

**Controlling Nuisances at Landfills:
Comment on *Waste Age Wire* Article by M. Fickes**

G. Fred Lee, PhD, PE, AAEE BdCert.Env.Engr, F. ASCE

Report of
G. Fred Lee & Associates
El Macero, CA
www.gfredlee.com ☎ gfredlee@aol.com
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Presented below is an article by M. Fickes entitled, “Controlling Nuisances at Landfills,” that appeared in the June 1, 2011 issue of the online magazine, “Waste Age Wire,” followed by my comment concerning realities of controlling nuisances at landfills.

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**Controlling Nuisances at Landfills<sup>1</sup>**

By Michael Fickes, Contributing Writer **Waste Age Wire**

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<http://waste360.com/bird-control/controlling-nuisances-landfills-related-video>

**What is in this article?:**

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Landfill operators must successfully manage a number of nuisances — such as birds and odors — to be good members of the community.

Life as a landfill operator isn’t easy. In addition to maintaining a safe working face, ensuring sufficient compaction and overseeing gas collection systems — to name just a few of their routine, day-to-day tasks — operators must deal with a whole host of nuisances that, if not handled properly, can strain the often delicate relationships with the surrounding community and raise the ire of regulators.

Animals, odors, dust and blowing litter are just a few of the nuisances that landfill managers must manage. Fortunately, landfill operators across the country have developed a variety of methods to keep these problems in check.

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<sup>1</sup> Published in *Waste Age Wire* (weekly online newsletter from the editors of *Waste Age* magazine), June 1 (2011)

## **Winged Worries**

Nearly every landfill has to deal with birds, and birds can be exasperating animals. They carry trash to the surrounding community, and the noise they generate can drive both landfill workers and neighbors nuts.

At some landfills, the birds arrive not by flight but by riding in the backs of incoming trucks. “That’s why you have to require drivers to cover their trucks,” says Robert Johnson, a project director with the Rancho Cucamonga, Calif., office of SCS Engineers. Otherwise, a landfill operator may be providing transportation for a major hassle. For those birds that do make it to their sites, landfill operators have used a variety of techniques to successfully chase the birds away, including cannon blasts and fireworks.

One note of caution: new regulations now require a permit from the federal Bureau of Alcohol, Tobacco, Firearms and Explosives (ATF) before using fireworks and certain explosives at landfills. After the terrorist attacks of Sept. 11, 2001, Congress passed legislation regulating the use of fireworks, including those used to control birds.

“Manufacturers’ lobbyists successfully delayed the implementation of the legislation for years,” says Rich Thompson, director of compliance with Phoenix-based Republic Services. “But last year, Congress ordered the law to go into effect as of May 1, 2011.”

Republic Services has acquired ATF permits for 150 of its 190 landfills across the county. “The 40 landfills that we haven’t permitted don’t have problems with birds,” Thompson says. The use of propane cannons at landfills doesn’t fall under the new regulations.

Fireworks and cannon blasts aren’t the only way to drive birds away, Thompson adds. “String reflective tape around areas where trash is being dumped,” he says. “Birds don’t like the glaring reflections. Use devices that produce injured bird screams and the calls made by predators.”

Speaking of predators, some operators hire professional falconers and their birds of prey to patrol their landfills. Other birds tend to keep their distance from falcons. “At one Republic landfill, the birds used to disappear when the falconer’s jeep arrived on site,” Thompson says. “The birds knew what was coming.”

While birds undoubtedly can produce major hassles, those dealing with the winged creatures might take comfort in the fact that they don’t work at the Creston Valley landfill in Lister, British Columbia. Creston Valley — like other landfills in Canada and the northwestern United States — has a bear problem. Dozens of bears like to frolic in the landfill trash when spring arrives. This year, though, an electrified fence provided by the Regional District of Central Kootenay is keeping the bears at bay.

Aside from birds and the occasional bear, landfill operators report that animals are not major nuisances. “Animals are a minor concern,” says Jim Little, senior vice president of engineering and disposal for Folsom, Calif.-based Waste Connections. “We don’t see many rats, maybe a handful in 20 years. We called a pest control company to deal with them. We don’t have much of a problem with wild animals, either. If a coyote shows up or something else, we call the county animal control people, and they take care of it.”

## **Ooh, That Smell**

Landfills are famous for smelling bad. The first and most basic step for controlling odors — as well as birds and animals, which are attracted by odors — is to keep the working face as small as possible.

“That’s the bottom line,” says Jerry Johnson, vice president for capital projects for Raleigh, N.C.-based Waste Industries (and formerly the vice president of the firm’s landfill division). “Keep the working face small, cover the waste and manage the gas, and you won’t have issues with birds, animals or odors,” he says.

What’s a small working face? According to Republic Services’ Rich Thompson, the size of the face depends on the number of tons flowing into the landfill each day. “For facilities that receive 3,000 to 5,000 tons per day, [aim for] 50 yards by 50 yards — or smaller if possible,” he says. “If the landfill receives fewer than 1,000 tons per day, the working face can be as small as 25 yards by 25 yards.”

Of course, it isn’t that simple for every landfill.

Permits allow the Rumpke Sanitary Landfill in Colerain Township, Ohio to receive 10,000 tons of trash per day. The sixth largest landfill in the country, it takes in an average of 7,500 tons per day. The huge landfill is open 24 hours a day, every day. On particularly busy days, the facility will log as many as 100 transactions in a single hour.

The working face advances swiftly throughout the day, and the landfill’s workers cover the side slopes and the top of the previous working face with 24 inches of soil. The minimum daily cover is six inches. “We put down an intermediate cover because we won’t be back for weeks or even months,” says Larry Riddle, the district manager of the Rumpke Sanitary Landfill. “We need 24 inches of cover to reduce surface water absorption and odors.”

Riddle’s team also blankets the cover and the working face with water-based odor neutralizers pumped through 6,100 feet of high-pressure tubing. Atomizers in the tubing push out the spray. “We supplement the tubing with other systems,” Riddle says. “We have truck-mounted spray systems for areas with more acute odor problems. In some cases, we use a trailer-mounted fan to blow the water-based neutralizer into the air where the wind carries it.”

For particularly odorous summer trash, insecticide sprayers used in orchards spray the working face with a stronger, specially formulated neutralizer. Sometimes, Riddle specifies topical instead of airborne neutralizers. “The orchard sprayers also control odors when we drill gas wells,” Riddle says.

“Our goal is to be invisible at the property line,” Riddle says.

## **The Travails of Traffic**

“When we permit a landfill or meet with a community about an expansion, traffic in and out is always a nuisance issue,” says Jim Little of Waste Connections. “Trucks bring dirt and mud from the landfill to the streets, and they make noise.”

According to Little, Waste Industries limits the speeds in and out of facilities to reduce the dust kicked up by the trucks. “We also wash the undercarriages of exiting trucks to prevent them from dragging mud out onto the streets of neighboring communities,” he says. “We observe operating hour restrictions and manage the arrival of long-haul transfer trailers. If they start arriving in packs, we talk to the transfer station about spreading out the traffic to reduce noise.”

At the Rumpke Sanitary facility, Riddle keeps at least two and sometimes three large water wagons in action watering down dust and using high-pressure nozzles to wash dirt off the roads. A rubber tire loader also scrapes the roads. Two sweeper trucks constantly clean the roads at the scale house, inside the facility and in the immediate surrounding public areas.

### **Blowing in the Wind**

Litter is another constant battle, especially when the wind is blowing. “We used to use NASCAR fences,” Johnson of SCS says, who is a former landfill general manager. “These have heavy nylon mesh fabric that attaches to steel fence posts. The fence leans in toward the track and has an inward overhang. At a landfill, the overhang catches and holds blowing litter.”

At the Rumpke Sanitary Landfill, Riddle supplements permanent fencing at the border of the facility with temporary nylon fencing mounted on moveable skids 300 to 500 feet from the working face. If the wind changes direction, crews move the fencing as soon as possible.

“We also attach fish netting between telephone poles to catch litter,” Riddle says. Furthermore, “on particularly windy days, we’ll have 20 to 40 temporary laborers picking up trash.”

### **Fire in the Hole**

In tourist areas of the country, landfill operators should expect fires to break out near the working face on Mondays, says Tom Flannagan, senior technical consultant with Joyce Engineering, Inc., a Richmond, Va.-based consulting firm. Vacationers often dump the hot coals from their grills in the trash. The coals continue to burn, and the trash truck picks them up on Monday and takes them to the landfill.

“When the driver dumps the load, the air hits the coals and they light up the trash,” Flannagan continues. “Sometimes you don’t notice the smoke and the coals get buried. Sooner or later, you’ll see wisps of smoke coming through the dirt, and you have to excavate and put the fire out.”

Another source of landfill fires stems from poor maintenance of daily cover and gas collection systems. “If there is a leak in the [cover], the landfill will draw oxygen in,” Flannagan says.

“There is a fine line here. Too much air can cause a fire — and it can be difficult to find.

“Sometimes you don’t see smoke, just a sudden settlement. If that happens, you have to check for hot spots as well as the surrounding landfill gas wells.”

### **A Constant Effort**

Without firm, sure-handed management, birds, odor, litter, dust, traffic noise and other nuisances can overwhelm a landfill, enrage the neighbors and put a facility’s permits at risk. When it comes to successfully managing nuisances, there is no rest for the weary. “You absolutely have to stay ship shape all the time,” Little says.

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Comment by Dr. G. Fred Lee

This article by M. Fickers discusses some of the reasons NIMBY responses are expressed by those who own or use property near MSW landfills. While Fickers notes many avenues available to theoretically enable landfill operators to control to some extent the adverse impacts of birds, odors, dust, truck traffic, etc., he also stressed that controls must be effective and vigilantly maintained. That notwithstanding, in the real world I have yet to find an MSW landfill operation/operator that, in fact, achieves prevention of the trespass of landfill releases of odors, birds, dust, and other adverse impacts so that there are no adverse impacts on adjacent properties at the property line. The responsibility of landfill owners/operators to prevent trespass of landfill nuisances and health hazards off-site goes beyond their need to prevent trespasses that “enrage the neighbors;” the trespass of all nuisances and hazards off-site must be unequivocally prevented.

It is for this reason that Drs. Lee and Jones-Lee have advocated that MSW landfills be required to be surrounded by a buffer of at least one-mile, and at some locations several miles, of landfill-owner-owned property between where wastes are deposited in the landfill and adjacent property lines. Such buffer land is needed in order to dissipate the releases of obnoxious and health threatening conditions that occur at landfills, before they traverse adjacent property lines. Without complete control of obnoxious and the other landfill caused adverse conditions, there will continue to be justification for NIMBY stances by those who own/use property near an MSW landfill. Additional information on these issues is provided in Lee, G. F., and Jones-Lee, A., “Flawed Technology of Subtitle D Landfilling of Municipal Solid Waste,” Report of G. Fred Lee & Associates, El Macero, CA, December (2004). Updated June (2010).
<http://www.gfredlee.com/Landfills/SubtitleDFlawedTechnPap.pdf>