

## Progress report on our Oshá fieldwork October 22, 2018

Dear oshá committee,

I wanted to send a complete oshá report, but it will need to follow later as we have not finished the GIS-mapping part yet, and our sustainable harvest of oshá paper is still in academic review.

We had a very good summer of research. First our paper, “The Sustainable Harvest of Wild Populations of Oshá (*Ligusticum porteri*) in Southern Colorado for the Herbal Products Trade” is submitted to Economic Botany, and is in process with review (I can send it to you if you want to see it at this stage). I am hopeful, but we will submit elsewhere if they have problems with it.

Our University of Kansas crew worked on mapping additional sites of oshá in the Rio Grande National Forest, and we hosted a one-day meeting at the Cumbres Pass oshá site so that we could look at it with others and discuss it in the field. We were pleased that the following people were able to join our University of Kansas crew to look at it:

Daniel Gagnon, Herbs Etc.

Feather Jones, Sedona Tea Blends

Susan Leopold, United Plant Savers

Angie Krall, Rio Grande National Forest (and her assistant)

Adam Kucate from the Zuni tribe



The oshá crew at Cumbres Pass, August 15, 2019.

A couple weeks before this meeting, Angie Krall of the Rio Grande NF contacted me and asked if we would be willing to have Adam Kucate, a traditionalist, from the Zuni tribe join us as she had been meeting with him about other issues, and he expressed interest in our work.

The Cumbres site had been mapped all summer as being in extreme drought and fires had been occurring in the National Forests of the region. I/we were pleased to see that the oshá was doing well, and that some plants were setting seed, although not as much as usual. I should mention that there has been seed production at all sites that we have visited all years that we have

monitored oshá. Although seeds, which apparently are only viable for one year, and seedlings do not greatly affect the populations, they still are an important component of the larger health of the species across its range. Due to drought, this site which is grazed, was affected more by grazing than any other year, as the cattle spent more time in our plots and grazed the oshá more. They usually do not graze it much at all as they are brought in as the plants are fairly mature, and usually do not eat very much. This year they grazed the foliage some, which we remarked, would have more negatively affected the cover values of oshá is we had conducted plot research this year. We had a very good discussion with everyone present about our work and how the population seemed very resilient to harvest. Mr. Kucate did speak to us about traditional views of oshá and concerns of commercial harvest, but seemed to be receptive to our research, and was impressed with how much oshá was present.

Our other work this summer was to further demonstrate that our research sites at both Cumbres Pass and also at Missionary Ridge in the San Juan National Forests, and not unique or unusual. Before our work this summer, we mapped probable locations in the Rio Grande National Forest (roads in the forest at about 10,000 feet with similar slope and aspect) and drove these, both in the Cumbres Pass and Wolf Creek Pass areas. We found 7 populations that we have mapped and collected data on their populations. The data collection process was to walk the perimeter of the population and to step into it every 100 meters to collect data on the cover of oshá and the cover of trees (shade) at three plots. This data is entered but we have not yet completed the GIS work. These populations were very healthy and had numerous plants. Attached are two photos of these populations. In the photos, you can easily see the oshá, as it was starting to senesce and turn yellow. Later this fall when it is complete we will send our final report. Overall these additional populations do help demonstrate that there is a considerable amount of oshá at other sites across the forest.

Sincerely, Kelly Kindscher, and our Kansas crew who helped with some or all of the work:  
Autumn Arvidson, Olivia Childress, Leanne Martin, Kate Utech, and Maggie Riggs



Oshá is the yellow herb in this field for this photo and the next, near Spruce Hole, southwest of Cumbres Pass, Rio Grande National Forest, August 16, 2018.

