



United States Department of the Interior

NATIONAL PARK SERVICE
Golden Gate National Recreation Area
Fort Mason Building 201
San Francisco, California 94123

IN REPLY REFER TO:

N36 (GOGA-ER)

NOV 14 2016

Memorandum

To: Regional Director, Pacific West Region

From: Acting General Superintendent, Golden Gate NRA

Subject: Transmittal of Golden Gate National Recreation Area Bottled Water Proposal

Golden Gate National Recreation Area (GGNRA) is pleased to submit its proposal to eliminate the sale of disposable water bottles parkwide. The park prepared its analysis based on the recommendations set forth by NPS Director Jonathan Jarvis in the December 14, 2011 Policy Memorandum 11-03. During proposal development, GGNRA solicited input from park partners including concessioners, leasees, non-profit partners and the Golden Gate National Parks Conservancy (the park equivalent of a cooperating association).

GGNRA's overall conclusion is that ending bottled water sales will have a net benefit to park operations and the environment. The park predicts the Golden Gate National Parks Conservancy and a sub-set of concessioners will experience a short-term impact to revenue as bottled water sales are eliminated. However, based on the experience of other parks that have implemented disposable water bottle elimination programs, GGNRA predicts the shortfall will be more than compensated for by the sale of reusable water bottles. The park plans to continue to coordinate with all its partners and continuously request feedback as it phases implementation over the next several years.

Based on the guidance of Policy Memorandum 11-03, we request your review and approval of the attached proposal.

Please contact Laura Castellini, Sustainability Coordinator, Environmental & Safety Programs Office (laura_castellini@nps.gov, 415-561-4789) and Stef Martin, Partnerships Branch Lead, Business Management Division (stefanie_martin@nps.gov, 415-561-4766) if you have any questions.

Aaron Roth

Attachment

Approved:

Regional Director, Pacific West Region

11/22/16
Date

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**Analysis of Impacts/effects of the Elimination of Bottled Water Sales in GGNRA
in Compliance with Director's Order A5623 (0130)**

The Golden Gate National Recreation Area (GGNRA or the park) is considering eliminating of the sale of bottled water. This document serves as an analysis of factors that contribute to this decision to eliminate the sale of single-use bottled water throughout the park. The park intends to demonstrate leadership in resource conservation by seeking to reduce the use of non-renewable or consumable resources as well as reducing the amount of litter that ends up in public parks.

GGNRA undertook this analysis using the following methods:

- 1) Mapped and identified all available potable water in the park, including locations of water fountains or drinking water sources, as well as where water is sold;
- 2) Assessed ongoing solid waste and recycling data to determine where the park had more fine-grain information about its waste stream;
- 3) Evaluated funding needs to retrofit all existing water fountains with combination bottle-filling stations and drinking fountains; and
- 4) Conducted a survey of park partners and concessioners to evaluate financial impact and gauge interest and willingness to work with the park on this effort.

The following analysis is based on the results of this research as well as the conversations that have ensued over the course of the study. The framework is based on the recommendations set forth by NPS Director Jonathan Jarvis in his the December 14, 2011 Policy Memorandum 11-03.

1. Amount of Waste Eliminated and Pros/ Cons to Park Operations

Amount of Waste Eliminated

Two methods were used to estimate the amount of waste eliminated by ceasing water bottle sales.

- 1) GGNRA summed the raw numbers of water bottles sold in the park, and assumed that this is approximately the number of bottles that end up in the waste or recycling stream. Based on the survey of park partners and concessioners conducted in Spring 2016, approximately 390,000 water bottles are sold or provided annually throughout the park. If this were halted, 390,000 fewer water bottles -- more than 10,000 pounds of waste -- would be diverted from trash or recycling centers.¹
- 2) The park extrapolated the weight and volume of plastic that ends up in the waste stream. In FY15 GGNRA sent 2,231,324 pounds of municipal solid waste to the landfill, and recycled 1,959,668 pounds (a 47% diversion rate). Most recyclables are tracked at "comingled" centers, which combine paper, plastic, glass, and aluminum, making it difficult to determine what percentage comes from plastic bottles.

¹ The volume of an average plastic bottle is 16.9 oz, therefore the total volume of water bottles (16.9 x 390,000) = 6,591,000 oz. To determine the weight we first convert ounces to cubic yards (6,591,000 oz x 1 cu yd / 25,852 oz), which is 254 cu yd. Uncompacted plastic weighs 40 lb per cu yd therefore we get 254 x 40 = 10,160 pounds.

The only park location where we have specific data for the amount of plastic recycled is in Marin County. The Conservation Corps North Bay records separate data for aluminum, glass, #1 Plastic, and #2 Plastic. PET (#1) plastic is the type used to manufacture single-use water bottles. According to their data, 2,954 pounds of PET #1 is recycled each year. As a percentage of total pounds recycled in Marin (123,466 lbs), this is 2.5%. If we extrapolate this 2.5% to the parkwide number, we could estimate that approx. 49,000 pounds of PET #1 ends up in recycling each year.

Empty plastic bottles are less dense than other recyclables such as glass bottles, therefore the percentage of plastic by volume would be much greater than 2.5%.

Pros/Cons to Overall Park Operations

Pros

Environmental & Social

- Eliminating water bottles sales will reduce the use of resources and greenhouse gasses (GHGs) released during the production and transportation of bottled water. It is estimated the energy used in producing a water bottle consumes oil equivalent to a third of the bottle's capacity.
- Reducing the amount of bottles improperly discarded in the park will reduce litter that may blow away or roll into the San Francisco Bay. There are wildlife concerns with any kind of litter but special concerns for plastic bottles include entrapment, ingestion, blocked digestion, and choking.
- Providing and encouraging the use of a water fountain and tap water supports the ideal that publicly funded water sources are safe and are worthy of utilization and investment.
- A GGNRA policy will be aligned with San Francisco's municipal elimination of water bottle sales and increase in bottle-filling infrastructure.
- Decreasing litter diminishes the release of toxic chemicals such as bisphenol A (BPA). Toxins leached from plastics are known to have negative effects on wildlife.

Financial & Operational

- Selling refillable water bottles at various price points can generate more revenue per bottle sold.
- A visitor who typically would purchase more than one bottle of water within the park could see decreased monetary costs. If park education efforts are successful, visitors may save additional money as they continue to refill their reusable bottles after they leave the park.
- Fewer water bottles in the park will reduce time and expenses related to litter collection, waste and recycling sorting, transportation and disposal.

Cons

Environmental & Social

- Guests might purchase low-cost reusable bottles and fail to reuse them. Producing a reusable bottle is a more resource-intensive process; in order for a reusable bottle to be an environmentally sound alternative the bottle must be repeatedly used.
- Some visitors may perceive a risk to visitors of dehydration, although this is a low risk in the temperate Bay Area.

Financial & Operational

- If reusable sales are not sufficiently high, concessioners and partners may incur some financial loss.
- Shifting to promoting tap water may slightly increase utility costs, although water rates are very low in the Bay Area.

2. Infrastructure Costs and Funding Source(s) for Filling Stations

As noted in the methodology above, the park identified all drinking sources in the park and evaluated the funds needed infrastructure changes. GGNRA set aside funds from Recreation Fees to upgrade water fountains parkwide: Every location that has a water fountain will be retrofitted with a water bottle filling station that meets all accessibility and public health standards.

The park identified 22 locations throughout the park where existing fountains will be upgraded to bottle filling stations. These locations include Alcatraz, Fort Mason, Crissy Field, Baker Beach, Fort Point, Marin Headlands, Muir Woods, and Stinson Beach. Most locations are outdoors but several of them are indoors, such as at the Marin Headlands Visitor Center.

Based on the results of this evaluation, the park feels there should be sufficient sources of drinking water at all of the locations where we currently sell water. As part of the ongoing evaluation process, GGNRA will make a determination regarding any additional infrastructure needs to supplement the existing supply.

The anticipated cost for these infrastructure improvements is \$144,196. These are improvements that the park plans to make regardless of the status of the bottled-water policy. In the Bay Area it is commonplace for visitors to carry their own water bottles; having readily-available bottle filling stations will be a valuable service.

3. Contractual Implications on Concessioners, Including Considerations of New Leaseholder Surrender Interest (LSI) or Possessory Interest

GGNRA (including Fort Point and Muir Woods) currently has five concessioners. The contracts allow for review of food and beverage service and the ability to make changes during the contract term ("...the Director reserves the right to determine and control the nature, type and quality of the visitor services. . . including, but not limited to the nature, type, and quality of food and beverage, grocery or merchandise.").

In addition to this general language, some of the contracts specifically mention decreasing waste and sustainability practices:

- Alcatraz Cruises, Operating Plan Section 5.F.(5): "Sustainable food service products . . . Will be used to the fullest extent possible on all vessels serving Alcatraz."
- Peanut Wagon (Cliff House/Lands End Lookout Cafe), Operating Plan Section XVI.(A): "Concessioner will implement a source reduction program designed to minimize its use of disposable products in its operations."
- Hostelling International, Operating Plan Section 4.G(u): "Concessioner will encourage guests to use reusable water bottles"
- Muir Woods Trading Company
 - Operating Plan Section 11.A.(1)(c): "The Concessioner will use its best efforts to offer only those [menu] food and beverages and to use only those service items that are 'sustainable.'"
 - Operating Plan Section 11.A.(1)(k): "Water. A free, self serve water station stocked with compostable cups with filtered tap water will be made available to visitors."
 - Environmental Procedures Manual: "All beverages are served in compostable containers. Prepackaged beverages from outside vendors will only be on the menu at the specific request of the NPS. If offered, employees will transfer these beverages to compostable cups before they are served. All bottles from vendors will be recycled by the staff."
- Louis' Restaurant (lease), Section 8.1(f): "The Lessee shall... prohibit the sale of plastic bottled water. The Lessee shall provide customers receiving table or counter service with water in reusable cups" (water for takeout is currently sold in compostable containers)

The only LSI contact in the park is the Peanut Wagon (also known as the Cliff House). In fiscal year 2018, this agreement will be shifted to a lease, relieving any LSI concerns. All remaining contracts are up for renewal by 2019 and a water bottle elimination program would be integrated into new prospectus development.

4. Operational Cost of Filling Stations Including Utilities and Regular Public Health Testing

The chief of Facilities Management for GGNRA was consulted and felt there would be no discernable difference in the operational cost of the bottle fillers versus existing fountains. The park already conducts water quality monitoring on a regular basis and there will be no change in operations. Regular testing of water stations would continue as normal.

Alcatraz presents a unique case as all of the potable water is brought to the island via boat. To address the question of whether there would be a significant increase in the amount of tap water transported to Alcatraz each year, the park conducted the following analysis:

In FY15, 531,025 gallons of potable water were shipped to the island, and 163,400 bottles of water were sold. At 16.9 oz per bottle, this volume of 21,574 gallons currently sold would be the maximum increase in water delivered to the island each year. This could result in a 4% raise in tap water use on the island, which would not significantly impact the cost of water to Alcatraz.

The park estimates that the increased volume of water consumed would actually be lower than 4% since not all visitors who currently buy bottled water will refill bottles at an equivalent amount. GGNRA will integrate any needs for additional potable water into a future agreement (either concessions or procurement contract, TBD).

5. Cost and Availability of BPA-free Reusable Containers

When the park eliminates single use water bottles, it will provide a list of potential reusable options at various price points for concessioners and the Golden Gate National Parks Conservancy to consider. Current research shows multiple retail options for BPA free, flexible water bottles in the low range of \$3-5. Higher-end stainless steel or glass bottles typically sell for \$15-30. The park will encourage concessioners and the Conservancy to offer reusable bottles at multiple price points to give visitors a selection to choose from.

Based on the Spring 2016 survey, partners and concessioners currently sell about 3,500 reusable water bottles per year. The price points on these existing bottles range from \$10-\$33, indicating that there is a need for some lower-price point container options to meet the anticipated demand.

6. Effect on Concessioner and Cooperating Association Sales Revenue

The Spring 2016 survey asked all park partners about the sale and distribution of disposable water bottles: 24 organizations, including concessioners, leasees, non-profit partners and the cooperating association, responded to the survey. Only one organization with sub-tenants who sell water, the Fort Mason Center, did not respond to the survey. Overall, the feedback from partners and concessioners was positive and many noted there would not be a significant decrease in sales.

Currently 14 park partners sell or distribute approximately 390,000 disposable water bottles each year. Of the partners and concessioners that sell water, lost disposable water revenue is estimated at \$771,000 annually. The potential revenue from increased sale of refillable water bottles was not estimated, but results from other park disposable plastic water bottle elimination programs show that disposable water bottle sales are often completely mitigated by sales from reusable options.

GGNRA Disposable Water Bottle Sales (self-reported, Spring 2016 survey)

Partner/Concessioner	Estimated Annual Revenue
Alcatraz Cruises	\$200,000
Golden Gate National Parks Conservancy	\$415,000
Hostelling International	\$1,000
Muir Woods Trading Company	\$95,000
The Cliff House	\$60,000
TOTAL	\$771,000

Four organizations reported substantial revenue from disposable water bottles, the largest being the Golden Gate National Parks Conservancy (the park equivalent of a cooperating association). The park believes that the mission alignment with the Conservancy will assist in helping the organization adapt to reusable container sales.

7. Availability of Water within Concessioner Food Service Operations

All concessioners who sell single-use bottled water have the means to provide water to guests via taps or water fountains. In addition, the park will be upgrading existing facilities to further help improve access to water. For example, Muir Woods Trading Company already offers visitors a water spigot and free compostable cups in the cafe, but the park plans to an additional four outdoor water fountains to water bottle filling stations at Muir Woods, increasing visitor access to water for reusable water bottles.

All five park concessions contracts will be up for new prospectus development (or changed in authority) within the next three years. The park will ensure, as part of its transition plan and implementation, that the contracts specify free public access to water spigots.

8. Visitor Education in the Park and Online so that Visitors May Come Prepared With Their Own Water Bottles

To help visitors come prepared to the park, GGNRA will make several public announcements about the switch away from disposable bottles, including multiple postings on social media. Ongoing reminders on water availability will be located on the park website under “Plan your Visit” as well as “Basic Info”, “Eating”, and “Safety”. We will be able to draw on examples from other parks such as Grand Canyon and Zion, which have public messaging in place. The park will also work with concessioners/ Conservancy to have information available on their websites.

Signs in key park areas will notify guests to fill their water bottles and that we do not sell single use water bottles in the park. Signage will provide information regarding the lack of single-use bottles, the benefits of drinking tap water, the safety of local water, the importance of staying hydrated, and the nearest bottle filling station.

9. Results of Consultation with NPS Public Health Office

The Public Health Officer based at GGNRA provided a memo outlining the main public health issues to be addressed:

- Maintaining access to safe drinking water for all park visitors
- Availability of reasonably priced drinking containers for visitor use
- Using a fountain design that prevents contamination from the environment, animals, and consumers
- Creation of safety hazards from an alternative water source (eg. standing water)
- Interference with other NPS Initiatives (eg. Healthy Foods Strategy)

The park believes this plan addresses the above named issues. Any issues that are not already fully addressed in this proposal will be taken into consideration in the development of a detailed SOP that will accompany a water bottle elimination program.

10. A Sign Plan so That Visitors Can Easily Find Filling Stations

Currently we do not provide any signage that guides visitors to water fountains. The park will create a map with the location of all filling stations across the park. The map will then be accessible online and at park locations.

In addition, as mentioned in #8 above, key locations will include educational signage about the benefits of tap water, as well as directional signage to the fountain locations. The locations for these signs will be determined in coordination with the park's Sign Committee.

11. Safety Considerations for Visitors Who May Resort to Not Carrying Enough Water or Drinking from Surface Water Sources with Potential Exposure to Disease

The majority of information that will be provided to the public concerning water will be specifically designed to educate visitors on proper hydration, preparedness and health/ sanitation guidelines. There will be a variety of safety messages on our website and in the park about where filling stations are and to stay hydrated.

Filling stations will be dispersed throughout the park to allow visitors to stay properly hydrated in between stations. Although we will not be selling single use water bottles, we will offer various kinds of reusable water bottles throughout the park with filling stations nearby for immediate rinsing and subsequent use.

12. A System for Annual Evaluation of the Program, including Public Response, Visitor Satisfaction, Buying Behavior, Public Safety, and Plastic Collection Rates

On an annual basis, and as-needed, the park will continue to monitor and collect visitor satisfaction/public response information via concessioners/ Conservancy. Feedback from the public can also be relayed through the park's annual visitor satisfaction survey. Concessioners and the Conservancy track sales; the park plans to monitor buying behavior and evaluate both the volume of and revenue generated by sales of reusable bottles.

Public safety will be reviewed by our environmental health and safety staff as they track incidents related to water availability and dehydration. As mentioned above (#9), the park already conducts water quality monitoring on a regular basis and there will be no change in operations (or costs); regular testing of water stations would continue as normal. Ongoing solid waste reporting will track collection rates and the data will be continually analyzed to document the reduction of plastic bottles in the trash and recycling. This will be conducted by the GGNRA Environmental and Safety Programs Office.

13. Results of Consultation with Concessioners and Cooperating Associations

As reference above, an online Spring 2016 survey of all partners (concessioners, leasees, non-profit partners and the Conservancy) assessed the use of disposable water bottles in the park and potential effects on operations and sales. Overall, feedback from partners and concessioners was positive and many noted that restricting disposable water bottles is in line with their own waste management and education values. See #6 above for details on revenue effects and proposed mitigation.

In the survey, the park also asked for partner feedback to help evaluate the feasibility, pros, and cons of a potential disposable plastic water bottle elimination program. Partners reinforced the need for visitor education, clear messaging, and differentiation between visitors bringing disposable water bottles into the park versus availability for purchase. Emergency supplies and events were also flagged as needing clear guidelines. The park integrated the feedback directly into this analysis and plans to include clear expectations and guidelines in an SOP.

The Golden Gate National Parks Conservancy expressed particular concern over the infrastructure and availability of water on Alcatraz Island. The park agrees, but believes there are ways to mitigate these concerns. The park will work closely with all parties on the island (including the concessioner and procurement contract awardee) to ensure any disposable plastic water bottle elimination program does not present a safety risk and can be addressed at a reasonable cost.

14. Timeline of Phase-in Period

The plan to eliminate disposable water bottle sales will be phased in over a 3-5-year period. Various contract renewals will be part of the beginning phases and will include a clause on eliminating the sale of single use water bottles.

Assuming the park receives approval to move forward with a disposable plastic water bottle elimination program, GGNRA suggests the following timeline for implementation:

Fall/ Winter 2016 - Continue conversations with partners/concessioners to refine details of plan (exact model of bottle fillers, new locations needed, what types of reusable bottles to purchase)

Winter-Spring 2017

- Upgrade water fountains to bottle-filling stations
- Develop a detailed SOP that lays out exactly what the parameters are for eliminating water bottles (for example which types of drinks will be allowed, how Special Events might start incorporating these goals at a later date, etc.)
- Ensure partners are offering reusable water bottles at multiple price points

Spring 2017 - Finalize outreach and messaging, including a detailed sign plan.

Upon installation of bottle-fillers (target date of June 2017) - Notify partners/ concessioners to stop ordering bottled water; give second deadline for final sale of bottled water.

On-going - Evaluate any additional infrastructure (e.g. more filling stations) needs to supplement the existing supply.