**PROJECT TITLE:** Engaging Minnesotans with phenology: radio, podcasts, citizen science

**I. PROJECT STATEMENT**

 “Alexa, play the KAXE phenology school reports”

The goal of this environmental education project is to build the next generation of conservationists in Minnesota by engaging youth and adults in science and outdoor learning through radio programming, podcasts, digital media, citizen science and schoolyard exploration. We use phenology, the rhythmic biological events of nature as they relate to climate, to draw people outdoors to observe and connect.

For more than thirty years, John Latimer has led the Phenology Show at Northern Community Radio, KAXE/KBXE, based in Grand Rapids, MN, inspiring 1000s of people in to pay attention to what’s happening in nature in their backyards and woodlots and share it with others. Every Tuesday morning, John gathers his phenology data and reports his findings in the weekly Phenology Report. Every week in Phenology Talkback we hear from Minnesota school kids and regular listeners as they call or email us with their nature observations. Bobcat tracks, downy woodpeckers, a snowdrift covering a classroom window (which a hero-custodian cleared away), a close study of layers of snow and much more are included in these phenology reports.

Phenology is an important tool for creating personal connection to places. We know that “place connection” is a key component of pro-environmental and conservation behavior. Our project builds on John’s legacy by developing new programs that strengthen place connection and inspire the next generation of conservationists in Minnesota.

At a time when outdoor engagement is dropping (e.g., statewide reductions in hunting and fishing), our project uses technology to draw people outdoors. We will do this by:

* developing new radio programming and podcasts that inspire listeners to engage with the outdoors and share their experiences
* expanding current partnership programs between KAXE and K-12 schools by offering workshops statewide that train teachers and 4-H leaders in existing phenology curricula, developing radio reports from schools, and supporting participating schools with follow-ups
* creating an online map based interface that will allow anyone – adult radio listeners, teachers and kids in school programs – to compare what they are seeing with others in Minnesota and with historical data compiled by the Minnesota Phenology Network.

In summary, this project will result in a set of tools equally accessible to the public, teachers and school kids that deliver science content and inspire people to get outdoors and build community around the environment through radio, podcasts, web-based data collection and nature exploration.

**II. PROJECT ACTIVITIES AND OUTCOMES**

**Activity 1: Deliver engaging environmental programming to Northern Minnesota through radio and podcasts**

**Description:**We will expand our current portfolio by developing three new programs: monthly interviews with environmental scientists, podcasts related to the seasons of the year, and monthly radio segments about statewide phenology that will be made available to other public radio stations in Minnesota. These public radio broadcasts and podcasts will educate and engage people in northern MN—and elsewhere around the state—about environmental science and its relationship to observable nature.

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| **ENRTF BUDGET: $70,456** |  |

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| **Outcome** | **Completion Date** |
| *1. 24 radio segments that present interviews with scientists that engages up to 18,000 listeners per week across northern MN*  | *June 2022* |
| *2. 8 podcasts created and available online (spring, summer, fall, winter each year)* | *June 2022* |
| *3. 24 short radio segments (each up to 5 minutes) of statewide phenology “happenings” created and distributed to other noncommercial educational radio stations in Minnesota* | *June 2022* |

**Activity 2: Create a statewide program for school kids combining phenology observation with radio broadcasting**

**Description:**We will expand existing school partnerships in environmental education statewide and also work with county 4-H programs. With UMN extension support, we will offer teachers and 4-H leaders training in our phenology and radio curriculum once per season for two years (8 workshops) rotating the location around the state (NE, NW, SE, SW). The curriculum involves basic phenology observations combined with developing short school phenology reports for radio broadcast. We will offer a helpline, pair teachers and 4-H leaders with a Master Naturalist and provide 1-1 follow-up meetings to ensure strong support of classroom implementation. Further, we will develop easy data input for school reports that supports the map of observations in Activity 3.

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| **ENRTF BUDGET: $40,251** |  |

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| **Outcome** | **Completion Date** |
| *1. 8 workshops train 80 teachers who engage 2400 students (4 per year)* | *June 2022* |
| *2. 360 radio segments created by kids in school program* | *June 2022* |

**Activity 3: Build interactive digital map of statewide phenology data and regional phenology calendars**

**Description:**We will create an online map interface for comparing current observations to others and to the past. Users will click on their location and search for earliest, latest and average time of a phenological event such as lilac blooming or sandhill crane return. It addition, they can view what others in the state are seeing. This interactive web application will allow people to place their personal observations in a broader context and build community and awareness. In addition, we’ll create regional phenology calendars available online and in print form that serve as guides to what to look for each month as well as personal journals.

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| **ENRTF BUDGET: $87,771** |  |

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| **Outcome** | **Completion Date** |
| *1. Interactive digital map of phenology data*  | *June 2021* |
| *2. Web tool to compare current observations to past and to others in the state* | *June 2021* |
| *3. Online and print regional phenology calendars – 5000 print copies distributed* | *December 2021* |

**III. PROJECT PARTNERS AND COLLABORATORS:**

**Receiving funding:** Stephan Carlson, UMN, Dept. of Forest Resources and Extension; DASH, Len Kne; Ampers; UMN Research Associate and Graduate Student; This is Folly, graphic design company. **Not receiving funding:** Rebecca Montgomery, UMN, Dept. of Forest Resources; Minnesota Phenology Network.

**IV. LONG-TERM IMPLEMENTATION AND FUNDING:** Web map will be hosted by University of Minnesota. Radio broadcasts and podcasts will be available through KAXE website.