

green burials and bears

Inbox



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to me			

Ms. Franz:

I am the bear research biologist for ADFG in region 2 and your request for information came to my desk. It is a different question indeed! After doing some research online the attached report came up.

Bears and wolves have fantastic ability to detect scents, but I don't think they will be digging up green burials. We have not received reports of burial ground disturbances by predators from Alaskan bush communities. If they do happen it is likely very rare, and I would guess green burials have been common in the bush for some time.

The report attached does a good job of covering the topic. Please let me know if you need more information, or if I can help in any way.

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Burial Depth and Risks of Wild Animal Disturbance
Compiled by the Keweenaw Green Burial Association (KGBA)
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In this report, we attempt to provide the most accurate and current information concerning grave depth for green/natural burial and the risks of disturbance by wild animals. As explained in Section I below, this is a concern that members of the KGBA do take seriously.

Unfortunately, it is impossible to prove a negative: just because there is a dearth of confirmed reports of animals digging up human graves doesn't mean that it isn't possible, especially in extreme circumstances. Internet searches revealed only one credible example: in July of 2015, Tom Wyke reported on the *Daily Mail* website that starving brown bears in Siberia, faced with a shortage of their natural foods, had dug up at least one human burial. Brown bears—the species we know as grizzly bears—are much larger, aggressive, and dangerous than our local black bears. The article did not state how deep the burial was (the grave appears to be quite shallow in the photos, and appears not to have used a coffin), and it also noted that it is a common practice in that area to leave food on gravesites and that hungry bears were reported to be eating both cookies and candles from such offerings.

Thus it is conceivable that desperate wild animals could resort to foraging human graves. The question, however, is how likely that is. This report attempts to address whether or not there should be concern about that happening to green/natural burials in our local area under normal circumstances. One reason for doubt is that Michigan appears to lack any laws governing burial depth, as explained in Section II. Another reason for doubt is that there is no evidence of it being a problem in other green cemeteries: Section III provides a sampling of burial depth policies and animal disturbance claims posted by other green cemeteries currently operating in the U.S. Finally, in Section IV we summarize some analysis of our local context based on discussion with one of our local wildlife experts and a local citizen with some wildlife management experience.

The concern is real, but the evidence that we have uncovered so far points to it being highly unlikely under normal conditions or within the grave depth parameters currently established for the new Green Burial Section of the Chassell Cemetery.

Section I: Grave Disturbance IS a Concern for Green/Natural Burial Supporters

It would be a mistake to assume that green burial supporters are willing to disregard potential grave disturbance problems in their enthusiastic desire to have shallower graves in which their remains can decompose as quickly and naturally as possible. In fact, advocates of green burial are just as likely as anyone else to have the conventional motivations for preventing grave disturbance: a desire to prevent desecration of human remains and a natural revulsion to the idea of anyone having to “clean up” a disturbed grave.

Furthermore, most advocates of green burial have additional reasons for concern, stemming from an even broader range of underlying values. While understanding that human remains are sacred and deserving of deep respect, many adherents of green burial also believe that there is a

sacredness with respect to the ground in which those remains are interred, to the ecosystem which relies upon that land, to the other life forms which live within that organic system, and to the natural processes by which once-living organisms are decomposed and returned to life in other forms.

Thus, in light of that enlarged sphere of concern, there are also very important reasons to prevent grave disturbance for the sake of the wildlife itself. Wild animals, especially wolves and bears, are already at risk of acclimating to humans due to improper disposal of garbage and the carcasses of deer and farm animals. The last thing we would want is for them to begin to see actual humans—dead or alive—as a potential food source, as that would not only disrupt their natural predator/prey relations but quickly spell the end of their existence. Humans will not tolerate being prey, and so it is not in the best interests of wild animals for such an idea to be encouraged. It is also true, perhaps ironically, that modern medical interventions can render a human body somewhat toxic and unhealthy to eat. Engaging in grave disturbance would do wild animals no favors, and we feel very strongly about not encouraging it.

At the same time, most adherents of green burial seek to balance concerns about the sacredness of human remains and wildlife conservation with a respect for the natural processes of biological decomposition, which function best and most usefully when closer to the surface of the ground. The deeper one goes into the ground, the less biological activity one finds and the more difficult it is for the ecosystem to process and recycle those remains back into the web of life (and this is especially true with our thin Keweenaw Peninsula topsoils). The reality is that there is a tradeoff: human remains cannot be safely buried as shallow as would be optimal for decomposition, but there is still a strong desire to respect the sacredness of that process by not burying any deeper than necessary. What we have found in our research is that the tradeoff lands anywhere between 3 and 4 feet deep, with preferences leaning toward the lower side of that range.

Section II: Legal Restrictions/Requirements

Given that the most common way that our society addresses any real problem is to pass a law, the easiest way to settle this concern would be to simply follow state law. Unfortunately, while Michigan law governing the establishment and (especially) the finances of cemeteries is extensive, we have been unable to find any references to more “down to earth” matters such as minimal burial depths.

Other states do provide varying degrees of governance over burial depth. For example, in our research of other green cemeteries nationwide, we did find one that references state legal requirements in its policies. The website for Eloise Woods Community Burial Park in Cedar Creek, Texas, states that the Texas State Law Health and Safety Code requires that “a human body in a shroud (or some other ‘permeable’ container) needs to be buried at least 24 inches under the ground,” while “bodies in ‘impermeable containers’ (wooden coffins) need to be only 18 inches under the ground.” The Eloise Woods website also states that their graves are dug 3 to 3.5 feet, depending on where tree roots are and the size of the container (larger containers requiring greater depth). Grave depth for shroud burials is 3 feet.

A little closer to home, it appears that Wisconsin law governing cemeteries within “towns” specifically prohibits the mounding of soil on top of graves but delegates to town boards the establishment of minimum depths. While Ohio appears not to have any legal minimum depths, according to an article by David Shanteau, the Executive Director of the Ohio Cemetery Foundation, the depth of green burial graves in Ohio is usually 3.5 feet “to ensure that the remains are undisturbed and will decompose quickly.” He also notes that graves are generally mounded and tended while settling.

While the absence of laws governing burial depth in Michigan does not offer the protection provided by “following the law,” it also implies that this has not been a problem in the past. Furthermore, while not all states were researched, the fact that Texas law requires only a depth of 24 inches would seem to indicate that minimum grave depths of 3 feet should be more than sufficient.

Section III: Practices and Claims Made by Other Green Cemeteries

While one does not always have to follow the crowd, it can be reassuring to benchmark against what other modern green cemeteries are currently doing, particularly those that have been operating for a while. The national Green Burial Council, which certifies green/natural burial grounds, also provides guidance. As there are now over 100 cemeteries in the U.S. that offer green burial, a comprehensive list is not practical. But, as detailed in the following examples, their grave depths tend to vary anywhere from 3 to 4 feet (none that we researched report grave depths any less than 3 feet, and none any more than 4 feet). That range is also supported by the national Green Burial Council. None of these sources report having had any problems with wild animal disturbances of their human graves, and they make strong claims that such problems are highly unlikely.

Guidelines of the Green Burial Council

In their 2016 publication “The Science Behind Green Burial,” the Green Burial Council states that they recommend burial of 3 to 4 feet, rather than the 5 to 6 feet practiced by conventional cemeteries, in order to facilitate better decomposition. In regard to common public concerns about wild animal disturbance, they also state that:

The general rule is to measure from the tip of the nose or hipbone to the surface to be sure to achieve an 18-24 inch smell barrier. This depth of soil is more than sufficient to remove any smell that animals, much less humans, can detect. To date, there have been no reports of any animals trying to dig up graves in any U.S. green burial cemeteries (11).

Memorial Ecosystems

Recognized as the first modern green burial organization in the U.S., Memorial Ecosystems operates both the Ramsey Creek Preserve near Westminster, South Carolina and Honey Creek Woodlands near Conyers, Georgia. According to their website:

In the last decade at Ramsey Creek, we have seen absolutely no evidence whatsoever that animals are attracted to natural burial sites, despite the presence of dogs, coyotes, and the occasional black bear. Anyone who has ever dug or filled in a grave would be doubtful about such worries. Even relatively shallow natural burials where no casket is used are safe from animal interference.

They do not provide a standard grave depth on their website, but a recent email communication with their representative, Kimberley Campbell, confirmed that they bury 3 to 3.5 feet deep and mound the leftover dirt. She noted that they also have wild hogs and dog packs but have still not experienced a problem.

Eloise Woods

Mentioned already in Section II, this cemetery in Cedar Creek, Texas, prepares graves 3 feet deep for shroud burials and will sometimes go as deep as 3.5 feet to accommodate larger containers. Their website states that they do not have concerns about wild animals, and that “there are special powders containing natural elements that we can put in the grave to cover the odors of decomposition.” It may be worthwhile to further investigate that kind of precaution as an additional margin of safety.

The Meadow

A green cemetery located near Lexington, Virginia, the Meadow’s website states that “a grave must be deep enough to bury the shrouded body or the casket so that there are 18 to 24 inches of dirt covering it. This results in the average grave being between 3 and 4 feet deep.” (Note: an internet search was unable to find any evidence that their coverage of 18 to 24 inches of dirt is actually required by state law, and one brief reference did state, as an aside, that there are no burial depth minimums in Virginia law.) The Meadow’s website also provides a general statement that “there have been no verified cases” of wild animals ever digging up human remains.

Foxfield Preserve

A green cemetery located in Wilmot, Ohio, Foxfield states on their website that their graves are excavated 3.5 feet deep, with soil mounded over the grave after burial. They also make the claim that “animals simply do not dig into graves...this is one of those “old-wives-tale” myths popular in scary stories.”

White Eagle Memorial Preserve Cemetery

Located in Goldendale, Washington, this green cemetery/preserve lists deer, coyote, cougar, and occasional bear and lynx among their resident wildlife. Via email communications, we learned that they excavate their graves “about 4ft deep” and the leftover soil creates a mound of approximately 1 additional foot until it settles.

It is worth noting that our contacts at White Eagle *have* witnessed wild animals investigating some of the dog/cat graves around the perimeter of the cemetery (and at one point they had their groundskeeper personally “mark” the territory around one dog grave that coyotes appeared to be particularly interested in). In fact, reports of wild animals investigating and disturbing pet graves (e.g. cats, dogs, rabbits) are fairly common on the internet and, according to our local wildlife experts, that is to be expected—those are the kinds graves that are actually going to be “interesting” to wild animals. However, in regard to actual human graves, White Eagle reports that they have only had to contend with squirrels digging into the loose soil to bury acorns in the fall.

Section IV: Opinions/Assessment by Wildlife Experts

What happens in one part of the country may or may not be relevant to what happens up here in the U.P. While our long winters could create very hungry wild animals by springtime, the relatively high prevalence of deer and other prey usually assures plenty of “above ground” food for predators of potential concern. Deep snow covers could help deter animals from disturbing graves, but at the same time it means that our ground does not freeze and digging is actually possible. Experienced human judgment can only offer guidance, but in the absence of any hard data supporting the danger of wild animal disturbances, it may be all we really have to go on.

Based on communications with Rolf Peterson, one of our local wildlife experts, and Bob Stinson, a local citizen who is a member of the DNR’s Western Upper Peninsula Citizens Advisory Council, we can offer the following assessments of the likely behaviors of our local wild animals. They report that while the behavior of wild animals can never be 100% certain, especially if they are desperate, it is highly unlikely that our local species would be inclined to dig up human graves.

It is true that the most likely culprits would be wolves, black bears, or coyotes. All three species scavenge as well as prey on other mammals (black bears will eat fawns and young pigs), and they are all very attracted by carcasses. Cougars, while carnivorous hunters, are a bit more fussy: they will bury their own kills under brush but do not like to dig up food killed by other animals). And of the three species of potential concern, coyotes are also easily dismissed because they are less powerful and don’t tend to dig deeply. That leaves wolves and black bears.

According to our local experts, a long-term study of predator-prey relationships being conducted at Mississippi State University has found that one of the main food sources of the wolves that they study is dairy/beef cow carcasses that farmers do not bury, which is why our laws do require the burial of dead farm animals. So, burial is a deterrent, even for very attractive carcasses. This is also one reason why wolves and bears are unlikely to perceive humans as actual food: we are, instead, frequent providers of food. That is still a bad practice, for it acclimates the wild animals to humans and opens up the door for unwanted forms of contact, but it doesn’t mean that they will automatically see humans as food.

In fact, both wolves and black bears tend to naturally fear and avoid humans unless enticed or acclimated to us (again, primarily accomplished by the many edible forms of our refuse), and in that sense the scent of a human being is more likely to be a deterrent than an attractant. It is true, as noted in the previous section, that the scent of our pets would be of potential interest (at least to wolves, as they are very “interested” in other canine species). As pets are not currently being buried in the Chassell Green Section, there is no reason to believe that such burials would serve as an initial attractant.

It is true that both black bears and wolves are powerful enough to excavate a grave. However, even if it were to turn out that our sources are wrong and they can detect burials more than 24 inches deep, it is questionable if excavating a grave would be worth their effort or if they would ever be desperate enough to override their fear and reluctance to encounter humans directly. Our local prey species, especially deer, are generally populous enough to keep the predators satisfied.

Given that the preponderance of evidence points toward wild animal disturbance not being a problem, the recommendation of our local experts is to adopt a stance of adaptive management: monitor early burials a little more closely than normal and, in the unlikely event that any suspicious activity occurs, adopt additional precautions and/or revise practices for future burials.

Sources and Resources

Green Burial Organizations/Websites (in order referenced above)

greenburialcouncil.org (the national Green Burial Council)
memorialecosystems.com (Ramsey Creek Preserve)
eloisewoods.com (Eloise Woods Community Natural Burial Park)
themeadowlexingtonva.com (The Meadow)
foxfieldpreserve.org (Foxfield Preserve Natural Preserve Cemetery)
naturalburialground.org (White Eagle Memorial Preserve Cemetery)

Other References

Green Burial Council. *The Science Behind Green Burial* (2016).
(<http://greenburialcouncil.org/wp-content/uploads/2016/02/The-Science-Behind-Green-BurialNEW.pdf>)

Shanteau, David. "Burials in the Year 2013 and Beyond." *Ohio Township News* (July/August 2013). <http://www.ohiocemeteryassociation.com/Ohio-Township-News/News/Burials-in-the-Year-2013.pdf>

Wisconsin State Legislature. "157.50 Cemetery and Burial Site Ordinance."
https://docs.legis.wisconsin.gov/statutes/townlaw/forms/_262?view=section

Wyke, Tom. "Bears are Stalking Cemeteries in Siberia..." *The Daily Mail* (July, 2015).
<http://www.dailymail.co.uk/news/article-3173106/Bears-stalking-cemeteries-Siberia-hungry-animals-plunder-human-GRAVES-desperate-search-food.html>