

The Hydro_Mechanical_Obliterationsm (H_M_O) Technique An Alternative Non-toxic Weed Abatement Method

Research done by Veronica Valero for NUSD IPM Committee updated 3/24/08

THE HYDRO MECHANICAL OBLITERATION (H_M_O) TECHNIQUE

The Hydro Mechanical Obliteration (H_M_O or HMO) technique uses an industrial strength high powered pressure washer or customized mobile apparatus to obliterate weeds/vegetation. The HMO apparatus shoots out on average three gallons per minute - less than from a shower head. The water volume depends on the apparatus used and the type of vegetation removal required. The psi (pressure) calibration is adjusted for specific types of vegetation. In the process of "obliterating" the weeds and invasive plants, the remains become a fine grain compost—there is no need to remove and dispose of the material. The mulch that is created by obliterating the undesirable vegetation provides nutrients to the soil. Immediately after obliterating the weeds, a compost tea mixture can be added, then the area can be sown with native seeds or other vegetation.

HMO can quickly clear away brush and can access hard to reach places like canyons, as well as hard to mow areas like fence lines, along building, around trees, around play ground equipment, and even around delicate desirable vegetation. If nothing is seeded after HMO, unwanted vegetation will sprout up. However, it won't grow as high and will be easier to clear the next time. This method is environmentally friendly and it's fast: On average one licensed operator can clear 1 acre in about 6 to 8 hours. For Invasive/restoration projects, the process is slower: the average is 1/3 to 1/4 acre per day. The patented process can be used only by a licensed operator. A regular power washer can be adapted to do the job or a customized apparatus can be made to order. **Contact Info:** Camcosm Inc., Cameron Colson (408) 205-5757: www.CaliforniaCompliant.com

For updated research and to view pictures of Novato, California HMO demonstrations:
www.computertutormarin.com/IPM.html Or, Veronica Valero, 415-897-2302

WHAT OTHERS SAY:

1. Castlemont School Garden "Life Lab Garden", Campbell, CA, October 2007: From *The Campbell Reporter* newspaper: The school's organic Life Lab Garden classroom is a half-acre interactive garden, which serves as a learning environment for the children. Students are able to plant and harvest their own crops, learn about healthy eating, nutrition, recycling and observe wildlife. Cameron Colson used the HMO technique to obliterate and turn the weeds into mulch. "The technique is so amazing and very impressive," said Ed Millet, a Castlemont parent and coordinator with the school's Life Lab. "For what he did in a few hours, we would have needed a dozen volunteers to come in," Millet said. "Plus the weeds would have grown back so quickly. This is a much longer-lasting effect." According to Colson, the technique can be used anywhere from agricultural fields and wetlands to restoration projects and city parks. Colson said his main objective is promoting safety and education. "The chemicals in pesticides can become an airborne hazard," Colson said. "My overall objective is to protect our children's health and improve our environment." Millet and Colson said the school district continues to use spray chemicals in certain areas and they would like to see this more eco-friendly technique being used. "I'd love to see the district adopt this solution," Millet said. "There's just no downside to it. I hope this is something that really takes off." Castlemont Elementary School is located at 3040 E. Payne Ave. **To see newspaper article:**
<http://www.community-newspapers.com/archives/campbellreporter/20071019/education1.shtml>

2. Firemen's Fund, Novato CA, 2007: Don Barrie, Cushman & Wakefield, per phone conversation: HMO has successfully been used on 8 acres of land outside of site on the far east side of Campus Drive. The cost of using HMO is within Firemen's Funds' guidelines and is equal to the use of an herbicide like Round up Quick Pro that they previously used. As a green business, Fireman's Fund puts a priority on health and safety when considering weed control methods. They are also concerned about the effects herbicides have on the wildlife and the people and their dogs that walk in this area. Once they understood the HMO method there was no hesitation in its use. They are very satisfied with the results.

3. Cheda Knolls HOA Board Member, Novato CA, 2007, per phone conversation with Board member Elise Sache: In 2006 HMO was used on 10 acres, which took about 3 days. In 2007 planned on expanding the use of HMO to 20-30 acres. They are on hilly property and has difficult areas to reach. They wanted to use a non-toxic method because of the wildlife in the area: deer, turkey, foxes, woodpeckers and many others. They were also concerned with the health issues surrounding the use of herbicides. Another major factor in using HMO is because of the disposal challenge. Their past method involved weed whipping, but then they had to go back and gather the whacked weeds to disposed of them. In addition, using a gas powered weed whacker can also pose a fire hazard, as happened in the previous year: A spark caused a fire in their open space. HMO gave them a safer and healthier alternative.

Cheda Knolls Board and residents are very pleased with the results. The Novato Fire Marshall was also impressed and has identified Cheda Knolls HOA as a model for firebreak abatement. An 82 year old resident who has been very involved with landscaping at the Cheda Knolls for many years was immensely impressed with the HMO results. Cheda Knolls residents commented that the noise pollution factor was greatly reduced using HMO as compared to weed whipping. In addition, with the HMO water system there was no airborne dust or chaff flying about during the application which greatly reduced and/or eliminated allergic and asthmatic reactions as is generally caused by the weed whipping method Cheda Knolls previously used. Cost is comparable to Roundup. The only complaint from residents is that the two weeks following the application, there was dust (windy Novato didn't help). But after two weeks the dust subsided and there were no more complaints: a small price to pay considering the long term benefits. She will let me know when they plan to do the next HMO application and is open to having others come and observe.

4. Friends of Corte Madera Creek (CA) with the City of Larkspur & The Coastal Conservatory Commission, Lisa Di Girmolo, Biologist & Project Manager, **2007:** per phone conversation: We used HMO at a private restoration project in Larkspur called the "Larkspur Creekside Project." HMO was used to remove non-native invasive weeds (Dec 06) and prep soil (Jan 07) at clapper rail location where fennel and harding grass was growing. Lots of factors gave them a very short time period to remove the invasive weeds. HMO was the most cost effective choice. Very pleased with results. Waiting to see it's effectiveness—will know by this Spring. HMO is not a magic bullet, but in certain circumstances it's very effective. There are start up costs, but if it can be shared with other organizations/ municipalities it will reduce the costs. It's a promising technology.

5. The County of Santa Clara, County of Santa Clara Parks & Recreation
Letter from Craig A. Crawford, Park Maintenance Program Coordinator, IPM Coordinator
"The Results of Cameron's weed control method was outstanding. The right-of-way after the Obliteration had the look of a freshly mowed surface. The method was able to provide weed control through the fence, leaving no annoying weeds growing through the fence that is common with traditional weed control Also the road surface did not have to be blown off resulting in a weed control

method that removes several steps to fully control weeds. The Hydro Mechanical Obliteration method of weed control is a viable alternative to pesticides for weed control needs..."

6. Cosumnes River Preserve, Galt, California; Letter from Rick Cooper, Preserve Manager:

"Using the 'HMO' power mulch technique on the grass and other weeds in two islands in our parking lot (about one-half acre total) you accomplished three steps for us towards the establishment of native grasses. The existing biomass was removed. Most of the plants were killed. A good seedbed was prepared. Without your work we would have had to: mow the grass, spray, with Roundup, and harrow a seedbed."

7. CALTRAN: Work done in Mendocino; **Bob Melendez of CALTRANS:** Per phone conversation: Mendocino has a moratorium on using pesticides. CALTRAN used HMO to remove Yellow Star Thistle along medium strip of freeway, then they sealed the cracks and painted the yellow line. HMO was also used at the College of the Redwoods used it to remove Cape Ivy (German Ivy). It was very effective at chopping up the ivy and then cultivating the soil. Because of their positive experience, they will be using HMO technique at Big Lagoon Patrick Point State Park. It's a pristine area with invasive pampas grass is growing on the levy/causeway.

8. City of Oakland: Wild Fire Projection District: Montclair District 1991 Oakland Hills Fire area. Demo on Saturday, April 21, 2007 at Station 21 arranged by Leroy Griffin, Assistant Fire Chief for Oakland: Chief Griffin is in charge of Hazardous Vegetation Management, including road sides.

GOALS: (1) To created a 30' x 300' fuel break (2) Pampus grass eradication and sheet mulching cardboard (3) Beatification demonstration garden in front removed pampass grass & mulching 10,000 sq feet! (5 hours) on hill side. Volunteers sheet mulched a 20x30 area.

RESPONSE: Vice Mayor: Jean Quan in her Montclair district & Sue Piper, her assistant Mayor Quan dropped jaw response. Amazed. Had no clue what to expect. Saw the gravity. On the spot she Streamlined HMO into procurement process.

9. Article: "A Sustainable Alternative to Remove Weeds and Eliminate Chemicals"

By Kathryn Mathewson, Secret Gardens, March 26, 2007 (www.secretgardens.com),

From Article from American Nursery Landscaping Association (ANLA) March 07 Issue

"HMO is a patented machine attached to a truck with a water hose that can produce extremely high water pressures up to 7000 psi. To put this in perspective, the water pressure machine available at the Home Depot produces 1700 psi. HMOs will kill invasive weeds and roots and turn them and dry leaves into instant mulch. The mulch created by HMOs has been tested by the Soil Food Web (www.soilfoodweb.com) to have an instant abundance of healthy organisms. It is truly amazing to see what we think of as dead leaves turn into an abundance of life! The system eliminates the need to use unsafe pesticides and hazardous fertilizers which kill the organisms in the soil and can be harmful to human health. HMOs instead supplement and improve the soil. The system uses three gallons of water per minute and covers approximately 900 gallons per acre. It is faster than weed eating, universally adaptable to any terrain, precise in its cutting action, and cuts weeds around cyclone fences and mature trees. It can remove groundcovers like ivy and poison oak which need to be removed because they take away land for native vegetation which provides food and habitat for beneficial insects...."

See next page for: The hidden cost of using Herbicides as compared to H_M_O

**Comparing
Herbicide Use VS Hydro Mechanical Obliterationsm (H_M_O or HMO)**

Research done by Veronica Valero for NUSD IPM Committee updated 3/24/08

When Comparing Cost Factors between HMO and Herbicide use the following needs to be considered:

COST FACTORS—Current Method of Weed Control:

The hidden costs of using herbicides:

1. Adapt Policies & Procedures
2. Meet Required Mandates: Clean Water Act and others...
3. Train Staff/Get Certification
4. Purchase Herbicides
5. Store Herbicides
6. Notification Process
7. Application time restrictions (weather, people/children present, etc.)
8. Apply Substances, A 4-step process:
 - Spray & Kill: a labor cost
 - Mow Down: a labor cost
 - Collect: a labor cost
 - Dispose: a labor cost, disposal cost
9. Monitor, measure, document herbicide use
10. Unknown long-term health risk/cost of exposure to people (children), animals & the environment.

COST FACTORS—A Paradigm shift using HMO:

1. **Draft/ADD a NEW IPM Model Ordinance** to include HMO
2. **Meet Required Mandates:** Clean Water Act and others...
3. **Train Staff/Get Certification** for HMO
4. **ELIMINATES NEED TO:** Purchase Herbicides
5. **ELIMINATES NEED TO:** Store Herbicides
6. **ELIMINATES:** Notification Process
7. **ELIMINATES:** Application time restrictions (weather, people/children present, etc.)
8. **4-STEP PROCESS REPLACED BY 1-STEP:** Apply Substances, A 4-step process:
 - **REPLACES "Spray & Kill" WITH "Obliterate Weeds and Cultivate Soil"**
 - **ELIMINATES:** Mow Down: a labor cost
 - **ELIMINATES:** Collect: a labor cost
 - **ELIMINATES:** Dispose: a labor cost, disposal cost
9. **ELIMINATES NEED TO:** Monitor, measure, document herbicide use (Though we do want to measure and monitor success rates of alternative weed abatement programs.)
10. **ELIMINATES:** long-term health risk/cost of exposure to people (children), animals & the environment.

H_M_O CONTACT INFO

dba.Camcosm Inc:

Hydro_Mechanical_Obliterationsm (H_M_O or HMO)

Contact: Cameron Colson, (408) 205-5757, www.CaliforniaCompliant.com