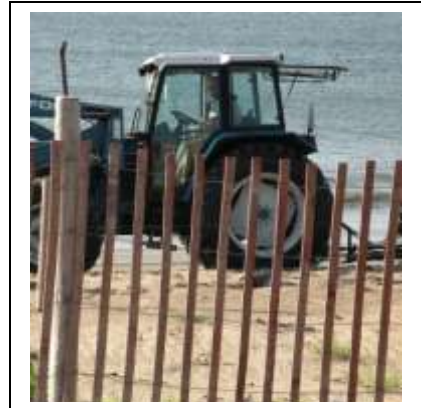




## Beach Maintenance & Operations

**Goal:** Beaches and barrier dunes are important coastal resources and critical habitats for plants and wildlife. Dunes function as a buffer to storm surges and flooding, protecting local communities, diffusing energy and reducing erosion from high winds and waves. The following guidelines are intended to improve protection of barrier beach and dune system resources, including native vegetation and rare shorebird habitat, while conducting routine or periodic maintenance activities.



### Guidelines:

- Beach maintenance activities occur in coastal wetland resource areas and are therefore subject to review under the Wetlands Protection Act (see BMP for Compliance with the MA Wetlands Protection Act).
- The most effective method to ensure compliance with the Wetlands Protection Act (WPA) is to file an Operational Maintenance Plan (OMP) for review by the local Conservation Commission. The OMP includes a description of all routine and periodic maintenance activities. The OMP is submitted with a Notice of Intent and involves a public hearing, after which the Conservation Commission issues an Order of Conditions permitting activities that will comply with the Regulations. Standard maintenance activities may include installation of beach fencing, beach grooming / raking, reclamation of sand from parking areas and access roads, and routine maintenance of parking areas and roadways. DCR's Coastal Ecologist can work with you to prepare and submit the OMP.
- Vehicular Access: Maintenance and emergency vehicle access that occurs within the boundaries of coastal wetland resource areas (as defined by the WPA) should be described in the OMP. During the rare shorebird nesting season, all authorized vehicles should stay at least 100 yards away from the fenced boundaries of any bird management zones.
- Equipment Operation: DCR's equipment shall be operated in a manner and location that will minimize potential environmental impacts. DCR operations staff is trained to operate heavy equipment in sensitive areas and is aware of the protection of coastal resources and of rare shorebird nesting activities.

- **Equipment Storage:** There shall be no stockpiling of any kind of material or storage of equipment or vehicles beyond existing paved areas. This shall exclude special events, as approved by the Conservation Commission.
- **Beach Cleaning / Raking:** This is a specific routine maintenance activity that requires vehicular access and should be described in the OMP. The frequency of this work activity is variable depending on the intensity of public use during the recreation season, and staff maintenance capacity. The Coastal Ecologist and shorebird monitoring consultants will assist with resource protection by providing information to MassParks staff regarding location of nesting sites and avoidance strategies. MassParks staff should not remove any wet portions of the wrack line so that it is available as a food source for shorebirds. Areas proposed for mechanical beach cleaning after April 1<sup>st</sup> shall be first surveyed by a qualified monitor approved by NHESP, to determine whether the proposed work is within 100 yards of any unfledged chicks of state listed shorebirds. If chicks are present within 100 yards, the monitor must be present during any beach cleaning / raking activities until the chicks have fledged.
- **Removal of winter debris:** Debris shall be removed from the beach each year during the month of March. In order to remove debris, staff members use front-end loaders, bulldozers, Recreational Trailer Vehicles (RTV), Gators, and a pick-up and/or dump trucks. This work should occur before April 1<sup>st</sup>, unless approved by NHESP. If work must occur after April 1<sup>st</sup>, all beach areas to be impacted must be first surveyed by a qualified shorebird monitor and approved by NHESP, to determine status and locations of state-listed shorebirds.
- **Parking Lot / Access Road / Boat Ramp Maintenance:** If these activities normally occur within the boundaries of coastal wetland resource areas, they should be described in the OMP. This is a year round activity, but the majority of the sand reclamation is done in the spring, using a front end loader and dump truck to return sand to the public beach area.
- **Seawall Sand Maintenance:** Seawalls exist at some of DCR's coastal facilities. Beach sand builds up along the seawall and after major storms. The wall cap was designed to contain blowing sand on the beach. When the beachside of the wall is full, it creates a ramp that accelerates deposition of sand onto the sidewalks and boulevard. Sand that accumulates along the entire length of the seawall is removed and re-graded back away from the seawall using front-end loaders and bulldozers. This operation is performed during March in the spring, and in the fall during October and November; or as needed based on sand accumulation surpassing half the height of the seawall.
- **Re-grading of the beach:** If rare shorebirds are nesting, no re-grading or bulldozing of sand on the beach shall occur between April 1<sup>st</sup> and August 31<sup>st</sup> unless approved by NHESP. If work must occur between April 1<sup>st</sup> and August 31<sup>st</sup>, the beach work areas must be first surveyed by a qualified shorebird monitor and approved by NHESP, to determine status and locations of state-listed shorebirds
- **Reclamation of sand:** Preservation of sand on the beach is an ecological and shore protection priority to avoid impacts to the beach system and to preserve its storm protection functions. Sand blown from the beach and not retrieved accelerates the erosion of the beach and diminishes its

shore protection functions. Sand that accumulates along roadways may create a safety hazard and obstructs passage for vehicles and pedestrians. The majority of the sand reclamation is performed in the spring and/or after coastal storms. Bobcat tractors operate to scrape sand that has blown onto sidewalks and roadways and may place the sand onto the beach under the following conditions:

- a) DCR obtains a determination that public safety is at risk as a consequence of sand accumulation on the roadway that prevents safe passage. This determination will be made by the Massachusetts State Police, DCR Ranger or by a DCR Senior Operations Supervisor.
  - b) DCR staff will first assess the deposited sand for any discolored or contaminated material. If any are found, they will be separated, won't be placed on the beach and the contaminated sand shall be removed from the site.
  - c) This task will be performed immediately after the storm event ceases by DCR and/or maintenance contractors retained by DCR
  - d) DCR will capture images and create a log record with the date and time of the event. DCR District Management will provide the record within 72 hours after operations are concluded to the Conservation Commission, as evidence of compliance.
  - e) Sand that is collected by street sweepers will only be removed from the site.
- Sand / Dune Stabilization: Installation of sand fence is conducted in the fall. Staff transport fencing material to the beach using Gators, Pick-up Trucks and front-end loaders. Sand fence should be removed in the early spring prior to shorebird nesting season. MassParks staff are sometimes assisted by volunteers for this work activity. Installation and removal of sand fences should be included in the OPM.
  - Proactive Dune Stabilization: Essential barrier dunes can be stabilized and even newly established through proactive management strategies including dune grass planting and Biomimicry. Biomimicry can be used for small scale restoration projects, using 14 inch wooden shims to stabilize replacement sand. The shims are placed into the beach at regular intervals and effectively capture sand during storm events. When they become mostly buried they can be pulled upward and left in place to collect additional sand. This activity must be coordinated with the DCR Coastal Ecologist.
  - Predator Control: Mammals such as foxes, coyotes, skunks, and raccoons and birds such as crows and owls will often consume shorebird eggs or juvenile shorebirds. The Coastal Ecologist works with partner agencies to implement predator control strategies and should be contacted if this is a concern at your facility.
  - Public Outreach / Environmental Education: Development of an educational outreach strategy in coordination with our environmental partners and monitoring consultants has long-term benefits for protection of rare shorebirds.