
San Francisco Bay Regional Water Quality Control Board

Rodent Population Impacts at Berkeley Landfill, Alameda County

FREQUENTLY ASKED QUESTIONS

Staff have prepared the following frequently asked question (FAQ) sheet to respond to inquiries regarding the impacts of burrowing animals, such as ground squirrels and gophers, to the Berkeley Landfill cover (or cap) at Cesar Chavez Park. We have received several inquiries regarding the issue. Attached are photos taken by staff from inspections since 2008.

1. Why are burrowing animals a threat to water quality?

Cesar Chavez Park is wonderful example of a beneficial reuse of a closed landfill. But even though it looks like other natural areas, it is a highly regulated environment to protect people, wildlife, and the Bay from the toxins in the waste beneath the landfill cap. Burrowing animals present a threat to water quality at the landfill because they dig tunnels into, and possibly through the landfill cover. The tunneling can cause erosion and allow rainwater to infiltrate through the cap to the waste mass. When water comes in contact with the waste, it leaches toxins, producing a liquid called leachate. A few squirrels are manageable, but a large population of squirrels creates more tunnels and allows a larger volume of water to infiltrate into the landfill from the surface, increasing the potential for leachate releases to groundwater and the Bay. Therefore we require maintenance of the cap as a necessary preventative measure to protect the health of people and sensitive and vulnerable aquatic wildlife as described in answer 2.

2. Is the Water Board ordering the City of Berkeley to kill the squirrels?

No, we are not ordering the City to kill the squirrels. We have ordered the City to address the problem caused by the squirrels. We require all closed landfills to develop and implement an Operations and Maintenance Plan that requires closed landfill owners periodically assess any impacts, including from burrowing rodents that might threaten the landfill cover. The requirement, outlined in California Code of Regulations, title 27, is a preventative measure to ensure the integrity of the landfill cover is maintained. During an inspection in 2009, staff found the cap to be in significant disrepair, containing hundreds (potentially thousands) of tunnels created by burrowing animals. In addition, the cap near the shoreline had eroded, indicating a discharge of sediment to the Bay. The City was sent a Notice of Violation, in which we indicated that the damage to the landfill cap must be repaired and the rodent population must be reduced in a manner that protects wildlife, as well as visiting dogs and humans. Our responsibility is to protect human and environmental health by enforcing

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environmental laws and regulations. We do not prescribe the method of compliance (see answer 4). The City must identify the appropriate means of complying with this requirement.

3. Has the burrowing resulted in degradation of water quality?

No. We require the City to monitor groundwater surrounding the landfill in order to identify a leachate release. Fortunately, we have not seen evidence of release. It is our intent that this state of non-pollution be maintained. The maintenance requirements are a preventative measure intended to prevent a leachate release.

4. Does the Water Board pick the method for the City?

No, our regulations do not allow us to specify the method or means of compliance with our requirements. Ultimately, the City decides the rodent control method to implement at the park and is not required to get our approval for the method. According to verbal communications provided by the City, they have created an ordinance to prohibit the feeding of wildlife (see answer 5 for description regarding the impact of feeding squirrels on the landfill cap) and posted signs, in addition to other nonlethal methods to reduce the population. For more information regarding the City's past, current, and planned efforts to reduce the rodent population, Matthai Chakko of the City of Berkeley can be contacted at (510) 981-7008.

5. Why are the squirrels a problem at Berkeley Landfill and not at other closed landfills?

Water Board staff oversee several other closed landfills along the Bay Margin which have also been converted to parks for Bay Area residents to enjoy. These landfills were closed around the same time as the Berkeley Landfill and their caps were completed in accordance with the same regulations. To our knowledge, ground squirrels and gophers that inhabit these closed landfills are not a significant problem because their populations are small. The rodent population at Berkeley Landfill is unnaturally large, primarily because people are feeding them more than at other landfill parks. The City has erected signs and made it a fineable offense to feed the squirrels. Unfortunately, people ignore the signs and have continued to feed the squirrels. We understand the inclination to feed wildlife. However, feeding the squirrels harms them and other vulnerable wildlife, especially in this case since the burrowing activity could cause a leachate release to the Bay. The following links provide more information about dangers of feeding wildlife:

<http://www.dfg.ca.gov/keepmewild/>
<https://www.dfg.ca.gov/wildlife/nongame/threats.html>

6. Is there evidence that the squirrels are responsible for erosion of the landfill cover?

Yes, there is visual evidence that the burrowing animals are responsible for the

tunnels and erosion. The landfill cover is full of holes and many squirrels (and, according to the City of Berkeley, gophers as well) have been observed in the landscaped, natural areas, and perimeter trails of the park.

7. Have the burrowing animals penetrated the waste?

It would be difficult to determine whether the animals have burrowed through the clay liner to the waste. This could essentially require removing a portion of the cap to investigate. In a letter from March 3, 2014, we asked the City to evaluate whether the cap is thick enough to preclude burrows reaching the cap. For more information regarding this issue, Matthai Chakko of the City of Berkeley can be contacted at (510) 981-7008.

8. Was the cap installed according to state regulations?

Yes, the landfill was closed under Water Board authority in phases between 1981 and 1990 and capped according to California regulations that existed at the time. The current requirements are two feet of foundation layer, one foot of low permeability clay layer, and one foot of topsoil for the vegetative layer. In general, the thickness of the Berkeley Landfill cap exceeds the current requirements.

9. Is there a problem with the way the cap was constructed?

No, as explained in answer 8, the cap was installed according to California State regulations.

10. Have rodent abatement programs been implemented at other closed landfills?

We are not aware of any squirrel or gopher abatement programs at the other closed Bay-front landfills. As stated in answer 4, we cannot specify method the closed landfill owner uses to reduce the rodent population nor are they required to obtain our concurrence with the method they choose.

11. What non-lethal efforts has the City made to control the rodent population at Berkeley Landfill?

It is our understanding that the City has undertaken significant effort to reduce the ground squirrel and gopher populations by non-lethal means. As stated in answer 5, the City has tried creating an ordinance against feeding the squirrels and placed signs around the park, yet the public has continued to feed the animals. To further address inquiries about the issue, we requested additional information from the City about all reasonable non-lethal means it has taken to reduce the rodent population at the landfill in the letter from March 3, 2014 (see answer 8). For more information regarding this issue, Matthai Chakko of the City of Berkeley can be contacted at (510) 981-7008.

12. Has the City tried to use birds of prey to control the rodents?

We have been told that the City has attempted to use birds of prey, such as raptors. However, the City cannot attract birds of prey due to human and dog

traffic. For more information about this issue, Matthai Chakko of the City of Berkeley can be contacted at (510) 981-7008.

Berkeley Landfill

Water Board Inspection Photos

Rodent Burrows



Berkeley Landfill Water Board Inspection Photos

Rodents and Burrows



Berkeley Landfill Water Board Inspection Photos

Shoreline Erosion Due to Burrows



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Shoreline Erosion Due to Burrows



Berkeley Landfill Water Board Inspection Photos

Evidence of Feeding

