What Do I Mean by 99.6% Native Purity?

The first such measurement was performed by an independent party who taught me the technique of a "toe-point-transect"**:** You take a step, record what plant is closest to your big toe, and then take another, 100 times. His first was 100% native. He was giddy; he'd never seen more than 90% anywhere, ever. I repeated that test four times elsewhere on the property that year. That is how I got to three significant figures. That was 2010 and it just keeps getting better. At this point the difference between 99.9% and 100% is a matter of where one samples and how one does the test. I have objections to this technique, because with very small plants one has their choice about which is "closest" to the toe which means that it would be hard *not* to skew the test. More importantly, this distinction of "native cover" understates the damage that can be done by some very small weeds that can suppress the germination of a great many native plants. Hence, although I have long felt that the metric understates what has been accomplished here, it is quick to perform and is understood by professionals, so I use it.

In 2014, Randy Morgan (whom I consider the best botanist in the area because of his integrity) brought to my attention that there is a distinction between *Cardamine oligosperma* (native) and *Cardamine hirsuta* (not), both known as "pop-weed." I had believed I had the former, because the flora book I had used early on listed only the native. The 1993 Jepson I was using only showed the exotic in Siskiyou County, 500 miles north of here. Every botanist who had visited here was so blown away as to conclude the same. Since 2003 there have been two reports of its presence in the County. I am now certain it has long been ubiquitous and the botanists had made a mistake of inattention to a seemingly innocuous weed simply because other weeds suppress it. Pop-weed is an annoying plant because it kicks seed in your face as you crawl along so I have culled it as an annoyance but not as an exotic (a strategy I call "resistance"). The difference is that I wasn't after *every* one of them like it needed to be eradicated. Without competition from other weeds, it does spread like wildfire. So, the plant never became a disaster because I just don't like them and acted accordingly. When Randy (who hates pop-weed as much as I do) raised the question last spring, I took a look with a magnifying glass (what it takes) and went on the predictable rampage.

The problem is that the definitive key to distinguishing the two species is the number of pollen anthers on the flowers**:** *C. oligosperma* (usually) with five and *C. hirsuta* four. For management purposes, this is a useless key**:** If I wait for flowers to appear, my project is toast because pop-weed can go from flower to seed in just a few days. So, the first step is to cull ***all*** *Cardamine* until the numbers are low enough that I am sure the *C. hirsuta* is gone. I have also identified a vegetative key (the shape of the second pair of leaflets) by which to make the distinction in earlier in the process. Not a single native so far.

Chances are that nobody visiting the property would know the difference, but I would know while leading them about, and I'm not going to let a nagging annoyance like that impugn the diligence of what I am seeking to teach here. Pop-weed will be a nagging annoyance for the next few years, but at least it won't make my conscience squirm or affect the numbers substantially. Nobody is perfect and certainly not me, but I try (oh hell do I ever try) because it's better than giving up. This is a pest of a plant in a few places and thus will be the biggest weeding job here in a good many years, especially because fall 2014 was a fantastic season for germination. I will retest as usual in early May 2015 and adjust the numbers accordingly.