

Justification for Request for a Non-substantive Change to the Approved USGS Information Collection 1028-0103 USA National Phenology Network The *Nature's Notebook* Plant and Animal Observing Program

Introduction

In meeting its mission under USGS and the Department of the Interior, the USA National Phenology Network is leveraging public participation to develop a robust national dataset to understand the impacts of climate change on natural resource through its program *Nature's Notebook* (https://www.usanpn.org/natures_notebook). Given the initiative's scale, novel approach and broad audience, as well as a rapidly changing technological environment, adjustments are necessary to some of the program's forms, particularly for the mobile applications. We propose herein two sets of adjustments, categorized for convenience as (1) "Changes to Existing *Nature's Notebook* Android and iPhone Mobile Apps" and (2) "Appalachian Trail Seasons Mobile App". A description, rationale, and estimated change to participant burden for each set are described below. These functional design and workflow changes will increase the overall efficiency and utility of data collection, and will either be burden-neutral or result in an actual decrease in burden on the user. In no case will burden increase.

1. Changes to Existing "Nature's Notebook" Android and iPhone Mobile Apps

To better support observers at shared sites in correctly identifying site and plant locations, as well as correctly identifying animals by call in the field, the following functional changes are proposed:

- A new button on the "select site" screen enables participants to open a site map uploaded by the project administrator (Revised Android Screenshots (RAS) image #1 and Revised iPhone Screenshots (RIS) image #1);
- A new button on the "add plant observation" screen opens an image of the plant uploaded by the project administrator (RAS image #7 and RIS image #7);
- A new button on the "add animal observation" screen opens an audio file for the animal call (RAS image #6 and RIS image #6).

All of these changes are added mobile application functionality to support users, and do not involve any additional collection of information from the user.

We are also proposing to simplify the infrastructure for observers by having the capabilities on the mobile apps match the capabilities of the browser-based *Nature's Notebook*. All of the following additions are already present in the approved online forms, but are being added for convenience to the mobile application:

- Ability for observers to add comments when they "add a new site" on the mobile app (RAS image #2 and RIS image #2);
- Ability for observers to describe characteristics of their site visit, via a new screen with the existing questions from the paper "cover sheet" form (RAS image #8 and RIS image #8). These are:
 - o Time of day
 - o Time spent observing

- Time spent in travel
 - Time spent looking for animals
 - Animal survey method
 - Snow on ground
 - % ground [snow] covered
 - Snow in treetops
 - Comments
- Ability for observers to add public sites via the mobile app; this is an existing part of the approved infrastructure, but this change will enable users in the field to create a site and then submit observations more readily than before (RAS image #3 and RIS image #3);
 - On the submit observations form, a shortcut button for “circle all no” will speed the entry of negative data (RAS image #6 and #7 and RIS image #6 and #7).

Impact on Observer Burden

First, the functional changes to the mobile app described above will reduce observer effort by enabling the sole use of the mobile app; previously, observers had to use the browser app before they could use the mobile app. Second, though these changes will increase the number of data entry fields on the mobile app by about 15%, there are two advantages to the participant: (a) increases in functionality of the mobile app coupled with increases in consistency between the browser app and the mobile app, and (b) reductions in burden because participants will no longer need to use separate datasheets, clipboards and pencils, and a browser-based app, to enter data on forms already approved for collection, to record a single complete observation.

2. *Appalachian Trail Seasons Mobile App*

The USA-NPN is collaborating with the National Park Service and two non-profit organizations to provide information about baseline phenology of selected indicator species to permit tracking of future change in phenology and to support resource managers in making informed decisions along the Appalachian Trail. As the project is focused on a subset of species and phenophases, and will engage several audiences (including the general public) in data collection, we are developing a new project-specific mobile app on the Android platform. The app, called “AT Seasons” will be functionally identical to the current Android mobile app (including the changes described in Number 1, above), with the only difference being a restricted list of species and phenophases from which to choose and report:

- Only selected phenophases appear for each species being monitored by the project, reducing burden, as follows:
 - For deciduous trees, only leafing phenophases appear; for forbs only flowering and fruiting phenophases appear; and for animals only presence and vocalizing phenophases appear.
 - As an example, for Canada mayflower (*Maianthemum canadense*), the full list of phenophases is given below, with the phenophases that appear in the AT Seasons app bolded (New AT Seasons App Screenshots (NASAS) image #7)
 - Initial growth
 - Leaves
 - **Flowers or flower buds**

- **Open flowers**
 - Fruits
 - **Ripe fruit**
 - Recent fruit drop
- No canopy development measures will be included for plants, reducing burden (NASAS image #7);
 - Only species in the AT Seasons list (<https://www.usanpn.org/appalachian/species>) will be available to add via the app, reducing burden (NASAS images #4 and #5; compare to RAS and RIS images #4 and #5 where full list is shown)
 - A project-branded user registration page, with the identical fields as the current *Nature's Notebook* user registration page, but with a different look (fonts, colors), will also be provided, burden neutral.

Impact on Observer Burden

This new mobile app represents a 50% decrease in burden for the ~500 participants expected to participate in this aspect of the project each year. These participants are part of the pool of participants already approved under the original information collection clearance; as such, burden for the project as a whole will decrease.