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GULL CONTROL AT LANDFILLS

AND OTHER

SOLID WASTE MANAGEMENT FACILITIES

POLICY # BWP-98-003

This policy provides guidance to the regulated community on the Department's requirements for controlling gulls at landfills and at other solid waste management facilities.

Date

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BUREAU OF WASTE PREVENTION

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1.0 Policy Statement

The dramatic increase in gull populations in the northeast during the latter half of this century has resulted in a number of environmental challenges. For example, gulls roosting on water bodies have caused bacterial and viral contamination of public water supplies and recreational waters, which is of particular concern to the ten (10) surface water supplies across the state that do not rely on filtration systems. Gulls have also created a bird hazard to aircraft when they frequent areas close to airports. In addition, gulls have contributed to the decline of some endangered species such as the Piping Plover and Roseate Tern by increasing predation and competition for nesting space. Lastly, gulls have caused nuisance conditions at residences, parks and recreational areas by fouling yards, picnic tables, beaches and park benches with their droppings.

Landfills have been identified as a primary food source used by some species of gulls throughout the year, but primarily during the fall and winter months. The Department, accordingly, regards gulls as a vector and has established operational requirements to prevent gulls from feeding at landfills or other solid waste management facilities. This policy is expected to significantly reduce, over time, gull populations. As a result this policy will help protect public health by: (a) reducing the quantity of pollutants entering water supplies and recreational water bodies; (b) reducing the threat of bird hazards to aircraft; (c) reducing the threat to some endangered species caused by the current overpopulation of gulls; and (d) reducing nuisance conditions at residences, parks and other recreational areas.

This policy provides guidance on how to comply with the existing regulatory requirement to control gulls, a type of vector, at solid waste management facilities (SWMFs). It does so by defining the applicability, objectives, and requirements for implementing a gull control program at SWMFs.

For most facilities this policy is self-implementing as long as the facility complies with the performance requirements of the policy within 90 days of notice by the Department. If a facility fails to comply within 90 days the facility may be subject to enforcement action which may include the issuance of a notice of non-compliance, penalties or license action.

2.0 Regulatory Authority

The Department of Environmental Protection (DEP), pursuant to the authority granted by St. 1987, c. 584, and M.G.L. c. 111, s. 150A, has promulgated regulations at 310 CMR 19.000 titled "Solid Waste Management Facility Regulations". 310 CMR 19.000 is intended to protect public health, safety and the environment by comprehensively regulating the storage, transfer, processing, treatment, disposal, use and reuse of solid waste in Massachusetts.

Section 19.038: General Criteria for the Review of Applications for a Permit or Permit Modification. Part 19.038(2)(a)4 states that the design, construction, operation and maintenance of the facility shall not constitute a threat to public health, safety or the environment. Part 19.038(2)(a)(8) states that the construction, operation and maintenance of the facility shall not represent a bird hazard. Part 19.038(2)(a)10 states that the construction, operation or maintenance of the facility will not cause or contribute to the taking of any endangered or threatened species of plants, fish or wildlife as identified in 50 CFR Part 17. (Please note: revisions to the regulations that address endangered species are expected to be promulgated in the near future. The proposed revisions will change the wording of section 19.038(2)(a)10 to be consistent with section 16.40(4)(c) of 310 CMR 16.00, the "Site Assignment Regulations for Solid Waste Facilities").

Section 19.040: Department's Modification, Suspension or Revocation of a Permit states at 19.040(1) that the Department may rescind, suspend or modify a permit when it determines that the operation or maintenance of a facility results in a threat to public health, safety or the environment.

Section 19.130(16) Vector, Dust and Odor Control requires that landfills prevent vectors, dust, odors and other nuisance conditions from developing at the landfill and any other areas related to the general facility operations. (Vectors include birds by definition.)

The Department, in conjunction with the Metropolitan District Commission and the Division of Fisheries and Wildlife, has determined that landfills should not be a food source for gulls because gulls:

1. create a threat to the public health by contaminating water supplies and recreational waters;
2. create a threat to the public safety by contributing to or creating a bird hazard for aircraft;
3. contribute to the taking of certain endangered species of wildlife; and
4. create nuisance conditions at residences, parks and other recreational facilities.

Therefore, in accordance with its regulatory authority to protect public health, safety and the environment the Department is providing this guidance for solid waste management facilities to facilitate compliance with the requirements for vector, specifically gull, control as required by the regulations.

3.0 Applicability

This policy is applicable to all solid waste management facilities (SWMFs). The primary focus of this policy is municipal solid waste (MSW) landfills. Other types of SWMFs where food wastes are available, such as transfer stations, are also required to comply with this policy. It is generally not expected that gulls or other birds will be a problem at construction and demolition (C+D) waste landfills or similar types of SWMFs where food wastes are not part of the waste stream managed, but such facilities shall comply with this policy as necessary.

4.0 Definitions

All terms used in this policy shall have the meanings set forth in 310 CMR 19.000 unless the context clearly implies or indicates another meaning.

The following definitions have been taken verbatim from the solid waste regulations and are repeated here for clarity in understanding this policy.

> Bird Hazard means a hazard to aircraft created by an increase in the likelihood of bird/aircraft collisions.
>
> Facility means an established site or works and other appurtenances thereto, which is, has been or will be used for the handling, storage, transfer, processing, treatment or disposal of solid waste including all land, structures and improvements which are directly related to solid waste activities.
>
> Vector means an organism that is capable of transmitting a pathogen from one organism to another including, but not limited to, flies and other insects, rodents, birds and vermin.
>
> Solid Waste Management Facility (See "Facility")

The following new definitions are needed to clarify the meaning of this policy.

> Gulls means Herring Gulls (*Larus argentatus*), Great Black-backed Gulls (*L. marinus*), Ring-billed Gulls (*L. delawarensis*) and other birds of the genus *Larus*. These birds are commonly and collectively referred to as "gulls" or "seagulls".
>
> Gull control methods means all measures used to prevent gulls from feeding at a facility and other measures intended to prevent or discourage gulls from frequenting a facility for other activities such as resting, roosting or loafing.

5.0 Gull Control Requirements

5.1 General

Gulls are highly resourceful and aggressive. By feeding at landfills, gulls are able to satisfy their total daily nutritional requirements even with a brief (less than 15 minutes) feeding period. Consequently, successful gull control programs must be continuous and unrelenting.

Gull control programs should address the particular needs and situations at each landfill. Landfills vary in characteristics that make them suitable or attractive to gulls, such as location, size and operational methods. Consequently, some sites may only need to implement minimal control methods to successfully control gulls, whereas other sites may need to develop a comprehensive gull control plan to achieve effective gull control. Gull control programs should be developed by a professional experienced and knowledgeable about gull control methods.

A discussion of general gull control methods and possible components of a generic gull control plan can be found in the document "A Manual for Gull Control at Massachusetts Landfills" which is referenced in section 10.0 of this policy.

5.2 Performance Standard

A successful gull control program will:

1. prevent gulls from feeding on solid waste, at any time, even for the briefest periods, at the facility; and
2. eliminate or reduce the suitability and attractiveness of the facility for other gull activities such as resting, roosting or loafing.

5.3 Gull Control Hierarchy

A gull control program should be designed around a hierarchy that begins with the least intrusive or destructive control measures and then progresses to more aggressive methods. An effective control program based on this hierarchy is one that first focusses on removing the availability of food at landfills followed by habitat management controls and then lastly relies on harassment or lethal methods to control gulls. This hierarchy is defined in terms of highest to lowest priority as follows:

1. Landfill Operational Controls. Methods of unloading, spreading, compacting and covering refuse need to be critically examined and evaluated. Possible methods to reduce the likelihood of gulls feeding include minimizing the size of the daily active area (active face), maintaining human presence at all times and cover material placement (type, depth and frequency).
2. Habitat Controls. These focus on altering the landfill environment to make it less attractive to gull resting, loafing or roosting activity. Such control methods include eliminating or reducing surface water bodies (retention ponds, etc.) and short grass areas.
3. Harassment Methods. These include the use of pyrotechnics, propane cannons, recorded distress calls and trained dogs with the objective of actively trying to scare gulls away.
4. Lethal Methods. This primarily means the use of shooting to kill gulls. Reliance on killing gulls can never be the primary means for gull control. Shooting or any lethal method can only

be used to reinforce other control methods. The implementation of lethal methods will require a permit issued by the United States Fish and Wildlife Service (USFWS), which generally limits the taking of gulls to between 50 and 200 a year at any given facility.

5.4 Gull Control Plan Components

A gull control plan should include the following:

1. a **locational map**, encompassing a fifty (50) mile radius around the site, that identifies, at a minimum, major water bodies, especially drinking water reservoirs;
2. a **regional map**, such as a USGS 1/25,000 scale topographical map, that identifies all surface water supply reservoirs, recreational waters and airports within five (5) miles of the facility;
3. a **narrative description of the history and extent of gull activity** at the facility including gull control methods used in the past and their effectiveness;
4. a discussion of the **goals and objectives** of the gull control program. This should include a description of the criteria that will be used to identify and quantify gull activity at the facility including, at a minimum, the number and type of gulls and frequency and duration of gull activity. It should also define how the program's effectiveness will be evaluated and the threshold level of gull activity that will initiate new or additional gull control measures;
5. a provision providing for **notification to the Department**, within 48 hours, when gull activity at the facility has resulted in a complaint by an abutter or public officials on any three (3) consecutive days or any five (5) days within a one month period;
6. an **alternatives analysis** that evaluates, at a minimum, the anticipated effectiveness of the gull control methods as outlined in section 5.3 Gull Control Hierarchy. Also, provide explanations why each method was or was not chosen;
7. a **description of the selected (proposed) gull control methods** including equipment, construction activities, personnel requirements (including training), permits required (including federal and state fish and wildlife permits), and other operation and maintenance requirements related to gull control;
8. **references** and other sources used to substantiate the proposed control plan and the criteria used for selection of the chosen methods;
9. **contingency measures** that could be implemented if additional control measures are needed;
10. an **evaluation of the staff and other resources** needed to implement the control plan thoroughly and completely and the degree of variability and unpredictability needed in the selected control measures to ensure an effective control plan. In particular, provide specifics and acknowledge the need to be relentless and continuous in implementing an effective control plan;
11. a provision for, at a minimum, **daily inspection** to monitor and record gull use at the site, including methods of harassment (if any) used that day. A draft gull inspection log should also be included;
12. a plan for **notifying**, before the implementation of a new or significantly modified gull control program, abutters and other nearby individuals, including commercial establishments, likely to be impacted by the gull control program because of noise, displacement of gulls, or

other impacts. The discussion shall also include how complaints/problems resulting from the gull control program will be recorded and resolved;

13. identification of the **contact person** and all other personnel who will be responsible for implementing the gull control program along with an outline of their responsibilities; and

14. a **schedule for implementing the control measures** including a critical path for obtaining all necessary permits, equipment and training.

Nothing in this policy is intended to limit the applicant from evaluating and proposing other types of gull control measures that have not been mentioned herein.

6.0 Implementation

6.1 New or Expanded Municipal Solid Waste (MSW) Landfills

All permit applications for a new or expanded MSW landfill shall include a plan for gull control in compliance with the solid waste regulations and this policy.

6.2 New or Expanded Non-MSW Landfills or Other Solid Waste Management Facilities

Permit applications for these facilities do not have to include specific gull control plans unless the Department determines, and notifies the applicant, that site specific concerns require the submission of a gull control plan in accordance with the solid waste regulations and this policy.

6.3 Existing MSW Landfills, Non-MSW Landfills or Other Solid Waste Management Facilities

Copies of this policy shall be provided to all existing landfills. In addition, the Department will identify and provide notification to existing landfills and other solid waste management facilities that have a gull control problem. That notification will provide the reasons used to determine the facility has a gull control problem.

In general, facilities receiving notice will have one or more of the following characteristics:

1. historic use of the facility by gulls;
2. located near or within commuting distance of surface water supplies or recreational waters used as roosting loafing or staging areas;
3. history of gull complaints by abutters or other nearby receptors;
4. located near habitat of endangered, threatened or special concern state-listed wildlife species;
5. operating at greater than 99 tons per day; or
6. located near an airport.

The Department shall make its determination based on information in the record, inspections and observations by the Department or other public officials and by other means.

Landfills or other SWMFs that receive notice that they have a gull control problem are expected to implement a gull control program that will result in the facility meeting the performance standard of

this policy (see section 5.2). Gull control measures should be started as soon as possible and within 90 days of receiving notice from the Department a gull control program should be fully implemented and effective. Compliance with the notice to provide gull control at the facility is self-implementing at this time, unless specifically noted otherwise by the Department.

A successful control program will consist of site specific methods that will effectively control gulls at the facility. It is not necessary, initially, for a gull control program to comprehensively address all the components of a gull control plan as listed in section 5.3 to comply with this policy. The facility does not have to submit its gull control program to the Department for review and approval.

However, please note that all MSW landfills have a continuing obligation to control gulls as provided by 310 CMR 19.000. If a facility fails to control gulls at its facility it may be subject to enforcement action as provided for by 310 CMR 19.081 (see section 8.0). Enforcement actions may include the requirement to develop, for review and approval by the Department, a comprehensive gull control plan as discussed in section 5.4.

Other facilities not notified by the DEP as stated above may be subject to provisions of this policy in accordance with the Department's regulatory authority as outlined in section 8.0.

7.0 Reporting

If the facility is required to conduct regular inspections in accordance with 19.130(35) or another permit requirement, the status of gull control shall be provided in the inspection report. Please see the Appendix for an example of the information to report.

8.0 Compliance and Enforcement

8.1 Compliance

In general, the following criteria shall be used to determine if a facility has a gull control problem:

1. gulls observed or otherwise known to be feeding at the site;
2. the number of gulls frequenting the site;
3. availability of a food source for the gulls;
4. compliance with good operational practices such as use of daily cover material;
5. location relative to:
    a. surface water supplies;
    b. airports;
    c. abutters or other nearby receptors;
    d. recreational waters;
    e. endangered species habitat;
    f. parks or other recreational facilities;
6. the frequency of use by gulls;
7. suitability of the site for resting, loafing or roosting; and
8. complaints by abutters or others affected by the gulls.

8.2 Enforcement

Solid waste landfills which fail to prevent gulls from using their facility may be in non-compliance with either or both 19.130(9) - Bird Hazards or 19.130(16) - Vector Control. Landfills that are determined to be in non-compliance with the regulations may be subject to enforcement actions as provided for by 19.081 - Enforcement Provisions, including notices of non-compliance, enforcement orders, or penalties.

Landfills that are found to be in noncompliance will be required, by a deadline determined by the Department, to implement the level of gull control methods necessary to bring the facility into compliance with the regulations and this policy. Landfills may be required to develop and submit to the Department for review and approval a gull control plan that complies with section 5.4.

Other types of SWMFs may also be subject to enforcement actions if they create a nuisance condition or threat to public health, safety or the environment by failing to control gulls at their facility.

9.0 Qualifier

This policy focuses on gulls because they are the birds that have been the most documented to be a threat to public health, safety or the environment. However, if other bird species are identified as being problematic at a specific SWMF then the requirements for control measures identified in this policy shall be inclusive for all bird species.

Implementation of this policy cannot violate any applicable federal, state or local laws or regulations. Under no circumstances shall gull control measures implemented to comply with this policy create or exacerbate a bird hazard problem or other public health, safety or environmental problem at the facility or in the proximity to the facility.

10.0 References/Resources

The Metropolitan District Commission has developed a manual that describes the history of the gull problem at Quabbin and Wachusett Reservoirs and contains generic information about gull control measures that can be used as reference for developing a gull control plan or program. This manual should not, however, be considered the sole source of information when developing a comprehensive gull control plan. The manual is titled:

A Manual for Gull Control at Massachusetts Landfills

Copies of the manual can be obtained from DEP by calling:

DEP Infoline
From area code 617 and outside Massachusetts
617-338-2255
From area codes 413, 508, 781 or 978
1-800-462-0444

11.0 Background

The number of herring and great black-backed gulls ("large gulls") in the Commonwealth, subsidized by abundant man-provided food supplies, has dramatically increased during this century. While only a handful of "large gulls" nested in the Commonwealth in 1920, an estimated 32,661 nesting pairs were recorded in 1995. The actual total number of gulls in the Commonwealth would also include subadults and, at times, birds from other areas that visit the state. The general increase in the "large gull" population has been linked to the gulls' successful utilization of manmade food sources associated with landfills and the fishing industry. The expanded gull population has created significant public health, safety and environmental concerns. These concerns include water quality at surface water reservoirs, water quality at recreational water bodies, creating aircraft bird hazards, impact on endangered species and creating nuisance conditions at parks and recreational areas.

One of the highest priority environmental concerns for the Commonwealth of Massachusetts is providing and maintaining high quality drinking water for its citizens. The Department of Environmental Protection (DEP) is the state agency responsible for developing and implementing regulatory requirements for ensuring the quality of drinking water. The DEP has identified watershed protection as one of the most important factors in protecting water quality. One component of an effective watershed protection plan is to prevent gulls from roosting on surface water reservoirs because gulls have been identified as a significant source of fecal coliform contamination.

As the result of research done at the Quabbin and Wachusett Reservoirs, the Metropolitan District Commission (MDC), with the assistance of the Division of Fisheries and Wildlife (DFW), has determined that the number of roosting gulls should substantially decline if their food sources within the vicinity were eliminated. Further research has documented that landfills within a radius up to 50 miles away are the primary food sources for many of these gulls.

Surface water supplies that have documented significant numbers of roosting gulls include the Quabbin, Wachusett, Norumbega and Crystal Lake reservoirs. Preventing gulls from roosting on any surface water supply is an important pollution prevention practice because it reduces the opportunity for bacterial contamination. This is especially a public health concern for the ten (10) unfiltered surface water supplies in the state.

Other surface water bodies that are not water supplies but are used for recreational purposes, such as swimming, are also being impacted by gulls. Gulls and their droppings are not only physically bothersome but are suspected of increasing coliform levels in recreational water bodies.

Gulls are also the primary bird species responsible for creating bird hazards for aircraft when landfills are located near airports.

The Massachusetts Division of Fisheries and Wildlife, in conjunction with the United States Fish and Wildlife Service has determined that gulls are a serious threat to some endangered species, such as the Piping Plover and Roseate Tern. The artificially large population of gulls that is being maintained by their ability to feed on garbage at landfills and, to a lesser extent, other manmade food sources has resulted in gulls both preying on the young of other species as well as displacing other species from nesting sites.

Lastly, gulls create or contribute to nuisance conditions by fouling yards and picnic areas with their droppings at residences, parks and other recreational areas.

Gull behavior is such that a coordinated regional approach requiring controls at all landfills in affected areas is needed to achieve the goal of preventing gulls from using landfills as a food source. In the absence of such a regional approach, gulls merely shift from landfill to landfill and continue to frequent the same reservoirs, airports and other areas with associated problems.

Wildlife biologists believe that if gulls are denied access to landfills for feeding, their numbers will substantially decrease over time. Elimination of the landfill food subsidies will eventually translate into reductions in gull populations. Eventually many of these gulls will likely disappear from most inland locations and be confined to their historical and more natural range on the coast.

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APPENDIX

FIELD DATA FORM - GULL CONTROL PROGRAM

FACILITY NAME:_____

DATE:_____

DATA RECORDER:_____

CONDITIONS:

SKY:_____

TEMPERATURE:_____

WIND:_____

PRECIPITATION:_____

GULL OBSERVATIONS AND CONTROL ACTIVITIES:

TIME	# GULLS PRESENT	LOCATION OF GULLS	GULL CONTROL METHODS USED	RESULTS

COMMENTS:

_____

_____

_____