



The Bosque Education Guide

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Dear Ginny:

This is our end-of-fiscal-year report for work done February to June, 2021.

Project Title: The Bosque Education Guide & New Mexico STEM Ready! Science Standards

The Writing Team members have met weekly since the grant period began, reviewing six natural history activities in the *Bosque Education Guide*.

We started with a workshop about Phenomena and the Next Generation Science Standards/NM STEM Ready! standards with Selena Connealy. That sent us on the path to look at each activity with the lens of “Phenomena” and what phenomena were included in the activities or should be included. We also brainstormed improvements or shortcomings of the activities as they stand.

After that first pass through each activity, we looked at each one for Disciplinary Core Ideas (DCIs), Crosscutting Concepts (CCCs) and Science & Engineering Processes (SEPs). We also added to our brainstorming about improvements as they came up.

By the end of June we have reworked two of the activities with all of these ideas in mind. “The Web” and “Bosque Leaf Hunt Relay” are the first two to be tackled with the new standards. We do intend to re-name the “Leaf Hunt Relay” –probably to “Bosque Bug Boogie” –as the best parts of the activity to accomplish standards are the arthropod characteristics. Our experience is that adding plant identification is just too much to expect for most classes, and that a single focus on arthropods can be successful. This re-write will address Structure and Function standards nicely.

“The Web” will now include references to several Species of Greatest Conservation Need (SGCN): Northern Leopard Frog *Lithobates pipiens*, Razorback Sucker *Xyrauchen texanus*, Southwest Willow Flycatcher (*Empidonax trailii extimus*), and Lucy’s Warbler (*Leiothlypis*

luciae). In this activity, students choose a plant or animal in the bosque; then, while standing in a circle, they show connections with other plants or animals by passing a string from one to another. Students will explore the interdependence of species in an ecosystem and think about threats to the survival of species, such as SGCN.

The two above activities have been revised and are in teacher review. Two more activities are currently in revision – "Crane Migration" and "Mapping Species Richness." The final two activities will be addressed next, "Cottonwood Quiz" and "Webquest: Invasive Species."

We have teachers to help us review the two re-worked activities this fiscal year. In getting their commitment to help us, teachers said they would have time after the school semester ends; some schools extended their year to June 11th. We will have the first round of reviews on these two activities by the end of June, 2021. We have six teachers participating in reviews this month.

Karen Herzenberg and Mike Sanchez have been translating the six "River of Change" activities that were re-worked last year to be NGSS/NM STEM Ready!-aligned with Share with Wildlife funds. Laurel Ladwig will do the layout in late June. Once in layout format, we will have a native Spanish-speaking biologist review them for any final edits that need to be made. Spanish activity files will be ready for uploading to the *Bosque Education Guide* website later in the summer.

I have contacted staff at the Rio Grande Nature Center to set-up an in-person *Bosque Education Guide* workshop for Thursday, July 29—before the start of the school year. The Governor's recent statements about lifting COVID restrictions are encouraging for presenting this workshop. Certainly, we will abide by whatever restrictions are in place. In the proposal, we stated we would do two workshops: in the fall of 2021 and in January, 2022. This would be adding an additional workshop before the school semester begins, since we have not hosted a workshop since January of 2020. We can highlight the "River of Change" activities from last year, as well as asking for comments on the current activities we are revising.

Unfortunately, we do not have any photos to include with this report. We are busy working via Zoom and have written many words, but nothing photogenic—yet. Once we present a workshop, we should have great opportunities for photos!

We are so appreciative of the support from the Department in our efforts to help teachers use our important local riparian ecosystem to address the science standards they need to teach but also engage students with local information.

Let us know of any additional questions you have.

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