



United States Department of the Interior

FISH AND WILDLIFE SERVICE
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May 4, 2006



Mr. Dexter Matthews, Director
Division of Waste Management
North Carolina Department of Environment and Natural Resources
1646 Mail Service Center
Raleigh, North Carolina 27699-1646

Dear Mr. Matthews:

The U.S. Fish and Wildlife Service (Service) has reviewed the Site Study (dated February 2005) and the Revised Site Hydrogeologic Report (dated March 2005) for the proposed Waste Industries Black Bear Disposal, LLC municipal solid waste (MSW) landfill in Camden County, North Carolina. The facility proposes to receive wastes (including non-hazardous MSW, industrial waste, construction and demolition debris, and land cleaning and inert debris) and will serve areas east of Interstate 75 (encompassing portions of Michigan, Ohio, Kentucky, Tennessee, Georgia and Florida and all areas eastward). The proposed project includes a 490-acre lined landfill with an anticipated disposal rate of approximately three million tons of refuse annually. At the end of the 27-year projected service life of the facility, gross capacity is anticipated to exceed 100 million cubic yards corresponding to a maximum facility height of about 280 feet, making the site visible for a distance of up to 20 miles. The 1,037-acre site is approximately one mile from the southeastern boundary of the Great Dismal Swamp National Wildlife Refuge (NWR), a registered significant natural heritage area (SNHA) of national importance managed by the Service. Additional areas of ecological significance surrounding the proposed landfill site include the Dismal Swamp State Natural Area (a SNHA of statewide importance west of the site), the Green Sea (a regionally important tract forming the southern boundary of the landfill site), and the Cavalier Tract (located just north of the State boundary line). Our comments have been coordinated with Service staff at Great Dismal Swamp NWR and the Virginia Ecological Services Field Office; they are submitted in accordance with the provisions of the Fish and Wildlife Coordination Act, as amended (16 U.S.C. 661-667e).

The Service is particularly concerned about the potential impacts of operation and maintenance of a facility of this magnitude located in close proximity to state and federal lands managed in the public trust. The Division of Waste Management's (NC DWM) siting and design requirements for disposal sites mandate that MSW landfills should not cause adverse impacts to lands included in the state nature preserve. As noted above, the proposed site is surrounded by registered SNHA lands; consequently, a rigorous evaluation of the potential for operational impacts to negatively affect the environmental quality of lands beyond the landfill boundary is needed. The Great Dismal Swamp is one of the largest intact wetlands on the east coast and harbors several rare species including the federally-listed threatened bald eagle, the state-listed

timber canebrake rattlesnake (endangered in Virginia and significantly rare in North Carolina), and dismal Swamp southeastern shrew (threatened in Virginia), along with other species of significant management concern including Atlantic white cedar and black bear. In addition, near the southeastern boundary of Great Dismal Swamp NWR, habitat has been designated as a recovery unit for the federally-endangered red-cockaded woodpecker. A large-scale wetland restoration and fire management plan is currently being implemented to enhance habitat suitability, and a reintroduction effort for this species is planned. The area also provides important habitat for other migratory birds; over half of the bird species listed by Partners in Flight as priority bird populations occur within the Great Dismal Swamp.

In recognition of the ecological significance of resources in the Great Dismal Swamp, both the Service and the States of North Carolina and Virginia (along with many conservation partners) have worked to conserve wetland and riparian areas, improve water quality, promote land stewardship, and foster ecotourism and environmental education opportunities in this watershed. Recently, the Service and the Virginia Department of Game and Inland Fisheries received funds to protect and restore 4,000 acres of wetlands near the proposed landfill site on the Cavalier Tract, and concerns remain regarding potential for this landfill project to adversely affect this and other ongoing efforts to restore and preserve the integrity of this unique ecosystem. In particular, the suitability of the proposed landfill site appears questionable based on marginal onsite hydrogeologic conditions and potential adverse operational impacts to nearby state and federal lands. With this in mind, the Service offers the following comments and concerns for your consideration:

- 1) Although most of the site is characterized as "prior converted" wetlands, this area still provides important wetland function and values (including aquifer recharge, wildlife habitat, flood storage capacity, and water quality maintenance). Given the close proximity of state and federal lands designated as SNHAs that are managed, in part, to restore the natural hydrology of the Great Dismal Swamp, additional analysis is needed to assure that operational impacts to adjacent wetlands and other sensitive resources do not occur.

While it is encouraging that the plans for the facility incorporate redundant safeguards to prevent contaminant release to the environment (including a geomembrane and compacted soil liner coupled with leachate collection and liner leak detection systems), the proposed landfill site does not appear ideal from a hydrogeological standpoint. The seasonal water table is at or near the ground surface at the site; therefore, excavation for landfill construction is not feasible and considerable fill volume is needed to achieve required separation between the landfill base and ground water. The presence of former wetland soil types within the facility footprint raises questions about potential stability and settlement problems. At a maximum refuse thickness of about 250 feet at the center of the landfill, the Site Study indicates that up to six feet of foundation soil settlement can be anticipated. In the applicant's evaluation of overall landfill stability, the minimum acceptable factor of safety (a metric used to gauge the potential for slope failure) was barely achieved in analyses of the soil/bottom liner interface at the site. Although there are considerable environmental benefits that may be realized through operation of the facility as a bioreactor (including accelerated waste decomposition and more rapid

attainment of biological and chemical stability post-closure), many special considerations for bioreactors remain, such as the physical instability of landfilled waste resulting from increased moisture and density, that are concerning in light of the global stability analysis presented in the Site Study. With these issues in mind, the highest standards for facility design and operation should be required by NC DWM to assure that surface and subsurface water quality is not degraded.

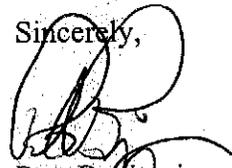
- 2) The Service is also concerned about the potential for this facility, which will be the largest in North Carolina and one of the largest on the east coast, to detract from the refuge experience for visitors at the Great Dismal Swamp NWR. Given that the facility will result in a significant odor zone (that will likely be enhanced given plans for bioreactor operations) and will present a visual distraction from the natural surroundings of the area, public use and enjoyment of the refuge and nearby areas (that have been strategically developed in recent years as an ecotourism destination) may be limited by landfill operations. Consequently, we encourage implementation of odor control strategies (including reducing the area of the working face of the landfill and rapid cover of exposed refuse) and landscape screening measures. With a maximum disposal rate of 10,000 tons per day proposed, a significant increase in truck traffic for waste hauling is anticipated. In addition, up to 26.5 million cubic yards of fill (mainly from off-site sources) will be required for facility construction, intermediate and final cover needs, necessitating more transport trips. This increased traffic coupled with noise associated with routine landfill operations may also cause disturbance of wildlife and refuge visitors (particularly in the vicinity of transfer routes). The potential offsite impacts of these types of disturbance (odor, noise, and aesthetic deterioration of the landscape) to adjacent natural areas should be further evaluated.
- 3) We are also concerned that the proposed landfill will become an attractive nuisance for wildlife. With an expansive odor zone expected, the proposed landfill will likely attract black bears from nearby state and federal lands and other habitat areas presenting collision concerns for humans and animals crossing the recently-widened US Highway 17. Any garbage released from trucks transiting to the facility may also attract bears and other wildlife to the highway. If these highway safety concerns are realized, the project could prompt public pressure to reduce the local bear population (to limit public safety risks), effectively reducing the carrying capacity for black bears in the area. These risks should be further considered by the applicant in the site suitability study and appropriate measures to reduce risks to wildlife and the public (e.g., waste containment onsite and during transit) should be identified.
- 4) The proposed MSW landfill is likely to attract a significant gull population to the area as well and will become a concentration point for gull feeding during the day. These birds typically seek open water or wetlands for roosting; consequently, we are concerned that increased use of Lake Drummond (a primary feature of the Great Dismal Swamp NWR) and surrounding conservation properties and wetlands by gulls will diminish the value of these areas to migratory birds through displacement, depredation of nesting sites, and harassment of other birds. In addition, these large gull populations could present an avian disease threat and may cause localized water quality degradation (e.g., via increased

nutrient and fecal coliform inputs). We recommend that non-destructive gull control measures be used to the extent necessary to minimize the attractiveness of the landfill site to birds. In addition to the odor control measures noted above (bullet 2), efforts to minimize resting and roosting habitat at the landfill (including short grassy areas and standing water or stormwater ponds) are encouraged. The potential for any alteration of migratory bird use of the Great Dismal Swamp area should be evaluated by the applicant as part of the site suitability analysis.

The Great Dismal Swamp is an area of well-recognized ecological significance. The natural resource value of the area coupled with its location along a primary visitor gateway to northeastern North Carolina provides the foundation for ongoing partnership efforts between North Carolina and Virginia conservation groups (including the Service) to promote nature-based tourism and educational opportunities for the public. Negative impacts of landfill construction and operation beyond the landfill premises to these expanding efforts should be considered as part of the site suitability analysis. In addition, given that a) surrounding conservation lands and habitats are potentially vulnerable to hydrology alteration, water quality degradation, and disturbance, b) foundation soil compression and consolidation at the landfill is a serious design limitation, and c) there is no requirement for the applicant to evaluate site conditions at potential alternative landfill locations, we encourage the NC DWM to request completion of a site alternatives analysis prior to approval of the Site Suitability application currently under consideration. In short, the Service believes that the potential impacts to SNHAs highlighted above warrant an assessment of alternative sites where the applicant's needs can be met without risking damage to quality of the Great Dismal Swamp for wildlife use and public enjoyment.

The Service appreciates the opportunity to provide comments on the Site Study and Hydrogeology Report for the proposed Black Bear Disposal, LLC MSW Landfill. We would be pleased to meet with your staff and facility representatives to discuss these concerns. Please keep us informed of the status of this proposed action, including any official determination or additional documentation for technical review. If you would like to meet, or if you have any questions regarding our comments, please contact Sara Ward (x. 30) of this office at 919/856-4520.

Sincerely,



Pete Benjamin
Ecological Services Supervisor

cc:

Suzanne Baird, FWS, Great Dismal Swamp NWR, Suffolk, VA
Karen Mayne, FWS, Virginia Ecological Services Field Office, Gloucester, VA