Best Management Practices for New Mexico RECREATIONAL VEHICLE PARKS

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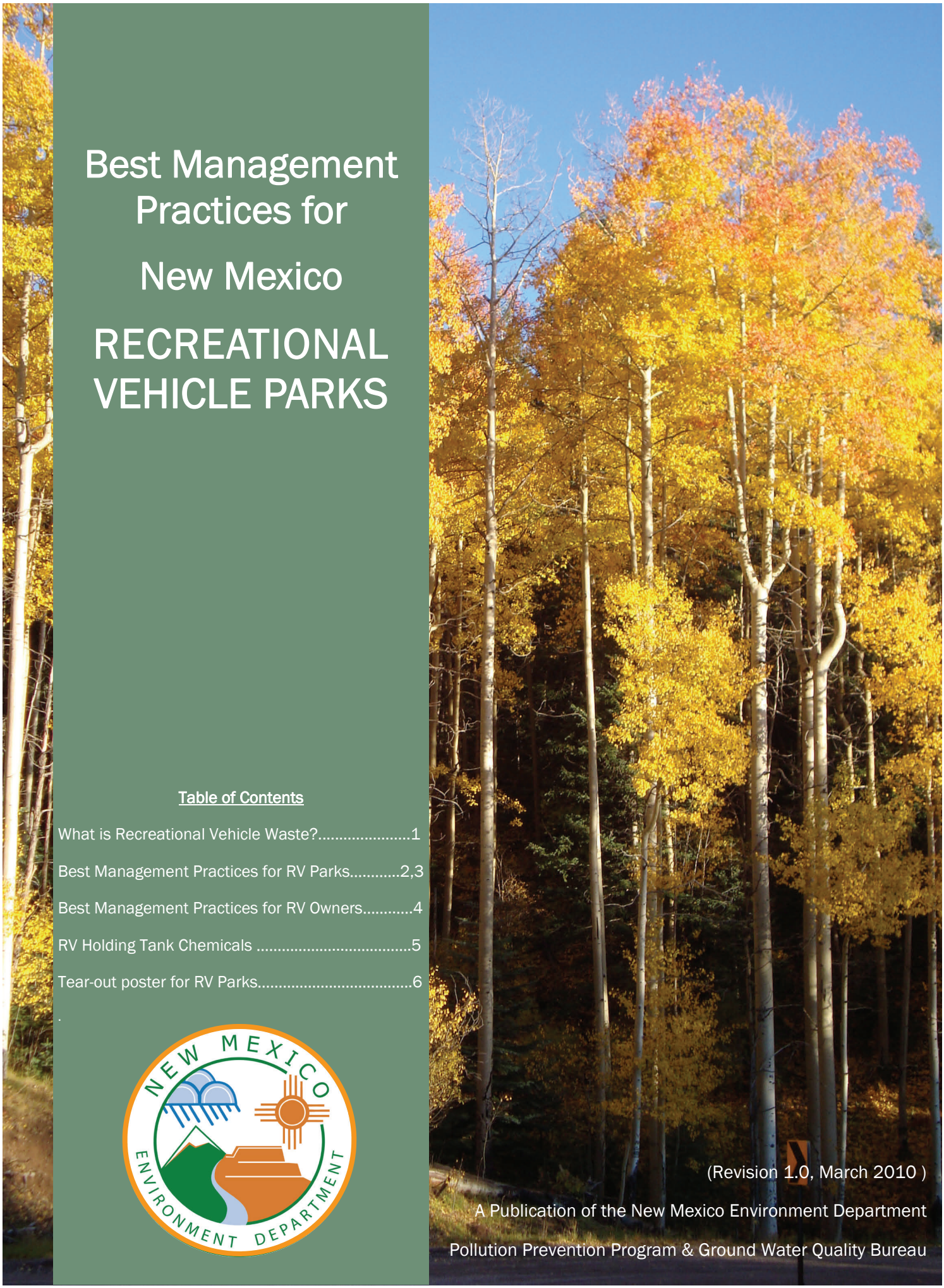

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What is Recreational Vehicle Waste?

In America, concern is growing about the treatment and disposal of waste from recreational vehicle (RV) holding tanks. Many RV owners are unknowingly using toxic chemicals in their RV wastewater systems and are unaware of the consequences of using these products.

Waste in the holding tank should contain nothing more than water, urine and feces, plus a small amount of toilet tissue. Bacteria found in human waste can be beneficial by beginning the process of decomposing the waste so that it can be treated in an advanced biological treatment system.

Safe waste disposal depends on keeping these beneficial bacteria healthy by minimizing the use of toxic products and not overloading the system.

RV owners sometimes use chemical odor control products in their holding tanks with a misconception that these products also help breakdown waste. These products often contain chemicals such as formaldehyde to stop bacterial action and perfumes to mask odors in the tanks. These additives, along with minimal water dilution due to low-flow fixtures, creates high-strength waste that is not favorable to advanced biological treatment or suitable for disposal in conventional septic tank/leach field systems.

Some RV holding tank chemicals can kill beneficial bacteria in advanced treatment systems. They may also cause problems in campground septic tank/leach field systems, increasing the possibility of contaminating the soil as well as ground and surface water. In addition, there are health risks for people and the environment from the manufacture, transport and use of these chemicals.

This manual is designed to provide Best Management Practices to improve management of RV parks in New Mexico and to protect the environment and our citizens. By educating the RV industry, including RV park managers and RV owners, the New Mexico Environment Department hopes to further protect our limited groundwater resources.

- ⇒ Avoid the use and onsite sale of holding tank treatments, stabilizers, additives and deodorizers containing any of the chemicals listed on page 5.
- ⇒ Avoid the use of excessive amounts of RV holding tank treatment, stabilizers, additives and deodorizers, regardless of their nature.
- ⇒ Promote and encourage the use of facility restrooms and showers that are connected to sewerage systems.
- ⇒ Pump septic tanks as often as needed to prevent excessive solids accumulation, spillage and contamination.
- ⇒ Practice the 3" Rule/50% Rule—before the scum layers exceeds three inches or the settled solids exceed 50% of the depth of the liquid in the tank, pump the septic tank.
- ⇒ Install a dual system at your RV Park that segregates RV blackwater in a holding tank and have a licensed septage hauler routinely pump the tank and properly dispose of the pumpings at an approved disposal facility. At a minimum, require that new arrivals dump the contents of their tank (which may have chemicals) into the holding tank upon arrival.
- ⇒ Investigate the potential for connecting your RV Park to a nearby municipal sewerage system.
- ⇒ Install a synthetically lined lagoon or evapo-transpiration bed specifically designed to dispose of wastewater through evaporation. For more information, go to:

http://www.epa.gov/OWM/mtb/evapotrans.pdf

Questions regarding wastewater treatment and disposal systems and the proper permitting of these systems should be directed to the Ground Water Quality Bureau of the New Mexico Environment Department (505) 827-2900.

Best Management Practices at YOUR RV Park

Equipment/Vehicle Maintenance and Repair

⇒ Label used oil, solvents and other chemicals clearly and store in proper containers.

⇒ Safely store spent degreasing solvents, cleaning solvents and other flammable liquids.

⇒ Recycle used oil and solvents—many car repair shops accept used oil and recycle it.

Storm Water and Erosion Management

⇒ Avoid driving or parking heavy equipment, RVs, or other vehicles on top of leach fields or disposal areas.

⇒ Cover exposed soil with vegetation or mulch to keep erosion and dust down.

⇒ Ensure roofs drain to lawn area or vegetated areas instead of to pavement and/or storm drains.

⇒ Implement landscaping which encourages surface runoff flow through vegetated areas before leaving the site.

⇒ Use pesticides and fertilizers sparingly and avoid applying in drainage areas or during precipitation events.

⇒ Encourage campers to pick up and dispose of pet waste.

⇒ Use swales and ditches to manage storm water runoff rather than constructed storm drains. Natural systems are cheaper to install and maintain, and help to reduce erosion and pollution in local streams.

⇒ Protect shoreline and adjacent streams, lakes or ponds from receiving contaminated storm water runoff.

Solid Waste and Hazardous Waste

⇒ Minimize the use of disposables. Mix your own cold drinks from powder and assign a mug to each family member rather than using paper cups.

⇒ Keep campfires small to minimize the amount of ash and pollution. Don't put anything in the fire pit that will not burn, such as plastics or foils.

⇒ Recycle used automotive batteries.

⇒ Avoid storing used tires in RV parks; dispose of them properly.

⇒ Dispose or recycle hazardous waste through a licensed hazardous waste hauler or recycler.

⇒ Encourage patrons to dispose of and/or compost organic waste properly and not on the RV park grounds. Check with park manager or park host for proper instructions.

⇒ Store hazardous chemicals properly and in a secure area.

Eliminating RV Holding Tank Odors

Mostly, the odors that emanate from RV holding tanks are a nuisance, but they can become a health hazard if large amounts of dangerous gas production become present. Products that contain chemicals designed to retard bacterial action and mask odors typically do their job of controlling odors, but they may create serious environmental problems when they are discharged from the holding tank to a sewerage system. Unfortunately, many of the products sold in the U.S. continue to rely upon this approach, but there are alternatives to these products and other best management practices that RV owners can employ to reduce holding tank odors and to operate an RV in an environmentally-sensitive manner. These include:

⇒ Storing wastewater in the holding tank for a shorter period. The bacterial degradation of waste typically takes at least 24 hours before odor production becomes objectionable. By evacuating the holding tank to the sewer everyday, you can largely eliminate the need to use any stabilizer.

⇒ Ensure that the venting system for your RV is fully functional so that gasses are vented from the tanks safely to the outdoors.

⇒ Do a good job of flushing the holding tank out to remove solids each time the tank is dumped. Dumping with less than a half tank may require additional fresh-water rinsing to properly "flush" solids to avoid a persistent toilet paper and/or fecal matter build-up in the tank. Holding tank gauges/monitors are seldom accurate and therefore, the use of a flashlight for the judgment of the fullness of the tank may be helpful.

⇒ Holding tank contents should never be dumped on the ground or into a water body.

⇒ Use air fresheners in the RV bathroom to eliminate persistent odors. They can accomplish much of what the chemical stabilizers provide, but without the danger to the environment.

⇒ For times when the contents of the holding tank must be stored for longer than 24 hours, use only those commercially available stabilizers that do not contain formaldehyde, bronopol, dowicil, benzaldehyde, glutaraldehyde, paraformaldehyde, or para-dichlorobenzene.

⇒ Use rest stop or RV camp ground bathroom facilities when available.

⇒ Bleach should never be used to treat a holding tank as it can severely and quickly damage valves, seals, and gaskets and will negatively impact the capability of wastewater treatment and disposal systems.

⇒ Toilets should be used for water, urine, feces, and toilet paper only.

⇒ As paying customers, RV owners have the choice to support RV parks that manage their wastewater in a manner that is protective of the environment, especially ground water. Inquiring about drinking (potable) water and wastewater management is the act of a responsible RV owner and is encouraged. Please be aware that the environmentally protective management of wastewater comes at a cost, though generally minimal to the patron.

⇒ Sharing your knowledge of BMPs with other RVers is encouraged for promoting safe travel and a healthy environment.

The New Mexico Environment Department should be contacted at the following numbers in the event of a wastewater spill:

(505) 428-2500 regular business hours

(866) 428-6535 during evenings/weekends

(505) 827-9329 for emergencies

RV Holding Tank Chemicals

Some RV holding tank chemicals can cause problems in campground septic tank/leach field systems, increasing the possibility of contaminating the soil as well as ground and surface water. The following is a list of chemicals that can cause potential problems:

Formaldehyde

Formadehyde (also known as Formalin) kills or retards bacterial growth, recognized by EPA as a probable carcinogens; moderately toxic to humans.

Bronopol

Bronopol is a common ingredient in products marketed in tablets and green liquids. The EPA states "This chemical is a bacterial pesticide". These products are labeled "Formaldehyde Free", however, in the presence of sewage, Bronopol breaks down into Formaldehyde.

Dowicil

The EPA states that "Dowicil is a bacterial pesticide". The EPA also states "Do not discharge effluent containing this product to sewer systems without previously notifying the local sewage treatment plant authority".

Benzaldehyde

Benzaldehyde is in the same chemical family as Formaldehyde. Most chemicals in the same family have similar chemical characteristics and therefore behave similarly in the environment.

Glutaraldehyde

Glutaraldehyde (also known as embalming fluid) retards bacterial growth and covers sewage odor. It can also be an eye/inhalation irritant.

Paraformaldehyde

Paraformaldehyde is a variation of Formaldehyde. The EPA states "this chemical is also a pesticide and very toxic to humans." These chemicals come individually packaged in dry form.

Para-dichlorobenzene

Para-dichlorobenzene is a common ingredient in mothballs, urinal cakes and toilet bowl fresheners. It is also a known carcinogen and drinking water contaminant that is moderately toxic to humans.

Links and Resources

EPA Storm water Best Management Practices:
www.epa.gov/nrmrl/pubs/600r04121/600r04121.pdf

New Mexico Definition of Hazardous Waste:
www.nmenv.state.nm.us/swb/documents/Solid_Waste_Rules_Regulations.pdf

EPA-Safe Waste water Disposal:
www.epa.gov/owm/septic/pubs/rv-wastewater.pdf

RV Holding Tank Tips 101:
www.rvuniversity.com/staticpages/index.php/htanks101

RV-Digest-It
www.rv-digest-it.

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