

Green Burial by the Numbers

By Lee Webster, Green Burial Council

Given that green burial hasn't seen much light of day in a century or so in the US, it stands to reason that statistical information might be fairly hard to come by. At least, that was the assumption when beginning the monumental task of quantifying the growth of the movement in concrete terms. But as it turns out, not so tough after all. Apparently the same people who tout the practice of going as naturally as possible to the grave are also science and math geeks. Go figure.

The Shock and Awe of Green Burial Statistics

Probably the earliest statistics in the green burial world were developed years ago by a part-time science writer at Cornell University, Mary Woodsen, who came up with them as a little mental gymnastics exercise while writing an article for Outside Magazine that became a quest. Who hasn't seen these posted on Facebook or quoted, often erroneously, in every major news outlet article in the past few years?

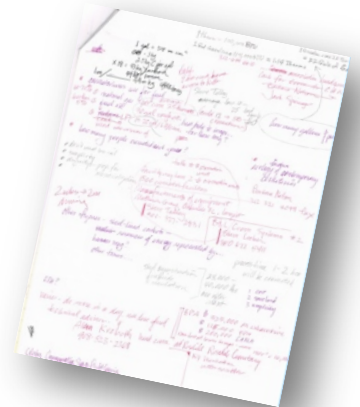
Each year in the U.S., 22,500 traditional cemeteries put roughly the following into our soil:

- 827,060 gallons of embalming fluid
- 30-plus million board feet of hardwoods (much tropical, caskets)
- 90,272 tons of steel (caskets)
- 1,636,000 tons of reinforced concrete (vaults)
- 14,000 tons of steel (vaults)
- 2,700 tons of copper and bronze (caskets)

These statistics were later refined to statements and refigured to further fire the imagination:


- On average, a cemetery buries 1,000 gallons of embalming fluid, 97.5 tons of steel, 2,028 tons of concrete, and 56,250 board feet of high quality tropical hardwood in just one acre of land.
- Each cremation releases between .8 and 5.9 grams of mercury as bodies are burned. This amounts to between 1,000 and 7,800 pounds of mercury released each year in the U.S. 75% goes into the air and the rest settles into the ground and water.
- You could drive about 4,800 miles on the energy equivalent of the energy used to cremate someone – and to the moon and back 85 times from all cremations in one year in the U.S.
- Ten years later, Woodsen discovered that the amount of wood used in any given year had been reduced by a third, from 30 million to 20 million board feet, learning that caskets were simply being made with a thinner shell.


These figures have become part of the eco-conscience of an entire movement, co-opted and borrowed and reported at every opportunity. Whether they are presented to a class of environmental studies



college students or a room full of senior at the center after lunch, these statistics are compelling and frightening and utterly persuasive when speaking to funeral neophytes eager for change.

**By choosing green burial,
you could be saving:**

3-4 gallons of embalming fluid
200 pounds of steel 
200 board feet of hardwood
2,000 pounds of concrete

20-25 gallons of natural gas
250 pounds of CO₂
mercury 
sulfur dioxide
hydrochloric acid

And while these figures have been pivotal in opening the eyes of both the public and the industry itself, they have also focused primarily on the negatives, rather than promoting what benefits green burials present or what environmental and health concerns may be remedied that go beyond land preservation.

Worker safety is paramount to the move away from embalming as well. With embalmers at an 8+ times higher risk of contracting leukemia (*Journal of the National Cancer Institute*, 11.24.09) and a 3 times higher risk of ALS (*Journal of Neurology, Neurosurgery & Psychiatry*, 7.13.15),

plus various other diseases and conditions, green practices matter in human terms. Maintenance workers in lawn cemeteries experience a higher level of COPD and other respiratory and neurological diseases through exposure to pesticides, herbicides, and fertilizers than the general public. They matter, too.

The Growing Movement

At the Green Burial Council, we are often asked about growth of the green burial movement itself. How many people are buried in green cemeteries every year? How many people are buried in shrouds? How many families have home funerals prior to taking the body to the cemetery for burial? How many bodies get dug up by corpse-eating animals?

These are all questions that no agency tracks, and are well outside the capability of the GBC to monitor. So how can we prove that green burial is living up to its promise? How can we be assured that the concept is viable when practiced?

For that, we need to rely on anecdotal and historical information that is less quantifiable but equally compelling. With 195 countries in the world, only the US and Canada embalm routinely, and only US cemeteries require vaults. The rest of the world has apparently been burying without embalming or using vaults since time began and has continued to do so for millennia without adverse effects, including ferociously hungry animals without enough live prey to keep them fed above ground.

In 1998, there was one intentional green cemetery in the US. There are now more than 150. Many more never wrote vault requirements into their bylaws, so those unpublicized green burial grounds are not part of the figure that could conceivably be in the hundreds or even thousands nationwide. This means that in at least 150 cemeteries in the US, vaults are not required. Granted, that's .01% of all the cemeteries in the US, but it's a start.



Another way to track growth is through internet search engine activity and social media. In 2012, search criteria for the words *green burial* triggered a little over a dozen Google alerts for stories world-wide on green burial practices, cemeteries, and related articles in all media outlets during the entire year. Just two years later, 137 showed up during the year, many including multiple stories, representing a sharp increase in interest by the media and the public.

Since the GBC started its Facebook page in January of 2011, over 4,000 people have signed up to follow and receive updates. Followers more than doubled during 2015 alone, and in the first half of 2016, an average of 46 new devotees a week had been Liking the page to learn more about how they can support —and prepare for—a more eco-friendly exit.

Surveys tell a similar story. In 2007, an AARP survey reported that 42% of respondents would consider green burial.

The following year, a survey by Kates-Boyleston concurred, with a slight bump to 43%. In 2011, an exit poll of an article in US Catholic Magazine cited 80% of its readers in favor of green burial.

Who would consider a green burial?		
2007	AARP survey	42%
2008	Kates-Boyleston survey	43%
2015	FAMIC Harris Poll	64%
2011	US Catholic Magazine exit	80%

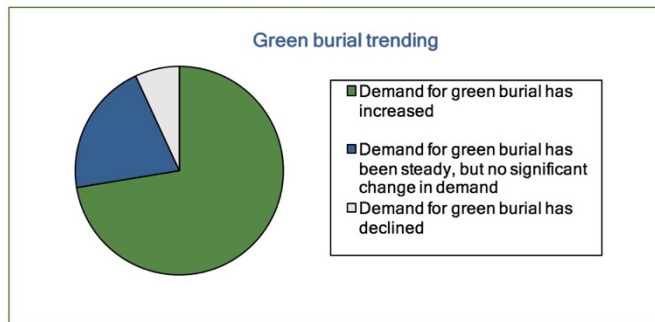
By 2015, 64% agreed in a Harris Poll contracted by FAMIC that green burial is the preferred option. And in May of 2016, in an informal exit poll from the article [A Different Way of Death: Why the Alternative Funeral Movement is Taking Hold in the United States](#) by Kristen Warfield, 79% indicated they would elect a green burial over conventional means.

What do cemeterians say about the growth in popularity? Ed Bixby, owner and operator of Steeltown Natural Preserve in New Jersey and current President of the GBC, says, “Five years ago, someone in the funeral industry might have said, ‘I appreciate what you are doing and do have interest...but I will contact you when I have a family ask for it.’ Five years later, funeral directors are asking for information because of increased public awareness and demand. They want to be prepared for the call that they know will ultimately be coming.”

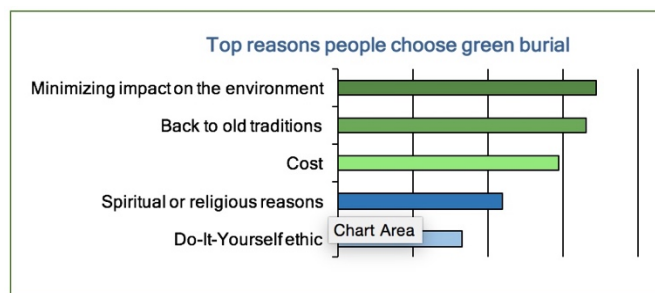
Who Buys Green Burial?

In a poll conducted by the GBC in 2014 canvassing cemeteries both in and out of the GBC network, the reported satisfaction of families choosing green burial was a whopping 72%, with 28% stating they believed there was no difference in satisfaction between green and conventional burial. No one reported believing that families are

more satisfied with conventional burial. They also learned most providers agreed that, at least in their cemeteries, demand was growing significantly and steadily.

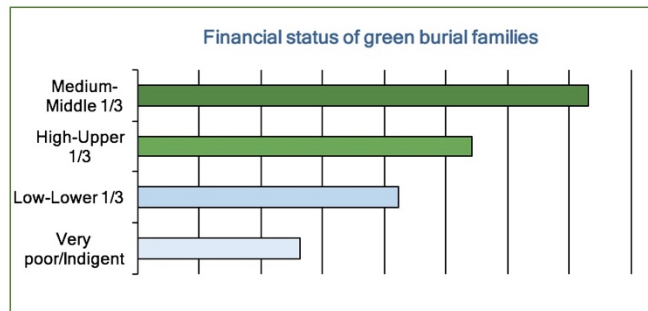


It came as a shock to many that the prime motivation of families choosing green burial was not money but a belief that their actions would result in a positive contribution to the environment. Note that the second biggest reason was still not cost but a desire to go back to a simpler time, with practices that are less invasive and more direct.



In light of an apparently tepid interest in money, who exactly is purchasing green burial products and services? The conventional assumption for some time has been that green burial is either a “cheap” funeral chosen by those looking to skimp by avoiding vaults and polished caskets, or an “elite” one, costing more than conventional for its uniqueness or cool

factor. The truth is that, like other real estate transactions, costs tend to be determined more by what the market will bear in any particular location than any other factor. But still, who is willing to pay good money for this?



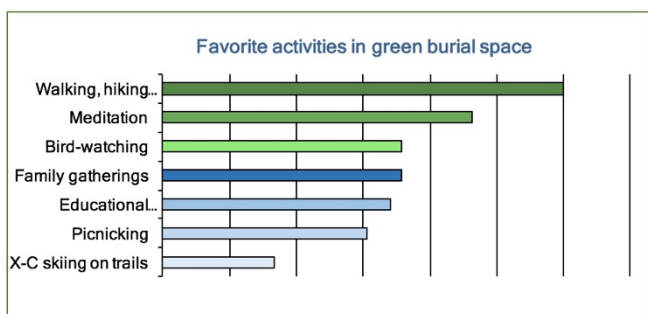
The answer now has changed significantly from what it was at the beginning, according to Bixby. “Ten years ago, I would have answered this differently. The customer base then seemed to lean toward highly educated urbanites. Today, I can proudly say that my customer base has no predictable socio-economic or religious leanings. Black, white,

Hispanic, Middle Eastern, Asian, veterans, grandmothers—you name it, we have had the pleasure to serve. I have buried and sold plots to every type of religious person and non-religious person under the sun. That is what is so exciting and unique about natural burial—it knows absolutely no boundaries.”

Suzanne Kelly, author of *Greening Death: Reclaiming Burial Practices and Restoring Our Tie to the Earth* (Rowman & Littlefield Publishers, September 1, 2015) and 2016 recipient of the GBC Leadership Award, remarks in her book on the significant percentage of green cemeteries that are owned and operated by religious groups, specifically conventional Catholic cemeteries that have recently designated areas for vaultless burial. At the time the book was published, 15% of the more than 100 cemeteries were religiously affiliated, and nearly 2/3 of those were Catholic, and that trend continues.

Jewish and Muslim cemeteries are almost exclusively vaultless, though many Jewish cemeteries have used modified vaults in recent years to address space concerns. In the GBC publication [To Lie Down in Green Pastures: How the Catholic Church is Leading the Way](#), the welcoming back of traditional burial rituals and methods that support the doctrine of resurrection and their relationship to the Pope's encyclical on nature is also explored. These traditional cemeteries are or counted or included in statistics that seek to quantify green burial rather than simply vaultless burial, skewing the number of people looking for natural burial for any reason.

What makes green burial worth the uncertainties of choosing services outside the current norm? When asked about additional benefits beyond laying a loved one to rest naturally, respondents indicated that there are myriad activities they would continue to take advantage of in green cemeteries long after the funeral service that are not commonly offered in lawn cemeteries. Not only do these activities enrich community, they offer funeral directors an opportunity to engage in and support life-affirming events that may contribute to changing public attitudes about death and funeral service for the better.



Bixby describes green burial families this way: “I see my families all of the time. So much so that I know them on a first name basis. I would say that most come monthly. I will usually find them wandering the trails. They visit the gravesite, but seem to find solace in the surroundings and enjoy the facility on a whole. It is simply amazing to see these grieved loved ones in a different,

happy light, no signs of sadness, just smiles. This speaks volumes to me of the healing nature of green burial.”

The Thinking Behind Certification

The Green Burial Council has been certifying cemeteries for over 10 years, but most people are unaware that funeral homes and product providers are also eligible for certification that meets strict environmental standards. At the 10-year anniversary, all standards were subjected to a thorough revision, clarifying the most critical points, updating according to current changes in the environmental and business worlds, and simplifying the application process.

Statistics around certification are often misquoted or misunderstood, and they are also a moving target. On average, certified green burial cemeteries constitute a little under half of all known cemeteries that purport to bury naturally at any level, including hybrid, natural or conservation. However, with interest rapidly increasing, that ratio is changing quickly as well. Another frequent error is that the total number of certified providers often gets lumped together into one figure. The truth is that in July of 2016, the Green Burial Council listed 56 certified cemeteries, 230 certified funeral homes, and 30 green product providers, not “more than 300 certified cemeteries” as is often erroneously quoted.

Funeral directors wishing to inform their client base about their willingness to provide natural goods and services are beginning to see more value in certification, and those numbers are rising exponentially. Media coverage, internet access to information and products, and a genuine interest in all things death are creating a well-informed, quicksilver (and silver haired) public who won't wait for the industry to catch up. They want green burial options now, know what that entails, and are looking for credentialed—and certified—professionals to provide it to them.

Likewise, the public is seeking products that are crafted locally, not manufactured, made of natural materials that are aesthetically pleasing. A plain pine box or cotton shroud are no longer considered inferior products; in fact, simplicity and authenticity are the hallmark of a growing boutique sensibility among consumers looking for uniqueness and quality. Products that are certified by the GBC have increased appeal for green consumers.

The Future of Green Burial

So where do all of these non-scientific indicators point? Suzanne Kelly sums it up beautifully: “However fractured and slow moving it may seem, what we’re witnessing is a bonafide social movement. The reclamation of buried knowledges, the telling of new stories and, of course, collective action all signal that folks are being moved in real ways to do deathcare differently. What we’re witnessing in the places where it has grown and found footing is the recuperation of simple ways of caring for the dead that's weaving another narrative of death – one rooted in sustainability and interrelationship, both with the land and each other.”

The Green Burial Council is working to address the need for legitimacy and accountability in all things green burial, including tracking the movement from obscurity to common vernacular with the public. Stay tuned for reliable numbers as the green burial movement continues to capture the minds and hearts of Americans looking for eco-friendly exits.

All charts, graphs and infographics except the Qeepr infographic and Mary Woodsen’s scribbled worksheet on page 1 are courtesy of the Green Burial Council



Lee Webster is the current President of the *National Home Funeral Alliance*, on the Board of Directors of the *Green Burial Council*, and Director of *New Hampshire Funeral Resources, Education & Advocacy*. She writes from the foothills of the White Mountains of New Hampshire where she is also a researcher, editor, public speaker and longtime hospice volunteer. Her writing career spans over 30 years in the areas of public relations and development in the non-profit, conservation, education and healthcare sectors. She now focuses on understanding and explaining the burgeoning funeral reform movements.