

0021556

CAHA #2848



"Wetmore, Doug"
<dwetmore@louisberger.com
>

06/13/2008 03:27 PM AST

To <Sandra_Hamilton@nps.gov>

cc "Otto, Dana" <dotto@louisberger.com>, "Fox, Lori"
<lfox@louisberger.com>, "Van Dyke, Nancy"
<nvandyke@louisberger.com>

bcc

Subject CAHA bird buffer table

Hi Sandy.

Here is the very latest draft of the bird buffers table. I believe we've addressed all the comments that you had from our last conference call. Please take a look and let me know if you have any questions or concerns.

I've also put together a new ORV Use Areas table that incorporated Mike Murray's comments. I still have a few concerns about his proposed changes. Do you have time for a quick conference call next week?

Thanks.

~Doug



CAHA buffer_table 6.13.08.doc

0021557

CAHA DRAFT bird buffer table. 6/13/2008

Species	Buffer distance (m)	Buffer distance (ft)	Disturbance types	Behavior	Region	Reference
American Oystercatcher	180-200	590-656	Pedestrian, ATV, vehicles, boat, pets	Nesting	Cumberland Island National Seashore, Georgia	Sabine 2006
	30	100	Development, vegetation removal	Foraging	Maine	Dept. Env. Protection
	76	250	Development, vegetation removal	Roosting	Maine	Dept. Env. Protection
	103	338	Watercraft	Foraging and loafing	West and east coasts of Florida	Rodgers and Schwikert 2002
Black Skimmer	200	656	Pedestrian	Nesting	NC/VA	Erwin 1989
	178	584	Pedestrian	Nesting	17 sites in Florida	Rodgers and Smith 1995
Common Tern	200	656	Pedestrian	Nesting	NC/VA	Erwin 1989
Gull-billed Tern	No data					
Least Tern	100	328	Pedestrian	Nesting	NC/VA	Erwin 1989
	140	459	Watercraft	Foraging and loafing	West and east coasts of Florida	Rodgers and Schwikert 2002
	154	505	Pedestrian	Nesting	17 sites in Florida	Rodgers and Smith 1995
Piping Plover	50	164	Essential vehicles/monitors	Nesting	CAHA	Cohen 2006
	50	164	Pedestrian/vehicle	Incubating	Atlantic Coast	USFWS
	60	200	Pedestrians, development	Nesting	Maine	Dept. Env. Protection
	90	300	Trash receptacles, beach cleaning activities	Nesting	Maine	Dept. Env. Protection

CAHA DRAFT bird buffer table. 6/13/2008

	50**	164	Pedestrians	Nesting	New Hampshire	Fish & Game Dept.
	50	164	Not known	Nesting	Delaware	Div. Fish & Wildlife
	*	*	Pedestrians	Nest, scrape,, foraging of fledglings*	Rhode Island	Fish and Wildlife Dept.
Red Knot	30	100	Development, vegetation removal	Foraging	Maine	Dept. Env. Protection
	76	250	Development, vegetation removal	Roosting	Maine	Dept. Env. Protection
<p>Sooty, Forsters Tern: Although mentioned in the Interim Protected Species Management Strategy/Environmental Assessment, the Sooty and Forster's Tern have not been observed breeding in the park since 1993 and 1995 respectively.</p>						
Wilson's Plover	100	328	Watercraft	Foraging and loafing	West and east coasts of Florida	Rodgers and Schwikert 2002

REFERENCES

USFWS Recovery Plan

U.S. Fish and Wildlife Service. 1996. pg. 72. Piping Plover (*Charadrius melodus*) Atlantic Coast Population Revised Recovery Plan. Prepared by the Atlantic Coast Piping Plover Recovery Team For the U.S. Fish and Wildlife Service Region Five Hadley, Massachusetts.

USGS Protocols

Cohen, J. B. 2006. pg. 28. Management and Protection Protocols for the Threatened Piping Plover (*Charadrius melodus*) on Cape Hatteras National Seashore, North Carolina. United States Geological Survey, Patuxent Wildlife Research Center. Posted at: <http://parkplanning.nps.gov/document.cfm?parkID=358&projectId=13331&documentID=12970>, on March 2, 2006.

Sabine, J. B., personal communication from pg. 9 in Meyers, J. M. Management, monitoring, and protection protocols for American Oystercatchers at Cape Hatteras National Seashore. United States Geological Survey, Patuxent Wildlife Research Center. Posted at: <http://parkplanning.nps.gov/document.cfm?parkID=358&projectId=13331&documentID=12970>, on March 2, 2006.

State Protocols

State of Delaware, Division of Fish and Wildlife – The State of Delaware follows the protocol of the USFWS Piping Plover Recovery Plan (Holly Niederriter, staff, pers. comm., May 2008)

State of Maine, Dept. of Environmental Protection, Bureau of Land and Water Quality -

Plovers - Municipalities are required to buffer identified plover nests with at least a 200 foot (60 m) radius surrounding the nest. Municipal beaches are required to place trash receptacles and not beach clean with equipment within 300 foot (90 m) radius of plover nests.

Other species – Buffer consists of the actual feeding habitat and a 100 foot (30 m) upland buffer surrounding the foraging area. Roosting habitats have a 250 foot (76 m) buffer (Lindsay Tudor pers. comm., May 2008, Biologist, Maine Department of Environmental Protection, Bureau of Land and Water Quality).

Buffer distances determined by utilizing information from human disturbance studies conducted by Joanna Burger, James A. Rodgers, Jr., Henry T. Smith, and others which most studies recommended buffers of 100 meters (328 ft) for shorebirds. A compromise was made with the legislature and ended up with 100 (30 m) foot buffers for feeding areas and 250-foot (76 m) buffers for roosting areas.

These buffers and protection regulations involve only activities or projects that require a permit or license from, or is funded or carried out by a state agency or municipal government. Such projects include subdivisions, building construction, docks and piers, road construction, municipal dog ordinances, forest management, agriculture management, dredging, bulldozing etc. etc. Piping plover nesting areas are staked off from pedestrians as part of Beach Management Agreements with municipalities as part of the Essential Habitat policy, this is through agreements not regulation. Buffers and staging areas established through NRPA do not exclude pedestrians

CAHA DRAFT bird buffer table. 6/13/2008

from designated shorebird feeding and roosting habitats. (Lindsay Tudor pers. comm., May 2008, Biologist, Maine Department of Environmental Protection, Bureau of Land and Water Quality).

There are two pieces of state legislation that offer habitat protection for shorebirds in Maine.

Under the Maine Natural Resources Protection Act (38 M.R.S.A), Shorebird staging areas are designated as "Significant Wildlife Habitat (SWH)". Areas with recorded shorebird observations are mapped and identified and must meet certain criteria before such areas are designated as SWH. This criteria looks at total numbers of shorebirds using the site and species diversity. Shorebird SWHs are identified as roosting or feeding areas. All SWH shorebird feeding areas consist of the actual feeding habitat and a 100 foot upland buffer surrounding the feeding area. Development, vegetation removal and other activities that require a state permit within this 100 foot buffer as well as within the feeding habitat are restricted (for example applications for docks and piers in the mudflat and salt marsh habitats can be denied). All shorebird SWH roosting habitats have a 250 foot buffer around the roost. Same restrictions apply.

Other protective legislation involves protecting nesting Piping Plovers under the Maine Endangered Species Act (Inland Fisheries and Wildlife Laws, 12 M.R.S.A Part 13, Chapter 925, Subchapter 3 Endangered Species). This Act allows IFW to identify and protect piping plover nesting and foraging areas as Essential Habitat. The state has authority to dictate state and municipal beach management practices within Essential Habitats. Municipalities are ideally required to buffer identified nests with stake and twine fencing with at least a 200-foot (60 m) radius surrounding the nest, municipal beaches to place trash receptacles and not beach clean with equipment within 300-foot (90 m) radius of the nest. This isn't always possible due to the beach area size and configuration where nests may occur (Tudor, personal communication).

Regulations can be found at:

<http://www.maine.gov/dep/blwq/docstand/nrpa/birdhabitat/index.htm>

**State of New Hampshire, Fish and Game Department

The State of New Hampshire manages piping plovers on state parks and a municipal beach, following the 50 m (164 ft) protocol of the USFWS Piping Plover recovery plan. The State and Federal Endangered Species Acts are the most relevant legislation; however, they do not specifically describe buffer management. Plovers are buffered from human activities by way of predator and human exclusion fencing. Predator exclusion fencing is installed after eggs are laid, is not moved once installed, and is 10 feet in diameter around each nest. Human symbolic exclusion fencing extends across the length of dunes. The distance from the symbolic and predator fence does occasionally vary with topography. (John Kanter pers. comm; Non-game and Endangered Wildlife Program Coordinator New Hampshire Fish and Game Department 2 Hazen Drive; Concord, NH 03301; Phone: 603.271.3017).

*State of Rhode Island, Fish and Wildlife Department

Rhode Island manages plovers on 12 beaches on a case-by-case basis following USFWS protocols. The USFWS recommends a buffer distance of 50 m for nesting plovers. In Rhode Island, symbolic fencing (8' metal "U" poles, yellow rope, do-not-enter signs) is used to protect plover nests, nest scrapes and, if needed, fledgling foraging areas, from pedestrians. Sixty volunteers monitor nests while providing public education (e.g., discussion, flyers) seven days a week. The buffer distances are determined, in part, by the flush distance of incubating adults. State biologists observe flush distances in the field to make these determinations. In general,

CAHA DRAFT bird buffer table. 6/13/2008

plovers that breed on beaches with more pedestrians flush at shorter distances than plovers breeding in areas with less human contact. Buffer distances are also a function of nest location and beach width. For example, if nest is placed on the upper dune, managers will protect the lower beach in addition to nest site. In one example, a beach 1.5 mile in length has one-third of its length closed during the breeding season (personal communication, Wendy Edwards, 06/13/2008)

Scientific Literature

Erwin R. 1989. pg. 106. Response to human intruders by birds nesting in colonies: experimental results and management guidelines. *Colonial Waterbirds* 12: 104-108.

Rodgers and Schwikert (2002) pg. 222 – “Buffer-zone distances to protect foraging and loafing waterbirds from disturbance by personal watercraft and outboard-powered boats.” *Conservation Biology* 16: 216-224.

The authors exposed 23 species of waterbirds to the direct approach of personal watercraft and an outboard-powered boat to determine their flush distances. Average flush distances for the personal watercraft ranged from 19 m (62 ft) (Least Tern) to 49.5 m (162 ft) (Osprey). Data suggest that a single buffer-zone distance can be developed for both personal watercraft and outboard-powered vessels. A formula used for calculating a buffer zone was based on the upper one-sided 95% confidence limit for the mean and one standard deviation of the flush distance plus 40 m (131 ft). Buffer zones of 180 m (591 ft) for wading birds, 140 m (459 ft) for terns and gulls, 100 m (328 ft) for plovers and sandpipers, and 150 m (492 ft) for ospreys would minimize their disturbance at foraging and loafing sites in Florida. The minimum recommended buffer-zone distance (m) between American Oystercatcher and fast approach of watercraft directly toward waterbirds to prevent flushing is 103 m (338 ft).

Rodgers and Smith. (1995) - pg. 89, 94.
Set-back distances to protect nesting bird colonies from human disturbance in Florida.
Conservation Biology 9: 89-99

Fifteen species of colonial waterbirds nesting at 17 colonies in north and central Florida were exposed to three different human disturbance mechanisms to determine set back distances. In general, colonial waterbirds exhibited greater average flush distance in reaction to a walking approach than to approaching motor boats. Recommended set back distances were estimated using a formula based on the mean plus 1.6495 standard deviations of the observed flushing distances plus 40 meters (131 ft) [$RS = \exp(\mu + 1.6495\sigma + 40)$]. In general, a recommended set-back distance of about 100 meters for wading bird colonies and 180 meters for mixed tern/skimmer colonies should be adequate to effectively buffer the sites studied from human disturbance caused by approach of pedestrians and motor boats. More specifically, recommended set back distances between walking or motor boat and least terns and black skimmers are 154 m (505 ft) and 178 m (584 ft) respectively.

0021563