

**Negotiated Rulemaking Committee
5th meeting**

June 17-18, 2008

**Dr. R. Michael Erwin – USGS Patuxent Wildlife Research Center &
Professor, University of Virginia Dept. Env. Sciences**

- Waterbird researcher with USFWS and USGS since 1978
- Research Professor of Environmental Sciences at UVA since 1996
- Former President of the Waterbird Society
- Former Editor of the journal, *Waterbird*
- Chairman of the USGS science task force (2005) to develop monitoring and management protocols for CAHA threatened and endangered species

Ground-nesting colonial waterbirds of Cape Hatteras National Seashore, NC

Black Skimmer

Common Tern

Forster's Tern (marsh nester)

Gull-billed Tern

Least Tern

Royal Tern

Sandwich Tern



Black Skimmer (*Rynchops niger*)

Royal (*S. maxima*) and Sandwich (*S. sandvicensis*) terns



Common Tern (*Sterna
hirundo*)





Least Tern (*Sterna antillarum*)

Photo: Dan Thompson

Gull-billed Tern (*Sterna nilotica*)



Population status of colonial waterbirds in coastal NC

Black Skimmer – recent declines from 820 pr (1995) to 620 prs in 2004

Common Tern- decline from 2100 pairs (1993) to 570 in 2004

Gull-billed Tern- “Threatened in NC” - declining from 620 pairs (1977) to 260 pairs in 2001

Least Tern – increase from 1925 pr (1977) to 2408 pr (2004)

Royal Tern – decline from peak of 35000 pairs (1973) to recent, but may be stable from mid 1990s (14000 plus) to present

Sandwich Tern- increase from ca. 2000 pairs (NC) in 1977 to 5200 pairs in NC-SC combined

Colony site – habitat requirements for terns-skimmers



- Remote locations – islands, rocks, shell bars
- Proximity to inlets or bays for feeding
- Absence of predatory mammals-human habitation
- Social attraction – often multispecies colonies

COLONY SPECIES ASSOCIATIONS:

Royal Terns – Sandwich Terns

Common Terns – Black Skimmers

Common Terns -Black Skimmers - Gull-billed Terns

Least Tern (solitary)



Early Management Guidelines for Colonial Waterbirds within National Seashores

From: Buckley,PA and FG Buckley. 1976. Guidelines for the Protection and Management of Colonial Waterbirds. National Park Service, Northeast Region, Boston MA.

- Restrict foot travel within 1000 ft of active colonies
- Enforce strict pet regulations
- Seasonal closures: “close off entire areas to all ORVs...”
- “Restrict essential ORVs to carefully marked tracks during critical periods”
- “Prohibit night use of area by visitors”

Recommended sign-posting distances for terns and skimmers in the mid-Atlantic region ¹



Species	“First Flush Distance” (M +/- 1 SD)	Recommended Buffer*
Blk Skimmer	130(50)	200
Com. Tern	142(81)	200
Least Tern*	64	100
Royal Tern*	106(83)	100
Waders	N/A	100

¹ From: Erwin, RM. 1989. Responses to human intruders by birds nesting in colonies: experimental results and management guidelines. Colonial Waterbirds 12: 104-108.

* During the pre-hatching nesting phase: larger distances needed during chick phases

Recommended buffer distances for terns and skimmers at Cape Hatteras ¹



Species	Buffer Distance (m)
Blk Skimmer	200
Com. Tern	200
Least Tern	100
Royal Tern	200 *

¹ From: Cohen, J., RM Erwin, JB French, J. Marion, and JM Meyers. 2005. Synthesis of management, monitoring, and protection protocols for threatened and endangered species of special concern at Cape Hatteras National Seashore, North Carolina. USGS Patuxent Wildlife Research Center report to the National Park Service.

In summary, with a multi-species complex sharing resource space, a standard rule should be to adopt the value of the most sensitive species



Least Tern (*Sterna antillarum*)

Photo: Dan Thompson