Recommendations for Managing the City of Gloucester's Compost Facility

Dogtown Advisory Committee
September 2018

Introduction

The Dogtown Advisory Committee (DAC) is in the process of updating the City of Gloucester's original 1985 management plan for Dogtown[1]. Several years before the DAC (formerly the Dogtown Steering Committee) was organized, the City acquired a 4.7-acre parcel (295-1) off Dogtown Road, which had formerly been known as "Gronblad's Pit." In 1991, the DPW persuaded the Conservation Commission to allow temporary use of a part of the parcel for composting, with assurances that once a landfill in West Gloucester was closed and capped, composting in Dogtown would be terminated and operations transferred to West Gloucester. Almost three decades later, the City continues to use the site for composting and more. It has been determined that street sweepings have been deposited at the site that may have become mixed with compost, posing a possible health risk. Additionally, expansion of the site to a neighboring parcel (294-1) has become a "stump dump" used to store stumps and large tree trunks removed by the DPW. Since the Compost Facility and neighboring Stump Dump did not exist when the original Dogtown management plan was developed, the DAC has decided to address both in the updated plan.

The purpose of this memo is present preliminary findings and recommendations to the Office of the Mayor for review.

Compost Facility

The Compost Facility is located south of Dogtown Road at the entrance to Historic Dogtown. Figure 1 shows changes in the footprint of the facility as seen in Google Earth imagery beginning in 2005. Although the physical extent of the site does not seem to have changed significantly over this period of time, the volume of material has visibly increased. Figure 2 shows the current height of brush piles along the north and east boundaries of the facility. The volume of the site is increasing because the amount of raw material received exceeds the amount of compost being removed. Given restrictions limiting the area of the Compost Facility, this increase in volume cannot be sustained indefinitely. Eventually the amount of material will have to be limited, or other steps will have to be taken.

The DAC is recommending both short and long-term steps for improving management of the Compost Facility with a focus on 1) eliminating non-organic materials; 2) managing and reducing invasives and 3) reducing the overall load by using private facilities to manage yard waste.

[1] *Developing A Management Program For Dogtown: A Report To The Mayor By The Dogtown Steering Committee*, August 1, 1985.

Street Sweepings and Other Non-organic Materials

Street sweepings and other materials collected on or near roadways such as catch basins may be contaminated with a variety of chemicals such as from motor vehicle exhaust and gasoline spills.

The Massachusetts Department of Environmental Protection provides guidelines for the reuse and disposal of street sweepings in its Policy #BWP-94-092. When used as an additive to compost, the policy mandates the following relevant restrictions:

- Compost may only be used in public ways
- Compost may not be used in residential areas, within the 100 foot buffer of a wetland or wetland resource, or within 500 feet of a ground or surface drinking water supply.

Since the public gathers compost from the Compost Facility, street sweepings should not be disposed of there. If this is not feasible, the DAC recommends that signage be posted near the finished compost explaining these restrictions to citizens and DPW personnel who might be gathering materials for use off site.

Perhaps most noticeable, a significant amount of non-organic material including plastic and metal is present in the large pile of compost that is made available for public use (Figure 4).

Managing Invasives

Incoming compost materials include non-native plant species that are considered "invasives" because of their ability to out-compete native species, and because many of these invasives lack predators that would otherwise control their spread. As a result, the Compost Facility acts as a "hub" for the spread of these invasives in Dogtown as they reproduce from seeds or fragments (Figure 5).

Most procedures are only practical for handling small volumes of invasives.[2,3,4] As a result, many compost facilities prohibit the disposal of invasives, leaving citizens to handle these materials on their own. Others separate invasives from other incoming materials and then periodically burn them. Either strategy relies on educating the public on how to identify these species in order to separate them, and on how to properly handle them at home or at the compost facility.

We recommend that DAC work with the DPW to determine how best to handle invasives in Gloucester, and work together to develop some brief educational signage and web site materials to educate the public.

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[2] http://www.sudbury-assabet-concord.org
[3] https://extension.unh.edu/resources/files/resource000988_rep1720.pdf
[4] http://www.cisma-suasco.org/invasives/disposal

Reducing the Use of Compost Facility

The Compost Facility is currently open twenty Saturdays a year for residents to dispose of their personal leaves, brush, and yard waste. In addition, the City currently has a contract with JRM to provide curbside pick-up of leaves and yard waste for residents seven times a year. This material collected by JRM is currently brought to the Compost Facility. It is assumed that the City also uses the Compost Facility for its own disposal of leaves and brush. The DAC is recommending that the City develop a plan to reduce the tonnage of compostable waste brought to the facility in both the short and long term.

The first such reduction would be to exercise the provision in the JRM contract to take the curbside collected material to a composting facility outside the City or use a private facility within the City.

According to the existing Contract, JRM can charge the City an additional sum to take the curbside collected waste outside the City. Similarly, the City could have JRM take the material to a private facility within the City if available at no additional costs to JRM. However, there would be costs for tipping fees. The DAC is recommending that the City explore and implement either of these options in the next 1-2 years to reduce the expanded degradation of the Compost Facility.

During the next 3-5 years the DAC is recommending that the City increase the number of curb side collection to reduce the load from private citizens who currently use the facility on designated Saturdays. Include in this step would be an educational component for the public on land stewardship and restoration of the area. As an alternative, the City could consider allowing citizens to bring material to another more central location, such as the DPW yard for transport to a privately owned composting facility. The City could also utilize the DPW for holding and ultimate transfer of the material it acquires as part of maintaining municipal property.

Utilimately it may be possible to completely phase out the Compost Facility and reclaim and restore the site to its natural state.

The Stump Dump

For the past several years, an area adjacent to the City of Gloucester's Compost Area has been used to dump stumps and large tree trunks that the DPW has had to remove due to storms or other safety reasons. The "Stump Dump" first appears sometime after 2008 (Figure 6). In 2017 the volume of material at the Stump Dump had increased to the point that a trail though the area leading to Goose Cove Reservoir had become impassible. The Cape Ann Trail Stewards subsequently cleared the trailhead leading to Goose Cove Reservoir and installed a boardwalk across a stream to improve access for public safety[5].

[5] The trail leads to a place known to public officials as the "Party Site", which is frequented by city youth and patrolled by the GPD.

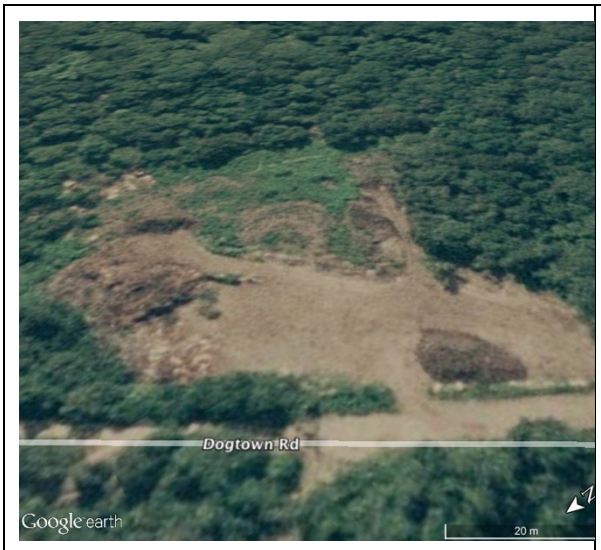
This past year, members of the DAC identified the site as a priority for a restoration project to improve the appearance of the entrance to Dogtown and to increase biodiversity in the area. In May, the DPW and the DAC worked together to remove the accumulated stumps at the trailhead to Goose Cove. The cost was shared by the DAC and the DPW. DAC subsequently hosted a volunteer workday to remove remaining small debris and trim around the edges of the clearing.

At this point, the next step would be to remove the large remaining stumps and to ensure that no new dumping occurs. The DAC proposes that the DPW find a private facility to take the stumps to in the future. Another possibility may be for the City to develop a relationship with local tree companies to allow them to remove, cut, split, and sell the material as cordwood.

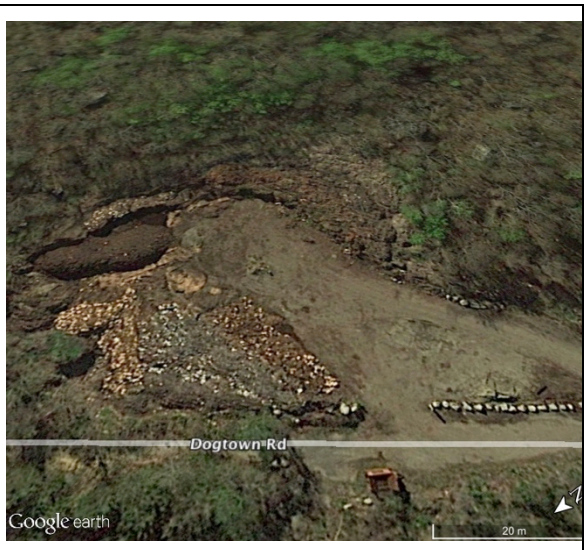
Ultimately, to prepare the site for restoration, surrounding brush and grading is required. If the DPW is not able to accomplish this, the DAC will ask the DPW for permission to allow a private company to do the work. After the site is suitably prepped, the DAC proposes to work with restoration ecologists to plant and encourage the growth of grasses and sedges characteristic of the meadows prevalent on Cape Ann in the 1800's and 1900's. We anticipate that this work will be done largely by volunteers, by hand, and will require little funding. Prep work may be done over this summer and fall, with planting to occur in the spring of 2019.

Summary

Our natural environment faces numerous challenges brought on by climate change. Dogtown is no exception. The risk of large uncontrolled brush fires and defoliation by insects, diseases, and other causes threatens the woodlands. An increase in the number and severity of storms is likely to take down even more trees in the future. Are we going to continue to dump this material in Dogtown? The ongoing restoration of the Stump Dump, which is at an early stage, is an example of what the City can do together with Cape Ann's volunteer workforce to preserve and maintain Dogtown in the years ahead. The DAC looks forward to working with the City to continue to develop "out of the box" solutions to the challenges facing Dogtown.



First high resolution Google Earth image acquired in 2007.



Significant increase in bags and processed material in 2016.

The presence of a perimeter road is evident in 2017.

Latest photo taken in the spring of 2018.

Figure 1 Google Earth images showing changes in the compost facility over the past decade.

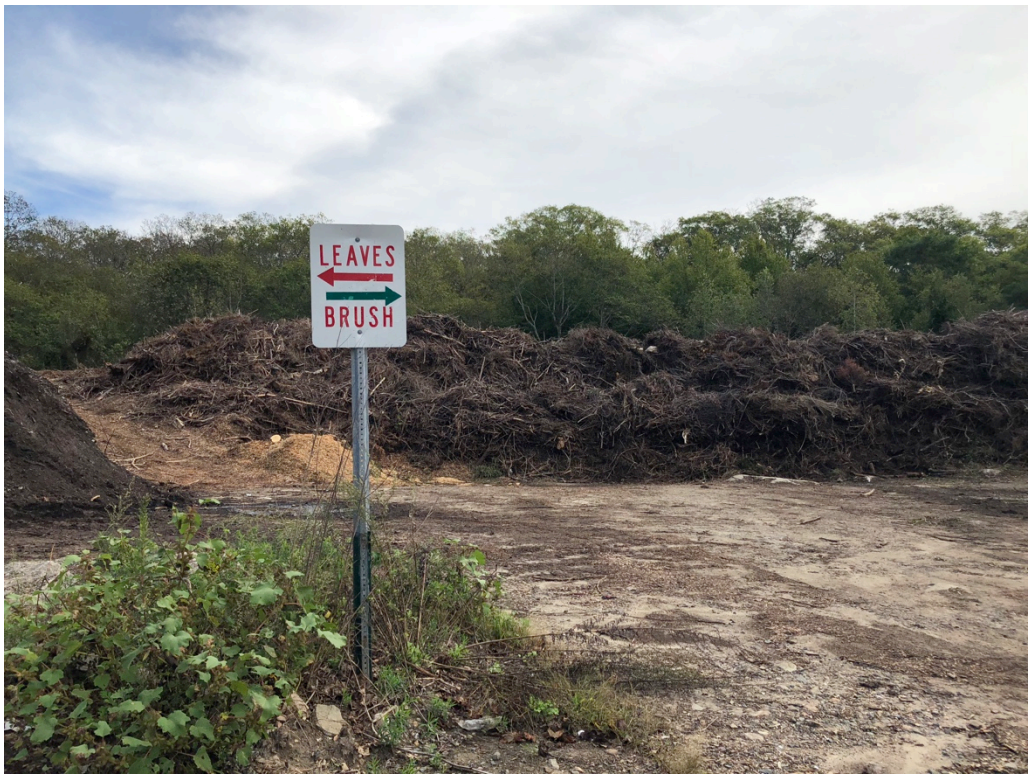


Figure 2 Ground view of compost facility looking north toward brush piles.

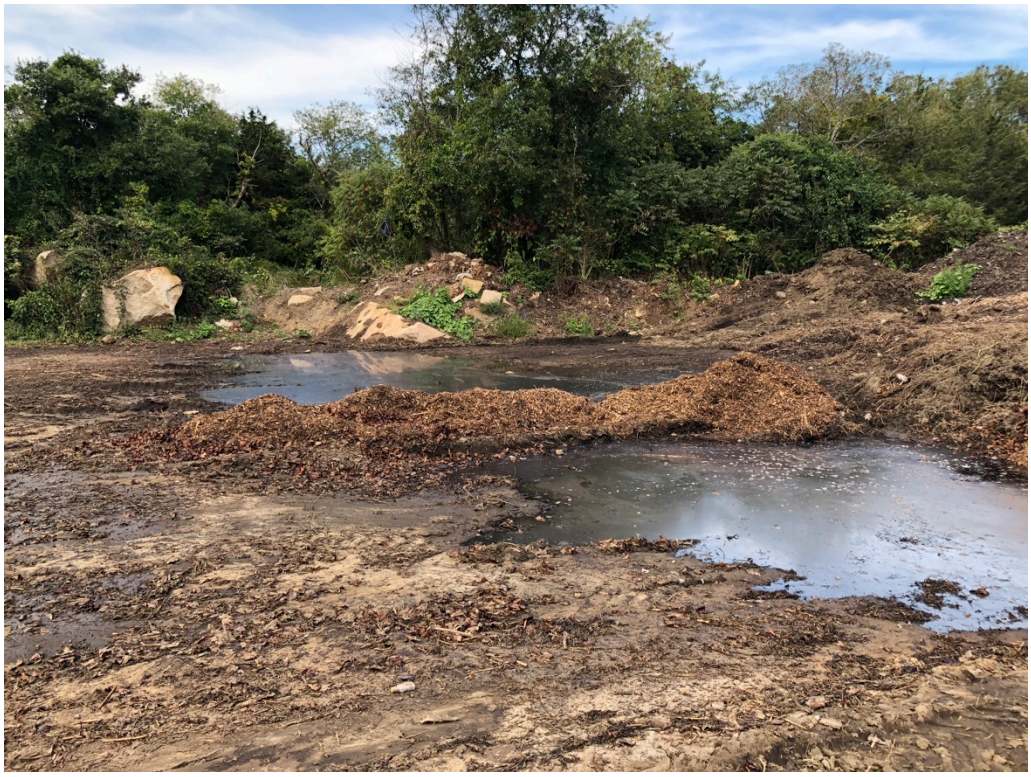


Figure 3 Pools of standing water are not uncommon at the site.

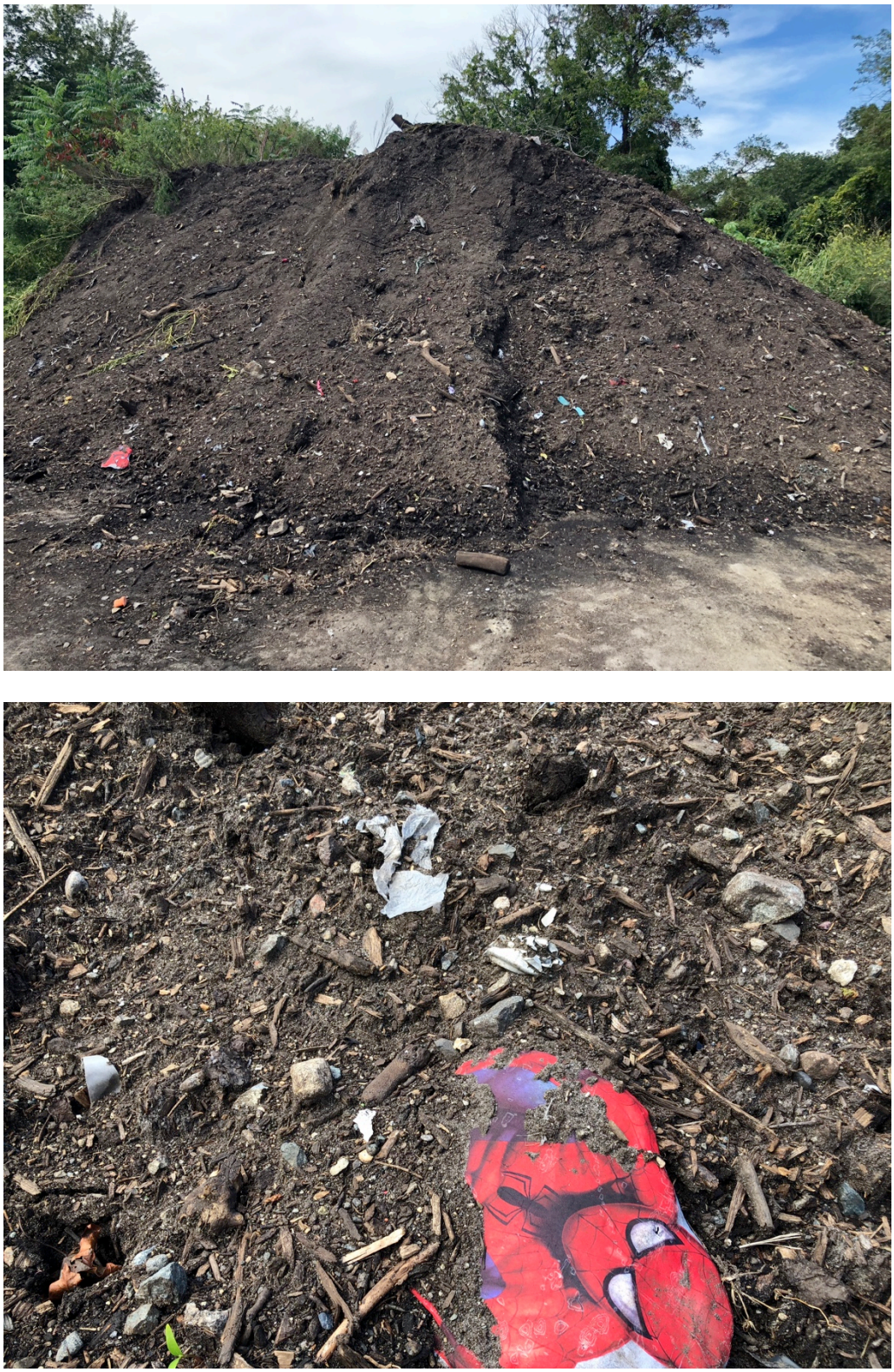
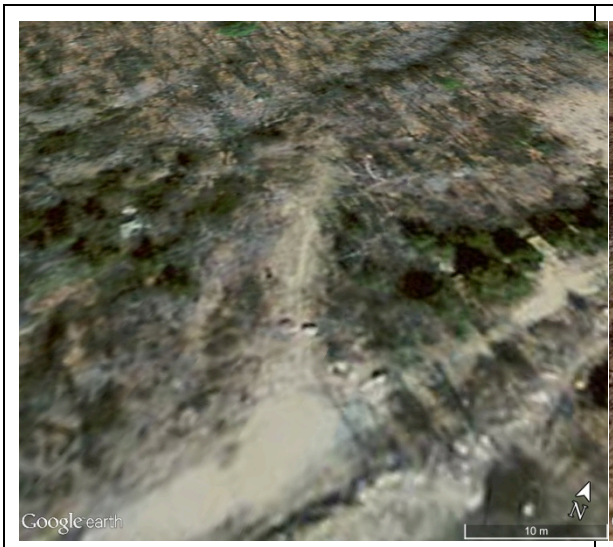
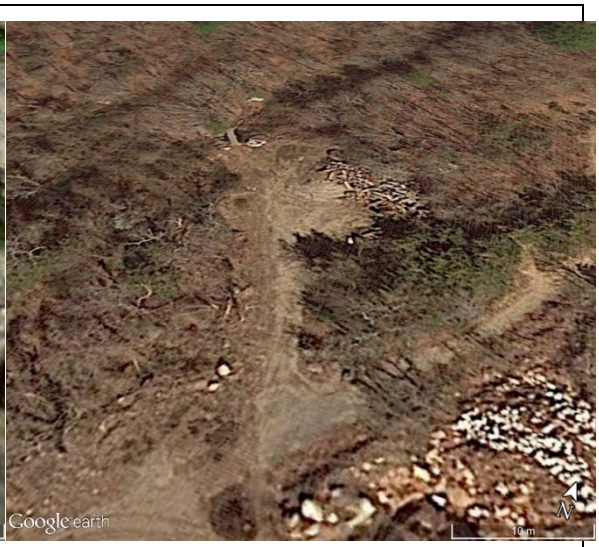


Figure 4 Compost available to the public (top). Close up showing presence of non-organic components (bottom).

Figure 5 Japanese knotweed (*Fallopia japonica*) at the Compost Facility



In 2008 two large boulders blocked vehicles from entering the trail that leads to Goose Cove Reservoir. These boulders were removed so that the DPW could deposit large tree trunks and stumps in an area to the right of the trail.



2018 photo was acquired in April before the area was cleared by the DPW and volunteers.

Figure 6 The "Stump Dump" appears in Google Earth imagery sometime after 2008