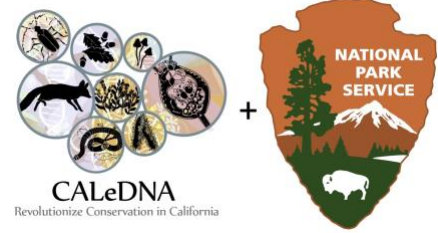


**CALeDNA x NPS Protocols**  
**Guide to eDNA Soil and Sediment Sampling**

*Current as of May 18<sup>th</sup>, 2022*



**Please follow the steps below to sample eDNA for CALeDNA**

**Metadata collection:** We provide a webform for sample collection, that we often load onto our cell phones and ‘save to home screen’ for easy access. The form will load, reload, and save data in the field without cell service. We even recommend to work in airplane mode because the GPS is more precise for most cell phones in that mode. You may prefer to record similar information in this form on paper and then email it to us later. That’s fine, too!

Minimally, we need the kit code that’s on the three tubes, the GPS location, and the date and time. Our webform collects additional non-essential metadata, including a site photo and a place to add notes for anything you think might influence biodiversity.

Link to KOBO webform for recording sample metadata: <http://tinyurl.com/CALeDNA-KoBo>

**Labels:** Sediment collection tubes are labeled K1XXX-XX. The last digits are A1-T9. Each whirl-pak bag should contain three cryotubes with the same kit label. There are other symbols on the tubes that we internally use to track individual tubes – you don’t need to worry about those.

**Field Collection:** Please follow the steps below to obtain sediment and soil samples for environmental DNA.

**Step 1:** Check your sampling kit to ensure you have the required components for each sampling location, including: 1) one pair of clean gloves; 2) three collection tubes; and 3) one whirl-pak bag to hold the sample tubes after sampling.

**Step 2:** Travel to the appropriate location to sample. If you are sampling from within a stream, be sure to collect from upstream of where you are standing.

**Step 3:** Put on a new pair of clean gloves.

**Step 4:** Remove a sample tube from their whirl-pak bag.

**Step 5:** Fill one of the sample tubes with sediment. You may need to pour off water and scrape around with the tube to get the sediment. Ensure tubes are at least 2/3 full.

**Step 6:** Repeat **Steps 4 and 5** above with the other two sample tubes. The three tubes are considered biological replicates, and should be collected approx. 30cm (10 inches) apart from each other.

**Step 7:** Record metadata using the webform or your own methods.

**Step 8:** Put the tubes back in the whirl-pak bag. Sampling eDNA is now complete!

**Step 9:** Store the tubes at room temperature or in the fridge (not the freezer). You can ship them at room temp, but we need to make sure they don't remain at room temp for more than a week.

For inquiries about this protocol or related work, please contact:

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