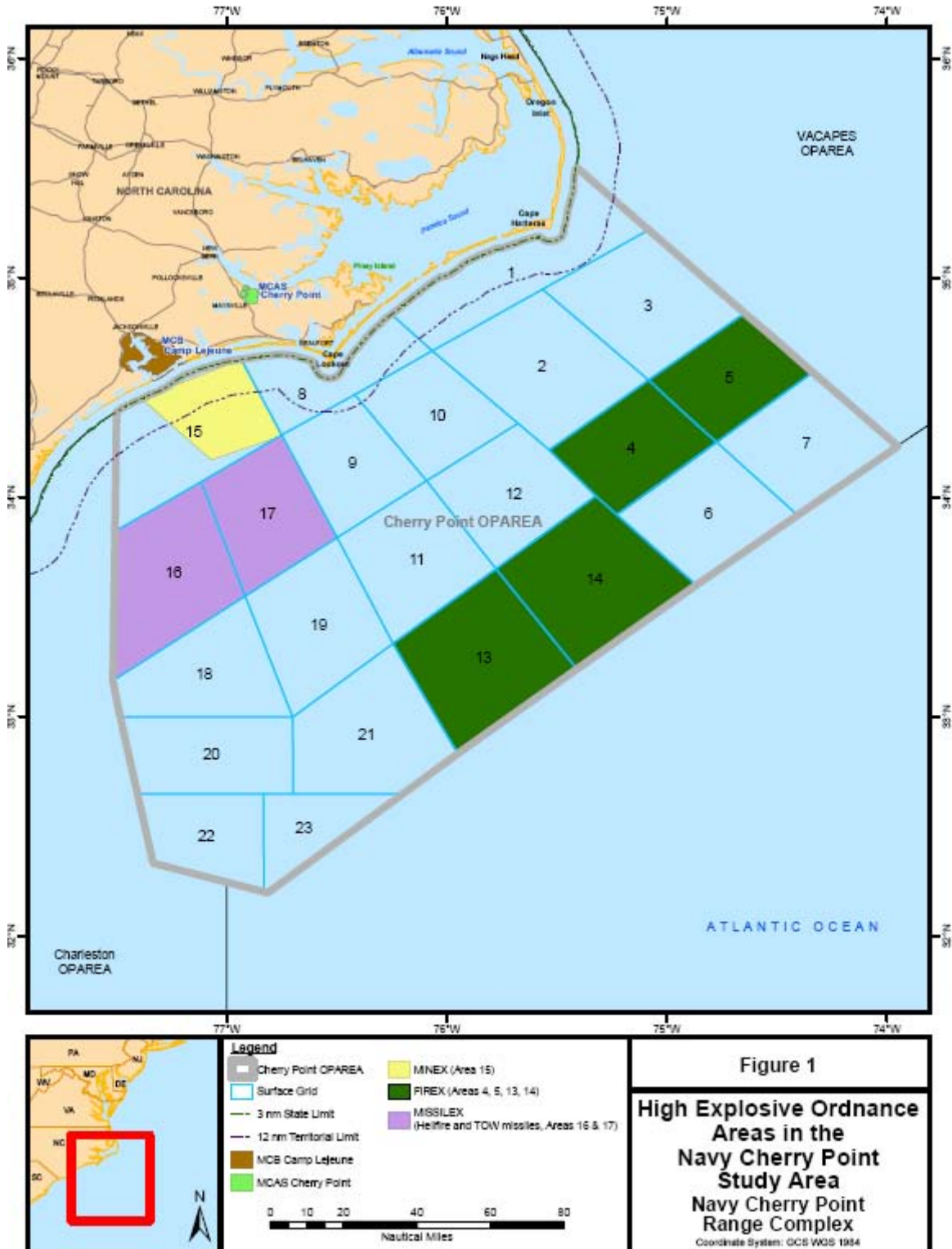


**ADDENDUM TO  
REQUEST FOR LETTER OF AUTHORIZATION  
FOR THE INCIDENTAL HARASSMENT OF MARINE MAMMALS RESULTING FROM  
NAVY TRAINING OPERATIONS CONDUCTED WITHIN THE  
NAVY CHERRY POINT RANGE COMPLEX**

**2.1 Description of the Navy Cherry Point Range Complex**



**Figure 1**  
**High Explosive Ordnance  
Areas in the  
Navy Cherry Point  
Study Area  
Navy Cherry Point  
Range Complex**  
Coordinate System: GCS WGS 1984

#### 4.1.2 Fin Whale

**Table 7 Seasonal Density Estimates for the Fin Whale in the Navy Cherry Point Study Area where Explosive Ordnance Use Occurs**

Training Area	Density (animals/km <sup>2</sup> )			
	Winter (Dec, Jan, Feb)	Spring (Mar, Apr, May)	Summer (Jun, Jul, Aug)	Fall (Sep, Oct, Nov)
4 & 5	0.00000	0.00000	0.00000	0.00000
13 & 14	0.00000	0.00000	0.00000	0.00000
16 & 17	0.00000	0.00000	0.00000	0.00000
UNDET	0.00000	0.00000	0.00000	0.00000

Source: DoN, 2007a

#### 4.1.3 Humpback Whale

**Table 8 Seasonal Density Estimates for the Humpback Whale in the Navy Cherry Point Study Area where Explosive Ordnance Use Occurs**

Training Area	Density (animals/km <sup>2</sup> )			
	Winter (Dec, Jan, Feb)	Spring (Mar, Apr, May)	Summer (Jun, Jul, Aug)	Fall (Sep, Oct, Nov)
4 & 5	0.00058	0.00116	0.00000	0.00116
13 & 14	0.00058	0.00116	0.00000	0.00116
16 & 17	0.00058	0.00116	0.00000	0.00116
UNDET	0.00058	0.00116	0.00000	0.00116

Source: DoN, 2007a

#### 4.1.4 North Atlantic Right Whale

**Table 9 Seasonal Density Estimates for the North Atlantic Right Whale in the Navy Cherry Point Study Area where Explosive Ordnance Use Occurs**

Training Area	Density (animals/km <sup>2</sup> )			
	Winter (Dec, Jan, Feb)	Spring (Mar, Apr, May)	Summer (Jun, Jul, Aug)	Fall (Sep, Oct, Nov)
4 & 5	0.00000	0.00000	0.00000	0.00000
13 & 14	0.00000	0.00000	0.00000	0.00000
16 & 17	0.00027	0.00015	0.00000	0.00006
UNDET	0.00040	0.00023	0.00000	0.00011

Source: DoN, 2007a

#### 4.1.6 Sperm Whale

**Table 10 Seasonal Density Estimates for the Sperm Whale in the Navy Cherry Point Study Area where Explosive Ordnance Use Occurs**

Training Area	Density (animals/km <sup>2</sup> )			
	Winter (Dec, Jan, Feb)	Spring (Mar, Apr, May)	Summer (Jun, Jul, Aug)	Fall (Sep, Oct, Nov)
4 & 5	0.00051	0.00051	0.00134	0.00051
13 & 14	0.00015	0.00015	0.00025	0.00015
16 & 17	<0.00001	<0.00001	<0.00001	<0.00001
UNDET	<0.00001	<0.00001	0.00000	<0.00001

Source: DoN, 2007a

#### 4.2.1 Atlantic Spotted Dolphin

**Table 11 Seasonal Density for Atlantic Spotted Dolphin in the Navy Cherry Point Study Area Where Explosive Ordnance Use Occurs**

Training Area	Density (animals/km <sup>2</sup> )			
	Winter (Dec, Jan, Feb)	Spring (Mar, Apr, May)	Summer (Jun, Jul, Aug)	Fall (Sep, Oct, Nov)
4 & 5	0.00888	0.00888	0.00888	0.00888
13 & 14	0.00460	0.00460	0.00460	0.00460
16 & 17	0.14257	0.14257	0.14257	0.14257
UNDET	0.08807	0.08807	0.08807	0.08807

Source: DoN, 2007a

#### 4.2.2 Beaked Whales

**Table 12 Seasonal Density Estimates for Beaked Whales in the Navy Cherry Point Study Area where Explosive Ordnance Use Occurs**

Training Area	Density (animals/km <sup>2</sup> )			
	Winter (Dec, Jan, Feb)	Spring (Mar, Apr, May)	Summer (Jun, Jul, Aug)	Fall (Sep, Oct, Nov)
4 & 5	0.00014	0.00014	0.00071	0.00014
13 & 14	0.00021	0.00021	0.00043	0.00021
16 & 17	<0.00001	<0.00001	<0.00001	<0.00001
UNDET	0.00000	0.00000	0.00000	0.00000

Source: DoN, 2007a

#### 4.2.3 Bottlenose Dolphin

**Table 13 Seasonal Density Estimates for Bottlenose Dolphin in the Navy Cherry Point Study Area where Explosive Ordnance Use Occurs**

Training Area	Density (animals/km <sup>2</sup> )			
	Winter (Dec, Jan, Feb)	Spring (Mar, Apr, May)	Summer (Jun, Jul, Aug)	Fall (Sep, Oct, Nov)
4 & 5	0.00017	0.00017	0.00004	0.00017
13 & 14	0.00642	0.00642	0.00882	0.00642
16 & 17	0.02342	0.02342	0.03410	0.02342
UNDET	0.01717	0.01717	0.04277	0.01717

Source: DoN, 2007a

#### 4.2.5 Clymene Dolphin

**Table 14 Seasonal Density Estimates for Clymene Dolphin in the Navy Cherry Point Study Area where Explosive Ordnance Use Occurs**

Training Area	Density (animals/km <sup>2</sup> )			
	Winter (Dec, Jan, Feb)	Spring (Mar, Apr, May)	Summer (Jun, Jul, Aug)	Fall (Sep, Oct, Nov)
4 & 5	0.01063	0.01063	0.01063	0.01063
13 & 14	0.01063	0.01063	0.01063	0.01063
16 & 17	0.01063	0.01063	0.01063	0.01063
UNDET	0.01063	0.01063	0.01063	0.01063

Source: DoN, 2007a

#### 4.2.6 Common Dolphin

**Table 15 Seasonal Density Estimates for Common Dolphin in the Navy Cherry Point Study Area where Explosive Ordnance Use Occurs**

Training Area	Density (animals/km <sup>2</sup> )			
	Winter (Dec, Jan, Feb)	Spring (Mar, Apr, May)	Summer (Jun, Jul, Aug)	Fall (Sep, Oct, Nov)
4 & 5	0.00000	0.00000	0.00000	0.00000
13 & 14	0.00000	0.00000	0.00000	0.00000
16 & 17	<0.00001	<0.00001	<0.00001	<0.00001
UNDET	<0.00001	<0.00001	<0.00001	<0.00001

Source: DoN, 2007a

#### 4.2.12 Minke Whale

**Table 16 Seasonal Density Estimates for Minke Whale in the Navy Cherry Point Study Area where Explosive Ordnance Use Occurs**

Training Area	Density (animals/km <sup>2</sup> )			
	Winter (Dec, Jan, Feb)	Spring (Mar, Apr, May)	Summer (Jun, Jul, Aug)	Fall (Sep, Oct, Nov)
4 & 5	0.00004	0.00004	0.00004	0.00004
13 & 14	0.00004	0.00004	0.00004	0.00004
16 & 17	0.00004	0.00004	0.00004	0.00004
UNDET	0.00004	0.00004	0.00004	0.00004

Source: DoN, 2007a

#### 4.2.13 Pantropical Spotted Dolphin

**Table 17 Seasonal Density Estimates for Pantropical Spotted Dolphin in the Navy Cherry Point Study Area where Explosive Ordnance Use Occurs**

Training Area	Density (animals/km <sup>2</sup> )			
	Winter (Dec, Jan, Feb)	Spring (Mar, Apr, May)	Summer (Jun, Jul, Aug)	Fall (Sep, Oct, Nov)
4 & 5	0.02225	0.02225	0.02225	0.02225
13 & 14	0.02225	0.02225	0.02225	0.02225
16 & 17	0.02225	0.02225	0.02225	0.02225
UNDET	0.02225	0.02225	0.02225	0.02225

Source: DoN, 2007a

#### 4.2.14 Pilot Whales

**Table 18 Seasonal Density Estimates for Pilot Whales in the Navy Cherry Point Study Area where Explosive Ordnance Use Occurs**

Training Area	Density (animals/km <sup>2</sup> )			
	Winter (Dec, Jan, Feb)	Spring (Mar, Apr, May)	Summer (Jun, Jul, Aug)	Fall (Sep, Oct, Nov)
4 & 5	0.00048	0.00048	0.00077	0.00048
13 & 14	0.01425	0.01425	0.00673	0.01425
16 & 17	0.00019	0.00019	0.00015	0.00019
UNDET	0.00001	0.00001	<0.00001	0.00001

Source: DoN, 2007a

#### 4.2.15 Pygmy and Dwarf Sperm Whales

**Table 19 Seasonal Density Estimates for *Kogia* Spp. in the Navy Cherry Point Study Area where Explosive Ordnance Use Occurs**

Training Area	Density (animals/km <sup>2</sup> )			
---------------	------------------------------------	--	--	--

	Winter (Dec, Jan, Feb)	Spring (Mar, Apr, May)	Summer (Jun, Jul, Aug)	Fall (Sep, Oct, Nov)
4 & 5	0.00101	0.00101	0.00101	0.00101
13 & 14	0.00101	0.00101	0.00101	0.00101
16 & 17	0.00101	0.00101	0.00101	0.00101
UNDET	0.00101	0.00101	0.00101	0.00101

Source: DoN, 2007a

#### 4.2.17 Risso's Dolphin

**Table 20 Seasonal Density Estimates for Risso's Dolphin. in the Navy Cherry Point Study Area where Explosive Ordnance Use Occurs**

Training Area	Density (animals/km <sup>2</sup> )			
	Winter (Dec, Jan, Feb)	Spring (Mar, Apr, May)	Summer (Jun, Jul, Aug)	Fall (Sep, Oct, Nov)
4 & 5	<0.00001	<0.00001	<0.00001	<0.00001
13 & 14	0.00005	0.00005	0.00005	0.00005
16 & 17	0.02148	0.02148	0.02148	0.02148
UNDET	<0.00001	<0.00001	<0.00001	<0.00001

Source: DoN, 2007a

#### 4.2.18 Rough-toothed Dolphin

**Table 21 Seasonal Density Estimates for Rough-Toothed Dolphin in the Navy Cherry Point Study Area where Explosive Ordnance Use Occurs**

Training Area	Density (animals/km <sup>2</sup> )			
	Winter (Dec, Jan, Feb)	Spring (Mar, Apr, May)	Summer (Jun, Jul, Aug)	Fall (Sep, Oct, Nov)
4 & 5	0.00048	0.00048	0.00048	0.00048
13 & 14	0.00048	0.00048	0.00048	0.00048
16 & 17	0.00048	0.00048	0.00048	0.00048
UNDET	0.00048	0.00048	0.00048	0.00048

Source: DoN, 2007a

#### 4.2.20 Striped Dolphin

**Table 22 Seasonal Density Estimates for Striped Dolphin in the Navy Cherry Point Study Area where Explosive Ordnance Use Occurs**

Training Area	Density (animals/km <sup>2</sup> )			
	Winter (Dec, Jan, Feb)	Spring (Mar, Apr, May)	Summer (Jun, Jul, Aug)	Fall (Sep, Oct, Nov)
4 & 5	<0.00001	<0.00001	<0.00001	<0.00001
13 & 14	<0.00001	<0.00001	<0.00001	<0.00001
16 & 17	<0.00001	<0.00001	<0.00001	<0.00001
UNDET	<0.00001	<0.00001	<0.00001	<0.00001

Source: DoN, 2007a

## CHAPTER 5 TAKE AUTHORIZATION REQUESTED

Modeling results from explosive ordnance use in MISSILEX and mine exercise (MINEX) predict MMPA - Level B TTS exposures for up to 2 Atlantic spotted dolphins. There are no predicted MMPA - Level A injury or mortality exposures. There are no predicted harassment exposures for FIREX with IMPASS. These estimates do not take into account the mitigation measures discussed in **Chapter 11**. Given the implementation of the measures, the actual exposures would likely be lower than the anticipated amount.

### 6.3.5 Potential Effects of Exposures to Explosives

Species/Training Operation	Potential Exposures @ 177 dB re 1 $\mu\text{Pa}^2\text{-s}$ (multiple detonations only)	Potential Exposures @ 182 dB re 1 $\mu\text{Pa}^2\text{-s}$ or 23 psi	Potential Exposures @ 205 dB re 1 $\mu\text{Pa}^2\text{-s}$ or 13 psi	Potential Exposures @ 30.5 psi
<b>Fin whale</b>				
MISSILEX training	NA	0	0	0
FIREX training	0	NA	0	0
MINEX training	NA	0	0	0
Total Exposures	0	0	0	0
<b>Humpback whale</b>				
MISSILEX training	NA	0	0	0
FIREX training	0	NA	0	0
MINEX training	NA	0	0	0
Total Exposures	0	0	0	0
<b>North Atlantic right whale</b>				
MISSILEX training	NA	0	0	0
FIREX training	0	NA	0	0
MINEX training	NA	0	0	0
Total Exposures	0	0	0	0
<b>Sperm whale</b>				
MISSILEX training	NA	0	0	0
FIREX training	0	NA	0	0
MINEX training	NA	0	0	0
Total Exposures	0	0	0	0
<b>Atlantic Spotted dolphin</b>				
MISSILEX Training	NA	1	0	0
FIREX training	0	NA	0	0
MINEX training	NA	1	0	0
Total Exposures	0	2	0	0
<b>Beaked whale</b>				
MISSILEX Training	NA	0	0	0
FIREX training	0	NA	0	0
MINEX training	NA	0	0	0
Total Exposures	0	0	0	0
<b>Bottlenose dolphin</b>				
MISSILEX Training	NA	0	0	0
FIREX training	0	NA	0	0
MINEX training	NA	0	0	0
Total Exposures	0	0	0	0
<b>Clymene dolphin</b>				
MISSILEX Training	NA	0	0	0
FIREX training	0	NA	0	0
MINEX training	NA	0	0	0
Total Exposures	0	0	0	0
<b>Common dolphin</b>				
MISSILEX Training	NA	0	0	0

FIREX training	0	NA	0	0
MINEX training	NA	0	0	0
Total Exposures	0	0	0	0
<b>Kogia spp.</b>				
MISSILEX Training	NA	0	0	0
FIREX training	0	NA	0	0
MINEX training	NA	0	0	0
Total Exposures	0	0	0	0
<b>Minke whale</b>				
MISSILEX Training	NA	0	0	0
FIREX training	0	NA	0	0
MINEX training	NA	0	0	0
Total Exposures	0	0	0	0
<b>Pantropical spotted dolphin</b>				
MISSILEX Training	NA	0	0	0
FIREX training	0	NA	0	0
MINEX training	NA	0	0	0
Total Exposures	0	0	0	0
<b>Pilot whales</b>				
MISSILEX Training	NA	0	0	0
FIREX training	0	NA	0	0
MINEX training	NA	0	0	0
Total Exposures	0	0	0	0
<b>Risso's dolphin</b>				
MISSILEX Training	NA	0	0	0
FIREX training	0	NA	0	0
MINEX training	NA	0	0	0
Total Exposures	0	0	0	0
<b>Rough-toothed dolphin</b>				
MISSILEX Training	NA	0	0	0
FIREX training	0	NA	0	0
MINEX training	NA	0	0	0
Total Exposures	0	0	0	0
<b>Striped dolphin</b>				
MISSILEX Training	NA	0	0	0
FIREX training	0	NA	0	0
MINEX training	NA	0	0	0
Total Exposures	0	0	0	0

## CHAPTER 7 IMPACTS TO MARINE MAMMAL SPECIES OR STOCKS

The Navy concludes that exposures to the following marine mammal species due to Atlantic Fleet training in the Navy Cherry Point Range Complex would result in only short-term effects to most individuals exposed and would likely not affect annual rates of recruitment or survival:

- Atlantic spotted dolphin