

A.N.I.S.P.A.C. Inc.
(Association for Non-native Invasive Species Prevention And Containment)

ANISPAC is a new national non-profit organization, operating in the public interest and dedicated to:

- 1.) Advancing the scientific knowledge about invasive species prevention technology, including weed containment vehicle washing.
- 2.) Representing the common interests of weed containment vehicle wash station manufacturers and contractors operating as resources in support of wildfire incidents, and in other similar operations for federal agencies and the private sector.

**UNINTENDED CONSEQUENCES
OF NOXIOUS WEED SEED PLANTING BY THE US GOVERNMENT**

Adapted from a March 10, 2006 letter sent to Ms. Tory Henderson, Chair,
Fire Equipment Working Team, National Interagency Fire Center
by Quincy OrHai, President pro tem, A.N.I.S.P.A.C. Inc.

There is a serious problem related to the possible unintended consequences of a current protocol for noxious weed containment vehicle washing by wash stations that produce liquid waste.

In July of 2004 the Missoula Technology Development Center released a report entitled MTDC Portable Vehicle Washer (pdf04342819dpi72-3). The report details the technology for creating a fairly simple weed wash station capable of washing fire engines, pickup trucks and other equipment to prevent the introduction and spread of invasive species. Vehicles are washed over a containment mat, and the resultant waste is pumped through two cone bottomed settling tanks and large bag filters. The floating part of the waste ends up in the bag filters, and can be properly disposed of by incineration or landfill disposal. However, the majority of the waste including a substantial portion of the plant propagules produced by this system, ends up in the bottom of the cone bottom settling tanks. The disposal of this liquid waste is not addressed in the publication MTDC Portable Vehicle Washer.

To the best of our knowledge the only USFS Region with current specifications (as of March 2006) for weed wash stations is Region 1. Those specification, found on page 52 of the 2005 FSH 5109.34 INTERAGENCY INCIDENT BUSINESS MANAGEMENT HANDBOOK CHAPTER 20 – ACQUISITION state that “Runoff must be disposed of in accordance with all wastewater requirements of the authority having jurisdiction, or recycled. If wash water is recycled, all particles greater than 150 micron must be removed from the wastewater before reuse.”

For weed wash stations that produce such waste, the standard disposal method of the noxious weed seed containing liquid waste is to haul it to municipal waste water treatment facilities. Mark Fitzwater, the Director of the City of Helena Waste Water Treatment Facility explained

exactly what happens to this sort of waste hauled when to his facility. The liquid waste is mixed with other sewerage and subjected to settlement and skimming, and then dewatered. The resultant sludge, or bio-solids, is then warmed to 30 degrees Celsius for an indeterminate period before being “land applied”, or spread on local farm fields and plowed in, to a depth of at least six inches. Nothing in this treatment process will negatively effect the viability of most weed seeds, many of which are notoriously rugged and long lived, and in fact the process is very similar to standard nursery procedures for germinating seeds, along with fertilizing and watering them.

This procedure is almost certainly legal. It is also a very bad idea, and a potential public relations disaster for the USDA and the USFS. Besides a potentially nightmarish media report, unintended consequences of continuing this practice include:

- 1.) The possible loss of support for weed containment vehicle washing as a means of preventing the introduction and spread of invasive species, one of the few bright spots in federal agencies attempts to comply with the prevention emphasis of Executive Order 13112.
- 2.) The possible mass withdrawal by farmers of the few fields currently available for open application of bio-solids by waste water treatment facilities.
- 3.) The potentially huge liability of the US Government if a new and dangerous invasive species is introduced because of negligent waste disposal practices of contractors operating under orders of the USFS.

Concentrated noxious weed seeds are not currently listed as an identified pollutant, and so are not prohibited by either the EPA or state environmental departments from being discharged into waste-water treatment facilities. Fortunately, there is a reasonably simple bureaucratic and technological solution to this potential problem. A page to the Interagency Incident Business Management Handbook, Chapter 20, Acquisitions could added requiring all weed wash stations to contain all waste in a fashion to allow safe disposal by incineration or approved landfill disposal, as several contractors already do, unless the waste is left onsite, which may be appropriate if the wash site is already weed infested and designated for continuing future herbicide treatment. Requiring 100% solid waste containment technology to be added to existing weed wash stations will increase the expense of operating such stations, but it is not rocket science and the existing equipment can be adapted.

ANISPAC Inc. is hereby requesting that the National Wildfire Coordinating Group and the National Interagency Fire Center Fire Equipment Working Team create national deployment specifications for weed wash stations. Doing so in 2006 will prevent the unintended consequences described above, as well as provide a reasonable starting point for federal agencies to establish evaluation criteria for invasive species containment vehicle wash stations. ANISPAC recommends that the current Region 1 specifications (developed by the USFS San Dimas Technology Development Center et al) referred to above be used as the basis for national specifications, with certain additions and modifications. Our recommendations are attached below with suggested changes in italics as well as a Discussion.

So far, probably little damage has been done by the limited number of weed wash stations that have discharged into municipal waste treatment facilities, to date. There have probably only been a few incidents in Montana, perhaps a dozen at the most, where waste waters from weed containment wash stations in support of wildfire incidents have been trucked to municipal treatment centers, mostly during the 2004 and 2005 fire season in western Montana. ANISPAC understands and agrees that such disposal is currently legal, and any unintended consequences are, well, unintended. Our concern is that this is a new, and so far relatively unusual thing, the concentrating of noxious weed seeds, regardless of how they are disposed of. Representing manufacturers and contractors in this new industry, we are concerned that we not be applying concentrated noxious weed seeds where they are not wanted (which is practically anywhere, except an approved landfill or incinerator).

As far as we can tell, almost no one is aware of this potential problem, including the designers and manufacturers and operators of the wash stations that produce liquid waste. Informing manufacturers and contractors of this problem is one of the reasons for the creation of ANISPAC. However, the continuing and expanding use of weed wash stations, some by local government entities, some by federal government entities, and some by private parties, will increase the occurrence of land application of concentrated noxious weed seed along with bio-solids, unless the practice of hauling liquid waste for disposal at municipal treatment centers from these wash station is voluntarily abandoned, officially discouraged and/ or prohibited by rule or regulation. **Common sense urges that the US Government, spending public funds dedicated to preventing the introduction and spread of invasive species, should not be contaminating bio-solids that will result in open application to farm fields of concentrated weed seed containing waste, unless it is proven harmless, which seem most unlikely.**

In our opinion, this issue is best regulated on a federal level at this time, as currently the principle users of portable weed containment vehicle wash stations are the federal agencies contracting for wash station services in support of wildfire incidents. If the requested specifications in fact materialize, then at this time we see no need to request state or federal regulation. **The worst case scenario is the unintentional importation and spread of some truly ugly weed like Russ Skeletonweed into Montana or elsewhere by land application of municipal sludge containing weed seed concentrated with public funds intended to prevent the importation and spread of these noxious weeds.** It is our belief that the use of weed wash stations is only going to increase, with state and local governments as well as private industry recognizing the extreme importance of preventing the introduction and spread of weeds by off road driving of contaminated vehicles and equipment. It may eventually be necessary to add concentrated noxious weed seeds to the list of identified pollutants in Montana and elsewhere, if federal specification and self regulation is ineffective.

We are hoping that the National Wildfire Coordinating Group and the National Interagency Fire Center Fire Equipment Working Team will see the futility of spending thousands of dollars per day to concentrate noxious weed seeds only to dispose of them in a manner that amounts to

planting, watering and fertilizing them in farm fields, often hundreds of miles away, especially as there is currently available alternative weed wash station technology that allows safe landfill or incineration disposal. Quick action by the Fire Equipment Working Team of the National Interagency Fire Center at this time will hopefully avoid an embarrassing media incident or the withdrawal of already scarce land from the bio-solids land application program or charges of negligence against the US Government. In our opinion the simplest solution to this potential problem is to just use appropriate technology and common sense to create specifications for the deployment of weed wash stations.

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Recommendations

**Recommendations For USDA USFS / National Interagency Coordinating Group
2006 National Specifications For Weed Containment Vehicle Wash Stations
By Quincy OrHai, A.N.I.S.P.A.C. Inc. March 10, 2006
(Association for Non-native Invasive Species Prevention And Containment)**

Areas in italics differ from current Region 1 specifications.

INTERAGENCY INCIDENT BUSINESS MANAGEMENT CHAPTER 20 – ACQUISITION

WEED WASHER/ PRESSURE WASHER;
WEED CONTAINMENT VEHICLE WASH STATION

WW/PW Standard method of hire: Daily rates, which includes delivery, pickup, servicing, plus mileage and fully operated.

The washing system must be designed to clean the underbody of vehicles and equipment as well as all other surfaces. The system must have nozzles that can be directed upward to within 45 degrees of vertical. The spray from these nozzles must be able to cover 100 percent of the underbody surfaces that face downward. *A minimum of two* supplemental, manually aimed nozzles must also be provided to remove debris from wheel wells, running boards, and other surfaces.

The wash system must comply with all applicable OSHA regulations related to operator safety and all segments of the washer must be in operating condition with no missing parts. *The transportation system shall comply with all applicable transport regulations. All operators shall wear high visibility clothing and eye protection during operation of the wash station. Night time operations must be lit from both sides of the wash site.*

Runoff containment is mandatory for vehicle wash stations. Runoff must be disposed of in accordance with all wastewater requirements of the authority having jurisdiction, or recycled.

Unless the wash station is sited in an area specifically designated by the local resource management as weed infested and designated for continuing future herbicide treatment, all waste particles greater than 100 microns shall be contained and removed from the site for safe dry disposal by landfill or incineration.

If wash water is recycled, all particles greater than 100 micron must be removed from the wastewater onsite before reuse, and all waste products must be contained in a fashion to allow safe disposal by approved landfill or incineration. No liquid waste containing particles larger than 100 microns shall be transported away from the wash site. If water is recycled, provision shall be made for absorbing oil residue from recycled water if used filtered water is to be land applied for disposal.

Process time to wash a single Wildland fire engine shall not exceed 5 minutes on the average for any 10 engines.

Contractor shall have a water source or tank with adequate capacity to operate the wash system continuously for 16 hours, minimum.

Contractor shall provide at least one skilled operator who is knowledgeable in operation, maintenance and repair of the wash system to be present at all times while the system is in use.

Contractor is responsible for the maintenance and repair of wash station, pumps and equipment. Due to the nature of the work, commercial quality equipment is required.

Discussion of Recommendations

Please refer to (above):

**Recommendations For USDA USFS / National Interagency Coordinating Group
2006 National Specifications For Weed Containment Vehicle Wash Stations
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and:

Page 52 of the 2005 FSH 5109.34 INTERAGENCY INCIDENT BUSINESS MANAGEMENT HANDBOOK CHAPTER 20

The requirement for “Two supplemental, manually aimed nozzles” is best modified to be a minimum, as the largest commercially available turbo nozzle (Giant brand #20) can only handle 20 gpm volume, whereas dual turbo wands (resulting in four nozzles) are more effective and can allow a potential volume of 80 gpm total simultaneous wash capability.

Clarifying the need for operators to wear high visibility clothing and eye protection during operation of the wash station, and to light both sides of the wash site for nighttime operations, as well as reminding concerned parties to verify transport safety items is helpful to both contractors, crew and ground support chiefs in maintaining a safe operating environment.

Recognizing the occasional need to site a wash station at an area already weed infested, it will be helpful to all concerned if deployment of wash stations without containment capability (usually located on spread gravel or pavement) is clearly limited to sites specifically designated by the local resource management as weed infested and designated for continuing future herbicide treatment. This will hopefully prevent more sites from experiencing the intensive weed seed contamination typical of a vehicle wash station site. Recent communication from the head of the Montana State University seed laboratory (see attached), Harold Armstrong, indicates that the smallest weed seed from the federal noxious weed seed list is "Striga asiatica, known as witchweed, which might possibly be found in North Carolina or South Carolina. Dimensions for witchweed are 0.206mm*0.118mm. Also tamarisk seed has been identified by Joe Fleming from the book "Aquatic and Riparian Weeds of the West" as "0.1-0.2 mm long with a tuft of hairs at the apex. Reducing the size of particles to be removed to 100 or even 50 microns will be in line with these findings

As noted above, it is not always appropriate to require that all wash water always be recycled, for various reasons including cost savings. It is also possible that wash stations might not recycle water but still filter and contain all waste, disposing of the filtered wash water onsite. For cost savings purposes it is desirable to allow this. As detailed in the letter above, if weed seed contaminated liquid waste is hauled to municipal waste water treatment plants, where the invasive species contaminated sludge is dewatered and plowed into farm fields with other septic sludge, that is essentially concentrating, planting and fertilizing weed seeds in farm fields, unbeknownst to their owners.

If filtered water is to be dumped on site, oil can easily be removed with oil absorbent pillows or booms, which should be required for all recycling wash stations.

Frequently weed wash stations are required to wash all the vehicles on a fire in rapid succession. Inability to wash reasonably rapidly can lead to significant mission conflicts and bottlenecks. An average thorough wash time of two or three minutes is not an unreasonable expectation. Inability to wash at an average time of less than five minutes is an indication of poor design or operation, and should not be encouraged with less restrictive specifications.

As most wash stations will operate at flows in excess of ten gallons per minute, and as many as a hundred vehicles may be washed in a day, a realistic storage capacity of 1000 gallons or more is not unreasonable. Water haulers are not usually continuously available to service wash stations, and requiring a wash station to maintain a water source with adequate capacity for 16 hours of operation is reasonable.