



United States Department of the Interior

NATIONAL PARK SERVICE
Timpanogos Cave National Monument
Rural Route 3, Box 200
American Fork, Utah 84003-9800

REPLY REFER TO:

A5623 (1550)

Memorandum

To: Regional Director, Intermountain Region

From: Superintendent, Timpanogos Cave National Monument

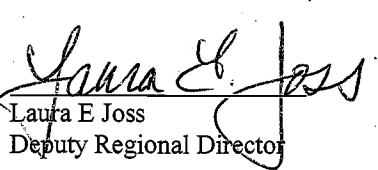
Subject: Request for Approval to Eliminate the Sale of Water in Disposable Plastic Bottles

In 2010, Timpanogos Cave National Monument installed a water bottle filling station and began to work cooperatively with our concessioner to reduce the number of disposable plastic beverage bottles in our waste stream through the gradual reduction and eventual elimination of the sale of such bottles by the concessioner.

The recently renewed concession contract for the Monument requires the sale of refillable bottles, and we are now ready to formally eliminate disposable plastic bottles as a sales item when we open these facilities to the public in early May.

In accordance with the policy memorandum issued by the Director on December 14, 2011, we have prepared the attached analysis of the impacts of such an effort, including consultation with the NPS Public Health Office, and I am requesting your approval to continue the implementation of this program.

Recommend Concurrence:


Laura E Joss
Deputy Regional Director

3/19/12

Concur:


John Wessels, Regional Director

Timpanogos Cave National Monument

Analysis of the Elimination of the Sale of Water in Disposable Plastic Bottles

March 8, 2012

1. Amount of waste eliminated and pros/cons to overall park operation

Because of the relatively small scale of the park and its waste management operations, we have not performed the detailed analysis of the waste stream that would be required to accurately quantify the expected reduction. Since this proposal is already well underway and non-controversial, we don't believe that the cost of such an effort is justified at this point, but we will institute random sampling from this point forward as part of our program evaluation.

Approximately 80,000 – 90,000 visitors hike the cave trail annually. If we conservatively assume that even 10% of those hikers use and dispose of a water bottle in the park, this effort could reduce or eliminate 8,000 – 9,000 bottles from our waste stream annually.

Currently, we maintain a 14 trash cans and several recycling cans along the 1.5 mile cave trail and 20 in the Swinging Bridge picnic area. Disposable plastic water bottles make up the majority of the volume of trash collected from the cans along the cave trail, and a significant volume in the picnic area. Because the removal of trash from these cans requires the use of two employees (an operator and a safety spotter) using motorized wheelbarrows on the steep and narrow cave trail, maintenance of these cans represents a significant cost in time, labor, and equipment. Noise, emissions, and right-of-way issues impact hikers whenever a motorized wheelbarrow is used on the trail. Our long term goal is to eliminate most, if not all, of these trail trash cans, and the elimination of disposable water will contribute greatly to that effort.

Despite this relatively high saturation of trash and recycling receptacles along the trail, disposable water bottles are often inadvertently dropped by hikers and end up out of easy reach and caught in vegetation down steep slopes below the cave trail. Removal of this litter requires periodic off-trail travel by park staff in hazardous, high-angle terrain. While some trailside litter will still occur even after the implementation of this program, any reduction in the prevalence of disposable water bottles will reduce the primary source of this problem, which will reduce the risk for visitors and staff trying to retrieve or remove these bottles.

2. Infrastructure costs and funding source(s) for filling station

The bottle filling station, shown in figure 2 on page 2, was installed in 2010. Total project cost was approximately \$10,000 and was paid for with project funds received from the US Forest Service under the American Fork Canyon Recreation Fee Enhancement Partnership agreement.



Figure 1 - Filling station under construction. Note proximity of table in adjacent concession food area



Figure 2 - Completed filling station located in front of TICA visitor contact station at cave trailhead

3. Contractual implications on concessioners, including considerations of new leaseholder surrender interest or possessory interest

The park has a single concession contract, for food and beverage service, with Carl and Betsy Wagner. The Wagners have held this contract for over 50 years, and have been a supportive partner of the park's operations and sustainability efforts over time.

Since the filling station was installed in 2010, the park has worked with the Wagners to begin to sell down their inventory of disposable bottled drinks and to investigate options for refillable bottles from various vendors, with the understanding that this program would likely become mandatory in 2012. This two year, voluntary phased-in approach should alleviate most negative implications of this program implementation on the concessioner.

The Wagner's contract was renewed in January 2012 with a 10 year term. The new contract requires the sale of refillable bottles. During the annual review and approval of sales items, the park will work with the concessioner to ensure that they offer a range of BPA-free refillable bottles at reasonable price points. Because the filling station is immediately adjacent to the open-air concession sales area, visitors will be readily able to see both the bottles displayed for sale and the filling station at the same time.

4. Operational costs of filling stations including utilities and regular public health testing

TICA has a single gravity-fed domestic water supply system providing water to the bottle filling station as well as all other buildings in the monument. The system is operated by park staff certified by the state of Utah as water system operators and is regularly tested in accordance with applicable federal and state law. This filling station does not add any additional operational or public health testing costs to the system.

5. Cost and availability of BPA-free reusable containers

The concessioner, whose hours of operation match the primary visitation period in the Monument, will offer a range of reusable containers for sale immediately adjacent to the filling station and within a few yards of the cave trailhead. All containers will be BPA-free, and we expect them to range in price from approximately \$3.00 for smaller, plain bottles to approximately \$12.00 for larger bottles or those with commemorative or interpretive messaging etc.

6. Effect on concessioner and cooperating association sales revenue

We expect no impact to cooperating association sales revenue, since the concessioner will handle all container sales. It is difficult to predict effects on concessioner revenue over time, but our expectation is that net profit from sales of reusable containers will match or exceed that of disposable containers, at least in the short term. The current concessioner just accepted a 10-year contract with the requirement for the sale of refillable bottles, and we believe that they have accounted for any potential revenue increases or decreases in their current business plan.

7. Availability of water within concession food service operations

The only concession food service operation is located immediately adjacent to the water filling station (see figure 1 on page 2) and the trailhead used by almost all visitors. Cold drinks (water, soda, etc.) will be available in cups from the concessioner, and visitors can fill / refill cups with water at the filling station.

8. Visitor education in the park and online so that visitors may come prepared with their own water bottles

We will prominently include this information in electronic and paper “plan your visit” sources, utilize social media (Facebook and Twitter) to improve information dissemination to local returning visitors, and utilize our personal contacts with visitors reserving cave tour tickets to remind them of the need for water bottles.

9. Results of consultation with the NPS Public Health Office

The park shared this document with LCDR Adam Kramer, USPHS, IMR Regional Public Health Consultant on March 7, 2012. His comments were:

Our biggest concern is that people would be hiking without sufficient water. Based on the analysis you've provided you have thought that through and there are provisions for people to get a container at a reasonable cost if necessary.

One thing I would like to mention is based on the photo of the filling station, there does not appear to be a drain under it or at the base. This may lead to pooling water and create it's own safety hazard. I would recommend ensuring that water is not ponding in the area, if it is additional drainage would be warranted.

Park response to NPS Public Health Office comments: Though it is not evident in the photo above, the filling station incorporates a French drain. A perforated metal screen at the base of the unit, below the taps, covers a gravel filter approximately 5 feet deep, which allows the excess water to drain below the concrete sidewalk and adjacent building foundation to the soil below. No ponding has been observed despite daily summer use since the unit was installed in 2010, so no additional drainage appears necessary at this time.

10. A sign plan so that visitors can easily find filling stations

The filling station is prominently located adjacent to the park's primary trailhead, and readily visible without additional signage. We currently post a “safety stop” ranger at the trailhead throughout the day, every day, to advise hikers of potential hazards, check for cave tour tickets, remind them of the need for water, etc. The safety stop ranger can and will readily direct visitors to the filling station, located just yards away.

11. Safety considerations for visitors who may resort to not carrying enough water or drinking from surface water sources with potential exposure to disease

There are generally no surface water sources along the cave trail, so that risk is very low to non-existent, however high elevation, summer heat, and exertion required to climb the steep trail are all significant potential contributors to dehydration and heat related emergencies.

The primary visitor activity in the park is a hike to and from the cave system for a ranger guided tour or simply for exercise. The trail climbs 1,092 feet (325 meters) over 1.5 miles, starting at an elevation of 5,638 feet above sea level and entering the caves at an elevation of 6,730 feet. Summer high temperatures are typically in the 80s or 90s.

Again, this is part of our justification for personally contacting every hiker at the cave trailhead and – among other things – advising them of the need for adequate hydration. Further, the park maintains a volunteer (VIP) trail patrol program on busy summer days. Volunteers and staff patrolling the trail carry extra water and assist visitors as needed.

12. A system for annual evaluation of the program, including public response, visitor satisfaction, buying behavior, public safety, and plastic collection rates

We will periodically randomly sample trash collected throughout the park to evaluate our efforts in reducing disposable plastic bottles specifically and other recyclable materials generally and adjust our educational and recycling collection efforts accordingly.

Visitor comment cards will be monitored for feedback, along with periodic informal discussions with front-line concessions and visitor services staff. If possible, we will include appropriate questions about these efforts on annual visitor survey cards.

Medical incident reports will be tracked for changes in heat and dehydration related incident trends.

Trail patrol rangers and Volunteers will be asked to track cases where visitors are encountered with insufficient water supplies as part of their routine activity logs.

Here again, the small scale of our operation should make it relatively easy to monitor each of these indicators with a small investment of management time.

13. Results of consultation with concessioners and cooperating associations

The cooperating association, WNPA, will not be directly involved in this effort, but we have engaged them in hopes that they might assist the concessioner with procurement of reusable bottles similar to those WNPA is developing as a sales item.

As noted above, the concessioner has been engaged for over 2 years and has been voluntarily working to implement this program over that time.

14. Timeline of phase-in period

We plan to announce this effort publically as soon as approval is secured, and would implement the program immediately upon opening our facilities to the public for the summer, tentatively scheduled for May 12, 2012.