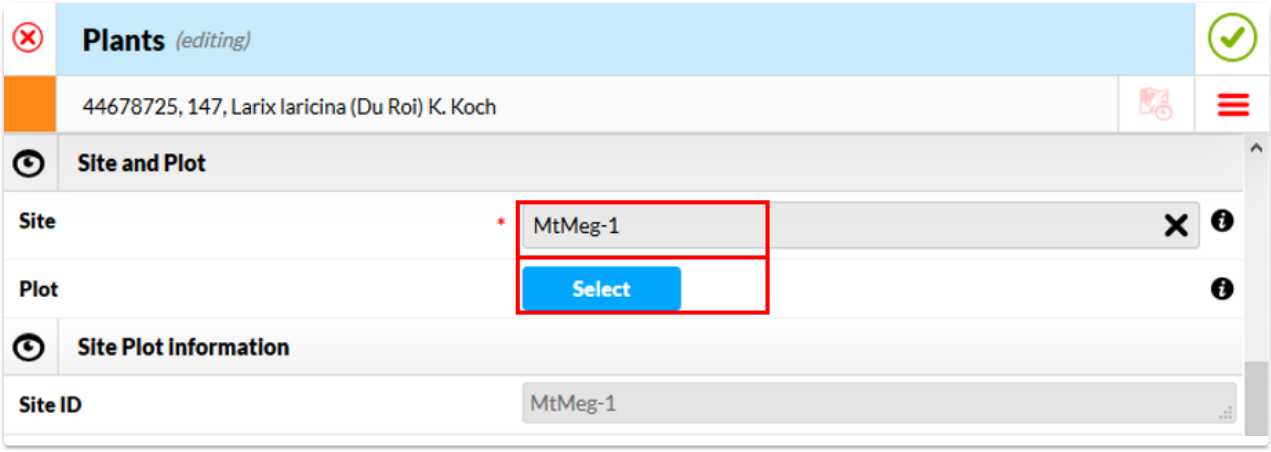
4 Under Plants → Metadata → Project, select the appropriate project name (see Site Specific Info).



5 Under Plants → Site and Plot, select the appropriate Site and leave the Plot field blank (see Site Specific Information).



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6 Permanently tag the tree using aluminium tree tags numbered 1-200 –place tag on the far side of tree, so it cannot be seen from the trail. Under Plants → Plant, answer 'Yes' to Plant Tagged?, record the tag number next to Tag ID, and answer 'aluminium tag' to Tag Type. Add any other relevant info next to Plant Remarks.

Hammer and nails

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Numbered Aluminium Tree Tags

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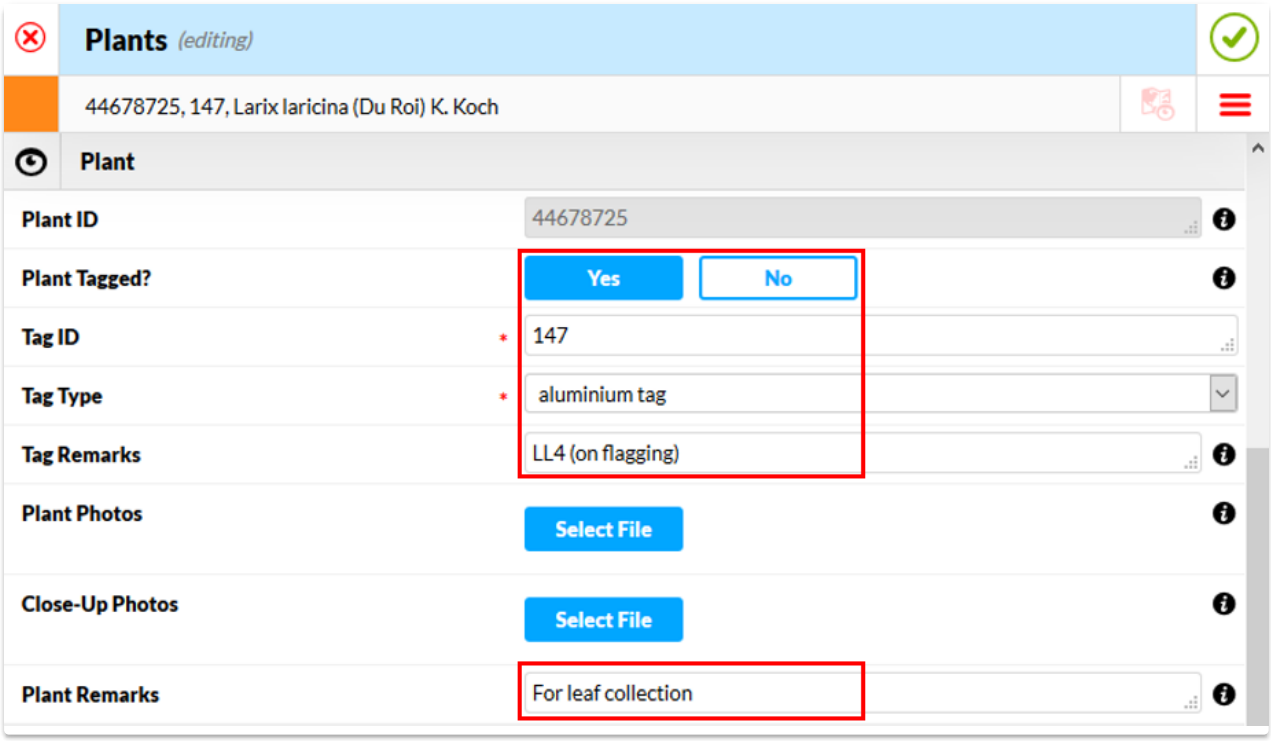

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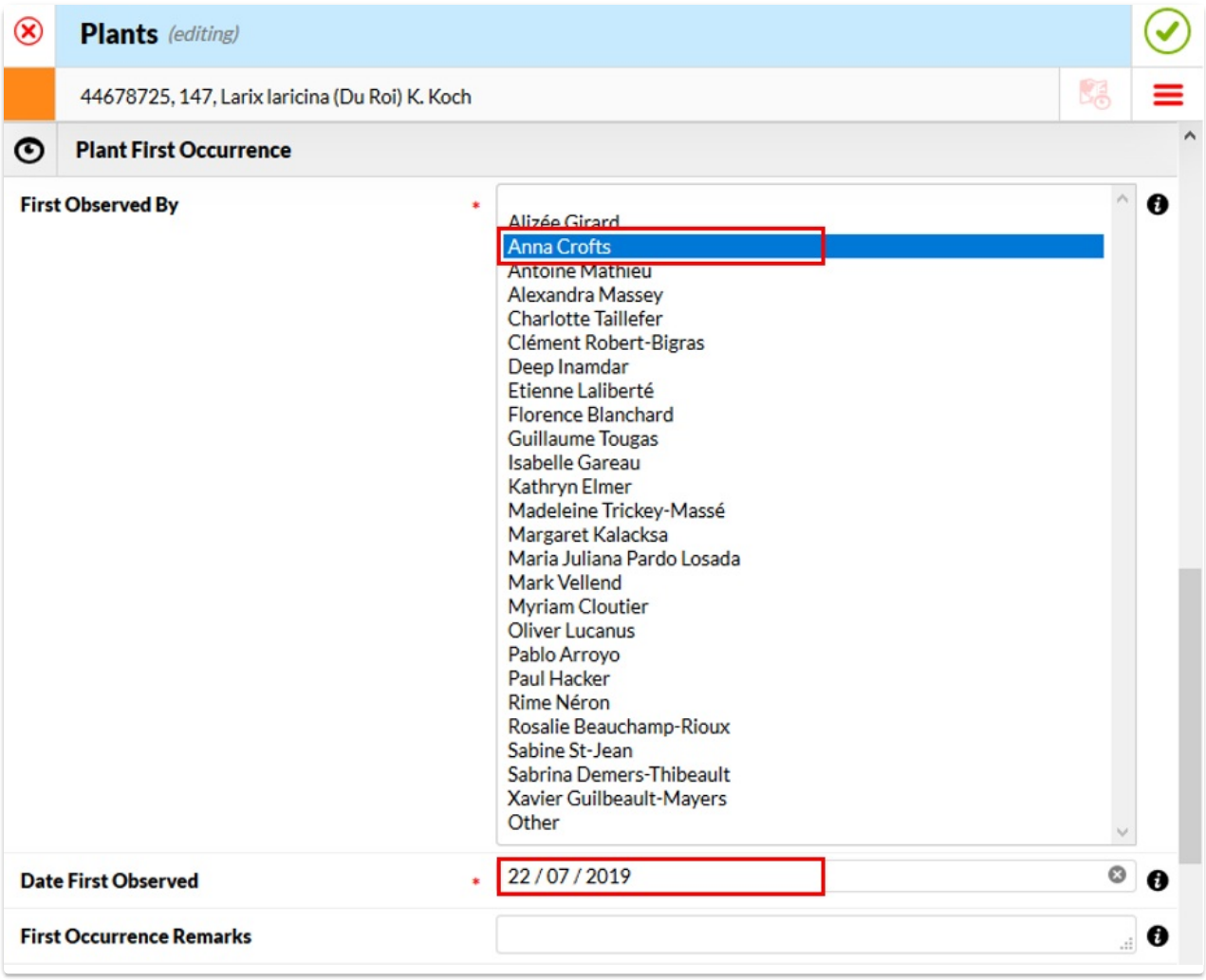
7 Under Plants → Plant First Occurence, indicate the names of the team members (one or more) who first observed the plant as well as the date of the first observation of the plant.



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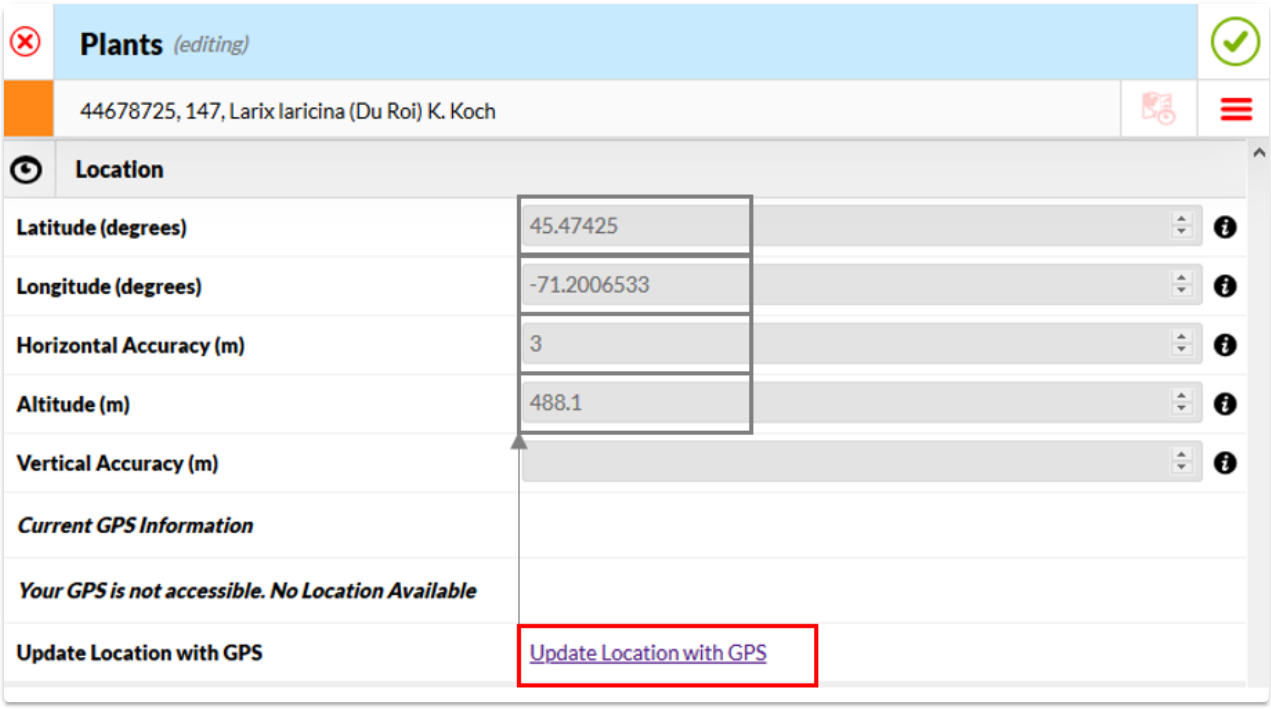
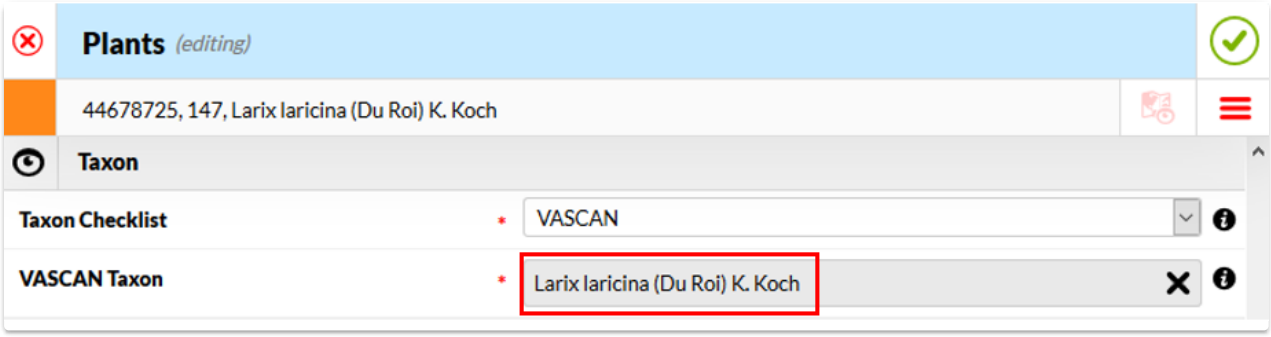
8 Under Plants → Location, precisely georeference the tree location by clicking Update location with GPS on your field cellphone connected to the Trimble GPS –coordinates will automatically be imported to the Latitude, Longitude, Horizontal Accuracy and Altitude fields.



9 Under Plants → Taxon, select the name of the plant species from the VASCAN Taxon list.



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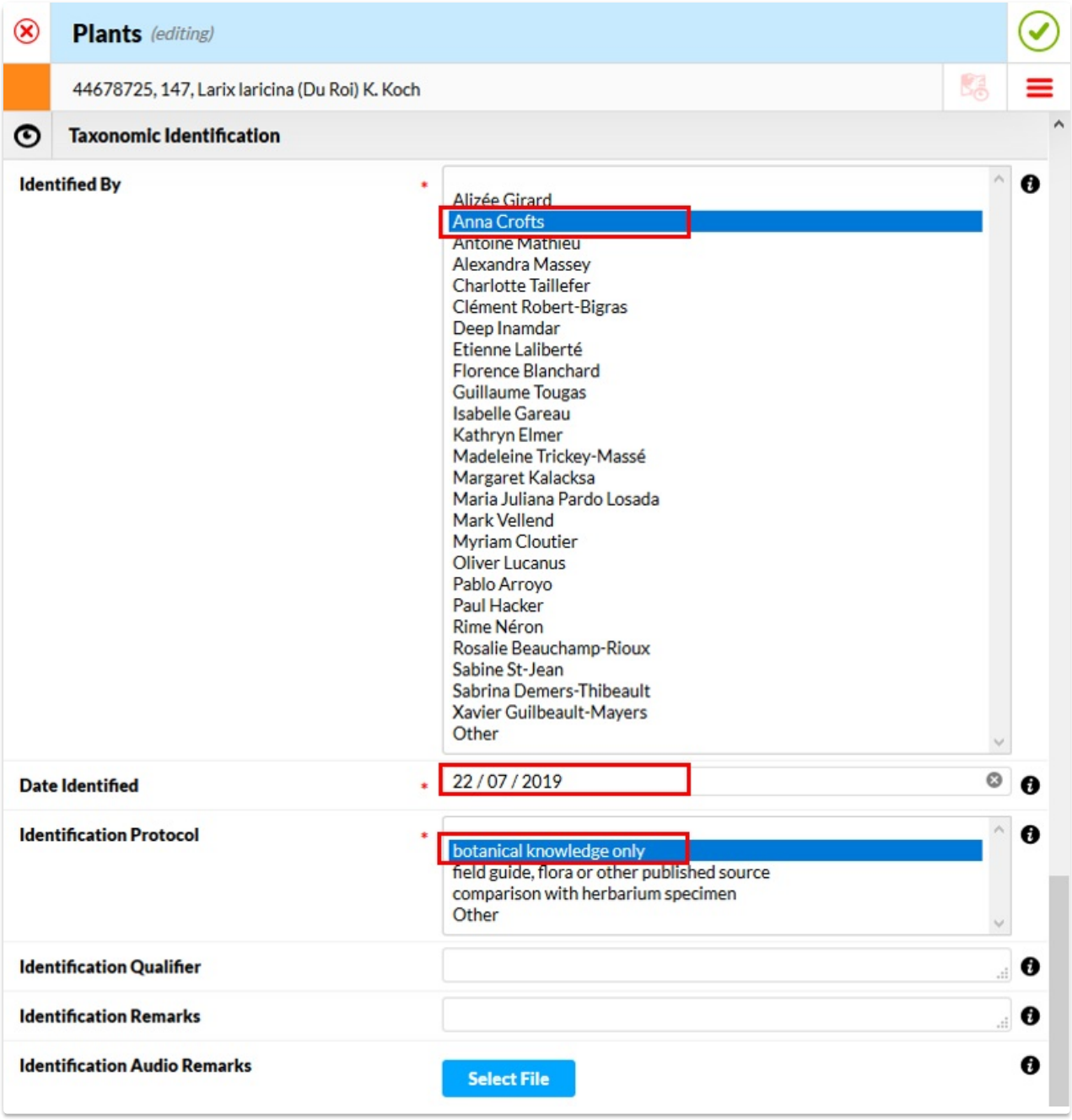
10 Under Plants → Taxonomic Identification, indicate the team members (one or more) the tree was Identified By, enter the Date Identified, and indicate the Identification Protocol.



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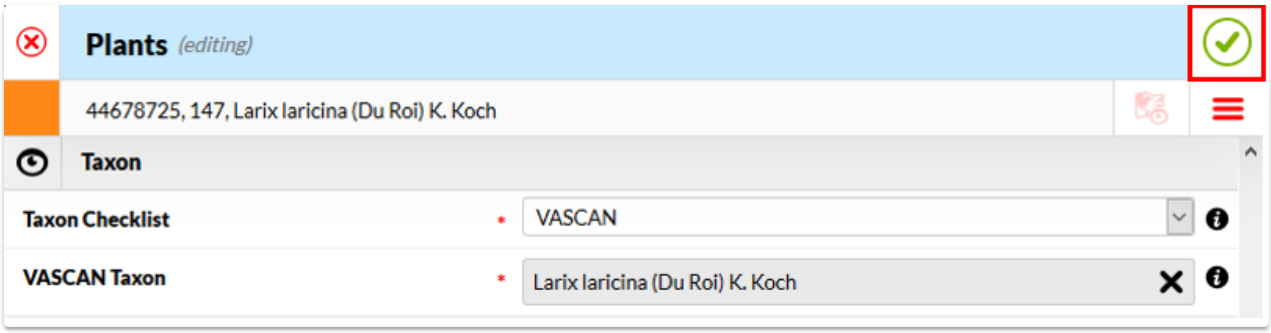
11 Save your record.



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