An exciting population of native tobacco plant has emerged from its seed bank right here in Redding, California. It is difficult to know how long it has been waiting there for the right conditions to grow, but the bloom hints at some profoundly interesting Native American history.

As a professional botanist who conducts plant surveys in the north state, it is nearly impossible for me to turn off my perpetual plant-identification scanning and curiosity for identifying plants anywhere I am. Which is why, while driving home from work, I noticed some tall, showy white wildflowers on a very overcast day.

The area has only recently been disturbed; I grew up in the immediate area, riding my bike through the woods and along the locally known tricky bike-trail jumps with my siblings almost every summer day. This particular area was always very dense with a wall of manzanita and nearly impossible to pass through. It has not been disturbed since at least 1980 at the most recent, when my parents first moved here.

Most likely, it hasn’t been disturbed for much longer than that, as it is a private parcel of property without any developments on it at all, although urban and business development continues to slowly encroach on it from all sides. It seems possible that the area has been abandoned since the time Native Americans once used these exact same woods and forests for the abundant “grocery stores” that they truly used to be.

Indian tobacco, or *Nicotiana quadrivalvis*, has showy white flowers with fused corrolas. Photo by *Jennifer Poore*.
As my curiosity grew about this habitat and wildflower, I clearly knew I had to take a closer look. The plants were far enough from the road to require a short walk in order to see the more intimate and telling details of the tall white wildflowers up close. At a closer distance, the plants were easily identifiable as some kind of Nicotiana species of the Solanaceae family, which have a distinctively fused floral tube leading to an open, wide trumpet-like mouth of spreading fused petals—like a morning glory. These long and wide billowing flowers seem to resemble smoke floating out from their tall, upright branching stems.

It is an understatement to say that I was very excited to see such a beautiful wild tobacco species, especially because it was one I had never seen before and it was in such a special place. I took some photos of the leaves and flower features to help me identify the plant and went home to my Jepson Manual and dissecting scope to key the mystery Nicotiana to species. Turns out that there are not very many species of tobacco plants present in California and the features of this plant quickly identified with Nicotiana quadrivalvis, common name Indian tobacco.

This particular species has larger showy flowers that open only at night, and sessile leaves that alternate up the stem. Fun botanical insight: white flowers, especially those that bloom at night, are often pollinated by nocturnal pollinators such as moths or bats that are attracted to the white color starkly contrasted by darkness. This plant would make a great addition to any moon garden to feed the abundant and important pollinators of the night.

Of all the native tobacco plants, this species has the widest and showiest pure white corolla. The opening and closing of the flower petals described for this species, interestingly enough, is managed within the cells of the plant by a type of “Rube Goldberg” chain of events that moves water into different areas within the plant, triggered by the presence or absence of sugars. At certain times of the day, water is either drawn towards or away from plant organs by the presence or absence of sugar, which is so much more abundant in the plant while the sun is shining and chloroplasts are working hard to produce sugar by the miracle of photosynthesis.
This plant find truly made my day and I have been very excited to share it with the local community because it turns out that Indian Tobacco is an important Native American plant that was cultivated and “smoked as an important part of every ritual” (Native American Ethnobotany, by Daniel E. Moerman). The tribes saved the seeds and planted them, and even traded them.

It is easy to imagine the area that this plant has re-emerged from as an area Native Peoples would have found comfortable, in terms of access to the Sacramento River. Along with seasonal water from a nearby vernal pool, it’s also flat for settling more permanently into. In fact, people still live directly adjacent to this property today—I grew up there, and the habitat was cleared only last summer to reduce fuels and lower fire danger during our drought.

Easy to see from the side of the road, on a corner of the city that you wouldn’t immediately associate with Native American history—or even with very interesting plants—grows a tall, floating white Indian tobacco wildflower that blooms elegantly as the sun sets. Open for business to feed the evening pollinators, Indian tobacco has advantageously come once again into the Redding landscape from where it was waiting in the seed bank for who-even-knows how long. During the day, the flowers close up tight and you hardly even notice it.