Craig's Favorite Mechanical means and tools to convert weeds grasses, back to 95% or better native cover, and permanently get rid of 98% of the fire fuels.

"Craig's Three Ms and a lot of N"

Use "Before" and "After" vegetation cover transects, to know what you are doing.
We are "Grassland Surgeons" and are we cutting out the right things, or killing our patients?

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Restored 800 acres of native grasslands since 1992.

In 2021, our San Mateo County WMA agency members *are preparing to "manage" the weed grasses on thousands of acres of our county, for fire fuel reductions and for restoration of native grasslands and wildflower fields.*

- **Mid-Pen is preparing an EIR**, to burn and graze thousands of grassland acres on their preserves.

- **County Parks preparing to graze** as a three year pilot project, 150 acres of Endangered butterfly habitat on San Bruno Mountain, to improve nectar and food plants. Meanwhile, our county has been working each year, trying to restore SBM grasslands for their HCP since 1983.

- **Cal Fire plans to use 100s of acres of SFPUC serpentine grasses** at Crystal Springs as a permanent wildfire training site, in the most concentrated rare and endangered plant area in North America.

- **Wildland fires around us**, are putting pressure on our County to start managing the fire fuels in our parks, and one million dollars in grants are being applied for right now, to clear vegetation.

- **Friends of Edgewood have wanted** to restore all of the 100 acres of grasslands and wildflower fields at Edgewood Preserve, with their "Green Grass" initiative.

- **> HOWEVER, no "before" and "after" vegetation surveys have been done**, in the last 40 years of the burning or grazing projects done on our public lands, to show that those methods have been able to restored any of our native grasslands—**or potentially, were very destructive?**

<u>Permanent linear transects</u> -- Whatever mechanical or other methods you use to manage the weed grasses--Set up at least one permanent linear transect, and---

1.) Measure the "Before" project vegetation cover of the weeds and native plants**.**

2.) Post the data online, so that the public can follow the progress of your projects.

3.) Rerun the transect each spring, to determine if your project is helping or hurting the natives.

4.) **Establish each transect with very permanent start and end points**, like big rocks, power towers, fences, so that someone can come and rerun that transect in the future..

When you run your linear transects, at least record

these minimum details BEFORE you start ANY project…

This record is essential if your project is going to be based on any kind of science.

- **Percentage cover of the weed grasses.**
- **Percentage cover of native grasses.**
- **Percentage cover of wildflowers.**
- **Percentage cover of broadleaf weeds.**
- **Percentage of bare soil, rocks, and gopher mounds.**
- **Percentage cover of shrubs.**
- **Use a simple method to do your transects, like Evans and Love (1957) Toe-Point, where you walk in a straight line, and note what plant your toe touches at every step, for 100 paces.**
- ***Examples of public grassland transect percentage cover surveys in San Mateo County can be seen at* www.ecoseeds.com/WMA.html**

My 1987 report for County Parks, talked about the weed grasses being a major problem in Edgewood Preserve, underneath the high power towers--wild oats and ryegrass. Mowing experiments in this area for the last 20 years, eliminated those two weed grasses, replaced by native *Vulpia microstachys* grass.
A previous-year mowed plot, produced 80% native cover this year.

Try "Craig's Three Ms and a lot of N"—Start <u>Mowing</u> early, <u>Mow</u> monthly, and <u>Mow no lower</u> than one foot high, and add a lot of <u>Nutrients</u> and organic matter to feed the natives.

--Use an Echo 225 with high octane gas, professional string, add a shoulder strap, have extra air filters, safety gear, apron, fire extinguisher, etc.

Apron shown in photo is too short--crew wanted a full length apron that went down to their shoes--used 3 Ace hardware aprons to make two, resewn by Sew N' Go in Menlo Park.

<u>"Before" and "After" transect data</u>, can be used to eliminate the old grassland management methods that are damaging to the natives, or are too slow to eliminate the weeds, or only temporarily eliminates the weeds.

Example are the "Controlled Burns" — The 2007 Russian Ridge burn, killed 2 million natives, *and without any "Before" and "After" transect data, the damages were never noticed.*

Burn damage recorded in my 2003-2021 annual transect data from this site.

And also use your "Before" and "After" transect data, to guide you--stop using domesticated animal grazing, if grazing is found to be damaging to the natives. Grazing projects on public lands in San Mateo County have never done "Before" and "After" transects, to check to measure the effectiveness of this tool.

October, 2020, the very last Santa Cruz Tarplant is being viewed at Arana Gulch, when the original population was 100,000 plants -- before burning and grazing projects eradicated them. *We hope nobody in our County makes the same mistake?*
No large-scale "Before" and "After" linear transects were ever established,
so the damaging effects of each weed management project since 1986
was never fully appreciated, *until the Endangered plant population was gone.*

If you are going to mow either with string trimmers or machines, you need to mow at one foot high, and monthly instead of only once a year. Shown here, are the weed grasses growing above the blooming tidy tips, and we cut just above the level of the wildflowers.

And see if string trimming is much more efficient than any more hand-pulling? Maybe in the future, you can stop the hand-pulling, bagging and removing of any annual or biennial weeds like yellow star thistles, ever again?

And check your TILLED fire-breaks-- “Before” and “After” transects could show that you are killing the natives, and turning those areas into solid, weed-infested fire-fuel strips—Whereas mowing could restore the fire-safe natives along roads and fence lines instead. Shown: *Russian Ridge Preserve fire break in spring along Skyline*.

And do not forget to add the nutrients and organic matter to our grasslands, what the cattle walked away with during the Spanish Rancho grant days—Natives need nitrogen, phosphorus, calcium, potassium, micronutrients, plus, the proper pH, to survive into the future.

<u>And that includes, feeding the SERPENTINE soils</u>—Left is a starving poppy in serpentine, that recovered within a month, with organic fertilizers and organic matter– and able to survive the 2021 drought. ***2,000 pounds applied in spring 2021.***

By testing "Craig's 3Ms and a lot of N" method, you can get rid of the flammable weed grasses, and help the dormant native seeds in the soil take their place, and permanently lower fire fuels by 98%.

And before long, all of the flammable weeds are gone, when you successfully unearth the dormant native seeds in the soil, that have been waiting for you to arrive--with your gas powered string trimmers and fertilizers---
and get the wildflower party started in 2021.

www.ecoseeds.com/craigslist.pdf ***for Craig's Power Points.***