

Karen Kirk Adams
Chief, Permits & Enforcement Branch
Regulatory Division
US Army Corps of Engineers
New England District
696 Virginia Road
Concord, MA 01742-2751

9 May 2002

Dear Ms. Adams:

On behalf of the 50,000 members of the International Wildlife Coalition (IWC), I would like to offer the following comments regarding the Cape Wind Associates request for a permit to install and maintain a pile-supported scientific measuring tower, as well as an associated measuring device imbedded in sea floor of Horseshoe Shoals, Nantucket Sound.

First of all, the IWC appreciates the efforts by Cape Wind Associates to pursue non-fossil fuel generated electricity. The IWC has long advocated for wildlife and habitat protection including our current pursuit to maintain the standards of the Clean Air and Clean Water Acts. However, we are troubled that, while the Cape Wind Associates appear to have the best intentions at hand, impacts on marine mammals have not been fully considered and the construction of the proposed measuring tower and device may be in violation of the Marine Mammal Protection Act of 1972 (MMPA).

According to the MMPA, sec. 101 a moratorium on taking and importing marine mammals and marine mammal products exists where a "take" is defined as "to harass, hunt, capture, or kill, or attempt to harass, hunt, capture or kill". Section 3(r):1 indicates that "harassment" means "any act of pursuit, torment, or annoyance which- (A) has the potential to injure a marine mammal or marine mammal stock in the wild; or (B) has the potential to disturb a marine mammal or marine mammal stock in the wild by causing disruption of behavioral patterns, including, but not limited to, migration, breathing, nursing, breeding, feeding, or sheltering".

We believe that evidence exists which indicates that the construction of the test tower platform will, minimally, result in level (B) harassment and, without a take authorization, is therefore illegal as indicated by the MMPA.

1) 1) Presence of Marine Mammals in and around Horseshoe Shoals.

Horseshoe Shoals, the location of the proposed site, is not a well-surveyed area for marine mammals and sightings on the shoal are incidental. Primary survey efforts for seals in the area have focused on their haul out sites as it is difficult to document pinniped populations in the water. However, anecdotal and stranding data indicate that marine mammals occur here year round.

The site for the proposed test tower and measuring devices (41°28'19.09064" / 070°18'53.29256") is within eight to twelve miles of Muskeget (~41°20' / 070°17') and Monomoy (~41°32' / 070°00') Islands, which are important haul out areas for both gray (*Halichoerus grypus*) and harbor (*Phoca vitulina*) seals. Surveys have calculated at least 3564 seals hauled out in and around Muskeget Island and 3322 seals on Monomoy. These are considered to be minimum estimates as they do not account for seals in the water during normal haul out times (Barlas 1999). These areas, as well as Bass Ledge, located north of Muskeget Island (~ 3 miles from Horseshoe Shoals), are also known to be utilized as pupping sites for gray seals (Waring, pers. Comm.).

Evidence exists indicating that animals transit the proposed site area as individually identified females which pupped at Monomoy have later been identified on Muskeget some 40km away (Rough 1995). Additionally stranding data indicates that harp (*Phoca groenlandica*), hooded (*Cystophora cristata*), harbor, and gray seals occur regularly from Falmouth to Monomoy and are, therefore, likely transiting the area on a regular basis (Patchett, pers.comm.).

While harbor seals are not as plentiful in the summer around this area (sightings are reported from October through June), gray seals reside in these areas year round (Amarau, pers. Comm.). Gray seal pupping occurs from December through February followed by molting through May (Waring, pers. Comm.).

Surveys to monitor cetacean populations do not occur in this area. However, in addition to seal strandings, the Cape Cod Stranding Network (CCSN) has also responded to several Atlantic white-sided dolphin (*Lagenorhynchus acutus*), striped dolphin (*Stenella coeruleoalba*), common dolphin (*Delphinus delphis*), and pilot whale (*Globicephala melas*) strandings in this area. Recent stranding sites include Penzance Point, Woods Hole; Nobska Point, Woods Hole; Naushon Island; Bristol Beach, Falmouth; Great Island, Yarmouth; West Dennis Beach, West Dennis; Parker River, Yarmouth; Seagull Beach, Yarmouth; Nauset Beach, Orleans; Chatham Lighthouse Beach, Chatham; and Oyster Pond, Chatham (Patchett, pers. Comm.).

Anecdotal evidence indicates that cetaceans are in the area as animals have been seen transiting the Cape Cod Canal included the critically endangered North Atlantic right whale (*Eubalaena glacialis*) (Jeffrey and Dooley 2002). In order to enter or exit the west end of the canal, it is necessary to transit very near this proposed site.

2) 2) Potential Harassment of Marine Mammals During Construction.

We believe that sound generated during the construction phase of the proposed test tower will result in harassment of marine mammals in Nantucket Sound. Our concerns regarding acoustic disturbances are exacerbated by the shallow water depth at Horseshoe Shoals as shallow water sound propagation allows sound to travel further distances.

Studies of noise associated with construction of marine windmills in Denmark indicated that maximum source levels of ramming impacts occur with a sudden sharp rise in noise levels (Appendix 1). Such sudden onsets are likely to cause problems in hearing from temporary threshold shifts to permanent hearing loss. These sounds are comparable to airgun array (seismic survey simulations; source levels of 215-224dB) studies which have shown that harbor and gray seals changed from foraging dives to transit dives away from the sound source including at least one animal 2.5km from the source (Wilson 2000). Noise generated by underwater explosions (<80Hz, >120dB) "would be expected to impact whales at 10km distance" (Wilson 2000). While we understand that this activity is not an explosion per se, it is nonetheless an extremely loud percussive sound, and likely to have similar effects on animals in the area.

A report by the Danish Institute for Fisheries Research (2000) indicated that it "is very likely that during the construction period of both the windmills and the cable trace many of the fish species as well as marine mammals will be disturbed". This same report stated that marine mammals and fish will likely disappear from the area during construction due to turbidity of the water, noise, and other sea bottom activities.

Studies of seals reacting to acoustic disturbances during haul-out often resulted in seals abandoning their haul-out site (Richardson *et al.* 1995). Haul-out behavior may occur for a number of different reasons including pupping, suckling, moulting, resting, sleeping, energy saving, socializing, and predator avoidance (Brausser *et al.* 1996). Sullivan (1979) found that 44% of a harbor seals daily activity budget was involved in hauling out. This behavior appears to be critical for harbor seals, as animals denied haul-out time compensated for the loss by increasing haul-out time when the intentional deprivation ended (Brausser *et al.* 1996).

Impacts may be extremely deleterious when haul-out disturbances occur during molting and pupping times. Pitcher and Calkins (1979) noted that neonatal mortality resulted from disturbances during the first few hours after birth, a critical time of mother-pup bonding. If animals were disturbed during the bonding time, separation occurred and pups were abandoned and died. They also found disturbances during molting to be problematic. At this point in the season, the animals have a thinner blubber layer and seem to require extended time out of the water to warm their skin, promoting epidermal skin growth.

Underwater noise impacts on cetaceans can include confusion, disruption of social cohesion, separation, alteration of travel, and/or stranding. Bowhead whales (*Balaena mysticetus*) elicited short-term disturbance reactions to marine seismic pulses, which can be detectable 100km from the source (Richardson *et al.* 1995). Richardson *et al.* (1995) also report that bowhead whales actively avoided oil drillships. Cosens and Dueck

(1993) found that beluga whales (*Delphinapterus leucas*) and narwhals (*Monodon monoceros*) detected noise from an icebreaker vessel 25-30km from the source.

3) Need for Data Collection and Monitoring

We believe that the evidence presented clearly shows that marine mammals are present in the Nantucket Sound area in all months of the year and that loud, pulsing sounds, such as those produced during industrial marine construction, can cause marine mammals to alter their behavior and, therefore, result in harassment. We believe that, the MMPA requires issuance of a small take permit for marine mammals before the Army Corps can issue a permit to Cape Wind Associates for the construction of a monitoring tower.

We further request that a monitoring program be in place to determine the level of impact on marine mammals in the area. Baseline data regarding the frequency and species of marine mammals found on Horseshoe shoals must be collected for all months of the year. Any construction must be done to minimize impacts on the animals, particularly during the pupping and molting seasons for area seals.

In summary:

The IWC is believes that the Army Corps of Engineers must consider the potential marine mammal harassment and ensuing violations of the MMPA prior to acting on the permit request by Cape Wind Associates. We do not believe that data have been collected to indicate that harassment will not occur, and contrarily, evidence exists which demonstrates that, at least, Level (B) harassment is likely to take place. Until further studies are conducted and Cape Wind Associates obtains a small take permit, the Army Corps must deny the permit application for a test tower in Nantucket Sound or risk violating the MMPA.

While we support the need to explore alternative fuel resources, we also support the protection of marine mammals and essential habitat for their survival. At this time, we believe that the construction of the test tower and associated devices will be harmful to marine mammals in the area. We support the collection of data regarding marine mammal sightings in, and around, horseshoe shoals, we request data collection regarding acoustic disturbances to marine mammals in the area, and we encourage consultation with the Marine Mammal Commission prior to the construction of any structure in Nantucket Sound.

We appreciate the opportunity to comment and thank you for your time and consideration.

Sincerely,

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References:

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